



Atmospheric Pollution & Climate Change (APCC) Environmental Information System (ENVIS) Resource Partner

(Sponsored by Ministry of Environment, Forest & Climate Change, Govt. of India)

ARTICLES IN MEDIA

**Global
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**INDIAN INSTITUTE OF TROPICAL METEOROLOGY
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PREFACE

Indian Institute of Tropical Meteorology (IITM, Pune) a Resource Partner to Ministry of Environment, Forest & Climate Change's scheme- Environmental Information System's (ENVIS) on Atmospheric Pollution & Climate Change (APCC). IITM-ENVIS is compiling the news articles in media for air pollution and climate change categories, for the year 2021. This book has articles which were published in media showcasing important environmental news events which was happened in 2021-22 and its impact on the environment and human health.

Concentrations of the major greenhouse gases – carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) continued to increase in 2020 and the first half of 2021. Based on preliminary estimates, global emissions in the power and industry sectors were already at the same level or higher in January-July 2021 than in the same period in 2019, before the pandemic, while emissions from road transport remained about 5% lower. Excluding aviation and sea transport, global emissions were at about the same levels as in 2019, averaged across those 7 months.

COVID-19 infections and climate hazards such as heat waves, wildfires and poor air quality combine to threaten human health worldwide, putting vulnerable populations at particular risk.

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January 2021

Poor air quality greets Phoenix on first day of 2021

Date: -1-Jan-2021, Source: azfamily.com

PHOENIX (3TV/CBS 5) – If you woke up with a headache this morning, off-the-charts pollution in the Phoenix area is likely to blame. If you've been outside, you've undoubtedly seen the haze and possibly even smelled the smoke from New Year's Eve fireworks.

The Arizona Department of Environmental Quality had already issued a High Pollution Advisory for the first day of 2021, but early Friday, it extended that warning to Saturday.

While bad air quality levels aren't unusual for this time of year, the Arizona Department of Environmental Quality says the weather played a huge factor.

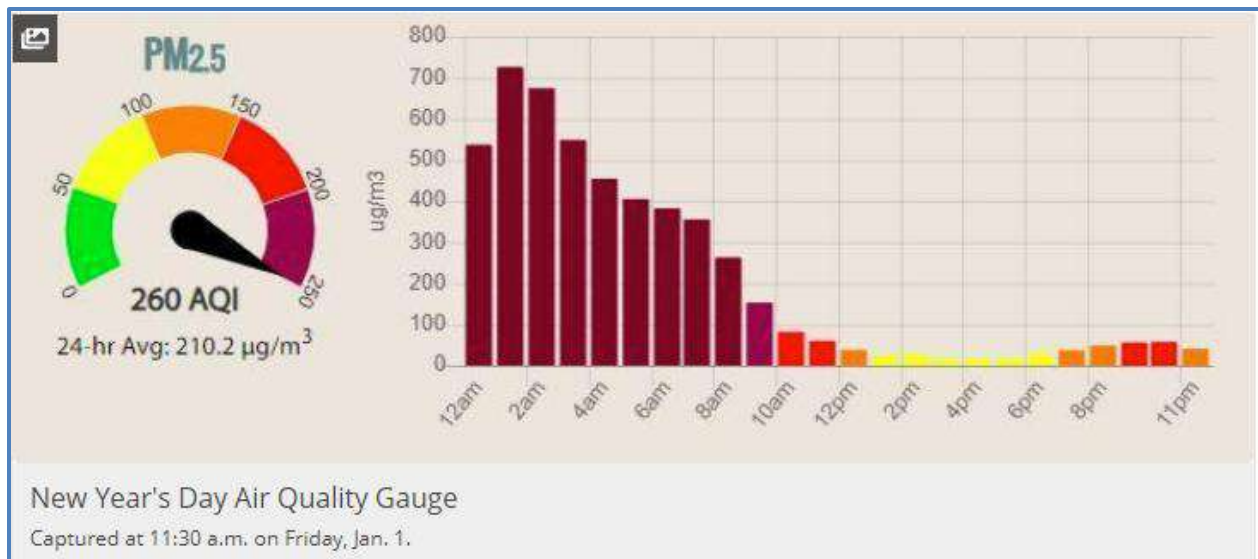
"Now this year we certainly saw a lot of firework use. More fireplaces and our weather pattern is very stagnant," said Matt Pace, an air quality meteorologist. "So this will probably go down as one of the worst air quality days on record as far as New Years is for the Phoenix Valley."

By the end of Friday, ADEQ thinks the Phoenix area will be in the 250 to 300 range when it comes to the air quality index for smoke. That is a 24-hour average.

What can we all do to improve our air quality? Here is some advice from Pace. "Limit your firework use. Maybe not burn your fireplace every single day, especially on high pollution advisory days, and you can also switch over to gas," he said. "Don't drive your car on dirt roads. If you do have to drive on dirt roads, go slower."

ADEQ also has an app called "Air Arizona" that you can use to check the air forecast.

According to ADEQ, fine particulate matter (PM2.5) is literally off the chart Friday. A measure of up to 50 micrograms per cubic meter of air is in the good range. At 260 on Friday, we were more than five times that. The gauge on the ADEQ website only goes up to 250. The 24-hour average was a little more than 210.



Arizona's Weather Authority Meteorologist Ian Schwartz tweeted Friday morning that "Phoenix has some of the worst air quality in the world right now." Yes, the world. He also showed the haze that was clearly visible as the sun came up. If you were driving early Friday morning, it might have looked almost foggy.

Pollution like this is rough on healthy people and can be downright dangerous for those who have respiratory issues.

"High Pollution Advisories encourage people to limit outdoor activities, reduce driving, and other activities that cause air pollution," according to ADEQ. "Depending on the severity of the HPA, a larger portion of the population may begin to experience health effects.

Some areas of Phoenix were already well into the unhealthy range before the clock struck midnight. Then came the fireworks celebrating the arrival of 2021. The worst of the terrible air quality was early Friday morning when the inversion layer – that layer of warm air right above the ground – trapped the smoke. As the day warmed up, that inversion started to lift.

"This will allow smoke to disperse from the ground and cause PM2.5 levels to decrease," explains ADEQ's Air Quality Hourly Forecast.

Its hour-by-hour chart shows PM2.5 levels dropping significantly Friday afternoon and early evening before increasing again starting at about 7 p.m. and continuing through the night.

The agency says it expected the amount of fine particulate matter in the air to “return to more typical weekday patterns” by the time we get to Monday.

Heavy Smog Engulfs Tehran

Date:-2-Jan-2021, Source: financialtribune.com



Heavy Smog Engulfs Tehran

December 2020 was one of the most polluted months in Tehran over the past several years and the high level of air pollution is expected to persist until Tuesday

Tehran has been suffocating under a blanket of smog over the past several days, as urban managers faced the public ire over their inaction.

In a meeting held on Friday, Abdolreza Cheraghali a deputy governor general, said the Air Pollution Emergency Committee convened on Saturday to find solutions for curbing air pollution, Mehr News Agency reported.

“The Health Ministry, the University of Medical Sciences and the Department of Environment presented the committee with reports on the situation and pitched solutions. More stringent traffic rules or partial lockdown were among the options,” he said.

Cheraghali noted that December 2020 was one of the most polluted months in Tehran over the past several years and the high level of air pollution is expected to persist until Tuesday.

Charts regularly published by Tehran Air Quality Control Company’s website, Airnow.tehran.ir, illustrate that the capital’s residents inhaled more polluted air in December 2020 compared with the same month of last year.

During the month, Air Quality Index did not enter the range of good air quality even for a single day.

AQI categorizes conditions dictated by a measure of polluting matters into good (0-50), moderate (51-100), unhealthy for vulnerable groups (101-150), unhealthy (151-200), very unhealthy (201-300) and hazardous (301-500).

Iran's Air Pollution Crisis

Date:-4-Jan-2021, Source: ncr-iran.org



Air pollution in Tehran, the capital of Iran

The level of air pollution has passed the critical level in various cities across Iran. While people are grappling with the Covid-19 crisis, they now face another major problem.

On Thursday, air pollution in 11 cities in Iran, including Tehran, Isfahan, Ahvaz, Zanzan, Karaj, Mashhad, Tabriz, Urmia, Arak, Qazvin, and Qom, became critical. The air pollution index in some areas of Tehran exceeded 200.

A glance at Iran's state-media clarifies why Iran's air pollution index has reached this critical point.

“Abbas Shahsoni, head of the Department of Air Health and Climate Change at the Ministry of Health, warned that the weather conditions in Tehran and other metropolitan areas were deteriorating due to weather stability and the use of mazut fuel in power plants,” wrote the state-run Arman daily on Sunday.

According to Arman daily, “Mohammad Mehdi Mirzaei, head of the National Center for Air and Climate Change of the Environmental Protection Agency, confirmed that the use of “mazut fuel instead of gas in power plants and factories is one of the main reasons for the intensification of air pollution in Tehran and metropolitan areas.”

According to the head of the Air Pollution Research Center of Tehran University of Medical Sciences, “Studies show that every year about 40,000 people die in the country due to exposure to particulate matter less than 2.5 microns in the air”.

Similar to their mismanagement of the coronavirus outbreak, the authorities make contradictory remarks but take no action. While according to the state-run Arman daily, “Tehran’s governor underlined again that no power plant or industry is using mazut fuel,” it added “the Environment Agency approved the use of mazut fuel in some industries and power plants in the capital.”

“Officials have pursued a policy of lies, and we all know that the country’s power plants and industries are burning mazut fuel. Our power plants and industries have been burning this fuel for years. We used to burn five million liters of mazut inside Iran and export 15 million liters to the United Arab Emirates and other countries. Still, the fuel is not exported, and the tanks are full of fuel oil,” Arman daily acknowledged the regime’s deception.

These factories and power plants are affiliated to the Revolutionary Guards (IRGC). These industries, which use the mazut fuel, are steel, petrochemicals, refineries, etc., which are exclusively under the IRGC’s control.

Following a report on the use of mazut fuel by factories in 2017, social protests escalated, and “clean air” became a widespread demand. The regime became concerned and passed a law banning mazut and requiring factories to use gas instead. For this purpose, the regime also allocated a budget for this issue.

However, the regime never implemented the “clear air” legislation.

“The question is why is the clean air law that has been passed and promulgated not being implemented to prevent the death of more than 40,000 Iranians annually due to air pollution? In the current situation, while facing

Covid-19, air pollution may increase the prevalence of the disease by 10 to 15%, so authorities should take the necessary measures to reduce air pollution,” wrote the state-run Setareh-Sobh on Sunday.

The regime continues using mazut while the International Maritime Organization (IMO) has banned mazut fuel for ships in international waters.

In addition to the Covid-19 outbreak and the increasing air pollution rate, the situation could become worse due to unfiltered sand factories’ activity. Sand parcels in these conditions can result in an environmental and humanitarian disaster.

“Air pollution is a phenomenon that is directly related to macro-management in all areas. This is the common chapter of this crisis with other crises in the country, but the lack of transparency is the reason for such a phenomenon,” wrote the state-run Ebtakar on Monday.

In other words, the regime’s inaction, its prioritizing of economic interests over people’s lives, and its inhumane strategy of using natural disasters to quell the restive society have added to the people’s crises.

Any delay in dealing with the air pollution’s critical situation will have many severe consequences and impose enormous costs on the health of the people and society. In contrast, the regime has never sought a solution to this problem.

The regime-affiliated factories continue their work. Instead of acting to prevent another humanitarian catastrophe, the regime continues plundering people to pursue its malign goals. Like its approach toward the coronavirus crisis, the regime will not act.

The international community should intervene and pressure the regime to halt its activities, which add to Iran’s pollution crisis, which coupled with the Covid-19 crisis could rapidly increase the number of Covid-19 fatalities, which is approaching 200,000.

Kathmandu’s air quality the worst in the world

Date: -5-Jan-2021, Source: english.onlinekhabar.com

Netizens, especially pedestrians and two-wheel riders, of Kathmandu on Monday were complaining about a burning sensation in their eyes. Initially, the public related the burning sensation to the lighting of firewood. However, soon



Kathmandu's AQI, as of 8am, on Monday, January 4, 2021, was at 487.

pictures of Kathmandu's air-quality index (AQI) went viral. The index painted a glum picture of Kathmandu's air quality which at 450, which was 15 times over the WHO standard (30).

According to Rishi Ram Sharma, a senior meteorologist, the increase in air pollution in Kathmandu was due

to the impact of westerly winds that had dropped the valley's temperature. His views were seconded by figures released by the Department of Environment, which showed that the AQI on Monday was double of what it was on Sunday, making Kathmandu the world's most polluted city.

According to IQ Air, a Swiss air quality technology company, Kathmandu's AQI, as of 8 am on Monday, was at 487. This was almost double of second and third-place cities, namely Bishkek of Kyrgyzstan and Hanoi of Vietnam, with the figures of 296 and 241 respectively. Experts have warned that this could have a lasting effect on public health.

They argue that the government should declare a public health emergency in the same manner New Delhi had little over a year ago. The Air Quality Management Action Plan approved by the cabinet last year has given the government permission to declare a health emergency if the AQI exceeds 300. This means the government can close factories, stop people from burning things and if need be, control the number of vehicles on the road.

The government, however, is yet to address the issue. "The government has turned a blind eye to this issue," says environmentalist Bhushan Tuladhar. "The air quality is so bad. The least they could have done is informing the public about it."

Various studies state that air pollution also has a negative impact on those diagnosed with Covid-19. Infectious disease specialist Dr Sher Bahadur Pun

says as the respiratory system takes a hit due to Covid-19, air pollution makes it harder for the patients to recover quickly.

Tehran air pollution incurs daily loss of \$7m

Date:-6-Jan-2021, Source: tehrantimes.com



TEHRAN – Air pollution brings a heavy economic burden amounting to \$7 million per day for the metropolis of Tehran, Hossein Shahidzadeh, head of Tehran’s Air Quality Control Company, has said. Air pollution is responsible for 11 premature deaths daily in Tehran, he lamented.

According to the World Bank in 2018, the economic consequences of air pollution haunting the metropolis of Tehran equal \$2.8 billion per year, he highlighted, regretting that the number of deaths attributed to air pollution in Iran is estimated at 12,000 per year, of which 4,000 are related to Tehran.

World Health

Organization (WHO) asserts that Tehran is one of the most air-polluted cities in the world. Tehran is ranked 12th among 26 megacities in terms of ambient PM10 levels. In 2016, the annual ambient level of PM10 was estimated at 77 micrograms per cubic meter. This is almost four times the WHO’s recommended threshold of 20 micrograms per cubic meter.

Pollution choking Tehran

According to the statistics published by Air Quality Control Company, the Tehran air quality index (AQI) demonstrated 15 days of excellent air since the beginning of this [Iranian calendar] year (March 21, 2020), while during the same period last year, T ehraners breathed 25 days of clean air.

An AQI is used to communicate to the public how polluted the air currently is or how polluted it is forecast to become.

The index categorizes conditions according to a measure of polluting matters into excellent (0-50), acceptable (51-100), moderately polluted or unhealthy for sensitive groups (101-150), polluted (151-200), heavily polluted (201-300) and severely polluted (301-500). This is while, last year over the same period 202 days of acceptable quality air reported in the city, while this year it was reported 182 days.

Since March 2020, polluted air haunted the capital for 8 days which was almost dangerous for all the residents, which was reported 5, last year. This is while, last year over the same period 61 days were unhealthy for sensitive groups, but this year it reached 88 days. The leading cause of air pollution in the capital is PM 2.5, PM 10, and Nitrogen Dioxide (NO₂).

City working to fix problems with air pollution enforcement, watchdog says

Date:-7-Jan-2021, Source: chicago.suntimes.com



A 2019 report said city air inspectors were either not inspecting or infrequently monitoring hundreds of factories, small businesses and other polluting sources.

Mayor Lori Lightfoot's Administration has taken a number of actions to address the city's failures in policing air pollution, though it's unclear whether they're working, Chicago's watchdog said Thursday.

In 2019, Chicago Inspector General Joe Ferguson said in a report that city inspectors were either not inspecting or infrequently monitoring hundreds of factories, small businesses and other polluting sources, potentially contributing to health problems across the city. At the time, Ferguson's office identified more than 1,500 facilities emitting air pollution in the city that required city oversight.

"These performance issues increased the risk of excessive emissions that harm public health and the environment," Ferguson said in a follow-up report this week.

As part of that 2019 report the inspector general's office made recommendations for better oversight, including an increase in inspections; a prioritization to monitor in communities with multiple sources of pollution; better record keeping; additional staffing and more accessible public data on air pollution sources. Ferguson said the city made 10 of 14 proposed corrective actions from that 2019 report and is working toward improving procedures laid out through the other recommendations.

The report noted that the inspector general's office cannot confirm whether the new procedures are actually working, adding "we make no determination as to their effectiveness."

Ferguson previously traced the lax oversight back to former Mayor Rahm Emanuel's decision in 2012 to eliminate the city's Department of Environment, handing much of the pollution enforcement responsibility to the Chicago Department of Public Health. That department saw a decrease in environmental inspectors, an issue that still exists, according to Ferguson's latest report.

One other recommendation that hasn't been fully implemented proposed prioritizing inspections in environmental justice communities, which are low-income, largely Black and Latino neighborhoods that face multiple sources of pollution, the report said. The city said in a statement that it's made headway toward the environmental justice goal and other areas.

"We have made significant progress on these recommendations, in particular prioritizing inspections with a focus on air pollution burden and equity,

improving data transparency and bringing on new staff,” the city statement said.

The city’s inspection processes still aren’t adequate, according to Neighbors for Environmental Justice, a Southwest Side community group formed several years ago in response to an asphalt plant that opened directly across the street from McKinley Park.

“The same places are generating complaints week after week and each complaint gets closed out within 24 hours and the place keeps polluting,” said Anthony Moser, a member of the McKinley Park group. “We do not consider that a meaningful improvement. The city needs to treat air quality as a serious issue.”

Brett Chase’s reporting on the environment and public health is made possible by a grant from The Chicago Community Trust.

What the pandemic can teach us about ways to reduce air pollution

Date:-8-Jan-2021, Source: sacurrent.com



Emissions billow out of a smokestack

The COVID-19 pandemic wasn't just a shock to the human immune system. It was also a shock to the Earth system, dramatically changing the air quality in cities around the globe.

As countries around the globe struggled to contain the disease, they imposed temporary shutdowns. Scientists are now sifting through data collected by satellite and on the ground to understand what this hiatus in human activities can tell us about the atmospheric cocktail that generates city pollution. Much of this preliminary data was shared at the American Geophysical Union annual meeting in December.

It was already known that peoples' activities were curtailed enough to result in a dramatic drop in emissions of greenhouse gases in April, as well as a dip in the seismic noises produced by humans (SN: 5/19/20; SN: 7/23/20). That quiet period didn't last, though, and carbon dioxide emissions began to climb back upward by the summer. April 2020 saw a drop of about 17 percent in global monthly CO₂ emissions from fossil fuels, but by year's end, annual CO₂ emissions for the globe were only 7 percent lower than they were in 2019. That reduction was too brief, compared with the hundreds of years that the gas can linger in Earth's atmosphere, to put a dent in the planet's atmospheric CO₂ level.

But in addition to briefly reducing emissions of climate-warming gases, this abrupt halt in many human activities — particularly commuter traffic — also created an unprecedented experiment for scientists to examine the complicated chemistry of atmospheric pollutants in cities. By altering the usual mix of pollutants hovering over cities, the shutdowns may help scientists better understand another longstanding misery for human health: poor air quality in many cities.

That's not to say that the pandemic has a silver lining, says Jessica Gilman, a tropospheric chemist at the National Oceanic and Atmospheric Administration in Boulder, Colo. "Misery is no solution to our global environmental challenges."

But there's now a wealth of data from cities around the globe on how the pandemic altered regional or local concentrations of the precursors of ozone, a primary component of smog. Those precursors include nitrogen oxides and volatile organic compounds — both produced by traffic — as well as methane, produced by the oil and gas industry. With satellites, scientists are also able to assess how levels of these pollutants changed around the globe.

Building a global picture of altered city pollution is no easy task, though. Researchers are finding that the pandemic's impact on levels of various pollutants was highly regional, affected by differences in wind and rain as well as by photochemical interactions with sunlight — the intensity of which also changes with the season.

That stark variety of regional effects was evident in, for example, the different post-pandemic ozone levels in Denver and New York City. Nitrogen oxide gases produced by traffic are a powerful precursor to cities' elevated ozone levels, which can damage the lungs and trigger respiratory ailments. The United States has made strides in reducing these gases over the last few decades — but there hasn't been a corresponding drop in ozone levels, Dan Jaffe, an environmental chemist at the University of Washington Bothell, reported at the meeting on December 9.

The shutdowns gave researchers some insight into why, Jaffe says. From March 15 through July 23, New York City had a 21 percent decrease in nitrogen dioxide, one of several nitrogen oxide gases, in comparison with 2019 levels. Although the shutdowns were more stringent during the spring months, it turned out that summertime reductions in nitrogen dioxide were most strongly linked to the city's change in ozone levels, the researchers found. "We see very strong reduction in summertime ozone this year," Jaffe said at the meeting, citing unpublished data.

That's because in the summer months, heat and sunlight react with the precursor gases in the atmosphere, like nitrogen dioxide, creating a toxic cocktail. This kind of insight can be a boon to policy makers in a non-pandemic year, suggesting that nitrogen oxide regulations should focus most strongly on the summer, Jaffe says. "It's really good evidence that NOx reductions extending into July in 2020 had an important impact."

In Denver, however, ozone didn't drop so consistently — possibly because wildfires were beginning to rage across the U.S. West by the end of the summer (SN: 12/21/20). The fires produce nitrogen oxides, carbon monoxide and fine particles that can also help to increase ground-level ozone.

"There are different patterns in different cities," Jaffe says. "There are a lot of factors to sort out, and a lot of work to be done." Armed with a wealth of new data from 2020, scientists hope to be able to make some headway.

Air pollution level in Baku in January lowers due to COVID-19 restrictions

Date:-9-Jan-2021, Source: azernews.az



The five-year monitoring of air pollution level in the city of Baku has shown a 30-percent lowering of the level in the early January this year, compared to the previous years, Head of the National Hydrometeorological Service under the Ministry of Ecology and Natural Resources Umayra Taghiyeva said, Trend reports on Jan.8.

Taghiyeva associated the lowering with restrictions due to the COVID-19 pandemic.

"The main source of the city's pollution is vehicles. Due to the restrictions on vehicles' movement introduced due to the pandemic since the last year, the level of pollution has decreased, but we would like this to be observed not only because of restrictions. Measures during the pandemic showed that if undertaking certain measures can improve the ecological situation," she added.

Report: Minnesota air quality good — but not for everyone

Date: -11-Jan-2021, Source: mprnews.org



Haze and smoke from western wildfires fills the air over downtown Minneapolis on Aug. 18, 2018.

A new report says Minnesota's air quality is good overall, but isn't the same in all parts of the state.

The Minnesota Pollution Control Agency is required to report to the Legislature every two years on how clean the state's air is. The most recent report, sent to the Legislature

on Jan. 1, says Minnesota is meeting federal standards for air pollution.

But it also says people in some areas experience pollution levels high enough to affect the health of children, the elderly and those with underlying health conditions.

"In areas that have, you know, lower economic opportunity or communities of color, we're not seeing the same air quality that we see in wealthier areas or whiter communities as well," said Craig McDonnell, assistant commissioner for air policy at the MPCA. "So the air quality kind of depends on where you're at."

Traffic is one of the main drivers of air pollution, and McDonnell said neighborhoods near freeways or in high-traffic areas often have higher levels of pollutants, such as ozone and fine particulate matter.

With the retirement of coal-fired power plants, emissions from the combustion of fossil fuels have declined, McDonnell said. However, pollution is still being driven by multiple factors, he said, including industrial plants and neighborhood sources.

"Think about somebody mowing their lawn or having a fire in the winter," McDonnell said. "That's still a source of air pollution as well."

In recent years, Minnesota has seen more poor air quality days due to smoke from wildfires in other states — a problem likely to worsen with climate change, and become more difficult to predict, said Kari Palmer, MPCA's air assessment manager.

The report also noted that Minnesota is not on pace to meet its goals for reducing greenhouse gas emissions and mercury.

Study: Wildfires produced up to half of pollution in US West

Date:-12-Jan-2021, Source: apnews.com



In this Sept. 9, 2020, file photo, the San Francisco skyline in the distance behind Crissy Field is barely visible due to smoke from wildfires burning across California. Researchers say smoke from wildfires accounted for up to half of all small particle air pollution in parts of the western U.S. in recent years

BILLINGS, Mont. (AP) — Wildfire smoke accounted for up to half of all health-damaging small particle air pollution in the western U.S. in recent years as warming temperatures fueled more destructive blazes, according to a study released Monday.

Even as pollution emissions declined from other sources including vehicle exhaust and power plants, the amount from fires increased sharply, said researchers at Stanford University and the University of California, San Diego.

The findings underscore the growing public health threat posed by climate change as it contributes to catastrophic wildfires such as those that charred huge areas of California and the Pacific Northwest in 2020. Nationwide, wildfires were the source of up to 25% of small particle pollution in some years, the researchers said.

“From a climate perspective, wildfires should be the first things on our minds for many of us in the U.S.,” said Marshall Burke, an associate professor of earth system science at Stanford and lead author of the study.

“Most people do not see sea-level rise. Most people do not ever see hurricanes. Many, many people will see wildfire smoke from climate change,” Burke added. The study was published in the Proceedings of the National Academy of Sciences.

The researchers used satellite images of smoke plumes and government air quality data to model how much pollution was generated nationwide by fires from 2016 to 2018 compared to a decade earlier. Their results were in line with previous studies of smoke emissions across earlier time periods and more limited geographic areas.

Large wildfires churn out plumes of smoke thick with microscopic pollution particles that can drift hundreds or even thousands of miles. Driving the explosion in fires in recent years were warmer temperatures, drought and decades of aggressive fire fighting tactics that allowed forest fuels to accumulate.

Air pollution experts say that residents of the West Coast and Northern Rockies in particular should expect major smoke events from wildfires to become more frequent.

There’s little doubt air quality regulations helped decrease other sources of pollution even as wildfire smoke increased, said Loretta Mickley, an atmospheric chemist at Harvard University. But it’s difficult to separate how much of the increase in smoke pollution is driven by climate change versus the forest fuel buildup, she added.

Mickley and researchers from Colorado State University also cautioned that fires can vary significantly from year to year because of weather changes,

making it hard to identify trends over relatively short periods such as the decade examined in the new study.

An AP analysis of data from government monitoring stations found that at least 38 million people in California, Oregon, Washington, Idaho and Montana were exposed to unhealthy levels of wildfire smoke for at least five days in 2020. Major cities in Oregon suffered the highest pollution levels they had ever recorded.

Smoke particles from those wildfires were blamed for health problems ranging from difficulty breathing to a projected spike in premature deaths, according to health authorities and researchers.

Fires across the West emitted more than a million tons of particulate pollution in 2012, 2015 and 2017, and almost as much in 2018.

Scientists studying long-term health problems have found correlations between smoke exposure and decreased lung function, weakened immune systems and higher rates of flu.

The new study matches up with previous research documenting the increasing proportion of pollution that comes from wildfire smoke, said Dan Jaffe, a wildfire pollution expert at the University of Washington. Jaffe added that it also raises significant questions about how to better manage forests and the role that prescribed burns might play.

“We have been making tremendous progress on improving pollution in this country, but at the same time we have this other part of the puzzle that has not been under control,” Jaffe said. “We’re now at the point where we have to think about how to manage the planet a whole lot more carefully than we’ve done.”

Early pandemic lockdowns had limited impact on urban air pollution

Date:-13-Jan-2021, Source: upi.com

Last spring, when lockdowns and stay-at-home orders depressed industrial activity and curbed traffic volumes, many city-dwellers noted a reduction in urban pollution.



Beijing, like many other major world cities, experienced slight improvements in air quality as a result of the lockdowns necessitated by the COVID-19 pandemic.

Several studies examining the early environmental impacts of the COVID-19 pandemic showed lockdown orders were followed by declines in nitrogen dioxide, NO₂, emissions, often used as a proxy for common air pollutants like ozone, O₃, and smog.

According to a new paper, published Wednesday in the journal *Science Advances*, lockdowns only put a small dent in the problem of urban air pollution.

Many of the earliest investigations failed to account for the effects of weather, and thus, overestimate impacts of lockdowns on air pollution.

For the new research, scientists analyzed changes in the concentrations of NO₂, O₃ and fine particulate matter in 11 major metropolitan areas: Beijing, Wuhan, Milan, Rome, Madrid, London, Paris, Berlin, New York, Los Angeles and Delhi.

When scientists accounted for the effects of weather on air pollutants, they found lockdowns were responsible for modest declines in NO₂ and particulate matter. In Paris and London, lockdown restrictions had no impact on fine particulate matter concentrations.

Fine particulate matter, or PM_{2.5}, which includes aerosols such as soot, smog and ash, is harmful to human heart and lung health.

The new data analysis showed lockdowns actually precipitated a slight increase in ozone levels in many of the world's major cities. Ozone can be harmful to crops.

"Rapid, unprecedented reduction in economic activity provided a unique opportunity to study the impact of interventions on air quality," lead study author Zongbo Shi said in a news release.

"Emission changes associated with the early lockdown restrictions led to abrupt changes in air pollutant levels but their impacts on air quality were more complex than we thought, and smaller than we expected," said Shi, a professor of atmospheric biogeochemistry at the University of Birmingham in Britain.

"Weather changes can mask changes in emissions on air quality," Shi said. "Importantly, our study has provided a new framework for assessing air pollution interventions, by separating the effects of weather and season from the effects of emission changes."

Though lockdown-related restrictions did yield modest air quality improvements, the benefits were short-lived.

And even with COVID-19 cases rising across much of Europe and North America, it appears unlikely the kinds of blanket lockdowns utilized last spring will be deployed once again.

During the brief decline in NO₂ and PM_{2.5}, the data showed city ozone levels increased -- many air pollutants react to destroy ozone. With less vehicular exhaust and fewer industrial contaminants being emitted into the atmosphere, less ozone was destroyed.

By studying the relationships between kinds of air pollution, how they react to policy choices and economic shifts, researchers hope to craft more targeted air pollution reduction plans.

"Future mitigation measures require a systematic air pollution control approach towards NO₂, O₃ and PM_{2.5}, which is tailored for specific cities, to maximize the overall benefits of air quality changes to human health," said study co-author William Bloss, a professor of atmospheric sciences at the University of Birmingham.

Code Orange air quality alert in effect Thursday for southeastern PA counties

Date:-14-Jan-2021, Source: local21news.com

Harrisburg, PA — The Pennsylvania Department of Environmental Protection has issued a Code Orange Air Quality Action Day for fine particulate matter for Thursday, January 14, 2021, in the southeastern counties of the state.

On an Air Quality Action Day, young children, the elderly, and those with respiratory problems, such as asthma, emphysema, and bronchitis, are especially vulnerable to the effects of air pollution and should limit outdoor activities.

The highest concentrations of fine particulate matter are most likely to occur between 3:00 a.m. and 10:00 a.m. in the following counties; Bucks, Chester, Delaware, Montgomery, and Philadelphia, and the southcentral counties of Cumberland, Dauphin, Lancaster, Lebanon, and York.

The U.S. Environmental Protection Agency's Air Quality Index provides standardized color codes for forecasting and reporting daily air quality. Green signifies good air quality; Yellow means moderate air quality; Orange represents unhealthy pollution levels for sensitive groups of people; and Red warns of unhealthy pollution levels for all.

Wildfire Smoke's Effects Are Getting Worse

Date:-15-Jan-2021, Source: futurity.org

Record-setting wildfires torched huge swaths of western states in 2020. They blotted out the sun, produced hazardous air pollution in cities far from the blazes, and sent toxic smoke wafting clear across the country and beyond.

The number of homes at direct risk from wildfires—and the investment in firefighting resources to protect them—is on the rise. Nearly 50 million homes in the US now sit in the wildland-urban interface where houses are close to



An orange glow fills the sky above the Embarcadero as smoke from various wildfires burning across Northern California mixes with the marine layer, blanketing San Francisco in darkness, on September 9, 2020.

forests and highly combustible vegetation, according to the authors of the paper in the Proceedings of the National Academy of Sciences.

Moreover, being in close proximity to trees, brush, and wilderness is no longer a prerequisite for suffering impacts from wildfire. Marshall Burke, an associate professor of earth system science in Stanford University's School of Earth, Energy & Environmental Sciences (Stanford Earth), and colleagues estimate that wildfires have accounted nationwide for a quarter of the toxic fine particle pollution known as PM2.5, up from 10% a decade ago, and up to half of that pollution in parts of the American West.

"Climate change is a primary driver of these changes," says Burke, "and this particular climate impact is one we need to pay a lot more attention to."

Blame Bitcoin? Iran hit by blackouts and smog amid electricity production woes

Date:-16-Jan-2021, Source: timesofisrael.com



Thick smog blankets the skyline, obscuring nearby mountains, in Tehran, Iran

Power-heavy cryptocurrency mining and a shortage of natural gas have been blamed for outages and pollution amid COVID crisis.

Iran is suffering vast blackouts and intense air pollution in recent weeks, amid electricity production problems blamed on Bitcoin mining and a shortage in natural gas.

Officials have said illegal cryptocurrency miners — who are paid to use farms of power-hungry machines to verify the legitimacy of cryptocurrency transactions — have been gobbling up power and putting immense strain on the country's grid.

But one cryptocurrency researcher in Tehran told The Washington Post this claim was false, while blaming Iran's infrastructure and management problems.

“The miners have nothing to do with the blackouts,” Ziya Sadr said. “Mining is a very small percentage of the overall electricity capacity in Iran.”

“It is a known fact that the mismanagement and the very terrible situation of the electricity grid in Iran and the outdated equipment of power plants in Iran can’t support the grid.”

Meanwhile, power stations have been deprived of natural gas due to intense consumption to heat private homes, leading plants to reportedly turn to lower quality, polluting fuel that has caused a thick layer of smog to blanket Tehran and other locations.

These troubles come amid the nation’s coronavirus crisis, which has hit the Islamic Republic harder than any other nation in the region.

Health officials have warned that pollution could exacerbate the effects of the pandemic.

The Islamic republic has reported more than 1.2 million cases of the novel coronavirus, which have caused over 56,000 deaths.

Greenhouse gas, air pollution cause distinct regional impacts on extreme fire weather

Date:-17-Jan-2021, Source: tribuneindia.com

In a first-of-its-kind study, scientists have assessed the influence of human activities on extreme fire weather risk, and found that greenhouse gas emissions and air pollution have distinct regional impacts on wildfire outbreaks.

The research, published in the journal Nature Communications, analysed the climate under various combinations of human influences since 1920, isolating individual effects and their impacts on extreme fire weather risk.

While previous studies found that human activities and their products like greenhouse gas emissions, and air pollution raise the risk of extreme fire weather, the scientists, including those from the University of California (UC) Santa Barbara in the US, said the specific influence of these factors has been unclear.

"To get a wildfire to ignite and spread, you need suitable weather conditions--- you need warm, dry and windy conditions," explained Danielle Touma, a co-author of the study from UC Santa Barbara.



The scientists hope that the current understanding of fire risk at a regional scale helps in mitigation and planning purposes.

"And when these conditions are at their most extreme, they can cause really large, severe fires," Touma said.

According to the researchers, heat-trapping greenhouse gas emissions are the dominant contributors to temperature increases around the globe.

By 2005, they said emissions raised the risk of extreme fire weather by 20 per cent from preindustrial levels in western and eastern North America, the Mediterranean, Southeast Asia, and the Amazon.

The study predicted that by 2080, greenhouse gas emissions are expected to raise the risk of extreme wildfire by at least 50 per cent in western North America, equatorial Africa, Southeast Asia, and Australia, while doubling it in the Mediterranean, southern Africa, eastern North America, and the Amazon.

According to the scientists, biomass burning and land-use changes have more regional impacts that amplify greenhouse gas-driven warming.

The study noted a 30 per cent increase of extreme fire weather risk over the Amazon and western North America during the 20th century caused by biomass burning.

Land use changes, according to the research, also amplified the risk of extreme fire weather in western Australia and the Amazon.

The scientists said industrial aerosols block some of the solar radiation from reaching the ground and tend to have a cooling effect on the climate.

"We knew something had been compensating in a sense for greenhouse gas warming, but not the details of how that compensation might continue in the future," said Samantha Stevenson, a co-author of the study from UC Santa Barbara.

However, in Southeast Asia, "where aerosols emissions are expected to continue", the study said there may be a weakening of the annual monsoon, drier conditions, and an increase in extreme fire weather risk.

"Southeast Asia relies on the monsoon, but aerosols cause so much cooling on land that it actually can suppress a monsoon," Touma said.

"It's not just whether you have aerosols or not, it's the way the regional climate interacts with aerosols," he added.

The scientists hope that the current understanding of fire risk at a regional scale helps in mitigation and planning purposes.

"In the broader scope of things, it's important for climate policy, like if we want to know how global actions will affect the climate," Touma said.

"And it's also important for understanding the potential impacts to people, such as with urban planning and fire management," he added.

Karachi among world's most polluted cities

Date:-18-Jan-2021, Source: aninews.in

Karachi, January 17 (ANI): Karachi found a place among the world's most polluted cities when the level of hazardous particles in the air touched 324 on Sunday, according to ARY News.



Citing the reading of the Air Quality Index (AQI), ARY News reported that air pollution of particulate matter in Lahore was

recorded 171, Peshawar 414, and Islamabad 171. The air pollution in Karachi (/topic/karachi) has reached dangerous levels, an expert said

adding that in winter an increase in air pollution is witnessed.

Smoke from factories and vehicular traffic in cities are some of the factors causing air pollution.

The smoke produced by factories and burning coal, garbage, oil or tyres enters the atmosphere and the effects of this appear at the onset of winter and remain till the season's end, experts added.

AQI as high as 151-200 is considered unhealthy, while an AQI between 201 to 300 is more harmful and an AQI over 300 is dubbed extremely hazardous, ARY News reported.

The AQI is calculated on the basis of five categories of pollution, including ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide.

Wildfires having devastating effect on air quality in western US, study finds

Date:-19-Jan-2021, Source: theguardian.com

Blazes, intensified by the climate crisis, are reversing decades of gains in cutting air pollution, scientists report.

Increasingly ferocious wildfires in the western US are taking a devastating toll on the region's air quality, with wildfire smoke now accounting for half of all air pollution during the worst wildfire years, according to a new study.



Smoke from wildfires shrouds the town of West Linn, Oregon, on 10 September 2020

Scientists from Stanford University and the University of California, San Diego, found that toxic plumes of smoke, which can blanket western states for weeks when wildfires are raging, are reversing decades of gains in cutting air pollution. While heat-related deaths have previously been predicted as the worst consequence of the climate crisis, researchers say that air pollution caused by smoke could be just as deadly.

“For a lot of people in this country wildfires are going to be the way they experience climate change,” said Marshall Burke, an associate professor of earth science at Stanford and one of the study’s authors. “The contribution of wildfires to poor air quality has roughly doubled in the last 15 years in the west.”

Air pollution from fine particles, known as PM2.5s, was already known to take four months off the lifespan of the average American. And health researchers

are just beginning to understand the harrowing health consequences added by the increasing smoke exposure for broad swaths of the US population.

Wildfire seasons have become increasingly brutal in the American west, exacerbated by the climate crisis. The firestorms of 2020 were among the worst in recorded history, with 31 people killed, 10,000 buildings destroyed or damaged and more than 4m acres burned in California alone. Huge swaths of Colorado, New Mexico and Arizona were scorched as well.

After California's residents endured a month of orange-brown air filled with dangerous tiny particles, another set of Stanford researchers tracked dramatic increases in hospitalizations for conditions including strokes, heart attacks and asthma.

Bibek Paudel, a postdoctoral researcher at Stanford's asthma clinic, found that hospitalizations for strokes and related conditions increased by 60% in the five weeks after fires caused by lightning strikes began sending smoke around northern California last August. The number of pregnancies lost also doubled in the weeks after the fires – a startling finding that the researchers are still interpreting. Paudel also found significant increases in heart attacks and youth hospitalization for respiratory illness.

"I don't think that people are aware of the long-term health effects of wildfire smoke," said Mary Prunicki, the director of research for Stanford's Sean N Parker Center for Allergy & Asthma Research.

For decades, air quality in the US has been improving due to reductions in pollution from cars and factories, mandated by the Clean Air Act. But over the last 40 years, the amount of land burned in wildfires has quadrupled, Burke's study found.

The study, published in the Proceedings of the National Academy of Sciences, combined data from satellite images of smoke plumes with measurements obtained from air monitors on the ground, which record local air pollution, to model the total smoke exposure. The study comprised all states west of (and including) New Mexico, Colorado, Wyoming and Montana.

Smoke plumes can be detected by satellite images as they travel across the country. But it is hard to tell whether they are low enough to affect the air quality on the ground, so the study created statistical models of how pollution changed in specific locations after fire events, combining information from satellites, air monitors and data models.

“Everyone knows wildfires produce dirty air – so that’s not a surprise,” said Burke. “What we were able to do in this study is quantify how large that contribution is. And we found it’s really reversing a lot of the progress that’s been made across the country in air quality improvement.”

Surprisingly, the study found that wildfire smoke is spreading the effects of air pollution to whiter and wealthier populations. Historically, low-income communities have been hardest hit by air pollution, often because their homes are closest to freeways and factories. But smoke spreads pollutants over much broader areas. Burke said the western US, where the most wildfires occur, also tends to be whiter and wealthier than other regions of the country.

As the plumes travel around the country, the pollutants can harm even people living far from the fires, in the midwest or east.

“Wildfire smoke is a burden that is much more equally shared than other pollution,” said Burke.

However, other research has shown that low-income populations may be hit harder when smoke blankets a region, because their smaller and older homes offer them less protection.

Ironically, one of the future solutions to all this smoke may be to light more fires.

The increase in wildfires is due in part to warmer temperatures and drier conditions, but there is a growing consensus that it is also a result of the nation’s policy of suppressing fires, instead of occasionally letting land burn.

“There’s a huge amount of fuel on the ground,” said Burke. “Climate change is drying it out and making it much more flammable.”

Limiting air pollution 'could prevent 50,000 deaths in Europe'

Date:-20-Jan-2021, Source: theguardian.com

World Health Organization estimates air pollution kills more than 7 million people each year.

Limiting air pollution to levels recommended by the World Health Organization could prevent more than 50,000 deaths in Europe annually, according to research.



Cities such as Paris, with their crowded streets and high energy use, are hotspots for illness and disease linked to air pollution.

The WHO estimates air pollution kills more than 7 million people each year and is one of the leading causes of sickness and absence from work globally.

Cities, with their crowded streets and high energy use, are hotspots for illness and disease linked to air pollution. The WHO recommends that fine particulate matter (PM_{2.5}) not exceed 10 micrograms per cubic metre of air, averaged annually. For nitrogen dioxide (NO₂), the threshold not to be exceeded is 40µg/m³. Wednesday's study, published in the Lancet Planetary Health journal, estimated the premature death burden due to these two pollutants in nearly 1,000 cities across Europe. It found that reducing PM_{2.5} and NO₂ to safe WHO levels could prevent 51,213 premature deaths each year. Nearly 125,000 deaths annually could be saved if air pollution levels were reduced to the lowest recorded in the study, its authors said.

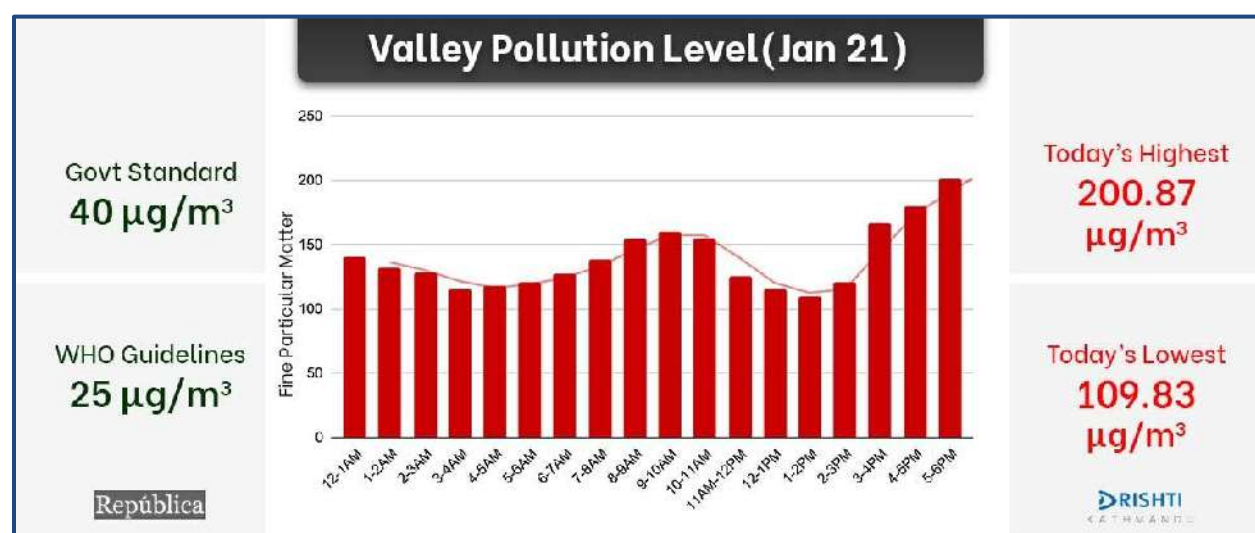
Mark Nieuwenhuijsen of the Barcelona Institute for Global Health (ISGlobal) said the research "proves that many cities are still not doing enough to tackle air pollution". "Levels above WHO guidelines are leading to unnecessary deaths," he said. Using city-specific data on air pollution models combined with mortality figures, the researchers formed a "mortality burden score" ranking individual cities from best to worst.

Deaths due to air pollution varied widely, with NO₂ levels in Madrid, for example, responsible for 7% of annual deaths there. Cities in the Po Valley region of northern Italy, Poland, and the Czech Republic were the highest in mortality burden, with the Italian cities of Brescia, Bergamo and Vicenza all within the top five for PM_{2.5} concentrations. Those with the lowest mortality burden included Tromsø in Norway, Umeå in Sweden and Oulu in Finland, as well as the Icelandic capital, Reykjavik.

On average, 84% of the population in cities studied were exposed to PM_{2.5} levels above the WHO guideline. Nine per cent were exposed to higher-than-recommended NO₂ levels, the study found. Sasha Khomenko, co-author of the study from ISGlobal, said it was important to implement local emissions reductions measures in light of the high variability in mortality linked to poor air. “We need an urgent change from private motorised traffic to public and active transportation (and) a reduction of emissions from industry, airports and ports,” she said. Khomenko also said a ban on domestic wood and coal burning would help heavily polluted cities in central Europe, and called for more trees and green spaces in urban areas.

Kathmandu Valley’s air quality deteriorates Thursday evening

Date:-21-Jan-2021, Source: myrepublica.nagariknetwork.com



KATHMANDU, Jan 21: The quality of air in the Kathmandu Valley has deteriorated in the evening. The country’s capital city, on Thursday, recorded the highest PM 2.5 reading of 200.87 µg/m³ between 5 PM and 6 PM.

According to the data collected from various pollution monitoring stations installed at 17 different places in the Valley, the dust particles in the air are measured high ($160.22\mu\text{g}/\text{m}^3$) in the morning between 9 and 10 and in the evening after 3 PM as people leave for their jobs and return home from the work. The lowest PM 2.5 reading was measured in the afternoon between 1 and 2 which is far higher than that of the WHO-set standard of $25\mu\text{g}/\text{m}^3$ and Nepal government-set guidelines of $40\mu\text{g}/\text{m}^3$.

Kathmandu, one of the most-polluted cities in the world, is the most densely populated city of the country. The Urban Health Initiative (UHI), an on-the-ground pilot program initiated by the WHO, has identified four major sources of air pollution - solid waste, transport, industry/brick kilns, and household energy sectors - in the Kathmandu Valley.

London's toxic air crisis continues despite lockdown as Nitrogen Dioxide levels exceed legal limit

Date:-22-Jan-2021, Source: standard.co.uk



Morning traffic coming into London over the Marylebone flyover during England's third national lockdown

Legal limits for levels of harmful gases created by traffic are being breached across London despite the government “stay at home” order over Covid-19.

So far this year, 10 monitoring sites at pollution hotspots in and around the capital are registering average levels of nitrogen dioxide (NO₂) well above the 40 micrograms per cubic metre of air threshold enshrined in UK law.

The gas is emitted by diesel engines and can aggravate asthma and other respiratory conditions. Prolonged exposure is thought to be particularly bad for children because it stunts lung development.

London’s highest levels are currently in Brixton Road, with an average reading of 58 µg/m³ since the start of the year. This is followed by two sites in Putney High Street; Kingston’s one-way system, the A237 in Sutton; and the entrance to the Dartford Tunnel.

The high readings have alarmed clean air campaigners because volumes of traffic were expected to be low after the second national lockdown was announced at the end of October. Boris Johnson instructed people to stay away from their workplace unless they “absolutely cannot work from home”.

Pollution Hotspots

Micrograms of NO₂ per cubic metre of air in brackets

Brixton Road (58)

Putney High Street - Montserrat Rd (53)

Putney High Street - near river (52)

Kingston one-way system (50)

A237 in Sutton (48)

Dartford Tunnel (48)

Lavender Hill near Clapham Junction (46)

A23 at Hooley near Banstead (45)

Hanger Lane gyratory (42)

Wandsworth Town Hall (42)

However, volumes of vehicles on London's roads have been far higher than in the first lockdown. Transport for London figures show traffic at more than 60 per cent of normal levels compared with about 30 to 35 per cent in March and April last year. Levels of NO₂ fell by about 40 per cent during the spring lockdown but similar large reductions are not being repeated.

Simon Birkett, founder and director of Clean Air in London, said: "It is staggering that so many streets in London look set to breach the World Health Organisation guideline and annual legal limit for nitrogen dioxide again in 2021 despite another lockdown."

Air Pollution: Reasons why Dhaka tops the list every day

Date:-23-Jan-2021, Source: dhakatribune.com



Air pollution in Dhaka

Dhaka was in the first position on average and the pollution index rose to 326 on Thursday

The level of air pollution is increasing in Dhaka day by day. According to a survey conducted by an international air quality watchdog, Dhaka is rising to the top when it comes to

pollution, almost every day in January 2021. It was at the top of the list even last Thursday. The level of pollution is so high that it is being labelled as 'catastrophic.'

According to the Air Quality Index (AQI) of Air Visual, a US-based global aerospace technology company, Dhaka was in the first position on average and the pollution index rose to 326 on Thursday, January 21, from 9am to 1pm. Even the day before (Wednesday, January 20), Dhaka was at the top at 9am. The situation was the same on Tuesday, January 19, too. Even this week, Dhaka was number one in pollution at some point in the day.

According to air experts, AQI 326 already means catastrophic. The situation could escalate if steps are not taken to reduce pollution immediately. The Ministry of Environment, Forest and Climate Change has identified the reasons for the air pollution in Dhaka.

The reasons include: brickyards; road construction, reconstruction and repair; construction and road digging of service companies; large development projects (expressways, metro rails etc.); construction of various facilities including multi-storied buildings at government and private levels; commercial sand extraction and collection on roadsides or highways, transportation of sand, soil, cement, and other construction materials in trucks or lorries in open condition; piles of household and municipal waste on the streets and incineration of waste; dumping drain-dirt on the streets; sweeping the road with brooms; exposed areas along various roads and streets; dust from broken part of the footpath and the roads; harmful smokes of unfit transports; clay attached to the wheels of various vehicles; incineration; dumping garbage and dust of various markets, shopping malls and commercial buildings on the streets; dust of the polluted areas of the city; hospital wastes dumped on the road; use of excessive sulfur-containing diesel; and lastly and importantly lack of public awareness.

Additional Secretary(Environment) of the Ministry of Environment, Forest and Climate Change Moniruzzaman said: "The operation to close brickfields is going on. We have also discussed many of the other reasons with the city corporation and the BRTA, such as on the issue of keeping dirt on the side of the road, sweeping in the morning, removing and cleaning all the garbage including the dirt of the building under construction, and hospital waste. They told us they are monitoring these regularly. "The Bangladesh Road Transport Authority (BRTA) and the Metro Rail project have been requested to spray water to reduce dust on their own initiative. At the same time, I have repeatedly asked the BRTA to take action against the vehicles responsible for the pollution. We are trying our best," he added. However, the environmental experts are reluctant to accept the additional secretary's statement. They said no noticeable initiative was being taken to prevent the pollution. This situation will not improve if importance is not given. Hence the city will continue to be at the top of the polluted city list. Moreover, its long-term effects are harming the health of many people in the country and there are risks of further damage in the future.

Pollution expert and Joint Secretary of the Bangladesh Environmental Movement (BAPA) Professor Kamruzzaman Majumder told Bangla Tribune: "We are reporting the reasons for the increase in pollution at different times. We are

also talking about how pollution can be controlled. Everyone in the ministry is aware of these, but the real task now is to monitor whether the pollution control initiatives are being implemented at all. The government needs to understand that in the long run, the damage from this pollution is huge.”

Central Committee Vice-President of BAPA Abdul Matin said: "Everyone knows why pollution happens, how it happens, how it can be controlled. However, by just talking about it, nothing will change. I do not see any visible work so far. Pollution cannot be controlled by conducting a couple of campaigns from time to time. We need a lot more campaigns.”

Monique Kieran: Residential wood burning one of main human sources of air pollution

Date:-24-Jan-2021, Source: timescolonist.com



Wood-burning fireplaces and stoves produce as much as 25 per cent of fine-particle pollution in Metro Vancouver, the Cowichan Valley and other communities where surrounding mountains and temperature inversions trap bad air, writes Monique Kieran.

Never mind that heating with wood is one of the least efficient sources of energy, there's something primal and comforting about the sound, sight and smell of a wood fire cracking in a fireplace or stove.

But the neighbours might be less impressed, and indeed, keeping the home fires burning in some B.C. communities is becoming more and more difficult.

Residential wood burning is one of the main human-caused sources of fine-particulate pollution in B.C., particularly during the winter months, when people burn more wood to heat their homes.

By some reports, it accounts for up to 15 per cent of this type of air pollution in the province and produces as much as 25 per cent of fine-particle pollution in Metro Vancouver, the Cowichan Valley and other communities where surrounding mountains and temperature inversions trap bad air.

In some Island communities — where we pride ourselves on our clean air and being active outdoors year round — B.C. Ministry of Environment air-quality monitors have been known to regularly log emissions above provincial standards for particulate matter as wood stoves fire up in the late afternoon and burn into the evening. Courtenay, Comox, the Cowichan Valley, Port Alberni and similar communities all experience poor air during winter, with advisories telling people with chronic illnesses not to exercise outdoors.

Wood smoke contains many harmful gases and fine particles that reach deep into the lungs when inhaled. There, they can cause or worsen heart and lung issues, and put people at greater risk for respiratory illnesses like COVID-19.

Health Canada estimates air pollution causes or contributes to 1,600 deaths in B.C. every year, at a cost of \$11.5 billion. A 2008 Canadian Medical Association report estimated 300 premature deaths, more than 1,100 hospital admissions, almost 9,000 emergency-department visits, and more than 2.5 million minor illnesses related to air pollution in B.C.

In its 2015 air-shed protection strategy, the Cowichan Valley Regional District noted that between 1998 and 2012, hospital admissions for children with respiratory diseases were on average 70 per cent higher, asthma rates were 14 per cent higher and chronic respiratory illness in people over 45 was 50 per cent higher in the valley than elsewhere in B.C.

Thanks to a ready and relatively inexpensive supply of wood, British Columbians are unlikely to stop using wood to heat their homes. Rising costs of natural gas, oil, and electricity, a culture and history of self-sufficiency, and

a tendency among some of us to react poorly when told what to do compound the issue.

The province and communities have incentives in place to encourage upgrades to newer, more efficient, cleaner-burning wood stove models or to less-polluting heating alternatives. For example, provincial rules governing new stoves available on the market tightened last year to align with recent changes in emission standards for fireplaces, stoves and by the U.S. Environmental Protection Agency. Since May, emissions from these appliances must be less than 2.5 grams/hour.

But that applies only to new appliances, not to stoves already installed and puffing out smoke.

To address the existing stock of smoke-belching wood-burning home stoves, the Provincial Wood Stove Exchange Program has paid about 9,000 households at least \$250 to replace their wood-burning stoves since it began in 2008. Neither of those numbers is huge, but some communities and regional districts provide top-up funding.

Some have also doubled down with bylaws to clean the local air.

In Duncan, for example, old stoves must be removed when a house is sold, and only up-to-date wood-burning appliances are allowed in new construction. In addition, no burning in the municipality is allowed during air-quality advisories.

A 2019 Comox bylaw outright prohibits wood stoves in all construction.

And this year, if you use a wood-burning fireplace or stove in your Metro Vancouver home between May 15 and Sept. 15, you could be fined \$10,000 for each day you flout the new bylaw.

Of course, with May to September being the months when indoor heating is least needed, the new regulation's impacts may be underwhelming. However, the bylaw is the first phase of a three-stage implementation of rules to eventually phase out appliances that do not meet emission standards.

Metro Vancouver officials estimate the health-related benefits of reducing fine particulate matter from residential indoor wood burning will save the region and residents between \$282 million and \$869 million each year.

Air pollution linked to higher risk of sight loss from AMD

Date:-25-Jan-2021, Source: eurekaalert.org

Air pollution is linked to a heightened risk of progressive and irreversible sight loss, known as age related macular degeneration (AMD), reveals a large long term study led by UCL researchers.

They found that people in the most polluted areas were at least 8% more likely to report having AMD, according to the findings published in the British Journal of Ophthalmology.

Lead author Professor Paul Foster (UCL Institute of Ophthalmology) said: "Here we have identified yet another health risk posed by air pollution, strengthening the evidence that improving the air we breathe should be a key public health priority. Our findings suggest that living in an area with polluted air, particularly fine particulate matter or combustion-related particles that come from road traffic, could contribute to eye disease.

"Even relatively low exposure to air pollution appears to impact the risk of AMD, suggesting that air pollution is an important modifiable risk factor affecting risk of eye disease for a very large number of people."

AMD is the leading cause of irreversible blindness among people over 50 in high-income countries, with the numbers of those affected projected to reach 300 million by 2040. Known risk factors include older age, smoking, and genetic make-up.

Air pollution has been implicated in brain conditions such as Alzheimer's disease, Parkinson's disease and stroke, while a 2019 study by the same research team found that air pollution was linked to elevated glaucoma risk. Particulate matter exposure is one of the strongest predictors of mortality among air pollutants.

To see if air pollution might also be implicated in AMD risk, the researchers drew on data from 115,954 UK Biobank study participants aged 40-69 with no eye problems at the start of this study in 2006.

Participants were asked to report any formal diagnosis of AMD by a doctor. And structural changes in the thickness and/or numbers of light receptors in the retina - indicative of AMD - were assessed in 52,602 of the participants, for whom complete data were available in 2009 and 2012, using retinal imaging (non-invasive optical coherence tomography or OCT).

Measures of ambient air pollution included those for particulate matter (PM_{2.5}), nitrogen dioxide (NO₂), and nitrogen oxides (NO_x). The estimates for these were provided by the Small Area Health Statistics Unit as part of the BioSHaRE-EU Environmental Determinants of Health Project. Official information on traffic, land use, and topography was used to calculate the annual average air pollution levels at participants' home addresses.

The research team found that people in areas with higher levels of fine particulate matter pollution were more likely to report having AMD (specifically, they found an 8% difference in AMD risk between people living in the 25th and 75th percentiles of pollution levels), after accounting for potentially influential factors such as underlying health conditions and lifestyle. All pollutants, except coarse particulate matter, were associated with changes in retinal structure.

The researchers caution that this observational study cannot confirm cause, but their findings align with evidence from elsewhere in the world. While they cannot yet confirm a mechanism, they suggest that ambient air pollution could plausibly be associated with AMD through oxidative stress or inflammation.

Dr Sharon Chua (UCL Institute of Ophthalmology), the paper's first author, adds: "Higher exposure to air pollution was also associated with structural features of AMD. This may indicate that higher levels of air pollution may cause the cells to be more vulnerable to adverse changes and increase the risk of AMD."

Deciphering the Black Box of Air Pollution Data In Thailand

Date:-26-Jan-2021, Source: unescap.org

Air pollution has become a serious environmental and health issue in Thailand. The pollution levels in the country follow predictable patterns, which highlight the presence of a peak pollution season. For Bangkok, the highest levels of pollution are seen between November and February each year.

The first step in any effort to mitigate air pollution is to understand the magnitude of the problem and the sources of pollution. The most common measure of air quality is the Air Quality Index (AQI). The AQI is based on measurement of particulate matter (PM_{2.5} and PM₁₀), Ozone (O₃), Nitrogen Dioxide (NO₂), Sulfur Dioxide (SO₂) and Carbon Monoxide (CO) emissions. Using a composite index of air quality as the AQI is extremely important in understanding the magnitude of the problem. To go a step further and design

mitigation actions someone has to perform more detailed analysis and “decipher” the meaning of a single numerical measure in order to identify the sources of pollution.

A hazy Bangkok skyline – or an invisible city skyline – is the most evident indication of air pollution, as small particles, generally referred to as particulate matter of 10 or 2.5 microns in width, are suspended in the air. Of these two sets of particles the PM2.5 draw big attention because of their high contribution to air pollution and the detrimental health effects they can cause in our respiratory systems. Although these small particles are measured by size, there are significant differences in their chemical composition depending on their origin. By analyzing this chemical fingerprint, we can determine the cause of pollution as well as different toxicity factors and health impacts of the PM2.5 particles.

ESCAP has initiated a large study in Thailand that is looking at several aspects of air pollution in Bangkok, Chiang Mai and Nakhon Si Thammarat. The results of this study will be published soon, and this article provides some main finding of this work. When analyzing the data we look at two levels: the source and the contributing factors. The source indicates the generation of the problem and the different pollutants and is related to different economic activities (from power generation to industrial production, agriculture and transport). The contributing factors refer to local weather conditions (temperature, wind, humidity) that are responsible for the temporal and spatial distribution of the pollutants and therefore for the specific AQI in a location. All these data, generated from ground-based measurement stations, are combined with observations from satellites and are fed into machine learning models to identify the most significant factors and the most effective tools for reducing air pollution levels.

The preliminary analysis of data and our study show the following: While internal combustion vehicles are an important source of air pollutants, they are not the primary sources of air pollution in most cities in Thailand. While vehicles do play a larger role in cities such as Bangkok or Nakhon Si Thammarat their overall contribution to the AQI in these cities is much smaller than other factors. In this context, smoke released by agricultural fires and forest fires are the main source of pollution and are related to unsustainable practices of natural resources management. Additional sources of air pollution include industrial emissions from factories, coal-burning powerplants and construction. Another finding from the study is that NO_x levels, associated mostly with industrial emissions, are relatively higher in Bangkok in

comparison with Chiang Mai. Looking at the problem of open agricultural fires and the practices associated with it we can highlight the locations with the most frequent incidents of open biomass burning. In the case of Bangkok, the hotspots closest to the city are primarily from cropland. Outside a perimeter of 100 kilometers, the profile changes somewhat with hotspots in urban locations growing in prominence as indicated in the graphs below.

The air pollution problem of Thailand has multiple faces and there are multiple sources responsible for the PM2.5. The causes vary greatly depending on location and dealing with the problem requires to go out of the box, address the real causes and have a portfolio of short-, medium- and long-term actions.

Specific actions should include:

- Short-term: Promote sustainable agricultural practices (like circular models for straw utilization and sustainable agricultural mechanization) and enhance prevention and suppression of forest fires.
- Medium-term: Engage cooperatively with neighboring countries to work together in reducing air pollution emissions from agricultural burning.
- Long-term: Decarbonize industrial activity, invest in clean energy and zero-emission public and private transport.

Electric Buses Tapped to Help Curtail Tehran Air Pollution

Date:-27-Jan-2021, Source: [financialtribune.com](https://www.financialtribune.com)



Electric Buses Tapped to Help Curtail Tehran Air Pollution

An initiative has been launched in Tehran to convert old fossil-fuel-burning buses into electric vehicles for curbing air pollution and bolstering the aging public transportation fleet.

Iran's Vice President for Science and Technology has launched a joint initiative with the University of Tehran for converting diesel- and gas-powered buses currently operating in the capital city into electric vehicles.

According to Shahriar Zeini, the head of Space Technologies Development Center at the vice presidential office, the project is aimed at curbing air pollution in the capital and bolstering the aging public transportation fleet, Mehr News Agency reported.

He said the project entails the replacement of the vehicles' combustion components with electric engine system, performance optimization and weight reduction.

"Up to 80% of electric parts, including drive system, engines, batteries, DC converters and chargers, have been locally produced with the collaboration of Iranian knowledge-based companies," he said.

Zeini noted that the first prototype is planned to be unveiled in early June.

"This is a revolutionary move in the country's transportation sector and a great investment opportunity," he said, calling on private entities and state institution to propel the plan with their financial support.

2020: Air pollution in Istanbul, Turkey down 10%

Date:-28-Jan-2021, Source: aa.com.tr

Thanks to pandemic measures, air pollution fell around globe last year, says Turkish scholar.

ISTANBUL

The rate of air pollution in Istanbul decreased by 10% last year compared to 2019, a Turkish scholar told Anadolu Agency on Thursday.

With many people spending more time at home due to the COVID-19 outbreak, this has brought an improvement in air quality.



Nitrogen dioxide (NO₂) emissions, a major air pollutant, has decreased by 10% in the Turkish metropolis, according to figures from the Ministry of Environment and Urbanization and the Istanbul Municipality.

Increased air pollution can cause major health risks, said Huseyin Toros, a professor at the Meteorological Engineering Department of the Istanbul Technical University (ITU).

Despite the ongoing research and efforts to reduce air pollution on a global scale, "we continue to pollute the atmosphere," Toros said.

Improvement amid pandemic

With the novel coronavirus pandemic, countries across the globe, including Turkey, took measures to curb the outbreak's spread.

Human activity fell dramatically under these precautions, Toros explained, adding that there had been 25% less pollution in Istanbul's air during April, May and November, when Turkey stepped up measures against the virus, compared to the other months when they were more relaxed.

He said that on weekdays last year, air pollution had decreased by 10% on average compared to 2019, with a mean drop of 23% during these three months and by 3% during the rest of 2020.

"When we look at the weekends, air pollution decreased overall by 7% in 2020 compared to 2019, falling 29% on weekends when measures were implemented and rising by 7% on weekends when there were no measures," added Toros.

Turkey last year introduced nighttime and weekend curfews to stem the spread of COVID-19.

Urging people to act together to help improve the quality of the air, Toros said that in order to do this, "we must reduce fossil fuel usage and increase the use of environment-friendly renewable energies.

"As much as possible, we should live close to our workplaces. We can all reduce waste in all areas and use resources efficiently, sparingly etc. We can improve the quality of the air in our own right with the measures we take and those that we will take by different means."

Putney High Street is one of London's top pollution sites

Date:-29-Jan-2021, Source: wandsworthguardian.co.uk



Putney High Street was the second pollution hotspot

Putney High Street has been revealed as one of London's most polluted areas, with illegally high levels of Nitrogen Dioxide.

The area's busiest road came in second and third place in a survey of pollution hotpots, despite a national lockdown instructing people to drive less.

According to the Evening Standard, 10 monitoring sites at pollution epicentres in London are registering average levels of nitrogen dioxide (NO₂) far above the 40 micrograms per cubic metre of air allowed by UK law.

The highest levels are currently in Brixton Road, with an average reading of 58 µg/m³ since the start of the year.

Locations on Putney High Street - by Montserrat Rd and near the river - and Clapham's Lavender Hill follow closely behind.

Putney MP Fleur Anderson criticised the government's inaction in a Parliament debate this week.

She said: "The voice of constituents and civil society has been deafening. We are in a climate emergency and this Bill does not go far enough.

"Putney High Street is one of the most polluted streets in the UK. The Environment Bill in its current form is a shameful missed opportunity by Ministers to tackle pollution levels.

"If urgent action is not taken by the Government to reduce air pollution, 550,000 Londoners will develop diseases attributable to air pollution over the next 30 years. The cumulative cost to the NHS and social care system in London is estimated to be £10.4 billion."

"The Government continue to drag their feet on the climate change and this sub-standard Bill, already badly delayed, will face even more lengthy delays before passing. I will be pressing Ministers to use this delay to make improvements to the Bill to enable more action on important areas of air quality, water, waste and chemicals."

Lahore, Karachi among cities ranked worst for air pollution

Date:-30-Jan-2021, Source: pakistantoday.com.pk

AQI between 151-200 is considered unhealthy, between 201 to 300 harmful and over 300 is hazardous and may prompt emergency condition alerts.



KARACHI: Country's busiest metropolises Lahore and Karachi ranked fourth and tenth respectively on the latest global Air Quality Index (AQI) on Saturday.

Bahawalpur was measured to have 327 hazardous particulate matter. Lahore recorded a reading of 194, Rawalpindi 189, Raiwind 170, Karachi 167, and Multan 165, according to the index.

AQI between 151-200 is considered unhealthy, between 201 to 300 harmful and over 300 is hazardous and may prompt emergency condition alerts.

"Air pollution [...] claims tens of thousands of lives, devastates the health of millions, and denies other rights, like the right to education, when children cannot go to school," said Omar Waraich, South Asia campaigns director for Amnesty International.

"This is a human rights crisis," he said.

According to experts, the air becomes heavier in the winter as compared to summer, causing poisonous particles in the atmosphere to move downwards and making the atmosphere polluted. As a result, a layer of polluted particles, including large amounts of carbon and smoke, covers the city.

The smoke produced by factories and by burning coal, garbage, oil, or tyres enters the atmosphere and the effects of this appear at the onset of winter and remain till the season's end, experts said.

Thus, air pollution reaches extremely dangerous levels in cold weather, severely compromising air quality.

Although southwestern winds blowing from the sea in Karachi may work as a filter for the air, these winds remain mostly suspended during winter, according to experts.

They noted that winds blowing from the northeast increase the concentration of hidden polluted particles, and a healthy atmosphere in such a situation is subject to rainfall, which washes off all polluted particles.

The AQI is calculated based on five categories of pollution: ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide.

Pollution levels in Cambridge break World Health Organisation guidelines on PM2.5 levels

Date:-31-Jan-2021, Source: inyourarea.co.uk

Every road monitored for air pollution in Cambridge breaks international guidelines, research has found.

Think tank Centre for Cities found that 19 cities, including Cambridge, broke World Health Organisation (WHO) guidelines for PM2.5 exposure.

PM2.5 is atmospheric particulate matter less than 2.5 micrometers wide, or three per cent the diameter of hair, and comes from cars, planes, and more.

Exposure to PM2.5, which is so fine it easily penetrates deep into the lungs, it can trigger or worsen asthma and other heart or lung problems, and cause premature death from heart or lung diseases.

The current legal limit for PM2.5 is three times that of the WHO.

This comes as the Environment bill, which would work to improve air quality in the UK, was delayed by the government, at least for another six months.

A Centre for Cities report said: "The Environment Bill's delay pushes air quality further down the government's agenda, seriously impeding our prioritisation of environmental issues and building a green recovery."



Traffic is a source of air pollution

It added: “Continuing to deprioritise environmental issues will seriously harm our chances to build a green economic recovery, not least because a very important decision was at stake in the current bill: improving air quality by bringing air pollution targets in line with World Health organization guidelines

“This is another missed opportunity, and the decision should be reversed.”

The bill was initially presented to MPs in October 2019.

The first lockdown led to a short-lived improvement of air quality, but in October it was worse than what it was pre-pandemic in many places.

In December 2020, a coroner ruled for the first time that air pollution was the official cause of death for a South London nine-year-old girl, Ella Kissi-Debrah, a landmark case in the push for cleaner air.

According to Centre for Cities, in 2017 PM2.5 concentrations were estimated to be responsible for more than 14,400 attributable deaths in cities.

February 2021

Pollution sensors on e-scooters could help cities monitor air quality

Date:-1-Feb-2021, Source: [traffictechnologytoday.com](https://www.traffictechnologytoday.com)



E-scooter operator Voi has unveiled its first pollution-sensing e-scooter, which will be rolled out in UK cities in spring 2021. The Voyager 4 features smart sensors to help riders identify and avoid areas with high levels of air pollution, while also enabling this data to be shared with cities to help traffic managers to improve air quality.

The new model scooter also includes noise and light sensors; has an audible alert system to warn pedestrians of

approach and indicators for turning; and industry-leading IoT that enables sub-metre location accuracy for more precise vehicle positioning.

The V4 is also designed to integrate better with public transport systems and now features the ability to be unlocked via contactless NFC (near field communication) technology with the tap of a smartphone, smart watch, or transport card. This means that it could be used in conjunction with London's Oyster card.

“From beating traffic to protecting the environment, Voi has always been focused on providing the best experiences, benefits, and services to our riders

and partner cities,” says Fredrik Hjelm, CEO and co-founder of Voi. “The Voyager 4 is our greatest, most exciting e-scooter to date and represents a culmination of years of research and development. Its combination of all-new hardware and software, especially our proprietary IoT technology, takes e-scooters to the next level.”

With a lifespan of 5+ years, the V4 is designed for frequent urban use and the technology has been developed to deliver superior operational efficiency, reducing the ultimate need to keep manufacturing e-scooters. The intelligent system on the e-scooter conducts automatic diagnostic checks that predict the need for maintenance or repairs, identifying 55 unique error conditions, which, if triggered, instantly make the scooter unavailable to hire and alert the operational team. The V4 also includes a dedicated slot for extra sensor devices, expanding the IoT’s future capabilities.

To improve location accuracy, the IoT compensates for lost or degraded GNSS satellite signals in three ways. In an industry first, the IoT uses dual-band GNSS (L1 and L5 bands); comparing and averaging the two signals minimises positioning errors, since each signal can be affected differently by urban features such as tall buildings or trees, or by atmospheric disruptions. It also accesses corrections from EGNOS, provided by the European space agency. When GNSS-only positioning is difficult or impossible, the IoT combines information from various sensors (gyro sensor, accelerometer, scooter speed) to calculate the scooter’s current position.

Additional key V4 features include:

- Widened, all-weather, solid (not air-filled) honeycomb 10” tyres and hydraulic front suspension provide unrivalled grip, brake effectiveness, and shock absorption on all road surfaces.
- Antimicrobial handlebars facilitate safe shared use and prevent the spread of viruses (including COVID-19) by inactivating them on contact.
- Onboard Bluetooth technology communicates with iBeacons at Voi parking racks to ensure scooters are parked with sub-centimeter accuracy.
- Acoustic vehicle alert system (AVAS) notifies pedestrians of an oncoming scooter, especially beneficial to visually impaired and vulnerable road users.

Air pollution may have a detrimental effect on people's cognitive skills later in life

Date:-2-Feb-2021, Source: news-medical.net

A greater exposure to air pollution at the very start of life was associated with a detrimental effect on people's cognitive skills up to 60 years later, the research found. Researchers at the University of Edinburgh tested the general intelligence of more than 500 people aged approximately 70 years using a test they had all completed at the age of 11 years. The participants then repeated the same test at the ages of 76 and 79 years.

A record of where each person had lived throughout their life was used to estimate the level of air pollution they had experienced in their early years. The team used statistical models to analyze the relationship between a person's exposure to air pollution and their thinking skills in later life. They also considered lifestyle factors, such as socio-economic status and smoking.

Findings showed exposure to air pollution in childhood had a small but detectable association with worse cognitive change between the ages of 11 and 70 years. This study shows it is possible to estimate historical air pollution and explore how this relates to cognitive ability throughout life, researchers say.

Researchers say until now it has not been possible to explore the impact of early exposure to air pollution on thinking skills in later life because of a lack of data on air pollution levels before the 1990s when routine monitoring began.

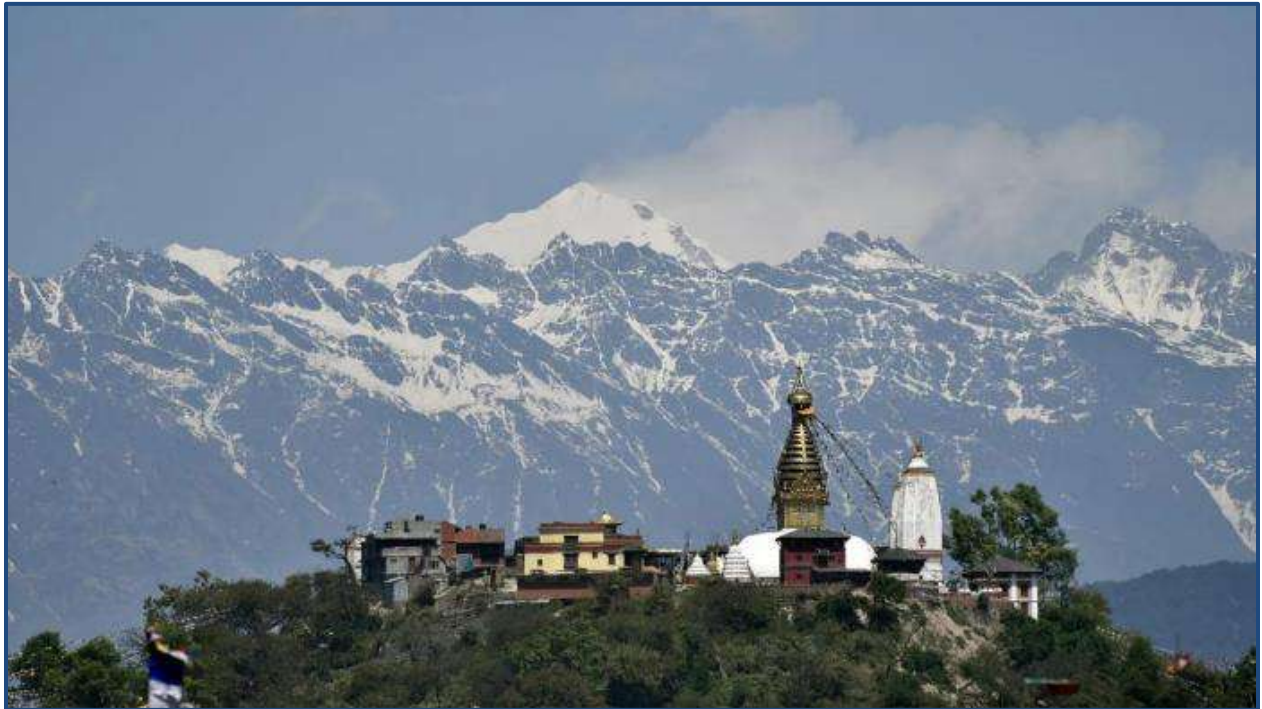
For this study researchers used a model called the EMEP4UK atmospheric chemistry transport model to determine pollution levels -- known as historical fine particulate matter (PM2.5) concentrations -- for the years 1935, 1950, 1970, 1980, and 1990. They combined these historical findings with contemporary modeled data from 2001 to estimate life course exposure

The participants were part of the Lothian Birth Cohort 1936 study, a group of individuals who were born in 1936 and took part in the Scottish Mental Survey of 1947.

Since 1999, researchers have been working with the Lothian Birth Cohorts to chart how a person's thinking power changes over their lifetime.

Pandemic Lockdown's Clear Skies Have Warmed the Planet

Date:-3-Feb-2021, Source: ecowatch.com



Nepal's COVID-19 lockdown decreased air pollution levels in the Kathmandu Valley, seen here on March 29, 2020, and known as one of the world's most polluted cities.

When countries began going into lockdown last winter and spring, clearer skies from reduced traffic and industry were hailed as a rare bright spot during a difficult time.

But a study published in *Geophysical Research Letters* in December 2020 shows that those blue skies had an unexpected side effect: They made the Earth slightly warmer.

"There was a big decline in emissions from the most polluting industries, and that had immediate, short-term effects on temperatures," said Andrew Gettelman, lead author and National Center for Atmospheric Research (NCAR) scientist. "Pollution cools the planet, so it makes sense that pollution reductions would warm the planet."

Soot and sulfate air pollution had the biggest impact, the study authors explained. Known as aerosols, these types of pollutants release particles into the atmosphere that either scatter sunlight on clear days or brighten clouds,

reflecting sunlight. Both of these impacts mean less sunlight reaches Earth and temperatures cool.

In 2020, a reduction of these pollutants warmed global temperatures by about 0.1 to 0.3 degrees Celsius, the press release explained. The effect increased in places with higher aerosol emissions. Temperatures over China, Russia and the U.S. were as much as 0.37 degrees Celsius warmer, The Associated Press reported. All told, aerosol reduction may have contributed to 2020 experiencing one of the warmest years on record, NASA Climate Scientist Gavin Schmidt, who was not involved in the research, told The Associated Press.

To reach their conclusions, the researchers compared the actual weather with climate models reproducing the same conditions without the lockdowns and subsequent emission reductions. This allowed them to calculate the impact of reduced aerosols on temperature changes that were too small to identify based solely on observations, the press release explained.

The study found that aerosol reduction had a bigger impact on 2020 temperatures than the reduction of greenhouse gas emissions such as carbon dioxide. However, that may change in the future. Because carbon dioxide stays in the atmosphere longer, the lockdown dip in greenhouse gases may still slow down the climate crisis in the long term. Gettelman emphasized that the study's message is not that we should pollute more.

"Clean air warms the planet a tiny bit, but it kills a lot fewer people with air pollution," Gettelman told The Associated Press.

Instead, the value of the study involves understanding aerosols' impact on the climate, according to the press release. This can then help scientists more effectively combat climate change.

How airlines are racing to curb rising carbon emissions

Date:-4-Feb-2021, Source: cbc.ca

Airlines remain in survival mode as governments continue to restrict air travel due to the COVID-19 pandemic. Still, with vaccine developments and deployment, those in the sector are hopeful there won't be too much more turbulence before more planes and passengers are able to return to the sky. Post-pandemic, one of the biggest headwinds facing the industry is finding a way to reduce the carbon emissions produced by flying thousands of jets every day. It's not only an obstacle for the aviation sector but one of the biggest challenges for the world's efforts to combat climate change.



Air travel accounts for between three and five per cent of global CO₂ emissions — and those emissions are on the rise. The number of flights around the world has increased substantially over the decades: In 1960, 100 million passengers travelled by air compared with four billion worldwide in 2017.

There are sources of pollution that can be reduced through electrification, such as passenger vehicles, lawn mowers and many other products. But some sectors, such as manufacturing, still depend heavily on fossil fuels because they require an intense amount of energy. The aviation sector not only needs an abundance of energy for takeoff but also in carrying a lot of weight while airborne. "Everybody imagines aviation as one of the most difficult-to-decarbonize sectors," Glenn Llewellyn, who is responsible for the zero-emission aircraft program at Airbus, said in an interview from Toulouse, France.

"If aviation can decarbonize and eliminate its climate impact, then there is no excuse for any industry," he said. Airbus wants to be the first aircraft manufacturer to bring a zero-emissions commercial aircraft to market. The company has set a 15-year timeline to achieve the goal, which highlights both the level of ambition and challenge of its target.

In recent years, many airlines have made strides to reduce the amount of pollution from each aircraft as technology has made jet engines much more efficient. WestJet, for example, reduced its emissions intensity by close to 50

per cent from 2000 by replacing older aircraft. Still, the number of flights around the world has increased substantially over the decades: In 1960, 100 million passengers travelled by air compared with four billion worldwide in 2017. The industry is facing pressure, since air travel accounts for between three and five per cent of global CO2 emissions — and those emissions are escalating. A race is now underway to tackle the environmental impact of air travel, with research and development efforts studying a variety of possible solutions.

Batteries

For short flights, experts say batteries have a bright future. In December, 2019, Vancouver-based Harbour Air Seaplanes successfully completed a three-minute flight with an electric float plane. The company paused the program because of the pandemic, but it recently announced that it will soon resume more test flights.



Harbour Air Seaplanes conducts a test flight of the world's first fully electric commercial aircraft at Vancouver International Airport in December 2019.

The obstacle with batteries is how much energy they produce compared with how much they weigh. The energy density of a lithium-ion battery can be about 250 watt-hours (Wh) per kilogram (kg), compared with jet fuel's energy density of about 12,000 Wh per kg. Some airlines are considering the use of hybrid technology, which would incorporate both batteries and jet fuel to reduce emissions.

Sustainable aviation fuel

Another area of focus is the production of a cleaner type of jet fuel, somewhat similar to using ethanol in gasoline for cars and trucks. The fuel would be made from a variety of materials, including oats, biomass and municipal solid waste.

One of the companies invested in this field is Chicago-based LanzaJet, which has partnered with other firms, such as Calgary-based Suncor Energy, to build a demonstration facility in the state of Georgia. The facility is expected to begin operation next year. LanzaJet describes its process as taking carbon emissions from a steel mill or a landfill site and converting the pollution into fuels and chemicals by using bacteria.

"Large airlines are constrained in terms of what they can do. Sustainable aviation fuel is, we think, that solution — especially in the next couple decades, if not longer," said Jimmy Samartzis, CEO of LanzaJet.

The industry as a whole set a target of reducing its emissions by 50 per cent by 2050, relative to 2005 levels. But some airlines have set more ambitious targets of their own. "There's a lot of work happening to figure out how to get there, so we're seeing quite a bit of appetite for our product," Samartzis said.

LanzaJet's sustainable aviation fuel (SAF) will sell at a premium to traditional jet fuel, comparable to oil prices at between \$80 and \$100 US per barrel, although clean fuel policies help lower its cost. All of the expected production of SAF and renewable diesel from the Georgia facility is already spoken for through agreements with customers.

In Alberta, WestJet had partnered with Alberta Innovates, a government research agency, to launch a challenge to develop SAF within the province, but the program was cancelled last year after the provincial government pulled the funding.



A WestJet aircraft takes off from Calgary International Airport. The airline has reduced its emissions intensity by close to 50 per cent from 2000 by replacing older aircraft.

Boeing has set a target of designing and certifying its jetliners to fly on 100 per cent sustainable fuels by 2030, since regulators currently allow a 50-50 blend of sustainable and conventional fuels.

Hydrogen

The other major area of research is to use hydrogen fuel cells to power aircraft. The concept isn't entirely new, since the U.S. Air Force used liquid hydrogen in its B-57 bomber in the 1950s.

This is the path Airbus is taking, and, admittedly, it's no easy feat. Not only would hydrogen storage and fuel cell technology need to be adopted for commercial aviation, but an entire supply chain would be required at airports around the world to produce, transport and store the product. It's complex, but it could have the biggest impact on reducing emissions and other environmental impacts from aviation, such as contrails.

"Hydrogen has the most potential to eliminate, and at least significantly reduce, those elements, as well as the CO₂, if the hydrogen is made from renewable energy or a low-carbon energy source," said Llewellyn, with Airbus.

"We've really stuck to this project as a guiding star and flagship project for the future of Airbus," he said.

Besides fuel cell technology, hydrogen could also be used differently to produce a type of synthetic aviation fuel.

Squamish, B.C.-based Carbon Engineering aims to produce the fuel by combining water, renewable electricity and carbon emissions captured from the atmosphere.

"You're just finding a way to, in a sense, package up the energy you got from the solar power and put it in a compact high-energy density form that is useful for powering an airplane or something else that's hard to electrify," said David Keith, who founded and sits on the board of Carbon Engineering.

Keith is also a Harvard University professor of applied physics and public policy. Even as airlines continue to navigate the turbulence of a downturn in the industry, aerospace leaders hope to soon tackle the environmental challenge.

Air pollution and Covid-19 in the Western Balkans: Misfortune never comes alone

Date:-5-Feb-2021, Source: europeanwesternbalkans.com



Air pollution in the Western Balkans

BELGRADE – Very poor air quality is one of the biggest problems faced by the countries in the Western Balkans, and together with the COVID-19 pandemic, has contributed to an increase in mortality in this region.

As a response to these dire circumstances, the European Fund for the Balkans' regional campaign "Balkans United for Clean Air" calls upon the competent institutions in Western Balkan countries and their citizens to take joint action that will help improve the air quality and reduce COVID-19-related mortality rates. The campaign emphasizes the regional cooperation as a necessity for the transformation of the energy sector and the environment protection system, which would improve both the economy and public health.

"Particulate matter (PM) and SARS-CoV-2 exert a negative influence on the same cells and cell components, which is why infected persons exposed to air pollution are affected by additional respiratory deterioration in response to the presence of SARS-CoV-2. This causes more severe forms of COVID-19, as well as higher mortality rates. Long-term exposure to harmful emissions increases the risk of contracting acute and chronic diseases, mostly those affecting the respiratory system. Due to its reduced functioning, it becomes more prone to virus infections, including the one caused by the coronavirus (SARS-CoV-2)," reads the EFB's press release.

They explain that the number of evidence and scientific studies on the correlation between air pollution and COVID-19 is growing, but there are still subject to certain limitations that should be considered, particularly the fact that no relevant study has been carried out regarding the Western Balkans region.

"We need environmental and epidemiological studies on the links between air pollution and COVID-19 in the Western Balkans region. They need to be planned and implemented with precision, to enable adequate conclusions and recommendations of measures to be taken. Hitherto research indicates that air pollution does cause excess COVID-19 mortality – globally by 15%, and by 19% in Europe," the EFB explains.

They also point out that, it was determined that a 1 microgram per cubic meter increase in particulate matter concentration also increases COVID-19 mortality by 11%, and that the fragility of healthcare systems in Western Balkan countries is additionally laid bare when the air pollution problem is cross-referenced with the COVID-19 pandemic.

“With the ‘Balkans United for Clean Air’ campaign, we demand that decision-makers increase the level of participation of healthcare sector representatives in decision-making processes, to ensure timely integration of healthcare measures in policies focusing on environmental protection. In addition, it is necessary to improve the efficiency of law implementation and decision-making in the field of environmental protection, to gain greater health and economic benefits for all citizens,” reads press release.

Therefore, they believe that it is necessary to integrate measures for improving air quality in public policies and COVID-19 relief plans, in accordance with the commitments contained in the Green Agenda for Western Balkans, which was adopted by all the states.

Having the regional perspective of this common burning issue, the “Balkans United for Clean Air” campaign initiated by the European Fund for the Balkans is spread across the region in partnership with the Right to the City from Belgrade (Serbia), Environmental and Territorial Management Institute from Tirana (Albania), Ekoforum from Zenica and for Ecology and Energy from Tuzla (Bosnia and Herzegovina), Sbunker from Pristina (Kosovo), Air Care from Skopje (North Macedonia) and OZON from Podgorica (Montenegro).

Air quality drops to unhealthy levels in large parts of Taiwan

Date:-6-Feb-2021, Source: focustaiwan.tw

Taipei, Feb. 6 (CNA) Poor air quality was recorded in many areas of Taiwan on Saturday, due to ozone molecules and high concentrations of fine particulate matter, according to the Environmental Protection Administration (EPA).

In an air quality report Saturday, the EPA said the index in northern and central Taiwan, as well as in Yulin, Chiayi and Tainan in the south, was flashing "red" as of 10 a.m., indicating unhealthy levels of pollution.

In Kaohsiung and Pingtung further south, the index was on "orange" alert, signalling unhealthy air quality for sensitive groups, the EPA said.

The poor air quality was caused mainly by domestic factors that created high concentrations of PM2.5 -- fine particles 2.5 micrometers or less in diameter -- and ozone molecules, the EPA said, without elaborating.

Meanwhile, the air quality in Yilan, Hualien and Taitung in eastern Taiwan was good on Saturday, thanks to easterly winds, the EPA said.

In its forecast, the EPA said the air is likely to be "unhealthy for sensitive groups" in northern Taiwan on Sunday, and "unhealthy" in central and southern parts of the country.

As northeasterly winds strengthen on Monday, the air quality in northern Taiwan will improve to a "moderate" level, but it will remain unhealthy in central and southern Taiwan, the EPA said.

On Tuesday, northern Taiwan will see good to moderate air quality, while in central Taiwan it will be "unhealthy for some groups," and it will remain unhealthy in southern Taiwan, the EPA forecast.

In eastern Taiwan, air quality is expected to remain good through Tuesday, according to the EPA.

Coal-fired power plants cut output amid poor air quality: EPA

Date:-7-Feb-2021, Source: focustaiwan.tw



Taipei

Taipei, Feb. 7 (CNA) Five coal-fired power plants in Taiwan have significantly reduced their output this weekend, due to unhealthy levels of air pollution in

large parts of the country, the Environmental Protection Administration (EPA) said Sunday.

Since midnight Saturday, the output had been lowered to 30 percent of the combined output of Hsieh-Ho Power Plant in Keelung, Linkou Power Plant in New Taipei, Mailiao Power Plant in Yunlin County, Hsin-Da Power Plant in Kaohsiung, and Taichung Power Plant, the EPA said in a press release.

This means that the five power plants have cut output by a total 200 million kWh, according to the EPA.

The EPA said it has also asked the local governments in Pingtung, Tainan, and Kaohsiung to closely monitor their industrial districts and major factory sites, in a bid to reduce emissions, as the air quality remained poor on Sunday for the second day in a row.

According to the EPA's Taiwan Air Quality Monitoring Network, the Air Quality Index in most of western Taiwan was flashing an "orange" alert Sunday, signaling unhealthy air quality for sensitive groups, while in other parts of the country the index was flashing "red," signaling "unhealthy" air for the general public.

The air quality in large parts of Taiwan has been poor since Saturday, due to a lack of wind to disperse atmospheric pollutants, the EPA said.

The air quality is expected to begin to improve Monday, as northeastern winds strengthen, and it should be significantly better by Wednesday, when rain is forecast across the country, the EPA said.

New air cleaning device can protect bus drivers from air pollution

Date:-8-Feb-2021, Source: airqualitynews.com

New air cleaning devices will help to protect bus drivers from air pollution and Covid-19 transmission.

The city of Turlock, California will be the first to install new air-cleaning devices across its entire operational bus fleet, as it looks to protect the health of its drivers.

The AirLabs AirBubble cleaning devices remove more than 95% of airborne viruses while also improving air quality by flooding the driver's area with over 30,000 litres of clean air every hour, creating a clean air zone for the driver.



The AirBubble can remove harmful ozone gases, nitrogen dioxide (NO_x) and particle matter (PM_{2.5}) pollution.

Marc Ottolini, CEO, AirLabs, said: ‘California is the epicentre of the Covid-19 crisis in the US, and keeping public transit safe and operational during this time is crucial for ensuring that the public can continue to travel safely.

‘Professional drivers are one of the most at-risk groups from COVID-19 and forward-thinking public transit operators across the world are deploying our innovative air cleaning technology to cut the risk of infection for drivers, protect them against air pollution and keep services running.’

Wayne York, transit manager, Turlock Transit, added: ‘California faces a huge health challenge both from COVID-19 and from harmful air pollution. These issues are particularly prevalent in the Central Valley and can’t be ignored.

‘Rider and driver safety is our number one priority and we have implemented a range of safety measures across our fleet to keep our services safe for all. By installing the AirBubbl in our fleet, we are continuing to enhance the safety of our services and protect our drivers and passengers.’

Sahara dust causes air pollution spike in Europe

Date:-9-Feb-2021, Source: dailysabah.com



A plume of Sahara dust that has blanketed parts of southern and central Europe in recent days caused a short, sharp spike in air pollution across the region, researchers said Tuesday.

The European Commission's Copernicus satellite monitoring program said measured levels of particles smaller than 10 micrometers, so-called PM10s, increased in places such as Barcelona, Spain and in the French cities of Lyon and Marseille on Sunday.

The cloud of fine sand blown northward from Algeria tinted skies red and mixed with fresh snowfall in the Alps and Pyrenees, leaving slopes looking orange.

While PM10 particles can enter the lungs, causing breathing difficulties, asthma attacks and other health problems, the concentration of Sahara dust didn't reach levels considered harmful.

More than three years ago, Storm Ophelia turned skies a spooky shade of sepia across parts of Britain.

That storm brought dust from the Sahara and smoke from wildfires in southern Europe. Ophelia caused two deaths in Ireland, where it was the worst storm in half a century. Social media users shared photos of ominous clouds blocking out the sun, prompting the Science Museum in London to joke on Twitter: "It's not the apocalypse!"

Many people expressed concern about this phenomenon, while others have noted that it looks like something from a science fiction movie.

U.S. Subway Platforms Have Highly Polluted Air

Date:-10-Feb-2021, Source: ecowatch.com



A platform at the Christopher Street PATH station had the worst air pollution ever measured at a subway station.

It turns out, the subway is even dirtier than you imagined, at least in the four U.S. cities that make up the majority of the country's underground transport system.

A research team led by the NYU Grossman School of Medicine measured the air quality of 71 subway stations in New York City, Washington, DC, Philadelphia

and Boston during the morning and evening rush hour. In every city, the concentration of airborne particles was at least twice as high within some stations when compared to the air outside.

"Our findings add to evidence that subways expose millions of commuters and transit employees to air pollutants at levels known to pose serious health risks over time," study lead author David Luglio, a doctoral student at NYU Grossman School of Medicine, said in a statement.

Of the four, the New York City subway system was the most polluted. At the Christopher Street station, one platform on the PATH line connecting New York and New Jersey had toxic air pollution at levels 77 times the air outside. The platform air was as polluted as the air surrounding a wildfire or building demolition.

"It was the worst pollution ever measured in a subway station, higher than some of the worst days in Beijing or Delhi," study coauthor and NYU Langone Department of Environmental Medicine professor Terry Gordon told The Guardian. "It just wasn't believable. My colleague went down there and his airways were feeling tight after an hour or so."

The other most polluted stations included Broadway in Boston, Second Avenue in New York City and 30th Street in Philadelphia.

Overall, the New York City subway system. was the most polluted and the Philadelphia subway system was the least. The national safe limit for particulate matter (PM2.5) air pollution is 35 micrograms per cubic meter. The average PM2.5 level for the subway systems recorded by the scientists was as follows, according to NYU:

- PATH New York-New Jersey: 392 micrograms per cubic meter
- MTA New York: 251 micrograms per cubic meter
- Washington, DC: 145 micrograms per cubic meter
- Boston: 140 micrograms per cubic meter
- Philadelphia: 39 micrograms per cubic meter

In 2019, 5.5 million people rode the New York subway, while the PATH has a daily ridership of more than 284,000.

"As riders of one of the busiest, and apparently dirtiest, metro systems in the country, New Yorkers in particular should be concerned about the toxins they are inhaling as they wait for trains to arrive," Gordon told NYU.

The particulate matter was found mostly to consist of iron and organic carbon, which is released by the breakdown of fossil fuels or plant and animal matter. While iron is mostly not toxic, exposure to some types of organic carbon has been associated with greater risk of asthma, lung cancer and heart disease.

The study authors said more research needed to be done to determine the source of the pollution, why certain stations were so polluted and to what extent commuters and transit employees were at risk.

Gretchen Goldman, research director at the Union of Concerned Scientists, who was not involved in the study, told The Guardian that it also had important implications for environmental justice. Air pollution tends to disproportionately harm low income communities and communities of color

"As the scientific community works to better understand exposure and potential health effects of air pollution in the urban environment, I hope local decision makers use this valuable work to inform the best ways to address the known racial and socioeconomic inequities in air pollution exposure in US cities," Goldman said.

The measurements were all taken before the coronavirus pandemic hit, according to NYU.

Government urged to slash PM2.5 air pollutants by 2030

Date:-11-Feb-2021, Source: eandt.theiet.org

The government should amend the Environment Bill to include targets for lower concentrations of air pollutant PM2.5 particles in order to protect people from its devastating health impacts, MPs have said.

The Environment, Food and Rural Affairs (EFRA) Committee has warned that air pollution is the largest environmental risk to UK public health and is linked to as many as 64,000 early deaths a year.

The Covid-19-induced lockdowns last year saw air pollution fall in urban areas across the UK as traffic levels were cut rapidly. However, by September most towns and cities saw a return to pre-lockdown levels of air pollution.

EFRA also said that links could be drawn between those exposed to more extreme levels of air pollution and their susceptibility to dying from Covid-19.

London's Oxford Street for example, which is one of the most polluted areas in the UK, typically breaches the annual legal EU limit for nitrogen dioxide just one week into the new year.

EFRA called for targets to be introduced to reduce the annual mean concentration of PM2.5 to under 10µg/m³ by 2030, in line with World Health Organisation guidelines.

It also recommended that the environment minister should use his discretionary powers in the Bill to set additional long-term air quality targets for the other key pollutants that harm human health.

The government introduced its Clean Air Strategy in 2019 which aims to cut the costs of air pollution by £1.7bn every year by 2020, rising to £5.3bn every year from 2030. But EFRA said this relies too much on local authorities, delegating most responsibility for delivering air quality improvements to them without providing sufficient resources to deliver the plans.

Furthermore, while a reduction in public transport usage was deemed necessary to lower transmission rates during the pandemic, the government was urged to prevent a permanent shift in public attitudes towards it after restrictions are lifted.

Neil Parish MP, chairman of the select committee, said: "In rebuilding after the pandemic, we have a moral duty to put improving air quality at its core."

"We were quick to return to our old ways following the spring lockdown, with pollution levels bouncing back by the summer.

"The government has rightly banned the sale of new petrol and diesel cars by 2030, but we need more work to help accelerate towards a greener, cleaner future, so that commuting less and using electric vehicles more will be a real option for the majority," he said.

A study last month found that while urban air pollution levels did drop during the first Covid-19 lockdowns, the falls were smaller than expected.

Concept Hybrid Planes Could Reduce Deadly Air Pollution by 95 Percent

Date:-12-Feb-2021, Source: ecowatch.com



MIT engineers have designed a concept airplane that could eliminate 95 percent of toxic emissions.

Air travel is a major source of air pollution. A new concept hybrid-electric airplane could reduce dangerous emissions by 95 percent and potentially save thousands of lives every year.

Generally, the environmental cost of flying is high. At cruising altitude, planes emit a steady stream of nitrogen oxides (NO_x) into the troposphere, which eventually convert into ozone and fine particulates, an MIT press release noted.

According to the U.S Energy Information Administration, an independent statistic and analysis organization, ozone in the troposphere is harmful to human health and adds to the climate crisis. WWF estimated that if the entire aviation sector were a country, it would be one of the world's top 10 carbon-polluting nations. The compounded effect of ozone at such a low altitude and NO_x, which acts as a precursor greenhouse gas, means that aviation is responsible for around five percent of global CO₂ emissions annually, at a minimum.

A separate 2019 Massachusetts Institute of Technology (MIT) study found that aviation emissions' impact on air quality is two to four times worse than its climate impact. NOx, the same poisonous gas generated by diesel vehicles, is a major air pollutant, and fine particulate matter (PM2.5), one of the compounds formed from NOx, is an inhalable air pollutant that causes hazy air. As a result, flying generated enough air pollutants to cause 16,000 premature deaths each year.

According to the EPA, of all particulate matter, PM2.5 poses the greatest risk to human health because it enters the bloodstream after getting inhaled or swallowed and can cause damage throughout the body. Nitrogen oxides have been linked with asthma, respiratory disease, cardiovascular disorders and cancer. They have also recently been linked to permanent vision loss.

Now, MIT engineers have designed a concept airplane that could eliminate 95 percent of aviation's NOx emissions, thereby reducing early deaths by 92 percent, the MIT release said. Researchers published their findings in the journal *Energy and Environmental Science*.

The new hybrid-electric plane employs a similar design that diesel vehicles use to clean their NOx exhaust. Traditionally, a plane's gas turbines, located under the wings, are what power its propellers. In the hybrid version, the gas turbines would be relocated to the cargo hold, where they would power propellers or fans via an electricity-producing generator, ZD Net reported the team saying.

A redesign would allow for the same power generation of the existing system without air pollution. At the same time, emissions from the generators would be fed into an emissions-control system, which would clean exhaust and convert NOx into nitrogen and water before ejecting them into the atmosphere, *Energy Live News* reported.

"This would still be a tremendous engineering challenge, but there aren't fundamental physics limitations," Steven Barrett, one of the study's authors and an MIT professor of aeronautics and astronautics, said in the press release. "If you want to get to a net-zero aviation sector, this is a potential way of solving the air pollution part of it, which is significant, and in a way that's technologically quite viable."

The bulk of the hybrid-electric system would still fit within the cargo of a commercial plane, where there is ample space. In the study, researchers calculated that their new hybrid-electric system on a Boeing 737 or Airbus A320-like aircraft would require an additional 0.6 percent more fuel to carry

the extra weight and fly the plane. "This would be many, many times more feasible than what has been proposed for all-electric aircraft," Barrett said in the release. "This design would add some hundreds of kilograms to a plane, as opposed to adding many tons of batteries, which would be over a magnitude of extra weight." While the plane is still just a concept, the team is already taking their research to the next level by designing a zero-impact plane that could fly without creating air pollution or carbon emissions, the MIT release said.

"We need to get to essentially zero net-climate impacts and zero deaths from air pollution," Barrett said in the release. "This current design would effectively eliminate aviation's air pollution problem. We're now working on the climate impact part of it."

Beijing smog casts gloom over China's Lunar New Year holiday

Date:-13-Feb-2021, Source: reuters.com



BELJING (Reuters) - Beijing was once again shrouded in smog on Saturday after several days of heavy pollution which have plagued China's capital during the Lunar New Year national holiday.

Visibility across Beijing was severely limited by the smog on the second day of Lunar New Year, with the tops of the city's Beijing's tallest group of buildings in the east of the city almost completely covered by the haze.

The PM 2.5 level - which measures pollution - in the city's urban areas reached 239 micrograms per cubic meter according to state news agency Xinhua.

Local authorities had issued a yellow alert for heavy air pollution on Thursday. China has a colour-coded, four-tier warning system for air pollution, with red the most serious, followed by orange, yellow and blue.

"The air is horrible," said cosmetics sector worker Katie Li, 35, as she made her way to the gym."

"Starting the Lunar New Year with this kind of weather is a bit depressing," she added.

Staff at the Mutianyu section of the Great Wall of China in the north of Beijing said that they had received around 5,000 visitors on Saturday, a far cry from their usual daily capacity of 20,000 although they have capped numbers to around half of that due to COVID-19 restrictions.

Some visitors complained about the haze affecting the views. But others, such as 32-year-old banking sector worker Brandon Chen, were unfazed by the conditions.

"Even though the air isn't great, for Chinese people walking up to a high point in the new year carries a lot of importance," Chen said.

"Doing so will mean things will get better and better for you in your life and you'll become more prosperous with each passing day," he added.

Breathe it in: A new study says Canadian air quality improved early in the pandemic

Date:-14-Feb-2021, Source: ctvnews.ca

TORONTO -- One major Canadian city recorded carbon monoxide concentrations in its air of 50 per cent less than expected levels during the early days of the COVID-19 pandemic, according to a new study, as lockdown-like measures had most Canadians spending more time at home and less time driving.



People enjoy activities on Lake Ontario overlooking the City of Toronto skyline during the COVID-19 pandemic at Jack Darling Park in Mississauga, Ont., on Wednesday, June 17, 2020.

The study out of Concordia University in Montreal, which will be published in an upcoming edition of *Science of the Total Environment*, shows that Canada was not immune to a global trend of declining greenhouse gas emissions during 2020.

Early estimates suggest that emissions of carbon dioxide – the greenhouse gas that is the biggest driver of global warming – fell by seven per cent worldwide last year. Overall greenhouse gas emissions dropped by more than 10 per cent in the United States, marking the largest decrease there since the Second World War. In Germany, the decrease was enough to push the country past its emissions-reduction target for the year.

No official Canadian figures have been published yet, but the Concordia study shows that the amount of key air pollutants was far lower in several large Canadian cities in August 2020 than it was at the same time in recent years.

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The Concordia team based their findings on air quality readings from monitoring stations in Vancouver, Edmonton, Saskatoon, Winnipeg, Toronto,

Montreal, Halifax and St. John's, as well as published data around traffic congestion and fuel consumption.

They found that emission levels decreased significantly during the pandemic, with the steepest fall occurring during the week in mid-March when most provinces instituted sweeping public health restrictions and the Canada-U.S. land border was closed to most non-essential northbound travel.

The reasons for this are straightforward. The lockdowns and similar measures meant more people were staying at home instead of getting in their cars. Xuelin Tian, the study's lead author, said in a press release that traffic congestion during that first week was 75 per cent lower in Montreal and 69 per cent lower in Toronto than it was during the comparable week of 2019. With fewer vehicles on the road, carbon dioxide emissions were reduced and the air was cleaner.

The reductions were not uniform across the eight studied cities. Only the four largest cities – Vancouver, Edmonton, Toronto and Montreal – were found to have significantly less nitrogen dioxide in their air last August than in previous Augusts.

Edmonton also recorded the biggest decrease in carbon monoxide concentration levels, from 0.14 parts per million (ppm) in March 2018 to 0.07 ppm in March 2020.

These decreases will not have a significant effect on the battle against climate change. Some greenhouse gases, including carbon dioxide, can last in the atmosphere for a century or longer, making a one-year blip virtually meaningless over the long term. In fact, greenhouse gas levels in the atmosphere hit another record high in 2020, according to the World Meteorological Organization.

Tian and the other Concordia researchers say their findings show the effect emissions from vehicles have on Canada's air quality, and can also help project what replacing gas-burning vehicles with electric vehicles will do to improve our air.

Researchers Note Falling Air Pollution in Northern Africa, Even As Economies Grow

Date:-15-Feb-2021, Source: triplepundit.com



Although urban transit is growing in cities like Lagos, Nigeria, pictured here, research indicates air pollution levels in booming northern Africa may not be what you'd expect.

Air quality is improving in north equatorial Africa, even as the region urbanizes and increases its dependence on fossil fuels, a new study published in Proceedings of the National Academy of Sciences has found.

“The traditional paradigm is that as middle and low-income countries grow you often see more emissions, and to see a different kind of trajectory is very interesting,” Jonathan Hickman, a researcher at the NASA Goddard Institute for Space Studies and lead author on the study, told The New York Times. “It’s nice to see a decline occurring when you’d expect to see pollution increasing.”

So if fossil fuel use is up, what's driving the downward trajectory in air pollution? Like in many other parts of the world, farmers in north equatorial Africa — one of the continent's fastest growing regions that includes Nigeria,

Kenya and Uganda — often set fires to clear land between planting seasons. As economies grew in recent years, the number of fires set by farmers declined, offsetting upticks in air pollution from other sources like transportation, the research found.

As agricultural vegetation fires decreased, so did nitrogen dioxide emissions, which can form acid rain and harm human health. Through satellite observations, the researchers noted a 4.5 percent decline in nitrogen dioxide concentrations during the northern region's fire season between 2005 and 2017. This lower fire-related pollution correlated to rising mean GDP density in the region.

A net improvement to air quality is a promising discovery when the African population is expected to double by 2050 and fossil fuels are projected to continue to fuel two-thirds of the continent's electricity needs beyond 2030.

The study authors note that the observed improvement to air quality is only present during the dry season of November through February and may be lost as nations increase their reliance on fossil fuels. Africa's share of 4 percent of global carbon emissions may very well grow if economies do not continue to adjust to cleaner methods of industrial activity and energy production.

The need for continued pollution reduction in Africa

Despite Africa's minimal contribution to global greenhouse gases, the continent faces severe consequences if global emissions continue to grow. Up to 48 percent of Africa's GDP could be vulnerable to extreme climate patterns by 2023, global risk analytics firm Verisk Maplecroft projects.

The continent hasn't yet tapped into the breadth of its renewable energy potential. With US\$70 billion in annual investment, the International Renewable Energy Agency (IRENA) estimates that clean renewable and indigenous sources could meet just about a quarter of African energy needs by 2030. In the process of this energy transition, global gross domestic product would increase by 1.1 percent.

As a whole, Africa's current state of energy investment still favors non-renewable sources — almost 70 percent of energy investments in 2018 went to fossil fuels — but some countries are making headway toward a renewable future. Morocco, for example, has built the largest concentrated solar facility in the world as part of a push to achieve a 52 percent renewable energy mix by 2030.

Not only can renewable energy guide the continent toward meeting the goals of the Paris climate agreement, but it can also bring energy equity to remote reaches. For example, today around 600 million people in sub-Saharan Africa live without electricity. As the region builds energy infrastructure, it has an opportunity to build clean at the outset. The National Geographic outlines the abundant natural resources available in the region: In addition to plentiful sun all around, South Africa has prime land for wind farms, and Zimbabwe overflows with water that can be used for hydropower.

Africa faces the most extreme predicted consequences of climate change. Even though the continent — bigger than China, India, the contiguous United States and most of Europe combined — only contributes a handful of percentage points to global greenhouse gas pollution, it has a significant part to play in achieving global climate goals. Economic empowerment may have a part to play in that process — renewables will likely claim an even larger role.

Wood burning at home now biggest cause of UK particle pollution

Date:-16-Feb-2021, Source: theguardian.com



Tiny particle pollution is harmful to health as it can enter the bloodstream, be carried around the body and lodge in organs.

Fires used by just 8% of population but cause triple the particle pollution of traffic, data shows. Domestic wood burning has become the single biggest source of small particle air pollution in the UK, producing three times more than road traffic, government data shows.

Just 8% of the population cause this pollution by burning wood indoors, according to a separate government-commissioned report. It found almost half of those burning indoors were affluent and many chose a fire for aesthetic reasons, rather than heat.

Tiny particle pollution is harmful to health as it can enter the bloodstream, be carried around the body and lodge in organs. The government is not planning a ban on wood burners but a ban on the retail sale of wet wood will come into force on 1 May, as will a ban on bags of house coal, the first such restrictions since the clean air acts of the 1950s. Wet wood has not been seasoned and produces higher levels of pollution.

The new government statistics show that domestic wood burning in both closed stoves and open fires was responsible for 38% of the pollution particles under 2.5 microns in size (PM2.5) in 2019, the latest year for which data is available. The report said PM2.5 emissions from this source had more than doubled since 2003, to 41,000 tonnes a year, and increased by 1% between 2018 and 2019. Road traffic caused 12% of PM2.5 in 2019.

In the 1970s and 80s, coal fires in homes were the primary source of small particle pollution but these now account for a very small proportion of PM2.5s, the report said. This fall, and cleaner vehicles and industry, mean overall particle pollution levels have fallen significantly since 1970, but they have levelled off in the past decade.

“This reflects the increasing popularity of solid fuel appliances in the home such as wood-burning stoves,” the report says. “Due to the small size of [particulate pollution] some of these toxins may enter the bloodstream and be transported around the body, lodging in the heart, brain and other organs. Therefore, exposure to PM can result in serious impacts to health.”

Wood burners also triple the level of harmful pollution particles inside homes and should be sold with a health warning, scientists warned in December. In January, experts at Asthma UK and the British Lung Foundation asked people to use wood burners only if they had no alternative source of heat. Prof Jonathan Grigg, of Queen Mary University of London, said: “It is difficult to justify their use in any urban area.”

The second report, produced by Kantar for the government, examined who was burning solid fuels at home and why, and included a survey of 46,000 people. It found that just 8% of people in the UK burned fuel indoors, with two-thirds of them living in urban areas where levels of dirty air were worst.

Two-thirds of the people burning indoors used a stove, while a third had open fires, and 96% had alternative sources of heating such as gas or electricity. Most of the indoor burners used seasoned wood but 20% were using wet wood, the research found.

“The most common reasons they gave for using their indoor burning appliance were to create a homely feel, so they could heat just one room, to save money, and/or because they liked the look of a fire,” the report says. “Habit also seemed important: 79% of indoor burners reported having a fire at home when growing up as opposed to 23% of [those never burning at home].”

Almost half the indoor burners (46%) were from the highest AB social grades, which represent about a quarter of the population overall. The researchers identified five types of indoor burners, including people who burned as a “lifestyle choice” for aesthetic reasons (28%) and for reasons of tradition (18%). A small number, who tended to be older, less affluent and more rural, had no other heating (8%). The rest burned at home to save money or supplement other heating.

The research also found that less than a third [of indoor burners] said they were concerned about the effects burning might have on their health or those around them.

“We have 8% of UK homes that are responsible for about 40% of PM2.5 pollution,” said Gary Fuller of Imperial College London, a member of the government’s air quality expert group. “Wood burning in homes has crept up under the radar while we all focused our attention on diesel traffic.”

“We can count cars and lorries on our roads to understand the pollution that comes from traffic. But we have very little idea of what people are doing in their own homes and hence the importance of this [Kantar] survey,” he added.

“One of the ways to tackle wood burning is to get more information out to people, as they have in New Zealand, to encourage people to burn their wood better. We have to engage and the starting point is to know who is burning wood and why they are doing so, and that is what this survey does.”

Air pollution kills thousands in megacities despite COVID lockdowns

Date:-17-Feb-2021, Source: reuters.com

KUALA LUMPUR (Thomson Reuters Foundation) - Air pollution caused tens of thousands of deaths in the world's five most populous cities last year despite coronavirus lockdowns, researchers said on Thursday, urging governments to ditch fossil fuels and invest in a green recovery.

Environmental campaign group Greenpeace Southeast Asia and air quality technology company IQAir measured pollution levels across 28 cities - chosen according to where data was available and with a geographical spread.

In the five most-populated cities - Delhi, Mexico City, Sao Paulo, Shanghai and Tokyo - air pollution caused about 160,000 deaths and economic losses totalling about \$85 billion.

"A few months of lockdown hasn't really dented that long-term average of air pollution that people have been exposed to," said Aidan Farrow, an air pollution scientist at Greenpeace Research Laboratories at Britain's University of Exeter.

"It is a little shocking to see how much upheaval there has been - and we still have work to do to improve air pollution," he told the Thomson Reuters Foundation.

Air pollution is the single largest environmental risk to human health globally, and kills an estimated 7 million people every year, according to the World Health Organization (WHO).

The WHO says nine out of 10 people breathe polluted air, which is linked to strokes, lung cancer and heart disease - and now equals the effects of smoking tobacco, health experts say.

The problem affects more cities in Asia than anywhere else in the world. Major causes include vehicle emissions, coal power plants, construction, festival fireworks, forest clearing, and burning of crops, firewood and waste.

Delhi had the highest death toll among the five biggest cities, with some 54,000 deaths - or one per 500 people - due to high levels of tiny pollution particles, known as PM2.5, which can cause lung and heart diseases, the study said.

Japan's capital Tokyo suffered the highest financial cost with approximately 40,000 deaths and economic losses of \$43 billion, it added.

Lockdowns to stem the spread of the new coronavirus in major cities have forced millions to work from home, while slowing economies have slashed carbon dioxide emissions.

"We have seen changes in road traffic, aviation as well ... but the major (air pollution) sources have continued to operate largely as before," Farrow said,

"The problem is vast and needs a big, multi-industry effort to address it," he added, calling for more investment in cleaner technologies, renewable energy and electrified public transport.

'Super plant' could help fight against air pollution from busy roads

Date:-18-Feb-2021, Source: metro.co.uk



The shrub could help combat air pollution from heavy traffic

A 'super plant' has been hailed as a way to soak up air pollution from busy roads. Experts have earmarked the bushy, hairy-leaved cotoneaster as a way to fight the problem in areas with heavy traffic, potentially making it a life-saving tool in large cities like London.

They found that in just one week, a metre of dense hedge could absorb emissions equivalent to a car driving 500 miles.

Scientists at the Royal Horticultural Society (RHS) looked at the effectiveness of hedges for soaking up air pollution and compared the impact different shrubs had. On roads with heavy traffic, the denser, hairy-leaved *Cotoneaster franchetii* was at least 20% more effective at soaking up pollution compared to other shrubs like hawthorn and western red cedar – though it did not make a difference on quieter streets.

That means it could have notable health benefits in polluted areas, amid increasing concerns around the impact dirty air has on humans.

The study forms part of work by the RHS to ease environmental problems such as air pollution, flooding and heatwaves and in boosting the benefits of garden and green spaces.

Lead researcher Dr Tijana Blanusa explained: ‘On major city roads with heavy traffic we’ve found that the species with more complex denser canopies, rough and hairy-leaves such as cotoneaster were the most effective.

‘We know that in just seven days a one-metre length of well-managed dense hedge will mop up the same amount of pollution that a car emits over a 500-mile drive.’

She said cotoneaster would be ideal to plant along busy roads in pollution hot spots, while in other areas where encouraging nature was key – a mix of species would be recommended.

The leader of the World Health Organisation recently told Metro.co.uk that breathing in polluted air should be compared to drinking dirty water, as he warned that the problem will cost trillions worldwide.

Dr Tedros Adhanom Ghebreyesus also blamed one in nine deaths worldwide on the problem.

Discussing possible ways to combat the problem the RHS’ director of science and collections Professor Alistair Griffiths said: ‘We are continually identifying new “super plants” with unique qualities which when combined with other vegetation provide enhanced benefits while providing much needed habitats for wildlife.

'We've found for example that ivy wall cover excels at cooling buildings and hawthorn and privet help ease intense summer rainfalls and reduce localised flooding.

'If planted in gardens and green spaces where these environmental issues are most prevalent we could make a big difference in the fight against climate change.'

A survey of 2,056 people for the RHS found that a third (33%) were affected by air pollution, but just 6% are taking active steps in their gardens to alleviate it.

Some 86% of those surveyed by YouGov said they cared about environmental issues, while 78% worry about climate change, and the RHS is hoping to harness that interest to encourage people to think about helping the environment in their garden.

Scientists from the charity are now moving into the Hilltop centre in Wisley, Surrey, which contains facilities to enable them to increase research into these areas, as well as exhibition spaces and 'living laboratory' gardens.

New competition seeks solutions for wildfire pollution

Date:-19-Feb-2021, Source: airqualitynews.com

The U.S Environment Protection Agency (EPA) has launched a new competition in a bid to find ways to reduce air pollution from wildfires.

The goal of the competition is to solicit ideas for low-cost air cleaning technologies that reduce air pollution inside homes during a wildfire or other high pollution episodes.

If their ideas are chosen, the challenge winners will receive up to \$10,000.

Wildfires release many pollutants that are unsafe to breathe. Particulate matter (PM2.5) is one of the main components of wildfire smoke and is a known health risk.

According to the EPA, current air cleaning have multiple limitations, from the cost of purchase to their dependence on electrical power – which can be disrupted by wildfires.

Therefore, this challenge aims to encourage the development of affordable and sustainable approaches, technologies, or technology combinations for keeping indoor air as clean as possible during periods of high pollution.

Jennifer Orme-Zavaleta, the acting assistant administrator for the Office of Research and Development and the agency's Acting Science Advisor, said: 'As we work to address the public health threat from large and more intense wildfires in our country, particularly in our western states, we call on all innovators to provide ideas and solutions for new and low-cost technologies or approaches to reduce indoor air pollution during wildfires.'

'This challenge will help protect public health by stimulating the development of effective air cleaning devices that are accessible to all communities during wildfires or other air pollution events.'

The challenge is now open, and proposals will be accepted through May 17, 2021.

Motorists could be paid to give up high-polluting vehicles under new scheme to improve air quality

Date:-20-Feb-2021, Source: inews.co.uk



The initiative was launched in an attempt to reduce levels of congestion and air pollution in cities

The scheme is part of a £22 million 'future transport' initiative funded by the Government.

A new scheme created to reduce car dependency and improve air quality could offer motorists up to £3,000 to get rid of their vehicle.

The money is being offered as an incentive to drivers who own high-polluting vehicles – diesel cars built before 2016 and petrol models built before 2006 – to give them up for public transport, taxis, bicycles and other emissions-free transport.

According to The Times, a trial will be launched in Coventry in spring by the West Midlands Combined Authority and the city council and is believed to be the first of its kind in the UK.

The scheme, which is part of a £22 million “future transport” initiative funded by the Government, will offer motorists between £1,500 and £3,000 to have their car towed for the trial, believed to last for two years – and they will, in return, be given a pre-loaded payment card that can be used on public transport which also includes e-scooters.

Speaking to the paper, Andy Street, the West Midlands mayor, said: “We have a number of candidates lined up in Coventry following a public appeal for volunteers last year and are putting processes in place to allow them to scrap their old cars in exchange for transport credits later this spring.”

The initiative was launched in an attempt to reduce levels of congestion and air pollution in cities and will be analysed to see how much it will cost in the long term to make these changes.

Department for Transport figures show that vehicles collectively covered 356.5 billion miles on British roads in 2019, an increase of almost 11 per cent in five years and 36 per cent since the mid-90s.

Future of Transport Minister Rachel Maclean said: “The Government continues to be at the forefront of the future of transport with new technology creating huge opportunities for cleaner, cheaper, safer and more reliable travel.

“Our investment in Future Transport Zones, including the West Midlands Combined Authority which is running this scheme, will encourage a greener recovery from Covid-19 and we look forward to seeing how the trial progresses.”

Texas freeze led to release of tons of air pollutants as refineries shut

Date:-21-Feb-2021, Source: hindustantimes.com

Refiners and petrochemical plants along the US Gulf Coast scrambled to shut production as an arctic air mass spread into a region unused to frigid temperatures.

The largest U.S. oil refiners released tons of air pollutants into the skies over Texas this week, according to figures provided to the state, as one environmental crisis triggered another.

Refiners and petrochemical plants along the US Gulf Coast scrambled to shut production as an arctic air mass spread into a region unused to frigid temperatures.

The extreme cold, which killed at least two dozen people in Texas and knocked out power to more than 4 million at its peak, also hit natural gas and electric generation, cutting supplies needed to run the plants.

Shutdowns led to the refineries flaring, or burning and releasing gases, to prevent damage to their processing units. That flaring darkened the skies in eastern Texas with smoke visible for miles.

"These emissions can dwarf the usual emissions of the refineries by orders of magnitude," said Jane Williams, chair of the Sierra Club's National Clean Air Team.

TOP POLLUTERS

The five largest refiners emitted nearly 337,000 pounds of pollutants, including benzene, carbon monoxide, hydrogen sulfide and sulfur dioxide, according to preliminary data supplied to the Texas Commission on Environment Quality (TCEQ).

Valero Energy said in a filing with the TCEQ that it released 78,000 pounds over 24 hours beginning Feb. 15 from its Port Arthur refinery, citing the frigid cold and interruptions in utility services.

The 118,100 pounds of emissions from Motiva's Port Arthur, Texas, refinery between Feb. 15 and Feb. 18 were more than three times the excess emissions that it declared to the U.S. Environmental Protection Agency for the whole of 2019.

Marathon Petroleum's Galveston Bay Refinery released 14,255 pounds over less than five hours on Feb. 15, equivalent to about 10% of its total releases above permitted levels in 2019.

Exxon Mobil said its Baytown Olefins Plant emitted nearly one ton of benzene and 68,000 tons of carbon monoxide, citing in its disclosure the halting of "multiple process units and safe utilization of the flare system."

Exxon blamed the shutdown of two Texas refineries on the freezing weather and loss of natural gas supplies. A spokesman said its petrochemical plants in Texas and Louisiana have supplied 560 megawatts to local communities, helping power about 300,000 homes.

Valero did not have an immediate comment. Motiva and Marathon did not respond to requests for comment.

Final figures on pollution releases are due to be submitted to the state in two weeks.

'NO SAFE AMOUNT'

The flaring continued through the week as refiners kept plants out of service.

"We had six or seven flares going at one time," Hilton Kelly, who lives in Port Arthur, home to refineries operated by Motiva, Valero and Total SE, said on Friday. "It's still happening now."

Sharon Wilson, a researcher at advocacy group Earthworks, said the releases are alarming, in part because "there is no safe amount of benzene for human exposure."

State data showing oil and gas producers were flaring methane this week "is just making things worse, and it could have been prevented" by winterizing facilities, she said.

Texas oil and gas companies filed 174 notices of pollution releases above permitted levels between Feb. 11 and Feb. 18, four times the number the prior week, according to TCEQ data.

Total pollution at Houston-area facilities during the cold snap totaled approximately 703,000 pounds, about 3% of the total pollution over permitted amounts for all of 2019 and almost 10% of 2018's releases, according to TCEQ data analyzed by advocacy group Environment Texas.

Skopje's air cleanest in seven years

Date:-22-Feb-2021, Source: balkangreenenergynews.com



Citizens of Skopje, the capital of North Macedonia, which is regularly included in the list of the cities with the most polluted air in the world, are currently breathing air that is less polluted than in the previous years, according to state authorities. They say the outcome can be seen as a result of dedicated measures to reduce air pollution.

Air pollution in Skopje has been extreme for several years. In January 2019, the city procured air purifiers for all high school classrooms. Air pollution is also a major issue in the entire Western Balkans.

But data from state measuring stations in Skopje showed air pollution in January has been the lowest in the last seven years for the month, according to the City of Skopje, portal Nezavisen Vesnik reported.

Last month, the maximum daily average value of particulate matter PM10 was 162, while in 2015 it was 560, official information revealed.

The number of days when the daily average concentration of PM10 was above the limit value (50mg/m³) is declining and so are the measured averages of daily maximums and minimums. All state measuring stations in Centar, Gazi Baba, Rektorat, Novo Lisiče, and Karpoš recorded the best values for January for the past several years.

For example, in January 2016 there were 26 days with daily average concentrations above the maximum value in Centar, and this year there were only 13. The highest concentration of PM10 in January 2017 on a daily basis was 482.40 PM10 per cubic meter, and in January 2021 it was 141.30, according to the data provided by the City of Skopje.

In Gazi Baba, Karpoš, and Novo Lisiče, the number of days with daily average concentrations above the maximum value, the smallest concentration on a daily scale and the maximum daily concentration were all the lowest in the last seven years.

City: Trend, not incident

City officials said the data demonstrate a trend and not an incident. They added the annual concentration of PM10 is also decreasing.

According to the Ministry of Environment and Spatial Planning, the continuous implementation of measures over the last two years has produced results.

Polluting heating systems were replaced in some administrative and health facilities including the Polyclinic in Čair, subsidies were granted for the replacement of old stoves in households with inverter air conditioners and for the switch of outdated heating systems in schools and kindergartens, and for the installation of solar photovoltaic panels, according to the ministry.

Some results were achieved due to stricter controls of the sources of the pollution after the public was given the opportunity to report pollution directly to the State Environmental Inspectorate.

The government has adopted a program for the reduction of air pollution for this year as well, and the ministries implement various activities to reduce air pollution. For example, the Ministry of Economy has announced a program for the promotion of renewable energy sources and energy efficiency in households for 2021 and a program for subsidizing part of the costs for installation of a device for using LPG, methane, or other alternative fuels in vehicles, the ministry said.

The ministry is also preparing changes in the legislation. It has prepared and proposed amendments to the law on ambient air quality, which established criteria and adopted a list of municipalities that will have to prepare clean air plans.

In addition, in accordance with the European Union rules, there is an obligation for certain municipalities to adopt short-term action plans in periods when there is high air pollution, and they have to be approved by the ministry. The plans should contain mandatory measures for transport, industry, vulnerable groups, and working hours, the ministry said.

State Audit Institution: Most measures haven't been not implemented

Last week, the State Audit Institution published an air quality report which indicates that the activities implemented in the last three years, although they represent a positive step, have not achieved the desired results in reducing air pollution.

The problem of air pollution in the country requires a systematically integrated approach from all stakeholders (institutions at the central and local levels, the private sector and citizens) in the long run, the institution said.

Supervision and control are at a low level, and a very small part of the budget funds at the level of the government and municipalities are allocated for the implementation of the measures included in the planning documents.

In the end, the majority of measures haven't been implemented, according to the final audit report on air quality.

Eko-svest: The problem is not solved

According to non-governmental organization Eko-svest, air pollution is still too high this year, especially in Skopje.

"The citizens must force the institutions to do more in solving this big problem. The institutions are required to have a strategy for a just energy transition, green alternatives for transport, as well as just regulation for efficient heating of households," according to the group.

The organization said citizens and institutions need to ask themselves what vehicles they drive, what fuels and transportation they use, how they heat homes, what they do with harmful waste, if they use renewable energy sources, what industry is around them, and if they participate in making important decisions for the community in which they live.

SCIENCE MATTERS: Clearing the air on fossil fuel pollution

Date:-23-Feb-2021, Source: piquenewsmagazine.com



Warsaw, the capital of Poland, covered in smog and fog.

Rapidly reducing greenhouse gas emissions is critical to avoiding increasing climate change impacts. Doing so won't immediately stop the world from heating, but it will improve life quickly. Because gases such as carbon dioxide, methane and nitrous oxide remain in the atmosphere for varying lengths of time (CO₂ for 300 to 1,000 years, methane and nitrous oxide for far less time), temperatures will rise even after we've stopped pumping them into the atmosphere.

But pollution will decrease quickly. Particulate matter levels, especially, start to drop almost immediately. That's important, because particulates kill a lot of people and make many more ill—even more than previously thought.

A new study from U.S. and U.K. universities, including Harvard, found more than 8 million people died from fossil fuel pollution in 2018, accounting for about 18 per cent of global deaths. Previous studies estimated about 4.2 million people a year died from all outdoor particulate matter sources, including wildfires, dust and agricultural burns.

New and improved research tools and methods allowed scientists to differentiate between particulates from fossil fuels and other sources, to measure more accurately and to determine links between particulate pollution and deaths.

“Our study adds to the mounting evidence that air pollution from ongoing dependence on fossil fuels is detrimental to global health,” said co-author Eloise Marais, former Harvard postdoctoral fellow and now associate professor in the University College London geography department. “We can’t in good conscience continue to rely on fossil fuels, when we know that there are such severe effects on health and viable, cleaner alternatives.”

Reducing death and adverse health effects and slowing climate disruption would be worthwhile on their own. But shifting from fossil fuels to cleaner energy and protecting natural systems that absorb pollution and greenhouse gases also benefit economies. Experts argue the economic value of improving air quality by reducing fossil fuel burning far outweighs the costs.

“Over the next 50 years, keeping to the 2°C pathway would prevent roughly 4.5 million premature deaths, about 3.5 million hospitalizations and emergency room visits, and approximately 300 million lost workdays in the U.S.,” said Duke University earth sciences professor (and a lead IPCC author) Drew Shindell, testifying to the U.S. House Committee on Oversight and Reform in 2020, before the new research showing the higher number of deaths from fossil fuels.

That would lead to hundreds of billions of dollars in benefits annually from improved labour productivity and health in the U.S. alone. “Aggressive decarbonization” could also reduce the death toll by 40 per cent over 10 years.

Smog and particulate matter increase strokes, cardiopulmonary disease, respiratory infections and damage to lungs, brains, skin and other organs, with many detrimental consequences for babies and children. Pollution also exacerbates COVID-19 effects.

As David Roberts wrote in Vox, this undermines the argument that it’s pointless for countries like Canada and the U.S. to reduce emissions if others like China and India aren’t keeping pace. It might make it harder to keep global average temperatures from rising more than 1.5 or 2 C, but “the air quality benefits will manifest, no matter what the rest of the world does.”

For climate, new research offers hope that reducing emissions will increase gains faster than previously thought. By factoring in to a greater extent the ability of natural systems like forests, wetlands and oceans to absorb greenhouse gases like CO₂, scientists have determined that quickly reaching “net-zero” emissions could stabilize global warming over a relatively short time. (Reducing emissions to “net zero” means not releasing any more than are being removed from the atmosphere.)

Although another study shows the world is “committed” to dangerous warming because of greenhouse gas concentrations already in the atmosphere, rapidly cutting emissions could buy time to adapt to some impacts and develop technological fixes.

No matter how you look at it, there’s no reason to continue burning fossil fuels, destroying carbon sinks like forests, wetlands and oceans, and producing and consuming more products than natural systems can handle. Changing how we think and act, conserving energy and shifting to cleaner sources, and revising outdated economic systems will improve human health, social justice and equity. And it will be far less costly than doing little or nothing.

It’s past time to get serious about fossil fuel pollution.

China target to allow air pollution to rise slightly in 2021 - environment ministry

Date:-24-Feb-2021, Source: reuters.com

BEIJING (Reuters) - China’s air quality targets for this year will be set at a slightly higher level than last year’s average, an official said on Thursday, after pollution fell significantly in the early part of 2020 due to coronavirus-related lockdowns.

China will seek to keep average levels of small, hazardous airborne particles known as PM_{2.5} at 34.5 micrograms per cubic metre over the course of 2021, the environment ministry said on Thursday.

That is slightly higher than the average of 33 micrograms registered in 337 monitored cities over the whole of 2020, with capital Beijing averaging 38 micrograms last year.

“This year’s target (for achieving good air quality) looks like it is a little lower than the 2020 figure, but if you eliminate the impact of the pandemic on air quality, the PM_{2.5} rate would have been 35 micrograms (last year),” said Liu



Boats are seen at the Dalian Bay shrouded in haze on a polluted day in Liaoning province, China October 22, 2019.

Bingjiang, head of the air pollution unit at the Ministry of Ecology and Environment (MEE), speaking at a regular briefing.

China's national "interim" air quality standard is currently 35 micrograms per cubic metre, well above the World Health Organization's recommendation for average annual levels of no more than 10 micrograms.

Though smog-prone regions in China's heavy industrial north have made significant improvements in air quality in recent years, concentrations of PM2.5 often jump to dangerous levels. Readings in Beijing over the Chinese new year holiday exceeded 200 micrograms.

Liu said more work needed to be done in the coming five years to replace coal with cleaner forms of energy.

"If China doesn't curb coal consumption growth, it will put big pressure on climate and pollution targets," he said.

Liu noted that during the 2016-2020 period, China's natural gas consumption grew by 150 billion cubic metres (bcm) and could grow another 120 bcm over

2021-2025. But he added this would be “meaningless for the climate target” if it isn’t used to replace coal.

China Environment Ministry To Allow Air Pollution To Rise Slightly in 2021

Date:-25-Feb-2021, Source: science.thewire.in



A man holding a Chinese flag walks with a child at a section of the Great Wall of China during a day with polluted air, February 13, 2021. Photo: Reuters/Carlos Garcia Rawlins.

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Extreme air pollution registered in Belgrade, entire Serbia

Date:-26-Feb-2021, Source: balkangreenenergynews.com

While measures to reduce emissions of pollutants are being delayed, unfavorable meteorological conditions in Belgrade and Serbia are contributing to air pollution levels, which have been drastically elevated for several days, experts told Balkan Green Energy News.

Serbia became completely purple – air pollution indices have been hitting extreme highs at night, while subsiding somewhat during the day. The people of Belgrade have been complaining of a burning smell and mist appears at night and in the morning.

Such events are frequent during the heating season but the latest spikes were among the strongest ones so far. Readings on the AirVisual application, which utilizes the US AQI index methodology, occasionally topped 300 last night, which means pollution is considered hazardous for health. According to expectations for this evening, the situation is likely to repeat.

No change without wind

Asked about the weather forecast that a Saharan dust plume is coming, Professor Vladimir Đurđević from the Faculty of Physics in Belgrade told

Balkan Green Energy News the impact could currently account for 5% to 10% of air pollution and that the main factor is the lack of wind. The phenomenon occurs two to three times a year.

“The day length is too short now for the Sun to cause mixing in the atmosphere that would clean the air as the ground layer, in which pollution is concentrated, is still thin. In daytime, one of the mechanisms that leads to atmospheric turbulence becomes active, so some of the polluted air mixes with the clean air that is higher up, so pollutant concentrations drop. But as soon as the sun sets, the border between the layers starts to descend, the mixing weakens and the concentrations jump,” he stated and added the effect is common in winter months.

Durđević noted humidity increases when the border layer descends and that such conditions strengthen the mechanism of the creation of secondary PM particles – particulate matter, one of the most dominant pollutants.

“Secondary particles are created from sulfur oxides, which our thermal power plants emit in vast quantities. When there is no sun, humidity grows and then a large part of particles in the air are secondary and not primary ones. So they weren’t emitted as particles but they were created from gases,” he stressed.

Air quality can’t be improved by decree

Air quality monitoring expert Milenko Jovanović said it is inexplicable why the measures are being delayed to decrease the emissions of pollutants from individual furnaces, thermal power plants, smaller boilers, transportation and the heavy industry. He asserted he is convinced that the reason why he was fired from the Serbian Environmental Protection Agency (SEPA) last year was that he had pointed to irregularities when the criteria for the representation of pollutant concentrations in colors were changed.

Improvement in air quality can’t be achieved by decree but by acting and tackling pollution sources, he told our news outlet and added that the number of furnaces and boilers in Belgrade would need to be at least halved to 150,000 for tangible progress.

Jovanović said SEPA’s national air quality index for hourly values was recently altered so that it shows lower pollution, with the intention to achieve a “psychological, artificial” influence on citizens that see the information displayed in the media.

“At one point today I saw that the pollution concentration in Vračar was at 91 and that the index showed red, which implies the air is polluted. According to the old criterium, the value would be marked purple,” he stated. In the methodology that SEPA uses, the color stands for very polluted.

What work does workgroup do

At today’s press conference in front of the City Assembly of Belgrade, activist Radomir Lazović from the Don’t Let Belgrade Drown movement raised the issue of whether the workgroup that the Government of Serbia established one year ago, during another air pollution episode, achieved any results. He also asked where the money from the eco tax went.

New emitters of air pollutants haven’t been registered in the Serbian capital city’s draft air quality plan, said Dragana Đorđević, an advisor at the Institute of Chemistry, Technology and Metallurgy (IHTM) of the University of Belgrade. She pointed to the example of the Mei Ta foundry in Barič in Obrenovac municipality and said the plant only obtained licenses for tool production and as a storage facility.

Air quality hits unhealthy levels in northern part of Singapore

Date:-27-Feb-2021, Source: channelnewsasia.com

SINGAPORE: Air quality in Singapore entered the unhealthy range on Saturday (Feb 27) as the Pollutant Standards Index (PSI) went beyond the 100 mark.

At 7pm on Saturday, the 24-hour PSI reading in the northern part of Singapore breached the 100 mark to hit 102.

The reading edged up to 108 at 8pm before dropping to 104 at 9pm and 90 at 10pm.

According to the National Environment Agency (NEA), PSI readings of 50 and below denote “good” air quality, “moderate” for 51-100 and “unhealthy” for 101-200.

As of 10pm, the rest of the readings were:

61 in the south

70 in the east

58 in the west

65 in the central region



Woman walking down a street in Singapore

The 24-hour Pollutant Standards Index (PSI) is computed based on six air pollutants - PM2.5, PM10, ozone, sulphur dioxide, nitrogen dioxide and carbon monoxide.

According to NEA's website, the ozone sub-index was in the unhealthy range between 7pm and 9pm.

The sub-indices for the PM2.5 and PM10 readings were in the moderate and good range, respectively.

In response to CNA's queries, the NEA said on Sunday that the PSI in the northern region had entered the unhealthy range at 7pm on Saturday due to heightened levels of ozone. The ozone sub-index of the PSI is based on an average of ozone levels of the past eight hours.

"The pollutants which contribute to the formation of ozone, (such as) nitrogen dioxide (NO₂) and volatile organic compounds (VOCs), were within the normal levels," NEA said.

"However, weather conditions such as ambient temperature, UV levels, wind speed, wind direction and rainfall can also influence the formation of ground-level ozone.

"The maximum ambient temperature on Feb 27 of 35.3 degrees Celsius was the highest recorded in 2021 for the north region. This coupled with the high UV levels, could have contributed to the elevated ozone levels, reaching the unhealthy range.

"The PSI level returned to the moderate range at 10pm."

The PSI in Singapore last entered the unhealthy range in November 2019. It was at the unhealthy range for eight hours from Nov 13 to Nov 14 in the south region, due to elevated PM2.5 levels.

Separately, according to the latest weather and haze situation update on NEA's website at about 6pm on Saturday, isolated to scattered hotspots were detected over much of the sub-region on Saturday.

"Thin to moderate smoke haze was observed over much of the sub-region, with dense smoke haze observed over Myanmar, Thailand and Cambodia. However, in areas with cloud cover, the full extent of the smoke haze could not be fully discerned," said NEA on the website.

"Most of the air quality stations in the central parts of the Mekong sub-region reported 'Unhealthy' air quality values, with a few in the northeastern Thailand and its central highland regions reporting 'Very Unhealthy' air quality," it added.

Isolated hotspots were also detected in Peninsular Malaysia, northern Sumatra and western Kalimantan, said NEA.

"Thin to moderate smoke haze was observed over parts of southwestern Kalimantan, with dense smoke haze observed to emanate from a cluster of hotspots in western Kalimantan," said NEA.

"However, the full extent of the smoke haze situation over Sumatra and Peninsular Malaysia could not be discerned due to cloud cover."

Looking ahead, NEA said on its website that dry weather is expected to persist over the Mekong sub-region over the next few days. As such, the hotspot and smoke haze situations are likely to remain elevated, it said.

It added that dry conditions are also expected to persist over Peninsular Malaysia, Singapore, the northern and central parts of Sumatra, as well as the western and southern parts of Borneo Island, increasing the risk of hotspot activities in these areas.

Texas plants released nearly as much pollution during winter storm as during Hurricane Laura

Date:-28-Feb-2021, Source: salon.com



Icicles hang off the State Highway 195 sign on February 18, 2021 in Killeen, Texas. Winter storm Uri has brought historic cold weather and power outages to Texas as storms have swept across 26 states with a mix of freezing temperatures and precipitation.

Oil refineries, chemical plants and other industrial operators emitted 3.5 million pounds of excess pollution.

Oil refineries, chemical manufacturers, and petrochemical plants across Texas — mostly in the upper Gulf Coast — warned state regulators that they may

have released millions of pounds of pollutants and greenhouse gases into the air due to last week's winter storm.

The arctic freeze in Texas claimed the lives of dozens of Texans, and more than 4.5 million customers were without power for days last week due to blackouts implemented by the state's grid operator. Plants tripping offline in the extreme cold led the Electric Reliability Council of Texas to order power outages to avoid overloading the grid.

The storm and power outages also hit industrial plants, mostly those that produce products derived from oil and natural gas, such as gasoline, diesel and the building blocks of plastic. Those facilities spewed 3.5 million pounds of additional pollution in the air during the power crisis, according to an analysis of notices by Texas environmental groups Environmental Defense Fund, Environment Texas and Air Alliance Houston.

That's nearly as much air pollution released last summer during Hurricane Laura, when facilities in the Beaumont and Port Arthur area reported releasing an estimated 4 million pounds of emissions, according to the Houston Chronicle.

Industrial plants typically shut down in advance of hurricanes to keep workers safe, avoid spills and prevent even worse emissions. Many plants did the same ahead of Winter Storm Uri, but emergency shutdowns still caused a significant amount of pollutants and climate-warming greenhouse gases such as nitrogen oxides, carbon dioxide, and volatile organic compounds.

During emergency shutdowns, and the subsequent re-starts when a storm passes, chemical plants and refineries typically emit pollution well above what their state permits allow as they burn off waste gases.

Power outages and system failures also contributed to excess emissions, companies said in their reports to the state.

Nearly 200 facilities in 54 counties reported excess air emissions between Feb. 11 and Monday, according to the analysis.

"Texas is not ready for increasingly extreme weather, and the state's failure to prepare is hurting communities, especially those near high-risk chemical facilities," Elena Craft, senior director for climate and health at Environmental Defense Fund, said in a statement.

Neighborhoods near industrial facilities are often majority Black and Latino in Texas due to the legacy of government-imposed segregation and wealth inequality, which in turn has resulted in disproportionate health impacts from air pollution for Black and Latino residents.

One study by University of Washington and University of Minnesota researchers found that Black and Hispanic populations experience over 50% more pollution than they generate, while white populations experience 17% less pollution than they generate.

The Texas Commission on Environmental Quality, the state's environmental regulatory agency, reported power failures at 39 of its more than 200 air quality monitors, including 14 in the Houston area, according to a storm report by the Environmental Protection Agency. The monitors were all operational as of Sunday, according to the TCEQ. The agency deployed additional mobile air monitoring vans to sample pollutants this week.

March 2021

Iran's air quality improving over past decade

Date:-1-Mar-2021, Source: tehrantimes.com



TEHRAN – The exposure of Iranians to particulate matter less than 2.5 microns (PM2.5) in 2019 decreased by about 3.4 micrograms per cubic meter compared to 2010, according to the 2019 World Air Quality Report.

This is while ozone pollutants in Iran increased by about 5.9 one part per billion (ppb).

Air pollution constitutes the most pressing environmental health risk facing our global population. It is estimated to contribute toward 7 million premature deaths a year, while 92 percent of the world's population are estimated to breathe toxic air quality (WHO, 2016).

In less developed countries, 98 percent of children under five breathe toxic air. As a result, air pollution is the main cause of death for children under the age of 15, killing 600,000 every year (WHO, 2018). In financial terms, premature deaths due to air pollution cost about \$5 trillion in welfare losses worldwide (The World Bank, 2016).

Regionally, South Asia, Southeast Asia, and West Asia carry the highest burden of fine particulate matter (PM2.5) pollution overall, with only 6 of 355 cities included meeting WHO annual targets in these areas collectively.

The majority of the most polluted cities and countries included in this report are located in the South Asia region. The region includes 30 of the top 40 most polluted cities and four of the five most polluted countries. Only one city in this region (Sanandaj, Iran), out of 147 cities with monitoring data in 2019, met WHO targets for PM2.5 levels.

Some 13 Iranian cities are also listed among the top fifteen clean cities in the region, while eight Iranian cities top the list.

Iran ranked 27 for average PM2.5 concentrations in the world country ranking, while the capital city of Tehran is listed 24 in the world regional capital city ranking.

PM2.5 concentration is widely regarded as most harmful to human health. PM2.5 is defined as ambient airborne particles which measure up to 2.5 microns in size. Its microscopic size allows the particles to enter the bloodstream via the respiratory system and travel throughout the body, causing far-reaching health effects, including asthma, lung cancer, and heart disease. Air pollution has also been associated with low birth weight, increased acute respiratory infections, and stroke.

Airborne particulate matter can originate from a range of sources. Combustion from vehicle engines, industry, fires, and coal-burning represent the most common man-made sources, whilst sandstorms, agriculture, and chemicals reacting in the atmosphere represent the most common natural sources.

Sahara dust and traffic lead to air pollution alerts in France

Date:-2-Mar-2021, Source: euronews.com

Parts of France are experiencing high levels of air pollution, blamed on wood burning, traffic, and dust from the Sahara Desert that has been blown across to the country on a storm.

The Ile-de-France region - which contains the capital Paris - has implemented differentiated traffic, and reduced maximum speeds on roads to reduce pollution.



A view of Lyon, France, taken on February 6, 2021, as dust from the Saharan coloured the sky red

The prefecture of police in Paris announced the measures on Tuesday, stating they will last until the end of the “episode”.

The fine particle pollution is linked "to wood heating, road traffic and an import of Saharan sand", it said in a statement.

"Meteorological conditions do not allow for efficient dispersion of pollutants."

Airparif, which monitors air quality in Ile-de-France, forecasts a PM10 particle concentration level of between 50 and 65 $\mu\text{g}/\text{m}^3$ - which exceeds the recommended threshold of 50 $\mu\text{g}/\text{m}^3$.

The Prefecture also recommended "limiting car travel as far as possible", favouring teleworking and, "if necessary", carpooling.

Other restrictive measures have been taken, including a ban on individual wood heating.

Parts of the north of France also announced measures amid an air pollution alert.

Those affected include the Pas-de-Calais, Oise and Somme regions, where speed limits on roads were implemented.

From Tuesday at 6pm and for the whole day on Wednesday, speed limits are lowered in these departments by 20km/h on all roads where motorists can usually travel at 90km/h or more.

On roads where the speed limit is normally 80km/h, it is lowered to 70km/h.

In the agricultural sector, the prefect recommended postponing the spreading of fertilisers "if possible".

Traffic data prompt air quality concerns as lockdown lifts

Date:-3-Mar-2021, Source: envirotecmagazine.com



New data, sourced by Siemens Mobility in partnership with HERE Technologies, appear to show that traffic levels in some of the UK's largest cities have returned to near pre-pandemic levels, sparking concerns about air quality.

Traffic across major cities in January 2021 remained at more than 80 percent (83.4%) of the levels seen before COVID-19 – despite the introduction of strict lockdown measures across the country. With the Government’s roadmap out of lockdown published last week, there are concerns about further air pollution increases in the coming weeks.

The findings for Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle and Sheffield have also shown that the current Winter 2021 lockdown has had a far smaller impact on traffic compared to the first lockdown in Spring 2020. The data shows that traffic levels in these cities were more than three-quarters higher (76%) in January 2021 than April 2020 – and approximately twice as high in Bristol (112.9% increase) and Newcastle (93% increase).

Traffic levels across these cities had returned to 95% of pre-pandemic levels by October 2020, indicating that the pandemic will not have any lasting downward effect on air pollution.

Despite these trends, a number of cities have taken the decision to pause the decision-making process around the implementation of Clean Air Zones, citing the impact of the pandemic on traffic as their reasoning. Bath, Portsmouth, Birmingham and London are the only cities to make commitments so far, leaving people in cities across the North of England to miss out on the quality of life benefits that Clean Air Zones can bring.

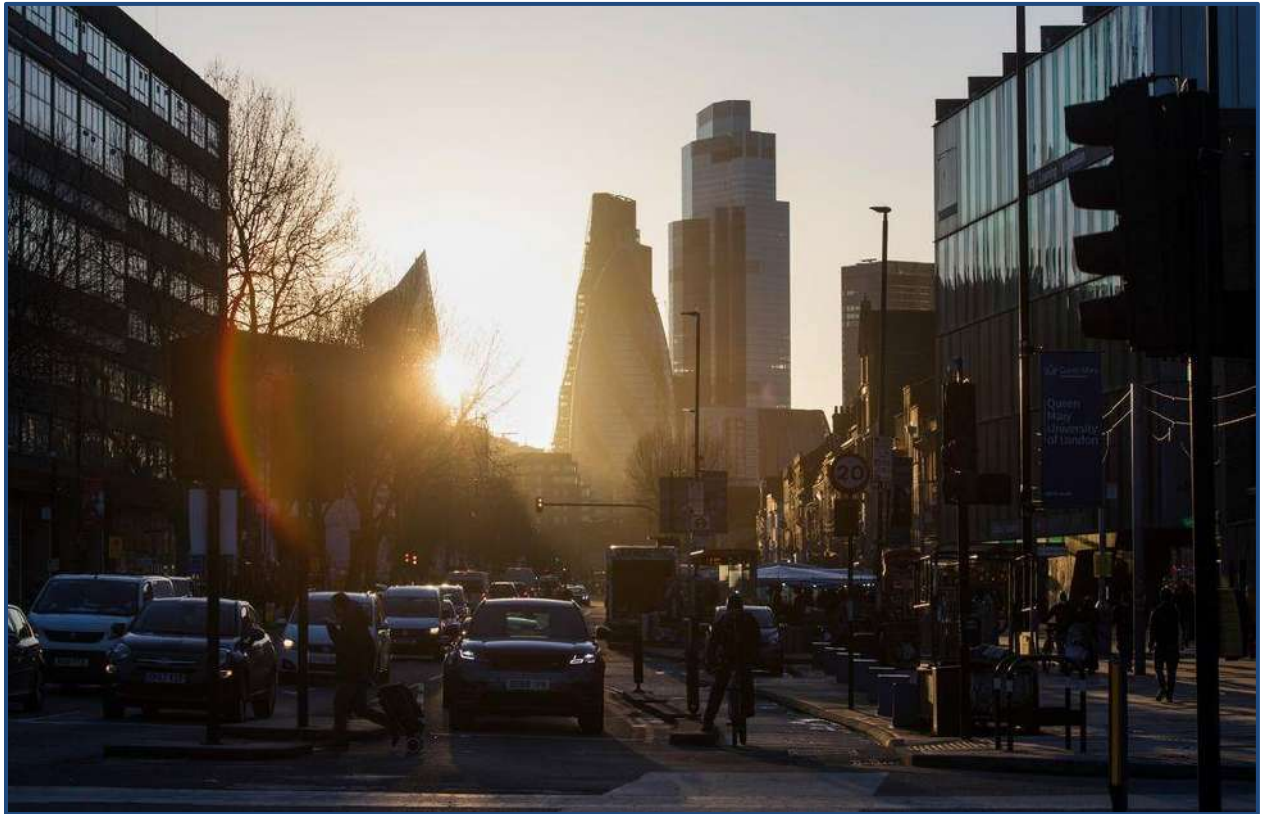
In fact, COVID-19 could actually drive up traffic levels beyond pre-2020 levels with people opting not to use public transport in favour of cars. In October last year, Bristol and Sheffield recorded increases in road traffic compared to February, registering a 1.8% and 0.9% increase in average volumes respectively.

Wilke Reints, Managing Director Intelligent Traffic Systems, Siemens Mobility, said: “This data lays to rest the idea that the pandemic might have a long-lasting effect to improve air quality. In fact, the picture the data is increasingly painting is that it could actually increase traffic levels as people return to work choosing their cars over public transport.

“What’s more, we know that Clean Air Zones work. In London, after just ten months of operation, reports showed that NO2 emissions from road transport in the central zone had reduced by 44%, a direct result of the Ultra-Low Emission Zone. However, we must see action across the country, benefitting all those who live in urban areas to help ensure a green post-pandemic recovery.”

U.K. Gets Post-Brexit EU Court Rebuke Over Air Pollution

Date:-4-Mar-2021, Source: bloomberg.com



Motors are the main emitters of nitrogen oxides.

The U.K. was handed a stinging rebuke from the European Union's top court for failing to clean up the dirty air in big cities from London to Glasgow.

In the first EU court ruling since the U.K.'s Brexit transition ended, judges at the Luxembourg-based tribunal concluded that Britain had "systematically and persistently" exceeded annual limits on nitrogen oxide in 16 zones across the country.

"Arguments put forward by the U.K. cannot justify such long time periods for bringing to an end" the ongoing violations, the EU Court of Justice said in a binding decision Thursday.

A 2018 crackdown on dirty air by the European Commission included the U.K., Germany and France, with the EU regulator accusing them of failing to meet limits on nitrogen oxide and particulate matter, which are mostly caused by

road traffic, industry, heating and agriculture. EU court judges in 2019 also ruled France had “persistently exceeded” pollution limits.

A U.K. coroner in December for the first time blamed air pollution as a significant factor in the death of a 9-year-old girl in south London, raising questions about the country’s commitment to tackling environmental problems, especially in the capital, where about 9 million people live and work. While the U.K. is no longer part of the now 27-nation EU, it remains bound by rulings in cases that were brought before its exit.

The U.K.’s Department for Environment, Food and Rural Affairs said it’s studying the ruling, which concerned U.K. failings up until 2017.

“Air pollution at a national level has reduced significantly since 2010,” the department said in a statement. “Now we are out of the EU, we are continuing to deliver” on a 3.8 billion-pound (\$5.3 billion) “air-quality plan to tackle nitrogen dioxide exceedances in the shortest possible time.”

Not-for-profit legal activists ClientEarth said in a statement that the British government “has been dragging its feet for too long on the air-pollution crisis, downplaying the problem and passing the buck to local authorities.”

The solution is clean-air zones, to keep traffic pollution out, the group said.

Motors are the main emitters of nitrogen oxides, which cause respiratory problems and has been linked to premature deaths. Under EU rules, member countries are required to keep the gas to under 40 micrograms per cubic meter.

Britain has been in breach of EU air quality rules for years and the same limits continue to apply because they’ve been transposed into U.K. law. The U.K. government has said it will likely only be able to meet the required standard in 2025 -- 15 years after the deadline. Its air quality plans have been judged in court to be unlawful three times.

Study Finds Wildfire Smoke More Harmful To Humans Than Pollution From Cars

Date:-5-Mar-2021, Source: npr.org

Tens of millions of Americans experienced at least a day last year shrouded in wildfire smoke. Entire cities were blanketed, in some cases for weeks, as unprecedented wildfires tore across the Western U.S., causing increases in

hospitalizations for respiratory emergencies and concerns about people's longer-term health.



In early September 2020, Seattle, Wash., had some of the worst air quality in the world because of wildfire smoke. The city was among the first to create smoke shelters for the most vulnerable.

A new study finds those concerns are well founded.

Researchers with the Scripps Institution of Oceanography at the University of California, San Diego say that the tiny particles released in wildfire smoke are up to 10 times more harmful to humans than particles released from other sources, such as car exhaust.

The research, published in the journal *Nature Communications* Friday, paints a worrisome picture for Americans living on a fire-prone continent, especially as climate change amplifies fire risk worldwide.

"[Air pollution] has been decreasing in some regions of the U.S.," says Rosana Aguilera, a postdoctoral scholar and one of the study's co-authors. "This is not the case in wildfire-prone areas."

Aguilera and co-author Tom Corringham looked at hospital admissions data over 14 years in Southern California and compared that to spikes in air pollution during strong wind events. They found that pollutants from wildfire smoke caused up to a 10% increase in hospital admissions.

"We're pretty aware of the physical costs of wildfire, in terms of firefighting costs and damage to property," Corringham says, referencing the more than \$10 billion lost in damages and efforts to corral California's fires last season. "But there's been a lot of work that has shown that the health impacts due to wildfire smoke are on the same order of magnitude, or possibly even greater, than the direct physical cost."



Smoke blankets Mill City, Ore., which was evacuated for days last fall following the nearby Beachie Creek Fire.

The findings are particularly concerning, he says, given the increase in wildfire activity that California and other states have experienced in recent years, and the expectation that wildfires will become more intense and frequent as the climate warms.

An NPR analysis of air quality on the West Coast found that 1-in-7 residents experienced at least one day of unhealthy air conditions last year. For weeks, the smoke was so thick in parts of Oregon, Washington and California that public health officials urged people to stay indoors and avoid physical activities. That smoke drifted east, creating hazy skies and an oddly vibrant sun as far away as the East Coast.

The research focused on microscopic particles, commonly called PM2.5, which can travel the longest distances.

Roughly one-twentieth the diameter of a human hair, PM2.5 particles are among the main components of wildfire smoke. They pose a health risk to people because they're able to pass through the nose and lungs, bypassing the body's defense mechanisms, as they make their way into the bloodstream. From there they can harm the heart, lungs and other vital organs, increasing the risk of stroke, heart attacks and respiratory problems.

There are a number of sources of PM2.5, including power plants and vehicles, but the findings indicate that PM2.5 from some may be more harmful than others.

That's consistent with other recent research, says Sheryl Magzamen, an associate professor at Colorado State University who focuses on the health effects of wildfire smoke and was not involved in the study. And she says it's worrisome, in part, because there's very little people can do to limit smoke events.

"We have tailpipe and emissions standards. We have smokestack standards and we have [Environmental Protection Agency] regulations," Magzamen says. "We just don't have the same policy levers for smoke events."

Another complication is the need for more small fires to prevent bigger ones. Fire is a necessary and normal process in many forests. But years of fire suppression have allowed unhealthy amounts of vegetation to accumulate on forest floors, providing unnatural amounts of fuel once fires start. Fire and forest ecologists say more regular, controlled fires can lower the risk of catastrophic wildfires, like those the U.S. has seen in recent years.

But more fires mean more smoke, both for people nearby and also downwind.

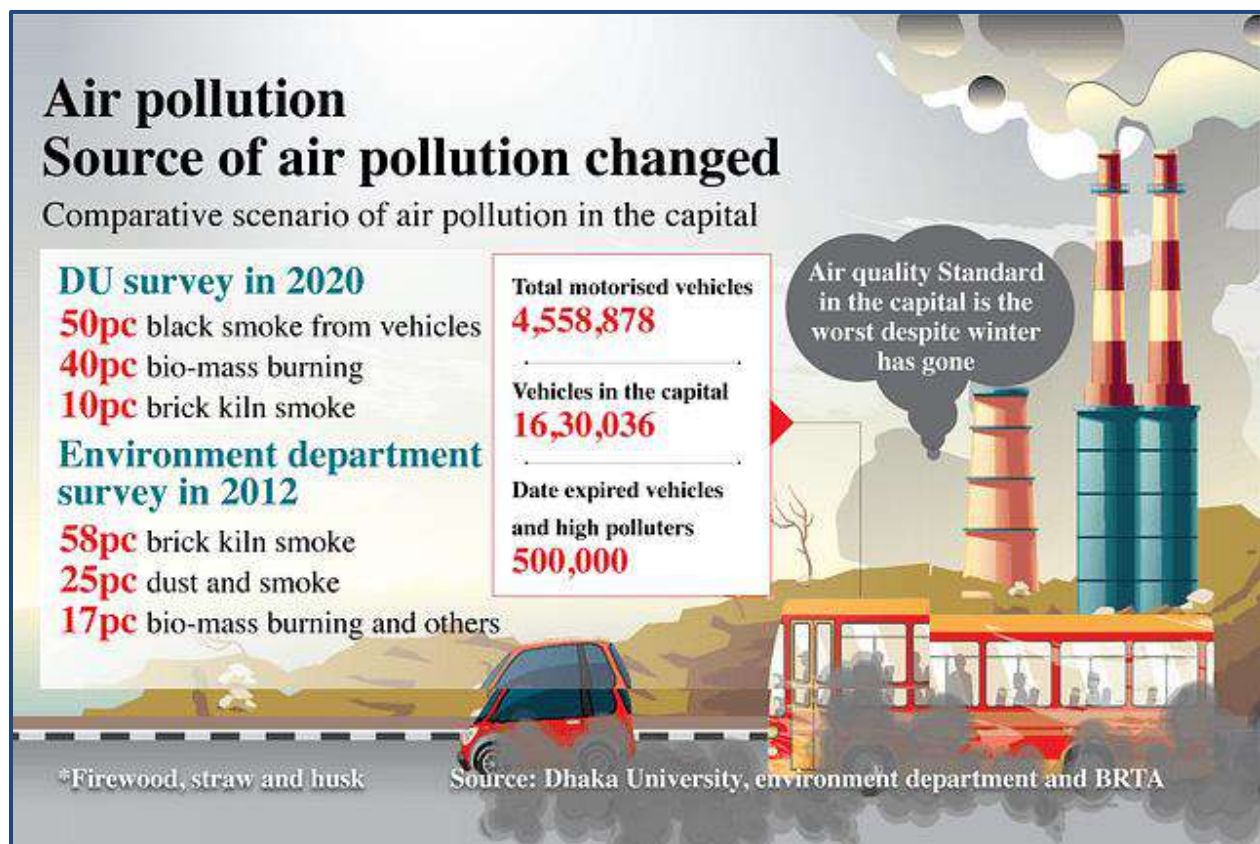
"A lot of the mitigation for exposure relies on people and households and communities knowing when to avoid smoke exposure," Magzamen says. "We don't have the mechanisms right now to let people understand when they're being exposed to smoke."

Corringham says the new research shows the need to improve air monitoring systems and public health programs. He suggests providing financial aid to at-risk populations and low income households so they can purchase air filters. And he urges action to minimize global warming.

"We've seen it getting much worse in the last decade," Corringham says. "Anything we can do today to reduce greenhouse gas emissions and stabilize the global climate system will have significant benefits."

Air pollution: Vehicle smoke responsible for 50pc

Date:-6-Mar-2021, Source: en.prothomalo.com



Thick smoke emitted from the vehicles is mostly responsible for air pollution in the capital, a recent study has found.

According to a study by the chemistry department of Dhaka University, vehicles powered by fossil fuels make up 50 per cent of the contributors to air pollution.

The source of around 40 per cent of air pollution is burning straw, firewood, husks and small particles.

Burning coal in the brick kilns causes the remaining 10 per cent of air pollution.

The survey reveals the major source of air pollution in the capital has drastically changed.

For a decade, brick kilns were considered the main source of air pollution in the capital.

But the latest survey said smoke emitted from the vehicles and industries has overtaken the brick kilns.

Black carbon generated from small particles in the air is very harmful for human body, according to the survey led by DU chemistry department teacher and air quality observation centre chief Abdus Salam.

This black carbon floats in the air in most of the areas of the country including Dhaka over half of the year.

A huge amount of dust is being generated due to infrastructure construction and repair work in the big cities including Dhaka. Black carbon mixed with dust is spreading over the open spaces and houses. As a result, black carbon is entering the human body when a person breathes, even indoors.

Speaking to Prothom Alo, professor Abdus Salam said it is a good initiative that the government is demolishing illegal brick kilns.

But date-expired vehicles are contributing majorly to air pollution, he said adding strong measures are not being taken against these vehicles.

Construction of big infrastructure is taking place, but there are no visible steps to control dust, Abdus Salam pointed out.

On the streets buses are emitting black smoke leaving every one's face blackened. Even members of traffic police are affected by this. But no step is seen to be taken. All smoke emitted from the vehicles is responsible for

pollution. Black smoke causes pollution mostly. Date-expired vehicles are the major source of black smoke.

According to government organisation Bangladesh Road Transport Authority (BRTA), the number of date-expired vehicles are around 500,000 and from which black smoke are emitted. Such vehicles are increasing by 20 to 30 per cent every year.

As per statistics of 2020, the registered motorised vehicles are 4,558,878. Of them, a total of 16,30,036 vehicles are in the capital.

In September last year, US Chemical Society revealed research findings on the source of black carbon in South Asia. The research was conducted by eight teachers of Dhaka University, Norwegian Institute of Air Research and Stockholm University.

According to the findings, black carbon is the major cause for air pollution in South Asia. Some 52 per cent of black carbon comes from the smoke emitted from vehicles for burning fuel.

According to world air quality observation agency, Air Visual, the air quality deteriorated by 12 per cent in 2020 than that of 2019.

Under the fresh air project of the environment department, a survey was conducted on the source of air pollution in the capital in 2012.

It said brick kilns are responsible for 58 per cent of air pollution in the capital. Dust and smoke are responsible for some 25 per cent, some seven 7 per cent for burning fuel. The remaining sources are industries and others.

On the basis of the findings, the environment department mostly conducted operations against the brick kilns across the country.

According to statistics of 2020 of the environment department, there are around 33,800 brick kilns across the country. Of them, some 7,000 brick kilns have adopted environment-friendly technologies. Some 2,513 brick kilns have no clearance from the environment department.

The environment department conducted operations against about 2000 brick kilns in last two years. Of them, some 1000 brick kilns were demolished. A total of Tk 450 million have been fined.

The environment department said the amount of transforming brick kilns into environment-friendly ones by adopting technologies has increased after the operation.

"Sources of air pollution other than the brick kilns are increasing. We will strengthen the operation against the date-expired vehicles and the dust from construction work.," said Ruhina Ferdousi, director of enforcement wing of the environment department.

Speaking to Prothom, BRAC University emeritus professor Ainun Nishat said, "The government should take steps to stop all sources of air pollution. There are no visible steps against sources other than brick kilns."

Air quality in Sowerby Bridge and impact on health to be focus of innovative library project

Date:-7-Mar-2021, Source: halifaxcourier.co.uk



View of Sowerby Bridge

Air quality and its impact on health is the focus of an innovative new libraries project, based in Sowerby Bridge.

Calderdale libraries' 'Something in the Air?' project, supported by researchers at the University of Manchester and funded as part of the Engaging Libraries programme was launched this week.

Between March and September this year, there will be a series of free events that anyone can attend, to hear from specialists and to ask questions about all sorts of issues around air quality and health.

As part of the project, people living in Sowerby Bridge will also be able to borrow and experiment with two types of portable air quality monitor, for measuring indoor and outdoor air quality. Residents are then encouraged to share and discuss their findings.

Calderdale Council's Cabinet Member for Public Services and Communities, Councillor Jenny Lynn, said: "Although our libraries are currently only able to offer limited services due to COVID-19, we're continuing to provide an online presence and I'm pleased we're still able to invite residents to enjoy author events by utilising digital technology.

"This event is the first of a series focusing on air quality and health, following our successful bid to the Engaging Libraries programme. These interactive events and activities are designed to help people throughout the community learn more about this important topic."

'Something in the Air?' is funded through the Engaging Libraries programme, which supports public library services across the UK to run public engagement activities on research within the themes of health, society and culture. It is funded by Wellcome Trust and Wolfson Foundation, and delivered by the Carnegie UK Trust.

Calderdale Council's Cabinet Member for Climate Change and Resilience, Coun Scott Patient, said: "We all have a part to play in improving air quality in the borough and by understanding more about the issue, we can take our own steps to limit the actions that contribute towards poor air quality.

"The 'Something in the Air?' library events will help engage the wider local community through a series of interactive events around the subject of air quality. This innovative initiative also complements the Council's commitment to improving air quality in Sowerby Bridge and across the wider Calderdale area."

Air quality guidelines do not adequately protect Australians

Date:-8-Mar-2021, Source: medicalxpress.com



The current mechanism for setting air quality thresholds in Australia does not adequately protect community health, according to the authors of a Perspective published by the Medical Journal of Australia.

Professor Graeme Zosky, Deputy Director of the Menzies Institute for Medical Research at the University of Tasmania, and colleagues wrote that the current guidelines for setting air quality standards "outline a method that balances risk assessment (health effects based on the exposure–response relationship) with the costs of abatement strategies to achieve the required targets."

"This puts regulators in a position of balancing the costs of expanding infrastructure against the benefits to human health," they wrote.

"The current approach to regulation of air pollution implies a causal model that is inconsistent with the available evidence.

"It provides no incentive for reducing exposure and allows increases in exposure to harmful pollutants, as long as the levels remain below the thresholds.

"This provides only partial health protection and adversely impacts community perceptions by implying that the current standards represent a 'safe' level of exposure."

A case in point is particulate matter (PM).

"PM₁₀ (PM \leq 10 μ m in aerodynamic diameter) is small enough to bypass the upper airways and lodge in the conducting airways, but is usually too large to reach the alveoli," wrote Zosky and colleagues.

"Acute exposure to PM₁₀ is associated with hospitalisations and mortality for cardiorespiratory conditions, while long term exposure is linked to chronic cardiorespiratory conditions and metabolic disorders.

"No safe threshold for PM₁₀ exposure has been identified.

"PM_{2.5} (PM \leq 2.5 μ m in aerodynamic diameter) can penetrate deeper into the lungs and is one of the leading causes of global mortality and morbidity.

"PM_{2.5} has been linked to cardiovascular disease, respiratory disease, pre-term birth, metabolic disorders and neurological health problems.

"Like PM₁₀, there is no evidence for a safe threshold for PM_{2.5} exposure," Zosky and colleagues wrote.

Despite this, the ambient air quality National Environmental Protection Measure sets reportable limits for key criteria air pollutants, which include PM, nitrogen dioxide, carbon monoxide, ozone, sulfur dioxide and lead.

"Collectively, there is sufficient evidence to conclude that there is no safe threshold for exposure to PM₁₀, PM_{2.5} or lead," Zosky and colleagues wrote.

"For nitrogen dioxide, there is a threshold, but the current NEPM standard is well above this level.

"On this basis, the current standards are not sufficient to adequately protect the health of the Australian community."

Zosky and colleagues said they were reassured by the most recent impact statement prepared for the National Environment Protection Council for the revision of the standards for gaseous pollutants, which recommends changing the NEPM to make reference to minimizing the health effects of exposures and "incorporation of exposure-reduction targets."

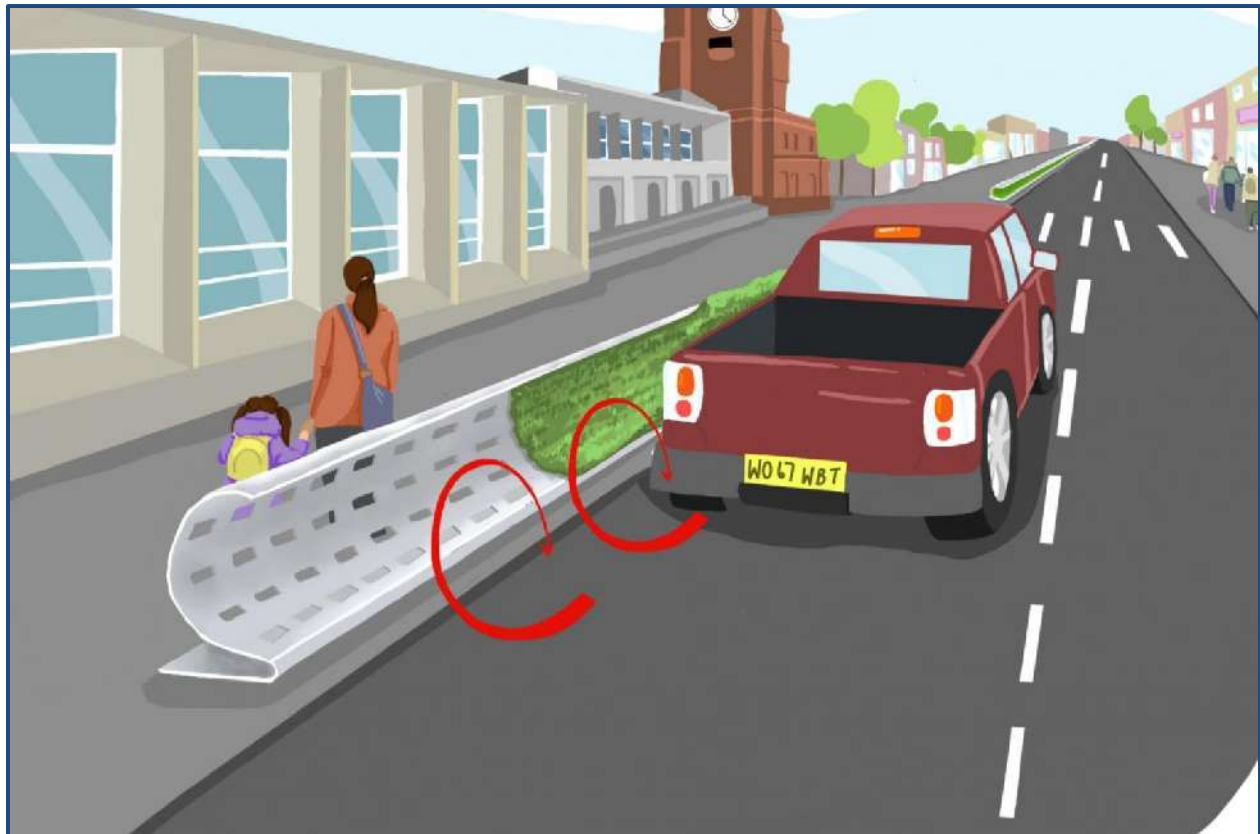
"We endorse this approach," they wrote.

"However, the recommended measures for gaseous pollutants still seem to rely on specifying a standard in the future, albeit a lower one, rather than proposing goals for continual reduction.

"In the absence of a mechanism to promote continual improvement and best practice by regulators and industry, we are failing to adequately protect the Australian community from the health impacts of air pollution," they concluded.

Researchers develop roadside barrier design to mitigate air pollution

Date:-9-Mar-2021, Source: eurekaalert.org



The curved barriers deflect pollution away from pedestrians and back onto the road

A unique curved barrier has been designed by researchers at Imperial College London, who publish new findings in the peer-reviewed journal *Cities & Health* on how the structure can protect people from the damaging effects of air pollution.

With air pollution becoming an increasingly dangerous global health challenge, researchers are constantly working on innovating novel solutions to tackle these 21st century problems. At Imperial College London, researchers are using airflow modelling techniques to study the effects of unique roadside structures to deflect particulates away from pedestrians.

The health concerns arising from lower air quality are more significant amongst lower income communities which are more likely to be situated near heavily traffic-laden thoroughfares. Similarly, children are both more vulnerable to and more readily exposed to air pollution simply due to their proximity to the ground, where heavier pollutants settle over time. Real-time data on air pollution in London and south east England can be found on London Air, a tool run by the London Air Quality Network at Imperial.

Dr Tilly Collins found this issue particularly worrying, especially after noticing the severe pollution in the air while watching her child playing netball in a school playground alongside a busy London A-road.

"I thought to myself, what could be done? And done now? So, I started researching the effect of walls along roads," Dr Collins, from Imperial's Centre for Environmental Policy, said. "It became evident that along the pedestrian side of these roadside walls, there are vortices where the air quality can actually be even worse as the pollutants get trapped in them."

Initially building off simple models, Dr Collins, Dr Huw Woodward, also from the Centre for Environmental Policy, and Agamemnon Otero of Energy Garden, explored ideas of urban design that would mitigate these vortex effects and improve air quality for pedestrians and especially children.

The curved barriers deflect pollution away from pedestrians and back onto the road.

Inspired by airfield baffles and the curved sound-walls alongside motorways in Germany and the Netherlands, the researchers found that curved structures would more effectively disperse and reflect pollutants back towards the roads and would very rapidly improve air quality for pedestrians in an inexpensive manner.

Although there are challenges in implementing this sort of urban furniture, such as road visibility, the researchers are confident that the net gain in air quality and health is immediate and significant enough to warrant further exploration of these ideas. Beyond air quality, these curved barriers would also

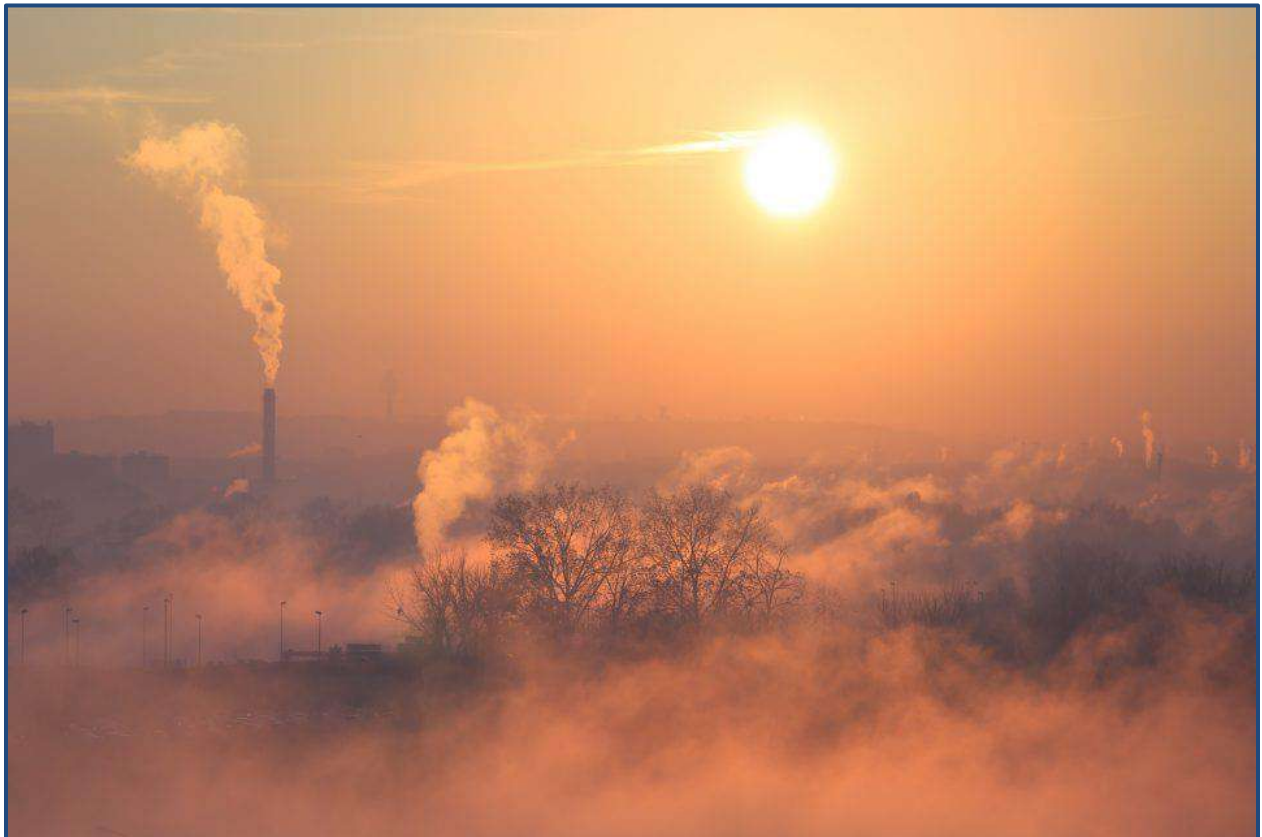
mitigate noise pollution, and would be able to act as scaffolds to increase green infrastructure throughout large cities.

When asked about the challenges faced during this research project, Dr Collins said: "Initially, it was difficult to convince others to get on board. The focus is very much on successfully reducing exhaust fumes, but there are these things we can do now to protect our children. The different sciences, urban designers and architects should collaborate more to design these solutions achieve air quality improvements at local scales more effectively and quickly."

Despite the hurdles, Dr Collins is optimistic for the future of the project. With increased attention being placed on the challenges associated with air pollution, there is a need for unique and effective urban design, and these curved baffling barriers are able to tackle these challenges head on, providing immense benefits to the general public.

Reducing air pollution could give global warming a boost

Date:-10-Mar-2021, Source: earth.com



Reductions in air pollution could actually boost global warming without a substantial cut in carbon dioxide emissions. Computer modeling experiments from Kyushu University have revealed that surface air temperature will increase without the cooling effect of sulfate aerosols, unless CO₂ levels are simultaneously reduced.

Worldwide, nations are scrambling to limit CO₂ emissions in an effort to mitigate global warming. The new study suggests that without major cuts to greenhouse gas emissions, reductions in air pollution will make it difficult to defeat rising temperatures.

“Air pollution causes an estimated seven million premature deaths per year worldwide, so action is essential, especially in emerging and developing countries, which tend to be most affected,” said study co-author Professor Toshihiko Takemura.

“However, reductions in air pollutants must come hand in hand with reductions in greenhouse gases to avoid accelerating global warming.”

The study shows that the long-term effects of reductions in pollutants known as sulfate aerosols will cause further increases in surface air temperature at current and increased carbon dioxide levels. This is due to an overall cooling effect that is produced by the light-scattering particles.

To investigate how these aerosols—small particles of sulfur-containing compounds influence the climate, Professor Takemura used a combination of models known as MIROC-SPRINTARS.

While MIROC accounts for many key aspects of the atmosphere, SPRINTARS predicts the mixing of aerosols in the atmosphere. By combining the two models, climate projections can include effects from the scattering and absorption of light by aerosols, as well as the interaction of aerosols with clouds.

The immediate changes to the atmosphere with reduced sulfate aerosols were found to be the same regardless of CO₂ levels. However, when looking at changes in the climate and surface temperatures over longer time scales, Professor Takemura found that not only does the surface air temperature increase with a reduction in sulfate aerosols – but this increase is even larger with rising levels of carbon dioxide.

“Although the fast response is similar for both situations, long-term changes caused by more slowly responding factors related to interactions with the

oceans and subsequent changes, such as in clouds and precipitation, eventually leads to a bigger temperature increase,” explained Professor Takemura.

“Thus, global warming will accelerate unless increases in greenhouse gas concentrations are suppressed as air pollution control measures decrease sulfate aerosol concentrations, further emphasizing the urgency for reducing carbon dioxide in the atmosphere.”

London teenagers' road signs highlight effect of toxic air on people of colour

Date:-11-Mar-2021, Source: theguardian.com



Activists with a road sign by Choked Up, an anti-pollution campaign in London backed by doctors. Photograph: Choked Up

Choked Up group demands action from mayoral candidates to tackle traffic pollution.

A group of teenagers who live in some of London's most polluted neighbourhoods are putting “hacked” road signs up across the capital to highlight the disproportionate impact that toxic air has on people of colour.

Choked Up, a group who describe themselves as “black and brown teenagers from south London”, have set up the campaign, which is being backed by more than 100 doctors.

Anjali Raman-Middleton, 17, a co-founder of the group, went to primary school with Ella Kissi-Debrah, who died in 2013 as a result of London’s air pollution crisis. “I’m terrified that my daily commute to school along the South Circular has already had a negative impact on my lungs,” she said. “I urge London mayoral candidates to commit to transform these roads to give me and my generation a greener future.”

The guerrilla road signs read “pollution zone” and warn that “breathing kills”. They come just as new research from the Environmental Defense Fund Europe (EDF) is published showing that London’s poorest areas and black, Asian and minority ethnic communities are hit hardest by the toxic air.

A group of 100 London health professionals who work in the NHS have backed the call for action with a letter to the capital’s mayoral candidates, urging them to commit to tackling air pollution inequalities and to develop an “urgent action plan to ... reduce our dependence on cars”.

Levels of air pollution across the capital are “a public health emergency”, according to Dr Laura Jane Smith, a respiratory consultant at King’s College hospital and one of the signatories of the letter organised by Medact.

“There are far too many people in our hospital wards and clinics who might otherwise be healthy if it wasn’t for the toxic air they breathe,” Smith said “Air pollution affects every single one of us from birth to old age, but we know the least well off and marginalised communities, including those from black and Asian backgrounds, are being hardest hit.”

A growing body of research underlines the devastating impact that air pollution – both indoors and outdoors – is having on the nation’s health. Recent studies suggest it may be damaging every organ in the body, with effects including heart and lung disease, diabetes, dementia, reduced intelligence and increased depression. Children and unborn babies may suffer the most.

The EDF study highlighted the uneven impact of air pollution, with nitrogen dioxide (NO₂) 24-31% higher in areas of London where people from black, Asian or minority ethnic backgrounds are most likely to live. Additionally, it found the most deprived Londoners are more than six times more likely to live in areas with higher pollution than the least deprived.

Choked Up is calling on the mayoral candidates to dramatically improve air quality along the capital's major roads, the so-called "red routes", which make up 5% of London's roads but carry a third of its traffic.

They are calling for a reduction in goods vehicle and private car use, and a renewed focus on "a world-class walking and cycling network, as well as affordable and accessible zero-emission public transport".

Oliver Lord, of EDF, said: "For years, the major 'red routes' have been a toxic thread running through our communities, polluting the doorsteps of homes and kids' playgrounds. We need a green recovery that undoes decades of damage, using a clear traffic reduction plan – one where polluting trucks can no longer cut across the city and parking for cars becomes parks for people."

AI technology will be used to reduce air pollution in Cambridge

Date:-12-Mar-2021, Source: airqualitynews.com



New Artificial Intelligence (AI) traffic signal control will be trialled on Cambridge's busiest roads in order to improve traffic flow and reduce air pollution.

The Vivacity camera-based AI sensors are able to identify different types of road users and adjust traffic signal timings accordingly, thus allowing different modes of transport to be prioritised.

Thanks to the new project, funded by the Greater Cambridge Partnership (GCP), a 12-month trial will use the technology to investigate how the impact it has on improving traffic flow, reducing journey times and consequently reducing air pollution from idling vehicles.

Trials will start in the summer and a report on the initial findings will be available in Spring 2022.

The pilot scheme will be trialled at the following junctions:

- Hills Road-Brooklands Avenue
- Hills Road-Cherry Hinton Road
- Cherry Hinton Road-Clifton Road
- Robin Hood corner (Cherry Hinton Road-Queen Edith's Way)

If the trial proves to be successful, the GCP will consider how further investments in AI traffic signals could be rolled out in the future.

Claire Ruskin, the executive board member for the Greater Cambridge Partnership and Chair of the Smart Cambridge Working Group, said: 'We know our traffic lights need to be more intelligent and we are finding new technology solutions that can help the way people make their daily journeys.

'These new sensors can monitor different types of road users, and use that data to change traffic flows, potentially helping to cut congestion and improve air quality. We will use the data to inform future projects and interventions.'

Top Chinese steelmaking city to punish firms that stray from anti-pollution plan

Date:-13-Mar-2021, Source: reuters.com

BEIJING (Reuters) - Tangshan, China's top steelmaking city, said it will punish firms that either have not taken the steps spelled out under its emergency anti-pollution plan or have illegally discharged pollutants, following weeks of smog in northern China.



Birds fly over a closed steel factory where chimneys of another working factory are seen in background, in Tangshan, Hebei province, China, February 27, 2016. REUTERS/Kim Kyung-Hoon

All enterprises must strictly meet the requirements of the city's environmental protection plan, Vice Mayor Li Guifu said in an emergency municipal meeting on Saturday night.

Firms in the city's heavy industry, including the steel and cement sectors, have been told to limit or halt production during heavily polluted days to reduce overall emissions of air pollutants - such as sulphuric dioxide or nitrogen oxide - by 50%.

Tangshan, the economic centre of northern Hebei province, is historically one of China's most polluted cities due to its heavy industry. It is also a source of smog for the region, which includes nearby Beijing.

For companies that do not meet the environmental requirements, all their pollutant discharge permits will be revoked and their discharge performance rating will be cut to "D", which would demand them to suspend production.

Last week, the Ministry of Ecology and Environment urged Tangshan to severely crack down on violations of atmospheric environment rules after it found four steel mills had failed to implement production curbs during heavy pollution.

China has pledged to cut its crude steel output in 2021 from the record 1.06 billion tonnes it churned out last year to reduce carbon emissions. The steel sector accounts for 15% of the country's total emissions, topping all other manufacturing categories.

China's steel city Tangshan vows to crack down on pollution after weeks of heavy smog

Date:-14-Mar-2021, Source: scmp.com

- The city authorities say factories must limit production when a heavy pollution alert is in place to halve harmful emissions
- Steel or cement plants warned they will lose their permits and have production suspended if they fail to comply and owners face criminal sanctions



Tangshan is China's biggest centre of steel production.

Officials in China's steelmaking hub have vowed to crack down on illicit emissions after two weeks of heavy smog across northern China.

In an emergency municipal meeting on Saturday night, Li Guifu, the vice mayor of Tangshan, a city in Hebei, ordered factories to limit or halt production on days when a heavy pollution alert was in place to reduce the overall emissions of air pollutants such as sulphuric dioxide or nitrogen oxide by 50 per cent.

Li issued the warning after a surprise inspection by central government found four plants had failed to comply with regulations.

Li told all factories to follow the city's environmental protection plan, and warned that any steel and cement plants that fail to do so will have their pollutant discharge permits revoked and production suspended.

He added that the consequences of failing to meet the requirements also include detention or criminal liability for the plant owner, adding that the plants and their owner will be "exposed by media outlets" and added to the social credit blacklist.

Tangshan is one of China's most polluted cities because of the heavy industries and the smog it emits also affects the air in Beijing which is less than 200km (120 miles) away.

According to the environment ministry's figures, the 10 cities with the worst air quality in China last year were all in Hebei or the neighbouring municipalities of Beijing and Tianjin.

On Thursday, the Ministry of Ecology and Environment conducted a surprise investigation into four mills in Tangshan and found that they had failed to curb production as required during the heavy pollution alert.

The local authorities were then told they should crack down on violations of the environmental rules, prompting Saturday's emergency meeting.

The four mills were all fined 1 million yuan (US\$153,600) each and had their discharge permits revoked, according to a statement by the city government. The "persons responsible" have also been detained.

Last month, Tangshan's municipal ecology and environmental bureau introduced a pilot programme to cut emissions from its steel industry by 40 per cent this year.

That would be equivalent to a reduction of more than 53.2 million tons of pig iron and more than 57.6 million tons of crude steel output in the city,

according to an estimate by Lange Steel, a Beijing-based trading and information service provider.

Demand for steel is expected to rise as China's economy continues its rapid recovery from the Covid-19 outbreak. Prices for the commodity have been rising for the past four weeks, with the steel price index rising 1.03 per cent week-on-week, 9.15 per cent month-on-month and 34.08 per cent year-on-year, according to Lange Steel.

Meanwhile, the central government has set a target of all but eliminating days when heavy pollution alerts are issued by 2025.

Massive sandstorm blankets China in thick, orange muck

Date:-15-Mar-2021, Source: washingtonpost.com



People cross a road during a sandstorm in Beijing on Monday.

China's worst sandstorm in a decade caused mass disruptions on Monday as swaths of the country were engulfed in a thick, orange haze of dust and sand, forcing authorities to cancel hundreds of flights, shutter roads and schools, and suspend outdoor activities.

In Beijing, poor visibility paralyzed traffic as residents posted photos of skyscrapers seemingly disappearing into the fog and compared images of the eerie haze to scenes in the dystopian 1982 film “Blade Runner.”

“It’s pretty bad. You can barely see 200 meters away from you,” said Li Shuo, senior climate and energy policy officer for Greenpeace East Asia, based in Beijing.

More than 400 flights were canceled in Beijing, while several freeways in Inner Mongolia, Shaanxi and Xinjiang were closed. In Ningxia, among the worst-hit areas, residents said police had to direct traffic, which had slowed to a crawl. Officials in neighboring Mongolia, where the sandstorm emerged before sweeping across northern China, were searching for more than 80 herders who had gone missing.

China’s National Meteorological Center said it expected 12 provinces and municipalities — an area covering about 160,000 square miles, about the size of California — to be affected by the storm.

The National Health Commission advised residents to stay indoors, seal windows and doors, and to use humidifiers and wet rags to deal with any dust. If residents must go outside, they should wear a mask, goggles, and a hat or scarf to protect their face.

“This is definitely not a normal weather system,” said Zhang Bihui, director of the Meteorological Center. “This is the most intense sandstorm our country has encountered in the last 10 years, which has also been the most wide-reaching,” the center said in a separate statement on its website.

On Monday, Beijing and 23 other cities recorded “off the chart” levels of air pollution, according to state media. In Beijing, PM10, a measure of tiny particles in the air often associated with sandstorms, hit more than 9,000 micrograms per cubic meter, or 180 times the level deemed healthy by the World Health Organization. Some residents said they were wearing two masks even while indoors.

For years, spring would bring sandstorms from the Gobi Desert to Beijing, where residents would watch the sky turn yellow and orange and cover their faces to prevent dust flying into their mouths and eyes. Li, of Greenpeace, said that for the past two years, sandstorms, caused by weather patterns and desertification, have occurred outside of the normal season, in the summer as well as the fall.

“This raises questions,” Li said. “My anecdotal observation is the season seems to be prolonged. This is something that deserves our attention going forward, and my sense is that we can’t rule out another episode like this.”

Monday’s sandstorm comes after smog blanketed the capital during China’s annual legislative session. The key political event is usually accompanied by good air quality, as authorities temporarily shut factories and impose other pollution-control measures.

The storm raises memories of several years ago when Beijing experienced frequent bouts of disastrous air quality, then known as “airpocalypse” — a time that pushed Chinese leaders to tackle air pollution. Since then, air quality has improved and other priorities such as the pandemic and restoring the economy have taken precedence, environmentalists say.

“In a way, it reminds everybody that there is still a lot of work to do on the environmental front,” Li said. “We are also standing at the beginning of a new decade. A lot of things have changed, and a lot of things have stayed the same.”

The first COVID-19 lockdowns improved air quality. Where are we a year later?

Date:-16-Mar-2021, Source: newsroom.ucla.edu

One of the few uplifting developments in the early weeks of the COVID-19 pandemic was the remarkable boost in air quality around the world. As restrictions stilled cars, planes and boats, the change was so dramatic that a viral hoax claiming Italy’s newly pristine Venetian canals had attracted dolphins seemed no less plausible than a true story that Los Angeles, at least for a day, had the cleanest air in the world.

But it didn’t last. After a couple months, restrictions loosened or became untenable, and traffic rebounded. In Los Angeles, record-high summer heat waves converted pollutants into smog-forming ozone. Apocalyptic wildfires darkened the skies. The smog returned.

Did the clean air mean anything? Was it evidence that collective action could clean the air faster than many thought possible, or just a fluke of the weather, or proof that even radical steps couldn’t fight climate change? The answer, UCLA air quality researchers say, isn’t precisely any of these but includes elements of all three.



The air quality gains of spring 2020 couldn't overpower the return to driving, record-high heat waves or apocalyptic wildfires, but they did offer a glimpse of what is possible, researchers say.

The Southland's tailpipe triumph

A December 2020 study led by UCLA professor Yifang Zhu found that while favorable spring weather helped, traffic reductions in Los Angeles last March and April were directly responsible for a roughly 30% decrease in nitrogen oxides, a common tailpipe emission. Once the lull in traffic ended, however, the pollutants returned.

"The good air quality can't last if traffic-emission reductions don't last," said Zhu, a professor of environmental health sciences and senior associate dean for academic programs at UCLA's Fielding School of Public Health. "What our paper shows is that if we can find a sustainable, equitable way for people to drive less and telework more, there are significant air quality benefits from it."

The study created traffic models based on transportation data from 2017 to 2020, allowing the researchers to pinpoint which improvements were caused by an absence of vehicles and which were caused by weather, such as the

abundance of spring showers last March and April. As any Angeleno knows, rain is the quickest way to clear the air.

“Lots of people asked me at the time about the clean air, and I said it’s great, but there’s also a meteorology component,” Zhu said. “When we fed meteorology into the model and controlled for its impacts, we still saw a good amount of reductions, so the traffic decrease turned into real air quality benefits.”

Oh no, here comes the ozone

After pollutants from traffic briefly declined, ozone increased, including a massive spike in April, said UCLA professor Suzanne Paulson, citing figures from the South Coast Air Quality Management District. Ozone, which serves as a barrier against the sun’s ultraviolet radiation in the stratosphere but also contributes to smog at ground level, can be increased by tailpipe emissions, but it’s not a one-to-one equation — traffic isn’t the only contributor.

“We had an absolutely terrible ozone year last year, the worst by far in many years,” said Paulson, an air quality researcher with UCLA’s department of atmospheric and oceanic sciences. “There was a super-high spike in April and far more spikes than usual for the rest of 2020.”

According to NASA, 2020 tied with 2016 for Earth’s hottest year on record, and that heat, along with multiple record-breaking highs in Los Angeles County, sped along the chemical reactions that create ozone, Paulson explained. While decreases in traffic briefly reduced nitrogen oxides, a key ingredient in making ozone, another ingredient may have risen — volatile organic compounds. Some scientists theorize that the near-mania COVID-19 caused for VOC-emitting hand sanitizers and other cleaning solutions may have been significant enough to increase ozone, Paulson said.

Meanwhile, the short-term decline in driving couldn’t make more than a short-term dent in pollution, she added.

“The particle pollution was much better in March and April, and there was an improvement in pollution from the decrease in driving, but it wasn’t as large as you would expect because the vehicle fleet is already relatively clean,” Paulson said, noting that cars are about 400 times cleaner than they were 50 years ago, before emission controls began. “It’s a testament to the incredible success of programs cleaning up vehicles, because we would have seen much bigger improvements if our vehicle fleet was dirtier.”

The brief air quality gains last spring couldn't overpower the return to driving, the heat waves caused by climate change or the wildfires. But they did offer a glimpse of a Los Angeles with far cleaner air, Paulson and Zhu said — and a reminder that less driving does make a difference.

“We shouldn't need a pandemic to clean the air,” Zhu said. “The pandemic and lockdowns allowed us to see what can be done and what changes we can expect. But there are more sustainable, equitable ways that we should think about to make sure our air and our energy sources are clean.”

Smoke Emitting Vehicles Causing Air Pollution

Date:-17-Mar-2021, Source: urdupoint.com



RAWALPINDI : Increasing number of smoke emitting vehicles in Rawalpindi causing serious air pollution for the residents.

These vehicles are running on the roads unchecked as the authorities concerned

have failed to protect the environment.

Most of the public transport drivers besides emitting dark smoke from their unmaintained vehicles were also found demonstrating their racing skills, in presence of traffic police wardens.

Auto-rickshaws, old large and mini-buses and coaches were mainly becoming a serious environmental hazard in Rawalpindi by generating pollution during peak hours particularly in the evening as the city was engulfed with a blanket of smoke screens.

Talking to APP, Uzma Shaheen an environmental sciences' student, said it was also observed that traffic police drive to curb outdated vehicles with poor maintenance to move on the city's roads has so far remained unfruitful in producing any desirable results.

The City Traffic Police drive to crack down on smoke emitting vehicles in the city was almost failed as it was again being operated at full scale on the city's road.

An official of the Traffic Police told that the traffic police's continued drive against the smoke emitting vehicles by imposing heavy fines and confiscated vehicles on the violation.

He said that however, since this was the responsibility of traffic police to ensure hazard and noise-free traffic in the city, the traffic police would certainly tackle the issue as per the law.

When asked, Secretary Regional Transport Authority said regular inspections of vehicles to gauge pollution were being carried out and challans were issued in case of violations. Such exercise would be carried out in the future too, he added.

When contacted the Punjab Environmental Protection Department official said the environmental watchdog was also carrying out inspections of tailpipe emissions but due to limited staff and resource constraints was not able to continue the practice.

However, being a stakeholder in environmental conservation of the city the Department was aware of the risk and working out a detailed strategy to contain the risk.

Masaryk University Experts Develop Project Focused on Monitoring Air Pollution

Date:-18-Mar-2021, Source: brnodaily.com

Brno, Mar 18 (BD) – Experts from the Faculty of Economics and Administration at Masaryk University (MUNI) will lead a research project focused on monitoring air pollution in Brno and expanding the city's current air monitoring capacities. The efforts will take place in coordination with the city council and with the support of Call 2A Tromso funds, a Norwegian project. The end goal is to suggest a valid course of action to improve the quality of air in the city.

“Clean air fundamentally affects not only our health, but also the quality of the environment. In cooperation with Masaryk University, we want to continuously collect data that will help us fulfill the city's strategies. Specifically, our Action Plan for Improving Air Quality and the Action Plan for Sustainable Energy and

Climate, in which we are committed to reducing CO₂ emissions by 40 percent by 2030,” said Petr Hladík (KDU-CSL), First Deputy Mayor of Brno.



Together with the City of Brno, experts from Masaryk University will develop a project focused on monitoring air pollution in Brno. The research is intended to provide data for the Action Plan for Improving Air Quality, in place since 2017.

Priority will be given to areas in the vicinity of roads or railway corridors, incinerators and gardening colonies through mobile measuring stations. Results are expected within a year and the outcomes are expected to inform several policy areas: “The data obtained can form important input for decision-making in various areas, such as transport, healthcare, education or the environment. We are also concerned with airborne dust from traffic, construction work and fields around Brno,” added Hladík.

“We will also measure the extent to which a particular person is exposed to air pollution through small mobile devices that volunteers will carry with them. Thanks to this, we will be able to estimate the burden on residents resulting from their specific habits of moving around the city,” explained project coordinator Vilém Pařil from MUNI.

An Action Plan for Improving Air Quality has been in place in Brno since 2017, promoted by the City Council, and every year new information is gathered to either modify or reinforce measures to improve air quality.

According to Tomáš Koláčný (Piráti), 2nd Deputy Mayor, the results of the project will be published and visualized on the city portal data.brno.cz, including source data, which can be used for further analysis.

The experts from MUNI will be counting on the help from colleagues in Oslo, and working in close cooperation with the University of Stavanger.

Haze between north Denver up to Fort Collins results in air quality warning

Date:-19-Mar-2021, Source: thedenverchannel.com



Haze over Denver north to Fort Collins has prompted the Colorado Department of Public Health and Environment (CDPHE) to issue an Action Day.

The poor air quality is expected to effect the Denver-Boulder metropolitan area until at least 4 p.m. Friday.

According to the CDPHE, stagnant weather conditions have allowed fine particles to concentrate enough that the air is unhealthy for sensitive groups. This is most prevalent in the northern parts of the Denver metro area, and

Boulder, Longmont, Fort Collins and Greeley and the surrounding areas. Residents in these areas may notice poor visibility outside.

As of 11 a.m., the highest air quality index (AQI) value for a particulate less than 2.5 micrometers was 105. AQI runs between 0 and 500, with higher numbers indicating a greater level of air pollution and, therefore, health concern. Learn more about the AQI level breakdown [here](#).

People with heart disease or lung disease, plus older adults and children, should reduce prolonged or heavy exertions outside Friday, the CDPHE said.

Cole: Ottawa has an air pollution problem and it's time we tackled it

Date:-20-Mar-2021, Source: ottawacitizen.com



Autumn Jordan illustrates how she takes readings with her air quality monitoring equipment .

Here are just eight examples where local air quality readings have been recorded in a range that is dangerous to our health.

Does Ottawa have an air pollution problem? The short answer is yes, particularly in certain areas of the city.

With funding from the Ottawa Community Foundation and in cooperation with

Ecology Ottawa, the Sierra Club Canada Foundation is leading a project, BreatheEasy, to monitor outdoor air quality (AQ) in all wards across the city. From what we're finding out, the air is not healthy, certainly not everywhere and not every day.

The Ontario Ministry of the Environment, Conservation and Parks operates one air quality (AQ) station in the city. It is located in MacDonald Gardens Park on

Wurtemberg Street, near the Rideau River. Typically, the readings for that site show that air pollution is in the “low risk” range. Anyone seeing such messaging would likely be comforted and assume that Ottawa’s AQ is just fine.

But just a few steps away, our team of “citizen scientists,” using a portable AQ monitor, measured high pollution readings along nearby Rideau Street. Yet hardly anyone knows this, or that there are many similar “hot spots” throughout the city where the air is not healthy. Residents should know this.

Our monitoring has uncovered several such hot spots. Here are just eight examples where AQ readings were in the danger zone (with likely air pollution sources as shown):

1. Ward 5: West-end industrial site near the Carp Road and Richardson Side Road intersection (various industrial emissions).
2. Ward 6: A Stittsville school-bus student drop-off zone (diesel exhaust).
3. Ward 23: Kanata Costco parking lot (car traffic).
4. Ward 14: Downtown Parliament Hill area (traffic and construction).
5. Ward 12: Downtown Rideau Street area between Nicholas Street and the Rideau River (traffic and construction).
6. Ward 17: Bank Street at Lansdowne Park (stop-and-go traffic).
7. Ward 11: Montreal Road and Highway 174 interchange (traffic and construction).
8. Ward 21: Rural farm area west of Manotick (waste-wood smoke).

What can we do to improve our air quality? First, we need to acknowledge the problem and understand the potential health impacts: lower IQ in children, increased risk of serious diseases, shortened lifespan, and more. Even a short exposure to unhealthy air is not good for us. Long-term exposure, while often unnoticed, can be much more deadly. To quote author and noted air quality expert Gary Fuller, air pollution is an “Invisible Killer.”

Then we need to act.

“I refuse to stand by while Londoners are killed by pollution.” That’s what Sadiq Khan, mayor of London, England said in 2017 when he announced a series of measures to clean up that city’s air pollution. At that time it was estimated that some 9,000 of London’s residents were dying annually from air

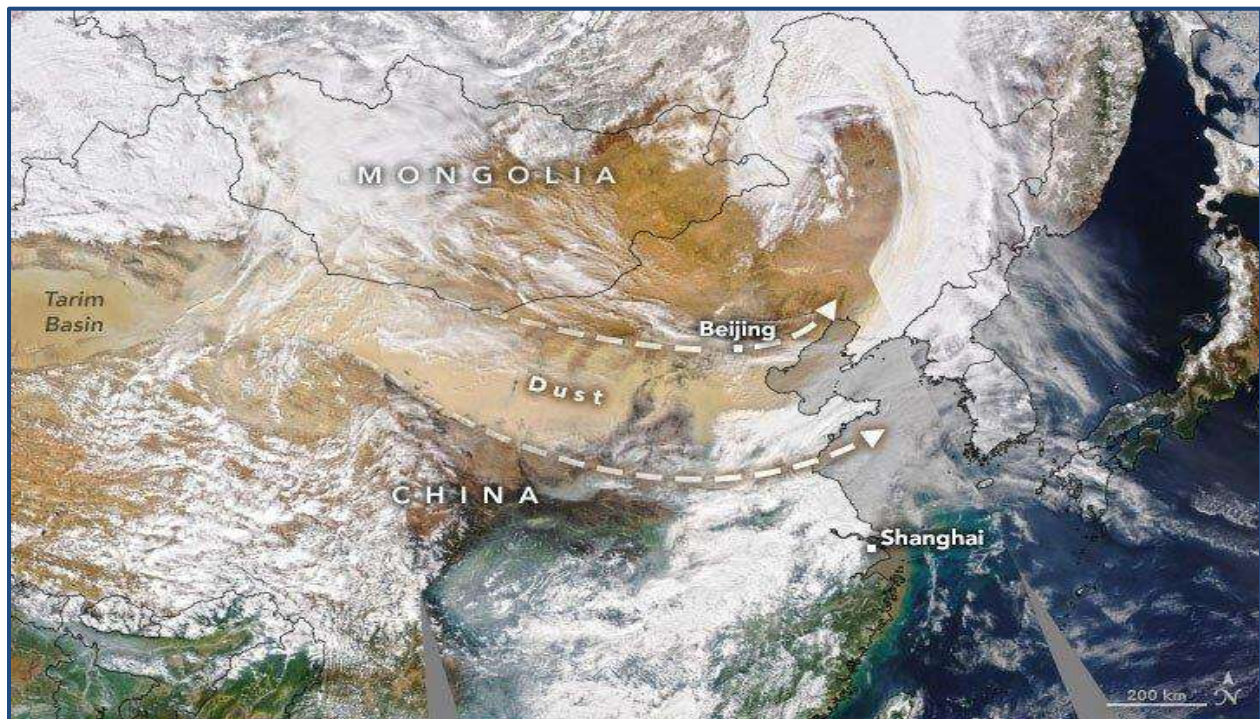
pollution. Health Canada uses similar calculations in a report that would determine about 500 premature deaths are caused by air pollution here in Ottawa. How then can we stand by while almost the same thing is happening here?

At the personal level, I try to avoid spending time in polluted areas like the hot spots noted above and fortunately, where I live, the AQ is generally quite safe. How is it for everyone else? In our AQ project, we are offering a limited number of AQ tests for residents to check their own, local conditions. More information is available on that by contacting our e-mail address below.

At the collective level, we can identify the air pollution concerns in our city, learn how to deal with them and significantly reduce the negative impact on our health. Cities like London are doing it. So can we, by learning from others and by creating our own solutions so that we can all breathe a little easier and live better as a result.

Sandstorm Highlights China's Environmental Challenges

Date:-21-Mar-2021, Source: irinsider.org



The path of Monday's sandstorm, originating in the Gobi Desert and affecting parts of northern

On Monday, March 15, a sandstorm swept through parts of China, turning skies orange in the Chinese capital of Beijing. Air pollution levels were reported to be 160 times higher than the level deemed safe and particulate matter concentration in the air reached at least 8,100 micrograms per cubic meter in some areas.

"This is the most intense sandstorm weather our country has seen in 10 years, as well as it covering the broadest area," stated China's National Meteorological Center. The Center also reported that the sandstorm would affect 12 provinces across the northwestern and northeastern regions of the country.

The sandstorm originated in the Gobi Desert, which covers regions in northern China and southern Mongolia. The Gobi Desert has made sandstorms a common occurrence in the region, but China has seen a decrease in the frequency of sandstorms in the past decade. In the 1950s, the average number of sandstorm-impacted days in a year was about 26.

That number has since decreased since 2010, averaging at around three sandstorm-impacted days. However, Monday's sandstorm was severe and has raised concerns among environmentalists.

When sandstorms do occur, they are often exacerbated by China's existing environmental concerns. Decades of deforestation have led to soil erosion and the rapid desertification of land in northern China.

Since the resurgence of the economy as the severity of the pandemic decreases, pollution levels in China have been on the rise once again. Industrial pollutants and car emissions, especially in Beijing, contribute to the already smog-filled conditions. However, the Chinese government has taken some measures to fight these environmental threats.

One way China has tried to decrease the impact of events like Monday's sandstorm was through the implementation of the Three-North Shelterbelt Project, more commonly known as the Great Green Wall.

The Chinese government initiated the program back in 1978, primarily in response to the growing deforestation in the northern region of China due to significant industrial and technological developments occurring since the 1950s.



Orange skies in the Chinese capital of Beijing due to the sandstorm.

The project calls for millions of trees to be planted along the border between the Gobi Desert and the rest of China to catch and block dust and prevent more desertification. As of 2017, this afforestation project has led to the planting of over 66 billion trees.

In an attempt to improve air quality, a 2012 source states that China has invested \$13.72 billion to implement sandstorm prevention measures in the country. The first stage of the prevention program, which was said to have begun in 2000, saw the restoration of 6 million hectares of forests. The newly initiated second stage of the program covering the 2013-2022 term would hopefully help China make more progress.

In late 2020, Chinese President Xi Jinping announced to the UN General Assembly that China would pledge to achieve carbon neutrality by 2060. However, this statement comes as China's emissions from coal-fired power plants and cement production continue to increase and China still remains responsible for 28% of carbon dioxide emissions worldwide.

“Beijing is what an ecological crisis looks like. After two weeks of smog and static air, strong wind carries a sand storm in, sending AQI [Air Quality Index] off the chart. It’s hard to claim we are moving forward when you can’t see what’s in front,” tweeted Li Shuo, policy officer for Greenpeace China.

Whether or not these implemented measures and promises by the Chinese government and other agencies will prove to be effective in combating sandstorms and other environmental challenges in the region will only be determined by the test of time.

Central Nepal engulfed in smoke

Date:-22-Mar-2021, Source: nepalitimes.com

Wildfires in national parks shroud Kathmandu in haze and pollution.



Haze shrouds Bhaktapur on Monday afternoon as smoke from fires in Chitwan engulfed Kathmandu Valley and Central Nepal.

Kathmandu Valley and Central Nepal was engulfed in thick haze on Monday afternoon as prevailing winds whipped up fires in Chitwan and Parsa National Parks.

Infrared satellite images from NASA's FIRMS (Fire Information for Resource Management System) showed many fires raging at the eastern edge of Chitwan and across Parsa, in the vicinity of Hetauda, as well as in Bardia, Surkhet and other districts in the mid-mountains of western Nepal.

The national parks allow buffer zone villagers to enter the protected areas once a year in spring to collect deadwood and thatch grass. Villagers sometimes set fire to the grasslands, and prevailing winds spread these blazes. Deficient winter rain this year has made the forests in the Nepal Tarai drier than usual, which has led to the fires this year more extensive.

Kathmandu Valley recorded an Air Quality Index (AQI) reading of 421 at 4pm on Sunday, which is more than 10 times higher than the threshold set by the World Health Organisation for air safe for breathing. In addition to the smoke, there was also pollution from traffic emissions, cross-border industrial smog from India, as well as wind-blown sand from the Arabian desert that has been covering the Subcontinent for the past week.

Sweden to increase airport fees for high-polluting planes

Date:-23-Mar-2021, Source: theguardian.com



Sweden is set to increase landing fees for airlines whose planes are more polluting

Climate impact, such as use of biofuels, to be taken into account when calculating charges, says government.

Sweden plans to charge airlines more at takeoff and landing if their aircrafts are more polluting, the government has said.

The measure is set to go into effect in July and means that newer and more efficient aircraft will benefit from the scheme while older planes will be hit with higher fees.

“This means that takeoff and landing fees can be more significant when a plane’s climate impact is higher and they can be reduced when the climate impact is lower,” said the ministry of infrastructure on Monday, describing the plan as a first in Europe and possibly the world.

The project, which must be approved by parliament and concerns Arlanda airport in Stockholm and Landvetter in Gothenburg, also takes into account aircraft that use bio fuels.

The government said the project was still under discussion and being fine-tuned.

Sweden is where the flight-shame, or flygskam, movement began in 2018 that heaped pressure on people to stop flying in order to lower carbon emissions. According to Swedish Railways, a single flight between Stockholm and Gothenburg, its two biggest cities, generates as much carbon dioxide as 40,000 train journeys – a fact that has plainly struck a chord with Swedes, previously a nation of frequent flyers.

According to a 2017 study, air travel by every Swede is responsible for about about 1.1 tonnes of carbon dioxide, a 50% increase from 1990.

Sand, dust main causes of Beijing's 20 polluted days since February: experts

Date:-24-Mar-2021, Source: globaltimes.cn

Beijing has vowed to step up efforts to improve its air quality after the Chinese capital experienced more than 20 days of pollution since February, which, according to experts, was mainly due to sand and drifting dust transported by strong cyclones this year.



A girl in Beijing covers her face with a scarf during a sandstorm. A powerful sandstorm originally from Mongolia swept across much of northern China on Monday, creating the strongest and most extensive sandstorm in the country in a decade.

Meteorologists said that sand and dust from neighboring Mongolia mainly contributed to the problem.

Beijing has had many polluted days since the beginning of spring in 2021, including the recurrence of heavy sandstorms on a scale that hasn't been seen for many years, said Mayor Chen Jining at a conference on Tuesday.

According to weather monitoring statistics, since February, the city has experienced a total of 23 days of pollution, with five of them being heavily or severely polluted. During the same period last year, there were only 10 polluted days, with three days being heavy or severe.

Meteorological experts said that the pollution had mainly been caused by sand and drifting dust from Mongolia and North China's Inner Mongolia Autonomous Region, with cyclones relatively stronger than those in previous years so that they can carry sand from long distances.

The geographical location at the downstream of Mongolia and its monsoon climate gives Beijing an additional pollution problem during the spring, besides winter pollution caused by burning coal for heat and summer pollution caused by pollutants like ozone, Zhang Mingying, a Beijing-based meteorologist, told the Global Times on Wednesday.

Wang Gengchen, a research fellow at the Institute of Atmospheric Physics of the Chinese Academy of Sciences, noted that emissions contributed relatively less to the city's pollution since February, while the sand pollution was the main cause.

"This year's stronger cyclone is able to suck a great volume of sand in Mongolia and other dust sources to a high altitude and transport it all the way to Beijing, without falling down halfway, which usually happened in past years," Wang told the Global Times on Wednesday.

Wang added that the backflow of the south wind had also brought floating dust back to Beijing before the dust had fully dissipated in the city, thus leading to hazy days after the sandstorm.

Beijing experienced "moderate pollution" during the daytime on Wednesday with an air quality index of 154 and PM10 being its main pollutant, according to the Beijing Ecological Environment Monitoring Center.

The air quality of the city was affected by dust from the southern area of Mongolia carried eastward by a westerly wind on Tuesday, said the center.

Meteorologist Zhang said that the dusty weather in Beijing had been greatly improved since 2000 due to the green controls that the city has been enhancing for years.

"There are almost no local sand sources in the region of Beijing, which is a great achievement for the city's pollution control work," Wang said.

Mayor Chen vowed further efforts to fight the city's pollution problems and dusty weather, which haven't been seen in many years, during the Tuesday conference. Chen served as China's minister of environmental protection from 2015 to 2017.

The Beijing municipal government in November 2020 launched an air pollution control campaign for autumn and winter, setting a target of controlling the average PM2.5 concentration to 45 micrograms per cubic meter and having no more than one day of heavy pollution during the fourth quarter.

It also set a target for January to March 2021 that limits the number of days of heavy pollution to three to nine days, which was expected to be moderately fulfilled, seen from the current statistics.

California's diesel emissions rules reduce air pollution, protect vulnerable communities

Date:-25-Mar-2021, Source: news.berkeley.edu



The California Air Resources Board has enacted more stringent policies against diesel emissions than the rest of the U.S., significantly reducing air pollution and death in California's most vulnerable communities and beyond.

Extending California's stringent diesel emissions standards to the rest of the U.S. could dramatically improve the nation's air quality and health, particularly in lower income communities of color, finds a new analysis published today in the journal Science.

Since 1990, California has used its authority under the federal Clean Air Act to enact more aggressive rules on emissions from diesel vehicles and engines

compared to the rest of the U.S. These policies, crafted by the California Air Resources Board (CARB), have helped the state reduce diesel emissions by 78% between 1990 and 2014, while diesel emissions in the rest of the U.S. dropped by just 51% during the same time period, the new analysis found.

The study estimates that by 2014, improved air quality cut the annual number of diesel-related cardiopulmonary deaths in the state in half, compared to the number of deaths that would have occurred if California had followed the same trajectory as the rest of the U.S. Adopting similar rules nationwide could produce the same kinds of benefits, particularly for communities that have suffered the worst impacts of air pollution.

“Everybody benefits from cleaner air, but we see time and again that it’s predominantly lower income communities of color that are living and working in close proximity to sources of air pollution, like freight yards, highways and ports. When you target these sources, it’s the highly exposed communities that stand to benefit most,” said study lead author Megan Schwarzman, a physician and environmental health scientist at the University of California, Berkeley’s School of Public Health. “It’s about time, because these communities have suffered a disproportionate burden of harm.”

The study also points out that exposure to fine particulate matter (PM_{2.5}) has been linked to poor outcomes from COVID-19, adding urgency to the need to reduce air pollution, particularly for communities of color that are disproportionately affected by both.

Diesel exhaust consists of both particles and gases and contributes significantly to PM_{2.5} air pollution worldwide. PM_{2.5} exposure from any source can compromise children’s lung development and can trigger airway inflammation and exacerbate asthma and cardiopulmonary diseases. Diesel exhaust has also been designated a human carcinogen by California’s Office of Environmental Health Hazard Assessment (OEHHA).

“There are hundreds of studies around the world that link particulate matter exposure and premature death,” said study co-author Álvaro Alvarado, a former air pollution specialist at CARB who now works for OEHHA. “In cities with higher levels of air pollution, there are also higher hospitalization rates for respiratory and cardiovascular illnesses and more emergency room visits for asthma.”

To improve air quality, CARB’s policies have gone beyond federal standards to limit diesel emissions from a variety of mobile sources, including heavy-duty

trucks and buses, ships and port equipment, train locomotives, and the engines that power construction equipment and agricultural machinery.

In their study, Schwarzman and colleagues cataloged the wide range of CARB policies that target each emissions sector and tracked how changes in diesel emissions corresponded to the implementation of those rules. They then show the impact of CARB policies by comparing California's reductions in diesel emissions to those in the rest of the U.S. Their analysis reveals that CARB's policies reduced emissions to the extent that, by 2014, California was emitting less than half the diesel particulate matter, as would be expected had the state followed the same trajectory as the rest of the U.S.

One key policy approach that sets California apart is the requirement that older diesel engines be retrofitted to meet strict emissions standards, Schwarzman said. In the rest of the U.S., new diesel engines must meet updated emissions standards, but older, dirtier engines are allowed to operate without upgrades.

"The average lifetime of a diesel engine is about 20 years, or a million miles, so waiting for fleet turnover is just too slow," Schwarzman said. "California requires retrofits for existing trucks so that all diesel engines are held to a higher standard. This has made an enormous difference for air quality."

Requiring upgrades for the engines that power heavy-duty trucks and buses has reduced California's diesel emissions in that sector by 85% since 1990, the study found. By comparison, the study estimates that if California's heavy-duty vehicle sector had followed the trajectory of other U.S. states, the sector's emissions would have dropped by only 58% in that period.

Because the highways, ports and rail yards where diesel engines operate are more likely to be located near lower income communities of color than affluent, white communities, regulating diesel emissions can help correct persistent disparities in air quality and health, said senior study author John Balmes, a Berkeley Public Health professor and professor of medicine at the University of California, San Francisco.

"There are truly different levels of exposure to air pollution, and those differences in exposure have been linked to differential health outcomes," said Balmes, who also serves as the physician member of CARB.

The study reports that every dollar the state has spent controlling air pollution has generated \$38 in benefits attributable to lower rates of illness, premature

death and lost productivity attributable to air pollution. As a result, there is no reason why the U.S. as a whole shouldn't adopt diesel emissions standards similar to California's, the authors argue.

"In terms of public health, federal air quality policy should be moving toward that of California, because we've shown that it works, and we've also shown that greening transportation can be good for economic growth," Balmes said. "These environmental regulations not only save lives and improve public health, they actually drive innovation and grow the green economy, which is the future."

Flights halted in Nepal after thick smoke from wildfires reduce visibility

Date:-26-Mar-2021, Source: zeenews.india.com



Kathmandu: A thick layer of smoke reduced visibility in Nepal's Kathmandu and other cities on Friday (March 26) as 54 districts reported wildfires in the nation.

According to the Meteorological Forecasting Division (MFD), a total of 54 districts are now engulfed by a forest fire that is emitting smoke into the airspace of the Himalayan Nation that has resulted in a dip in the Air Quality Index (AQI).

As per the MFD, Chitwan, Parsa, Bara and Makwanpur are severely affected. Throughout Friday afternoon, the AQI of Kathmandu remained hazardous with Pm 2.5 index standing at 303.89 mg/m3.

The flights, both domestic and international, were either kept on hold, diverted, and in some cases, were cancelled as the International Airport in Kathmandu was forced to be closed for about four hours due to a drop in visibility.

People of the federal capital of the Himalayan Nation were experiencing teary eyes, shortness of breath and even a drop in visibility while driving.

"I am experiencing shortness of breath while walking too and my eyes are burning with tears rolling down timely due to the smoke," Subash Shrestha, one of the residents of Kathmandu told news agency ANI.

As per the hourly Air Quality Data collected from 17 pollution monitoring stations set up in various locations of Kathmandu Valley, the AQI started to deteriorate from midnight.

With this drop in the AQI, the Ministry of Health and Population (MoHP) of the Himalayan Nation later in the evening issued a release requesting people not to come out of home unless necessary as the pollution levels have increased in major cities of the nation.

The Ministry has asked people to avoid outdoor exercises or training till a reduction in pollution levels which already has started threatening the health condition of people. It has also asked people to stop going out for a morning walk for the next few days.

"The construction activities and business that tend to add to air pollution, such activities could be started after a few days by adopting measures to minimize pollution," the MoHP notice says, according to ANI.

Further, it has discouraged burning waste and driving vehicles in order to minimize air pollution. In case people have to get out of their houses, it has encouraged wearing a face mask and following the COVID-19 safety protocols.

Air pollution spikes during dry weather in spring

Date:-27-Mar-2021, Source: news.err.ee

A spike in air pollution is experienced in Estonian cities come spring, with dust and studded tires playing a part. Tallinn Deputy Mayor Andrei Novikov said

that while dry cleaning of streets is already underway, wet cleaning will commence in April.



Street cleaning vehicle in Tallinn

Air quality was measured as average in Tallinn, Tartu and Narva on Saturday. It is brought down by high ozone concentration. Fine dust particles from dirty streets and use of studded tires add to the problem.

"The [air pollution] levels were quite high in Tallinn and Tartu yesterday, while that was tied to zero wind, inversion and heating. That said, we see these effects every spring. Dust levels tend to peak in late March and April," said Erik Teinemaa, head of the air quality and climate department of the Environmental Studies Center.

Work to clear the streets of granite gravel has just begun in Tallinn.

"We are mostly working on clearing sidewalks of gravel today and will be moving on to roads soon. Initially, the roads will be cleared of larger debris that has piled up in winter. Wet cleaning will become possible when the daily average temperature raises to five degrees. It usually starts in the beginning or middle of March, depending on the weather," Novikov said.

People are not allowed to use leaf blowers to clear the streets in spring. Novikov says that people should notify the municipal police if they see someone using a leaf blower. "Leaf blowers, especially when used for spring cleaning, are one of the greatest sources of dust."

Professor of virology Andres Merits said that fears according to which airborne dust might carry the coronavirus are baseless. "The chance of catching the virus from dust is negligible. The main way to catch the virus is to find oneself in a crowded place with an infected person," he said.

Bangladesh: Air pollution engulfs lives, environment

Date:-28-Mar-2021, Source: aa.com.tr

DHAKA, Bangladesh



Air pollution has been taking its toll on Bangladesh for successive years, causing lives and economic losses as well as environmental hazards linked to pollution, making experts fearful for the days ahead.

According to available studies and research, air pollution-related deaths and diseases have been on the rise in recent years, exacerbating people's plight, particularly children, women, and the elderly.

Experts attribute this situation to transboundary air pollution, unplanned development and construction works, an absence of a central management system, a lack of coordination among government agencies, and lax monitoring.

Recently the South Asian country ranked the most polluted country globally while its capital Dhaka became the 2nd worst polluted city, said World Air Quality Index (AQI) Report published earlier this week.

Domestic and transboundary pollution

The two major causes of pollution are domestic and transboundary air pollution, Dr. Shahriar Hossain, an environment expert, told Anadolu Agency.

Referring to a recent field study, he said, "Transboundary movement of air contributes much of the airborne pollutants that travel a long distance and cause unwanted air quality degradation."

"This is a major concern for a smaller country like Bangladesh, which is surrounded by highly polluted countries like India and Nepal. Pollutants in South Asia throughout the dry, monsoon and winter season are probably transported towards Dhaka city through different routes," he described.

Depending upon the heights, air pollutants can travel from 200 km to 500 km in a specified area, said Dr. Shahriar, who is also secretary-general of the Environment and Social Development Organization (ESDO).

"Coal mine particles, those are coming through transboundary including from India, are 100 times more pollutant and danger to health and environment. It contributes as much as 40% of the total air pollution we find in Bangladesh in our studies," he continued.

According to the AQI report, South Asia remained the most air polluted region in the world, with Bangladesh, India, and Pakistan sharing 42 of the 50 most polluted cities worldwide.

He suggested the Bangladesh government raise the transboundary pollution issue on global platforms, saying that "source countries must take responsibility for what they contribute to air pollution not only at their home but also in their neighbors."

Air pollution has risen by 10% since last year, with five times more pollutant particles in Dhaka's air than tolerant levels, said a study of the Atmospheric

Pollution Study Center of Stamford University and Bangladesh Environment Movement on March 20 this year. They examined 70 areas in Dhaka city.

Unplanned construction is among the primary cause and the lack of monitoring from the authorities makes the pollution uncontrolled. According to ESDO's study, construction activities are behind 38% of total outdoor pollution.

Gas emissions from vehicles are another significant source, accounting for nearly half of Dhaka city air pollution, according to Prof Abdus Salam of Dhaka University's Chemistry Department, who has long worked on environmental pollution issues. To control the problem, he suggests using well-refined fuels in vehicles.

Lives and economic loses

The adverse impacts of air pollution have been causing deaths, certainly children and aged people, and diseases linked to it have seen a sharp and steady rise in the country.

An estimated 13-22% of deaths in this region are linked to the health effects of air pollution exposure, the AQI report said.

"Deaths rates among children have seen a significant rise due to air pollution. Besides, airborne disease, including asthma, breathing problems, have seen a steady rise in Bangladesh, especially among low-income group people," Dr. Shahriar said.

Children and women are the worst victims of indoor air pollution, which also rose during the pandemic as children kept locked at home because of schools' closure in the COVID-19 pandemic, he said.

Meanwhile, ESDO researchers, for the first time, found the existence of toxic radon gas in December last year. Radon is a naturally-occurring radioactive gas that can cause lung cancer. And an estimated 21,000 people die each year from radon-related lung cancer globally.

Prof Abdus Salam said the pollution also causes economic vulnerabilities and reduces people's life expectancy.

According to the AQI report, air pollution is also associated with estimated costs equating to 7.4% of the region's GDP.

Even in winter, indoor air quality in two major public hospitals, including Dhaka Medical College Hospital and Bangabandhu Sheikh Mujib Medical University, was ten times polluted than the permissible limit recommended by the WHO and Bangladesh national ambient air quality standards, according to Prof Salam.

Another study conducted last month showed how unhygienic conditions are there in the country's major hospitals, he said, adding that poor implementation of related law in the country to curb pollution from the authorities behind such conditions.

According to the ESDO, by 2019, at least 200,000 people in Bangladesh could die as a result of respiratory diseases and long-term exposure to high concentrations of contaminated air.

In the last five years, from 2015 to 2019, the number of asthma patients rose to 78,806 in 2019 from 3,326 in 2015. Deaths from the disease went up 10-fold to 588 from 56 in the same period, according to government data.

Referring to one of his studies published in a science journal, he said black carbon aerosols have specific impacts on climate, air quality, and human health. It affects around 1.5 billion people in South Asia.

The experts recommended topping illegal brickfields, cordoning off construction sites, controlling unfit vehicles, and implementing the Clean Air Act and forestation.

Government accounts

Habibun Nahar, deputy minister of the Ministry of Environment, Forest and Climate Change, claimed that the "government had taken several mega projects across the country in recent years for Bangladesh's infrastructural development. And the pollution link to air would be declined sharply once those projects are completed."

"And, the pollution is mainly in some industrial areas including Dhaka city and rest of the country is environmentally sound," she claimed.

"The government is so aware in implementing and coordinating existing laws to curb environmental pollution. The government officials regularly monitor and pay field visits to ensure that industries install Effluent Treatment Plant (ETP) method to purify industrial waste," she continued.

The government is working cordially to reduce carbon emission and taking measures to come out from the environmental pollution, she mentioned, saying that, "after properly controlling home pollution we will look into the transboundary pollution and coordination will be there among neighboring countries."

The government, however, showed success in controlling brick kilns around Dhaka and elsewhere of key pollutant components said those experts and the official.

Over the forestation, the ministry said forest areas in the country have risen. A significant portion of the illegally occupied 138,613 acres (56,095 hectares) of reserved forest land has already been reclaimed.

With second sandstorm in 2 weeks, China reminded of pollution challenge

Date:-29-Mar-2021, Source: hindustantimes.com



A woman past near skyscrapers in the Central Business District during a sandstorm in Beijing

A sandstorm hit China's capital Beijing on Sunday morning pushing the air pollution levels in the city off the charts. The sandstorm resulted in the sky turning yellow and the sun reducing to a mere blue dot. The air quality index of

the city hit the maximum reading of 500 on Sunday afternoon and the visibility in Beijing stood at less than 1,000 metres, reminding China of the pollution challenge that its capital city faces. The PM10, which shows the floating particles that can enter the lungs, surpassed 2,000 micrograms per cubic metre in some districts. Readings of smaller PM2.5 particles which can enter the bloodstream were above 300 micrograms per cubic metre.

Parts of inner Mongolia, Shaanxi, Shanxi, Hebei, Tianjin, Liaoning and Jilin have also been affected by the storm which according to the meteorological department is expected to last for about 12 hours.

The department also said that the sandstorm was caused by strong winds which were carrying dust from drought-hit Mongolia and other parts of northwest China because of warmer temperature in the spring and lack of rain which created the sandstorm.

Concerns have grown as the storm was the second to hit Beijing in less than two weeks. Earlier in the month, Beijing faced the worst sandstorm in a decade when people woke up to orange skies as 12 provinces were blanketed in yellow sand and dust. The meteorological department has further said that Beijing might face more sandstorms in April, a prediction that has caused more worry for the city.

Pollution levels in Beijing

According to a 2020 report by Swiss monitoring group IQAir, residents in Beijing residents were subjected to “moderate” levels of pollution for only two months in 2019 which were August and September. The report added that for the remaining part of the year, residents experienced air quality which was “unhealthy for sensitive groups.” In 2019, the city had 42.1 $\mu\text{g}/\text{m}^3$ of a PM2.5 average. In 2018 and 2017, 50.9 $\mu\text{g}/\text{m}^3$ and 58.8 $\mu\text{g}/\text{m}^3$ were the respective concentrations, the report said.

Shanghai endures worst pollution following northern sandstorms

Date:-30-Mar-2021, Source: straitstimes.com

SHANGHAI (BLOOMBERG) - Shanghai was hit by the worst pollution on record on Tuesday (March 30), as the air in the country's commercial centre filled with dust from northern China, which had endured sandstorms earlier in the month.



Shanghai's air was classified as "severely polluted", the worst level of a six-grade scale

The city's air was classified as "severely polluted", the worst level of a six-grade scale, with an air quality index surging to the upper limit of 500 as of midday, according to the Shanghai Environmental Monitoring Centre.

The primary pollutant is PM10 - particles that can be inhaled and which are commonly associated with sand and dust - the centre said.

It warned children and the elderly to stay indoors.

Beijing, about 1,000km to the north of Shanghai, suffered two sandstorms in March, which also sent air pollution readings off the charts.

Meteorological authorities blamed Mongolia as the source of the pollutants.

Expected rain may help ease the pollution in Shanghai from Tuesday evening, according to a post on the municipal government's Wechat platform.

Air pollution takes an enormous toll on health in the San Francisco Bay Area, study shows

Date:-31-Mar-2021, Source: news-medical.net

New research published today in the journal *Environmental Health Perspectives* from Environmental Defense Fund and the George Washington University shows air pollution takes an enormous toll on health in the San Francisco Bay Area, and the impacts vary dramatically within neighborhoods. The magnitude of the health burden from pollution demonstrates the need for urgent action to cut air pollution and protect health, particularly in areas facing the highest impacts.

The analysis estimated that exposure to particle pollution (soot) resulted in more than 3,000 deaths and 5,500 new childhood asthma cases every year in the Bay Area. Exposure to the traffic-related pollutant nitrogen dioxide also had alarming health impacts, resulting in more than 2,500 deaths and 5,200 new childhood asthma cases every year. While the impacts of these pollutants are not additive, the findings illustrate the massive harm caused by air pollution to adults and children in cities.

These health impacts vary dramatically from street-to-street, and some communities experience a much larger burden. In certain areas, death rates resulting from pollution are more than 30 times higher than in others. And for asthma, while traffic-related air pollution accounts for an average of 1 in 5 new childhood asthma cases across the Bay Area, pollution is responsible for up to 1 in 2 cases in some areas.

Further, using this analysis, Environmental Defense Fund found stark racial disparities in the impacts of air pollution. Specifically, neighborhoods with higher percentages of people of color face, on average, double the rate of pollution-related childhood asthma compared to predominantly white neighborhoods.

This health impact assessment makes visible the cumulative impacts of pollution and health disparities at a hyperlocal scale by using air pollution data from street-level mobile monitoring and satellites, combined with local population and health information. These methods can be used in other cities worldwide to evaluate the impacts of air pollution and identify areas to target mitigation efforts where they will have the largest health benefit.

By using local air and health data, this analysis revealed large disparities in the health impacts of air pollution and identified hotspots of impacts that would not have otherwise been recognized. Specifically, using less-detailed health data underestimated the deaths attributed to pollution by up to 50% in Oakland compared to data that captured health disparities within the city. This could have important implications for decision-makers seeking to allocate resources equitably or target areas for air pollution mitigation, particularly because typical health impact assessments do not use local health and air data.

"We find local level datasets, such as the Google Street View measurements and local level rates of disease, help us determine which neighborhoods are at greatest risk," Veronica Southerland, a PhD candidate at the George Washington University Milken Institute School of Public Health and lead author on the study, said. "Without using these datasets, we might miss important disparities in the health burden of air pollution."

This research, supported in part by a NASA grant, builds on Environmental Defense Fund's previous work with Google Earth Outreach and other partners in Oakland, which deployed Google Street View cars to create a large, spatially precise dataset of mobile air pollution measurements within Oakland. This latest research shows how pollution can contribute to health disparities, as it disproportionately impacts neighborhoods burdened by existing health conditions.

"Across the world, people living in cities - from the young to the elderly - are impacted by air pollution. But we know that this harm is not equally distributed," Ananya Roy, Senior Health Scientist at Environmental Defense Fund and a co-author on the study, said. "This study develops methods and shines a light on the major disparities in air pollution's impacts on communities at an unprecedented block by block scale, providing actionable information for decision-makers and advocates."

April 2021

Nepal schools shut: Forest fires, westerly winds from India may have contributed to air pollution

Date:-1-April-2021, Source: downtoearth.org.in



All schools and colleges in Nepal were shut on March 30 due to an alarming spike in air pollution levels

The air quality of Kathmandu, Nepal, hit hazardous levels on the morning of March 27, 2021. The AQI was 421, according to the Real-Time Air Quality Index monitoring device installed in the recreation centre of The United States Embassy.

Two days later, the ministry of education — whose office is hardly 100 meters away from the recreation centre — shut down all education institutes across the country for five days from March 30.

This was followed by the environment department releasing a health advisory, advising the elderly and children to stay at home until the situation improved.

Tarkeshwar, a municipality of Kathmandu, banned the use of heavy construction equipment to prevent pollution.

Reasons behind the alarming rise in air pollution could be a few, according to Ngamindra Dahal, a climate scientist. First, the prevailing drought in the absence of winds had led to the accumulation of smog. Forest fires raging across the country massively polluted the air: Government agencies reported as many as 2,713 forest fires on March 30.

According to Dahal, an unusually dry winter aided spread of fire in the forests. In 2020, only 188 places had reported forest fires.

Local air pollution, too, has exacerbated the condition, along with the westerly winds that brought dust and pollution from South and South-West India (Rajasthan and Delhi-NCR).

There was also a partial influence of the westerly winds along with local winds in the country, according to meteorologists. Heavy rainfall will not occur if these systems are inactive.

Dahal said: "I would like to call this situation the new normal. The pattern repeats every two-three years. Winters should end in February and pre-monsoon should start by March. But that is not happening."

"We need a long-term strategy to combat the situation, if we do not have that strategy we need to wait and accept the air pollution as a new normal situation till a good rainfall," Dahal told Down to Earth.

Air pollution as of April 1 reduced due to the rainfall that occurred in the hilly areas of the country, including Kathmandu Valley, on the evening of March 31. Kathmandu Valley recorded 7.8 millimetres rainfall that evening.

Air quality researchers say Utah must act to combat bad air's effects on health, economy

Date:-2-April-2021, Source: kutv.com

SALT LAKE CITY (KUTV) — Spring in Utah brings blue skies, sunshine, and fresh air. But there is an ugly cloud hanging over the state of Utah.

A long-running study at Brigham Young University shows the state needs to clean up its air — and soon.

"Between 2,000 and 8,000 people die prematurely every year in Utah because of the cumulative effects of air pollution," said Ben Abbott, an air quality researcher at BYU.

Air pollution is a killer, and researchers working with Abbott are uncovering the ways it impacts nearly every aspect of Utahns' lives, from health to the economy.

"The numbers are very sobering," Abbott said. "We're facing literally billions of dollars each year from exposure to air pollution."

That's across the nation, but here in Utah, researchers say bad air makes people sick, drives tourists away from ski slopes, and cuts down on productivity.

"There's also interesting research on performance at work," Abbott said. "So if you exposed professional athletes to air pollution, their performance goes way down. The same is true for people working at a desk or anywhere else."

Air pollution has a long history in Utah. Even the state's pioneer founder Brigham Young talked about the importance of clean air. Utah adopted its first clean air policies in 1896.

In the days when Salt Lake City burned a lot of coal, they measured soot in the air by tons. Technology has changed things for the better, but it's been 20 years or more since we've made significant advances. Now, researchers say, is the time to move ahead.

"Because we have this challenge of air quality, there's a lot of focus on it, a lot of problem-solvers focusing on solutions that a lot of the world will want to have," said Dr. Logan Mitchell, another air quality researcher.

These scientists say we can make a big difference in our air quality by going full speed ahead with electric cars, moving away from gas-burning appliances, and developing new, clean technologies.

Remember those smog-free skies after the lockdown? They shouldn't be forgotten

Date:-4-April-2021, Source: nj.com

When COVID-19 induced lockdowns first started, we were inundated with reports that air quality in New Jersey was the cleanest it had been in over a decade. The main reason air quality improved? Nobody was traveling anywhere!



A Rutgers professor and a local environmentalist say New Jersey ranks near the bottom among states for multiple clean air metrics and, according to a Harvard University study, 17,646 premature deaths occur each year in New Jersey due to long-term exposure to particulate matter from fossil fuel combustion.

Cars and trucks are the leading sources of air pollution in New Jersey, with a pre-pandemic average of 6 million cars and hundreds of thousands of buses and trucks traveling our roads every day. Although air quality did improve last April, cars and trucks have been back on the roads for months now and air pollution is creeping back toward its pre-COVID levels.

New Jersey ranks near the bottom among states for multiple clean air metrics, according to the American Lung Association's State of the Air 2020 report. Nine out of 15 counties analyzed in New Jersey received an F for the number of high ozone level days, and the Philadelphia-Camden metropolitan area ranked 12th worst in the country for year-round particle pollution.

Our state's air pollution doesn't just come from millions of cars but from the high volume of trucks transporting goods to and from the ports and driving through the state each day. These trucks run on diesel and are about 10 times dirtier than gasoline-powered cars due to the high levels of nitrogen oxides (NOx) and sulfur dioxides (SO₂) they emit. These diesel emissions are especially

harmful to human health, causing and exacerbating heart and lung disease, including asthma and lung cancer.

Diesel vehicles emit particulate matter, microscopic particles that penetrate deep into the lungs leading to serious health impacts. A Harvard University study from earlier this year linked long-term exposure to particulate matter from fossil fuel combustion — which can come from transportation — to 17,646 premature deaths in New Jersey per year. Research done at the Rutgers School of Public Health has shown that even a single morning commute on New Jersey's heavily trafficked roadways can have adverse effects on the respiratory system.

It's important to note that poor air quality does not threaten all New Jerseyans equally. Children and the elderly are at higher risk than people between the ages of 18 to 65. Communities of color and lower-income communities are also at higher risk, as they tend to live along major travel corridors, like the Turnpike, or in cities with higher levels of traffic congestion, like Newark and Elizabeth. Another study by Rutgers scientists showed that children with asthma living in these communities had higher levels of lung inflammation on days when they were subjected to more diesel exhaust air pollution.

But we don't have to resign ourselves to living in a state with dangerously high air pollution. There are numerous steps we can take to make a serious dent in New Jersey's air pollution levels. The most critical is electrifying our transportation sector, so diesel trucks on the Turnpike would go from having toxic black plumes flowing from their exhaust pipes to no tailpipe emissions at all. Diesel trucks make up only 6% of all vehicles on New Jersey roads, but they contribute 18% of all transportation emissions in the state.

Last July, Gov. Phil Murphy signed onto a regional memorandum of understanding that created a goal of 30% of all trucks and buses sold in the region to be electric by 2030, and 100% by 2050. This goal is not mandated, however, so we need other policies in place to ensure we electrify diesel vehicles.

The Advanced Clean Truck (ACT) regulation is a great place to start. California adopted it in June of 2020, and the New Jersey Department of Environmental Protection (NJDEP) is considering proposing this regulation shortly. The Advanced Clean Truck rule requires zero-emission truck sales that apply to vehicles from delivery vans to tractor-trailers. It sets annual requirements for a certain percentage of sales of the vehicles to be electric, slowly ratcheting up each model year as the technology improves and prices decline. If NJDEP

adopts the ACT rule, it would start in model year 2025, with the sales requirements increasing each year through model year 2035, when 75% of most new trucks would be electric.

To accelerate the transition to electric buses and trucks in New Jersey, Governor Murphy and the NJDEP should propose and adopt the Advanced Clean Truck regulation, build out a statewide network of electric vehicle charging stations, and find other funding sources to accelerate our state's transition to a cleaner, healthier future of zero-emission electric cars, buses, and trucks.

China is tackling air pollution with big data. Here's how

Date:-5-April-2021, Source: theprint.in



Smog conditions in Zhengzhou, China

The 2008 Beijing Olympics marked the start of significant action by the Chinese government to improve air quality. Concerns were raised over the impact of air pollution on athlete performance, and a wave of restrictions on polluting activities were implemented while the city sat in the global spotlight. Before the Games, 300,000 high polluting vehicles were phased out, major construction activities were halted, and hundreds of factories and power plants were shut down.

This brought about an extraordinary change. Air quality during the Games improved by about 30% compared to the previous year. Even this short-term improvement led to significant health benefits, with cities in and around Beijing placed under these restrictions seeing a drop in the number of deaths due to cardio and respiratory diseases.

Although these measures were short lived – air quality soon deteriorated once restrictions were relaxed following the Games – it showed what was possible with concerted action.

Five years later, the Chinese government declared its “war on pollution” with the launch of a national action plan. This introduced a raft of new measures including better regulation of polluting activities, factories relocating from populated areas, and government providing subsidies to farmers to discourage agricultural burning.

These measures have made a lasting impact. Air quality improved by 35% in the highly polluted northern Chinese cities between 2013 and 2017. This represented significant progress, but China still has a considerable problem with its air quality today. The annual average concentration of fine particulate matter (PM_{2.5}) across China was 57 micrograms per metre cubed in 2017, nearly six times what the World Health Organisation deems to be acceptable limits. Poor outdoor air quality results in over 1 million deaths across China each year.

Further improvements will be increasingly challenging as the easiest actions have already been picked off. Targeting future regulations effectively requires robust data about the sources of air pollution, backed up by strong enforcement to ensure any new regulations are adhered to.

To this end, the Chinese government has improved its coverage of air quality monitors considerably. The number of federal monitoring stations across China nearly tripled between 2012 and 2020, from 661 to 1,800. This is in addition to thousands of monitoring stations managed and funded via local government. The problem now is not availability of data, but knowing how best to use it.

To help unlock the full potential of this data, a pilot project has been launched in Cangzhou City, a city of more than 7 million people in the polluted Beijing-Tianjin-Hebei region. Led by the Environmental Defense Fund (EDF) in partnership with the Beijing Huanding Environmental Big Data Institute and municipal government, the pilot combines multiple sources of air quality data to help the city’s regulators to enforce air quality regulations.

Prior to the project launching last year, city enforcement officers would undertake random spot checks of the city's construction, industry and commercial sites to ensure adherence to air quality regulations, much like food safety officers might visit a restaurant to check its cleanliness. This was inefficient, with only 6-7% of site visits leading to an infringement being detected.

Today, the team has built a new data platform that ingests real-time data to map air quality across this city. It "fills in the gaps" between fixed government monitoring stations using mobile instruments fitted to 50 taxis, which cover an average of 5,000km between them every day. Each instrument takes a measurement every 3 seconds, resulting in a vast volume of data and hyperlocal real-time view of air quality across the city.

Crunching all this data together, the platform then automatically detects pollution hotspots and pushes this information to enforcement officers through a simple app.

The results have been striking. Within three months of the new platform being launched, emission sources were detected by enforcement officers on 70% of visits to hotspots – 10 times more than the previous randomised approach. Over 400 hotspots are now being reported each month to inspectors, and this is likely to improve further as the system continues to be tested.

This clearly demonstrates the viability and cost-effectiveness of hyperlocal air quality monitoring and its potential to support targeted air quality enforcement. The system is designed to be replicable, and can help other cities in China and around the world to tackle the lack of capabilities to enforce air quality regulations.

It also shows the value of investing in air quality monitoring technology, which remarkably half of the world's national governments fail to do at all. With more than 90% of the world's population breathing unsafe air, and 4.2 million premature deaths each year as a result, governments must urgently wake up to the air pollution problem and invest in the technology that can help them to tackle the problem.

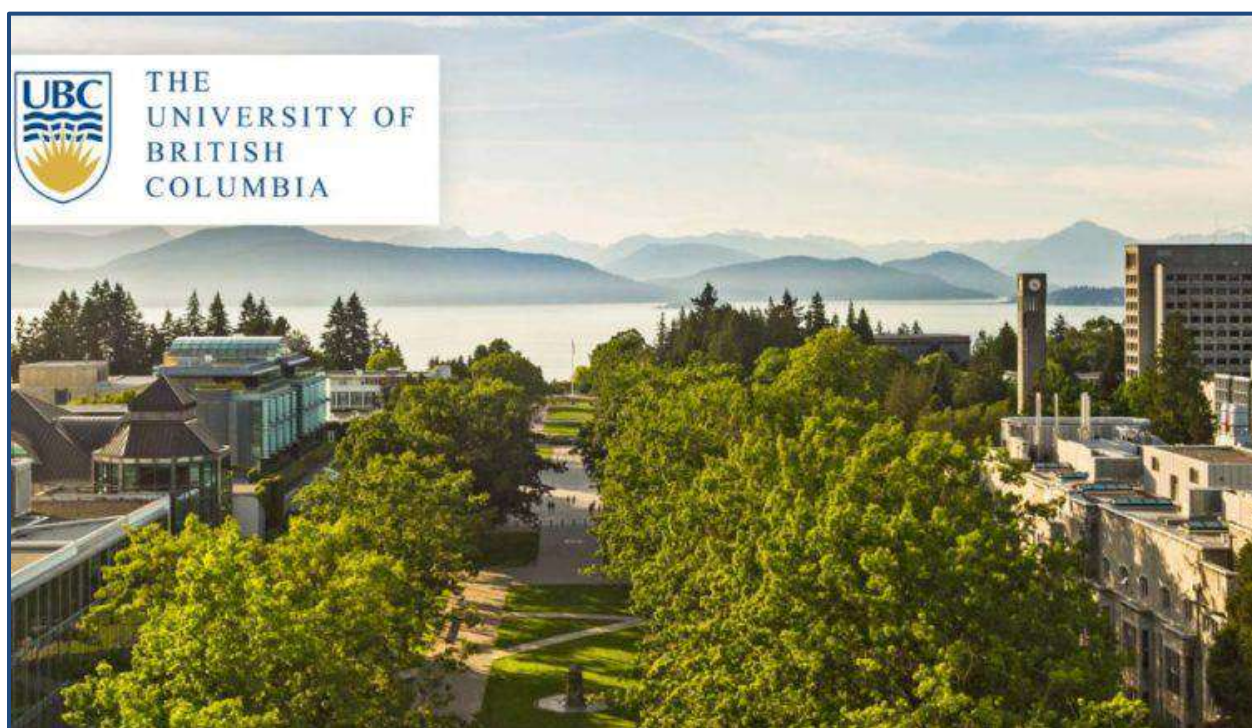
Whilst the measures introduced by Beijing for the Olympics were temporary, they paved the ways for the Chinese government's subsequent actions and have shown how air quality can improve once polluting activities are curtailed. Advances in data analytics can inform governments on where to focus action, and help regulators to enforce policy. The rewards of cleaning up our air are

worth it: resulting in near immediate improvements in local health, and directly reducing the polluting activities that contribute to the climate crisis.

Hu Qin is Senior Director of Research at the Beijing Representative Office, Environmental Defense Fund, and Matt Whitney is Portfolio Manager at Clean Air Fund.

University Of British Columbia: COVID-19 Lockdowns Only Reduced Air Pollution In Some Parts Of The World

Date:-6-April-2021, Source: indiaeducationdiary.in



When COVID-19 lockdown measures were first introduced last year, schools and shops closed, tourist spots were deserted due to international travel restrictions, and economies slowed down as most people adjusted to life in the confines of their home.

Globally, these measures reduced air pollution by 45 per cent domestically and 35 per cent internationally on average during the first wave of lockdowns. These are the findings of a recent study assessing the global environmental impacts of the initial COVID-19 lockdowns.

But the decrease in air pollution was not the case across the board. Some world regions including parts of South America, Asia and the American Midwest saw an uptick in air pollution based on their economic activity.

“It’s a piece that shows us how complicated the economic activity and the environment relationship is,” says UBC faculty of land and food systems assistant professor Dr. Frederik Noack. “It’s really dependent on the development level and composition of the economy.”

The study shows that a lockdown can, for example, reduce air pollution from traffic and industry but at the same time increase pollution from residential sources such as heating.

Dr. Noack, also a Canada Research Chair in Environmental Economics, says these findings suggest that policies to curb air pollution should take all economic sectors and the response of people to these policies into account including a shift to more polluting activities. He adds that that targeted policies could reduce air pollution while minimizing economic losses.

The study also shows how industry-heavy countries like Canada, which saw a 30 per cent decrease in air pollution between March to August 2020, could learn some environmental lessons from last year’s slowdown in mobility and industry.

Some countries with increases of up to 25%

This study linked detailed data on lockdown timelines with satellite pollution (PM2.5) data from 162 countries, factoring in times where lockdown restrictions eased. The analysis spanned November 2019 to August 2020 capturing medium-run environmental impacts, since most lockdowns were imposed in March or April.

Most changes in air pollution started to be seen after a lag of about one to two months after lockdown measures were set in place. The biggest reductions in air pollution were seen 90 to 120 days into lockdown.

Although the study focused on global urban centres, they found significant differences in air pollution trends from country to country.

Some countries even saw an increase in air pollution of up to 25 percent.

Most of North and South America, Europe, southern Africa, eastern Asia and the Pacific saw improved air quality (purple) during lockdown, but some parts of South America and Asia (orange) saw air quality worsen.

“It’s really about the source of the pollution here,” says Dr. Noack.

“Lockdowns don’t automatically mean air quality improves, because in less industrialized countries you might see more biomass burnings, increased agricultural activities and residential energy use.”

“Building back better” after the pandemic

The results of the study also shed light on how to build more sustainable economies where pollution can be curbed in less economically costly ways other than a full economic shut-down.

Air quality improved in most countries which saw a significant loss in GDP due to lockdowns. But this isn’t true for every country, as some saw an increase or no change in air pollution as a result of lockdown measures.

“There needs to be more nuance when it comes to addressing environmental issues,” says Dr. Noack.

“If we were to save the environment by only focusing on one sector [like limiting manufacturing, industry and transportation], it might give advantage to pollution in a different sector like agriculture.”

He suggests that more industrialized countries like Canada could learn from the pandemic by increasing flexibility for working from home after the pandemic, to reduce the impacts industry and transportation has on their air pollution.

The study also encourages the use of a mix of targeted policies that include all economic activities, and underlines the importance of market-based environmental instruments like pollution taxes or cap and trade systems.

This study was a collaboration between researchers from UBC’s faculty of land and food systems, University of Lausanne, University of Zurich, University of Manchester, University of Bologna, the Enterprise for Society (E4S) Center, and London School of Economics and Political Science.

Deadly pollutant PM2.5 is lacking regulations worldwide

Date:-7-April-2021, Source: mcgilltribune.com



Particulate matter (PM) 2.5 is a group of airborne particles smaller than 2.5 micrometres found in ash, dust, vehicle exhaust, smoke, and sometimes the air we breathe. A micrometre is roughly one-millionth of a metre—about 30 times smaller than the average diameter of a human hair—and is only visible with a state-of-the-art electron microscope. With such a small size, these particles are deadly to humans: In 2015, they were responsible for an estimated 4.2 million premature deaths worldwide, 60 per cent of which occurred in Asia. The regulation of PM2.5 is a pressing concern to scientists as this form of pollution is on the rise globally.

The minuscule size of a PM2.5 particle allows it to penetrate deep into human airways, where it can cause a plethora of health issues including cancer and pulmonary disease, which is usually induced by tobacco smoke or asbestos. Long-term exposure to PM2.5 was involved in more than four million deaths in 2019 alone—even higher than that of COVID-19, which, as of April 3, 2021, has a death toll of 2.85 million worldwide. If no action is taken to reduce the presence of PM2.5 in the air, this form of pollution will continue to be a major threat to those who are more vulnerable to respiratory illness.

In a recent study, a team of McGill researchers compared PM2.5 regulations globally, and found that 3.17 billion people live in countries without

restrictions limiting the concentration of PM2.5 in the air. The study also reported that in countries with restrictions in place, the limits are often higher than what is considered safe by the World Health Organization (WHO). The researchers offered policy suggestions on how to prevent these microscopic particles from moving into human airways.

In many countries, air pollution constitutes a leading cause of death. In the United Kingdom, for example, a coroner made history by ruling that air pollution was the reason for Ella Kissi-Debrah's death. Kissi-Debrah was a nine-year-old girl from South-East London who lived less than 30 metres away from one of the city's busiest roads where thousands of cars expelled exhaust daily.

McGill researchers found that the concentration of PM2.5 stayed below the limit in countries where regulations are stricter, such as Canada and Australia. However, pollution limit violations were most frequent in countries with more relaxed regulations, such as China and India. Yevgen Nazarenko, the study's co-author and a postdoctoral fellow in the Department of Atmospheric and Oceanic Sciences, believes that tighter regulations and standardized methods of measurement are needed to mitigate the dangers of PM2.5.

"We need tools that give us a benchmark allowing us to gradually reduce air pollution, disease incidence, and premature mortality," Nazarenko said in an interview with The McGill Tribune.

The study recommends implementing universal standards of PM2.5 measurement worldwide, as well as unified global limits and clearer enforcement mechanisms. There are existing techniques such as short-term averaging, which allow for closer monitoring of spikes in pollution by recording PM2.5 concentrations for 20 minutes to one hour.

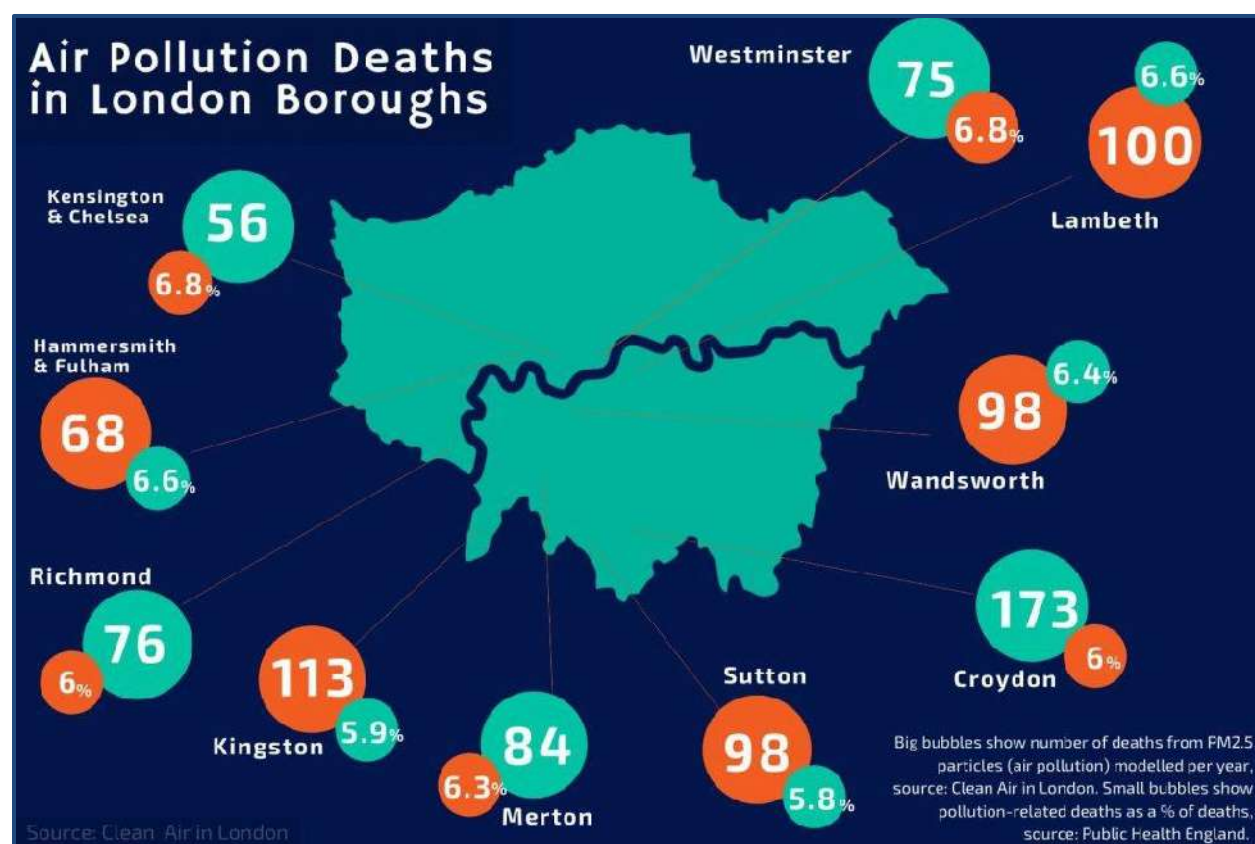
Nazarenko compared the challenges of global PM2.5 regulation to the COVID-19 vaccine distribution, explaining that keeping people safe requires international cooperation to ensure the same standards of protection for everyone—whether it be through vaccines or pollution regulation.

"If we do not work on vaccine distribution globally, COVID-19 will keep spreading and new variants will arise that vaccinated people aren't protected against," Nazarenko said. "The same goes for controlling air pollution you need to intervene globally if you want to save people in your own country."

After all, if there is one resource that transcends global borders, it is the air we breathe.

Croydon sees most air pollution deaths in London

Date:-8-April-2021, Source: swlondoner.co.uk



Modelled deaths related to pollution in South-West London boroughs from data

Croydon has more air pollution deaths than any other London boroughs, data from Clean Air in London shows. The data shows the number of deaths modelled so far this year due to pollution of PM2.5 particles in the air. Of the London boroughs, deaths are highest in Croydon and lowest in Kensington & Chelsea. Despite the low number of deaths, pollution causes the highest percentage of deaths in Kensington & Chelsea.

Residents, community groups and councils have taken action to raise awareness of the high pollution rates in the boroughs. Merton Council has introduced the highest proportion of school streets of any borough – on these

roads only cyclists and pedestrians are allowed between school pick-up and drop-off times, significantly reducing the risks for children.

One such street was installed after the successful campaign of Daniela Tilbrook, a Merton personal trainer who refused to take her children into school on-time until a school street was introduced. Tilbrook said: “I went to pick up my daughter one day and you could smell the diesel in the air.

“It just made me really upset and in the spur of the moment I told her teachers that I’d be taking my children in late until they do something about the road.”

Tilbrook has since given up driving, taken part in Merton Council’s Citizen Science programme monitoring pollution levels in Colliers Wood, and will be taking part in the Rebellion of One in May to help raise awareness of the dangers of pollution.

“Giving up driving is liberating. For almost a year now I haven’t been stuck in traffic!” Tilbrook added.

Mums for Lungs, a grassroots group of parents campaigning for cleaner air, have staged many awareness events across London including their billboard lungs in Putney last month and current campaigns to encourage more ambitious policy from the 2021 London Mayoral election candidates.

Jemima Hartshorn, founder of Mums for Lungs, said: “Air pollution is very clearly caused by people choosing to drive and by wood burning.

“People need to understand that what they are doing has an impact on the health of other people, the environment and their own children, because inside a car is often more polluted than outside.”

Hartshorn wants to see councils increase messaging around the health risks associated with pollution, particularly in the midst of the current pandemic.

Swiss air quality improves in 2020 but depends on location

Date:-9-April-2021, Source: lenews.ch

In 2020, Switzerland was ranked 18th out of a 106 nations for the quality of its air, placing it comfortably in the quintile. However, Swiss air quality depends on where you live.

In 2020, Switzerland ranked 18th with a score of 9.00, up from a rank of 24th with a score of 10.90. The scores refer to average annual concentrations

($\mu\text{g}/\text{m}^3$) of PM_{2.5}, airborne fine particulate matter that penetrates into lungs with the potential to pass through the lungs into other organs.



Switzerland has made significant progress on improving air quality since the eighties with more stringent measures and reductions in large scale pollution offenders, said IQAir in its report.

The World Health Organisation has set its healthy PM_{2.5} target at an annual mean of 10 $\mu\text{g}/\text{m}^3$. So in 2020 Switzerland met this target however in 2019 it didn't. Any level between 10 – 12 $\mu\text{g}/\text{m}^3$ is considered good, but not optimal.

Nation with cleaner air than Switzerland in 2020 include Belgium (8.90), Ireland (8.60), United Kingdom (8.30), Costa Rica (8.20), Ecuador (7.60), Australia (7.60), Andorra (7.40), Canada (7.30), Iceland (7.20), New Zealand (7.00), Estonia (5.90), Norway (5.70), Finland (5.00), Sweden (5.00), U.S. Virgin Islands (3.70), New Caledonia (3.70) and Puerto Rico (3.70).

Bangladesh (77.10), Pakistan (59.00) and India (51.90) had the world's worst air in 2020. They led in 2019 too. The air in the first two of these countries is classified as unhealthy.

Pollution gets worse with magnification. In general, cities are far worse than the countryside and the most polluted cities are not all in the most countries. In 2020, the most polluted city was Hotan in China, with an average annual PM_{2.5} of 110.2 $\mu\text{g}/\text{m}^3$. This is considered unhealthy. However, in March 2020 the average rate in Hotan was 264.4 $\mu\text{g}/\text{m}^3$, a level considered hazardous.

Pollution levels in Swiss towns and cities vary too. Switzerland's most polluted town in 2020 was Rotkreuz in Zug. PM2.5 concentrations there averaged 15.4 µg/m³ and went as high as 22.9 µg/m³ in November 2020. For much of Switzerland the most polluted months are November, December and January. Dubendorf (14.0) and Liestal (13.7) were Switzerland's second and third most polluted towns.

Switzerland's cleanest town in 2020 was Neuchâtel, with an average PM2.5 concentration of 4.5 µg/m³. Neuchâtel was followed by Kussnacht (5.7) and Illnau (6.2). Bern (9.4), Lausanne (9.8) and Zurich (8.9) were in the middle. There was no data on Geneva. The most polluted town in French-speaking Switzerland was Ecublens (11.0), in Ticino it was Lugano (11.9) and in German-speaking Switzerland it was Binningen (10.1 µg/m³).

Fine particulate matter is only one measure of air pollution. Other important ones include ozone (O₃), nitrogen dioxide (NO₂) and sulfur dioxide (SO₂).

The main drivers of outdoor air pollution in Switzerland are industrial activity and vehicles, in particular rubber particles from their tyres, which continue to accumulate. 200 tonnes of these particulates have been spread around Switzerland over the last 20 years alone. Vehicles also produce high levels of nitrogen dioxide (NO₂) and sulfur dioxide (SO₂).

Those most at risk are people living near areas of dense traffic and road commuters.

Wood burning and extra electricity generation add to Switzerland's pollution in the winter. Nations, such as Switzerland, pushing electric cars will need to work hard to ensure they don't just shift pollution and emissions from the tailpipe to the power station. Switzerland has already exhausted its hydro electric output and risks importing more coal-produced electricity from Germany to feed additional electric-car consumption.

In the end, one of the biggest factors behind pollution levels is weather and topography. Some places, with naturally limited air flow and winter inversion layers are dealt a poor hand.

Thousands rally in Serbia to protect the environment

Date:-10-April-2021, Source: apnews.com

BELGRADE, Serbia (AP) — Protesters in Serbia rallied Saturday demanding that the government protect the environment in a Balkan nation that has seen

record levels of air pollution and scores of other ecological problems following decades of neglect.



Several thousand people gathered outside the Serbian parliament building in the capital of Belgrade for an “ecological uprising” against what organizers say is a widespread environmental devastation in the nation aspiring to join the European Union. Some wore face masks to ward off coronavirus but not all.

Serbia has faced mounting problems that include poor garbage management and high air pollution caused by the use of poor-quality coal and other pollutants. Rivers have been polluted by toxic industrial waste and many cities, including Belgrade, lack good sewage and waste water systems.

“We came to say ‘No!’ to those who jeopardize our rivers and our nature every day,” said Aleksandar Jovanovic, who belongs to a movement opposed to building small hydropower plants on Serbia’s rivers.

Protesters carried banners reading “Cut corruption and crime, not forests!” or “Water is life” and “Plant a tree!” — referring to shrinking green areas in the cities, particularly in Belgrade, where huge concrete residential areas have sprung up in recent years.

“I think this is the most important topic in our lives,” said protester Bojana Jovanovic.

The protesters demanded a ban on building small hydroelectric plants, better environmental education, greener urban areas and cleaner air. International studies have suggested that air pollution is shortening the lifespans of people living in the Western Balkans.

Hours before the rally, the Serbian Environment Ministry said that Serbia’s many problems are not new and insisted the government has launched projects aimed at finding long-term solutions to pollution. Environment Minister Irena Vujovic later described the protest as political, saying organizers wanted to make “quick political gains” rather than work to solve problems.

Activists from Bosnia joined the protest, saying that everyone in the region shares the same concerns.

The Balkan nations must substantially improve their environmental protection policies if they want to move forward in their bids to join the 27-nation EU. Impoverished and marred by corruption after years of crisis in the 1990s, many Balkan countries have pushed environmental issues to the sidelines.

Last winter, Bosnia and Serbia drew world attention after pictures were published of rivers clogged with tons of plastic bottles and other garbage that washed away from poorly-managed landfills and illegal dumpsites.

While much of the region’s air pollution comes from outdated coal power plants, activists also accused Serbian authorities of turning a blind eye to pollution generated by foreign-funded projects.

”This is our country!” said Jovanovic. “You are all welcome, the Russians and Chinese, Americans. But under one condition: there must be no poisoning of our children.”

‘We just want to breathe’: Little Village protest marks anniversary of botched coal plant demolition

Date:-11-April-2021, Source: wgntv.com

CHICAGO – More than 100 people marched through Little Village Sunday to mark the anniversary of a botched factory demolition that sent a cloud of dust over the Southwest Side neighborhood, creating serious concerns over air pollution.



More than 100 people marched through Little Village Sunday to mark the anniversary of a botched factory demolition that sent a cloud of dust over the Southwest Side neighborhood, creating serious concerns over air pollution.

On Sunday, Little Village residents said they feel as if their neighborhood is an environmental “dumping ground” after a bungled smokestack implosion at the now-defunct Crawford Coal Plant blanketed the neighborhood.

Sunday’s protest was to remind the city that problems still linger.

“It was a year ago today when a cloud of dark smoke covered years of contamination, corruption, neglect and putting money over people engulfed the Southwest Side,” said activist Oscar Sanchez.

Kimberly Wasserman of the Little Village Environmental Justice Organization says the community voiced their concerns with city officials for two years. The city approved the demolition to start development on a new Target logistics warehouse, however.

“There was a huge cloud just covering the entire neighborhood,” said Little Village resident Maria Quinones. It was dark and they knew something was wrong,”

Quinones said her parents were sick with COVID-19 and the resulting air pollution made it worse.

“To this day, my parents still find a layer of dust in their furniture and the windowsills, everywhere,” she said.

Citing a health hazard, residents remain outraged that the city allowed the explosion to occur.

Suburban developer Hilco Redevelopment Partners was behind the botched smokestack implosion. After the state of Illinois sued the company, Hilco agreed to pay \$370,000 into a fund to support community health. Residents said that act was not enough, however.

Alderman Byron Sigco Lopez of the 25th Ward, says the company must engage residents and work to ensure clean air and water in the area.

“Here in this particular site, the community is also demanding a community benefits agreement, to have not only a say so in the plan but also to be a part of the planning process,” he said.

Marching through Little Village behind a mariachi band, neighbors and activists intended to draw attention to the unequal impact of environmental issues – saying racial and economic inequities magnify problems.

“We are looking to dismantle this administration that doesn’t care about us,” Sanchez said. “That’s allowed this to happen. Any administration that lets this happen and says this was a mistake or miscommunication does not clearly prioritize our lives.”

Wasserman says residents have a simple demand – after a year of holding their breath.

“We just want to breathe.”

Volcanoes are a major source of air pollution and a serious public health threat, scientists warn

Date:-12-April-2021, Source: inews.co.uk

Air pollution from prolonged volcanic eruptions could be a serious public health threat, scientists from the University of Leeds have warned.



Incidents of respiratory diseases rose by a quarter in the wake of Iceland's major volcanic eruption in 2014/5

In 2014, lava burst through Iceland's Holuhraun lava field, beginning a six-month long volcanic eruption that spewed 11m tonnes of sulphur dioxide into the atmosphere.

Following the eruption, incidents of respiratory disease in Iceland jumped by a quarter, and the amount of asthma medication handed out to patients increased by a fifth, the Leeds research reveals.

That is in part because new emissions from the vent were combined with so-called 'mature plumes' that had been swirling around the atmosphere for weeks. These mature plumes have higher levels of particulate matter pollution that can penetrate deep into the lungs and potentially cause serious health problems.

"Large volcanic eruptions can cause harmful air pollution both immediately, and also when the plume returns to the same area, which may happen without it triggering air pollution alerts," explained co-lead author Dr Evgenia Ilyinskaya.

She said authorities dealing with volcanic eruptions should factor in this public health threat when disaster planning. During Holuhraun's eruption, there was no public health advice issued on the risk posed by mature plumes.

The findings, published in the journal Nature Communications, come as residents of the Caribbean island of St Vincent fled their homes this weekend after the eruption of the volcano La Soufrière blanketed buildings in piles of ash.

Scientists have warned eruptions could continue for days. Thousands of people are sleeping in emergency shelters, while water and power supplies have been cut off in some parts of the island.

Microplastics are contaminating our air, new research suggests

Date:-13-April-2021, Source: airqualitynews.com



Microplastics from the ocean are being transported in the wind and are polluting our air, according to a new study published in the journal Proceedings of the National Academy of Sciences.

From December 2017 to January 2019, researchers at Cornell University collected atmospheric microplastic data from the western U.S.

They found that 84% of the microscopic shards came from road dust, about 11% came from atmospheric sea spray and 5% was derived from agriculture soil dust. The researchers have highlighted that this 11% from sea spray is particularly alarming.

Having analysed where this pollution came from, the researchers found that oceanic action grinds plastic waste in the ocean into micron-size particles, where the wind then transports them into the atmosphere.

Natalie Mahowald, professor in engineering at Cornell, and lead author of the study said: 'We found a lot of legacy plastic pollution everywhere we looked; it travels in the atmosphere and it deposits all over the world.

'This plastic is not new from this year. It's from what we've already dumped into the environment over several decades.

'We did the modelling to find out the sources, not knowing what the sources might be.

'It's amazing that this much plastic is in the atmosphere at that level, and unfortunately accumulating in the oceans and on land and just recirculating and moving everywhere, including remote places.

'Using our best estimate of plastic sources and modelled transport pathways, most continents are net importers of microplastics from the marine environment. This underscores the cumulative role of legacy pollution in the atmospheric burden of plastic.

'Microplastics are landing and accumulating in all sorts of places, it's not just in the cities or the oceans. We're finding microplastics in national parks.'

In related news, air pollution from car tyres can be up to 1,000 times worse than from an exhaust, research from Emissions Analytics has suggested.

Air pollution may affect severity and hospitalization in COVID-19 patients

Date:-14-April-2021, Source: eurekaalert.org

Patients who have preexisting respiratory conditions such as asthma or chronic obstructive pulmonary disease (COPD) and live in areas with high levels of air pollution have a greater chance of hospitalization if they contract COVID-19, says a University of Cincinnati researcher.

Angelico Mendy, MD, PhD, assistant professor of environmental and public health sciences, at the UC College of Medicine, looked at the health outcomes and backgrounds of 1,128 COVID-19 patients at UC Health, the UC-affiliated health care system in Greater Cincinnati.

Mendy led a team of researchers in an individual-level study which used a statistical model to evaluate the association between long-term exposure to particulate matter less or equal to 2.5 micrometers — it refers to a mixture of tiny particles and droplets in the air that are two-and-one half microns or less in width — and hospitalizations for COVID-19. Medical records allowed researchers to use patients' zip codes for estimating their particulate exposure over a 10-year period.

“Particulate matter is very small, small enough to be inhaled deep into the lungs, they cross into the blood and also affect other organ systems,” says Mendy. “Air pollution as a result of emissions from automobiles, factories or other sources is a generator of particulate matter.”

“Our study didn't find any correlation between severity of COVID-19 and particulate matter in general, but we found something for people who had asthma and COPD,” says Mendy. “People who have preexisting asthma and COPD, when they are exposed to higher levels of particulate matter, they are more likely to have severe COVID-19, severe enough to be hospitalized.”

Researchers found that a one-unit increase in particulate matter 2.5 was associated with a 60% higher chance of hospitalization for COVID-19 patients with pre-existing respiratory disease. For patients without respiratory disease, no association was observed.

The study's findings were published online in the scholarly journal *Respiratory Medicine*.

It is the first study to look at an association between air pollution, COVID-19 and individual patients, says Mendy. A study co-author, Xiao Wu, PhD, in the Department of Biostatistics at Harvard University, led a study last year looking at air pollution and COVID-19 mortality in the United States.

“This study may have policy implications such as reducing particulate exposure,” says Mendy. “Many people want to have more clean energy and reduced emissions into the atmosphere.”

Mendy says the findings of his pilot study are preliminary and he hopes to use it to generate support for a larger more comprehensive study of patients. The UC Health patients in the study were diagnosed with COVID-19 between March 13, 2020 and July 5, 2020. The dataset was stripped of all Health Insurance Portability and Accountability Act (HIPAA) identifiers. The median age for patients was 46 and 96.6% were residents of Ohio with the remaining 3.4%

coming from Kentucky, Indiana, New York, South Carolina, West Virginia and Iowa.

Other study co-authors from UC include Jason Keller, a researcher in the Department of Bioinformatics; Cecily Fassler, PhD, postdoctoral fellow in the Department of Environmental and Public Health Sciences; Senu Apewokin, MD, an assistant professor in the Department of Internal Medicine; Tesfaye Mersha, an associate professor pediatrics; and Changchun Xie, PhD, and Susan Pinney, PhD, both professors in the Department of Environmental and Public Health Sciences.

Funding for the study included various grants from the National Institutes of Health supporting researchers.

Beijing Skies Turn Yellow as Sand, Dust Engulf Chinese Capital

Date:-15-April-2021, Source: usnews.com



Pedestrians stand on an overpass above car traffic amid a duststorm in Beijing, China April 15, 2021

BEIJING (Reuters) -The skies above Beijing turned yellow and air pollution soared to severe levels as a giant cloud of sand and dust particles rolled into the city, propelled by strong winds from the north of China.

Beijing's air quality index rose to 324 as of 4:00 p.m. local time (0800 GMT) on Thursday, mainly due to larger particles of sand and dust, municipal authorities said.

It worsened in the evening, exceeding 1,300 in some parts of the city, according to the Swiss IQAir app.

The particles originated from Mongolia and the Chinese region of Inner Mongolia, and high winds are expected to carry the pollutants to central and eastern China by Friday, the China Meteorological Administration said.

The amount of sand in the air was less than that during two sandstorms in northern China last month, but the wind speed was higher, allowing the dusty weather to travel faster and farther, according to the meteorological administration.

"I don't feel good. We have had several dust storms this year," said Gary Zi, a 48-year-old Beijing resident working in the finance sector.

"The (air) quality is much worse than in previous years," he added. "Breathing becomes difficult. Sand gets into your eyes and your nose."

China typically blames Mongolia's Gobi desert for its annual sandstorms.

Delegates from China's arid Gansu region said in a proposal to parliament last month that over half of the dust storms that descend on China each year come from abroad, mainly from the south of Mongolia.

Beijing has been planting millions of trees along its border to block out sandstorms, part of a project known as the "Great Green Wall".

"I feel it is all climate change," said another Beijing resident as he wiped the dust from his motorbike near the China World Trade Center, giving only his surname, Xie. "(We) can't do much about it."

(Reporting by Ryan Woo and Martin Quin Pollard; additional writing by Tom Daly; Editing by Giles Elgood and Janet Lawrence).

LA County Communities With High Car Pollution Also Have High COVID-19 Fatality Rates, Study Notes

Date:-16-April-2021, Source: laist.com



The downtown skyline is enveloped in smog shortly before sunset on November 17, 2006 in Los Angeles

L.A. County neighborhoods with higher car pollution have higher fatality rates for COVID-19, according to a new study from UCLA.

Researchers found a lot of overlap in Black and Brown communities.

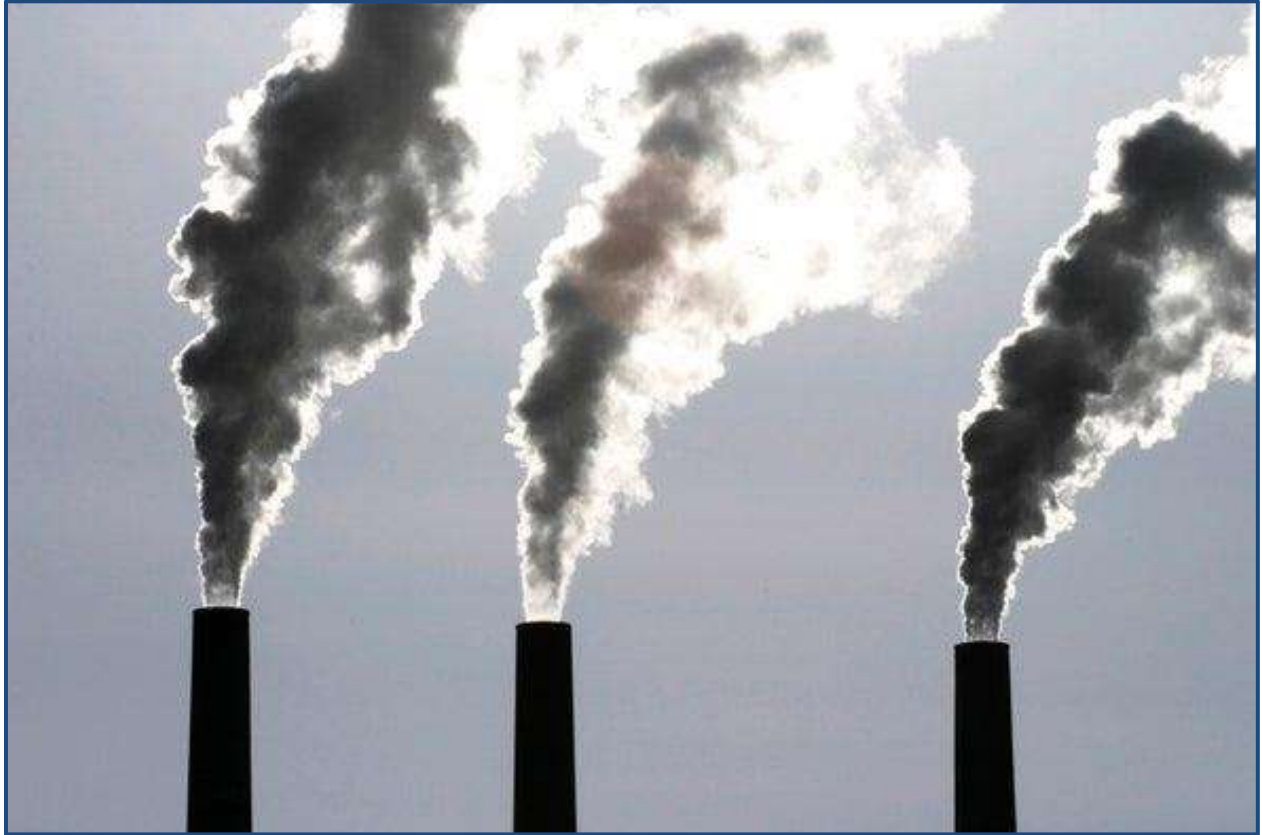
"South Central Los Angeles, and then East Los Angeles where we have much higher levels of traffic related air pollution. We also saw some spiking in areas around Long Beach, coming out of the ports," UCLA Environmental Health professor Michael Jerrett said.

He said air pollution causes pre-existing conditions that make people more susceptible to respiratory infections. "There's very strong literature on the links between diabetes formation and traffic-related air pollution," he said.

Jerrett said while socioeconomically disadvantaged zip codes are being prioritized for vaccination, the Healthy Places Index should explicitly account for air pollution exposure.

For Americans' Health, a Dollar of Carbon Emissions Prevented Is Worth a Ton of Cure

Date:-17-April-2021, Source: scientificamerican.com



In late February, the Biden administration made a major announcement that has the potential to affect the health of Americans for generations. Notably, it had nothing directly to do with COVID-19 or even health care reform.

Instead, the news was that the recently reestablished “Interagency Working Group on the Social Cost of Greenhouse Gases” had released a preliminary report on the federal government’s best estimate of the cost to society of continuing to burn fossil fuels. A final report is due early next year, but for now, the administration values a metric ton of emitted carbon dioxide at \$51, methane at \$1,500 and nitrous oxide at \$18,000. These are the figures that will be used in calculating the costs and benefits of the administration’s climate policies, including measures to protect Americans from the health effects of the changing environment.

As a physician in Texas and a professor of environmental economics in California, we have seen from our different vantages how people are struggling to respond to the unprecedented threat of climate change. Patients evacuate an oncoming storm in a rush, only to forget critical medications at home. Governments face grueling choices between providing essential services or cutting off the electricity to prevent a wildfire. There is no longer a question that climate change, in the form of warmer temperatures, rising seas, more frequent extreme events and compounding natural disasters is already here and is already affecting the health and well-being of many Americans.

Rather, the question now is how decisively the administration will move to address this threat.

Thankfully, unlike its predecessor, the Biden administration is taking climate change seriously. The IWG calculations are one data point that reflects this.

But neither breaking with immediate precedent nor simply continuing Obama-era policies will suffice. Rather, since 2016 when the federal government last released scientifically defensible estimates of the social cost of greenhouse gases, a deluge of new data has emerged on the health effects of climate change. What the data show is that every organ system in the human body is vulnerable. And no segment of the population is spared.

Thus, to truly “listen to the science; to improve public health and protect our environment,” as the president has directed the IWG to do, this collaboration of 14 government agencies will have to update its methods.

To date, the IWG has utilized three “integrated assessment models,” or IAMs, which represent both the economy and the climate system and are designed to capture the economic and social costs of greenhouse gas emissions. However, only one of the three IAM models used, the FUND model, explicitly factors in health effects. And those it does include—diarrhea, vector-borne diseases and cardiovascular and respiratory mortality—reflect just a narrow slice of the picture and are mostly based on science that is decades-old and now obsolete.

Today, we better understand the effects of climate change on youth depression and preterm birth among women of color, and in shifting the geographic distribution of neglected tropical diseases that wreak havoc on children, particularly in the U.S. South. We’ve learned that staples of our diets like wheat and rice are less nutritious when grown in climates with higher greenhouse gas concentrations. We understand that extreme heat and humidity will become increasingly frequent and severe, making it difficult and

dangerous for farmers and construction workers to continue working outdoors. And we've seen that the increased frequency of weather disasters, in addition to being deadly, results in delays or deferral of essential care such as dialysis and the administration of COVID-19 vaccinations.

Further, climate change is undoing health gains we've made from environmental protections that are already in place. The Environmental Protection Agency estimates that from 1990 to 2020, the Clean Air Act helped avert 230,000 premature deaths, 2.4 million incidents of asthma exacerbation and 17 million missed days of work. However, last summer when the western United States was blanketed for weeks in a thick cloud of wildfire smoke, Northern California, Oregon and Washington saw some of the worst air pollution on the planet, far above levels sufficient to cause serious health effects. Air quality in the U.S. has generally improved in recent decades, but wildfires have reversed that trend in the West and Northwest and are now responsible for between 25 and 50 percent of fine particulate matter. The link to climate change is clear: warmer temperatures dry out vegetation, creating tinderbox conditions that fuel the megafires that have engulfed western states.

The administration's climate change response should be informed by these events and new information, including in estimating the costs of climate change. The omission of the emerging costs to health is one of many reasons why the IWG's current estimates should be understood as a lower bound.

Even still, the IWG's calculations are just one piece of what is needed in the administration's strategy for addressing climate change. It must at the same time minimize risks to people, communities and critical infrastructure. That means both developing a climate-resilient health care system and doing longer-term planning to move people and property out of harm's way. At the moment, states and communities around the country are struggling to understand and manage the threats they face from climate change; a national adaptation planning process to coordinate and lead these efforts is long overdue.

For Texans who are still recovering after February's storm and Californians who are yet to return home following last summer's fires, the details of climate policy are likely of little interest right now. But these are the social costs of uncurbed greenhouse gas emissions borne out in people's lives. And they reflect what we already know and can be certain of, that climate change threatens the health and well-being of Americans today. Unless we act now, this will be the case for generations to come as well.

More children worried about air pollution near schools

Date:-18-April-2021, Source: jerseyeveningpost.com



Nearly half of pupils aged six to 15 are concerned about the issue, according to a survey commissioned by charity Sustrans.

Concern about air pollution near schools is rising among children, new figures suggest.

A poll of 1,305 UK pupils aged six to 15 indicated that 49% are worried about the issue, a poll commissioned by walking and cycling charity Sustrans indicated.

That is up 10 percentage points from a similar survey carried out in 2018.

Just over half (53%) believe adults do not listen to children's concerns on the subject.

Two out of five (40%) pupils think more people walking, cycling or riding scooters to school is the best way to cut local air pollution, with 57% claiming there are too many cars in the vicinity.

Sustrans chief executive Xavier Brice said: “The results of this survey highlight the responsibility we have to create a healthier, greener and fairer society for the generation coming after us.

The charity is asking local election candidates and elected officials to ensure children have the “opportunity and confidence” to get to school by active travel.

The results of the survey were released to mark the launch of Sustrans’ Big Pedal initiative to encourage more than half a million children to walk, cycle or use a scooter for journeys to and from school.

Breathe London – a community network of air pollution sensors – published data in October 2020 showing that 39% of pollution from nitrogen oxides around primary schools across the capital came from road transport, with diesel cars the single largest contributor.

Separate Department for Transport figures show car use has returned to 86% of pre-pandemic levels, far ahead of buses outside London (51%) and trains (25%).

Researchers collect global data on air pollution during the pandemic

Date:-19-April-2021, Source: [airqualitynews.com](https://www.airqualitynews.com)

An international team of researchers have published a comprehensive review looking at the impact that international lockdowns have had on air pollution across the world.

The analysis covers the measurement data from around 200 studies, all taken from the first seven months following the onset of the pandemic.

A key finding of the analysis is that lockdowns led to a dramatic reduction in global pollution.

However, this only applies to pollutants that primarily have an anthropogenic origin, meaning pollutants that are directly emitted by humans, these include nitrogen dioxide, particulate matter, ozone, ammonia, sulfur dioxide, black carbon, volatile organic compounds (VOCs), and carbon monoxide.

In comparison, the researchers found that throughout the pandemic, ozone levels actually increased. This was a result of atmospheric chemical processes caused by reduced nitrogen oxide levels.

The review also highlights that there are still gaps in the data collection, with much more research needed. The researchers state that the period of analysis should be extended to cover the entire year of 2020.

The researchers have also created a database that contains all data from the study on pollution levels, including data on pollution levels in individual countries. Researchers can also find a list of publications to date and thus obtain a quick overview of previous studies. The database can be accessed [here](#).

The website invites scientists to present data from their new studies and to thus become part of the reference system. The researchers have said that this data could form the basis for better assessments of the impacts on atmospheric chemistry in future scenarios. This includes a considerable, long-term reduction in pollution levels for a comprehensive transition to electromobility.

Dirty Air Could Raise COVID Risks for People With Asthma, COPD

Date:-20-April-2021, Source: usnews.com



TUESDAY, April 20, 2021 (HealthDay News) -- Long-term exposure to polluted air could increase the risk of severe COVID-19 in people with respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD), new research shows.

For the study, researchers at the

University of Cincinnati examined the backgrounds and health outcomes of more than 1,100 COVID-19 patients diagnosed at UC Health between mid-March and early July of 2020. Their median age was 46, meaning half were younger, half older.

The investigators were looking for links between COVID-19 hospitalizations and 10-year exposure to tiny particulate air pollution (known as PM2.5) generated by emissions from automobiles, factories and other sources.

"Particulate matter is very small — small enough to be inhaled deep into the lungs — they cross into the blood and also affect other organ systems," said study leader Dr. Angelico Mendy, assistant professor of environmental and public health sciences.

His team linked a one-unit increase in PM2.5 with a 60% higher risk of hospitalization for COVID-19 patients with a pre-existing respiratory disease. No such link was seen in those without respiratory disease.

"People who have pre-existing asthma and COPD, when they are exposed to higher levels of particulate matter, they are more likely to have severe COVID-19, severe enough to be hospitalized," Mendy said in a university news release.

Mendy said the study, recently published online in the journal *Respiratory Medicine*, is the first to examine links between air pollution, COVID-19 and individual patients.

"This study may have policy implications such as reducing particulate exposure," he said. "Many people want to have more clean energy and reduced emissions into the atmosphere."

Mendy said he hopes to use the preliminary findings to find support for a larger, more extensive look at the link between air pollution and COVID-19.

The perils of air pollution in North Macedonia

Date:-21-April-2021, Source: aljazeera.com

North Macedonia, located in the centre of the Balkan peninsula, has more than two million inhabitants.

It is one of the countries most affected by air pollution; the rate of premature deaths is higher than in most European Union states.

The World Health Organization (WHO) considers air pollution a "public health emergency" related to 8.8 million premature deaths each year. It is the single largest environmental health risk in Europe.



Leon and Dani are 12 and from the Roma community. When they leave school, they collect iron from landfills to resell. They give the money to their parents. They live in Suto Orizari - better known as Shutka, which means trash - on the outskirts of Skopje. Eighty percent of Suto Orizari's population is Roma.

North Macedonia's air pollution can be attributed to emissions from the former socialist Yugoslav-era industries, loosely regulated vehicles, the burning of outdoor waste and domestic heating.

Every year, 2,574 people die prematurely as a direct result of air pollution, according to the EU Research Result website.

The WHO Ambient Air Pollution Database for 2018 ranks the capital city of Skopje, with about 600,000 inhabitants, as Europe's most polluted capital.

Air pollution can cause, in addition to health problems, psychological effects such as depression.

Winter's low temperatures make the situation worse, because of the rise in demand for heating.

The mayor of Skopje, Petre Shilegov, confirmed that around 60,000 households use low-quality wood and coal for heating, according to local news agency Makfax.

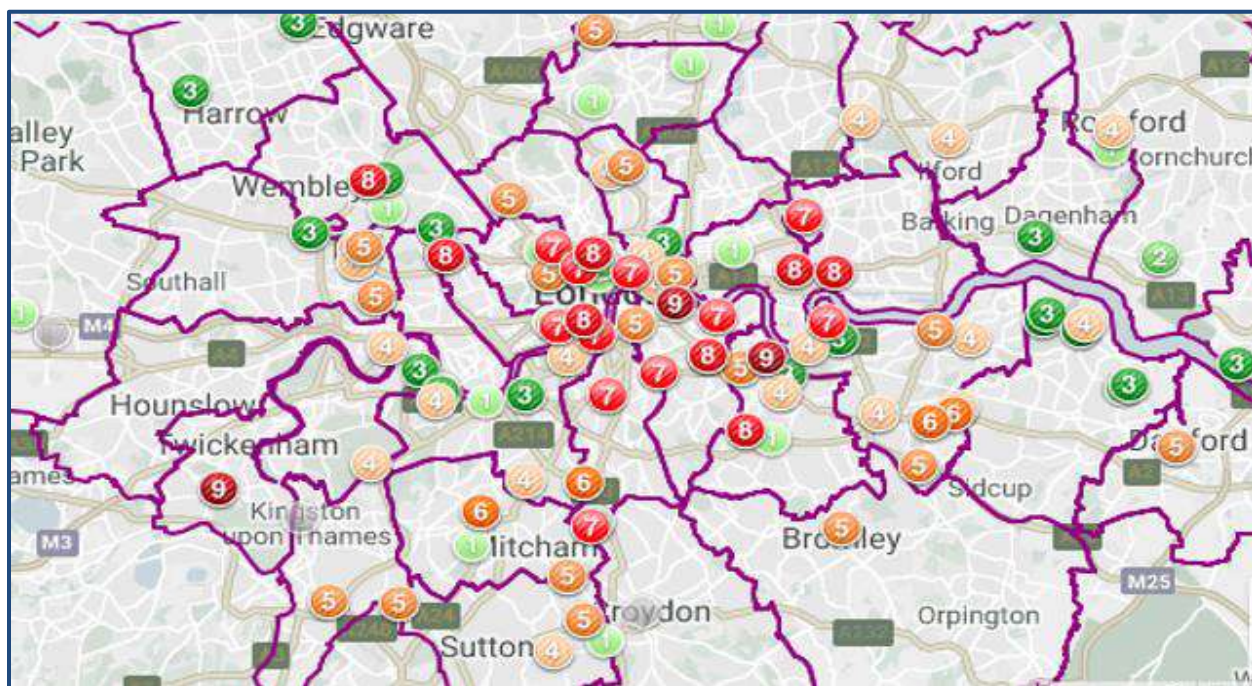
Some burn textiles, plastics and waste to heat their homes, because of poor gas supplies and the high cost of electricity. The average income is about 260 euros per month, and energy poverty plagues Skopje.

Earth Day: Pandemic lockdown brings down air pollution by up to 70% in some London areas

Date:-22-April-2021, Source: standard.co.uk

Clean air campaigners today said lifestyle changes brought on by the pandemic could help us slow climate change, as figures show there was up to 70 per cent less air pollution caused by vehicles during the first lockdown.

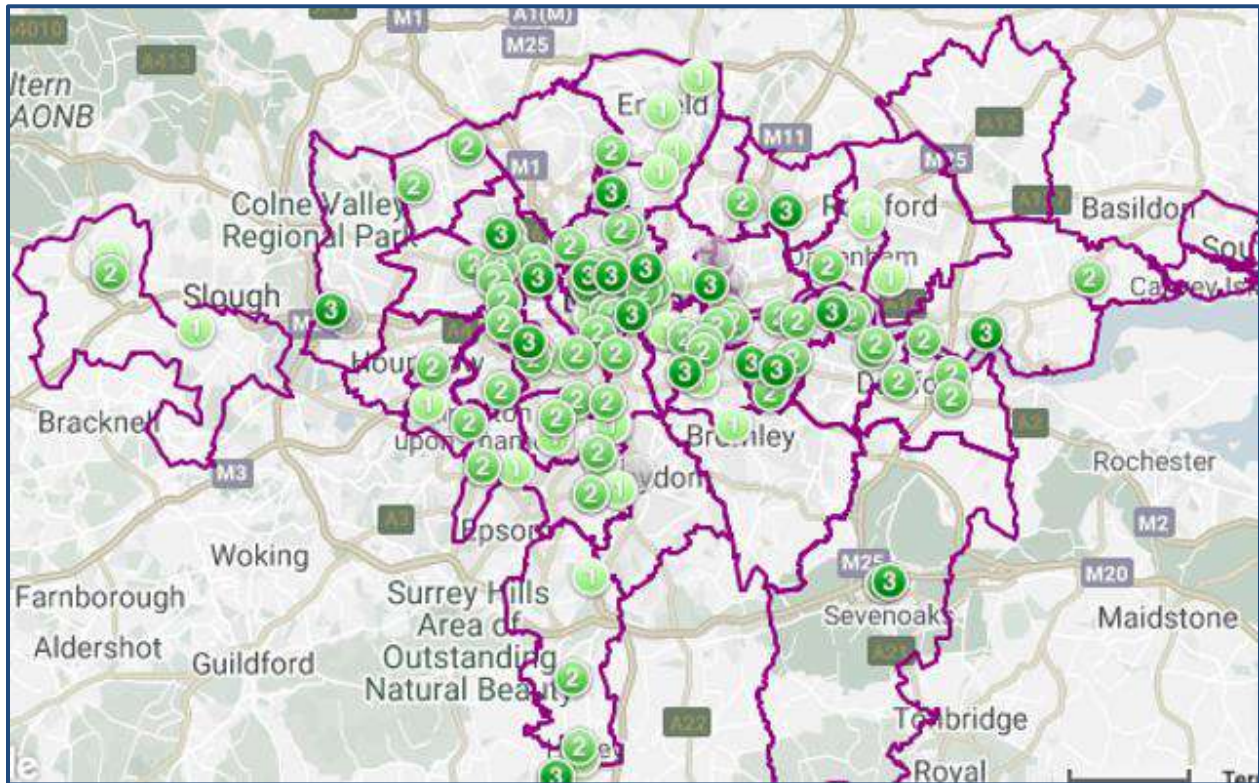
London pollution analysts yesterday estimated many areas, particularly in the centre and near busy roads such as the South Circular, had pollution levels between five and nine on the London Air Quality Network index- in the moderate to very high categories. This time last year only one area reached more than a three, showing there were low levels of nitrogen dioxide in the air.



Estimated air pollution levels on April 21 2021

Simon Birkett, founder of Clean Air in London (CAL), speaking on Earth Day that promotes global climate action, he said: “What we saw last year was levels of nitrogen dioxide from road traffic fall very sharply.

“It was surprising how far it fell, at some point 60 to 70 per cent down on 2019, which shows how much diesel is contributing to air pollution.



Air pollution levels in London in April 2020

“People have suddenly experienced it is nicer to live in an area with less air pollution and we’ve seen people cycling and walking more, which can only be a good thing.

“Areas with better air also were less hit by Covid, there are so many health implications and the pandemic has really highlighted that.”

Mr Birkett said that a new Clean Air Act should be passed, which would give local authorities more power they need to decarbonise areas to protect health.

This Earth Day year’s theme is “Restore Our Earth”, with people being urged to focus on reducing our impact on the planet following the Covid-19 pandemic and how we can repair our ecosystems.

Oceanside Regional Air Quality Among Worst In U.S. – Report

Date:-23-April-2021, Source: patch.com



Smog obscuring the sun between palm trees.

OCEANSIDE, CA — The American Lung Association released the "State of the Air" 2021 report this week and the news is not good for most Californians.

More than 4 in 10 people in the greater Oceanside region live where pollution levels frequently make the air too dangerous to breathe.

The San Diego-Chula Vista-Carlsbad, CA metro region ranked 7 for high ozone days out of 229 metropolitan areas, ranked 37 for 24-hour particle pollution out of 216 metropolitan areas, and ranked 43 for annual particle pollution out of 204 metropolitan areas.

This year's "State of the Air" report finds that despite decades of progress, California continues to face some of the most significant challenges in the

United States for the most harmful and widespread types of air pollution: particle pollution and ozone. The health of Californians – nearly all of whom live in a county with a failing grade in this year's report – is more urgent and more daunting due to climate change impacts including extreme heat and wildfires that continue to undermine progress.

Seven of the nation's ten most ozone-polluted cities in the United States are in California, including the Los Angeles-Long Beach metropolitan area which ranks as the most polluted city again in "State of the Air" 2021. For particle pollution, six California cities appear among the ten most polluted by short-term spikes in particle pollution and for unhealthy annual particle pollution levels. Bakersfield ranks as the most polluted American city for unhealthy annual levels of particle pollution in "State of the Air" 2021.

Kuwait's air quality deemed 'unhealthy' as pollution increases

Date:-24-April-2021, Source: gulfnews.com



Kuwait's air pollution has drastically increased bringing the Air Quality Index (AQI) to the fourth tier deemed 'unhealthy'.

Kuwait City: In recent days, Kuwait's air pollution has drastically increased bringing the Air Quality Index (AQI) to the fourth tier deemed 'unhealthy'.

According to the AQI scale, Kuwait's air pollution level is 151, which means everyone may begin to experience health effects and members of sensitive groups are most vulnerable.

The Green Line environmental group, a non-profit Kuwait based organization, detected an increase in the air pollutant matter, especially 2.5pm (particulate matter). The particulate matter is so small they can not be seen through the naked eye.

Respiratory diseases

The concern over the increase in 2.5pm is a serious health risk as it is a carcinogenic that enters ones' lungs if simply breathed. With time, breathing it in can lead to respiratory diseases, like asthma and tightness in the chest.

A week ago, the World Health Organization (WHO) categorized Kuwait's air quality as unsafe. It explained that the reason for the poor air quality is due to vehicle and industrial emission, oil refineries and dust storms. Green Line stated that although the Environment Public Authority (EPA) is legally responsible to address the issue of air pollution, they have failed to do so.

North Dakota counties earn high grades for low air pollution levels

Date:-25-April-2021, Source: inforum.com



BISMARCK — Several North Dakota counties have ranked among the cleanest in the nation when it comes to the prevalence of harmful air pollution, according to a new American Lung Association report released in April.

Each year, the American Lung Association releases a "report card" ranking counties and cities across the U.S. for two types of air pollution: particle and

ozone. The North Dakota Department of Health monitors air pollution for 10 of North Dakota's 53 counties, and from 2017 to 2019, many of the counties were given an "A" for ozone levels and a "B" for particle pollution.

Burleigh County was given a "D" for particle pollution between 2017 and 2019. This was the only "D" ranking any of the 10 counties received. Cass, Mercer, Oliver and Ward counties were each given a "C" for particle pollution.

Both kinds of pollution originate from various sources, including cars and trucks, power plants, wildfires and the burning of fossil fuels. In high levels, these kinds of pollution can cause breathing troubles, illnesses, lung inflammation and an increased risk of hospitalization, according to the American Lung Association.

In past years, both wildfires and exhaust from vehicles caused many North Dakota counties to receive low grades for air pollution, including Burleigh and Cass counties.

The 10 North Dakota counties in which there is air pollution data — Billings, Burke, Burleigh, Cass, Dunn, McKenzie, Mercer, Oliver, Ward and Williams — all were named among the nation's "cleanest counties for ozone air pollution" based on 2017 to 2019 data.

Exhaust from cars and trucks, wildfire smoke or any other type of fossil fuel burning, can send small amounts of solids or liquids in the air, otherwise known as particle pollution.

In the most recent report, Bismarck ranked 33rd out of 216 U.S. metropolitan areas for low 24-hour particle pollution levels, and both Fargo and Bismarck ranked high for having low ozone levels. Low ozone levels mean there is a low amount of ozone gas in the air. The gas is "a powerful lung irritant," the American Lung Association says.

The American Lung Association highlighted in the report that the amount of air pollution has become of greater concern because of the coronavirus pandemic. COVID-19 is primarily a respiratory illness, and the American Lung Association said new research indicates exposure to high levels of air pollution is linked with worse COVID-19 outcomes.

"The COVID-19 pandemic has driven home to the world the preciousness of healthy lungs," the report stated.

There is no data for Clay County in Minnesota, but Becker County received an "A" for particle pollution and a "B" for ozone pollution.

Some of the cities that ranked the worst in the nation in various forms of air pollution included Los Angeles, Bakersfield, Calif., and Fairbanks, Alaska.

Biden mulls restoring California's authority to fight car pollution

Date:-26-April-2021, Source: nbcnews.com



Under former President Barack Obama, California was given additional authority to set mandates for greenhouse gas emissions.

President Joe Biden is taking a key step toward restoring California's ability to set its own limits on air pollution, overturning a move made by former President Donald Trump to undo the state's authority to set stricter regulations on auto emissions.

The Environmental Protection Agency said on Monday it is "seeking public input on its reconsideration of the Agency's 2019 action titled The Safer

Affordable Fuel-Efficient Vehicles Rule Part One: One National Program Rule (SAFE-1) for the purposes of rescinding the action taken by the prior administration."

In a statement released Monday, EPA Administrator Michael Regan said: "I am a firm believer in California's long-standing statutory authority to lead. The 2019 decision to revoke the state's waiver to enforce its greenhouse gas pollution standards for cars and trucks was legally dubious and an attack on the public's health and wellbeing."

California has long had the authority to regulate three key automotive emissions — carbon monoxide, particulates and oxides of nitrogen — and set stricter standards than those covering the rest of the country. Under former President Barack Obama, the state was given additional authority to set mandates for greenhouse gas emissions.

Since the production of CO₂ is directly related to fuel consumption, the tight guidelines set by the California Air Resources Board would force a dramatic shift towards electrified vehicles, especially those running entirely on battery power or on hydrogen.

In September 2019, Trump announced his administration would overturn the waiver and also moved to roll back the Corporate Average Fuel Economy, or CAFE, standards set under Obama.

Both moves have been tied up in court since then. Biden administration officials said Monday that eliminating the California waiver "exceeded" the authority of the prior president.

The announcement comes after Biden's proposal to halve CO₂ emissions in the U.S. by 2030. A key part of that effort will be the promotion of renewable energy production and the switch to battery-electric vehicles. The American Jobs Plan would set aside \$174 billion for BEVs, with much of that going to create a nationwide network of 500,000 EV charging stations.

California is far and away the largest market for electrified vehicles, especially BEVs, and Gov. Gavin Newsom recently signed an executive order that would begin phasing out the sale of both retail and commercial vehicles that use gas and diesel engines.

As big as it is, California has an even more outsized impact on the auto industry as 13 other states have adopted its emissions rules. All told, they represent about 40 percent of annual U.S. new vehicle sales.

The Trump administration's attempt to strip California's authority to regulate CO₂ emissions was backed by a number of automakers, including General Motors and Toyota, who argued that a single national standard was needed. Four companies, BMW, Ford, Honda and Volkswagen, backed the state and subsequently reached a emissions compromise plan. GM reversed course after the November 2020 presidential election and also accepted the new agreement.

The Biden administration has signaled it will announce an updated CAFE target in the coming months. Many analysts expect a new approach that could strike a balance between the EPA and California targets.

Last week, 12 U.S. governors sent a letter calling on the Biden administration to set a phased-in ban on sales of internal combustion vehicles by 2035. California, Massachusetts and Washington have already put bans on the books.

Household aerosols now emit more harmful volatile organic compound air pollution than all UK vehicles

Date:-27-April-2021, Source: news-medical.net

Aerosol products used in the home now emit more harmful volatile organic compound (VOC) air pollution than all the vehicles in the UK, new research shows.

A new study by the University of York and the National Centre for Atmospheric Science reveals that the picture is damaging globally with the world's population now using huge numbers of disposable aerosols - more than 25 billion cans per year.

This is estimated to lead to the release of more than 1.3 million tonnes of VOC air pollution each year, and could rise to 2.2 million tonnes by 2050.

The chemicals now used in compressed aerosols are predominantly volatile organic compounds (VOCs), chemicals which are also released from cars and fuels. The report says the VOCs currently being used in aerosols are less damaging than the ozone-depleting CFCs they replaced in the 1980's. However, in the 80's when key international policy decisions were made, no-one foresaw such a large rise in global consumption.

In the presence of sunlight, VOCs combine with a second pollutant, nitrogen oxides, to cause photochemical smog which is harmful to human health and damages crops and plants.

In the 1990s and 2000s by far the largest source of VOC pollution in the UK was gasoline cars and fuel, but these emissions have reduced dramatically in recent years through controls such as catalytic converters on vehicles and fuel vapour recovery at filling stations.

Researchers found that on average in high-income countries 10 cans of aerosol are used per person per year with the largest contributor being personal care products. The global amount emitted from aerosols every year is surging as lower and middle-income economies grow and people in these countries buy more.

The report authors are calling on international policymakers to reduce the use of VOCs in compressed aerosols, either by encouraging less damaging propellants like nitrogen, or advocating the use of non-aerosol versions of products. At present VOCs are used in around 93 per cent of aerosol cans.

The report says there are already non-aerosol alternatives that can be easily be applied in their liquid or solid forms, for example, as roll-on deodorant, hair gel, solid furniture polish, bronzing lotion, and room fragrance.

Study authors conclude that the continued use of aerosols when non-aerosol alternatives exist is often down to the continuation of past consumer habits. And that the role played by aerosol VOC emissions in air pollution needs to be much more clearly articulated in messaging on air pollution and its management to the public.

Professor Lewis added: "Labelling of consumer products as high VOC emitting--and clearly linking this to poor indoor and outdoor air quality--may drive change away from aerosols to their alternatives, as has been seen previously with the successful labelling of paints and varnishes."

Amber Yeoman, a PhD student from the Wolfson Atmospheric Chemistry Laboratories was a co-author of the study which used data from industry and regulatory bodies from around the world.

PM2.5 disproportionately affects people of colour

Date:-28-April-2021, Source: airqualitynews.com

People of colour in the U.S are disproportionately exposed to particulate matter (PM2.5) pollution, according to a new study published in the journal Science Advances.

Researchers from the American Association for the Advancement of Science used an air quality model to estimate emissions from over 5,000 PM_{2.5} sources listed in the 2014 Environment Protection Agency National Emissions Inventory.

They grouped these sources into 14 source sectors and estimated how each sector affected five racial-ethnic groups in the U.S – white, black, Hispanic, Asian and people of colour.

The researchers found that the average exposure from all domestic anthropogenic sources of PM_{2.5} in 2014 was higher than average for people of colour, black, Hispanic and Asian communities.

In contrast, exposure was lower than average for white communities.

This trend was found within individual states, within individual rural and urban areas, across incomes and across exposure levels. Based on this, the researchers have said that these disparities are not simply tied to economic differences.

Industry, light-duty gasoline vehicles, construction, and heavy-duty diesel vehicles were top emission source sectors for all of the non-white racial-ethnic groups studied.

The authors of the study write: 'Because of a legacy of racist housing policy and other factors, racial-ethnic exposure disparities have persisted even as overall exposure has decreased.

'Targeting locally important sources for mitigation could be one way to counter this persistence.'

In related news, earlier this year, Air Quality News presented exclusive data highlighting the connection between air pollution and deprivation

In the UK, as many as 36,000 people die prematurely every single year as a result of exposure to air pollution. But like with many things, the burden of this suffering does not fall equally across communities.

Research conducted for Air Quality News by Shona Wilde and Will Drysdale, postdoctoral researchers at the University of York, revealed that across London areas with higher annual average nitrogen dioxide (NO₂) concentrations also have higher rates of deprivation in terms of crime, unemployment, income and living environment.

Wildfire smoke linked to skin disease in first-of-its-kind study

Date:-29-April-2021, Source: universityofcalifornia.edu



Smoke rises from a wildfire burning near Santa Cruz in 2020

Wildfire smoke can trigger a host of respiratory and cardiovascular symptoms, ranging from runny nose and cough to a potentially life-threatening heart attack or stroke. A new study suggests that the dangers posed by wildfire smoke may also extend to the largest organ in the human body, and our first line of defense against outside threat: the skin.

During the two weeks in November 2018 when wildfire smoke from the Camp Fire choked the San Francisco Bay Area, health clinics in San Francisco saw an uptick in the number of patients visiting with concerns of eczema, also known as atopic dermatitis, and general itch, compared to the same time of the year in 2015 and 2016, the study found.

The findings suggest that even short-term exposure to hazardous air quality from wildfire smoke can be damaging to skin health. The report, carried out by physician researchers at the UC San Francisco, in collaboration with

researchers at the UC Berkeley, appears on April 21 in the journal JAMA Dermatology.

“Existing research on air pollution and health outcomes has focused primarily on cardiac and respiratory health outcomes, and understandably so. But there is a gap in the research connecting air pollution and skin health,” said study lead author Raj Fadadu, a student in the UC Berkeley-UCSF Joint Medical Program. “Skin is the largest organ of the human body, and it's in constant interaction with the external environment. So, it makes sense that changes in the external environment, such as increases or decreases in air pollution, could affect our skin health.”

Air pollutants can slip through skin barriers

Air pollution from wildfires, which consists of fine particulate matter (PM2.5), polycyclic aromatic hydrocarbons (PAHs), and gases, can impact both normal and eczema-prone skin in a variety of ways. These pollutants often contain chemical compounds that act like keys, allowing them to slip past the skin's outer barrier and penetrate into cells, where they can disrupt gene transcription, trigger oxidative stress or cause inflammation.

Eczema, or atopic dermatitis, is a chronic condition which affects the skin's ability to serve as an effective barrier against environmental factors. Because the skin's barrier has been compromised, people with this condition are prone to flare-ups of red, itchy skin in response to irritants, and may be even more prone to harm from air pollution.

“Skin is a very excellent physical barrier that separates us and protects us from the environment,” said study senior author Maria Wei, M.D., Ph.D., a dermatologist and melanoma specialist at UCSF. “However, there are certain skin disorders, such as atopic dermatitis, in which the barrier is not fully functional. It's not normal even when you don't have a rash. So, it would make sense that when exposed to significant air pollution, people with this condition might see an effect on the skin.”

Even short burst of air pollution harms skin health

Earlier studies have found a link between atopic dermatitis and air pollution in cities with high background levels of air pollution from cars and industry. However, this is the first study to examine the impacts of a very short burst of extremely hazardous air from wildfires. Despite being located 175 miles away

from the Camp Fire, San Francisco saw an approximately nine-fold increase in baseline PM2.5 levels during the time of the blaze.

To conduct the study, the team examined data from more than 8,000 visits to dermatology clinics by both adults and children between October of 2015, 2016 and 2018, and February of the following year. They found that, during the Camp Fire, clinic visits for atopic dermatitis and general itch increased significantly in both adult and pediatric patients.

“Fully 89 percent of the patients that had itch during the time of the Camp Fire did not have a known diagnosis of atopic dermatitis, suggesting that folks with normal skin also experienced irritation and/or absorption of toxins within a very short period of time,” Wei said.

While skin conditions like eczema and itch may not be as life-threatening as the respiratory and cardiovascular impacts of wildfire smoke, they can still severely impact people’s lives, the researchers say. The study also documented increased rates of prescribed medications, such as steroids, during times of high air pollution, suggesting that patients can experience severe symptoms.

Individuals can protect their skin during wildfire season by staying indoors, wearing clothing that covers the skin if they do go outside, and using emollients, which can strengthen the skin’s barrier function. A new medication to treat eczema, called Tapinarof, is now in clinical trials and could also be a useful tool during times of bad air.

“A lot of the conversations about the health implications of climate change and air pollution don’t focus on skin health, but it’s important to recognize that skin conditions do affect people’s quality of life, their social interactions and how they feel psychologically,” Fadadu said. “I hope that these health impacts can be more integrated into policies and discussions about the wide-ranging health effects of climate change and air pollution.”

Co-authors of the paper from UCSF are Barbara Grimes, Ph.D., and Albert T. Young, a M.D. candidate. From UC Berkeley: Nicholas P. Jewell, Ph.D. Co-authors also include Katrina Abuabara, M.D. and John R. Balmes, M.D., who both have a dual appointment at UCSF and UC Berkeley; and Jason Vargo, Ph.D. of the California Department of Public Health.

May 2021

House coal and wet wood restrictions come into force in England

Date:-1-May-2021, Source: theguardian.com



Wood-burning stoves and open fires can still be used from 1 May 1 but must be fuelled by cleaner alternatives

Restrictions on the sale of coal, wet wood and manufactured solid fuels that can be burned in the home have come into force in England as the government attempts to cut air pollution.

Wood-burning stoves and open fires can still be used from 1 May but must be fuelled by cleaner alternatives, the Department for the Environment, Food and Rural Affairs said.

They are a big source of the pollutant PM2.5, which can enter the bloodstream, lodge in lungs and other organs and has been identified by the World Health Organization as the most serious air pollutant for human health.

The particles have been linked to a wide range of health damage, particularly in younger and older people.

The restrictions, which form part of the government's clean air strategy, mean bagged coal and wet wood of less than 2 cubic metres cannot be sold, and wet wood in larger volumes must be sold with advice on how to dry it before burning.

The changes also mean all manufactured solid fuels must now have a low sulphur content and only emit a small amount of smoke.

In addition, a new certification scheme will involve products being certified and labelled by suppliers to ensure they can be easily identified, and retail outlets will only be able to sell fuel with the correct label.

It comes two days after Defra released figures showing air pollution across the UK fell to its lowest levels on record in 2020 as a result of the pandemic.

Environment minister Rebecca Pow said: "We know air pollution at a national level has reduced significantly since 2010 – with emissions of fine particulate matter down 11% and nitrogen oxide 32% – but there is still a huge amount to do to tackle pollution from all sources, including transport, agriculture, industry and domestic burning."

Asthma UK and the British Lung Foundation's senior policy and projects manager, Harriet Edwards, said the restrictions could save the lives of millions with chronic lung conditions.

"It's vital that we tackle all of these sources of air pollution and raise awareness about the dangers of air pollutants so people can make the best choices for their own health as well as the health of others around them," she said.

Why the air quality in Philly might be worse than we know

Date:-2-May-2021, Source: whyy.org

A recent report by the American Lung Association ranked the Philadelphia-Reading-Camden metro area among the top 25 most polluted in the United States in terms of two of the most common, and dangerous, ambient air pollutants measured nationally. But experts say the ranking doesn't tell the whole story of how air quality affects those in the region.

The Lung Association's 22nd annual "State of the Air" report, released in mid-April, is based on data gathered from 2017 to 2019 and focuses on two of the

six major air pollutants originally identified by the Clean Air Act of 1970. The four-state, 16-county Philadelphia metro area ranked as the 17th most polluted in the nation for its year-round average levels of fine particle pollution (sometimes called soot pollution) and as the 21st most polluted for days with high levels of ozone smog.



The Delaware City Refinery in New Castle, Del. A new report on air pollution from the Lung Association focuses on the four-state, 16-county Philadelphia-Reading-Camden-PA-NJ-DE-MD metro area.

“The pollutants are very serious in terms of what they cause by way of health effects,” said Kevin Stewart, director of environmental health with the Lung Association. “There are large population groups at risk, certainly children, infants, elderly folks. And then there are other population groups, people who live in poverty. People who have a history of smoking and also persons of color are given some particular emphasis in this year’s report.”

Both pollutants are the result of burning carbon-based fossil fuels. Fine particle pollution is a complex mixture of particles commonly derived from car exhaust, coal power plants, wildfires, construction, and agriculture that react with the atmosphere. Short-term spikes in fine particle pollution can be deadly,

according to the Lung Association, as the pollutant has the potential to penetrate the deepest parts of the lungs and the bloodstream. After recent improvements, this year's report saw the metro area score significantly worse in the average number of days with high levels of fine particulate pollution than the last three years.

"Even though [the levels] meet the EPA standard, it's still not something that the Lung Association recognizes as perfectly healthy for people. And so that's a concern," Stewart said.

Ozone smog also poses a notable risk to Philadelphians, said Stewart. The pollutant is produced in the air when harmful human-made vapors, including volatile organic compounds and unburned fuels, mix with oxides of nitrogen. Exposure to high levels of ozone pollution can cause a burning effect within the lungs and has been linked to a variety of harmful health outcomes for those especially vulnerable.

"Philadelphia County was the worst in the area for ozone smog and got an F grade. Even though it did improve compared to last year's measurement, an F is still an F," Stewart said.

The report takes on new meaning in light of health disparities highlighted by the pandemic — the coronavirus imperils those with compromised respiratory systems — and a new study that shows a link between ozone and fine particulate matter pollution and childhood asthma in Philadelphia between 2011 and 2014.

"Asthma seems to be a little more common in Black communities, underserved communities for a number of the social determinants health reasons. But that also seems to mirror where a lot of the data from our ... report shows the air quality to be more at risk as well," said Albert Rizzo, the Lung Association's chief medical officer. "We know that bad ozone days and we know high particulate matter causes increased flare-ups in patients with asthma, [the need for] emergency room hospitalizations, medications, and other lung diseases like COPD."

Yet Jane Clougherty, an associate professor at Drexel University's Department of Environmental and Occupational Health, said that while the new report is cause for concern, it's what remains unmeasured in the area that worries her most.

“There was a great deal of attention to ambient fine particulate matter and ozone nationally brought from an EPA regulatory or quality standpoint, as well as the larger research on air quality and children’s health, and air quality and asthma, in the Philly region,” she said. “However, those are not necessarily the most important pollutants that we should be focusing on.”

Clougherty said the City of Philadelphia is not doing enough to measure the presence of cancer-causing chemicals like volatile organic compounds (VOCs) in the air throughout the metro area, and that despite more recent attempts to study air pollution in detail, the city’s Department of Public Health Air Management Services (AMS) has not added crucial markers and refinery indicators specific to industry in the area to its list of pollutants.

“We have a confluence of multiple refineries in our region, a major airport, a major ports shipping complex, as well as the I-95 corridor. So we have a great complexity of very large air pollution sources, clustered in one part of our city,” Clougherty said. “And that really has not been appropriately disentangled. Because in part, we’ve been thinking about pollutants that are nationally relevant, not really thinking about the things that are relevant here in Philly. And that’s really a shift we need to make.”

But for that shift to happen, Clougherty said, more data must be gathered to understand the extent of the problem. Following the Philadelphia Energy Solutions refinery explosion and shutdown in 2019, the city undersampled air quality in especially vulnerable neighborhoods, leaving academics with more questions than answers, she said.

“The monitoring that has been done for VOCs is quite sporadic,” she said. “There is one VOC monitor that is maintained at the Ritner [Street] site by AMS. But that is technically not downwind of the PES refinery, it’s actually just a bit north of the refinery. And therefore it conveniently missed the plume of emissions on the day when the ... refinery exploded in June of 2019. The data is also quite sparse at that site.”

In response, Philadelphia Health Department spokesperson James Garrow said in an email Thursday that the monitoring site at 24th and Ritner streets “was consciously placed in the community that is most at-risk of being exposed to emissions from that site. Given that PES maintained a series of fenceline monitors downwind of the refinery site, and NJDEP [New Jersey Department of Environmental Protection] maintains air monitors similarly downwind, both of whom AMS works closely with to track emissions and plumes, it just makes sense to not place a duplicate monitoring station downwind. A monitor in the

community, however, provides actionable information about how any emissions actually affect the public.”

Rethinking how to measure Philadelphia’s air pollution problem is an important first step toward centering environmental justice as communities redevelop, Clougherty said.

“In Philadelphia, just like in most American cities, land that is most proximate to our industrial areas and our highways tends to be devalued, tends to have a lower-income population in that area,” Clougherty said. “So there’s no question that air pollution and air pollution sources are a huge aspect of health disparities and environmental justice. That’s one of the reasons why it’s been so important for community input and a sense of ownership in what’s happening in and around their neighborhood.”

Short-term exposure to air pollution may impede cognition; Aspirin could help

Date:-3-May-2021, Source: eurekaalert.org

Exposure to air pollution, even over the course of just a few weeks, can impede mental performance, according to a new study led by researchers at Columbia University Mailman School of Public Health. However, these adverse effects were lessened in people taking nonsteroidal anti-inflammatory drugs (NSAIDs) like aspirin. The study is among the first to explore short-term air pollution exposures and the use of NSAIDs to mitigate their effects. The results are published in the journal *Nature Aging*.

Examples of events that would increase someone's exposure to air pollution over the short term could include forest fires, smog, second-hand cigarette smoke, charcoal grills, and gridlock traffic.

The researchers examined the relationship between exposures to fine particulate matter (PM_{2.5}) and black carbon, a component of PM, and cognitive performance in 954 older white males from the Greater Boston Area enrolled in the Normative Aging Study. They also explored whether taking NSAIDs could modify their relationships. Cognitive performance was assessed using the Global Cognitive Function (GCF) and Mini-Mental State Examination (MMSE) scales. Air pollution levels were obtained from a site in Boston.

Elevated average PM_{2.5} exposure over 28 days was associated with declines in GCF and MMSE scores. Men who took NSAIDs experienced fewer adverse

short-term impacts of air pollution exposures on cognitive health than non-users, though there were no direct associations between recent NSAID use and cognitive performance. The researchers postulate that NSAIDs, especially aspirin, may moderate neuroinflammation or changes in blood flow to the brain triggered by inhaling pollution.

"Despite regulations on emissions, short-term spikes in air pollution remain frequent and have the potential to impair health, including at levels below that usually considered hazardous," says senior author Andrea Baccarelli, MD, PhD, chair of the Department of Environmental Health Sciences. "Taking aspirin or other anti-inflammatory drugs appears to mitigate these effects, although policy changes to further restrict air pollution are still warranted."

The link between long-term PM exposure and impaired cognitive performance in the aging population is well-established. Reported effects include reduced brain volume, cognitive decrements, and dementia development. Air pollution has also been associated with poor cognition of children and adults. Until now, however, little was known about the effects of short-term exposure to air pollution.

The researchers say future studies should investigate the specific effects of chemical components of air pollution on cognitive performance, exposure sources in the environment, and whether cognitive impairments due to short-term air pollution exposures are transient or persistent. Randomized clinical trials of NSAID use are needed to validate their protective effects.

Air pollution in the UK shows long-term improvement

Date:-4-May-2021, Source: [airqualitynews.com](https://www.airqualitynews.com)

Nitrogen dioxide and particulate matter pollution have shown long-term improvements, according to new data published by the Department for Environment Food and Rural Affairs (Defra).

The data, which uses a variety of metrics to compare air pollution levels from 1987 to 2020 revealed that in 2020, the lowest average annual mean concentrations of nitrogen dioxide (NO₂) pollution was recorded.

The number of hours of 'moderate' or higher NO₂ pollution at roadside sites was also the lowest in the time series. Defra has said that it is likely that a reduction in road traffic as a result of Covid-19 restrictions was a large contributing factor to reductions in NO₂ during this period.

Urban background and roadside particulate matter (PM_{2.5}) also showed signs of long-term improvement.

In 2020, annual particulate matter concentrations at both roadside and urban background sites were the lowest in the time series.

The data also revealed that burning wood and coal by households in stoves and open fires were large contributors to particulate matter pollution in the UK, with the highest levels found in the winter months and during the evenings.



Katie Nield, the clean air lawyer at environmental law charity ClientEarth, commented on this data: ‘Any decrease in air pollution must be welcomed but these figures do not show that the government is now complying with the law.

‘Legal limits have to be met across the country and for the long term. Data averaged from selected monitoring sites while the country experienced an extraordinary shift in lifestyle do not mean that we are out of the woods with air pollution.

‘The figures highlight the huge contribution of dirty vehicles to harmful pollution. It is clear that the pandemic will not solve the problem in the long

term, with the ONS already reporting that traffic levels are lurching back to pre-lockdown levels.

'The UK Government and local authorities cannot and must not point to temporary dips in pollution to try to evade the urgent need to clean up our air on a lasting basis.'

Air pollution exposure contributes to childhood asthma

Date:-5-May-2021, Source: news.westernu.ca

New findings from Ontario have shown that children born in Sarnia have a higher risk of developing asthma, compared with neighbouring cities.

A research team from Western University and Lawson Health Research Institute using provincial data from ICES, found that higher air pollution exposure in the first year of life very likely contributed to this higher risk.

"It's known that cities in Southwestern Ontario have varied levels of air pollution because of differences in industry and traffic. For example, Sarnia is home to the 'Chemical Valley' where numerous chemical plants and oil refineries are clustered," said Dr. Dhenuka Radhakrishnan, an ICES scientist, formerly working out of ICES Western in London.

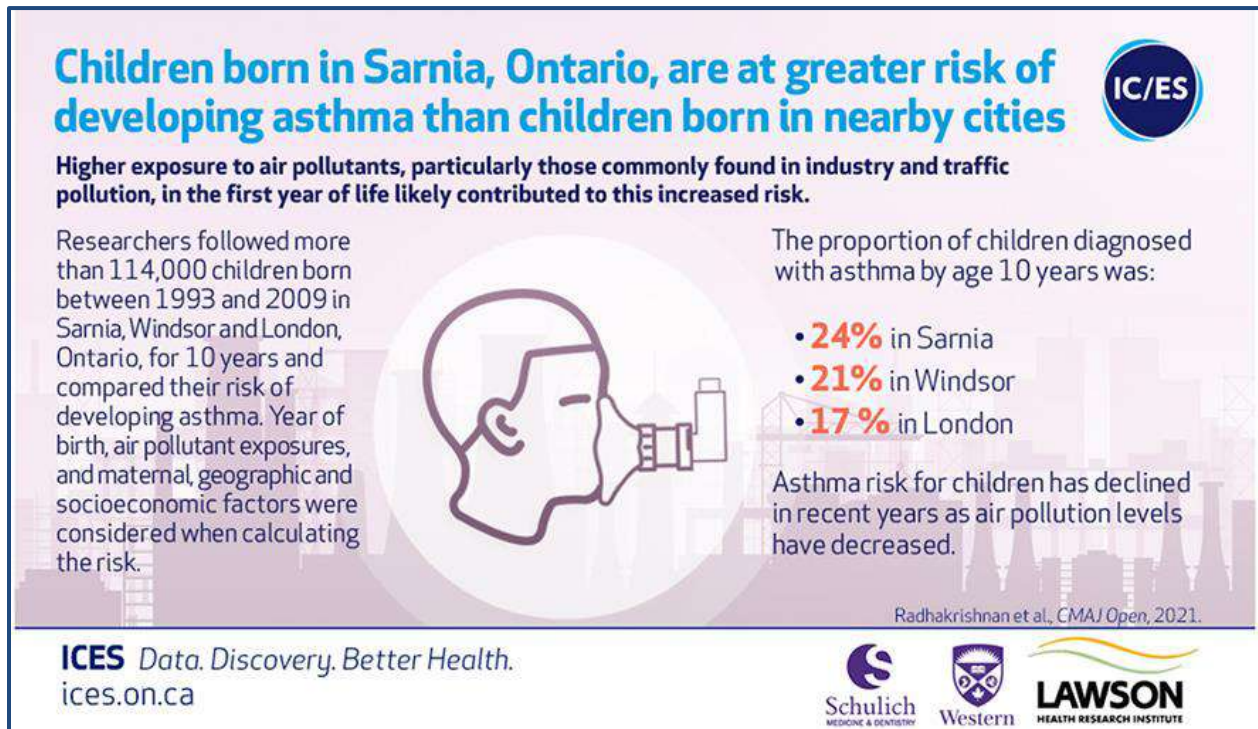
"We wanted to see if children born in three cities – London, Windsor and Sarnia – had a different risk of developing asthma due to the differing air pollution levels in the three regions, even though the people living in these cities are otherwise comparable in many ways." Radhakrishnan is a pediatric respirologist and director of the Asthma Program at CHEO, a pediatric health care and research centre in Ottawa.

Asthma is the most common chronic disease in Canadian children and has significant impact on quality of life. Asthma is a leading cause of emergency department visits and hospital admissions in this age group.

The study followed 114,427 children born in these cities between 1993 and 2009 for 10 years, and found that those in Sarnia were at the highest risk of developing asthma.

The researchers found that by the age of 10, nearly 24 per cent of children in Sarnia were diagnosed with asthma, compared to 21 per cent in Windsor and 17 per cent in London. The differences were also present after accounting for many risk factors associated with asthma, such as sex, socioeconomic status

and urban versus rural setting. The findings were most apparent in the first two years of life, but persistent beyond the age of six.



“Reassuringly, we found the asthma risk for children has reduced in more recent years as pollution levels have also decreased,” added Radhakrishnan.

The team asserts that any efforts to advocate for cleaner air would be helpful because air pollution can also trigger asthma attacks in people who already have asthma, as has been previously demonstrated in the Sarnia region and elsewhere.

“This study suggests that reducing air pollution exposure, including environmental causes, might reduce the number of children who suffer from asthma and asthma attacks,” explained Dr. Salimah Shariff, scientist at Lawson, professor at Western’s Schulich School of Medicine & Dentistry and scientist at ICES Western.

There is also growing evidence that exposure during pregnancy can influence development of asthma in children.

“We need to carefully examine how reducing air pollution exposures within a geographic area translates to reductions in asthma development. Understanding the amount of air pollution that a mother and infant are

exposed to, and how this impacts their personal risk, could enable regions to target safer levels for their residents,” added Shariff.

Recognizing symptoms of asthma early is the best a parent can do to improve the health of their child, so they can be diagnosed quickly and start appropriate treatments. If a parent notices their child has wheezing, persistent cough or difficulty with exercise, bringing this to the attention of a health care provider is important.

Cutting methane emissions is quickest way to slow global heating – UN report

Date:-6-May-2021, Source: theguardian.com



A cattle feedlot in Colorado: 42% of human-caused methane emissions come from agriculture, including burping livestock and manure.

Slashing methane emissions is vital to tackling the climate crisis and rapidly curbing the extreme weather already hitting people across the world today, according to a new UN report.

In 2020 there was a record rise in the amount of the powerful greenhouse gas emitted by the fossil fuel industry, cattle and rotting waste. Cutting it is the

strongest action available to slow global heating in the near term, Inger Andersen, the UN's environment chief, said.

The report found that methane emissions could be almost halved by 2030 using existing technology and at reasonable cost. A significant proportion of the actions would actually make money, such as capturing methane gas leaks at fossil fuel sites.

Achieving the cuts would avoid nearly 0.3C of global heating by 2045 and keep the world on track for the Paris climate agreement's goal of limiting global temperature rise to 1.5C. Methane cuts also immediately reduce air pollution and would prevent many premature deaths and lost crops.

Methane is 84 times more powerful in trapping heat than carbon dioxide over a 20-year period and has caused about 30% of global heating to date. But it breaks down in the atmosphere within about a decade, unlike CO₂, which remains in the air for centuries.

Cutting carbon emissions remains essential in ending the climate emergency, but some experts liken reducing CO₂ in the air to the slow process of stopping a supertanker, whereas lowering methane is like cutting the engine on a speedboat and bringing it to a rapid halt.

Prof Drew Shindell, at Duke University, who led the UN report, said: "We're seeing so many aspects of climate change manifest themselves in the real world faster than our projections," such as increasing heatwaves, wildfires, droughts and intense storms. "We don't have a lot we can do about that, other than this powerful lever on near-term climate of reducing methane. We should do this for the wellbeing of everybody on the planet over the next 20 to 30 years."

"Methane emissions are increasing faster now than at any time in nearly 40 years of the observational record," he said. "Despite Covid ... methane shot upwards – it's going in the wrong direction very, very rapidly."

The surge is partly due to the increased use of fossil fuels, especially gas produced by fracking, Shindell said, and probably more emissions from wetlands as they heat up.

"It's vital to reduce methane for the sake of near-term climate change," Shindell said "But it's also vital to reduce CO₂ for the sake of long-term climate change. The good news is that most of the required actions [to cut methane] also bring health and financial benefits."

Andersen said: “Cutting methane is the strongest lever we have to slow climate change over the next 25 years. We need international cooperation to urgently reduce methane emissions as much as possible this decade.”

The report produced by the UN and the Climate and Clean Air Coalition found that 42% of human-caused methane emissions come from agriculture, mostly from burping livestock, its manure, and paddy fields. Intentional and unintentional leaks of methane from fossil fuel drilling sites, coalmines and pipelines produce 36% of the total and waste dumps cause another 18%.

The report found feasible and cost-effective methane cuts of 60% could be made from fossil fuel operations by stopping the venting of unwanted gas and properly sealing equipment. Waste sites could cut about 35% by reducing the organic waste sent to landfill sites and through better sewage treatment.

The estimated methane cuts from agriculture by 2030 were lower at 25%. “You can change the feed to cows and the way you manage the herds, but these things are fairly small,” said Shindell. “You could make very great inroads into methane emissions by dietary change [eating less meat], but we are just not that sure how quickly that will happen.”

Other measures not specifically targeting methane can still cut emissions of the gas, the report said, such as reducing the demand for fossil gas by increasing renewable energy and energy efficiency, and wasting less food.

The report is the first to include the health and other benefits of cutting methane. The gas causes ground-level ozone pollution and a cut of 45% by 2030 would prevent 260,000 early deaths a year, the report said. More than 13,000 of those would be in the US and 4,200 in the UK. Ozone also damages crops and the methane cut would prevent 25m tonnes of wheat, rice, maize and soy being lost annually.

“Seldom in the world of climate change action is there a solution so stuffed with win-wins,” said Prof Dave Reay, at the University of Edinburgh, who was not part of the report team. A recent scientific study concluded that methane cuts can also “reduce the likelihood of passing climate tipping points”.

World leaders including Emmanuel Macron, Vladimir Putin, Alberto Fernández of Argentina and Nguyen Xuan Phuc of Vietnam all called for cuts in methane emissions at the Leaders Summit on Climate hosted by the US in April. Shortly after, Joe Biden moved to reinstate limits on emissions from oil and gas fields that had been cancelled by Donald Trump.

Jonathan Banks, at the US-based Clean Air Task Force, said: “We desperately need a win on climate change and methane abatement provides an opportunity for a real near-term win. Lately all we’ve been doing is slamming our heads against the wall – society can’t keep doing that for forever.”

Southern California’s Air District Votes to Electrify and Clean Up Air Pollution from Mega-Warehouses

Date:-7-May-2021, Source: earthjustice.org

SOUTHERN CALIFORNIA — This afternoon, after seven years of frontline community activism, the South Coast Air Quality Management District (SCAQMD) passed the Warehouse Indirect Source Rule (ISR) to address the region’s serious air quality problems by cutting pollution from the trucks traveling to and from warehouses, electrifying warehouses, and creating local clean energy jobs. The new regulation is a key step in eliminating toxic emissions from one of the nation’s largest and most profitable industries.

The South Coast Air Basin, which covers Orange, Los Angeles, Riverside, and San Bernardino counties, is home to some of the worst air quality in the country, largely due to a rapidly expanding freight industry with mega warehouses. The majority of these warehouses are not placed in areas where online shopping is done, meaning those who are closest to warehouses disproportionately suffer negative health impacts and are the most physically harmed by the pollution pumped out of diesel equipment and trucks.

“The decision by the AQMD to support this rule sets a precedent that will make sure the booming logistics industry cleans up their act to bring zero emissions to frontline communities of color,” said Graciela Larios Mendez, a longtime community organizer and member of the People’s Collective for Environmental Justice. “A lot of work remains to address the systemic impacts of the logistics industry’s activity, but this Indirect Source Rule for warehouses will guarantee that Southern California’s environmental justice communities receive the clean air benefits they deserve.”

The electrification and other clean air solutions under the new regulation will deliver health benefits worth up to \$2.7 billion, and save up to 300 lives and prevent up to 5,800 asthma attacks in the region. The investments will also have positive benefits for workers — an estimated 20,000 fewer sick days taken thanks to cleaner air inside and outside of the warehouses.



Vast warehouses bump up against homes in Southern California

“Squinting through the smog, California is charting a better future for the sake of our lungs — and that future is a zero emissions goods movement industry. This new regulation is a breakthrough for Southern Californians who’ve been exposed to the diesel pollution from a rapidly expanding goods movement industry for decades.” said Adrian Martinez, staff attorney on Earthjustice’s Right to Zero campaign. “The health benefits will be immense, but the Indirect Source Rule is just the beginning. The way we move goods in this country has got to be electric, for the sake of clean air and a breathable future.”

As the pandemic continues, the goods delivery and warehouse industry has boomed. Big box retailers like Amazon have tripled their Southern California logistics hubs, and communities in Long Beach, South East Los Angeles, and cities in the Inland Region have endured the worst impacts of this poor air quality and rapid expansion of mega-warehouses. The pandemic has only exacerbated the environmental injustice that these communities experience from goods movement and other pollution sources. Studies now demonstrate the risk of death and hospitalization from respiratory illnesses like COVID-19 increases with an individual’s prior exposure to air pollution.

“There is no vaccine for air pollution. So preventing air pollution in the first place is the only responsible public health response. Passing the Warehouse ISR is the SCAQMD upholding their commitment to protecting our air quality and health by reigning in emissions and pollution from warehouses,” said California Deputy of the My Generation Campaign, Carlo De La Cruz. “Southern Californians have been breathing some of the dirtiest air in the nation for decades. As we enter into another smoggy summer season, the passage and implementation of this rule is cause for celebration. Thanks to local community leaders and the SCAQMD Governing Board, communities that have been infested by warehouses will finally see some relief and hopefully some clear summer skies ahead.”

This rule comes at a critical time as industry analysts expect online shopping and e-commerce habits to continue well after the pandemic fades. This rule would also be the first in the nation to apply to existing warehouse facilities larger than 100,000 square feet. Approximately 3,000 facilities in the South Coast will be covered by the new rule.

Although some in the industry claim it is not affordable to electrify warehouses and fleets, through the ISR businesses will see fuel savings and maintenance costs in the form of newly installed solar panels and less expensive refueling costs for their vehicles moving in and out of their warehouses. The California Air Resources Board (CARB) estimates that a Class 8 electric truck will cost 4.7 cents a mile less to maintain than its diesel counterpart.

“The Indirect Source Rule ushers in a new era in Southern California environmental policy — one that prioritizes human lives over profits and improves the quality of our air, water, and health while creating quality green jobs,” said Kathy Hoang, Senior California Campaign Manager for the Partnership for Working Families. “Warehouses will remain an important part of our region’s economy, but because workers and communities joined forces to demand cleaner, safer communities for their families and their kids, corporations like Amazon will begin to take greater responsibility for our health and precious natural resources.”

The passage of Southern California’s Indirect Source Rule comes on the heels of the landmark \$47 million settlement agreement to heavily electrify the largest proposed warehouse development in the world, the World Logistics Center, last week. Located in Southern California’s Inland Empire region, the developer will provide funds to aid in purchasing 680 new electric trucks, which must be used within the region so local residents receive air quality relief

from diesel pollution. The settlement provides up to \$12.1 million for heavy-duty electric trucks alone. The developer will also provide a thousand \$1,000 electric vehical (EV) grants for local residents to purchase electric cars, install 1,080 EV chargers for passenger vehicles on site, and build enough rooftop solar to meet 50% of the development's electricity demand.

California warehouses required to cut emissions in one of the nation's smoggiest regions, air quality board votes

Date:-8-May-2021, Source: edition.cnn.com

A Southern California air quality board voted Friday to require large warehouses to drastically cut diesel emissions in an apparent first-of-its-kind regulation to reduce pollution in the nation's smoggiest region.

"About half of the air pollutants that contribute to smog come from the goods movement industry, with the largest source being heavy-duty trucks heading to warehouses across Southern California," South Coast Air Quality Management District (SCAQMD) Executive Officer Wayne Nastri said in a statement.

"After many years of development, today's adoption of the warehouse rule is a major step towards reducing air pollution and protecting the millions of people directly impacted by this type of pollution."

SCAQMD passed the Warehouse Indirect Source Rule in a 9-4 vote to implement a system aimed at reducing the exposure of nitrogen oxide (NOx) and diesel particulate matter in the air over the next three years.

These toxic fumes, which can worsen cases of asthma, cancer, and other respiratory issues, have sharply increased along with the growing presence of warehouses throughout the Southern California region and Inland Empire, where companies run large-scale distribution operations. The area consistently ranks as one of the smoggiest in the nation, according to the American Lung Association.

The powerful agency tasked with regulating air quality in Los Angeles, Orange, San Bernardino and Riverside counties said large warehouses have also created sources of local pollution from cargo handling equipment and trucks that frequent the area on a regular basis, causing environmental burden and severely impacting those living within a half mile from the facilities.

The new rule will require warehouses greater than 100,000 square feet to reduce nitrogen and diesel pollutants under the Warehouse Actions and

Investments to Reduce Emissions (WAIRE) program, which offers a menu of actions including using zero or near-zero emissions trucks and equipment.

Alternatively, the warehouses can implement their own plans and pay a fee which will be used to incentivize the purchase of cleaner trucks and charging stations in nearby communities, SCAQMD said.

"Emissions from sources associated with warehouses account for almost as many NO_x emissions as all the refineries, power plants and other stationary sources in the South Coast Air Basin combined," SCAQMD said in the release. "Reductions in NO_x are essential to meeting upcoming federal clean air standards."

The rule is expected to reduce smog-forming emissions from warehouse related sources by 10 to 15 percent, it said.

California Agency Approves Warehouse Rule For Air Quality

Date:-9-May-2021, Source: kpbs.org



Container cargo ships are seen docked in the Port of Los Angeles, March 3, 2021

Southern California air quality regulators on Friday approved a rule that would curb diesel emissions from thousands of trucks that ferry goods from the growing number of massive warehouses in the region run by Amazon and other companies.

Areas around the facilities have weathered increased pollution affecting their largely minority communities.

The so-called warehouse rule was approved 9-4 by the South Coast Air Quality Management District board.

It institutes a points-based system requiring about 3,000 distribution centers to choose from a menu of options to reduce or offset emissions. Those could include choices such as replacing diesel trucks and other equipment with electric models, putting in rooftop solar panels or installing air filters at nearby schools or day care centers.

"Warehouse operators could prepare and implement a custom plan specific to their site, or they could pay a mitigation fee," the proposal read. The fees would go toward funding similar air quality improvements in surrounding neighborhoods.

South Coast district officials said they acted in order to meet federal smog-reduction deadlines in 2023 and 2031.

The Air Quality Management District said in a socioeconomic impact assessment report earlier this year that the regulations would provide public health benefits worth \$2.7 billion from 2022 to 2031 — including 5,800 fewer asthma attacks and 300 fewer deaths.

Environmental and activist groups praised the vote, saying it will reduce pollution while providing local clean energy jobs.

The rule "is the first step in eliminating toxic emissions from one of the nation's largest and most profitable industries," said a joint statement from the Sierra Club, Earthjustice, People's Collective for Environmental Justice and the Partnership for Working Families.

"Squinting through the smog, California is charting a better future for the sake of our lungs, " said Adrian Martinez of Earthjustice. "The health benefits will be immense, but the Indirect Source Rule is just the beginning. The way we move goods in this country has got to be electric, for the sake of clean air and a breathable future."

But the Los Angeles County Business Federation said the rule amounts to an unauthorized job-killing tax and called the Air Quality Management District's action "irresponsible" and "a travesty."

"The staff advised the board that this rule and tax will eliminate tens of thousands of jobs, with no evidence it will actually reduce emissions," the business group said. "What's more, these job losses will disproportionately impact communities of color, the same communities the board is claiming to support. This is not how public policy should be made."

B.J. Patterson, chief executive of Pacific Mountain Logistics, which employs more than 65 people at a 200,000-square-foot (18,580-square meter) warehouse in San Bernardino, told the Los Angeles Times that he didn't know which of the compliance options his company would select.

Most of the forklifts used inside are already electric, he said, and he does not control which trucks come in and out. Opting to pay the mitigation fees would cost his business close to \$200,000 a year, he estimated.

Environmental and community groups have for years pushed for tighter regulations to help neighborhoods inundated with smog-forming nitrogen oxides from trucks driving to and from sprawling warehouse complexes owned by Amazon and other distributors across the inland region east of Los Angeles.

"These communities are often disadvantaged and people of color. So it's part of our ongoing commitment to address the environmental justice inequity, as well as addressing the overall regional air quality pollution," Wayne Nastri, the South Coast district's executive officer, said a day before the vote.

More than 2.4 million people live within half a mile of at least one large warehouse, and those areas have higher rates of asthma and heart attacks, and are disproportionately Black and Latino, district officials said.

Presentation of the proposal began after board members honored clean-air trailblazer William A. Burke, who is retiring after 23 years as chairman. "Today is historical. It couldn't be a better day to go home," Burke said.

Air pollution could trigger flooding, study suggests

Date:-10-May-2021, Source: airqualitynews.com

Air pollution may trigger more intense floods and landslides, according to a new study published in the journal *Climate Dynamics*.

Researchers from the Desert Research Institute analysed satellite data from 2002 to 2017 from Nepal and northwestern India in order to understand the atmospheric impact of aerosols.

Aerosols include dust and man-made pollutants from sources such as vehicles and construction sites. According to the researchers, these aerosols can block sunlight and radiation from reaching the earth.

Having analysed the data, the researchers found that on days with extreme levels of aerosols in the atmosphere the freezing point was higher by 136.82 metres. An elevated level of freezing point could lead to rainfall in areas where there should have been snowfall, and this could accelerate the rate of glacier melt.

The researchers also found that aerosols impacted the intensity and amount of rainfall. On the most polluted days, precipitation went up by 1.28mm – the researchers have warned that this increased intensity of rainfall could trigger more intense flooding and landslides.

Based on these findings, the researchers have highlighted that the effects of air pollution should be discussed beyond its immediate impact on human health.



Pramod Adhikari, co-author of the study said: 'Aerosols emanating from vehicles and factories, dust, construction sites, or even wildfires impact human health.

'But these pollutants can also alter rainfall patterns, increase snowpack meltings as cascading effects. For these reasons too, the emission of pollutants should be controlled at their sources. Measures must be adopted for minimising pollution sources, if not fully control them.

'Otherwise, the results will be catastrophic.'

In related news, David Harrison, a frequent traveller to Nepal, reports on the challenges and opportunities for clean air in the Kathmandu Valley, currently one of the most polluted areas in the world yet set against a backdrop of aesthetically beautiful mountains and wild landscapes.

Improved air quality during first wave of COVID prevented 150 premature deaths in major Spain cities

Date:-11-May-2021, Source: eurekaalert.org

Air quality in Spain temporarily improved during the first wave of COVID-19, largely as a result of mobility restrictions. Until recently, however, the effect of this improvement on the health of the population was poorly understood. A new study led by the Barcelona Institute for Global Health (ISGlobal), a centre supported by the "la Caixa" Foundation, together with the Barcelona Supercomputing Center (BSC-CNS), has estimated that this improvement in air quality prevented around 150 premature deaths in Spain's provincial capital cities.

Several analyses have estimated the mortality reduction from improved air quality during lockdown periods in China and Europe and found that a substantial number of premature deaths have been avoided. The new study, published in *Environmental Pollution*, is the first to focus on Spain, specifically 47 provincial capitals. First, the researchers assessed changes in levels of air pollution--nitrogen dioxide (NO₂) and ozone (O₃)--during the lockdown period (57 days) and deconfinement period (42 days) of the first wave of COVID-19, which occurred between March and June 2020. The team then estimated the impact of these air quality changes on mortality at the population level.

Lead author Hicham Achebak, a researcher at ISGlobal and at the Centre for Demographic Studies (CED), explained the methodology used in the study. "We used machine-learning techniques to take into account the influence of meteorological factors when quantifying the effect of lockdown on air quality levels," he noted. "To estimate changes in mortality, we specifically fitted epidemiological models based on historical health and air pollution data in each provincial capital city."

The authors found that NO₂ levels decreased by 51% and 36% during the lockdown and deconfinement periods, respectively, during the first wave of COVID-19. The level of ozone decreased much less on average--by 1.1% and 0.6%, respectively--although it increased in some of the most populous cities.

Regarding the impact of the reduction in NO₂ on premature mortality, the authors estimated that around 120 and 50 deaths were avoided during lockdown and deconfinement, respectively, for a total of approximately 170 premature deaths avoided. COVID-19 lockdowns led to "unprecedented reductions in NO₂ concentrations, especially when the most stringent measures to reduce viral spread were applied, reaching up to 65% in some of the cities studied," explained Hervé Petetin, researcher at BSC-CNS, who was responsible for the application of machine-learning techniques. Most of the NO₂ emissions in cities come from vehicles, in particular those with diesel-powered engines.

In the case of ozone, the decrease was so small that no premature deaths could be attributed to it. In fact, the researchers estimated that premature mortality attributable to this pollutant increased by approximately 20 deaths during the study period. Carlos Pérez García-Pando, ICREA research professor, AXA professor and head of the BSC-CNS Atmospheric Composition Group, which participated in the study, explained: "Even though, on average, there was a small reduction in ozone during the study period, ozone levels increased in the most populous cities, especially Barcelona and Madrid." He added: "Ozone is a secondary pollutant that can increase when levels of nitrogen oxides decrease in environments that are saturated with this pollutant, such as large urban areas." The study shows that "potential trade-offs between multiple pollutants should be taken into account when evaluating the health impacts of environmental exposures," he concluded.

Joan Ballester, researcher at ISGlobal and coordinator of the study, commented: "The number of deaths prevented by improvements in air quality in Spain could be greater." The researcher cited two main reasons for this

assertion: "First, our study focused on provincial capitals, but there are other cities with high levels of air pollution. Second, we did not take into account reductions in fine particulate matter, which were relatively modest compared to the reductions in NO₂ but most likely contributed to a further decrease in premature mortality."

"These findings demonstrate the major short-term health benefits associated with reducing air pollution," added Ballester. "With permanent reductions in emissions, the positive effects could be even greater." In addition to reducing premature mortality, improvements in air quality "could reduce the disease burden of epidemics that cause respiratory infections such as COVID-19, since diseases caused by long-term exposure to air pollution are in turn risk factors for the severity and mortality of coronavirus infection," concluded the researcher.

Asian Cities Face Greatest Environmental Risks, Report Shows

Date:-12-May-2021, Source: bloomberg.com

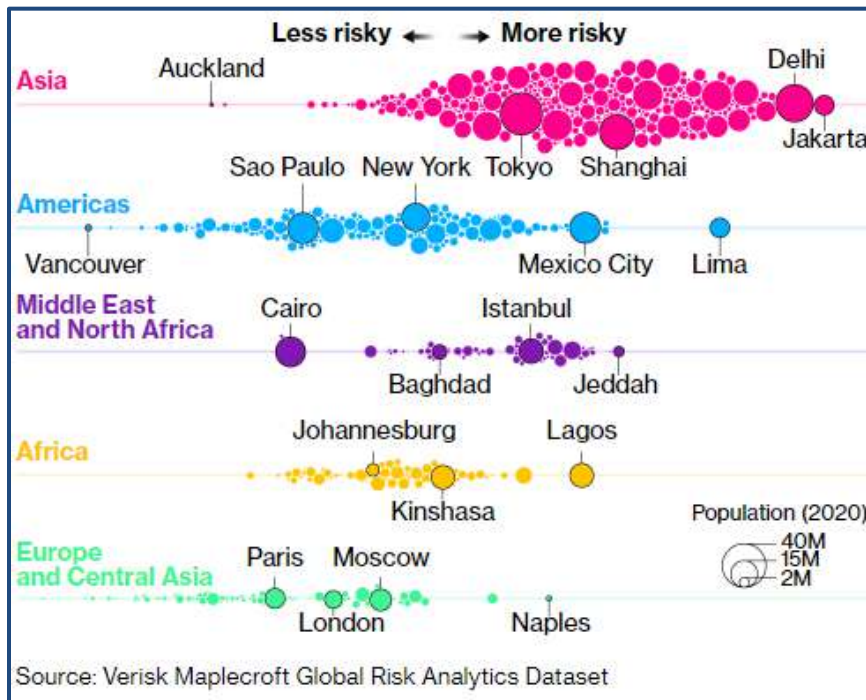
Asian cities face the greatest risk from environmental issues including air pollution and natural disasters, according to a report by research firm Verisk Maplecroft.

Of the 100 most vulnerable cities, 99 are in Asia, according to the report released on Thursday. Of those, 37 are in China and 43 are in India, the world's first and third biggest emitters of greenhouse gases respectively. Globally, 1.5 billion people live in 414 cities that are at high risk from pollution, water shortages, extreme heat, natural hazards and the physical impacts of climate change.

Cities At Risk

Residents of Asia's urban centers are most exposed to factors including air pollution, heat stress and climate change vulnerability.

Jakarta, the capital of Indonesia, topped the list of combined risk based on all nine factors analyzed by Verisk Maplecroft. India is home to 13 of the 20 riskiest cities in the world, a result of its extreme levels of air and water pollution. China's flood-prone Guangzhou and Dongguan topped the list of cities facing threats from natural hazards, followed by Japan's Osaka and Tokyo for being vulnerable to earthquakes and typhoons. Lima is the only city outside Asia among the top 100 most at-risk cities overall.



A significant danger for many cities is how climate change will amplify weather-related risks, said Will Nichols, Verisk Maplecroft's Head of Environment and Climate Change. "Higher temperatures and the increasing severity and frequency of extreme events will change the quality of living and economic growth prospects of many cities across the

globe," he said. African cities face some of the worst risks from climate change and have the least ability to mitigate those impacts. Glasgow was ranked the safest among the 576 cities examined for that factor.

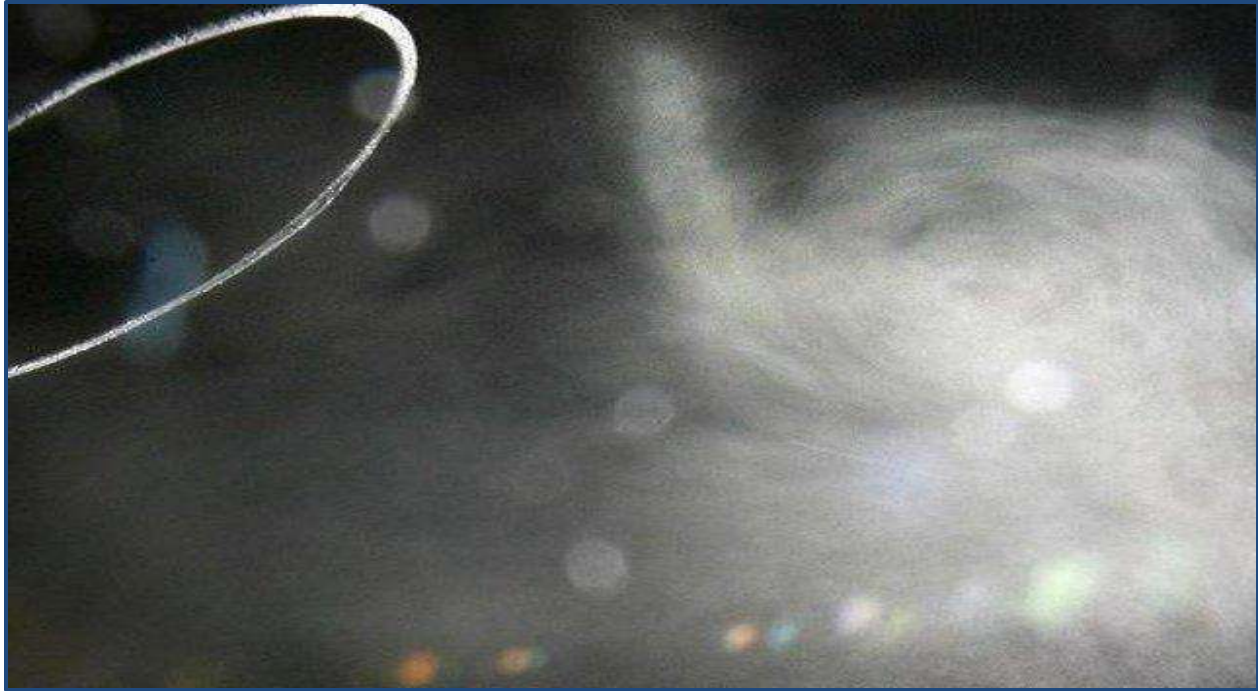
"Environmental risk needs to be a central consideration when it comes to making your business, investments or real estate portfolio more resilient," said Nichols. The hope is that identifying these risks and stressing strategies for future climate scenarios will help investors can "gain a clearer view of the costs and benefits of investment decisions."

New air pollution fear as lockdown is lifted

Date:-13-May-2021, Source: wigantoday.net

Health campaigners say "toxic" air quality in the UK is a national emergency and the Government must impose stricter limits on airborne fine particulate matter (PM2.5), which come mainly from the burning of oil, gas and diesel.

The calls have been heightened after a coroner, while ruling that air pollution was a cause of the death of a nine-year-old girl in London, stated there was "no safe level" of PM2.5, adding WHO guidelines should be seen "as minimum requirements".



Efforts have been made locally to reduce vehicle pollution

Figures from the Department for Environment Food and Rural Affairs show the average concentration of PM2.5 pollution particles in Wigan was 8.4 micrograms per cubic metre in 2019 – below the UK limit of 25 and the WHO guideline limit of 10. That was an increase from eight micrograms in 2018.

Across the North West, the level of PM2.5 was at 8.3 in 2019, and 7.9 in 2018.

Separate figures published by the NHS show an estimated 4.5 per cent of deaths among people aged 30 and over in Wigan were associated with long-term exposure to PM2.5, up from 4.4 per cent the year before.

The British Heart Foundation, which is campaigning for stricter limits on PM2.5 as part of the Government's Environment Bill which returns to Parliament this year, says the country faces "a public health emergency".

John Maingay, director of policy and influencing at the charity, said: "Our toxic air is a public health emergency, and now is the time to take robust action to support everyone's health as we look to recover from the pandemic."

He added: "We are pleased that the Environment Bill, which will set more stringent air quality limits, will soon be returning to complete its passage through Parliament.

“However, this must go further and ensure WHO limits are adopted into law, and met by 2030.

“Stricter, health-based air quality guidelines are urgently needed to protect the health of the nation and clean up toxic air for good.”

The dangers of air pollution were further highlighted last month when nine-year-old Ella Adoo-Kissi-Debrah became the first person in the UK to have air pollution listed as the cause of death on their death certificate.

Coroner Phillip Barlow, who found she had been exposed to high levels of PM2.5 from traffic, said the Government should reduce its limits for the particulate matter pollution to bring them in line with WHO guidelines.

In his report, Mr Barlow said: “Delay in reducing the levels of atmospheric air pollution is the cause of avoidable deaths.”

PM2.5 are tiny particles, measuring about three per cent of the diameter of a human air, which can lodge in the lungs and even pass into bloodstream, potentially causing damage to blood vessels and organs.

They come mostly from traffic fumes, but also through industrial emissions, wood burners and livestock manure.

A small proportion come from natural sources in the form of dust or sea salt particles.

Levels of the PM2.5 particles have fallen in England since 2011, when national records began, from 12.1 micrograms per cubic metre to 9.6 in 2019. In Wigan, the reading fell from 2011, when it was 11.

Wigan Council has set great store in promoting alternatives to car travel in recent years with improvements made to walking facilities and a proliferation of bicycle lanes.

Defra’s readings for PM2.5 are calculated using air quality measurements along with numbers and locations of people in each local authority to provide average annual levels of exposure.

A spokesperson said: “We know there is more to do as we build back greener from the coronavirus pandemic.

“Through our landmark Environment Bill we have committed to a new concentration target on PM2.5 – the most damaging pollutant to human health – and as part of this we will be considering the WHO’s guidelines for PM2.5.”

More recent pollution readings made during the lockdowns of 2020 show that levels plummeted in Wigan and the rest of the country as most people were confined to their homes.

But the fears are that as lockdown continues to be lifted over the coming weeks, the pollution will return to its pre-pandemic levels.

US EPA reverses block on tougher air pollution rules

Date:-14-May-2021, Source: cen.acs.org



The US Environmental Protection Agency has nixed a Trump-era rule that disregarded indirect benefits of air pollution controls

The US Environmental Protection Agency has scrapped a Dec. 9 rule that modified how the costs and benefits of controlling air pollution are calculated. The agency claims that the Trump-era rule restricted the agency from using the best available science when developing regulations under the Clean Air Act.

The EPA also says that the procedures required under the rule resulted in net benefit calculations “that are misleading and inconsistent with economic best practices.”

“Revoking this unnecessary and misguided rule is proof positive of this Administration’s commitment to science,” EPA Administrator Michael Regan, says in a statement.

The Trump administration claimed that the rule provided “more consistent and transparent” cost-benefit analyses used to justify air pollution regulations, but critics say it ignored benefits at the expense of public health.

In particular, the rule directed the EPA to ignore indirect benefits, such as the reduction of pollutants not directly targeted by a regulation. The rule was prompted by air pollution standards adopted under the Obama administration that considered indirect benefits of mercury pollution controls, such as lower emissions of particulate matter.

The American Chemistry Council, which represents the chemical industry, supported the Trump administration’s rule. “Ensuring a clear, consistent and correct appraisal of benefits and costs in the regulatory process is a commonsense idea with bipartisan backing over four decades,” the ACC says in a statement.

Environmental and public health groups welcome the EPA’s move to rescind the rule.

“The original rule, which would have deliberately discounted the health benefits of air pollution standards, would have artificially reduced the ‘value’ of air pollution cleanup, thereby undermining future limits on air pollution,” Harold Wimmer, president and CEO of the American Lung Association, says in a statement.

Plant-Based Energy Drink Brand Plants Trees To Combat London Air Pollution

Date:-15-May-2021, Source: plantbasednews.org

Sustainable vegan energy drink brand, Tenzing, has unveiled a tree planting scheme to combat air pollution in the UK capital, London.



'We know plants nourish us on the inside, and now we're using them to protect us from outside hazards too'

The Plants Against Pollution campaign involves creating natural tree 'barriers' in spots where pollution is especially high.

It is hoped the scheme will ensure people out exercising are less affected by harmful pollution levels.

Plants Against Pollution

Tenzing launched an air tracker two years ago and has since compiled a database of popular running, cycling and walking routes.

Based on the data, the company worked out where the most urgent areas were. Now, it is planting evergreen trees and shrubs in those areas.

The scheme is in partnership with Imperial College London.

The university's Senior Air Quality Analyst, Andrew Grieve, said: "Combining our pollution data with Tenzing's running data has opened up a new view of where and when runners are most exposed in the capital.

“A network of green running routes across the city would mean runners get more of the benefits of exercise and less of the pollution which is the best of both worlds.”

Air pollution

Following lockdown restrictions in the UK, Tenzing reports decreased air pollution levels.

This is largely good for people’s health – especially among asthma sufferers – as air pollution can lead to respiratory problems.

However, the data also found that outdoor exercise had increased by 15 percent – meaning more people are exposed.

Tenzing Founder, Huib van Bockel, spoke of the power of plants. He said: “We know plants nourish us on the inside. And, now we’re using them to protect us from outside hazards too.”

The first location for the tree barriers will be Elephant and Castle roundabout in SE1.

Tenzing is working with local borough councils across the city to further roll out the campaign.

Air pollution falls to lowest level in a decade on Isle of Wight

Date:-16-May-2021, Source: countypress.co.uk



Air pollution rates have fallen on the Isle of Wight

AIR pollution on the Isle of Wight has fallen to its lowest level in a decade, figures reveal.

Climate campaigners say the improvement in air quality has been helped by continuing investment in cycling and walking as well as the transition to zero-emission cars with new petrol cars to be

banned from sale by 2030.

Yet there are still areas across the UK where toxic pollution has led to health charities calling on the Government to impose stricter limits on fine particles in the air (PM2.5), which come mainly from the burning of oil, gas and diesel.

Figures from the Department for Environment Food and Rural Affairs show the average concentration of PM2.5 pollution particles on the Isle of Wight was eight micrograms per cubic metre in 2019 — below the UK limit of 25, and the World Health Organisation guideline limit of ten.

That was a decrease from 9.2 micrograms in 2018, and the lowest level since 2010, when it was 9.7.

Levels of the particles have fallen in England since 2011, when national records began, from 12.1 micrograms per cubic metre to 9.6 in 2019.

Separate figures published by the NHS show an estimated 4.2 per cent of deaths among people aged 30 and over on the Isle of Wight were associated with long-term exposure to PM2.5, down from five per cent the year before.

The UK Health Alliance on Climate Change welcomed the reduction in pollution in some areas, but wants the Government to bring in lower limits on PM2.5 as part of the Environment Bill, which will come back before Parliament this year.

The dangers of air pollution were highlighted last month when nine-year-old Ella Adoo-Kissi-Debrah became the first person in the UK to have air pollution listed as the cause of death on their death certificate.

She lived near the South Circular Road in Lewisham, south-east London, and died in 2013.

Coroner Phillip Barlow, who found she had been exposed to high levels of PM2.5 from traffic, said the Government should reduce its limits for the particulate matter pollution to bring them in line with WHO guidelines.

PM2.5 are tiny particles which can lodge in the lungs and even pass into bloodstream, potentially causing damage to blood vessels and organs.

They come mostly from traffic fumes, but also through industrial emissions, wood burners and livestock manure. A small proportion come from natural sources in the form of dust or sea salt particles.

Rogue Valley Air Pollution Ranked With Some Of The Country's Worst

Date:-17-May-2021, Source: ijpr.org



Driving into Ashland during a recent summer of wildfire smoke

Respiratory health can take a hit during wildfire season in the Rogue Valley. A recent report shows that the region's air quality is some of the worst in the nation.

In the American Lung Association's 2021 "State of the Air" report, Jackson County was ranked seventh in the nation for worst particle pollution. Medford and Grants Pass were ranked as the fifth most particle-polluted cities, just one spot above Los Angeles.

Carrie Nyssen is with the American Lung Association. She says wildfires are one of the biggest threats to clean air in the region.

"The common pollutant that we have in the Pacific Northwest is particle pollution," says Nyssen. "We know that one of the largest contributors we have

to the summertime air quality is wood fire smoke. And that's certainly indicated in this year's report by the number of counties in Oregon that received a failing grade." Most particle pollution comes from wood fires, which can create particles small enough to breathe in and go into the bloodstream through the lungs.

Nyssen also says the report highlights how global warming causes a web of natural disasters in the region.

"We know with our fire seasons starting earlier, lasting longer, they're burning more acres and increasing in intensity," she said. "We're likely to see increases in particle pollution during the summer months."

Nyssen says she recommends people monitor the air quality around them with easily obtainable free apps and protect those more vulnerable to pollution, like children and the elderly.

Burning coal causes more than air pollution. Updated report looks at coal ash contamination

Date:-18-May-2021, Source: michiganradio.org



DTE Energy Monroe Power Plant

Some coal fired power plants are being closed. Still, most of Michigan's utilities heavily rely on coal.

"In 2019, coal still fueled the largest share of Michigan's electric generation, about 32 percent. DTE Energy in particular is still heavily reliant on coal generation, with close to 60 percent (56%) of its energy coming from coal fired power plants," Charlotte Jameson with the Michigan Environmental Council (MEC) said.

She is one of the authors of an updated report on pollutants that come from burning coal.

Often, coal burning power plants are associated with the air pollution they emit. But after coal is burned, coal ash is left.

Coal ash dust can be carried by the wind for miles, contaminating land and water.

"Coal ash can also cause heart damage, lung disease, respiratory distress, kidney disease, reproductive problems, gastrointestinal illness, birth defects and impaired bone growth in children," noted Casey Patnode, a medical and public health student at the University of Michigan.

Often the pollution becomes an environmental justice issue. Low income residents and people of color often live nearest the coal burning power plants.

Patnode says that's on top of the air pollutants from the smokestacks and sources in some communities.

"Detroit's asthma hospitalization rate, for example, is over three times the rate for Michigan as a whole. And the death rate for asthma for Black individuals in Michigan in general occurs at a rate of three-point-two times that of white people."

When coal ash is stored in large ponds to keep it from blowing about, it contaminates the water in the impoundment. That water can get into groundwater. That means toxic heavy metals, such as lead, mercury, and arsenic get into the environment at sometimes unhealthy levels.

Often the storage sites are at the power plant sites which sit near water. In Michigan, that often means near a Great Lake or a river that leads to a Great Lake.

“Our review of 2018 and 2019 monitoring data shows that of the 15 coal ash disposal sites with publicly available heavy metal groundwater monitoring data, 80 percent of those had levels of toxic chemicals in the groundwater exceeding state and federal protective standards,” said Abby Wallace, co-author of the report and a policy specialist with MEC.

The authors note that many utilities are closing down unlined coal ash pits, but their two reports show no trend or progress in remediation of the groundwater that’s been contaminated.

“The storage of coal ash in unlined pits has caused toxic chemicals to leach from the coal ash into our groundwater, in some instances to alarming levels above health and environmental protection standards,” Jameson said.

As the coal ash pits are no longer needed to stay open, many of them are simply being capped while still leaching chemicals into groundwater.

Fed up with toxic air, Jakarta residents holding breath for court ruling

Date:-19-May-2021, Source: reuters.com



A general view of business buildings as smog covers the capital city of Jakarta, Indonesia, May 19, 2021

JAKARTA, May 19 (Reuters) - Born and raised in the bustling megacity of Jakarta, Indonesia's densely populated, traffic-choked capital, environmentalist Khalisah Khalid has long anguished over the city's toxic air.

Her young daughter has been plagued by ill health from birth, issues she believes are exacerbated by the city's worsening air pollution.

"Her health is increasingly being threatened with Jakarta's increasingly dirty air quality," said Khalisah, of her daughter, now aged 10. "We want the government to make rules to ensure citizens have a good environment and air."

The 42-year-old mother is one of 32 plaintiffs in a citizen lawsuit against the Indonesian president, the ministers of health, environment and home affairs, and several regional leaders, demanding they fix the unhealthy air they breathe.

The Central Jakarta district court had been expected to rule on the 2019 lawsuit on Thursday, but Khalisah said this had been postponed because judges needed more time to consider their ruling.

Of the world's cities with the worst air pollution last year, the top 148 are in the Asia-Pacific region, according to Swiss air quality technology company IQAir.

The plaintiffs' legal team have claimed Indonesian authorities has been environmentally negligent by failing to prevent its citizens from the health impacts of air pollution.

They argued that scientific research showed poor air quality can lead to asthma, coronary heart disease, stroke, chronic obstructive pulmonary disease, and decreased life expectancy.

Irvan Pulungan, the Jakarta governor's special envoy on climate change, said the city had passed new regulations since the suit was filed, including on installing solar panels in government buildings and encouraging emission tests.

"The suit was a collaborative effort to encourage something that's not just pro-people, pro-environment, but also pro-social justice," he said, adding that to maximise the effectiveness of policies regional and central governments needed to integrate actions.

In 2019, Jakarta also announced new curbs on private car usage to try and rein in choking air pollution. A presidential spokesman did not immediately respond to a request for comment for the story.

Rapid urbanisation and chronic traffic are contributing factors to poor air quality in the Indonesian capital, alongside nearby coal-fired power plants, according to the Center on Energy and Clean Air (CREA).

Air quality monitoring of fine particle matter (PM 2.5) by the U.S. embassy in Jakarta in 2019 showed there were 172 unhealthy days, more than 50% of the year.

Despite social restrictions, Jakarta's air quality did not significantly improve during the COVID-19 pandemic, with satellite imaging showing power plants in neighbouring provinces operating as usual, noted CREA in an August 2020 report, which analysed transboundary air pollution in Jakarta and its surrounding areas.

CREA identified 136 registered industrial facilities, including power plants, in high-emitting sectors in Jakarta and within a 100-kms (62-mile) radius of the city borders.

Coal-fired power plants, it said, expose people to toxic particles, some microscopic, such as PM2.5, ozone, from nitrogen oxides and heavy metals like mercury.

New e-bike program aims to reduce traffic and air pollution in Vancouver

Date:-20-May-2021, Source: bc.ctvnews.ca

VANCOUVER -- A new pilot program aiming to replace trucks with electric bikes on the final leg of a delivery route, is being implemented in Vancouver.

The City of Vancouver, with funding from the province, is testing out a cargo e-bike project to help reduce traffic congestion and air pollution, says a news release from the city.

The program will use micro hubs, which are facilities where trucks can drop off items for delivery to then be put on bikes for their final leg of their journey, usually one to three kilometres. The trial will start in June and run for 14 months. It will then be reviewed for how effective it was.



The Vancouver skyline is pictured in 2019 in this photo from CTV News Vancouver's Gary Barndt

The B.C. government is partnering with the city on the pilot program, providing \$200,000 in funding, says a news release from the province.

"Enabling alternative delivery methods within densely populated urban centers will increase safety, improve mobility and protect city infrastructure for future generations," said Bowinn Ma,

minister of state of infrastructure.

The province says micro-hubs are already being used around the world, including in Montreal where the hub enables more than 5,000 deliveries a day.

A feasibility study into micro hubs, by the national non-profit Pembina institute, shows that 48 per cent of Canadians, who order online, live in a dense urban area.

"In the face of a climate emergency, we must find ways to deliver goods and services more sustainably while enabling a liveable city and vibrant economy," said Kennedy Stewart, mayor of Vancouver.

In addition to a reduction in emissions, it's hoped the project will address issues such as double parking and improve road safety by having fewer large vehicles in the city. In the long term, the province hopes the project will allow for more space on the roads to reallocate to walking, cycling and public space.

Korean Study Ties Air Pollution to Developing Parkinson's

Date:-21-May-2021, Source: parkinsonsnewstoday.com

Nitrogen dioxide (NO₂) is associated significantly with a higher risk for developing Parkinson's disease, according to a recent study from Korea. The finding reinforces previous research showing a potential link between air

pollution and Parkinson's. The results also prompted researchers to suggest that better air pollution regulations might lower incidence of the neurodegenerative disorder.



The study, “Association of NO₂ and Other Air Pollution Exposures With the Risk of Parkinson Disease,” was published recently in JAMA Neurology. Recent research has linked long-term exposure to ingested and inhaled environmental

pollutants with the occurrence of neurodegenerative disorders such as Parkinson's. How this might happen remains unclear, however.

One hypothesis states that the toxic clumps of alpha-synuclein that characterize Parkinson's on a molecular level first form in the brain's olfactory bulb and in the gut, before spreading throughout the nervous system. This involvement supports the environmental exposure connection by being directly linked to what we inhale and consume, respectively.

Epidemiological studies seeking to confirm the relationship between pollution and Parkinson's have delivered inconsistent results, however. Some studies have found associations between the disorder and various airborne molecules, including ozone (O₃), small particulate matter (PM_{2.5}), and NO₂.

A team of researchers from the University of Ulsan College of Medicine, in Seoul, South Korea, pointed out that most past studies have been carried out in North America and Europe, leaving little Asian data from which to draw.

To attempt to fill this gap, the group used Korea's National Health Insurance Service (NHIS) records to look for associations between Parkinson's occurrence and six common ambient air pollutants: PM_{2.5}, PM₁₀ (slightly larger small particulate matter), NO₂, O₃, sulfur dioxide (SO₂), and carbon monoxide (CO). NHIS records include approximately 97% of Korean residents.

The investigators compared health records to those of air pollution, which are tracked by the Seoul Research Institute of Public Health and Environment.

They identified 78,830 adults older than 40 (mean age 54.4, 52.1% female), without Parkinson's, and who lived in Seoul from January 2002 to December 2006. They then followed this group's records annually from January 2007 to December 2015.

A total of 338 individuals developed Parkinson's over the study period, and from among the analyzed pollutants, only exposure to high amounts of NO₂ were linked to a statistically significant increase in Parkinson's risk.

The association between NO₂ and Parkinson's remained strong, even after adjusting for age, sex, type of insurance, and other medical conditions. The researchers observed that NO₂ exposure often is related to traffic emissions and that some studies have suggested that it exerts toxic effects on the brain. These include worsening the buildup of amyloid-beta, which can trigger the formation of alpha-synuclein clumps, causing nerve signaling difficulties and increasing markers of inflammation.

"In conclusion," the scientists wrote, "we identified a statistically significant association between the risk of [Parkinson's] and exposure to NO₂ for the previous 5 years, especially at high exposure levels. We found no evidence for the association between the risk of PD and exposure to PM_{2.5}, PM₁₀, O₃, SO₂, or CO."

Knoxville will be under 'orange' air quality alert Sunday

Date:-22-May-2021, Source: wate.com

KNOXVILLE, Tenn. (WATE) — An air quality alert has been issued for Knoxville and the surrounding areas for Sunday.

An air quality alert is issued when the air quality is forecast to be unhealthy for sensitive groups. This means that those with lung disease, breathing problems such as asthma or COPD, as well as young children and seniors may experience breathing difficulties.

Additionally, those who are active outdoors for an extended period may notice poorer air quality and experience difficulties.

We will be in the “orange” level. The orange level is for AQI (Air Quality Index) levels between 101 and 150. Sunday’s forecast AQI for Knoxville is 101. The primary pollutant Sunday will be ozone.

Air quality alert days are not uncommon during the summer or during extended periods of high pressure, like we are currently experiencing. High pressure often creates hot conditions, light winds and a more stagnant air mass, which can produce more ground-level ozone.

While high pressure will remain in control the next several days, so far the AQI is forecast to be in the moderate level for Monday (at a value of 100). AQI forecasts can change frequently and air quality tends to be better during the morning hours.

Researchers Exploring Effects Of Air Pollution On Children’s Health

Date:-23-May-2021, Source: miami.cbslocal.com

LONDON (CBSMiami) – Researchers are exploring the effects of air pollution on children’s health and the steps governments can take to create a cleaner environment.

To learn more, scientists are using a special belt to track the movements of 3,500 kids. 84 schools in England are taking part in the four-year study, with students aged 6 to 9 years old.

London is one of the most polluted cities in Europe. “Even if you live in the countryside at the moment, you know, you’re not far from a main road, a busy road,” said parent Faye Angel.

The impacts can be deadly. Last year, a coroner ruled air pollution contributed to the death of a nine-year-old British girl who died after an asthma attack.

“Children are particularly vulnerable because they’re going through a period of rapid growth. The key organs of the heart, the lungs, and the brain, which we know are impacted by air pollution,” said James Scales, a research associate at Queen Mary University of London.

To stop the smog, London introduced ultra-low emission zones. Polluting cars are charged \$17 a day to enter the capital. But scientists want to know if it’s working.

“What we want to see is whether the actions that can be taken by local and national government actually produce a change which delivers better health for children,” said Dr. Ian Mudway from Imperial College London.

That’s where the kids come in. Researchers are not just monitoring their movements but also other vital signs, like how their lungs function. They’re also tracking which potentially polluted routes kids walk on the way to school. “There’s lots of pollution being carried around. So, it’s good to stay aware,” said 10-year-old May Angel.

Researchers say, ultimately, learning more about pollution isn’t just about creating a healthier environment for kids but a healthier one for all of us.

Oil Refineries' Benzene Pollution a Concern in Eastern KY

Date:-24-May-2021, Source: publicnewsservice.org



A 2015 Clean Air Act rule requires refineries to clean up benzene emissions when annual concentrations of this cancer-causing pollutant exceed the EPA's action level of 9 micrograms per year.

CATLETTSBURG, Ky.
- A Marathon oil refinery in eastern Kentucky is emitting benzene into the air at levels higher than what the federal Environmental Protection Agency says require action to

curb.

Benzene is a well-known carcinogen that can cause

leukemia. According to a report from the Environmental Integrity Project, benzene readings at the Boyd County refinery jumped 233% between 2019 and 2020. Ilan Levin, associate director at the group, said last year's levels were 11% above the EPA action level.

"These are not necessarily Clean Air Act violations," said Levin. "But the data indicates clearly that we've got a problem at many of these U.S. refineries."

Levin added in 2015, the EPA required all refineries in the U.S. to install benzene pollution monitors.

Nationwide, more than 530,000 people live within three miles of a refinery. The EPA estimates 57% are people of color and 43% live at incomes below the poverty line.

Levin said he believes lax regulation and oversight of oil refineries threaten public health, and said the EPA should respond more rapidly to short-term spikes in benzene emissions.

"Actions often include investigations, requests for information from these refineries," said Levin. "That's what EPA needs to do for a handful of these refineries, especially those that are getting worse."

Levin explained benzene often wafts into communities at levels higher than what's being reported, because refineries can point to other nearby sources and claim the emissions aren't theirs.

He said the data adds to a growing body of evidence about who's most likely to suffer the consequences of air pollution.

"That points to the fact that people of color, and lower-income folks, are disproportionately hit by industrial pollution," said Levin.

He notes the same communities were hit especially hard by COVID-19, where residents lack affordable health care and have higher rates of chronic illness that make them especially vulnerable to air pollution.

Zero-emission zones can help cities slash transport emissions by 70%, WEF claims

Date:-25-May-2021, Source: edie.net

Zero-emission zones, in which polluting vehicles are banned or charged, can help cities cut road transport emissions by more than half, a new World Economic Forum (WEF) publication claims.

Published as part of the Global New Mobility Coalition, which comprises more than 200 businesses, academics, NGOs and cities, the publication takes a look at some of the zero-emission areas (ZEAs) already operating across the world and assesses what could happen if all proposals for ZEAs go ahead.

On the former, it found that the world's most successful ZEAs have reduced more than 70% of local road-transport-related emissions and more than 50% of key air pollutants. A significant case study is Paris; the French capital is banning through traffic from the city centre from next year, following the

successful launch of its first bike and pedestrian-only streets, but more than 150 cities worldwide are flagged. They include London, Amsterdam, Madrid, Barcelona, Milan, Brussels, Berlin, Stockholm, Montreal and Seattle.



More than 150 cities globally have launched or committed to launch such zones, with Europe leading the way

The publication outlines a three-step framework through which cities can implement ZEAS – ‘laying the foundation’, ‘defining a winning concept’ and ‘quantifying the model’.

‘Laying the foundation’ does consist of a top-down regulatory push – but the report cautions nations and cities against implementing interventions without consultations. Consultations, the report states, can ensure that ZEAs are accessible and that any charges are not unfairly burdening marginalized communities. They can also help to maximise benefits in terms of carbon, air pollution, resident engagement and wellbeing.

The ‘defining a winning concept’ portion of the framework outlines how cities could incrementally introduce a series of interventions over a selected timeframe, prioritising moves that would be cost-positive and broadly accepted by the general public.

Interventions could include car sharing pool launches with electric vehicles (EVs) and grants to assist SMEs and homes with EV purchases, to be run alongside bans and fines.

Under ‘quantifying the model’, potential metrics against which progress could be tracked are outlined. These include real-time traffic volumes and flows; active mobility journey numbers; EV charging station additions and polls with local businesses and households. Emissions impact per dollar spent is raised as a potential climate metric, alongside absolute emissions reductions.

Also detailed in the report is practical advice on piloting ZEAs and ensuring that investments in related infrastructure, like EV chargers and walking and cycling routes, are scaled up sufficiently.

Why are ZEAs becoming more popular?

The report, produced in partnership with McKinsey, reveals that more than 150 cities across the world have either launched ZEAs or committed to doing so.

Changes to national climate legislation has clearly been a big driver. Since the UK enshrined its 2050 net-zero target in law, nations representing more than 70% of global GDP have followed suit, including the US, Canada, Japan and South Korea. China has also set a less ambitious target of carbon neutrality by 2060.

For developed nations including the UK, transport is often either the most emitting sector or is in the top three. ZEAs can address the issue by creating an incentive for businesses and households to switch to EVs or other modes of transport.

McKinsey’s report states that cities and nations are also considering challenges such as urbanization and related congestion. It reveals that congestion has increased by more than one-fifth globally over the past decade. Cities and nations are also keen to maximise positive outcomes in areas such as health and safety, efficient deliveries and connectivity.

Covid-19 has been a challenging time for ZEA progress. Here in the UK, Zone launches in cities including Oxford, Birmingham, Leeds and Bath were postponed in 2020.

Stronger air pollution standards in U.S. would have significant public health benefits

Date:-26-May-2021, Source: hsph.harvard.edu



Reducing certain air pollutants in the U.S. by small amounts would prevent thousands of early deaths each year among elders, according to new research led by Harvard T.H. Chan School of Public

Health.

The study, which focused on fine particulate matter (PM_{2.5}), nitrogen dioxide (NO₂), and ozone (O₃), also found that even when levels of these pollutants met or fell below the Environmental Protection Agency's (EPA) current National Ambient Air Quality Standards, they were still associated with significant mortality in elders. The authors said the findings raise serious concerns that the country's current air quality standards do not sufficiently protect public health.

"Clearly the current national air pollution standards are entirely outdated and the progress in reducing air pollution is stalled," said Joel Schwartz, professor of environmental epidemiology and senior author of the study. "The findings of this study signal a very clear message to policy makers: More rigorous PM_{2.5} and NO₂ standards and a long-term O₃ standard are absolutely necessary to protect public health, especially the health of elders."

The study was published in *Environmental Health* on May 6, 2021.

To analyze the issue, the team used national Medicare data collected between 2000 and 2016 and predicted ZIP code-level estimates of ambient air pollution levels based on ground monitoring data, satellite data, meteorological conditions and several other factors. They focused specifically on establishing what is known as the "causal dose-response" relationship between the air pollutants and mortality among the Medicare population. A dose-response relationship can show how exposures to a certain amount of a substance—in

this case, individual air pollutants—changes physiological function and health condition. The model created for this study also enabled the researchers to predict what would happen at the population level if exposures to these air pollutants changed.

In addition to determining that PM2.5, O3, and NO2 are all linked with significant harmful effects on human health, even at low levels, the researchers also found that substantial health gains can be achieved through small reductions in exposures. For instance, the study showed that lowering PM2.5 concentration by less than 1 microgram per cubic meter and lowering concentrations of O3 by less than 2 parts per billion and NO2 by approximately 3 parts per billion would prevent 65,935 early deaths per year among elders.

Moreover, according to Schwartz, the study highlighted the urgent need for the EPA to better regulate levels of O3, a gas that occurs naturally in the stratosphere but can also form at the ground level as a result of pollution from diesel engines and other sources undergoing chemical reactions in the presence of sunlight. At the ground level, O3 is associated with numerous health risks, especially for children, the elderly, and people who have asthma and similar conditions. There is currently no long-term exposure standard for O3, just a daily one.

“For O3, the EPA has focused on bringing down the number of peak days in the summer while producing little change in the long-term average exposure between spring and fall,” Schwartz said. “Our study shows that this is a mistake, and people are dying from it.”

Corresponding author Yaguang Wei, a doctoral candidate in the Department of Environmental Health, said that causal modeling can help provide precise predictions of how changes to air quality standards will affect public health. “We think this study can be used to help EPA, the World Health Organization, and others set their air quality standards and estimate the health benefits of specific policies, such as replacing diesel vehicles with cleaner alternatives,” Wei said.

Jakarta residents hold breath for long-awaited verdict in air pollution case

Date:-27-May-2021, Source: arabnews.com

JAKARTA: Unlike most residents who prefer using their vehicles to commute in the absence of reliable public transport, Aditho Harinugroho has always

banked on his bicycle, despite having to brave traffic-choked streets and inhale the heavily polluted air in Indonesia's capital city, Jakarta.



Jakarta is a regular entry on the list of most polluted cities in the world

The 36-year-old freelance videographer commutes for almost 30 kilometers a day — from his house in East Jakarta to meet clients in the south or central part of the Indonesian capital — and wears a facemask to avoid the dust and pollution.

Often, this leads to Harinugroho experiencing breathing difficulties, especially after traveling through areas in the city where infrastructure development work is underway.

“When I wipe my face, the washcloth is black with soot. It shows just how polluted Jakarta’s air is,” Harinugroho told Arab News.

“As a biker, it is in my very best interest to be able to ride in clean air. This is why I become a plaintiff in the civil lawsuit to force the government to improve air quality standards in the city and its suburban areas,” he added.

Harinugroho and 31 other plaintiffs from various backgrounds filed the lawsuit in July 2019 against the central and regional governments — the president; the ministries of environment, health and home affairs; and the governors of Jakarta and its two neighboring provinces of West Java and Banten.

The greater Jakarta region, comprising the capital and its four satellite cities, is home to about 30 million people.

The Central Jakarta District Court was expected to issue a verdict in the case on May 20 but postponed the hearing to June 10, citing insufficient documents from defendants for cross-examination purposes.

“I hope the government will enforce stricter regulations to ensure that we can have much better air quality than what we have now. It is the least we can expect,” he said.

Another plaintiff, Istu Prayogi, joined the lawsuit for health reasons after being directly impacted by the city’s polluted air.

Since 1995 and almost a decade after he moved from Central Java to Depok, West Java, on the outskirts of Jakarta, the non-smoking, 56-year-old tourism lecturer has suffered from various illnesses, including respiratory problems, headaches, high fever and blood in his urine.

Fears over pollution as ship burns off Sri Lanka coast

Date:-28-May-2021, Source: ucanews.com

Rights bodies have raised concerns about sea and air pollution after a ship carrying 1,486 chemical containers has been on fire off the Sri Lankan coast for nine days.

Several containers have washed ashore from the X-press Pearl, which is anchored about 9.5 nautical miles from the port of Colombo.

The navy has warned local communities to avoid the containers as they may contain dangerous substances. But locals have begun to collect items washed ashore to sell them.

A Catholic priest who organizes environmental programs for children from Negombo said black substances can be seen in many coastal areas, and many residents from Panadura to Chilaw have gone to the beach to collect those materials.



Earth movers remove debris washed ashore from the container ship X-Press Pearl, which has been burning for nine consecutive days in the sea off Colombo, Sri Lanka, on May 28

"There is a huge amount of garbage on the beach, there is a layer of black oil in the sea and many fish have died," said the priest, who wished to remain anonymous.

"Fishermen in these areas have been advised not to go to sea. As a result, their daily income has dwindled. Some people who tried to sell the materials that were washed ashore have been arrested by the police."

Due to the spread of Covid-19, travel restrictions have been imposed nationwide, but people have been visiting the beach.

The priest said large piles of waste and chemicals have made it difficult for fishermen to work.

"It is a violation of the rights of fishermen. If they go to court, the court will definitely consider their claims for damages," he said.

The Marine Environment Protection Authority (MEPA) said the liquefied fuel being transported in the ship could spill into the sea and cause serious damage to marine life, including coral reefs, as well as air pollution.

Police spokesman Ajith Rohana said an investigation has been launched to find the persons who had taken debris washed ashore from the wrecked ship.

The government said steps are being taken to prevent fuel leakage from the ship, while the navy and coastguard have also launched special security covering the beach areas.

Rescuers have evacuated 25 crew members from the ship. Aircraft and vessels have been deployed to fight the blaze. According to the navy media unit, heavy smoke and small flames can be seen on the ship.

The vessel left Hazira in India on May 15 and was heading for Singapore when it caught fire off the Sri Lankan coast.

Hemantha Withanage, executive director of the Centre for Environmental Justice, said chemicals leaking from the containers including nitric acid and oil can cause damage, especially to coral reefs and fish.

"A large number of ships pass through Sri Lankan waters every day, but there is no agency to deal with such a disaster," Withanage said in a special online conference on May 27.

"We must mitigate damage to the marine ecosystem caused by the fire. If marine resources are destroyed, the country will suffer a great loss. Some say that those who touch these items have already started developing allergies."

MEPA has launched a special operation to minimize the impact on the coast and to keep the public from coming into contact with potentially dangerous chemicals. A special security arrangement has been put in place to prevent people from collecting items from the beach.

Lawyer Ravindranath Dabare said there are provisions to recover damages from the shipping company due to air pollution and water pollution caused by the disaster.

"The damage caused not only to the sea but also air pollution, the damage to the public as well as the fishermen near the coast needs to be calculated for compensation," Dabare said in the online conference.

Herman Kumara, convener of the National Fisheries Solidarity Movement, said it is important to form a voluntary group to discuss the environmental damage and take action against polluters.

"Six months ago, a similar vessel caught fire off the coast of Sri Lanka," Kumara said in the online conference.

Burning cargo vessel could result in slight acid rains in Sri Lanka: Authorities

Date:-29-May-2021, Source: thehindu.com



Sri Lankans salvage wreckage washed off to the shore from the burning Singaporean ship MV X-Press Pearl which is anchored off Colombo port at Kapungoda, outskirts of Colombo, Sri Lanka.

There could be slight acid rains due to the emission of nitrogen dioxide from the Singapore-flagged cargo ship which caught fire near the Colombo beach last week, Sri Lanka's apex environment body has warned, asking people to be vigilant in case of inclement weather.

The cargo vessel – MV 'X-PRESS PEARL' – was carrying a consignment of chemicals and raw materials for cosmetics from Hazira in Gujarat to Colombo Port. It caught fire 9.5 nautical miles from the coast h, where it was anchored outside the Port of Colombo on May 20.

Apart from the 325 metric tonnes of fuel in its tanks, X-Press Pearl was loaded with 1,486 containers carrying about 25 tonnes of hazardous nitric acid.

“We observed that the emission of Nitrogen Dioxide from the MV X-PRESS PEARL was massive. With the emission of Nitrogen Dioxide gas in the rainy season, there could be slight acid rains,” Dharshani Lahandapura, Chairperson of Marine Environment Protection Authority (MEPA), was quoted as saying by newsfirst.lk on Friday.

“Especially, the people in the close proximity to the coastal belt, should remain vigilant and ensure that you do not expose yourself to rain these days,” the official said.

MEPA said that the blaze has been brought under control to a great extent and the authority is taking all appropriate measures to conduct beach clean-up procedures as soon as possible to avert the risks of pollution caused due to the fire in the cargo ship.

“The density of the flames is reducing. Two tug boats are still engaged in firefighting missions and boundary calls. Vessels from the Indian Coast Guard and tug boats from the Sri Lanka Ports Authority and Sri Lanka Navy are monitoring the situation,” Ms. Lahandapura was quoted as saying in the report. Ms. Lahandapura said they are closely monitoring the situation and there is no sign of any oil spill. India on Tuesday dispatched ICG Vaibhav, ICG Dornier and Tug Water Lilly to help the Sri Lankan Navy extinguish the fire on the container ship.

India’s specialised pollution response vessel Samudra Prahari will reach on Saturday to augment pollution control efforts, the Colombo Gazette reported on Friday.

Updating the joint fire fighting efforts, the Indian High Commission in Colombo said that at present, heavy smoke has been observed only near the accommodation/superstructure area in the aft portion of the ship and is being tackled, the report said. Overall, the MV X-Press Pearl is currently assessed as being stable and not having issues with watertight integrity.

“External fire-fighting using foam and boundary cooling by sea-water along the entire length of vessel from either side is under progress and continuous monitoring of vessel’s draught, list conditions and presence of hazardous and noxious substances overboard is being undertaken.

“Quantity of combustible material onboard is estimated to be limited. The ICG ships will continue to assess the situation and the decision to board or approach closer to the vessel will be taken after fully dousing the fire and undertaking sufficient boundary cooling,” the Indian mission said.

The High Commission said that containers that fell from the vessel were identified and threat assessment for navigation safety have already been carried out and shared with the relevant Sri Lankan authorities, according to the report. Meanwhile, Navy Commander Nishantha Ulugetenne on Friday said there is no threat of the vessel breaking into two and the ship is now largely stable. All 25 crew members of the ship – of Indian, Chinese, Filipino and Russian nationality – were rescued on Tuesday after a ‘fire alarm’ dispatch was sent.

Pembrokeshire in top ten for UK's cleanest air areas according to study

Date:-30-May-2021, Source: westerntelegraph.co.uk



The only Welsh county to finish higher than Pembrokeshire was Gwynedd

The study comes from Holiday Cottages, ahead of what is predicted to be a busy summer for staycations and domestic tourism.

With many Brits holidaying within their own country, the study reveals where best to travel to in terms of clean air and the lowest air pollution rates.

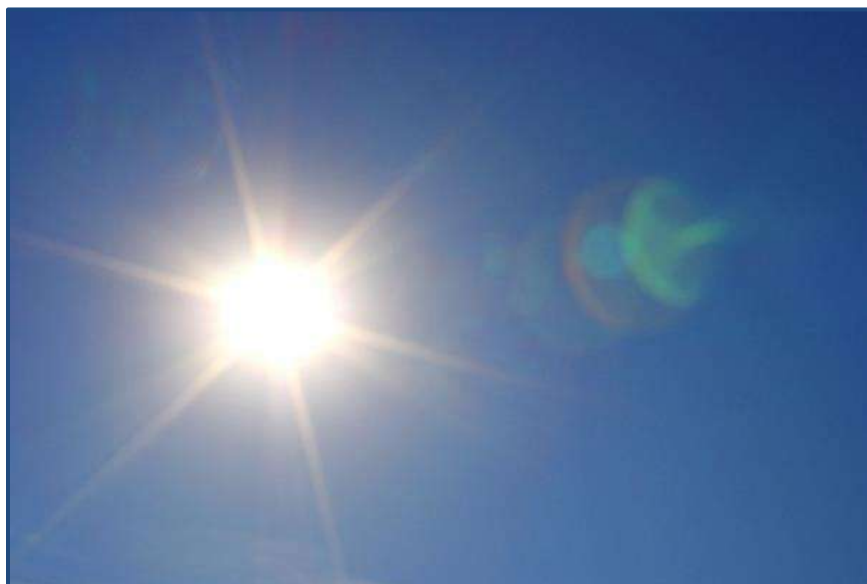
Pembrokeshire ended up as sixth on the list, with the second cleanest air in Wales, with a score of 6.4µg - within World Health Organisation targets.

The World Health Organisation aims for anything below 10µg - which all the top ten British areas succeeded in achieving. The only Welsh county with cleaner air, according to the study, was Gwynedd with a score of 6.1µg, in joint-fourth place on the list tied with Perthshire in Scotland. Midlothian in Scotland topped the list with a score of 5.1µg, narrowly ahead of England's best area Wiltshire on 5.4µg. Berkshire finished third with 5.8µg and Lanarkshire narrowly beat Pembrokeshire, scoring 6.3µg.

Shannon Keary, digital PR manager at Holiday Cottages said: "Air pollution and a greener environment continues to be a huge talking point for many people in the UK, and, in this campaign, we wanted to reveal where in the UK has the lowest air pollution. "It's really promising to see that so many of our towns, cities and villages have such clean air, and it's especially great to see that a huge 88 per cent of the UK has low air pollution rankings that are either within the World Health Organisation target or are rated 'good.'"

Spare the Air alert in effect on Monday

Date:-31-May-2021, Source: mv-voice.com



The Bay Area's first Spare the Air alert of the year has been issued for May 31, 2021.

A combination of tailpipe exhaust and sizzling temperatures expected Monday have prompted Bay Area air quality officials to issue a Spare the Air alert for Memorial Day.

The air alert, the first this year, anticipates elevated concentrations of smog as traffic returns to

prepandemic levels, said Jack Broadbent, CEO of the Bay Area Air Quality Management District.

"This alert highlights the need to reduce our driving and keep air quality healthy by finding alternatives to driving alone such as taking transit or walking or biking," Broadbent said.

The air alerts are issued when ozone pollution is forecast to reach unhealthy levels. Ozone, or smog, can cause throat irritation, congestion, chest pain, trigger asthma, inflame the lining of the lungs and worsen bronchitis and emphysema, air officials said.

Long-term exposure to ozone can reduce lung function. Ozone pollution is particularly harmful for young children, seniors and those with respiratory and heart conditions.

June 2021

Smog Might Damage Your Sense of Smell

Date:--June-2021, Source: usnews.com

TUESDAY, June 1, 2021 (HealthDay News) -- Breathing in tiny particles of air pollution over a long period of time may put your sense of smell at risk, a new study suggests.

Researchers found the risk for loss of smell — a condition called anosmia — was nearly doubled among people with lengthy exposure to this type of air pollution, known as particulate matter.

"It's curious that the entire group who had lost their sense of smell had a significantly higher exposure to 'particulates,' compared to the group that didn't develop the disease," said lead researcher Dr. Murugappan Ramanathan. He is an associate professor of otolaryngology at Johns Hopkins University School of Medicine, in Baltimore.

These tiny particles are less than 2.5 micrometers in size, or about 30 times smaller than the diameter of a human hair. Known as PM2.5, they're tied to a variety of health problems, such as heart disease, lung cancer and asthma.

PM2.5 is produced by diesel cars and trucks. It can be made up of many materials, including dust, dirt, soot, smoke, organic compounds and metals.

Ramanathan cautioned, however, that this study can't prove exposure to PM2.5 causes anosmia, only that there appears to be a connection.

It's unclear in this study if loss of smell was caused by air pollution damaging nerves that control the sense of smell or by inflammation in the nasal membrane. It's also not clear if the loss of smell is permanent.

"Typically, when sense of smell comes back, it's usually after a viral infection or when inflammation goes away," Ramanathan said.

In the case of COVID-19, a common symptom is anosmia. Some people who get the infection lose their sense of smell and regain it, but for some, it doesn't come back, even after a year, he noted.

All of the patients with anosmia in this new study had the condition for a long time, the study authors said.

For the paper, Ramanathan's team looked at nearly 2,700 adults, including more than 500 with anosmia. Using the U.S. Environmental Protection Agency's Air Quality System, the researchers created a model to estimate the PM2.5 pollution in the participants' ZIP codes.

The investigators found that long-term airborne exposure to PM2.5 increased the risk of losing your sense of smell by about 1.7-fold.

Anosmia can affect quality of life, making it hard to taste foods and detect harmful odors. People with the condition are at risk for weight loss and for depression and anxiety, the researchers said in background notes.

Ramanathan said there isn't much any one individual can do to reduce exposure to air pollution.

"There needs to be better regulation of air quality," he said.

Kara Hoover, an associate professor of biological anthropology at the University of Alaska in Fairbanks, specializes in the sense of smell. Like many other health problems, she said, loss of smell is worse among poor and minority populations who tend to live in areas with higher levels of air pollution.

There is little someone in those circumstances can do to lower their risk, she added.

"The higher your socioeconomic status, the more access you have to buffers that affect pollution, like riding in your air-conditioned car rather than taking public transit or living in areas outside the city or in areas that have more parks and green spaces, which helps clear some of the pollution," Hoover said.

Hoover and Ramanathan agreed that reducing air pollution can only be accomplished by society as a whole.

"I don't think it's down to the individual," Hoover said. "I think it needs to be a top-down change."

Poor air quality and warehouses linked to Inland Empire Covid-19 inequities

Date:-2-June-2021, Source: insideucr.ucr.edu

An interdisciplinary group of UC Riverside professors are calling for investigation into how risk factors including air pollution exposure, working

conditions, race, and socioeconomic status interacted to increase locals' likelihood of Covid-19 exposure over the past year.

"We wrote this commentary to call attention to the particular vulnerabilities in the Inland Empire that have been exacerbated during the pandemic. Members of environmental justice communities experiencing racialized poverty, classified as essential workers and thus not able to shelter in place at home, and living in a region with some of the worst air quality in the country, have borne the brunt of it," said Jade Sasser, an associate professor of gender & sexuality studies and lead author. "We wanted to make an intervention by raising awareness of the inequities right here in our own communities."

Covid-19 has hit many Black and Latino communities especially hard, but few interventions target the overlapping forms of inequality that make these communities more vulnerable in the first place. The authors call for a regulatory infrastructure that maintains safety protocols in workplaces that disproportionately expose communities of color and the poor to highly transmissible diseases like Covid-19.

They also recommend environmental health scientists characterize the exposome in homes and workplaces of the most severely affected populations during the Covid-19 crisis, such as essential workers, and build databases of exposure data at the individual level that can be mined for predictive and mitigation purposes.

"We now have the technology and connectivity to build these databases, which helps mitigate real-time exposure for people who may not be aware of their day-to-day air pollution exposure risks," said Sunni Ivey, an assistant professor of chemical and environmental engineering whose work focuses on modeling air quality.

One area in particular need of attention is the link between air quality and susceptibility to Covid-19. Using data from California OEHHA CalEnviroScreen database in the Inland Empire region of southern California, which consists of Riverside and San Bernardino Counties, the authors show that areas with especially large numbers of Covid-19 cases are also predominantly Latino and have very high environmental vulnerability scores caused by air pollution from trucks associated with the numerous warehouses in these neighborhoods, among other factors.

The Inland Empire has long had notoriously poor air quality because natural air currents bring gaseous pollutants and particulate matter from the Los

Angeles area while the warehousing and logistics boom has potentially increased emissions from diesel trucks and trains. Inhaling traffic-related pollutants like diesel particulate matter makes people more susceptible to a range of respiratory health problems. The authors cite a recent study that showed that small increases in particulate matter translate to an 11% increase in the Covid-19 death rate.

“Research shows that inhalation exposure to fine particles and other pollutants leads to increased inflammation in the lungs and the development of asthma. We need more information on the interaction between respiratory health and COVID-19 severity,” said Ivey.

Many of the people living in Inland Empire communities devastated by Covid-19 also work in these warehouses and other essential occupations. They face the double jeopardy of greater vulnerability due to poor air quality and of workplace exposure. Many also have low wages and inadequate healthcare. The authors call for research into interventions that acknowledge and address the intersectional nature of Covid-19 inequities.

Sasser and Ivey were joined in the research by Bronwyn Leebaw, Brandon Brown, Chikako Takeshita, and Alexander Nguyen, all of whom are at UC Riverside. The open access commentary, “Intersectional perspectives on COVID-19 exposure,” is published in the Journal of Exposure Science & Environmental Epidemiology

Midlothian, Scotland has the best air pollution in the UK

Date:-3-June-2021, Source: airqualitynews.com

The UK has an average air pollution rating of 10.5µg, which is defined as ‘good,’ according to data analysed by holidaycottages.co.uk.

The researchers also found that the UK also ranks in the top 25% of lowest air pollution rates in the world, ranking 21st out of 89.

Having analysed data from the IQ Air Report, the researchers found that in the UK, Midlothian, Scotland has the best air quality, with an average ranking of 5.1µg.

In second place is Wiltshire, with a ranking of 5.4µg. Berkshire comes in third place with Slough having surprisingly low air quality at 5.8µg.

Commenting on the findings, Shannon Keary, digital PR manager at holidaycottages.co.uk, said: 'Air pollution and a greener environment continues to be a huge talking point for many people in the UK, and, in this campaign, we wanted to reveal where in the UK has the lowest air pollution.'

'It's really promising to see that so many of our towns, cities and villages have such clean air, and it's especially great to see that a huge 88% of the UK has low air pollution rankings that are either within the WHO target or are rated 'good'.

'We have also created an interactive tool that allows people to find out the areas in their region with the cleanest air in an easily digestible format and then they can compare it with that of their friends and family across the UK.'

To find out where has the cleanest air in your area, visit <https://www.holidaycottages.co.uk/blog/clean-air-britain-best-air-quality>

In related news, traffic levels in Edinburgh and Glasgow have exceeded pre-pandemic levels, according to new data.

The data, sourced by Siemens Mobility Limited in partnership with HERE Technologies, shows, has sparked fears about air quality.

According to the figures, daily traffic in Edinburgh is 7% higher in comparison to February 2020, with Glasgow reporting traffic levels of 4% higher than those pre-pandemic.

Air quality alert in Twin Cities, high fire risk in Minnesota Friday

Date:-4-June-2021, Source: bringmethenews.com

As temperatures climb into the 90s — and could reach 100-plus degrees — starting Friday, the air quality in the Twin Cities metro and beyond is expected to worsen.

The high temperatures on Friday could also fuel wildfires, which has prompted the National Weather Service to issue a red flag warning and fire weather watch for much of central and northern Minnesota.



Air quality alert

The Minnesota Pollution Control Agency (MPCA) has issued an air quality alert for much of the Twin Cities and parts of east-central Minnesota, effective from noon to 9 p.m. Friday.

Here's a map of impacted counties:



The MPCA says air quality index values are expected to reach the "orange" or "unhealthy for sensitive groups" category on Friday.

Friday's sunny skies, hot temperatures, low humidity and light winds will "produce an environment favorable for emissions of nitrogen dioxide and volatile organic compounds near the Twin Cities that can quickly form ozone."

"Ozone concentrations will be the lowest in the morning hours Friday, will gradually rise midday, and peak in the late afternoon. Air quality will improve Friday evening."

People who are more likely to be affected when ozone pollution reaches unhealthy levels include people with asthma and breathing conditions like COPD, children and teenagers, people doing extended or heavy physical activity (playing a sport or working) outdoors, and some healthy people who have a genetic base of increased sensitivity.

Those who are affected by the air quality Friday may experience symptoms that include trouble breathing deeply, shortness of breath, a sore throat, wheezing, coughing and/or unusual fatigue. If you have an inhaler, use it as directed, and contact your doctor.

But even if you aren't at risk, MPCA says people should take precautions when the air quality is unhealthy by listening to their body; limiting, changing or postponing physical activity; staying away from pollution sources like busy roads and wood fires; and people with asthma should make sure they have an inhaler with them.

MPCA says ozone is produced on hot, sunny days by a chemical reaction between volatile organic compounds and oxides of nitrogen. To reduce this, people should reduce vehicle trips, fill-up on gas at dawn or dusk, use public transit or carpool, postpone mowing the lawn with gas-powered mowers and avoid backyard fires.

The steamy weather Friday that is making air quality bad in the metro is also providing perfect conditions for wildfires.

The National Weather Service has issued a red flag warning for northern Minnesota due to extreme fire risk conditions on Friday, meaning conditions — hot temperatures, low humidity and strong winds — are ideal for a wildfire, and any spark could become a wildfire.

During a red flag warning, people shouldn't burn anything and should check any burning done recently to make sure the fire is out.

The red flag warning is in effect from noon to 9 p.m. on Friday.

Portions of central Minnesota are also under a fire weather watch as the high heat and low humidity could create dangerous fire weather conditions Friday afternoon and evening for areas along and west of a line from Lake Mille Lacs

to St. Cloud to Litchfield to Granite Falls. If wind speeds in that area increase, a red flag warning could be issued.

Current burning restrictions can be found on the Minnesota DNR's website [here](#).

The hot weather is expected to continue into early next week. High temps are expected to be in the 90s and approaching 100 degrees through the weekend, with the NWS noting it may not get below 70 degrees Saturday night.

There is a marginal risk for severe thunderstorms Sunday afternoon.

Bay Area air district board considering new rules to dramatically cut refinery pollution

Date:-5-June-2021, Source: timesheraldonline.com



A drone view of Point Richmond and the Chevron Refinery is seen in Richmond, Calif., on Wednesday, Feb. 10, 2021.

Local refineries could be required to install technology costing millions to further reduce air pollution under a plan being considered by the board that oversees the Bay Area Air Quality Management District.

The proposal is a controversial one for Bay Area oil refineries and the labor unions that staff them, who turned out in force to a recent air district board meeting, along with environmental advocates and residents who live near the refineries, to speak to the board.

The refineries and workers say the requirement could mean a loss of jobs or refineries being shut down. However, residents and environmentalists say the changes are long overdue.

After an all-day meeting Wednesday in which air district board members heard from almost 200 people during the public comment portion, the board postponed the vote, tentatively to mid-June.

At issue is the pollution from fluid catalytic cracker units — known as “cat crackers” — that break down heavy crude oil and then burn off petroleum coke.

The proposal before the board would change the district’s Regulation 6, Rule 5 to further limit the amount of particulate matter that the refineries’ fluid catalytic cracker units emit. It would require in the next five years the Chevron refinery in Richmond and PBF Energy’s refinery in Martinez to install wet gas scrubbers — systems that flush out the particulates using water.

The Valero refinery in Benicia already has this system, and the Marathon refinery in Martinez is currently idled.

The air district staff say the change could reduce the emissions from Chevron and PBF by more than 70 percent — a positive change for the communities living in the shadow of Bay Area refineries who have experienced health impacts from the emissions for decades.

In Richmond, the asthma rate is double that of the state’s, according to UCSF researchers, who found that in the Bay Area, predominantly Black and Latino communities have higher rates of asthma.

An analysis from air district staff found that particulate matter pollution from the Chevron refinery results in up to 11 “premature” deaths per year, and from PBF, up to 6 deaths annually.

“Many can’t comprehend the aching going through Richmond. It needs to be mended. Richmond needs to be defended,” said Halimah Houston, a young activist with Communities for a Better Environment, an environmental justice

organization that has long fought for tougher regulation on the refineries and urged for a transition away from the oil industry in the Bay Area.

The refineries and their workers, however, have insisted the hundreds of millions of dollars it would cost to install the technology would lead to huge job losses.

A letter from PBF Energy's western region president, Timothy Davis, to the air district board stated that the Martinez refinery does not have space to put in a wet gas scrubber and that the \$800 million cost to install one would force the company to shut down the refinery. The refinery employs 600 full-time workers and about 2,000 contract workers.

He also pointed to what he called "adverse" effects from the scrubber itself, such as its use of large amounts of electricity and water.

Davis in the letter urged that the board go with a less stringent standard for particle emissions that would still reduce the refinery's pollution, and that PBF would not challenge it.

The air district's report estimated the costs of installing the system much lower than \$800 million — at \$255 million for the PBF refinery and \$241 million at Chevron.

In a separate letter, a lawyer for Chevron argued that the district's staff report "significantly underestimates the costs of installing and operating the proposed control technologies" and "significantly overstates the projected emission reductions and public health benefits" associated with making the changes.

Representatives of the labor unions that staff refineries around the Bay Area, in a joint letter to the board, said the changes to the rule will be the "biggest test to balance achieving environmental and social justice benefits while keeping Building Trades jobs."

But many of the residents and environmental advocates that have been urging the rule change say the framing of the decision as one between jobs or public and environmental health is a false one.

An analysis conducted by UCLA Luskin Center and Inclusive Economics with Communities for a Better Environment found that refineries "likely can and should absorb the compliance costs" under the proposed rule change and that "the procurement and installation of wet gas scrubbers will yield thousands of

engineering, construction and other installation jobs, upwards of 4,600 jobs between the two refineries.”

“Refineries have mounted a massive misinformation campaign to sink this rule, threatening our communities with false doomsday scenarios,” said Zolboo Namkhaidorj, a Richmond youth organizer for Communities for a Better Environment, in a statement after Wednesday’s meeting. “Shame on them, after decades of spewing pollution that has cost local Black, Indigenous and People of Color families their health and livelihoods.”

Toronto to be hit with high levels of air pollution on Sunday

Date:-6-June-2021, Source: dailyhive.com



High levels of air pollution are expected to hit Toronto on Sunday

Environment Canada issued a special air quality statement for the city on Sunday morning, and warned that similar conditions may persist into Monday.

Hot and sunny weather is expected to push the city’s air quality into the “moderate risk” category of the Air Quality Health Index.

The air quality may temporarily breach the “high risk” level in the afternoon, Environment Canada said.

“Individuals may experience symptoms such as increased coughing, throat irritation, headaches or shortness of breath,” the statement reads.

“Children, seniors, and those with cardiovascular or lung disease, such as asthma, are especially at risk.”

Environment Canada advises reducing or rescheduling strenuous outdoor activities until the special air quality statement is lifted.

The city has been gripped by intense heat throughout the weekend, with temperatures expected to soar up to 34°C today.

Environment Canada has issued multiple heat warnings for Toronto since Friday afternoon. The most recent alert came on Sunday morning, and will be in effect through Monday.

Carbon dioxide levels hit 50% higher than pre-industrial time

Date:-7-June-2021, Source: cbc.ca



Smoke and steam rise from a coal processing plant in Hejin, China, in November 2019. The annual peak of global heat-trapping carbon dioxide in the air has reached another dangerous milestone: 50 per cent higher than when the industrial age began

The annual peak of global heat-trapping carbon dioxide in the air has reached another dangerous milestone: 50 per cent higher than when the industrial age began.

And the average rate of increase is faster than ever, scientists reported Monday.

The U.S. National Oceanic and Atmospheric Administration (NOAA) said the average carbon dioxide level for May was 419.13 parts per million. That's 1.82 parts per million higher than May 2020 and 50 per cent higher than the stable pre-industrial levels of 280 parts per million, said NOAA climate scientist Pieter Tans.

Carbon dioxide levels peak every May just before plant life in the Northern Hemisphere blossoms, sucking some of that carbon out of the atmosphere and into flowers, leaves, seeds and stems. The reprieve is temporary, though, because emissions of carbon dioxide from burning coal, oil and natural gas for transportation and electricity far exceed what plants can take in, pushing greenhouse gas levels to new records every year.

"Reaching 50 per cent higher carbon dioxide than pre-industrial is really setting a new benchmark and not in a good way," said Cornell University climate scientist Natalie Mahowald, who wasn't part of the research. "If we want to avoid the worst consequences of climate change, we need to work much harder to cut carbon dioxide emissions and right away."

Climate change does more than increase temperatures. It makes extreme weather — storms, wildfires, floods and droughts — worse and more frequent and causes oceans to rise and get more acidic, studies show. There are also health effects, including heat deaths and increased pollen. In 2015, countries signed the Paris agreement to try to keep climate change to below what's considered dangerous levels.

The one-year jump in carbon dioxide was not a record, mainly because of a La Nina weather pattern, when parts of the Pacific temporarily cool, said Scripps Institution of Oceanography geochemist Ralph Keeling. Keeling's father started the monitoring of carbon dioxide on top of the Hawaiian mountain Mauna Loa in 1958, and he has continued the work of charting the now famous Keeling Curve.

Scripps, which calculates the numbers slightly differently based on time and averaging, said the peak in May was 418.9. Also, pandemic lockdowns slowed transportation, travel and other activity by about 7 per cent, earlier studies show. But that was too small to make a significant difference. Carbon dioxide can stay in the air for 1,000 years or more, so year-to-year changes in emissions don't register much.

The 10-year average rate of increase also set a record, now up to 2.4 parts per million per year. "Carbon dioxide going up in a few decades like that is extremely unusual," Tans said. "For example, when the Earth climbed out of the last ice age, carbon dioxide increased by about 80 parts per million and it took the Earth system, the natural system, 6,000 years. We have a much larger increase in the last few decades." By comparison, it has taken only 42 years, from 1979 to 2021, to increase carbon dioxide by that same amount.

"The world is approaching the point where exceeding the Paris targets and entering a climate danger zone becomes almost inevitable," said Princeton University climate scientist Michael Oppenheimer, who wasn't part of the research.

Study: Air Pollution Reduction Could Help Reduce Global Warming

Date:-8-June-2021, Source: kpbs.org



Above: The orange haze covering the San Diego skyline on Sept. 15, 2020, because of smoke from wildfires across California, including the Valley Fire in rural East County

New research out of San Diego suggests it may make sense to control air pollution as part of a greenhouse gas reduction plan.

Reducing both could save millions of lives.

The push to cut back greenhouse gas emissions may end up having an added benefit if climate-friendly strategies also lead to a reduction in air pollution.

Pascal Polonik, a PHD student at the Scripps Institution of Oceanography, found cutting coal or diesel emissions to meet Paris Climate Accord greenhouse gas emission targets have an added benefit.

It could also slow the planet's warming temperatures and reduce exposure to dangerous airborne particulates. Both of those things could save lives.

"As humans emit greenhouse gasses they're also emitting other stuff like particulate matter which has negative consequences for human health," Polonick said.

Black carbon particulates that are bad for human health also accelerate the planet's warming.

The study Polonick authored looked at several emission reduction strategies: across the board emission cuts, cutting the most polluting industries first and cutting emissions from industries that released the compounds that impact global warming.

The traditional approach is to look at pollution and greenhouse gas emissions separately.

"Greenhouse gasses are for climate change and particulate matter is for air pollution but really they're emitted by some of the same processes so in some ways we think it makes sense to consider them at the same time," Polonick said.

The study finds different solutions may be needed for different regions.

"Implementing cuts equally and making each industry do their fair share may be the easiest way to implement climate policy in a democratic society like the U.S. where there are many competing political interests," said co-author Kate Ricke, assistant professor with Scripps Institution of Oceanography and the School of Global Policy and Strategy. "However, there are real benefits to being thoughtful about how aerosols factor into climate policy outcomes. There may be big benefits to cutting emissions from certain sectors first."

The research finds that air pollution control and global warming emission reduction plans could work together to help lower the risk to human health.

The findings are published in the current edition of the journal *Earth's Future*.

Vehicle Pollution Leads to Thousands of Early Deaths and Costs Billions in Northeast and Mid-Atlantic, Study Says

Date:-9-June-2021, Source: weather.com

Pollution from vehicle emissions caused thousands of premature deaths and led to billions of dollars in health care costs in a single year in the Northeast and mid-Atlantic, even affecting those who don't live near the source, according to a new study.

The research, published Tuesday in the journal *Environmental Research Letters*, estimated that 7,100 premature deaths in 2016 were connected to vehicle pollution in 12 states and the District of Columbia.

Premature deaths are those that occur before the average age of death, which in the U.S. is about 75 years old.

The highest number from the study was in New York, where 2,024 premature deaths were blamed on vehicle pollution during the study period, according to a news release. Pennsylvania was second with 1,270 and New Jersey was third with 1,175.

Those three states incurred health damages costing \$21 billion, \$13 billion and \$12 billion, respectively.

Data from 2016 was examined because it was the most recent year available from the U.S. Environmental Protection Agency.

It's well documented that ozone and fine particulate matter from vehicle emissions have a wide range of negative health effects. Greenhouse gas emissions from vehicles are also one of the biggest contributors to global warming, according to the EPA.

The study published Tuesday not only quantified the effects in terms of people and dollars but also showed that the pollution can travel downwind and cross state lines.

"What makes this study different from previous studies is that it connects the dots between where the pollution happens, and where the premature deaths

occur," Saravanan Arunachalam, a study author and deputy director of the University of North Carolina Institute for the Environment, said in the news release.

In Washington D.C., for example, 85% of the deaths were from vehicle emissions produced outside of the district, with Virginia being the largest contributor. That number is 84% in Delaware, with the bulk attributed to emissions from Pennsylvania, and 82% in Vermont, where emissions from New York were found to be the largest contributor.

The researchers also analyzed which type of vehicle contributed to the most deaths. They found the results varied across the region.

"While particulate matter from New York City buses has the largest impact per ton of emissions in New York, in Massachusetts it's heavy-duty trucks in Boston, and in Virginia it is light-duty autos," Jonathan Buonocore, one of the study authors and a research scientist at Harvard T.H. Chan School of Public Health, said in a news release.

The research is part of a multi-university initiative called the Transportation, Equity, Climate and Health Project.

It comes as economies around the world, including the United States, look to decrease pollution and greenhouse gas emissions.

"As policymakers consider how to transform the transportation sector – the largest source of carbon pollution – this research offers a roadmap for where to target investments to most cost-effectively improve air quality and health," Buonocore said.

Air pollution in Oxford falls the equivalent of ten years due to lockdown

Date:-10-June-2021, Source: oxfordmail.co.uk

AIR pollution levels in Oxford during 2020 dropped the equivalent to the level of reduction in the last ten years as a result of the gruelling coronavirus lockdowns.

The latest data from air quality monitoring stations spread across the city has shown an average decrease of 29 per cent, which the council says has achieved the lowest levels of air pollution since it first started recording levels in 1996.



Traffic in Oxford

The 29 per cent reduction in air pollution levels is equivalent to the level of reduction achieved during the ten-year period between 2009 and 2019.

Tom Hayes, deputy leader of Oxford City Council said: "The air that you breathe, the air that your loved ones breathe, is the cleanest that it has been in modern times. "Nobody would want to repeat the lockdowns which reduced air pollution levels by 29 per cent, but they have provided concrete proof that getting people out of polluting cars cleans up our air and protects your lungs."

Mr Hayes, who is responsible for the council's plans to make Oxford zero-carbon, added plans for a Zero Emissions Zone (ZEZ) beginning this August, where any cars that emit fossil fuels would need to pay a daily toll, would be key to making sure air pollution did not jump back up again.

He said: "The city has taken action to meet a public health crisis in the last year, we should be willing to do so for that other invisible public health crisis — air pollution — which hurts the poorest and marginalised in our city the most. "We need to back the bus, go on boosting the biking boom we've started, electrify a lot more transport, and make a success of Britain's first Zero Emission Zone piloting this year."

The new data, published in the city council's latest air quality annual status report shows the average air pollution levels across 71 monitoring stations in the city, during the period between 2020 and 2021.

These stations monitor a gas called Nitrogen Dioxide, or NO₂, which is emitted from vehicle exhausts, are harmful to human health, and is the main source of air pollution concern for public health officials.

In 2020, the average reduction of NO₂ levels across the entire city was 29 per cent, consistent with the 20 to 30 per cent reductions in NO₂ levels which was observed across the country.

In the first lockdown in particular NO₂ levels dropped by a huge 60 per cent. Throughout the year, all stations were in compliance with a law created by the European Union which the UK still follows, which sets a legal upper limit for 40 micrograms of NO₂ per metre cubed of air. According to data from Oxfordshire County Council, between March 23 and December 31 last year, traffic levels reduced by 35 per cent in Oxford's city centre.

The biggest NO₂ reductions were seen on George Street during the periods of lockdown and pedestrianisation, where the two monitoring stations recorded decreases of 45 per cent and 40 per cent in air pollution levels. The lowest reductions in air pollution were seen at Cowley Road, Union Street and Sunderland Avenue, which saw a 14 per cent and 15 per cent reduction in NO₂ levels.

Oxford's most air polluted road, St Clement's saw a large improvement in air quality compared with the previous year. Levels of NO₂ were still high at St Clement's, at 36 micrograms per metre-squared, though this was a reduction of 32 per cent compared with the previous year.

The air monitoring stations also measure for small pieces of soot, rubber and other material cars throw off as they drive known as particulate matter.

This is divided up into coarse pieces of material called PM₁₀ and fine pieces of material called PM_{2.5}. An average 19 per cent reduction of PM₁₀ levels happened in 2020, and a 22 per cent reduction of PM_{2.5} levels. Public health studies in recent years have demonstrated that air pollution has contributed to deaths.

In April 2014, a report issued by Public Health England presented estimates of local 'mortality burdens' associated with particulate air pollution. The report shows that long term exposure to manmade air pollution in Oxford could be

responsible for six per cent of all deaths of people aged 25 and over And in April, a coroner found that air pollution 'made a material contribution' to the death of nine-year-old Ella Adoo-Kissi-Debrah in 2013, who lived near the South Circular Road in Lewisham, south-east London. A study involving Oxford University researchers in 2016 found that magnetic particles emitted by cars had become lodged in human brains, and may contribute to the development of Alzheimer's disease.

News of the status report was welcomed by opposition groups on the city council, but they called for action to capitalise on the gains made in 2020. Dick Wolff, the Green Party's spokesman for transport on the council said: "The challenge is how to 'lock in' these desperately needed reductions which are beneficial to health and welfare. In this respect, the council's plans for a so-called 'zero emission zone' are wholly inadequate.

"Not only will the ZEZ not be truly zero emission but it also covers only a small part of the city. We need a larger zero emission zone that lives up to its name. The council also needs to stop subsidising car parking in the city."

Wildfire smoke causes poor air quality in parts of Colorado

Date:-11-June-2021, Source: kdvr.com



A 2014 photo captures pollution settled over the Denver skyline

DELTA COUNTY, MESA COUNTY, GARFIELD COUNTY (KDVR) — There is an air quality health advisory in affect for Delta, Mesa and Garfield counties due to wildfire smoke coming from the Pack Creek fire in Utah.

Colorado's air pollution division warns residents in the mentioned counties of thick smoke wafting into the area from eastern Utah. Young children, the elderly and those with respiratory illnesses are advised to stay indoors.

The advisory will last until 9 a.m. on Saturday, June 11.

The smoke is predicted to gradually decrease throughout Friday morning, but the Pack Creek fire could send more smoke into the area if the fire worsens. Residents should prepare for another bout of smoke over night into Saturday morning.

Older cars face ban from Edinburgh city centre

Date:-12-June-2021, Source: bbc.com



The city council is bringing in low emission zones in a bid to improve air quality

Edinburgh City Council has unveiled plans for a Low Emission Zone (LEZ) which would result in heavy fines for drivers who fail to comply.

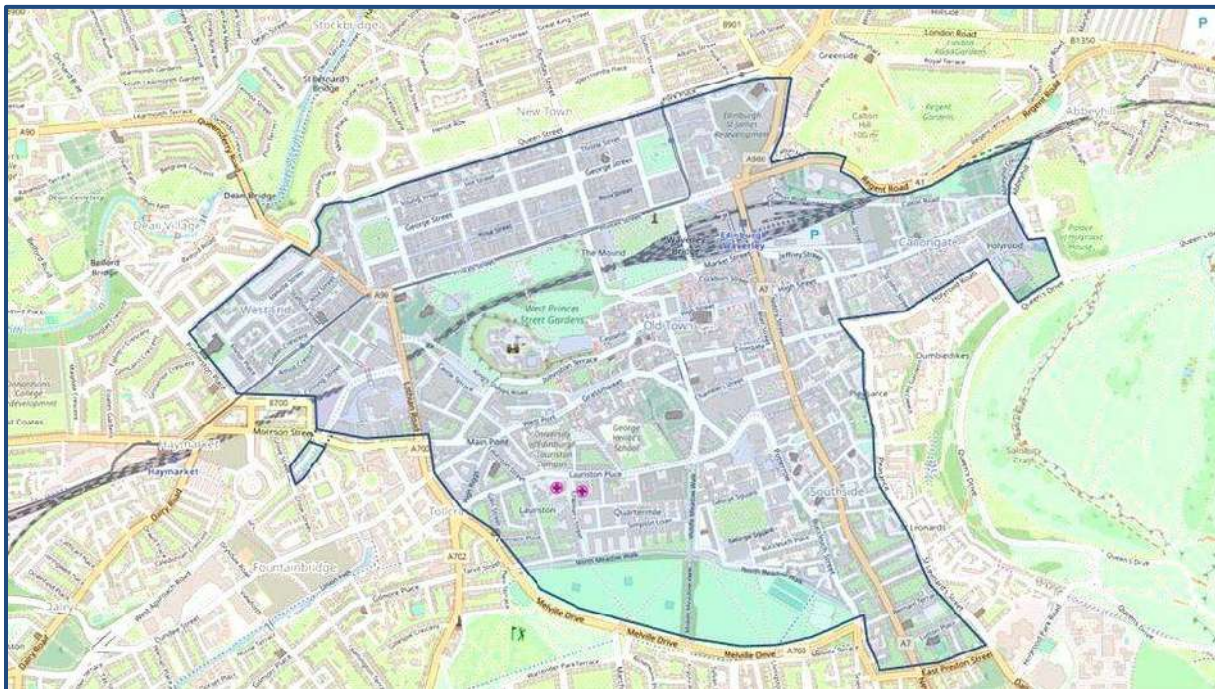
From spring next year, diesel cars that do not meet the "Euro 6" emissions standard would be banned. This is generally diesel cars registered before September 2015. In addition, petrol cars that do not meet the "Euro 4" emissions standard - generally those registered before January 2006 - would be banned. Older HGVs and buses would also be prohibited from the city centre. The car ban idea was first proposed in 2019 but councillors will now vote on the proposals on 17 June.

Council officers estimate this will affect 16,000 vehicles registered in Edinburgh, mostly diesel cars. Lothian Buses' fleet does not yet meet the emission standards, but is expected to reach compliance by the end of 2021.

Two-year grace period

Fines for not adhering to the rules would start in 2024 under the council's plans. The local authority will use automatic number plate recognition technology to fine drivers who fail to adhere to the restrictions.

The penalty charge notice will be £60 for the first transgression - but that will double for each subsequent offence within a 90-day period. For light vehicles, such as cars, the maximum fine will be £420, and for HGVs the maximum fine will be £900.



A map of the proposed boundary for the low emission city centre zone

Lesley Macinnes, the council's transport and environment convener, said: "A great deal of analysis and monitoring has gone into the latest proposals for a Low Emission Zone in Edinburgh.

"This takes into account the urgent need to lower emissions for the good of our health, while remaining aware of the impact on local businesses, residents and on traffic patterns.

"We know from our consultation in 2019 that lowering air pollution matters to everyone, so I look forward to hearing from the public on the preferred option, if approved by committee."

Work to introduce an LEZ in Edinburgh began in 2018 in line with the Scottish government's commitment to implement LEZs in Scotland's four largest cities - Edinburgh, Glasgow, Aberdeen and Dundee - to tackle air pollution and protect public health.

It was originally intended that LEZs would be in place by 2020 but, due to the coronavirus pandemic, this date has been pushed back to 2022.

High pollution advisory in effect for metro Phoenix area

Date:-13-June-2021, Source: ktar.com



City of Phoenix, AZ USA

PHOENIX — A high pollution advisory is in effect across metro Phoenix through Monday, the Arizona Department of Environmental Quality announced.

It is recommended that residents — especially children and adults with respiratory problems — limit outdoor activity while the advisory is in effect. Exposure to air pollution can increase the number and severity of asthma attacks, cause or aggravate lung diseases and reduce the body's ability to fight infection.

In an effort to reduce pollution levels, ADEQ is asking the public to drive as little as possible, carpool, avoid refueling cars during the day, avoid long drive-thru lines, delay large painting projects and keep household cleaners and chemical products sealed to prevent evaporating vapors.

According to the department, the highest levels of ozone occur in the afternoon.

Symptoms of pollution exposure may include itchy eyes, nose and throat, wheezing, coughing, shortness of breath, chest pain and upper respiratory issues.

Harbor area residents struggling to breathe amid pollution

Date:-14-June-2021, Source: spectrumnews1.com

LONG BEACH, Calif. — The Long Beach and Los Angeles Harbor area is one of the country's most polluted regions, according to the American Lung Association.

Elizabeth Reyes was born and raised in Long Beach. Her mother was hospitalized for breathing problems and now relies on an inhaler.

The wall behind their home has been there since she was born. Parts of it tower over Reyes. She's learned though in her 23 years that it doesn't keep everything out. "It's difficult when you want to get a good gasp of air and the air's not that great," said Reyes.

There's not a lot you can do to avoid pollution from the nearby rail yard and refineries except be prepared. That's where Ray Cheung, the executive director of SmartAirLA, comes in. Cheung created an air quality tracker that spits out a score from zero to five every day. The higher the number, the worse conditions are for people who have trouble breathing. His work focuses on the troubled harbor area.

“These are communities that have been exploited and promises not kept, so they’re going to come with, I wouldn’t say distrust, but skepticism,” said Cheung.

But change is underway. The South Coast Air Quality Management District recently ruled that certain large warehouses must reduce nitrogen oxide and diesel particulate matter emissions. Given these places are a key destination for big rigs, it makes sense that there are six such warehouses at the port complex and about 200 in the area nearby.

Work has been going on for a while to phase out older, more polluting trucks in favor of natural gas-powered and hydrogen-powered electric vehicles. From the port’s side of things, it looks like it’s working. Emissions levels are dropping.

Residents like Reyes remain unconvinced. “Have I seen a change in a good way? Not so much, but I mean I wish I could see a change,” Reyes said. Reyes plans to start graduate school soon at California State University, Long Beach, which means she’ll definitely stay close to home for a couple more years, but visiting family in Arizona was eye-opening.

“Over there, during the night, if you look up you can actually see the stars, which is a complete change,” said Reyes. Several sources agree the trucking and freeway traffic contribute the most pollution in this region. Reyes and her family live less than a mile from the 710, which is the main outbound artery for the ports.

Expanding the 710 has been talked about for years, but federal environmental regulators recently found that the \$6 billion proposal to grow the freeway might violate Clean Air Act standards.

Council urges people in North Hertfordshire to reduce air pollution

Date:-15-June-2021, Source: airqualitynews.com

North Hertfordshire council urges the public to reduce their contribution to air pollution ahead of Clean Air Day.

On June 17, Clean Air Day will see schools, workplaces, and communities take action to reduce air pollution.

North Hertfordshire District Council (NHDC) is supporting this initiative through their new campaign which highlights what individuals can do to reduce

their contribution to air pollution. The theme of this year's Clean Air Day is 'protecting our children's health from air pollution.' The council has provided the public with their top suggestions on how to do this, these include:

- Walk and cycle more
- Avoid lighting bonfires, barbecues, and fire pits if at all possible
- If you have to drive and there are no other more sustainable forms of transport available
- Switch your engine off when you're stationary, and try to choose electric vehicles where you can



Cllr Steve Jarvis, NHDC's executive member for the environment said: 'As part of our commitment to improving air quality in North Herts, NHDC's Environmental Health Team regularly monitors air quality

across the district. 'We are introducing Ultra Low Emission Vehicles for our officers, we've made the switch to renewable energy and green gas power to heat our buildings and we have made changes to our Taxi and Private Hire Licensing Policy to limit emissions from vehicles, to name just a few actions.

'All actions feed into our Climate Change Strategy, where we have pledged to achieve net-zero emissions in the district by 2030. 'We are fully committed to making changes that reduce our impact on air quality, but ultimately tackling air pollution is down to the choices and actions of all of us, as individuals and communities.

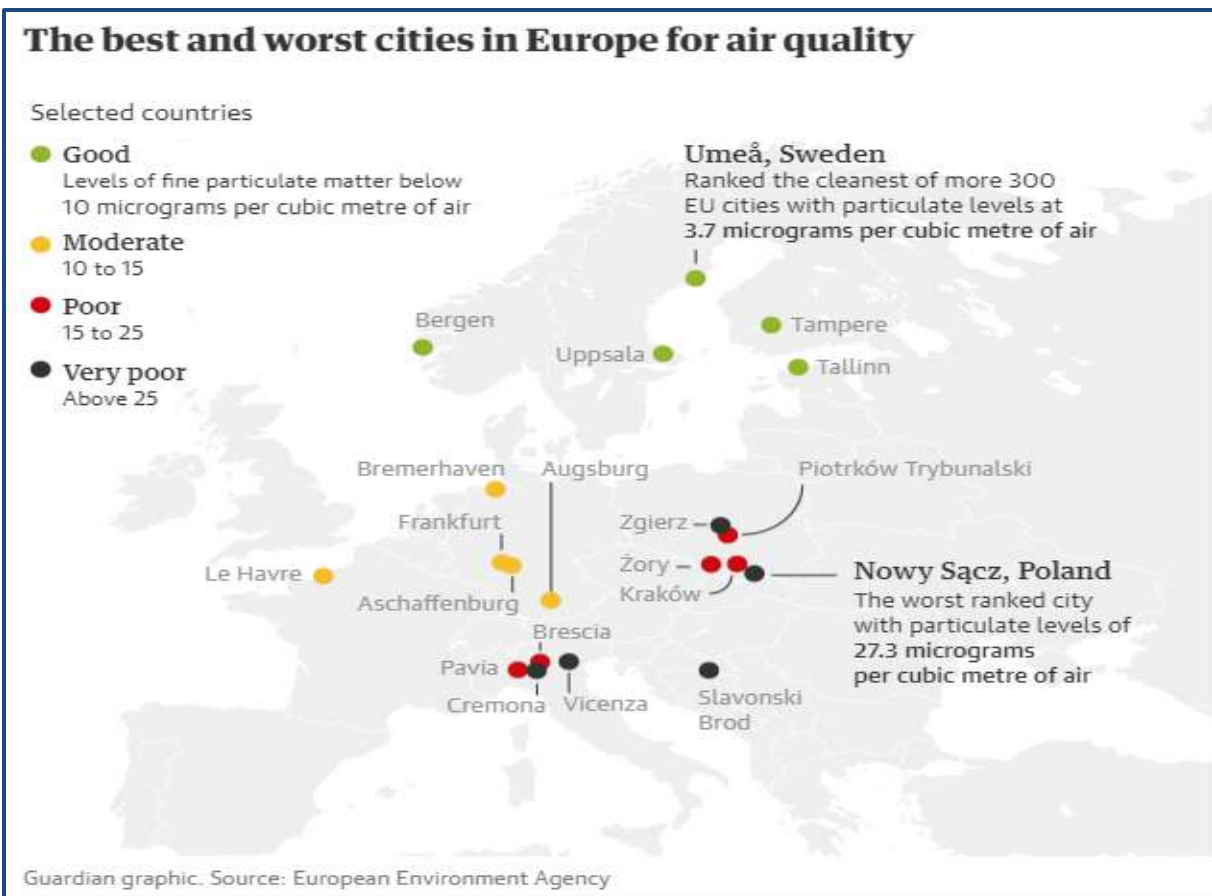
'People can reduce the pollution their family is exposed to and help improve the air quality for both themselves and the wider community by making small changes to how they travel, what they buy, and how they manage their home.'

More than half of Europe's cities still plagued by dirty air, report finds

Date:-16-June-2021, Source: theguardian.com

More than half of European cities are still plagued by dirty air, new data shows, despite a reduction in traffic emissions and other pollutants during last year's lockdowns. Cities in eastern Europe, where coal is still a major source of energy, fared worst of all, with Nowy Sącz in Poland having the most polluted air, followed by Cremona in Italy where industry and geography tend to concentrate air pollution, and Slavonski Brod in Croatia. The three cleanest cities were Umeå in Sweden, Tampere in Finland and Funchal in Portugal.

The European Environment Agency (EEA) took data from 323 cities in 2019 and 2020 and found that in only 127 of these, or about 40%, levels of fine particulate matter known as PM 2.5 were below World Health Organization recommended limits. Fine particulate matter has the biggest health impact of the main sources of air pollution and causes more than 400,000 premature deaths a year across Europe.



The data showed the average over the two years and was only available for cities where consistent reporting was available, so not all European cities were covered. The UK was excluded, as the government has opted out of membership of the environmental watchdog, although other non-EU member states such as Turkey, Switzerland and Norway are members.

The EEA said that lockdown measures had led to large reductions in the levels of nitrogen dioxide, an irritant gas associated with emissions from diesel engines, but that levels of particulate matter had stayed high. Nitrogen dioxide levels fell by more than 60% in some cities in the lockdowns of April 2020, but decreases in levels of particulate matter were less dramatic, with falls of about 20% to 30% recorded in levels of large particulates (PM 10) last April.

The agency's experts said this was because there were many more sources of particulate matter than just road traffic, including the combustion of fuel for heating, for instance in wood-fired boilers, and in industry, as well as from agriculture, as emissions of ammonia from fertiliser and animal manure combine with other pollutants in the atmosphere to form particulates.

Catherine Ganzleben, the EEA's head of group on air pollution, environment and health, said changes in behaviour spurred by the Covid-19 pandemic could have an impact in future. "If people go back to the daily commute, or if they choose teleworking instead, that will disrupt these pollution patterns," she said.

The new air pollution data will be available via a web viewer that will allow people to compare their cities with others across Europe.

Hans Bruyninckx, the executive director of the EEA, said: "While air quality has improved markedly over the past years, air pollution remains stubbornly high in many cities across Europe. This city air quality viewer allows citizens to see for themselves in an easy-to-use way how their city is doing compared to others on air pollution. It provides concrete and local information which can empower citizens towards their local authorities to address the issues."

Cork and Dublin have cleaner air than 60% of European cities – study

Date:-17-June-2021, Source: irishexaminer.com

Cork and Dublin have, on average, cleaner air than more than half of other European cities, a new study has shown.



Cork recorded a 'good' annual mean concentration score of 7.93 mg of fine particulate matter $\mu\text{g}/\text{m}^3$ - the 36th best score recorded overall.

The European Environment Agency (EEA) gathered data on levels of fine particulate matter (PM 2.5) in the air for 323 European cities in 2019 and 2020.

Fine particulate matter is one of the main sources of air pollution worldwide, and has the biggest impact on people's

health, accounting for an estimated 400,000 premature deaths per year in Europe alone.

Of the European cities surveyed, just 40% were found to have levels below the WHO, a mean annual concentration of anything between 0 and 10 milligrams of fine particulate matter represents 'good' air quality and levels from 10 to 15 $\mu\text{g}/\text{m}^3$ represent 'moderate' air quality.

'Poor' air quality is seen in cities with levels between 15 and 25 $\mu\text{g}/\text{m}^3$, and 'very poor' levels are seen in cities at or above the European Union limit value of 25 $\mu\text{g}/\text{m}^3$.

Only European cities with consistent PM.5 measurement and reporting could be included in the study.

Ireland

Cork's air fared best among the three Irish cities studied, with a 'good' annual mean concentration of 7.93 mg of fine particulate matter $\mu\text{g}/\text{m}^3$ - the 36th best score recorded overall.

Dublin ranked just two positions lower at 38th, with an annual mean concentration of 8.08 mg of PM 2.5 $\mu\text{g}/\text{m}^3$.

Waterford, the only other Irish city included, recorded a 'moderate' score of 10.50 $\mu\text{g}/\text{m}^3$, placing it 153rd out of 323 cities.

Overall



The city Umeå in northeast Sweden registered Europe's cleanest air

Europe's cleanest cities in terms of air quality were Umeå in Sweden (3.7 $\mu\text{g}/\text{m}^3$), Tampere in Finland (3.8 $\mu\text{g}/\text{m}^3$), and Funchal in Portugal (4.2 $\mu\text{g}/\text{m}^3$).

On the opposite end of the spectrum, Nowy Sącz in Poland had the most polluted air by some margin, with levels of PM 2.5 of 27.3 $\mu\text{g}/\text{m}^3$.

Next worst were Cremona in Italy with 25.9 $\mu\text{g}/\text{m}^3$, and Slavonski Brod in Croatia with 25.7 $\mu\text{g}/\text{m}^3$.

Pandemic impact

In its report, the EEA said that lockdown measures introduced during the Covid-19 pandemic had led to levels of nitrogen dioxide - an irritant gas associated with emissions from diesel engines - falling by more than 60% in April 2020.

However, it noted that levels of particulate matter had relatively stayed high, with less dramatic decreases of 20% to 30%.

The EEA said this was because particulate matter originates from more sources than just road traffic.

Hans Bruyninckx, the executive director of the EEA, said that while air quality has improved over the past years, pollution remained "stubbornly high" in many European cities.

‘Five out of 20 most air polluted cities in Europe are in the UK’

Date:-18-June-2021, Source: energylivenews.com



Newcastle-upon-Tyne, London, Dundee, Edinburgh, Leeds and Slough are among the cities with the highest NO₂ levels recorded last month, according to a new research.

Five cities in the UK are among the 20 areas in Europe with the highest levels of nitrogen dioxide (NO₂).

That's according to a new survey by the cleantech business Airly, which suggests Newcastle-upon-Tyne has ranked second in the list with 17.05 points during May based on the European Common Air Quality Index (CAQI).

The report stresses that the dangerous yearly level of average CAQI NO₂ is 20 and for particulate matter (PM) is 10.

Cluj-Napoca in Romania with 17.53 is the leader in the NO₂ concentration in the list which also includes Leeds at number nine, Edinburgh in the eleventh

place, Dundee in number 15, followed by London in 16 and Slough, Windsor at number 18th.

Based on data captured by sensors and including cities with a population of more than 100,000 people, the research also found that nearly half of the top 20 cities with dense PM are in Spain.

An Italian city, Naples was in the lead with CAQI PM 23.91 recorded in May.

Airly Chief Executive Officer and Co-Founder Wiktor Warchałowski commented: “People need to change their habits especially with the use of cars and local authorities need to start by monitoring the problem then put in place appropriate policies to manage problem hotspots.”

Saharan dust prompts Hillsborough County to issue air pollution precaution

Date:-19-June-2021, Source: wtsp.com



Elevated levels of PM2.5 could affect the elderly, children and people with respiratory ailments, the county says

HILLSBOROUGH COUNTY, Fla. — Saharan dust moving through the Tampa Bay area this weekend prompted the Environmental Protection Commission of Hillsborough County to issue an air pollution precaution.

The commission says the precaution was issued due to elevated levels of PM2.5. The elevated levels could reach "unhealthy levels" for sensitive groups, including the elderly, children and people with respiratory ailments.

The precaution went into effect immediately Saturday and remains in effect through Sunday in Hillsborough County.

The commission says those with respiratory issues or who are part of sensitive groups should "consider reducing prolonged or heavy exertion outdoors this afternoon and this evening."

Legacy of toxic leaded petrol lingers in air in London, study finds

Date:-21-June-2021, Source: theguardian.com



The study found that 32-43% of the lead in the London air was originally from leaded fuels, banned 20 years ago

Toxic lead from petrol that was banned 20 years ago still lingers in the air in London, a study has shown, with researchers saying the legacy of leaded fuels is likely to hang over most cities.

While levels are much lower than at their peak in the 1980s, they remain far above natural background levels. Lead is extremely poisonous and there is no

safe amount of exposure. It is of particular concern for children, as it damages their developing brains and ability to learn.

Lead was added to fuels in the UK from the 1930s and phased out in the decade up to 1999. The metal was deposited on urban surfaces and soils over many decades and is thought to be repeatedly thrown back up into the air by winds, traffic and building works, and levels are no longer declining.

The researchers said the work illustrated how pollutants could remain in the environment for many years after being outlawed. Other problems include persistent organic pollutants such as the long-banned pesticide DDT.

“The key message from [our study] is that lead from gasoline is here to stay, and it is making an impact today,” said Prof Dominik Weiss, of Imperial College London. “For over 30 years, the same pollutant has been recycled.”

Lead from long-banned fuels has also been identified in Shanghai, China, and São Paulo, Brazil, and Weiss said it was likely to be contaminating many cities. One in three children around the world have blood levels of lead likely to cause significant long-term health damage, according to a Unicef study.

The new study, published in the journal *Proceedings of the National Academy of Sciences*, found that 32-43% of the lead in the London air was originally from leaded fuels. Lead atoms can have different numbers of neutrons and the ratio of these isotopes is very distinctive in leaded fuels.

This allows the source of the metal to be distinguished from other sources, such as coal burning, industry, brake and tyre dust, and old paint. The researchers found similar lead levels in both roadside and rooftop samples between 2014 and 2018, indicating the pollution remained in the air across the city.

Levels of lead in the air are now just 2% of the peak in the 80s, but this is still 100 times higher than natural levels, says Weiss. Research in the US has shown that people’s blood lead levels are linked to atmospheric levels of the pollutant, suggesting they ingest lead from the air.

Land contaminated with lead can be made safer by placing clean soil on top, which also prevents children from ingesting lead when they play. This approach has reduced children’s blood lead levels in New Orleans, US.

“Soil remediation can be a great solution, focusing on places where children get exposed such as playgrounds and gardens,” said Eléonore Resongles, of the

University of Montpellier, France, and part of the research team. “With a map of the contamination, you can identify the hotspots.”

Prof David Phillips, at the University of Southampton, who was not involved in the study, said: “The key message is that pollutants such as lead don’t go away when they have ceased to be in the spotlight. Lead is still a problem in many old industrial sites and associated with historical mining, as well as from home sources such as lead pipes and old paint.

“The main worry is exposure of young children – there is good evidence for adverse neurodevelopmental effects at low doses. The extent of the problem is difficult to assess but is clearly likely to affect families living near roads with historical heavy traffic volumes.”

A government spokesperson said: “At a national level, air pollution levels have reduced significantly since 2010 but we know there is more to do to tackle harmful emissions given their legacy impact.

“That is why we are setting new legally binding targets on particulate matter pollution through our environment bill and building on our clean air strategy to accelerate action to clean up our air.”

Swedish city Umeå has Europe’s cleanest air

Date:-22-June-2021, Source: thelocal.com

The EEA published The European city air quality viewer, an interactive tool showing the air pollution levels in 323 cities in Europe. Air pollution is the biggest environmental health risk according to the EEA.

“This city air quality viewer allows citizens to see for themselves in an easy-to-use way how their city is doing compared to others on air pollution. It provides concrete and local information which can empower citizens towards their local authorities to address the issues,” says Hans Bruyninckx, the executive director of the EEA.

The cleanest air out of all these cities can be found in northern Sweden, in the city of Umeå, which has a level of 3,7 micrograms of fine particulate matter, known as PM 2.5, per cubic metre of air.

The EEA’s classification of air quality defines four levels of air quality: “good”, “moderate”, “poor” and “very poor”, with “good air” defined as having under 10 micrograms of particulate matter per cubic meter.



Umeå city centre, home to Europe's cleanest air

Only 127 out of the 323 cities in Europe are found to pass the limit of “good air” set by both the EU and the WHO.

All of the Swedish cities included in the study – Uppsala, Stockholm, Gothenburg and Malmö as well as Umeå, had “good air” according to the report. Uppsala ranked 6th out of the 323 countries tested, while Stockholm ranked 9th, Gothenburg 23rd and Malmö 93rd.

Second and third in the EEA’s ranking are Tammerfors in Finland and Funchal in Portugal.

“Very poor air” was defined as over 25 micrograms of particulate matter per cubic meter of air and five cities on the index are considered to meet this standard. Worst of all were Nowy Sacz in Poland, where 27.3 micrograms of particles were found per cubic meter of air, Cremona in Italy and Slavonski Brod in Croatia. Despite a reduction in emissions during the Covid-19 pandemic, the remaining 196 countries were all found to have above acceptable levels of air pollution. While lower levels of commuting have led to a decrease in levels of nitrogen dioxide in the atmosphere, levels of particulate matter have remained stagnant.

The EEA's experts said that emissions of particulate matter are the result of many different processes, including combustion of fuel for heating of homes, industry, and agriculture. "While air quality has improved markedly over the past years, air pollution remains stubbornly high in many cities across Europe," says Bruyninckx.

Last year, an EEA report found that Europe's air has gotten cleaner in the last decade, but that the bad air caused 417 000 premature deaths across 41 countries in 2018 alone. A similar study in The Lancet Planetary Health earlier this year found that air pollution causes around 200 000 premature deaths per year in Europe. They stated that if the pollution was lowered across Europe to below the limit of 10 micrograms per cubic meters, the levels recommended by the WHO, around 52 000 deaths could be avoided each year.

Leaded gas banned decades ago, particles in air still threat to health

Date:-23-June-2021, Source: upi.com



Even though leaded gas was banned in Britain in the 1960s, particulate matter from the fuel remains in London air today -- which researchers say may serve as a warning for people in other big cities

The good news: Levels of lead in the air that Londoners breathe are far lower today than they were in the 1980s, when leaded gas was an automotive staple.

The bad news: Decades-old lead particles still pollute the city's air, a stubborn and potentially hazardous leftover of a now banned product. The findings might have implications for the health of city dwellers globally.

In the study, researchers measured airborne lead concentrations in two locations in central London between 2014 and 2018. That data was then compared to lead levels repeatedly taken between the 1960s and 2010.

Britain banned the sale of leaded gas in 2000, in recognition of the widely accepted consensus that exposure to airborne lead is unsafe at any level. Today, most countries have similar bans in place.

The analysis revealed that annual average airborne lead concentrations did plummet -- from 500 to 600 nanograms, or ng, per cubic meter of air back in the 1980s to just 20 ng per cubic meter by 2000.

But the research team also found that airborne lead levels stopped declining further over the last decade, holding steady at an average of 8 ng per cubic meter.

Forty percent of that lead pollution is likely a direct legacy of leaded gas, in the form of lead-contaminated dust that continuously kicks back up into the air, the researchers said.

"The use of lead in petrol has ceased in most countries worldwide because of evidence that exposure to lead causes neurodevelopmental problems in children, and cardiovascular, kidney and reproductive problems in adults," explained study author Eléonore Resongles.

Yet, "despite the leaded petrol ban, historically combusted lead is still present in London's air more than 20 years later," said Resongles, a research officer with the Research Institute for Development at HydroSciences Montpellier, in Montpellier, France.

As to what this might mean for the health of Londoners or beyond, Resongles did stress that "lead levels are now low, and below air quality targets in London."

But at the same time, she cautioned that because "there is no 'safe' threshold for lead in human blood," the findings do "raise questions about long-term lead contamination," not only in London, but in other cities as well.

Two researchers not involved in the study weren't surprised by the findings and had a similar level of concern.

"I am not surprised to see that the lead levels in the air have not changed," said Dr. Jennifer Sample, a pediatrician and medical toxicologist, and former chair of the American Academy of Pediatrics' Council on Environmental Health.

"The time it takes for half of the lead to decay is 4 billion years," Sample noted. "Thus, lead in the environment doesn't go anywhere once it is there."

And it's not just Londoners who should be concerned, she said, noting that a similar dynamic is likely affecting "the air concentrations of lead in most urban settings -- developed and undeveloped countries -- wherever leaded gasoline was used."

And that's a potentially big problem, she added, because "lead is a potent toxin to the developing brain, which means that young children are at greatest risk. Lead has been linked to speech and other developmental delays as well as having problems later in school. Other organs can be affected including the blood, nervous system and kidneys in children and adults."

Dr. Bruce Lanphear, a professor of health sciences with Simon Fraser University in Vancouver, offered an even grimmer view.

"Lead toxicity represents the largest mass poisoning in human history," he said. "No safe level of lead exists. For children, we find steep decrements in IQ scores and diminished academic abilities down to the lowest measurable concentrations. For adults, we find a rapid increase in the risk of deaths from coronary heart disease beginning at the lowest concentrations."

So, what can be done?

According to Resongles, "If the current lead levels prove harmful, then measures could be taken to target the sources of the lead in soil and on roads. Possible measures to lower lead levels include covering contaminated urban soils with fresh soil, which has been effective in reducing children's blood lead levels in U.S. cities."

Lanphear pointed to the potential benefit of "frequent street cleanings, landscaping to reduce re-suspension and phytoremediation [meaning] using plants to reduce concentrations of toxic chemicals in soil."

Sample's bottom line focuses on similar remedies.

"In order to 'clean' the air, the source needs to be removed. This can be done by planting grass on open soil areas, preventing the airborne particles or remediating the area by removing the soil. The soil would need to be moved to a safe area such as using for buried soil - under the topsoil - of other sites. [But] it should not be used for gardening or farming the land, as lead can be incorporated into the growing plant."

Poverty, air pollution cause cancer spike in Louisiana industrial areas, Tulane study says

Date:-24-June-2021, Source: nola.com



A flare at the Shell Norco Refinery Sunday, April 18, 2021

The combination of air pollution and poverty is triggering higher rates of cancer in Louisiana, according to a new study led by the Tulane Environmental Law Clinic.

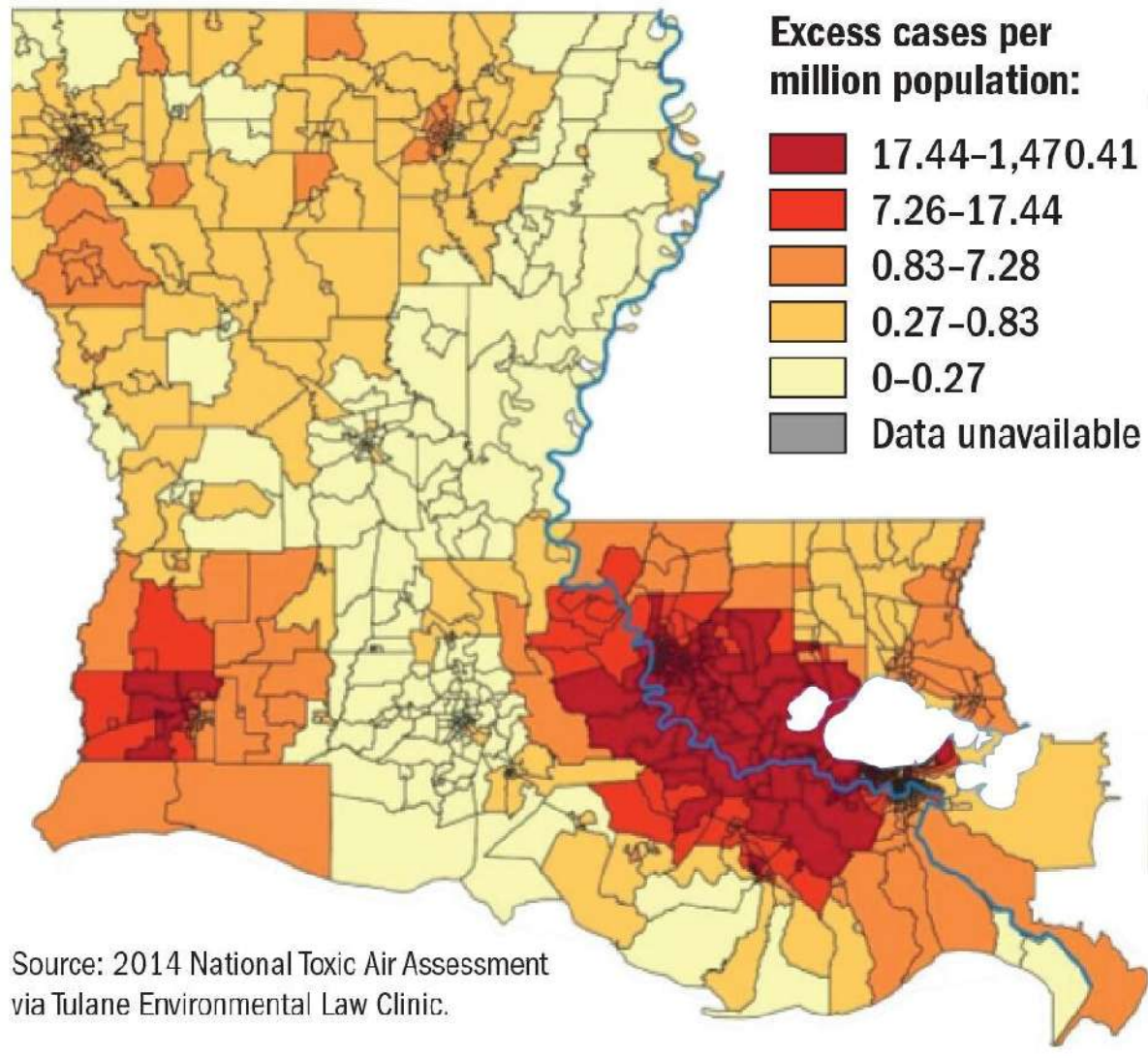
Released this week, the study indicates low-income communities with

high levels of toxic air pollution had average cancer rates of about 515 cases per 100,000 residents. That's statistically higher than the 482-case average statewide and the 487-case average for low-income areas with less air pollution.

"These communities are already burdened with socioeconomic challenges, and on top of that are the clear effects of toxic air pollution," said Kimberly Terrell, a Tulane clinic research scientist and the study's lead author.

People living in impoverished communities might not get the preventive medical care that can help avoid cancer. Add toxic air to these communities, and it seems inevitable that cancer rates would be high, Terrell said.

Cancer risk from point sources of pollution



“We’re exposed to lots of different things [that cause cancer], but living in a polluted area could be the thing that pushes you over the edge and results in a cancer outcome,” she said.

People with low incomes tend to work outside more and have homes and vehicles that let in more outdoor air. Both factors can increase exposure to air pollution.

The study compared cancer rates from the 2021 Louisiana Tumor Registry with Census-designated areas of high poverty and the U.S. Environmental Protection Agency's pollution-related cancer risk zones. It has not yet undergone the peer review and publication process typical of scientific studies. Terrell plans to submit the study for publication in a scientific journal later this year.

The study provides scientific backing for the clinic's own advocacy work on behalf of residents of the industrial corridor between New Orleans and Baton Rouge and other industrialized communities such as Mossville near Lake Charles. Many people who live near chemical plants and refineries have long maintained their communities suffer disproportionately from health problems that they say are rooted in chronic exposure to pollution.

"While continually dismissed by industry, state decision-makers and local politicians, these concerns are not baseless," the clinic report says. "More pounds of industrial toxic air pollution are released each year in Louisiana than any other state in the nation. Our clients who live in industrialized communities have firsthand experiences with higher-than-normal cancer prevalence among their family members, friends and neighbors."

The concentration of chemical plants and refineries in mostly poor, Black areas of Louisiana drew international attention in January when President Joe Biden mentioned "Cancer Alley" in a speech about a series of executive orders targeting climate change and industrial pollution in areas with large non-white populations. Some Louisiana leaders bristled at the president's use of the term, which many residents use to describe the Mississippi River corridor between New Orleans and Baton Rouge; Sen. Bill Cassidy called it "a slam upon our state."

The Tulane study takes aim at the state Department of Environmental Quality and the LSU School of Public Health, which manages the tumor registry, for failing to show the links between pollution and cancer. DEQ, the study says, has "dismissed concerns" about air pollution on the basis that the local cancer rates are not statistically higher than the Louisiana average.

"This approach is scientifically flawed" because it fails to include pollution exposure and the fact that Louisiana's industrialized communities are represented in the state cancer rate average, which is already quite high, ranking Louisiana 7th in the nation, according to the study.

DEQ “inappropriately puts the burden of proof on the community rather than the polluter,” the study says. “In other words, there is no evidence that it is safe to locate industrial plants near communities, yet [DEQ] maintains there is no evidence that this practice is unsafe.”

DEQ would not comment on the study.

LSU and the tumor registry it maintains have adopted what the Tulane study calls “questionable practices” that include annual reports focusing on the seven parishes the registry calls the industrial corridor between Baton Rouge and New Orleans but leave out several industrial areas in Jefferson, Orleans, Plaquemines and St. Bernard parishes, as well as similar zones around Lake Charles, Shreveport and Alexandria.

“Of 10 parishes in Louisiana with the highest cancer hazard from industrial pollution, only four are included in the tumor registry’s definition of the industrial corridor,” the report says.

Lauren Maniscalco, Louisiana Tumor Registry liaison, said the registry collects and presents basic cancer data from across the state using standards common among similar U.S. registries. While it does offer reports on the industrial corridor, data from all parishes is publicly available.

“Our cancer rates do rank us pretty high,” Maniscalco said. “But we have cancer all over the state. It’s not just in one area.”

She said “many risk factors,” including pollution, can lead to many different types of cancers.

Some Louisiana leaders, including Cassidy, a physician specializing in digestive ailments, rejected industrial pollution as a major cause of cancer. Instead, Cassidy put the blame on lifestyle choices such as smoking and overeating.

The Tulane study ruled out those factors as the main reasons cancer rates are high in poor, industrialized areas.

“While local politicians point to smoking and obesity as the main culprits for Louisiana’s high cancer rate, the report found no evidence that these factors contributed to the observed link between toxic air pollution and cancer,” Terrell said. “Smoking and obesity are risk factors that occur throughout Louisiana, both within and outside [industrial] regions.”

Lockdown led to an increase in indoor air pollution

Date:-25-June-2021, Source: airqualitynews.com



Indoor air quality worsened in the UK, Europe and the US over lockdown, according to a new study conducted by Airthings.

In order to understand the impact that home-working and lockdown had on air pollution, the analysts looked

into trends of CO₂ levels during typical working hours.

CO₂ is a greenhouse gas that is harmless in small quantities, but a build-up of CO₂ indoors can lead to low productivity and decreased cognitive ability.

Analysts looked into CO₂ trends during typical working hours in order to understand how working from home has affected indoor air quality.

The researchers found that in both Europe and the US, there was a noticeable spike in indoor CO₂ levels in March when the lockdowns began and another steady rise in autumn when many countries went into a second lockdown.

In the UK, indoor CO₂ levels rose by over 25% when the second national lockdown went into place at the beginning of November.

The researchers also looked at trends in volatile organic compounds (VOCs). VOCs are a combination of gases and odours emitted from many different toxins and chemicals from everyday products such as cooking and cleaning fumes, paint and new furniture.

In the short term, VOCs can cause headache and eye, nose and throat irritations. In the long term, exposure to high levels of VOCs can lead to damage to the liver and kidneys.

The researchers found that in Germany by the end of the year, the average level of VOCs had increased by nearly 7% since March. The UK also followed a similar trend, with several peaks.

Oyvind Birkenes, CEO of Airthings said: 'UK children on average spend 35 hours per week at school and they are one of the most sensitive groups in regards to air pollution. That's why we are excited to join forces with Evotech on Clean Air Day to monitor and improve air quality in schools across the UK and raise awareness about the effects of poor indoor air.'

Air quality warning issued for eastern Metro Vancouver and Fraser Valley

Date:-26-June-2021, Source: bc.ctvnews.ca

VANCOUVER - Residents of the eastern parts of Metro Vancouver as well as the Fraser Valley are being advised of poor air quality.

In a statement from Metro Vancouver, the regional authority warns of a high concentration of ground-level ozone, which is expected to stick around until at least Monday as residents endure an extreme heat wave.

"Avoid strenuous outdoor activities during mid-afternoon to early evening, when ozone levels are highest, especially if breathing feels uncomfortable," reads the advisory.

"Consider choosing easier outdoor activities, such as walking instead of running, where you don't have to breathe as hard."

As of Saturday afternoon, the government of Canada website lists the regions' current and forecasted air quality as a four out of ten, with one being low risk and ten being very high risk. The exception is for the North East of Metro Vancouver, which was rated at five out of ten.

Reducing fuel emissions will also be helpful, according the Metro Vancouver authority. Helpful actions include minimizing the use of diesel or gas-powered vehicles, avoiding idling vehicles, and not refuelling with gasoline at the hottest time of day. Avoid using lawn mowers, trimmers or anything else that burns fuels.

During the hottest parts of the day, people are advised to stay indoors where it may be cooler and the air cleaner, but to continue following COVID-19 advisories. The authority also warns that the face masks people wear to reduce

the transmission of COVID-19 provide little protection from inhaling ground-level ozone.

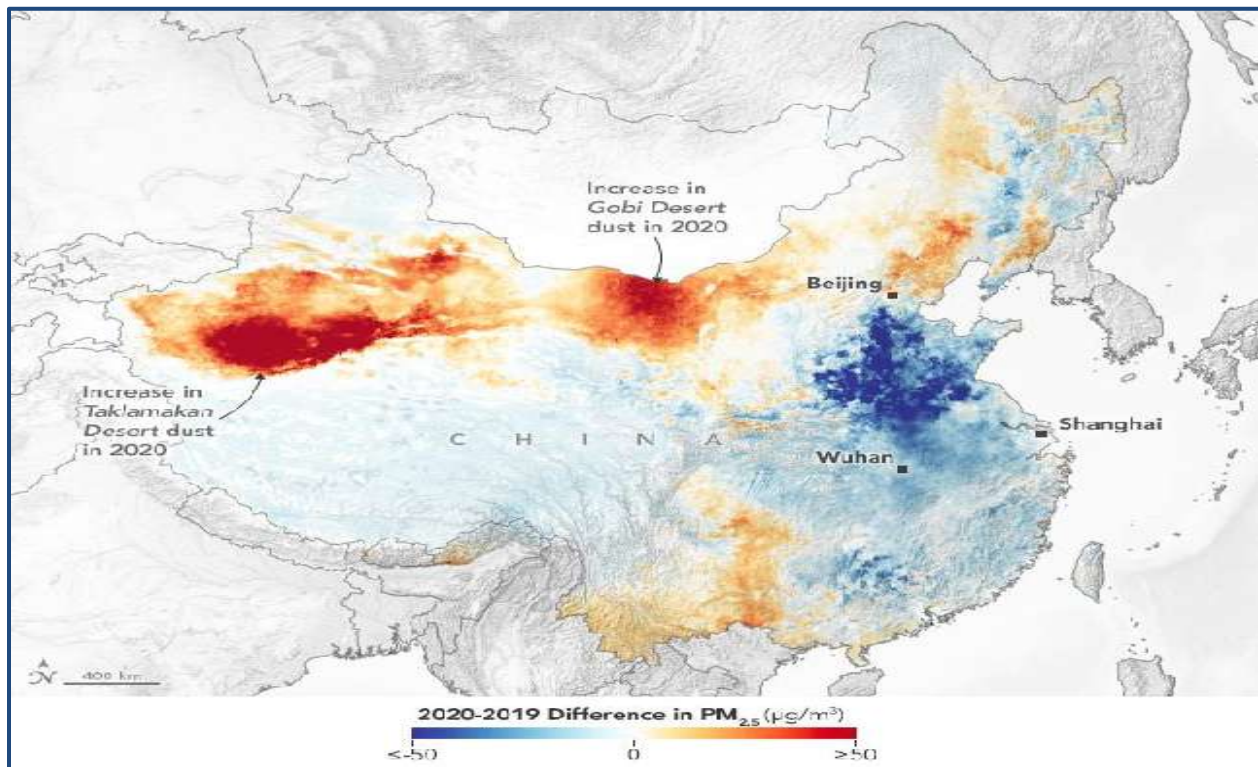
Ground-level ozone is formed when nitrogen oxides and volatile organic compounds react in the air in the heat and sun. Nitrogen oxides include the pollutants emitted when fuel is burned, while volatile organic compounds include the particles emitted from solvents.

Those with asthma, diabetes, chronic obstructive pulmonary disorder (COPD), and those who are pregnant or unhoused are at higher risk of breathing difficulties from poor air quality.

“If you are experiencing symptoms such as chest discomfort, shortness of breath, coughing or wheezing, seek prompt medical attention,” it says.

COVID-19 Lockdowns Cut Pollution, But Not All of It

Date:-27-June-2021, Source: earthobservatory.nasa.gov



February 2019 - February 2020

Early in the COVID-19 pandemic, it became clear from satellite observations and human experience that the world's air grew cleaner. But new research shows that not all pollutants were taken out of circulation during societal

lockdowns. In particular, the concentration of tiny airborne pollution particles known as PM_{2.5} did not change that much because natural variability in weather patterns dominated and mostly obscured the reduction from human activity.

“Intuitively you would think that if there is a major lockdown situation, we would see dramatic changes, but we didn’t,” said Melanie Hammer, a visiting research associate at Washington University in St. Louis and leader of the study. “It was kind of a surprise that the effects on PM_{2.5} were modest.”

PM_{2.5} describes particles, produced by both human activities and natural processes, that are smaller than 2.5 micrometers, or roughly 30 times smaller than the width of a human hair. PM_{2.5} is small enough to linger in the atmosphere and, when inhaled, is associated with increased risk of heart attack, cancer, asthma, and a host of other human health effects. “We were most interested in looking at changes in PM_{2.5} because it is the leading environmental risk factor for premature mortality globally,” Hammer said.

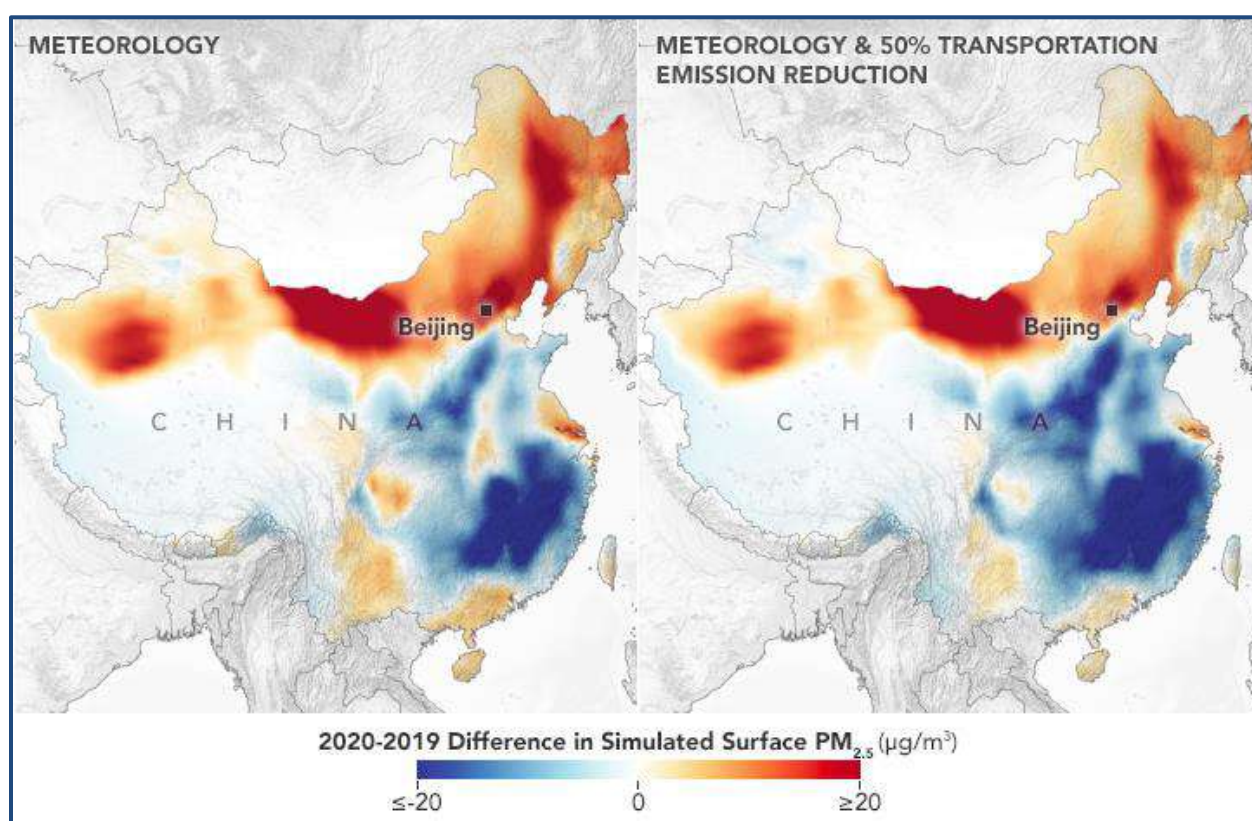
By combining NASA spacecraft data with ground-based monitoring and an innovative computer modeling system, the scientists mapped PM_{2.5} levels across China, Europe, and North America during the early months of the pandemic. They found seasonal differences in PM_{2.5} between recent years were driven primarily by the natural variability of the meteorology, not by pandemic lockdowns. Some of the meteorological effects included changes in the sources and intensity of seasonal dust storms, the way pollutants reacted to sunlight in the atmosphere, the mixing and transfer of heat via weather fronts, and the removal of pollutants from the atmosphere by falling rain and snow.

One example is shown on the map above, which compares PM_{2.5} levels across China in February 2020 versus February 2019. Note that although pollution levels dropped significantly in some of the most industrialized parts of China, they were actually higher near China’s desert regions. The pollution mapping effort included data from NASA’s Terra and Aqua satellites, as well as meteorological modeling from the NASA Global Modeling and Assimilation Office. The study was published in June 2021 in the journal *Science Advances*.

PM_{2.5} is among the most complicated pollutants to study because particle size, composition, and toxicity vary greatly depending on the source and the environmental conditions. For instance, some PM_{2.5} pollution is known to come from the reaction of another pollutant—nitrogen dioxide (NO₂)—with other chemicals in the atmosphere. NO₂ is a major byproduct of fossil fuel

burning by motor vehicles and industrial activities. Early in 2020, NASA and other science agencies detected significant drops in NO₂ pollution during COVID-19 lockdowns, and some people assumed it would mean dramatic decreases in all pollution.

However, the two pollutants do not have a linear relationship. Half as much nitrogen dioxide in the atmosphere does not necessarily lead to half as much PM_{2.5} production. Hammer and colleagues decided to examine whether the lockdowns resulted in a decline of particulate pollution. “Tackling PM_{2.5} is a very complex issue,” Hammer said, “and you have to take into account its multiple sources, not just the fact that fewer people are on the road,”



February 2019 - February 2020

To ensure a comprehensive analysis, the team focused on regions with extensive ground monitoring systems in place and compared monthly estimates of PM_{2.5} from January through April in 2018, 2019, and 2020. When they compared PM_{2.5} concentrations during the lockdown months in North America or Europe, they did not find clear signals. The most significant lockdown-related differences were detected in China, particularly over the

North China Plain, where pollution levels are typically high and the strictest lockdowns were concentrated. But even that signal was a bit muddled.

To decipher whether the lockdown was responsible for the change in China and other small ones across Europe and North America, the team ran different “sensitivity simulations” using the GEOS-Chem chemical transport model. They simulated a scenario where anthropogenic emissions of nitrogen dioxide and other pollutants were held constant and meteorological variability was solely responsible for year-over-year differences. They also ran simulations in which they reduced emissions from motor vehicles and other anthropogenic sources, mirroring the lockdowns. They found that the simulation where both meteorology and transportation effects were included most closely mirrored the real-world situation, with natural effects accounting for most of the differences. One of those results is shown in the map above.

Hammer suspects the change in PM2.5 levels over the North China Plain was more apparent because of the region’s higher pollution levels during non-COVID times. The new insights also highlight a relevant point that is not intuitive from the 2020 observations: Average PM2.5 levels have been dropping steadily for years in North America and Europe, and pollution concentrations that are already low are more difficult to change.

“The big story here is actually the global characterization of air quality, especially in places where there aren’t surface monitors,” said Ralph Kahn, a co-author and an atmospheric scientist at NASA’s Goddard Space Flight Center. “The satellites provide an important piece of it, the models provide an important piece of it, and the ground-based measurements make an important contribution as well.”

Phivolcs warns nearby residents vs. volcanic smog over Taal Volcano

Date:-28-June-2021, Source: cnnphilippines.com

Metro Manila (CNN Philippines, June 28) — The Philippine Institute of Volcanology and Seismology on Monday warned against the volcanic smog seen over Taal Volcano, which may cause health problems to nearby residents.

Phivolcs said the volcanic smog or “vog” — a type of air pollution — is a result of the volcano’s continued emission of sulfur dioxide gas.



It said it observed high levels of such gas emission from the Taal main crater over the past two days, along with steam-rich plumes that have gone up as high as three kilometers.

The vog, Phivolcs explained, can cause irritation of the eyes, throat and respiratory tract. The severity of the effects depends on the gas concentrations and duration of exposure, it added.

“Should SO₂ (sulfur dioxide) gas emission continue at the same rate or increase, and atmospheric conditions promote the formation of vog, communities surrounding Taal Lake are advised to take necessary precautions,” it said.

The agency noted those with health conditions, such as asthma, lung disease and heart disease, as well as the elderly, pregnant women and children should exercise a heightened level of caution.

If exposure to the vog cannot be avoided, the public is advised to take the following steps:

- Limit your exposure. Avoid outdoor activities, stay indoors, and shut doors and windows to block out vog.
- Protect yourself. Cover nose, ideally with an N95 face mask.

- Drink plenty of water to reduce any throat irritation or constriction.
- If belonging to the particularly sensitive group of people above, watch over yourself and seek help from a doctor or barangay health unit if needed.
- If serious effects are experienced, call the doctor or the barangay health unit.

Phivolcs also reminded that the Alert Level 2 (or increased unrest) prevails over Taal Volcano. This means the threat of sudden steam or gas-driven explosions and lethal accumulations or expulsion of volcanic gas may occur anytime and threaten areas within the Taal Volcano Island.

As such, the agency said venturing into the island must remain strictly prohibited.

Soot, metal among the things shot into the sky when you do fireworks

Date:-29-June-2021, Source: visaliatimesdelta.com

Air quality levels reach dangerous pollution levels each Independence Day as revelers light up thousands of personal fireworks throughout the Central Valley, San Joaquin Air Pollution Control District officials said.

During a Zoom press conference, district officials urged Valley residents to set aside plans for personal fireworks and instead attend one of the many community fireworks events set to celebrate the Fourth of July.

Smoke and other contaminants that elevate the particulate matter floating throughout the Valley from the thousands of personal fireworks contribute to spikes in poor air quality, which can cause serious breathing conditions for at-risk children, elderly residents, and those with existing respiratory conditions, district officials said.

“We are asking Valley residents to be mindful and considerate of their neighbors and the many sensitive individuals whose health may be impacted by the emissions that come from lighting personal fireworks,” said Jaime Holt, San Joaquin Valley Air District chief communications officer. “There are many ways to be patriotic and celebrate our nation’s independence without lighting fireworks.”

In some cases, the pollutants from personal fireworks can last for several days.

Anthony Presto, an air quality education representative for the San Joaquin Valley Air Pollution Control District, hopes this year Valley residents will celebrate by taking in a community fireworks celebration, where professionals set off the fireworks.

These fireworks are elevated and lessen the effects on the ground floor, Presto said.

Air monitors throughout the Valley around July 4 record spikes in the particulate matter that could be four to five times higher than the federal health standard, district officials said. Typically it's during the evening when residents are celebrating and lighting personal fireworks.

It's like ash and smoke from wildfires spreading to the Valley floor, which also present extremely unhealthy breathing conditions, often calling for people to remain indoors, district officials said.

"So there's a lot of things that are a negative impact from using fireworks and, you know, people talk about being patriotic on the Fourth of July. Obviously, that's really important. We want people to be able to celebrate and enjoy the Fourth of July," Presto said.

"Professional fireworks shows are much more spectacular, you can see them from miles away, and they are so high in elevation that the impact is not as great on us down here at ground level. Also, those can dissipate before they hit the ground in most cases, so the impact is very small."

Presto wants residents to be patriotic.

"Decorate your home in red, white, and blue. Have a party and serve patriotic red, white, and blue food, and attend that Fourth of July parade," he said. "There are so many things you can do."

In other air quality news, the district cautions people with breathing problems that the Vulcan Fire in Fresno County, the Shell Fire in Kern County, and wildfires in Arizona may want to stay indoors until the blazes are out

Air quality in the San Joaquin Valley is expected to deteriorate starting June 28 due to smoke impacts. Increasing high pressure and stagnant conditions trap smoke to the surface, the district said.

The bad air can trigger asthma attacks, aggravate chronic bronchitis, and increase heart attack and stroke risk, the district said. Individuals with heart

or lung disease should follow their doctors' advice and move indoors to a filtered, air-conditioned environment with windows closed.

The common cloth and paper masks individuals are wearing due to COVID-19 concerns may not protect them from wildfire smoke, the district said.

The district's Real-time Air Advisory Network (RAAN) provides access to localized air quality data from an extensive air-monitoring network. Visit myRAAN.com and input any address in the San Joaquin Valley.

Fireworks safety

The National Council on Firework Safety provided the following tips:

- First, obey all local laws regarding the use of fireworks.
- Know your fireworks; read the cautionary labels and performance descriptions before igniting.
- A responsible adult should supervise all firework activities. Never give fireworks to children.
- Alcohol and fireworks do not mix. So save your alcohol for after the show.
- Wear safety glasses when shooting fireworks.
- Light one firework at a time and then quickly move away.
- Use fireworks outdoors in a clear area, away from buildings and vehicles.
- Never relight a "dud" firework. Instead, wait 20 minutes and then soak it in a bucket of water.
- Always have a bucket of water and charged water hose nearby.
- Do not experiment with homemade fireworks.
- Dispose of spent fireworks by wetting them down and place them in a metal trash can away from any building or combustible materials until the next day.
- Report illegal explosives, like M-80s and quarter sticks, to the fire or police department.

University Of Washington: Air Pollution From Wildfires Impacts Ability To Observe Birds

Date:-30-June-2021, Source: indiaeducationdiary.in

As smoky air becomes more common during Washington's wildfire season, many wildlife enthusiasts wonder: What happens to the birds?

Few studies have looked at wildfire smoke impacts on animals, let alone birds. And as Washington and the larger West Coast continue to experience more massive wildfires and smoke-filled air, understanding how birds are affected by smoke — and how air pollution may influence our ability to detect birds — are important factors for bird conservation.

Researchers from the University of Washington now provide a first look at the probability of observing common birds as air pollution worsens during wildfire seasons. They found that smoke affected the ability to detect more than a third of the bird species studied in Washington state over a four-year period. Sometimes smoke made it harder to observe birds, while other species were actually easier to detect when smoke was present. The results were published June 29 in the journal *Ornithological Applications*.

"We want to know how wildfire smoke affects birds and other wildlife, and this study is a great place to start," said lead author Olivia Sanderfoot, a doctoral candidate in the UW School of Environmental and Forest Sciences. "Smoke clearly has an impact on detection of wildlife, and that hasn't been adequately explored in the literature to date. Now we know that smoke pollution specifically affects our observations of birds and our ability to detect them."

The researchers combined data from eBird, an online citizen-science program managed by the Cornell Lab of Ornithology, with publicly available data from an extensive network of air quality monitors across Washington state. They were able to analyze how fine particulate matter, known as PM_{2.5} and a marker of smoke pollution, affected the probability of observing 71 common bird species during the wildfire seasons of 2015 to 2018. Higher concentrations of smoke affected the chances of observing 37%, or 26, of the bird species included in the study.

Sixteen of the bird species were harder to observe with more wildfire smoke, the study found. These include turkey vultures, Canada geese, two gull species, bald eagles and several other birds of prey. Many of these birds are observed circling high above the ground, so it's not surprising that people

would have a harder time detecting them on smoky days, the authors said. However, 10 additional species were easier to observe when smoke concentrations were higher. These include three types of warblers, cedar waxwing, spotted towhee and California quail.

The reasons for this aren't clear and are outside of the scope of this study, but the authors lay out some hypotheses for future exploration. It could be that reduced visibility due to smoke pushes some birds lower to the ground where they can be more easily seen and heard. Or, as smoke prompts birds of prey to relocate, that could alleviate pressure on some songbirds and cause them to be more active — and thus more detectable by people.

“These behavioral changes are all hypotheticals, and we very much hope that researchers follow up on them because we have a lot to learn about how smoke affects wildlife,” Sanderfoot said.

Conservation and management efforts rely on the ability to observe animals in the wild, and it's no different for birds. Air pollution clearly plays a role in detecting animals, and this paper makes the case that it should be considered alongside other factors like time of day, temperature and precipitation that all can influence observations of animals.

“If we see or hear birds more or less frequently because of smoke, that also impacts bigger inferences we make in terms of how certain bird populations are doing,” said senior author Beth Gardner, an associate professor in the School of Environmental and Forest Sciences. “We want to get that part right, so we first need to understand the effect of air pollution on how we're seeing birds in the wild.”

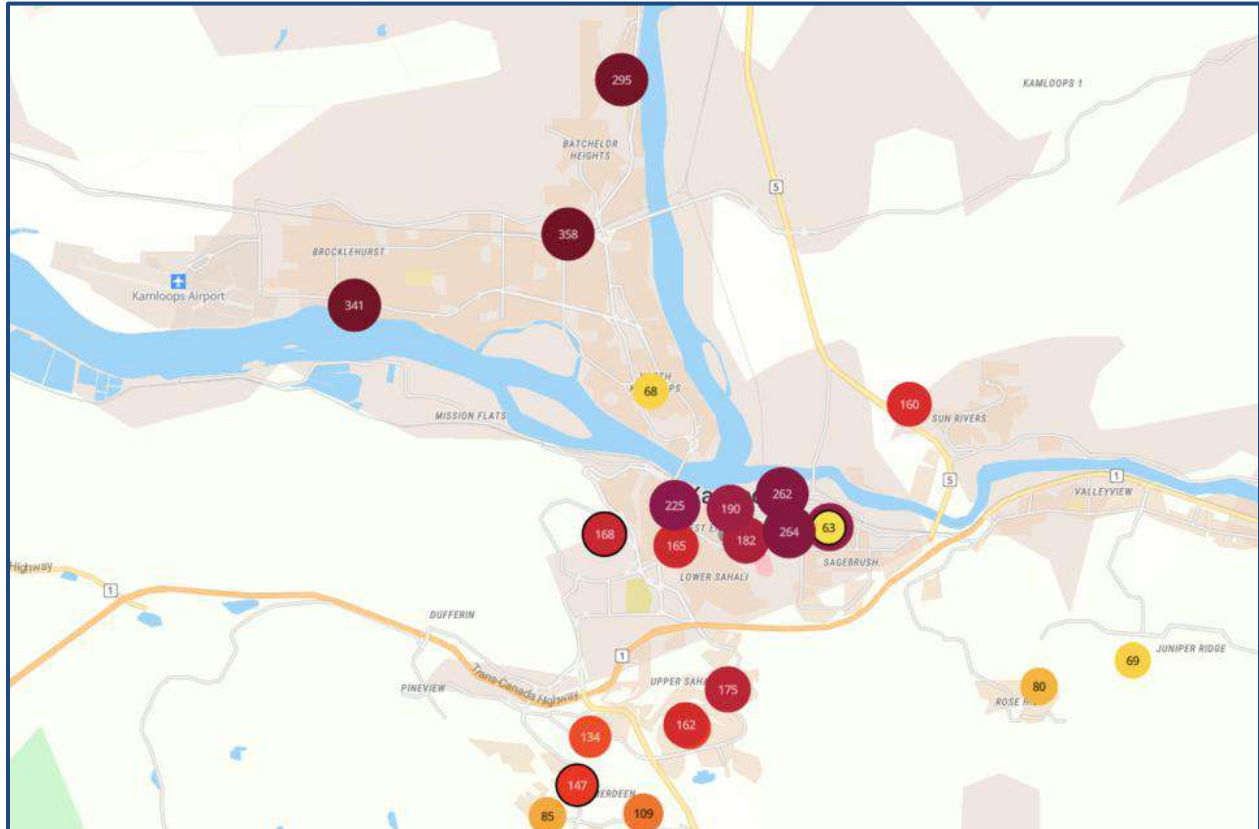
The researchers chose a four-year study period that included some summers where wildfire smoke was heavy in parts of the state, and other summers where smoke was negligible. All of the species included in the study had to have had at least 750 observations recorded for the first year (2015), and all observations used were within about 20 miles (32 kilometers) of an air quality monitor in Washington.

Data from the catastrophic 2020 wildfire season was not part of this analysis, although air quality during that period was worse than in any of the years in the study. As extreme wildfire seasons like 2020 become more common, it's important to consider the influence of events like these in future studies, the researchers said.

July 2021

All that smoke has led to 'very high health risk' air quality in Kamloops

Date:-1-July-2021, Source: kamloopsthisweek.com



All that smoke in the sky is a result of wildfires and contains particulate matter, the tiny solid or liquid particles that float in the air. PM2.5 is particulate matter that measures 2.5 microns and less. It can travel deep into the lungs and become lodged there, causing heart and lung disease and premature death

When the health index is at 10+ (very high health risk), the at-risk population (people with heart or breathing problems) should avoid strenuous activities outdoors, while children and the elderly should also avoid outdoor physical exertion. The general population should reduce or reschedule strenuous activities outdoors, especially if experiencing symptoms such as coughing and throat irritation.

As expected, the heavy wildfire smoke that has enveloped Kamloops has led to poor air quality.

The provincial government's air quality data on Thursday (July 1) at 6 p.m. at the Federal Building in downtown Kamloops showed a PM2.5 reading of 202.2 micrograms per cubic metre, more than eight times the provincial acceptable limit is 25.

The PM2.5 reading for the past 24 hours was 87.11.

The province's Air Quality Health Index ranges from 1 to 10+, with 1-3 being a low health risk, 4-6 being a moderate health risk, 7-10 being a high health risk and 10+ being a very high health risk.

Kamloops is at 10+ on the index and is forecast to stay there through the weekend.

When the health index is at 10+ (very high health risk), the at-risk population (people with heart or breathing problems) should avoid strenuous activities outdoors, while children and the elderly should also avoid outdoor physical exertion.

The general population should reduce or reschedule strenuous activities outdoors, especially if experiencing symptoms such as coughing and throat irritation.

According to the Purple Air monitoring system, consisting of a network of air quality sensors throughout Kamloops, readings range from a low of 40 in Knutsford to a high of 358 in the area of North Kamloops/Batchelor Heights.

Particulate matter is the tiny solid or liquid particles that float in the air. Some particles are large or dark enough to be seen as smoke, soot or dust. Others are so small that they can only be detected with an electron microscope.

PM2.5 is particulate matter that measures 2.5 microns and less. It can travel deep into the lungs and become lodged there, causing heart and lung disease and premature death

Ozone readings are also high in Kamloops, at 63 parts per billion, right at the peak of the provincial acceptable level.

People with heart and lung conditions are most affected by air pollution and, under current conditions, should not venture outside.

To find out if you are at risk, consult the health guide, your physician or Interior Health.

According to the provincial government, up to eight per cent of all deaths in Canada are related to air pollution.

Fireworks lead to a spike in air pollution, new study

Date:-2-July-2021, Source: airqualitynews.com



Fireworks have a direct correlation with poor air quality, according to researchers at the University of California.

Looking at real-time air quality measurements throughout California, the scientists found that short-term,

extremely high levels of particulate matter (PM2.5) pollution was common during the Fourth of July holiday season.

'These fine particles are known to cause a wide range of adverse health effects, including premature mortality, respiratory and cardiovascular diseases, adverse pregnancy outcomes, and neurological diseases,' co-author Jun Wu said.

The researchers found that among all 58 Californian counties, Los Angeles experienced the highest daily PM2.5 levels.

The researchers have said this was likely due to a larger number of individuals shooting off their own rockets in neighborhoods where they live.

In addition, the researchers have said they detected a Covid-19 effect in their data.

PM2.5 concentrations on July 4 and 5 in 2020 were, on average, 50% higher than in 2019, likely due to the increased use of household-level fireworks during the pandemic lockdowns.

The team also learned that peak fireworks pollution was two times higher in communities with lower socioeconomic status, larger minority-group populations and higher asthma rates.

Lead author of the study, Amirhosein Mousavi, a postdoctoral scholar in Public Health said: ‘The PurpleAir network includes sensors that monitor air continuously, which offers advantages over the traditional monitoring installations that are often positioned away from residential areas and take intermittent measurements that may misspeak days such as the Fourth of July.

‘By taking data from a large, distributed sensor network that’s always collecting data in neighborhoods where people from various socioeconomic profiles live, we were able to get a much clearer characterization of the health risks posed by do-it-yourself fireworks.

‘This work highlights the important role that policy and enforcement can play in reducing fireworks-related air pollution and protecting public health.

‘As there is a patchwork of different restrictions and regulations regarding fireworks in our state, it’s clear that a more coordinated approach would help people breathe easier during times of celebration.’

Air quality advisory issued for Okanagan Valley

Date:-3-July-2021, Source: kelownacapnews.com

Individuals may experience symptoms such as increased coughing, throat irritation, headaches or shortness of breath.

Environment Canada issued a special air quality statement for the north, south and central Okanagan regions on Saturday (July 3), as smoke from wildfires raging across the province is expected to impact the air quality for the next 24 to 48 hours.

“Wildfire smoke is a constantly-changing mixture of particles and gasses which includes many chemicals that can harm your health,” said Environment Canada. “Individuals may experience symptoms such as increased coughing, throat irritation, headaches or shortness of breath.”



Skies are smoky in the Okanagan as wildfires burn. Pictured is one of the fires burning north of Big White, as seen from Dilworth Mountain on July 1.

Children, seniors and those with cardiovascular or lung disease, such as asthma, are especially at risk, Environment Canada noted.

According to the B.C.'s Air Quality Health Index, the air quality in the central and south Okanagan poses a moderate health risk, but that is projected to drop to low risk on Sunday. For the north Okanagan, the air quality is at moderate risk and will remain so on Sunday.

In Kamloops, the air quality is considered a high health risk.

According to the BC Wildfire Service dashboard, there have been a total of 613 wildfires this year in B.C., 175 of which are active. 247 fires have sparked this week alone, with 77 in the last two days.

Air quality alert issued for Northeastern Minnesota

Date:-4-July-2021, Source: duluthnews Tribune.com



A view of Lake Superior. The Minnesota Pollution Control Agency has issued an air quality alert Monday-Tuesday for areas of Northeastern Minnesota.

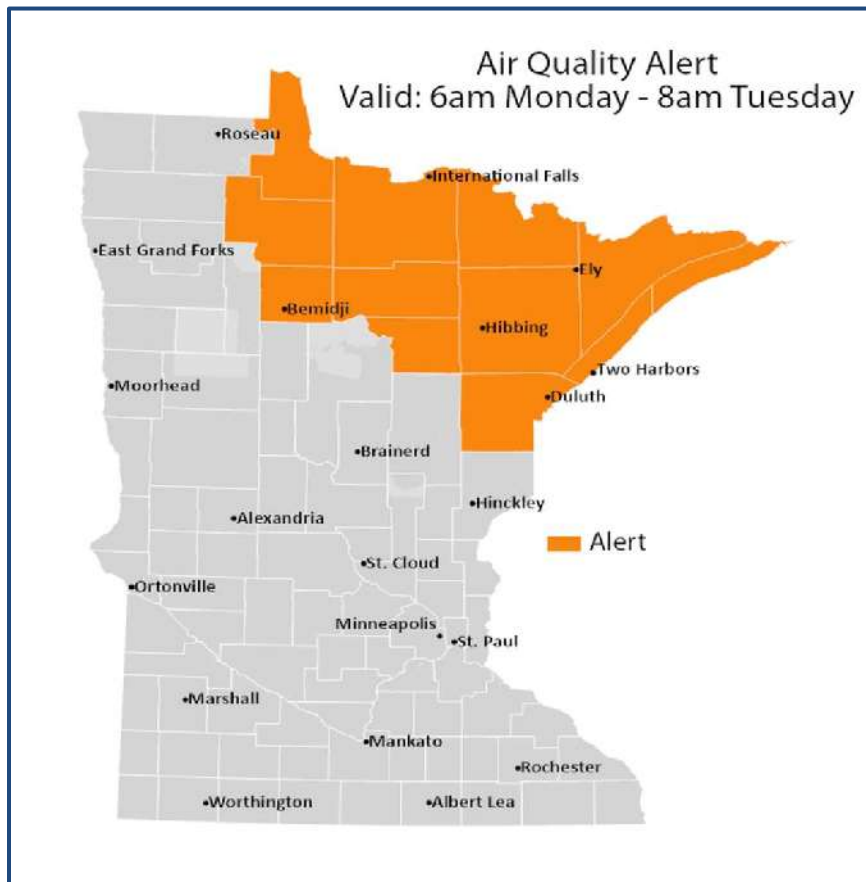
The Minnesota Pollution Control Agency issued an air quality alert for Northeastern Minnesota for 6 a.m. Monday through 8 a.m. Tuesday. The affected area includes Duluth, Ely, Hibbing, International Falls, Bemidji and the tribal nations of Fond du Lac, Grand Portage, Leech Lake and Red Lake, according to a news release from the MPCA.

The alert is caused by smoke from wildfires 100 miles north of the Canadian border in Ontario and Manitoba. Northwest winds behind a cold front will move the smoke into Minnesota.

During this time, fine-particle levels are expected to be in the Orange AQI category, a level considered unhealthy for sensitive groups, the release said. Moderate to heavy rainfall and northeast winds forecast across the northern

half of Minnesota on Tuesday are expected to dissipate the smoke plume over the state.

The following people may be affected when fine-particle pollution reaches an unhealthy level:



- Those who have asthma or other breathing conditions like chronic obstructive pulmonary disease.

- Those who have heart disease or high blood pressure.

- Children and older adults.

- People of all ages who are doing extended or heavy physical activity, like playing sports or working outdoors.

- Those who don't

have air conditioning to reduce indoor air pollution.

For information on current air quality conditions and to sign up for daily air quality forecasts and alert notifications by email, text, phone or the Minnesota Air mobile app, visit pca.state.mn.us/air/current-air-quality.

SoCal fireworks smoke caused worst air quality of the year

Date:-5-July-2021, Source: kesq.com

Smoke and haze filled the air Sunday night and Monday across Southern California. Experts said fireworks over the Fourth of July weekend cause the worst air quality of the year, every year.

"We consistently see the worst air quality of the year during the evening of July 4th and into July 5th due to smoke from fireworks," said Bradley Whitaker, senior public information officer with the South Coast Air Quality Management District.

Whitaker said the poor air quality was a result of metal air pollutants and high levels of particulate matter found in fireworks smoke.

A particulate advisory was issued through Monday night with some areas reaching unhealthy or very unhealthy Air Quality Indexes (AQI).

Whitaker said it's not just vulnerable groups that should be concerned. This level of pollution can have health risks for everybody.

"Breathing a fine particulate matter, it can lead to a wide variety cardiovascular and respiratory health effects, such as heart attacks, asthma aggravation, decreased lung function, coughing or difficulty breathing," he said. "It's something that we all should be mindful of."

News Channel 3's First Alert Chief Meteorologist Haley Clawson said a temperature inversion exasperated smoky conditions overnight.

"There was warmer air above cooler air and it was really trapping everything closer to the surface," Clawson said. "There's less wind so there's no mixing, and that's when all of those particulates get trapped."

East of the valley near the Inland Empire, smog reduced visibility in some spots to under a mile.

National Weather Service Meteorologist Adam Roser said that's because of the marine layer Monday acting as a trapping mechanism.

"All that smoke didn't really have anywhere to go," Roser said. "The sea breeze isn't really mixing the atmosphere or anything so we're getting all this air trapped in one area."

The air quality advisory expires Monday night in our area. You should check your local air quality and if it's unhealthy or worse, limit outdoor activity.

Pollution from Europe's biggest shipping company has increased

Date:-6-July-2021, Source: airqualitynews.com



Pollution from one of Europe's biggest shipping companies increased during the pandemic, according to official EU emissions data.

The data, which was analysed by the campaign group Transport & Environment (T&E) revealed that the

Mediterranean Shipping Company (MSC) rose to 6th place in the ranking of EU carbon emitters.

The data also revealed that the vast majority of the five biggest shipping companies' pollution was on voyages between European and non-European ports.

Jacob Armstrong, shipping officer at T&E said: 'For the third year running, the biggest shipping emitter has climbed the top 10 of Europe's largest polluters.

'It's emblematic of an industry that doesn't pay a cent for its pollution. That a ship operator is overtaking coal plants shows that business as usual isn't working. We need an EU carbon market that makes shipping pay for all its pollution.'

Later this month the European Commission will announce whether companies should have to start buying pollution permits and using green fuels for these extra-European routes, which account for most of European shipping's climate impact.

The commission is expected to publish proposals to include European shipping in the EU carbon market (ETS) and establish the world's first sustainable fuels mandate for ships (Fuel EU Maritime Regulation).

Jacob Armstrong added: 'Anything less than a carbon market covering extra-European voyages lets the biggest shipping companies off the hook and leaves smaller operators who sail mainly within Europe to pick up the tab. It would also forfeit ETS revenues that could be reinvested in greening the sector.'

In related news, in the April magazine, Air Quality News investigated the true cost of buying online.

When it comes to air pollution, the shipping of products poses a serious problem, Aoife O'Leary, director of international climate at the Environmental Defence Fund explained: 'Shipping is extremely cost-effective, but one of the reasons it is so cheap is because of the fuels used. When you extract oil from the ground you refine it, the top-grade stuff goes to aeroplanes, the middle stuff goes to cars, and then whatever's left at the bottom of the barrel is either used to tarmac roads or power ships.

Wildlife and air quality at risk as Great Salt Lake nears its lowest level yet

Date:-7-July-2021, Source: latimes.com



A man walks along a sand bar at the receding edge of the Great Salt Lake on June 13. The lake has been shrinking for years, and a drought could make this year the worst yet.

SALT LAKE CITY — The silvery blue waters of the Great Salt Lake sprawl across the Utah desert, having covered an area nearly the size of Delaware for much of recorded history. For years, though, the largest natural lake west of the Mississippi River has been shrinking. And a drought gripping the American West could make this year the worst yet.

The receding water is already affecting the nesting spot of pelicans that are among the millions of birds dependent on the lake. Sailboats have been hoisted out of the water to keep them from getting stuck in the mud. More dry lakebed getting exposed could send arsenic-laced dust into the air that millions breathe.

“A lot us have been talking about the lake as flatlining,” said Lynn de Freitas, executive director of Friends of Great Salt Lake.

The lake’s levels are expected to hit a 170-year low this year. It comes as the drought has the U.S. West bracing for a brutal wildfire season and coping with already low reservoirs. Utah Gov. Spencer Cox, a Republican, has begged people to cut back on lawn watering and “pray for rain.”

For the Great Salt Lake, though, it is only the latest challenge. People for years have been diverting water from rivers that flow into the lake to water crops and supply homes. Because the lake is shallow — about 35 feet at its deepest point — less water quickly translates to receding shorelines.

The water that remains stretches across a chunk of northern Utah, with highways on one end and remote land on the other. A resort — long since closed — once drew sunbathers who would float like corks in the extra salty waters. Picnic tables once a quick stroll from the shore are now a 10-minute walk away.

Robert Atkinson, 91, remembers that resort and the feeling of weightlessness in the water. When he returned this year to fly over the lake in a motorized paraglider, he found it changed.

“It’s much shallower than I would have expected it to be,” he said.

The waves have been replaced by dry, gravelly lakebed that’s grown to 750 square miles. Winds can whip up dust from the dry lakebed that is laced with naturally occurring arsenic, said Kevin Perry, a University of Utah atmospheric scientist.

It blows through a region that already has some of the dirtiest wintertime air in the country because of seasonal geographic conditions that trap pollution between the mountains.

Perry warns of what happened at California's Owens Lake, which was pumped dry to feed thirsty Los Angeles and created a dust bowl that cost nearly \$2 billion to tamp down. The Great Salt Lake is much larger and closer to a populated area, Perry said.

Luckily, much of the bed of Utah's giant lake has a crust that makes it tougher for dust to blow. Perry is researching how long the protective crust will last and how dangerous the soil's arsenic might be to people.

This year is primed to be especially bleak. Utah is one of the driest states in the country, and most of its water comes from snowfall. The snowpack was below normal last winter and the soil was dry, meaning much of the melted snow that flowed down the mountains soaked into the ground and never reached the lake.

Most years, the Great Salt Lake gains up to 2 feet from spring runoff. This year, it was just 6 inches, Perry said.

"We've never had an April lake level that was as low as it was this year," he said.

More exposed lakebed also means more people have ventured onto the crust, including off-road vehicles that damage it, Great Salt Lake coordinator Laura Vernon said.

"The more continued drought we have, the more of the salt crust will be weathered and more dust will become airborne because there's less of that protective crust layer," she said.

The swirling dust also could speed the melting of Utah's snow, according to research by McKenzie Skiles, a snow hydrologist at the University of Utah. Her study showed that dust from one storm made the snow so much darker that it melted a week earlier than expected. While much of that dust came from other sources, an expansion of dry lakebed raises concerns about changes to the state's billion-dollar ski industry.

"No one wants to ski dirty snow," she said.

While the lake's vast waters are too salty for most creatures except brine shrimp, for sailors like Marilyn Ross, 65, it's a tranquil paradise with panoramas of distant peaks.

"You get out on this lake and it's better than going to a psychiatrist, it's really very calming," she said.

But this year, the little red boat named Promiscuous that she and her husband have sailed for more than 20 years was hoisted out of the water with a massive crane just as the season got underway. Record-low lake levels were expected to leave the boats stuck in the mud rather than skimming the waves. Low water has kept the other main marina closed for years.

"Some people don't think that we're ever going to be able to get back in," Ross said.

Brine shrimp support a \$57-million fish food industry in Utah, but in the coming years less water could make the salinity too great for even those tiny creatures to survive.

"We're really coming to a critical time for the Great Salt Lake," said Jaimi Butler, coordinator for the Great Salt Lake Institute at Westminster College in Salt Lake City. She studies the American white pelican, one of the largest birds in North America.

They flock to Gunnison Island, a remote outpost in the lake where up to 20% of the bird's population nests, with male and female birds cooperating to continuously watch the eggs.

"Mom goes fishing and dad stays at the nest," Butler said.

But the falling lake levels have exposed a land bridge to the island, allowing foxes and coyotes to come across and hunt for rodents and other food. The activity frightens the shy birds accustomed to a quiet place to raise their young, so they flee the nests, leaving the eggs and baby birds to be eaten by gulls.

Pelicans aren't the only birds dependent on the lake. It's a stopover for many species to feed on their journey south.

A study from Utah State University says that to maintain lake levels, water diversion from rivers that flow into it would have to decrease by 30%. But for the state with the nation's fastest-growing population, addressing the problem

will require a major shift in how water is allocated and how the lake is perceived.

“There’s a lot of people who believe that every drop that goes into the Great Salt Lake is wasted,” Perry said. “That’s the perspective I’m trying to change. The lake has needs, too. And they’re not being met.”

Days-long air quality advisory extended in part of Manitoba due to forest fires

Date:-8-July-2021, Source: cbc.ca



Areas of the Interlake and eastern Manitoba remain under an air quality advisory due to northwestern Ontario forest fires producing smoke that continues to blow west.

Smoky skies have Environment Canada extending an air quality advisory for parts of Manitoba on Thursday.

Winnipeg, the Interlake and parts of eastern Manitoba have been experiencing advisories since earlier this week due smoke from forest fires west of Red Lake, Ont.

Environment Canada lifted the advisory for Winnipeg, followed by the Interlake later in the morning Thursday.

"Even though some [areas] in Manitoba still have the advisory and some don't, I would still advise to stay indoors because of the wind: you never know with a Manitoba Prairie wind," said Hailey Coleman, health programs co-ordinator for the Manitoba Lung Association. "Stay indoors until all of Manitoba is clear."

The following areas remain under an air quality advisory:

- Arborg, Hecla, Fisher River, Gypsumville and Ashern.
- Berens River, Little Grand Rapids, Bloodvein and Atikaki.
- Bissett, Victoria Beach, Nopiming Provincial Park and Pine Falls.
- Island Lake, Oxford House and Gods Lake.
- Poplar River.
- Selkirk, Gimli, Stonewall and Woodlands.

Environment Canada said smoke is expected to thin out and shift north Thursday afternoon with changing winds. By the evening, it's expected southwest winds will push smoke out of parts of Manitoba, save for areas east of Lake Winnipeg nearest to the fires.

Manitobans in affected areas are encouraged to limit outdoor activity and to stop activity altogether if breathing becomes laboured.

Young children, elderly people, pregnant people and those with heart or lung conditions, including asthma, are at higher risk and should avoid exposure to smoke as much as possible, Environment Canada says.

COVID-19 patients or those in recovery may also be more vulnerable, Coleman said.

It isn't advisable to go jogging or exercise outdoors right now, she said, and those who work in physically demanding professions such as construction should do their jobs at a slower pace and take breaks indoors where possible.

Symptoms to be aware of include a scratchy throat, nose and eyes, and asthma-like symptoms such as having trouble catching your breath, wheezing and coughing.

Coleman said the advice extends to everyone, at risk or otherwise, because some people may have an underlying condition they aren't aware of that could be exacerbated by the smoke.

"Everyone is unique with how they react to it, but it is a big deal: the pollutants get into your lungs and it reacts to everyone so differently," she told Faith Fundal on CBC Information Radio Thursday.

Coleman also recommends checking in on people who live alone, especially those with health conditions.

"Make sure they have a plan and are taking their medication," she said.

Ozone air pollution advisory issued for Tucson metro area

Date:-9-July-2021, Source: kgun9.com



PIMA COUNTY, Ariz. (KGUN) — A high pollution advisory for ground-level ozone air pollution has been issued for the Tucson metropolitan area.

Those who are highly sensitive to air pollution may encounter shortness of breath, coughing, throat irritation, wheezing and breathing discomfort, according to Pima County Department of Environmental Quality.

If weather conditions continue, ozone levels may be elevated over the weekend.

Individuals may want to limit outdoor activity between noon and 6 p.m. when elevated levels of ozone pollution are likely to be more present, PDEQ says. Those who may be more susceptible to ozone include children, people with

respiratory disease, adults who are active outdoors, and others who have an unusual sensitivity to this particular pollutant.

Several types of emissions contribute to the creation of ground-level ozone, including motor vehicle exhaust, industrial and power plant emissions, gasoline vapors, chemical solvents and more that all form ozone with high heat and sunlight.

- Reduce driving - combine errands into one trip.
- Ride the bus, walk or share a ride with friends and family.
- Avoid idling your vehicle's engine. It wastes gas and causes air pollution.
- During the summer, re-fuel your car after 6 p.m. when vapors are less likely to form ozone.
- While re-fueling, always stop at the click.
- Make sure your gas cap is tightly sealed after re-fueling.
- Avoid using gas powered lawn and gardening equipment.
- Check your tire pressure monthly to reduce gasoline use and associated pollution.
- Conserve electricity to reduce emissions from power plants.

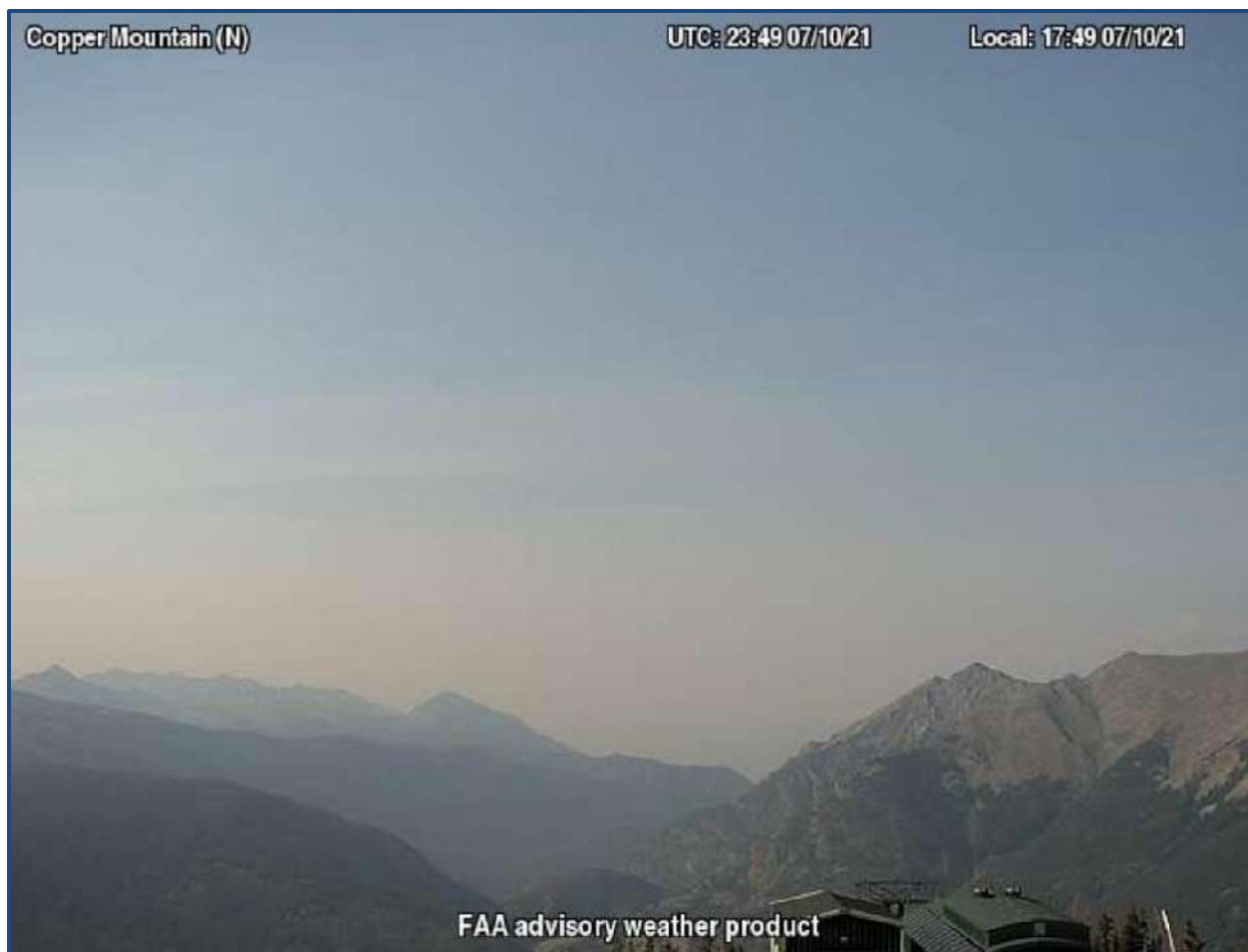
CDPH issues Air Quality Health Advisory for Wildfire Smoke

Date:-10-July-2021, Source: fox21news.com

COLORADO — The Colorado Department of Public Health and Environment has issued an Air Quality Health Advisory for wildfire smoke.

Affected counties include Routt, Jackson, Grand, and Summit. Locations include, but are not limited to Glen Eden, Clark, Steamboat Springs, Kremmling, Granby, Breckenridge, and Silverthorne.

If smoke is thick or becomes thick in your neighborhood you may want to remain indoors. This is especially true for those with heart disease, respiratory illnesses, the very young, and the elderly. Consider limiting outdoor activity when moderate to heavy smoke is present. Consider relocating temporarily if smoke is present indoors and is making you ill. If visibility is less than 5 miles in smoke in your neighborhood, smoke has reached levels that are unhealthy.



Courtesy of the CDPHE Air Pollution Twitter account

Areas of moderate to heavy smoke can be expected in close vicinity of the Morgan Creek wildfire in northern Routt County. Although smoke will generally lift into the free atmosphere through Saturday evening, smoke will begin to drain to lower elevations by late Saturday evening and continue through Sunday morning. This will likely bring periods of heavy smoke to areas below the fire along Morgan and Reed Creeks, eventually draining into the Elk River Valley impacting the communities of Glen Eden and Clark. Smoke will also impact areas to the southeast of the fire, especially interior mountain valleys, including the I-70 corridor in Summit County.

The other large wildfires in Colorado, including the Sylvan wildfire in southern Eagle County and the Muddy Slide wildfire in southern Routt County are expected to produce limited smoke on Saturday and Sunday. Any significant concentrations of smoke will be confined to locations in very close proximity to the wildfires during the overnight and early morning hours. No significant public health impacts are expected at this time.

A general increase in smoke from out-of-state wildfires is expected over the weekend. Although no major public health impacts are expected at this time, unusually sensitive people should consider reducing prolonged or heavy exertion statewide through the weekend, especially across the western half of the state.

What if there is a wildfire or smoke in your area?

The focus of the Colorado Smoke Outlook is on large fires (e.g., greater than 100 acres in size). Nevertheless, smoke from smaller fires, prescribed fires, and/or smoke from new fires not yet known to

CDPHE air quality meteorologists may cause locally heavy smoke. If there is smoke in your neighborhood, see the public health recommendations below.

Public health recommendations for areas affected by smoke:

If smoke is thick or becomes thick in your neighborhood you may want to remain indoors. This is especially true for those with heart disease, respiratory illnesses, the very young, and the elderly. Consider limiting outdoor activity when moderate to heavy smoke is present. Consider relocating temporarily if smoke is present indoors and is making you ill. IF VISIBILITY IS LESS THAN 5 MILES IN SMOKE IN YOUR NEIGHBORHOOD, SMOKE HAS REACHED LEVELS THAT ARE UNHEALTHY.

Forest fire smoke leads to air quality advisory

Date:-11-July-2021, Source: timminstoday.com

Smoke from nearby forest fires has led to a special air quality statement being issued.

The statement is in effect for Timmins, Cochrane and Iroquois Falls due to high levels of air pollution from ongoing forest fires, according to Environment Canada.

"Smoke plumes from active fires in northwestern Ontario and eastern Manitoba will continue today. Air quality is likely to deteriorate if the smoke descends to ground level," reads the advisory.

"If you or those in your care are exposed to wildfire smoke, consider taking extra precautions to reduce your exposure. Wildfire smoke is a constantly changing mixture of particles and gases which includes many chemicals that can be harmful to your health."



The largest fire in the area is Timmins 10, which started July 9 about 42 kilometres southeast of Foley east of Horwood Lake.

As of last night, the fire was 110 hectares in size and not under control.

"CL415 waterbombers and a lead birddog aircraft have been on scene for most of the day and they may be present until the early evening," according to the Ministry of Natural Resources and Forestry update.

"There are three helicopters assigned to this fire, including a belly tanking helicopter that is working alongside waterbombers performing aerial fire suppression. FireRanger crews are working to establish hoselines, and smoke will continue to be visible in the area."

New five-year strategy to improve Abu Dhabi's air quality

Date:-12-July-2021, Source: khaleejtimes.com

"As part of our five-year strategy, we will be developing an air quality policy for the Emirate of Abu Dhabi. The policy will pave the path to improving air quality in the emirate through a number of instruments," the EAD said.



Abu Dhabi Corniche beach

On Monday, the Abu Dhabi Air Quality Monitoring System data of 19 stations across the emirate showed 14 areas as ‘moderate’, four ‘unhealthy for sensitive group’ and one in ‘good’ category.

The air quality index calculations are based on the measurements of five main pollutants: Nitrogen dioxide, carbon monoxide, ozone, sulphur dioxide and particulate matter. Air quality index categories are: 0-50 (good), 51-100 (moderate), 101-150 (unhealthy for sensitive groups), 151-200 (unhealthy), 201-300 (very unhealthy) and 300-500 (hazardous).

In the Abu Dhabi mainland and suburbs, Al Maqta area was found to be ‘good’ while Hamdan Street, Khalifa City A and two other stations were moderate. Industrial areas of Mussafah and Mafraq and Bani Yas were found to be ‘unhealthy for sensitive groups’. No station in Abu Dhabi reported an air quality index in ‘unhealthy’ category.

Over the next five years, the EAD will carry out a five-step strategic plan to improve the quality of air.

First step is to strengthen the regulatory framework related to air quality with focus on improving management of main sources of air pollution.

Second will enhance infrastructure and local capacity of monitoring and management of air quality.

Third step is to be fully prepared for extreme natural dust storms through warning schemes, which will lead to less public exposure to bad quality air.

Fourth is to improve public and institutional awareness on issues related to air quality while the final one will enhance scientific knowledge on air quality and its impact on public health and ecosystems.

Air quality alert extended for parts of northern Minnesota

Date:-13-July-2021, Source: kare11.com



Smoke from wildfires burning in Canada and the Pacific Northwest are triggering air quality alerts in MN.

The extension applies to Hibbing, International Falls, Ely, Virginia, Roseau, Moorhead, East Grand Forks and the tribal areas of Grand Portage.

MINNEAPOLIS — The Minnesota Pollution Control Agency (MPCA) is extending an air quality alert for parts of northern Minnesota.

The alert is extended until noon on Saturday for Hibbing, International Falls, Ely, Virginia, Roseau, Moorhead, East Grand Forks and the tribal areas of Grand Portage.

The original alert issued on Tuesday also included Two Harbors, Grand Marais, Bemidji, Brainerd, Alexandria, Leech Lake, Mille Lacs and Red Lake. It expired in those areas on 9 a.m. Friday.

The MPCA's concern for northern Minnesota's air quality is due to wildfires burning north of the Canadian border in Ontario and Manitoba.

Earlier this week, fine particulate levels were expected to reach the Red AQI category, a level considered unhealthy for everyone. The Minnesota Department of Health expects smoke will start to clear Saturday, but air quality will still be considered unhealthy for people in sensitive groups (Orange AQI) until smoke moves north and out of Minnesota.

People whose health is impacted by unhealthy air quality are asked to stay indoors as much as possible. That includes:

- Those who have asthma or other breathing conditions like chronic obstructive pulmonary disease (COPD)
- People who have heart disease or high blood pressure
- Children and older adults
- Residents of all ages who are doing extended or heavy, physical activity like playing sports or working outdoors

If you identify with one of these groups and are experiencing symptoms such as coughing, wheezing, chest pain, shortness of breath, or fatigue, health officials advise using an inhaler as directed, and urge those impacted to contact their health care provider directly.

However, if you do go out, the department of health recommends taking these precautionary steps:

- Take it easy and listen to your body
- Limit, change, or postpone your physical activity level
- If possible, stay away from local sources of air pollution like busy roads and wood fires

- If you have asthma or other breathing conditions like COPD make sure you have your relief/rescue inhaler with you
- People with asthma should review and follow guidance in their written asthma action plan. Make an appointment to see your health provider if you don't have an asthma action plan.

Exposure to air pollution may impact kids' academic performance

Date:-14-July-2021, Source: consumeraffairs.com



A new study conducted by researchers from Columbia University explored how kids' performance in school may be impacted by exposure to air pollution. According to their findings, exposure to pollutants may affect comprehension and skill level in several areas, including reading, math, and cognitive outcomes. "Children with poor inhibitory control are less able to override a common response in favor of a more unusual one -- such as the natural response to say 'up' when an arrow is facing up or 'go' when a light is green -- and instead say 'down' or 'stop,'" said researcher Amy Margolis, Ph.D. "By

compromising childhood inhibitory control, prenatal exposure to air pollution may alter the foundation upon which later academic skills are built.”

Consequences of air pollution exposure

For the study, the researchers tracked the cognitive and academic outcomes for more than 200 children in the Bronx and Manhattan from the time their mothers were pregnant until they were 13. They analyzed pollution levels when the women were in their third trimesters and then evaluated the participants’ academic and behavioral performance for over a decade. The study showed that children exposed to the highest levels of air pollution were the most likely to struggle academically. High air pollution exposure was linked with poorer results in spelling, reading comprehension, and math abilities. Moving forward, the researchers hope these findings highlight one of the risks associated with prenatal air pollution exposure.

“This study adds to a growing body of literature showing the deleterious health effects of prenatal exposure to air pollution on child health outcomes, including academic achievement,” said researcher Julie Herbstman, Ph.D. “Reducing levels of air pollution may prevent these adverse outcomes and lead to improvements in children’s academic achievement.”

Heat wave expected next week as smoky air clears up in Red River Valley

Date:-15-July-2021, Source: inforum.com



The local air quality sensor is located in northwest Fargo near Cass County Highway 20 and Interstate 29. Two others in the region are in Detroit Lakes and the Red Lake Nation.

FARGO —

Forecasters expect unhealthy levels of air pollution from distant wildfires to dissipate in the Red River Valley by the end of this week, but it's likely that smoky skies will give way to sweltering heat.

WDAY StormTracker deal conditions was out — said a heat wave with

temperatures possibly reaching the high 90s will start on Sunday or Monday and last through the week.

As for the air quality, he said it seemed a bit better Thursday afternoon.

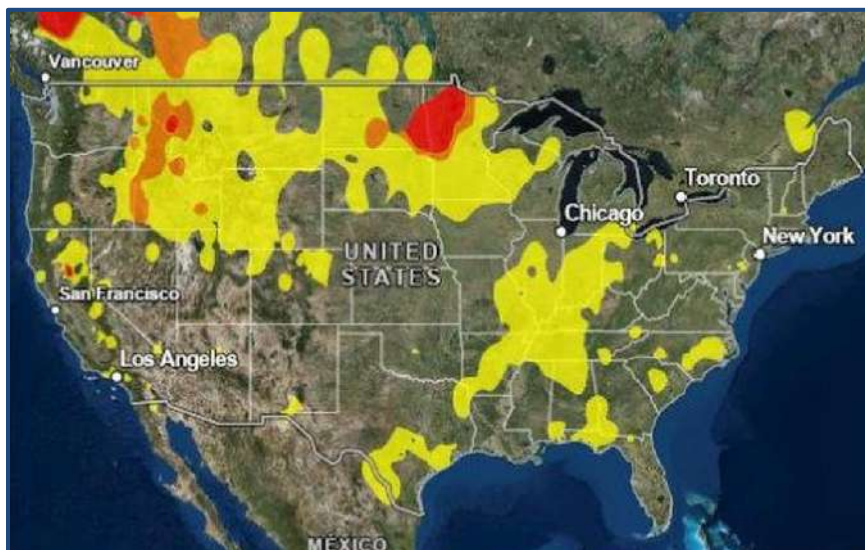
"I'm fine," he said as he stopped for a break on his ride.

That wasn't what he experienced Wednesday night into Thursday morning, when his eyes burned and his throat got a bit sore on his walk home from work around midnight.

Daryl Ritchison, the director of the North Dakota Ag Weather Network based in Fargo, said the highest alert was lingering Thursday afternoon.

Air quality monitors in Fargo-Moorhead recorded some of the highest air pollution levels in the country Thursday morning as distant wildfires continued to fill the region's air with smoke.

Just before noon, the cities had reached an air quality index number of 184, well into the unhealthy air quality range, according to the U.S. Air Quality Index.



Unhealthy air quality levels mean some members of the general public may experience health effects, and more sensitive groups may experience more serious reactions to the pollution. The AQI scale starts at zero and reaches the hazardous level at

300.

Minnesota and North Dakota environment officials issued air quality advisories earlier this week, with Minnesota's warning covering the northern part of the state from the Red River Valley to the north shore of Lake Superior.

Good Green	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Moderate Yellow	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups Orange	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Unhealthy Red	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy Purple	201 to 300	Health alert: The risk of health effects is increased for everyone.

Environmental Protection Agency

Minnesota officials on Friday extended the air quality warning through noon Saturday for areas including the Red River Valley. It was originally set to expire 9 a.m. Friday.

Around 3 p.m. Thursday, the air quality index number was still "very high and in the red zone" at 172, Ritchison said. Any number above 150 is in the unhealthy red zone, while an alert in the orange category is above 100 and considered unhealthy for sensitive groups.

However, with a light south wind blowing the smoke northward, it should be clearing out by Friday morning when the alert expires.

The air quality in Fargo-Moorhead is measured by a sensor on a tower found in north Fargo near County Road 20 and Interstate 29. It's one of three sensors in this region with others in Detroit Lakes, Minn., and the Red Lake Nation in northwestern Minnesota.

The Minnesota Pollution Control Agency records the measurements and issues the air quality alerts.

Wheeler said although Fargo technically may have had the worst air quality number in the nation on Wednesday night into Thursday, it was likely much worse near the wildfires burning across the northern Rockies, Pacific Northwest and northwestern Canada.

"There's no way we had the worst air quality in the nation," Wheeler said.

Smoke will be an issue throughout the summer as wildfires continue to burn, but it will usually remain in the high levels of the atmosphere where it won't hurt the quality of the air we breathe, Wheeler said. The hazy skies will create conditions for beautiful sunrises and sunsets, he added.

The expected heat wave would be the third time this summer that the Fargo-Moorhead area has experienced temperatures in the 90s for five days in a row, which is rare, Ritchison said.

Both Ritchison and Wheeler said the temperatures will likely be higher north and west of Fargo where it could reach into the triple digits.

Ritchison said it'll be a dry heat with lower humidity so it's unlikely that officials will issue heat index warnings.

Wheeler sees few chances for rain, although with the heat there could be scattered storms. It's not likely those would arrive until next weekend, he said.

San Diego Officials Move Forward With Clean Air Plan

Date:-16-July-2021, Source: kpbs.org

San Diego Air Pollution regulators approved a plan designed to clean up neighborhoods that have long suffered with dirty air.

Barrio Logan, National City and San Ysidro endure some of the most polluted air in California. California officials list the communities on the CalEnviroScreen rankings as being in the top five percent of the most polluted neighborhoods in the state. The rankings are compiled by the California office of Environmental Health Hazard Assessment.

Those neighborhoods have high asthma rates and other health related impacts linked directly to dirty air. The threat comes from diesel pollution, industrial pollution and the U.S. Navy which has a number of big facilities around San Diego Bay.



The Barrio Logan community sign near the Cesar Chavez Campus, Oct. 28, 2015.

Those neighborhoods have high asthma rates and other health related impacts linked directly to dirty air. The threat comes from diesel pollution, industrial pollution and the U.S. Navy which has a number of big facilities around San Diego Bay.

The Air Pollution Control District's Community Emissions Reduction plan focuses on strategies to help change that.

"Some of them are land-use approaches," said Joy Williams of the Environmental Health Coalition. "Support for community plans that include buffers between emission sources and the nearest homes and schools for example. There are measures to increase the green canopy in communities."

Williams says the Air Board is moving away from catering to industries that generate dangerous emissions.

But industries that generate pollution are frequently a vital part of the local economy. Backers want to protect the local economy as regulators work to clean up the air.

“What’s the biggest threat?” said Jack Monger, CEO of the Industrial Environmental Organization. “What’s causing the biggest concern to a community itself and then go after that particular source.”

Monger was critical of a change in regulations governing hexavalent chromium, a by product of welding. The element is known to cause cancer and it targets the respiratory system, kidneys, liver and skin.

He says there were last-minute changes in the plan that tightened restrictions.

Monger asked to a delay to discuss the changes, but that request was denied. He says he wants to make sure industry doesn’t stop because of overzealous regulation.

Pollution does not always come from where people expect.

“One of the surprising things we learned is that a lot of emissions come off of San Diego Bay. That then drift across this port side community and head eastward,” Monger said.

Adoption of the plan is the beginning of a process that could lead to real change for neighborhoods that have long struggled to take a breath of clean air.

Breathtaking: photo exhibition exposes London air pollution

Date:-17-July-2021, Source: france24.com

An unconventional photography exhibition in London has turned toxic pollution into art to raise awareness about the British capital's persistent air-quality problems.

Visual artists and scientists have teamed up for the exhibition, entitled What On Earth, which explores the climate crisis through 26 artworks, running until July 24.

Exhibits include ethereal images on delicate dark blue paper with splashes of white that evoke pristine oceans but actually show the contamination of London's air.

They were produced using air samples provided by scientists at Imperial College London.

The samples were then captured and printed using cyanotype, a traditional method of producing images from light that enables sunlight to reveal toxic particles.

The Crown Estate, which manages property owned by Queen Elizabeth II, gave The Koppel Project, the arts charity behind the show, a disused retail unit rent-free for a year in sought-after central London.

The deal was in exchange for establishing an artistic community and getting a discussion under way, said curator Ellen Taylor.

"The goal was to address social and political issues we see in the news to create a conversation," she said.

"I'm hoping this show can demonstrate how nature can be the subject of photography, using air pollution and sound to document how our environment is changing."

Pollution levels plummeted across the world last year as people stayed at home during coronavirus lockdowns but have picked up as restrictions ease and more people avoid public transport.

Air pollution can create and exacerbate cardiovascular diseases and asthma and has been linked with cognitive diseases like dementia.

The World Health Organization (WHO) estimates it is responsible for seven million premature deaths annually worldwide.

A June report found that more than 25 percent of UK schools were located in areas above the WHO's recommended air pollution levels.

- 'Pea soup' -

One of the showcased artists Alice Cazenave used a glass plate to collect pollution in central London for weeks.

The city has a long history of poor air quality, with its thick "pea soup" smog leading to major clean air legislation in the 1950s.

It introduced a congestion charge in 2003, billing motorists entering the city centre £15 (\$21, 18 euros) every day.

The owners of vehicles exceeding emissions thresholds will pay additional fees of up to £100 in an expanded low-emission zone from October, as Sadiq Khan seeks to become the city's "greenest mayor".

Air pollution caused around 1,000 annual hospital admissions for asthma and serious lung conditions in London between 2014 and 2016, according to a 2019 report.

In December, a coroner ruled that air pollution made a "material contribution" to the death of a nine-year-old London girl in 2013 -- the first time in Britain that air pollution was officially listed as a cause of death.

It is against this backdrop that the exhibition wants to put the issue at the forefront of people's minds and encourage action.

"The processes and subject matter is a great way to show the ever-changing environment we see today," added Taylor.

Wildfire smoke grips Edmonton area until at least Tuesday: Air quality alert

Date:-18-July-2021, Source: edmontonjournal.com



The downtown Edmonton skyline was shrouded in smoke from the wildfires in British Columbia on Thursday July 15, 2021.

Choke-inducing wildfire smoke largely emanating from British Columbia has extended its grip on the Edmonton area until at least Tuesday, says an air-quality alert issued jointly by Environment Canada and partners.

The special air quality statement in effect for Edmonton, St. Albert and Sherwood Park was updated just before 11 a.m. Sunday, warning of

wildfire smoke causing poor air quality and reducing visibility at times. Lousy air quality due to the wildfire smoke hovered over most of the province all weekend.

“Individuals may experience symptoms such as increased coughing, throat irritation, headaches or shortness of breath. Children, seniors, and those with cardiovascular or lung disease, such as asthma, are especially at risk,” said the updated warning issued by Environment Canada, Alberta Environment and Parks, Alberta Health and Alberta Health Services.

“People with lung diseases, such as asthma and COPD, can be particularly sensitive to air pollution. They will generally experience more serious health effects at lower levels. Pollution can aggravate their diseases, leading to increased medication use, doctor and emergency room visits, and hospital visits.”

The air quality sat at 7 out of 10 as of 5 p.m. on Sunday but the safety hazard jumped to 10+ several times over the weekend, or high risk to those with some health conditions. That 10+ warning is forecast to stick around until at least Monday night.

Everyone, including those at risk, should postpone outdoor activities until the air quality improves, warns the alert.

An alert was first issued for the Edmonton area Thursday when smoke from wildfires in British Columbia, North Dakota and Montana pressed in to Alberta.

Outdoor City of Edmonton facilities like pools and the Green Shack program for kids were shuttered as a result.

Denver's air quality is as bad as some of the most polluted cities in the world

Date:-19-July-2021, Source: 9news.com

DENVER — Even for Denver's often lousy air quality, this week's is unusually bad - and prolonged.

Monday marked the 15th straight day that Denver and the Front Range were under an Air Quality Alert, and that unfortunate streak will continue into Tuesday and likely beyond.

While official records on Air Quality Alerts weren't immediately available, it's believed to be among the longest Air Quality Alert streaks in the last 10 years, based on a preliminary search of weather alerts dating back to 2008.

The haze is due to a combination of ground ozone - or regular pollution - combined with wildfire smoke.



Typically, Denver and the Front Range's peak months fall in the spring, when an inversion often traps in pollutants at the surface. Inversions aren't as common in the summer months, and they tend to be weaker when they develop this time of year.

A persistent weather pattern combined with hot temperatures and virtually non-stop wildfire smoke from the Northwest is leading to this exceptionally hazy pattern.

Denver's air quality readings on Monday hovered around 80 AQI, which is roughly on par with those in notoriously smoggy cities such as Mexico City or Beijing, for example. It may also be getting worse. With the current weather pattern expected to largely stay intact for the rest of this week, there's little sign of the smog relenting anytime soon.

Air quality alert issued in northern Minnesota over Canadian wildfire smoke

Date:-20-July-2021, Source: brainerddispatch.com

Heavy smoke from Canadian wildfires has prompted the Minnesota Pollution Control Agency to issue an air quality alert for northern Minnesota through Wednesday morning, July 21.



The smoke in Duluth Tuesday morning, July 20, from wildfires in Canada. The Minnesota Pollution Control Agency has issued an air quality alert for much of northern Minnesota

Areas under the alert include Hibbing, International Falls, Roseau, Bemidji and East Grand Forks.

Fine particle levels are expected to be unhealthy for sensitive groups, such as people who have asthma or other breathing conditions, during this time, the MPCA said. The smoke will remain over the region until Wednesday morning, when winds push the smoke north and out of Minnesota, the agency said.

Over the weekend, rangers worked to reach campers spread across a vast swath of the Boundary Waters Canoe Area Wilderness that's now closed to visitors amid a growing threat from wildfires.

Late Saturday, July 17, Superior National Forest officials temporarily closed 12 more Boundary Waters entry points and the lakes, campsites, portages and trails they serve north and northwest of Ely.

Added to a previous closure in place along the international border, the closure area now stretches east nearly to Basswood Lake, west nearly to Crane Lake, and south to the Echo Trail.

The area is being cleared of canoeists and hikers as a precaution as wildfires continue to burn unchecked just north of the border, in Ontario's Quetico Provincial Park. The fires were active over the weekend and the ongoing drought is making fire conditions more volatile — adding to the risk the Quetico fires may cross into the BWCA.

New York air quality among worst in world as haze from western wildfires shrouds city

Date:-21-July-2021, Source: theguardian.com



The Met Life and Chrysler buildings glow through a thick haze hanging over Manhattan, on Tuesday, in New York

New York City air quality was among the worst in the world as cities across the eastern US were shrouded in smoke from wildfires raging several thousand miles away on the country's west coast.

State officials in New York advised vulnerable people, such as those with asthma and heart disease, to avoid strenuous outdoor activity as air pollution soared to eclipse Lima in Peru and Kolkata in India to be ranked as the worst in the world on Tuesday.

Smoke from more than 80 major wildfires burning in the US west has caused hazy skies and plunging air quality in eastern American and Canadian cities including Philadelphia, Washington DC, Pittsburgh and Toronto, as well as New York, causing fiery sunrises and even bathing the moon in an unusual red tinge on Tuesday night.

On Wednesday morning, the air quality index surged to 157 in Manhattan, well above the threshold of 100 where health is considered to be threatened. Vulnerable people include pregnant women and the elderly, although even healthy people outside these groups can experience breathing difficulty, throat irritation and runny eyes when exposed to air this bad.

“I think it’s unusual to have this kind of haze, I don’t recall seeing this kind of thing,” said Greg Pope, professor of earth and environmental studies at Montclair State University, who added that he could not see Manhattan from his New Jersey office. “You can pretty much always see the skyline, at least a silhouette, if it’s a hazy day. This is, like, this is unprecedented.”

Satellite imagery shows that the smoke from the western fires has billowed into Canada and unfurled to the east, plunging states such as Minnesota into unhealthy air conditions. Winds are able to easily carry tiny sooty particles emitted from burning trees and vegetation, known as PM2.5, large distances. These PM2.5 particles can, when inhaled, burrow into the lungs and cause a variety of health problems.

“We’re seeing lots of fires producing a tremendous amount of smoke,” said David Lawrence, a meteorologist with the National Weather Service. “By the time that smoke gets to the eastern portion of the country where it’s usually thinned out, there’s just so much smoke in the atmosphere from all these fires that it’s still pretty thick.”

This is the second year in a row that smoke from huge wildfires in the US west has traveled 2,000 miles east, with the western states baked by ongoing drought and soaring temperatures fueled by human-caused climate change.

The smoke is set to shift away from New York in the coming days but further widespread wildfires are expected in the coming months, with people in the US west hit worst by the smoke as well as the direct threat of the flames.

David Turnbull, an activist at the US Climate Action Network who lives in Portland, Oregon, tweeted that people on the eastern seaboard should take care in the unhealthy air but also “take care of how you talk about the hazy

skies. Your wonderment about it is our dread here in the west. Your curiosity is our constant fear. We live every day for months fearing the winds will shift, the fires will rage, and the smoke will come.”

Bay Area Air Quality Management District strengthens refinery emissions rules

Date:-22-July-2021, Source: ktvu.com

OAKLAND, Calif. - The Bay Area Air Quality Management District has voted to strengthen the rule to reduce emissions from oil refineries.

Refineries now have to install technology to cut particulate output by 70%. The rule is the toughest regulation of its kind in the country.

The rule applies to four Bay Area refineries with Fluidized Catalytic Cracking Units, which emit PM2.5, the primary health threat from air pollution in the Bay Area, particularly in terms of premature mortality, the air district said in a news release.

"The Air District is committed to reducing air pollution exposure in impacted areas and these amendments are a necessary and critical step toward controlling the most significant air pollution health hazard in the Bay Area," said Jack Broadbent, executive officer of the Air District."

The air district calculates for the one million people most affected, particulate matter from Richmond's Chevron refinery increases mortality by 11.6 deaths per year on average. That average is 6.3 deaths per year for the PBF Martinez refinery.

Environmental activists call it a victory for the Bay Area, specifically for communities surrounding refineries who are exposed to harmful particulate pollution.

Not just pretty sunsets. Wildfire smoke makes Louisville's air more dangerous

Date:-23-July-2021, Source: spectrumnews1.com

The Louisville Air Pollution Control District (APCD) issued air quality alerts on Wednesday and Thursday. On both days, the air quality index fell in the orange range, meaning that being outside for prolonged periods could be unhealthy for

sensitive groups. That included people with lung conditions such as asthma and COPD, along with children and the elderly.



A light haze hung over Louisville for several days this week.

The poor air quality, which will linger over the weekend, is the result of smoke from Western wildfires that's being blown all across the country. Currently, wildfires are burning in California, Idaho, Washington, Montana, and Oregon, home to the nation's largest wildfire. As of Friday afternoon, the Bootleg Fire is smoldering on 625 square miles of land near the California border. It remains only 40% contained.

While Western wildfires are not uncommon, they don't typically cause a haze to descend on cities thousands of miles away. But this week, unique meteorological conditions resulted in the hazy skies across the Ohio Valley.

Bryan Paris, APCD Air Monitoring Data Analyst, said that wind patterns and high pressure areas in the Mountain West region of the country pushed the emissions from the massive wildfires toward Kentucky and kept it all low enough to be visible.

Matt Mudd, Communications Coordinator for the APCD, told Spectrum News 1 what that smoke brings to town.

“There's the very obvious visual anomaly, especially if you're on the other side of the river looking at the skyline,” he said. And there's also something more sinister.

“What the Western wildfire smoke causes is fine particle pollution, which is one of the two main pollutions that we see in Louisville,” he said. “The fine particle pollutants come from smoke. They're absolutely tiny and the reason that they're somewhat worrisome is that, in large enough concentrations, they can inflame your lungs or get into your bloodstream.”

The rash of wildfires burning in Pacific Northwest and the health effects felt from them thousands of miles away are the consequence of a rapidly warming climate, experts say. The region saw record breaking heat earlier this month and remains in the middle of a drought, ideal conditions for the spread of wildfire.

“As of today, there are nine large fires blazing across Oregon — including the largest fire in the country,” Oregon Gov. Kate Brown tweeted this week. “Let me be clear: The climate crisis has made fire season in Oregon more prevalent and dangerous, and we must work together to maximize resources and protect our communities.”

Experts also warn that the potential for wildfires to harm air quality across the entire country is growing. “These fires are going to be burning all summer,” University of Washington wildfire smoke expert Dan Jaffe told The Associated Press. “In terms of bad air quality, everywhere in the country is to going to be worse than average this year.”

Colorado ozone air pollution spikes 48% above federal limit, state meteorologist says “definitely extreme”

Date:-24-July-2021, Source: denverpost.com

The gray haze blurring mountain views along Colorado's Front Range day after day this summer signaled ozone pollution spiking to dangerous levels — up to 48% higher than the federal health limit — and some of the deadliest air in decades.

The average ozone pollution has been increasing over the past two years, according to state data reviewed by The Denver Post, cutting into improvements made since 1980.



Downtown Denver is shrouded in haze as seen from the Ken Caryl Sledding Hill on Wednesday, July 21, 2021.

This year, average ozone levels at all 16 of the Colorado Department of Public Health and Environment's air-quality measuring stations along the Front Range topped 72 parts per billion, above the health limit of 70 ppb. In 2019, only five of the stations showed ozone averages above the limit.

On Tuesday, ozone spiked to 104 ppb at Chatfield State Park southwest of Denver. Other spikes this week reached 103 ppb at Boulder Reservoir and 101 ppb in Golden. Beyond cities, ozone levels in Rocky Mountain National Park hit 76 ppb on July 12.

The backslide means the U.S. Environmental Protection Agency likely will downgrade Colorado's air quality violator status later this year from "serious" to "severe." That will bring tougher restrictions on industry and car travel, and Colorado officials told the Post gas will have to be re-blended into a cleaner-burning mix. The EPA estimates it will add a few cents per gallon to prices at gas pumps.

For a record 19 days in a row (through midnight Friday), CDPHE officials have issued high ozone “action day” alerts, warning of unhealthy conditions and urging residents to drive less, and refuel or mow after 5 p.m., which can help contain ozone.

Meanwhile this week, Colorado leaders withdrew a proposal to require companies with more than 100 workers to reduce vehicle travel after the Colorado Chamber of Commerce objected. And a July 20 EPA deadline passed for Colorado to comply with the 2008 federal limit of 75 ppb, let alone the current 70 ppb limit that’s been in place since 2015.



Beyond the waters at Chatfield Reservoir, the foothills disappear in haze on Wednesday, July 21, 2021.

“Relatively dangerous” to go outside

Ozone forms when sunlight bakes chemical gases — volatile organic compounds and nitrogen oxides. The main sources, state authorities say, are people burning fossil fuels in vehicles and the oil and gas industry. Inhaling ozone pollution worsens respiratory ailments and triggers asthma attacks.

A recent University of Washington study by a consortium of scientists concluded that at least 365,000 deaths a year worldwide — 12,378 a year in the United States and 814 in Colorado — can be attributed directly to ozone.

Dr. James Crooks at National Jewish Health in Denver said the increasing ozone over the last two years makes it “relatively dangerous” to go outside from July through October.

“Whether it is ozone or wildfire smoke, if you have health concerns or are a vulnerable person or you work outside, there are going to be several months every year that are going to be dangerous for you,” he said.

Ozone levels exceeding 100 ppb “are definitely extreme and uncommon,” state air quality meteorologist Scott Landes said, adding that smoke from wildfires around the West plays a role.

In 1980, an ozone spike in Denver hit 146 ppb, one of the highest recorded in Colorado. State analysts say ozone gradually declined slightly for nearly 40 years but that a warming climate with intense heat and drier conditions favors spikes.

Overreach or necessary?

Clean air advocates questioned state leaders’ will to meet health standards.

“We’re not headed in a direction of cleaner air,” said Center for Biological Diversity attorney Robert Ukeiley, who for years has fought for clean air at Air Quality Control Commission hearings.

State Attorney General Phil Weiser on Wednesday withdrew state air officials’ proposed Employee Traffic Reduction Program after chamber of commerce officials declared it overreaching, impractical and unfair.

“How Coloradans commute to work,” Colorado Chamber of Commerce government affairs director Katie Wolf said, “shouldn’t be the concern of state government.”

CDPHE director Jill Hunsaker-Ryan later told the Post that state leaders remain “fully committed to reducing ozone pollution and greenhouse gas emissions, a charge that Governor Polis has given us.” Regulations requiring less car travel “are one important tool,” she said, “but in this case it makes sense to use a voluntary approach.”

The withdrawal shocked health groups: “If we can’t even bring employers and employees together to expand options to work without polluting, then it’s hard to imagine we’re going to do the other things needed to clean our air,” Colorado Public Interest Research Group director Danny Katz said. Elders Climate Action leader Bob Yuhnke said “the only long-term solution is to electrify the vehicle fleet. We also need to stop burning carbon to stop warming the planet.”

If EPA officials downgrade Colorado’s status, it’d be the second reclassification in two years. The re-blended gas requirement for a nine-county area including metro Denver — as in Los Angeles, Chicago, Houston and New York — would kick in a year after the downgrade.

Air Pollution Action Day Declared for Chicago Metropolitan Area

Date:-25-July-2021, Source: nbcchicago.com



The Illinois Environmental Protection Agency has determined that an air pollution action day will be declared for the metropolitan Chicago area on Monday, with elevated particulate and ozone levels that could impact older residents and those

with pulmonary or respiratory issues.

In northwest Indiana, an air quality alert is in effect until midnight for Lake, Porter, LaPorte, Newton and Jasper counties, according to the National Weather Service.

In Illinois, an air pollution action day will be declared on Monday for the greater Chicago metropolitan area. According to NWS, the alert was issued due to forecasts of elevated ozone and airborne particulate levels. Those elevated levels could potentially impact sensitive groups, including the elderly and younger residents, as well as those with respiratory conditions such as asthma.

Those residents are urged to limit prolonged outdoor activity Monday.

Other residents are urged to use car pools or public transportation if possible, along with combining or reducing errands to limit the number of “cold starts” for your vehicle. At home, residents are urged to conserve electricity and to limit the use of cleaning products when there are large amounts of airborne particles or elevated ozone levels in the air.

The Chicago area and parts of northwest Indiana have been coping with high temperatures in recent days, meaning that air conditioning use has continued to increase. A high-pressure dome over the region is serving to help stifle air flow, meaning that the airborne particulates and elevated levels of ozone have nowhere to go.

In addition, smoke from wildfires in the western United States has also settled over the region, causing hazy conditions and poor air quality in recent days.

The warm, dry conditions are expected to continue through most of the work week, with a cold front arriving in the area on Thursday.

Forest fire smoke sparks air quality statement for Hamilton, Burlington

Date:-26-July-2021, Source: cbc.ca



An air quality statement is in place for Hamilton and Burlington on Monday

Environment Canada has issued an air quality statement for Hamilton and Burlington on Monday, warning high levels of air pollution are possible because of forest fires in northwestern Ontario.

The smoke is causing poor air quality and reducing visibility, according to the weather authority.

The statement notes the air quality could decrease if the smoke drops to ground level and cautions those with cardiovascular or lung diseases, such as asthma, may be especially at risk.

"Wildfire smoke is a constantly-changing mixture of particles and gases which includes many chemicals that can be harmful to your health," it reads.

"Individuals may experience symptoms such as increased coughing, throat irritation, headaches or shortness of breath."

More than 130 forest fires were reportedly burning in northwestern Ontario on Sunday.

Particles from Paints, Pesticides Have Deadly Impact

Date:-27-July-2021, Source: cires.colorado.edu



Hundreds of thousands of people around the world die too soon every year because of exposure to air pollution caused by our daily use of chemical products and fuels, including paints, pesticides, charcoal and gases from vehicle tailpipes, according to a new CU Boulder-led study.

The new work, led by former CIRES postdoctoral researcher Benjamin Nault and CIRES Fellow Jose-Luis Jimenez, calculated that air pollution caused by “anthropogenic secondary organic aerosol” causes 340,000-900,000 premature

deaths. Those are tiny particles in the atmosphere that form from chemicals emitted by human activities.

And “that’s more than 10 times as many deaths as previously estimated,” said Nault, who is now a scientist at Aerodyne Research, Inc. His work, published today in *Atmospheric Chemistry and Physics*, builds on findings by CU Boulder, NOAA, NASA, and others that emissions from everyday products are increasingly important in forming pollutants in urban air.

“The older idea was that to reduce premature mortality, you should target coal-fired power plants or the transportation sector,” Nault said. “Yes, these are important, but we’re showing that if you’re not getting at the cleaning and painting products and other everyday chemicals, then you’re not getting at a major source.”

Atmospheric researchers have long understood that particles in the atmosphere small enough to be inhaled can damage people’s lungs and increase mortality. Studies have estimated that fine particle pollution, often called PM_{2.5}, leads to 3-4 million premature deaths globally per year, possibly more.

Many countries, including the United States, therefore have laws limiting how many of those particles get into the atmosphere. We regulate soot from power plants and diesel exhaust, for example, which are “direct” sources of particulate matter. And regulations also target fossil fuel emissions of sulfur and nitrogen oxides, which can react in the atmosphere to form fine particles—an indirect, “secondary inorganic” source of particles.

The new work suggests that a third broad category of chemicals—anthropogenic secondary organic pollutants—is a significant indirect source of deadly fine particles.

To determine the mortality impact of several sources of fine particles, the team dug into data from 11 comprehensive air quality studies carried out in cities around the world in the last two decades. They drew on detailed databases of chemical emissions from cities including Beijing, London and New York City, and they ran those numbers through sophisticated air quality models that also incorporate satellite data.

They found that the production of secondary organic aerosol in those 11 cities was strongly correlated with specific organic compounds emitted by people’s activities. The chemicals at issue—called aromatics and intermediate- and

semi-volatile organic compounds—are emitted from tailpipes and cooking fuels like wood and charcoal, and increasingly also from industrial solvents, house paints, cleaning products and other chemicals.

In previous work in Los Angeles, CIRES, NOAA and other scientists have reported that such volatile chemical products contribute as much as vehicles do to the formation of particle pollution. “What’s new here,” said co-author Brian McDonald, a NOAA scientist, “is that we are showing this is an issue in cities on three continents, North America, Europe and east Asia.”

Air quality regulations have tended to focus on volatile chemicals that produce ozone, another hazardous pollutant, said Jimenez, who is also a professor of chemistry at CU Boulder. But it is increasingly clear, most recently from the new work, that chemicals which contribute little to ozone formation may still contribute seriously to particle formation.

“Because this effect has been thought to be small, it hasn’t been targeted for control,” Jimenez said. “But when you take the atmospheric chemistry into account and put it into a model, you find that this particular source is killing a lot of people.”

Nault and Jimenez said they hope to expand their work to include more urban areas of the world, where there haven’t been enough measurements yet to confirm that volatile chemical products contribute substantially to fine particles. But the trend is holding so far in all places where there are enough measurements.

“If you care about air pollution impacts on health and mortality, you have to take this problem seriously,” Jimenez concluded.

Colorado Springs weather: More air pollution Wednesday

Date:-28-July-2021, Source: gazette.com

Colorado Springs is expected to face another day of poor air quality and temperatures in the 90s on Wednesday, the National Weather Service in Pueblo said.

People with lung disease and asthma should avoid heavy outdoor activity while an air quality alert is in place until 10 p.m. Wednesday. The advisory was issued because of "lingering wildfire smoke," the agency said.



Barbara Currey captured what she called a “cool morning sun” at Rock Ledge Ranch at Garden of the Gods in Colorado Springs

Temperatures are expected to reach 93 degrees with sunny skies and a 10% chance of rain and thunderstorms after 5 p.m., the weather service said.

Overnight temperatures are likely to drop to a low of 64 degrees with plenty of sunshine and heat Thursday. The weekend is expected to bring

higher chances of rain, the agency said.

Here's the rest of this week's forecast from the National Weather Service:

Thursday: Sunny, with a high near 93 degrees and winds between 5 to 15 mph.

Friday: Sunny, with a high near 92 degrees and winds 5 to 15 mph. New rainfall amounts of less than one-tenth of an inch, except higher amounts possible in thunderstorms.

Saturday: Partly sunny, with a high near 85 degrees and winds around 15 mph. Showers and thunderstorms likely after 9 p.m. Chance of precipitation is 70%.

Sunday: Mostly cloudy, with a high near 76 degrees and winds between 5 to 10 mph. Showers and thunderstorms likely, mainly after noon. Chance of precipitation is 70%.

Minnesota Pollution Control Agency issues an air quality alert

Date:-29-July-2021, Source: echopress.com

The Minnesota Pollution Control Agency has issued an air quality alert for nearly all of Minnesota, with the exception of the North Shore.



A red-colored sun reflects on Lake Carlos as smoke from Canadian wildfires covers most of Minnesota on Thursday morning, July 29, 2021.

The alert is in effect until 3 p.m. Friday, July 30. The air quality alert began at 3:45 p.m. Wednesday.

Northerly winds behind a cold front will bring smoke from wildfires located north of the Canadian border in Ontario and Manitoba into Minnesota, the pollution control agency said in a news release. Heavy smoke is expected to arrive around 10 p.m. Wednesday near the Canadian border and midmorning Thursday in central and southern Minnesota.

Smoke will remain over the area into Friday. During this time, fine particle levels are expected to be in the Orange Air Quality Index category, a level considered unhealthy for sensitive groups, the release stated. Fine particle levels will begin to improve Friday morning as southerly winds start moving the smoke out of the state. By Friday afternoon, air quality should improve below alert levels statewide.

People who are more likely to be affected when fine particle pollution reaches an unhealthy level include:

- Those with asthma or other breathing conditions, such as chronic obstructive pulmonary disease;
- People who have heart disease or high blood pressure;
- Children and older adults;
- Those doing heavy, physical activity outdoors, such playing sports or working, especially for extended periods.

Air pollution can aggravate heart and cardiovascular disease as well as lung diseases like asthma and chronic obstructive pulmonary disease, the state agency reported. When the air quality is unhealthy, people with these conditions may experience symptoms like chest pain, shortness of breath, wheezing, coughing or fatigue. Anyone experiencing any of these symptoms, should use an inhaler as directed and contact a health care provider.

The pollution control agency recommends the following precautions:

- Take it easy and listen to your body,
- Limit, change, or postpone physical activity,
- If possible, stay away from local sources of air pollution like busy roads and wood fires,
- Those who have asthma, or other breathing conditions, should be sure to have an relief/rescue inhaler with them;
- People with asthma should review and follow guidance in their written asthma action plan.

The main source of fine particle pollution is any activity that uses fuel. Conserving energy and buying clean, renewable energy are great lifestyle choices to help reduce overall pollution, the pollution control agency stated.

Pollution reduction tips include:

- Reduce vehicle trips,
- Use public transport or carpool when possible,
- Postpone use of gasoline-powered lawn and garden equipment on air alert days. Use battery or manual equipment instead,

- Avoid backyard fires.

For information on local current air quality conditions and to sign up for daily air quality forecasts and alert notifications by email, text message, phone, or the Minnesota Air mobile app, visit the MPCA's Air Quality Index webpage. Additional information about health and indoor and outdoor air quality at the agency's Air Quality and Health webpage.

Why you should protect yourself from the smoky air

Date:-30-July-2021, Source: mprnews.org



The buildings of downtown St. Paul are shrouded in haze caused by smoke from wildfires in Canada on Thursday, as seen from the High Bridge in St. Paul

Minnesota's air quality has been exceptional for all the wrong reasons this week. On Thursday, an air quality monitor in Brainerd recorded the highest particulate reading ever recorded in the state, since the monitors were installed about 20 years ago.

"And then a couple hours later, that smoke moved down to St. Cloud, and we broke that record in a matter of hours — at like 422 micrograms," said Nick Witcraft, an air quality forecaster for the Minnesota Pollution Control Agency (MPCA). "That was quite impressive to see."

And those two recordings broke a record that was set just last week in Red Lake in far northern Minnesota.

All that unhealthy air is funneling into Minnesota from wildfires burning across the border in Canada.

And Witcraft says now another cold front is expected to move yet more smoke down to Minnesota, prompting officials to extend an air quality alert through Tuesday.

"And then after the smoke moves in, we're going to have a high pressure sitting over the area, and the smoke will just recirculate around for a couple more days," says Witcraft. "This is going to be a long-lasting event and very impactful for a lot of folks."

Including his family.

Health experts say fine particles in the air can be harmful even to healthy people, but especially to sensitive populations — including kids, older adults and people with respiratory conditions, like asthma.



Smoke from Canadian wildfires is visible near the Harvest Fellowship Church Thursday in Sauk Rapids, Minn.

"I had to keep my son out of lacrosse yesterday. He came home and he had to use his inhaler, which he rarely has to use. But I was like, 'OK, this is affecting me now,'" says Witcraft.

A huge swath of north-central Minnesota, sweeping south to include the Twin Cities, is now forecast to have very unhealthy levels of fine particles through Tuesday — labeled as purple for the air quality alert.

Most of the rest of the state is included in the next level down, in the red, unhealthy level.

Dr. Zulfiqar Ali, a pulmonologist with Sanford Health in Fargo, N.D., says in those conditions everyone should be cautious.

"And especially people who are who have underlying preexisting conditions such as asthma, COPD or chronic lung diseases," he says. "They are particularly at high risk, and they should be very vigilant and cautious about that in their situation."

He says children are at higher risk, as are pregnant women.

But Ali says even healthy people should be careful. He recommends not running or exerting yourself outside.

"You know, when you exert, you breathe almost double, or maybe get a 1.5 times of your normal breathing rate. And in this way, you will breathe more polluted air inside, and that will be more harmful," he says.

The fine particles in wildfire smoke are smaller than a human hair and can penetrate into the sensitive tissue deep in our lungs. And from there, explains Jesse Berman, an environmental epidemiologist at the University of Minnesota, they can make it into our bloodstream and get circulated around our bodies.

"So it's not as though people are just being affected with their breathing — these particles get into the body and they can affect your cardiovascular system. They can affect neurological systems. They can affect your kidney system. They can really have effects all across your body," says Berman.

That's especially concerning because Minnesota is experiencing more smoky days because of wildfires — in Canada, out west and at home.

Between 2015 and 2018, the MPCA issued twice as many air quality alerts due to smoke from wildfire smoke than in the previous seven years.

Berman, who studies how extreme weather and air pollution impacts human health, says climate change and drought are fueling bigger and hotter fires that are spewing more smoke high into the atmosphere.

"And the more of these wildfire events that happen, the more likely it's going to be that here in Minnesota, we're going to experience these smoke plumes from events that are happening hundreds, if not sometimes thousands of miles away."

Gov. Tim Walz met with President Joe Biden and Vice President Kamala Harris Friday to talk about the ongoing drought and wildfires. In a statement, Walz said climate change is real, and it's having a direct impact on Minnesotans' lives.

Air quality advisory issued for Fraser Valley, eastern Metro Vancouver

Date:-31-July-2021, Source: bc.ctvnews.ca

An air quality advisory has been issued for B.C.'s Fraser Valley and eastern parts of Metro Vancouver over high concentrations of ground-level ozone that could cause breathing problems.

Pregnant women, infants, children, older adults and people with underlying health conditions such as lung disease and asthma are at higher risk, Metro Vancouver said in the advisory.

Until the air quality improves, officials said residents should avoid strenuous outdoor activities from the mid-afternoon to early evening, when ozone levels are said to be highest.

Ground-level ozone is formed when nitrogen oxides and volatile organic compounds react in the air in the heat and sun. Nitrogen oxides include the pollutants emitted when fuel is burned, while volatile organic compounds include the particles emitted from solvents.

Metro Vancouver warned conditions could also become worse over the weekend as wildfire smoke from the B.C. Interior and Washington state is forecast to reach parts of the Lower Mainland.

"A change in the weather on Monday is forecast to bring onshore winds to help clear the smoke," the advisory reads. "Smoke concentrations may vary widely across the region as winds and temperatures change, and as wildfire behaviour changes."

Officials said anyone who experiences symptoms such as chest discomfort, shortness of breath, coughing or wheezing should seek medical attention.

The advisory recommends finding indoor spaces with HEPA air filtration and air conditioning, which can provide relief from pollution and the heat. Rising temperatures have prompted Environment Canada heat warnings in 19 regions of B.C. this weekend.

The B.C. Centre for Disease Control has also provided a step-by-step guide on creating a homemade air purifier for about \$60 in materials.

Real-time air quality readings for the Lower Mainland can be found on the Metro Vancouver's AirMap website.

August 2021

Heavy smoke hampering firefighting efforts, choking B.C. Interior as 245 wildfires burn

Date:-1-August-2021, Source: cbc.ca

Wildfire crews are battling a growing number of blazes across B.C., and they're also contending with heavy smoke that has blanketed large swathes of the province with dangerous pollutants.

As of Sunday morning, 245 wildfires are active in the province. The largest number are in the Kamloops Fire Centre, which includes the Okanagan region, accounting for nearly a third of B.C.'s fires. The number of fires has increased by 14 in the last two days.

More than 3,000 properties across the province have been ordered to evacuate, and at least 15 municipalities exceeded the province's maximum 24-hour air pollution exposures.

"Dense smoke continues to affect the Okanagan," Erika Berg, with B.C.'s wildfire service, told CBC News Network. "It means we have to be very strategic with where we station our aircraft, as well as where they are able to operate.... It does affect our operations ... our staff — their well-being, their safety — is our top priority. "We take visibility very seriously."



A wildfire burns near Garrison Lake, just 33 kilometres southwest of Princeton, B.C., on Saturday. It was estimated to be nearly 82 square kilometres in size, with 'significant growth' over the previous day, B.C.'s wildfire service said

The province's Interior region continues to suffer from wildfire smoke. Authorities are warning residents of serious health risks of long-term exposure to tiny airborne pollutants for the most vulnerable, including seniors and small children. Thirty-six of those communities have been under air quality

advisories in place from earlier this week.

On Sunday, authorities also issued a special air quality statement for the entire Metro Vancouver and Fraser Valley region, warning residents are "likely to be impacted by wildfire smoke over the next 24-48 hours," according to the provincial environment ministry.

"Persons with chronic underlying medical conditions or acute infections such as COVID-19 should postpone or reduce outdoor physical activity until the advisory is lifted, especially if breathing feels uncomfortable," Metro Vancouver said in a statement Sunday afternoon,

The regional authority noted that exposure to fine airborne particles in wildfire smoke "is particularly a concern for people with underlying conditions," as well as seniors and infants.

Health risks

The smoke is so bad that south of the border numerous areas of the U.S. West were under air quality alerts on Sunday as B.C. wildfire smoke lingered. This includes the northern U.S. Rockies, including portions of Colorado, Wyoming, Washington state and Idaho.

Wildfires emit huge volumes of microscopic smoke particles that researchers say can be harmful, leading to both immediate and long-term health impacts.

A total of 5,050 square kilometres have burned so far this year in B.C.— a 45 per cent increase above the past decade's wildfire season average.

Wildfire smoke has worsened air quality to dangerous levels in many B.C. communities.

The worst-hit community has been Trail — which averaged 36 times the World Health Organization's maximum exposure amount over 24 hours — followed by the nearby Kootenay city of Castlegar, which exceeded WHO guidelines by 30 times over the last day. In the Okanagan region, Kelowna hit 29 times the maximum safe levels in that period.

Displaced by wildfires

People in several regions in B.C. remain forced out of their homes due to wildfires. There are currently more than 60 evacuation orders affecting more than 3,000 properties.

New orders were issued late on Saturday night for Queest Village and Pete Martin Bay north of Sicamous, B.C., as well as another order for the community of Eastgate southwest of Princeton on the Highway 3.

On Sunday, the Okanagan Indian Band issued an evacuated order for properties threatened by the White Rock Lake wildfire, which is burning 34 kilometres northwest of Vernon.

The Regional District of the Central Okanagan also raised an evacuation alert to an evacuation order on Sunday. It declared a local state of emergency in an area outside of Vernon known as Westshore Estates on Westshore Road.

The White Rock Lake fire has been burning since July 13 and is still classified as out of control. It has grown to 320 square kilometres. The evacuation orders issued Sunday are in addition to evacuation orders already in place for more than 100 other properties.

On Sunday officials reiterated the importance of not staying behind if an evacuation order comes for your property.

"Basically if you chose to remain in an area it puts yourself, your family and first responders in danger," said Michelle Nordstrom with the Thompson-Nicola Regional District.

"What we've been hearing from firefighters is it may be impeding fire crews from fighting fires. Evacuation orders are not issued lightly. They are important life-saving orders."

The Canadian Red Cross is providing financial assistance to people under an evacuation order for 10 consecutive days or more due to wildfires.

Both the province and federal government are matching donations made to the Canadian Red Cross to provide the support.

Eligible households across B.C. will receive \$1,200.

Anyone placed under an evacuation order should leave the area immediately.

Evacuation centres have been set up throughout the province to assist anyone evacuating from a community under threat from a wildfire. To find the centre closest to you, visit the Emergency Management B.C. website.

Evacuees are encouraged to register with Emergency Support Services online, whether or not they access services at an evacuation centre.

Better air quality may lower dementia risk among older women

Date:-2-August-2021, Source: factor.niehs.nih.gov

Improvements in air quality may slow cognitive decline and reduce the risk of dementia in older women in the U.S., according to NIEHS-funded research. The findings were presented July 26 at the 2021 Alzheimer's Association International Conference.

Exposure to air pollution late in life is a modifiable risk factor for dementia. Better air quality is associated with decreased mortality and improved respiratory health. But until now, it has not been clear whether improvements in air quality could enhance or preserve cognitive abilities.

“Our studies are novel because they are the first to investigate the benefit of air quality improvement on brain aging,” said Xinhui Wang, Ph.D., an assistant professor of research neurology at the Keck School of Medicine at the University of Southern California. “The takeaway message is that reducing air pollution exposure can promote healthier brain aging.”

Linking air pollution to brain aging

Wang teamed up with NIEHS grantee Jiu-Chuan Chen, M.D., Sc.D., an associate professor of population and public health sciences at the Keck School of Medicine. Their study included 2,232 community-dwelling women in the U.S. who ranged in age from 74 years to 92 years and did not have dementia at the time of enrollment. The women were participating in the Women's Health Initiative Memory Study — Epidemiology of Cognitive Health Outcomes (WHIMS-ECHO).

The researchers conducted annual telephone interviews between 2008 and 2018 to assess general cognitive status and word memory. They also used models to estimate annual exposure to fine inhalable particles with diameters that are generally 2.5 micrometers and smaller from 1996 to 2012, as well as exposure to nitrogen dioxide at residential locations.

Higher air quality, slower declines

Air quality improved with regard to fine particulate matter and nitrogen dioxide in the 10 years before enrollment. As expected, general cognitive status and

memory declined with age during an average follow-up of 6.2 years. But greater air quality improvement was associated with slower decline, regardless of age, geographic region, education, or cardiovascular factors. Based on the findings, the researchers plan to investigate the neural processes underlying the benefits of improved air quality on brain aging.

“Our findings demonstrate the importance of regulatory policies and actions by federal and local governments to reduce air pollution levels in a more systematic way,” Wang said. “The impact will be great as everyone will benefit. At the individual level, we would advocate to reduce exposure by avoiding or reducing the time spent in highly polluted areas as much as possible. Wearing an appropriate respirator can be a choice if exposure is inevitable.”

Air quality advisory issued for much of Northeast Wisconsin

Date:-3-August-2021, Source: fox11online.com

(WLUK) -- Smoke from wildfires in Canada are now impacting air quality in much of Northern Wisconsin. The Department of Natural Resources says, several counties are in the "orange" category, which means that the air isn't safe for sensitive groups and prompting another air quality advisory.

Seeing hazy skies, and the sun and moon illuminating a deeper red, orange or pink color has been the norm lately in Wisconsin. Visually, those sights can be captivating, but the smoke causing that to happen can be unsafe for those most vulnerable.

“People, like children, the elderly, people with respiratory issues, or cardiac problems, and then also anyone who's engaged in strenuous outdoor activities for a long period of time,” said Craig Czarnecki, public information specialist for the DNR Air Program. “Those are the folks who need to try to avoid extended outdoor exposure.”

The thickest smoke remains over Minnesota and Canada but several Wisconsin counties, including Brown and Outagamie counties, are being impacted.

“As long as these fires continue burning, there is always the chance that we're gonna keep seeing these similar conditions here in Wisconsin,” said Czarnecki.

The DNR says, the amount of pollutants in the air determines what the Air Quality Index levels of health concern are. As of Tuesday, they have elevated to that “unhealthy for sensitive groups” category.

But for others, like those with allergies, the lingering smoke can still make matters worse.

“If there is pollutants, smoke or even allergens in the air, you can get a multifactorial issue going on, where a few different irritants are bothering your respiratory system,” Bellin Health family medicine nurse practitioner Dylan Valentine said.

We all know by now that facemasks can offer some level of protection, but in this case, medical professionals say they do you no good.

“The masks that we’re using for COVID are standard surgical masks or cloth masks; they’re not going to filter out smoke or air pollution particles - those particles are often less than a tenth of a diameter of a strand of human hair,” said Valentine. “They’re gonna go right through the mask.”

Officials say, the best things you can do to avoid being negatively affected include, limiting your time outside, taking your medications as prescribed, if applicable, and keeping your eye on current air quality conditions. That can be done by visiting this website, or getting direct alerts sent to your phone.

The DNR doesn't expect conditions to reach the red category, which is the highest level of health concern.

The advisory is scheduled to end Wednesday at noon.

Canadian wildfires have affected Wisconsin air quality for a month. So what can Wisconsinites do?

Date:-4-August-2021, Source: greenbaypressgazette.com

When she received word of the Wisconsin Department of Natural Resources' statewide advisory on air quality, Chelsea Chandler canceled her plans of taking her two young children to Governor Dodge State Park.

The lake would still be there at the end of the advisory and she didn't want to risk exposing her 4-month-old baby to a potentially dangerous environment.

“I realized there was probably minimal risk, but my son's body is immature and less able to cope,” Chandler said. “I work on this stuff for a living. I have the flexibility to go to the park next weekend.”



Smoke from wildfires in Canada has created hazy conditions across most of Wisconsin

Since the first week of July, smoke from Canadian wildfires has spread across the atmosphere in several U.S. states, including Wisconsin, according to the National Weather Service, cranking up the air quality index to yellow, orange and red in northeastern Wisconsin counties. According to the DNR, the pollutant PM2.5 poses the greatest threat during wildfires, although carbon monoxide and ozone concentrations affect air quality as

well.

Craig Czarnecki, DNR's air program public information specialist, explained that health risks associated with PM2.5 can be so severe to vulnerable groups because of the way the pollutant penetrates the respiratory tract and bloodstream.

“Once in the bloodstream, these particles can be pumped throughout the body and can cause health problems for individuals with heart and lung ailments,” Czarnecki said over email.

Across Wisconsin are 19 sites for air quality monitoring that indicate the levels of PM2.5, which the EPA incorporates into its fire and smoke map data via AirNow. Green Bay East High School covers one such site and, in the past week, PM2.5 reached dangerous (red) levels midafternoon on July 31, with the highest reading at 167 PM2.5 on the Air Quality Index.

For contrast, a moderate reading (yellow) for Tuesday measures 70 on the AQI, which is trending higher on the forecast. AirNow recommends that people sensitive to smoke use precautions and keep outdoors activities light.

A stable, or "good," PM2.5 reading ranges from 0 to 50. Parts or all of the state have been under an air quality advisory for PM2.5 since Thursday afternoon. As of Tuesday afternoon, the northern half of the state was under an advisory.

Wisconsin has been downwind of wildfires in Canada and California for the past couple of years, and air quality in each instance reached unhealthy levels of PM2.5. While Czarnecki said the latest years of wildfire activity aren't long enough to infer long-term trends, he also noted that wildfire "frequency, longevity or intensity in the U.S. or Canada will increase the probability of air quality being negatively impacted."

Small actions and big impacts in air quality challenge

In addition to being a mother to young children, Chandler is the director of climate solutions at Clean Wisconsin. While she admits she may have been overly cautious about the air advisory last weekend, she considers herself a far more privileged individual than members of the community who live in lower-income brackets and who live in nearby industrial corridors.

The air quality concerns perfectly exemplify the intersections of the climate change crisis and environmental justice, according to Chandler.

"There's already a lot of air pollution that (the marginalized) are being burdened with on a daily basis," Chandler said. "So when you get fine particulate matter coming in from smoke from wildfires, that's really just kind of exacerbating the problem."

Notably, some of the air monitors glowing orange Tuesday north of Green Bay are on tribal lands, with villages within the Bad River Reservation scoring an unhealthy AQI of 151 PM2.5 as of Tuesday.

Brown County is home to nine factories, which have had their fair share of EPA petitions over the years. While much has been made about water quality issues, companies such as Wisconsin Public Service Corp. have had to pay about \$300 million to resolve clean air violations between the now-shuttered J.P. Pulliam Generating Station in Green Bay and the Weston plant in Rothschild in 2013.

Chandler, in her capacity as a climate solutions director, thinks that the effects of distant wildfires can still be combatted at the local level. While it may seem counterintuitive to put mitigation efforts toward disasters that have little to do with us, Chandler sees this as an opportunity to get serious about climate mitigation.

“The fires are not located in Wisconsin, so it doesn’t feel like it’s under our purview, but climate change and air pollution do not respect state boundaries, they do not respect international boundaries,” Chandler said. “These are really interconnected issues, which is why we need to work together on solutions.

Czarnecki, of the DNR, agrees. Some ways that he thinks Wisconsin residents can protect themselves against the worst effects of these recent air quality warnings are as follows:

- Staying informed by checking real-time air quality information. “During a fire event, PM2.5 would typically show elevated concentrations and is monitored at 19 sites across Wisconsin,” Czarnecki said. He recommended checking the Wisconsin Air Quality Monitoring Data. He also suggested signing up for DNR air quality advisories for select counties on their Air Quality News and Subscriptions page.
- Committing to small actions that can make a larger difference. Instead of burning yard debris such as leaves and shrubs, compost it. Turn off lights when not in that room. Unplug electronic devices such as phone chargers when they’re not in use.
- Driving less. There are plenty of opportunities, especially in the warmer months, to bike, walk or ride Bird Scooters places, or else take public transit.

Chandler understands that air quality issues are a result of local air pollution and greenhouse gases, and so for her, it’s important that the state turns in its fuel-dominated industries for renewable energy.

“(Transitioning to) renewables is going to get at both of these problems. It’s going to reduce air pollution that is causing elevated levels of asthma and cancer risk, and it’s also going to reduce our greenhouse gas impacts so that’s helping with people being able to breathe cleaner air,” Chandler said.

She’d also like to see more education about the public health impacts of climate change, support for a faster deployment of renewable energy while retiring plants, focus on policies that promote energy efficiency, advocating

cleaner transportation, and working with farmers and land managers on storing carbon.

“There's so many different ways that we can reduce our impacts and we're looking to do that as aggressively as we can and also in a way that's going to be equitable and not impact and overburden certain populations more,” Chandler said. “We need to make sure that they can be part of the solutions as well.”

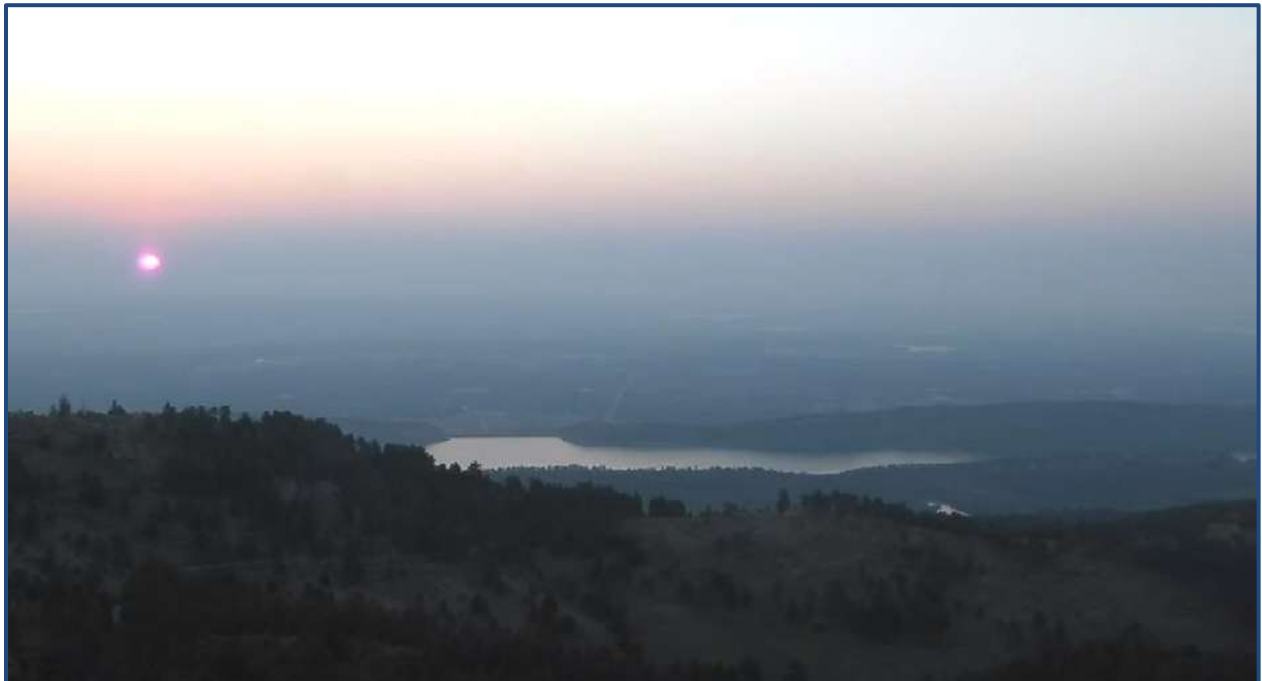
Denver ranked among the top-5 most-polluted cities in the world Thursday

Date:-5-August-2021, Source: 9news.com

It was also the second-worst air quality of any major city in the Western Hemisphere, thanks to wildfire smoke from the Northwest and ground ozone.

DENVER — Here's something Denver probably doesn't want to rank among the top-five in globally.

On Thursday afternoon, Denver's air quality levels hovered around 110, briefly making it the fifth-smoggiest major city in the world. That's based on data from air quality tracking website IQAir.



The air quality reading of 110 in Denver on Thursday afternoon also ranked as the second-highest air quality level across the entire Western Hemisphere, trailing only Santiago, Chile.

Smoke from forest fires in the Pacific Northwest and southwestern Canada moved into Front Range skies on Thursday, combining with ground ozone to turn Denver into one of the world's most polluted cities on Thursday.

It's all part of what's already been an exceptionally lengthy stretch of Air Quality Alerts for Denver and the Front Range. Thursday marked the 31st consecutive day with an Air Quality Alert for the Front Range.

While Denver and the Front Range can expect a brief break from the oppressive smog on Friday, it'll return with a vengeance on Saturday as smoke from forest fires in California arrives, adding to the already filthy skies across the Front Range.

In addition to the forest fire smoke, temperatures rising well into the 90s this weekend will help create more ground ozone and continue to pollute the surface.

In other words, the smoggy skies likely won't dissipate anytime soon, and Denver will probably continue to rank among the world's most polluted cities in the meantime.

DEQ issues air pollution forecast and caution for southeast Idaho

Date:-6-August-2021, Source: localnews8.com

POCATELLO, Idaho (KIFI) - Anyone who has been outside Friday has no doubt noticed the horrible air quality.

The air quality was so bad in Pocatello the street lights started turning on because of low light levels.

By about 1 p.m., the Department of Environmental Quality listed the air quality in the red category which is unhealthy for everyone.

The DEQ also issued an Air Pollution Forecast and Caution to notify residents of Bannock, Bear Lake, Bingham, Caribou, Franklin, Oneida, and Power Counties of degraded air quality. Due to wildfire smoke health impacts, burning restrictions are in effect.

Air quality is currently in the unhealthy for sensitive groups category and is forecast to remain in the unhealthy for sensitive groups category for the weekend. The pollutant of concern is Fine Particulate Matter (PM_{2.5}).

They say even if you're not coughing or feeling it when you go outside you could be damaging your lungs.

"The smoke has a lot of small particles called PM2.5. They can get really deep into your lungs because issues down in your lungs make it difficult to breathe," Clay Wood said. "That's really bad if you already have asthma or pre-existing health conditions."

The DEQ says they think that the severe conditions will last through the weekend.

Residential wood burning activities are restricted to certified or exempted stoves only. This burn ban will remain in effect until air quality has improved in accordance with local ordinances.

All outdoor open burning is prohibited by the Department of Environmental Quality in accordance with local ordinances and the Rules for the Control of Air Pollution in Idaho (IDAPA 58.01.01.550).

Air quality alert issued due to smoke from Northern California fires

Date:-7-August-2021, Source: kget.com



BAKERSFIELD, Calif. (KGET) — An air quality alert has been issued for multiple Central Valley counties due to smoke from ongoing fires in Northern California.

The San Joaquin Valley Air Pollution Control District issued the health caution Saturday and says it will last until the fires are extinguished or no its effects are no longer felt in the valley. The district said changing weather patterns prompted the alert Saturday.

San Joaquin Valley air quality officials issued an air quality alert through 5 p.m. on Monday, Aug. 9. The alert is for Merced, Madera, Fresno, Kings, Tulare, Stanislaus, San Joaquin and the San Joaquin Valley portions of Kern County.

Residents are advised to remain indoors if possible. Exposure to to particulate matter could trigger respiratory problems like asthma, aggravate chronic bronchitis, and increase the the risk of heart attack and stroke, officials say.

The largest fire, the Dixie Fire, has burned in Butte and Plumas counties over the last 24 days and has burned over 446,000 acres, CAL Fire says. It is the third largest wildfire in state history.

The National Weather Service in Hanford says the heaviest of the smoke impacts will be felt overnight into Sunday morning.

Wildfire smoke covers Las Vegas valley, increases risk of contracting coronavirus

Date:-8-August-2021, Source: ktnv.com

LAS VEGAS (KTNV) — Wildfire smoke from Northern California and Oregon blanketed the Las Vegas valley with another round of unhealthy air Sunday at the same time a deadly respiratory virus is spiking in the region.

Test positivity for COVID is currently approaching 16%, according to the Southern Nevada Health District.

A report from the Desert Research Institute says wildfire smoke can increase the risk of contracting the coronavirus as more people cough and sneeze spreading particulates into the air.

Harvard researchers also indicated that a small increase in air pollution can increase the risk of dying from COVID by 8%.

Dr. Daliah Wachs says heavy smoke can irritate the lungs and worsen the effects of many respiratory issues.

"Pollution irritates the lungs," she said. "So, if you have lung irritation, that allows you to be more vulnerable to lung illnesses whether it's from COVID-19, pneumonia or anything else."

The Centers for Disease Control and Prevention says cloth masks can block droplets that carry the coronavirus, but they do little to protect people from the tiny particles carried in wildfire smoke.

The CDC reports N95 or KN95 masks block particles from wildfire smoke but advised people against wearing them in non-medical situations as they should be reserved for health care workers. Experts say to stay indoors with the windows and doors closed and run the air conditioner to filter the air. People should also change their home air filters to avoid pushing dirty air into a sealed home.

Joburg's air quality has been particularly bad recently – and poses serious health risks

Date:-9-August-2021, Source: businessinsider.co.za

- Johannesburg has recorded high levels of air pollution since the start of August.
- An air quality monitoring station in Soweto showed the highest levels of sulphur dioxide in more than a year.
- This pollution comes from nearby petrochemical and power generation industries, but isn't helped by Johannesburg's urban bubble which traps the smog.
- High levels of pollution can cause allergic symptoms, like a runny nose, sore throat, and itchy eyes.
- But it's even more dangerous amid the Covid-19 pandemic.

Johannesburg's ongoing air pollution problem has been particularly bad in the first week of August, with both local and international assessors flagging hazardous air quality which poses serious health risks, especially during a pandemic. The dire state of Johannesburg's air is not a new phenomenon. The World Health Organisation reported that air pollution killed almost 20,000

South Africans in 2013 – a yearly death toll which had remained uncomfortably high since the 1990s – with the country's most polluted air identified in Tshwane and Johannesburg.

More recently, the Department of Environment, Forestry and Fisheries (DEFF) launched an investigation into elevated levels of sulphur dioxide and hydrogen sulphide in Mpumalanga and Gauteng. Gauteng's air quality, which is affected by nearby coal-fired power stations, refineries, and industries, degrades even further in cold weather. This year's winter season, which has been especially brutal, has worsened the quality of air across Johannesburg, Midrand, and even Tshwane.

Joburg's air pollution problem is particularly bad in winter

"High-pressure systems present very calm conditions, so you don't have a lot of wind that can either disperse or dilute the pollution and that then causes a very high level of pollution on the surface of the earth," Dr Raesa Moolla, senior lecturer in physical geography University of the Witwatersrand, told Business Insider South Africa. "And that's why, particularly in winter, because of the persistent high-pressure system on the Highveld, we have very high levels of pollution."

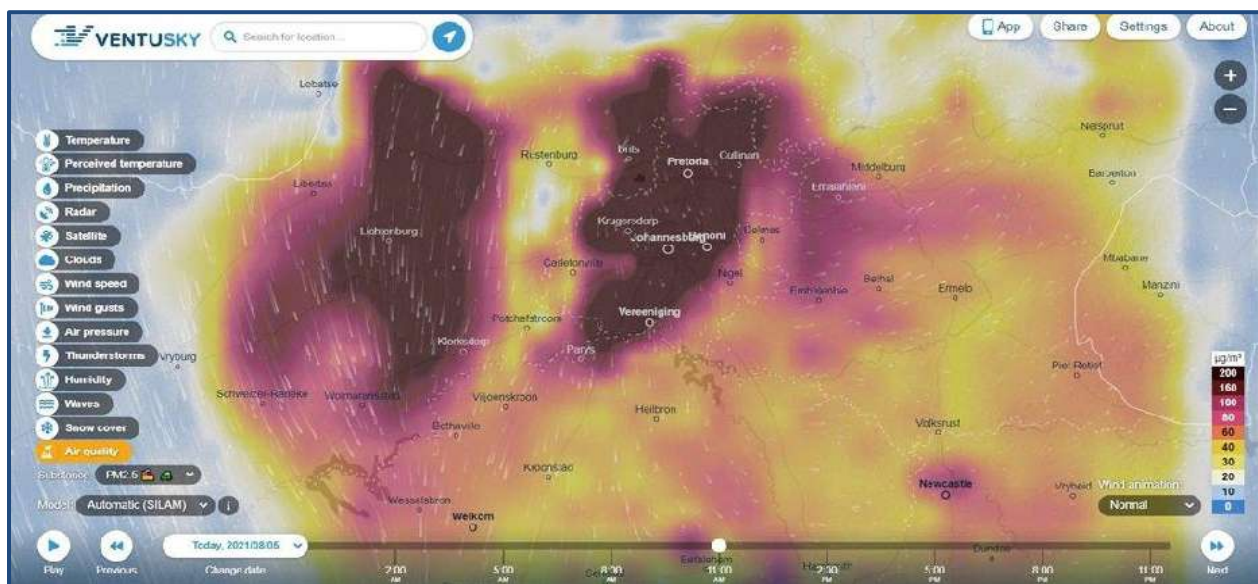


Image: Ventusky

These high-pressure systems have battered the region with cold weather, with Johannesburg recording record-low temperatures in July. Johannesburg, being

South Africa's most densely populated city, also suffers from a unique urban burble which traps air pollution.

"Besides the inversion layer around Johannesburg, it's more about the urban island or urban heat dome... it's a similar concept to the inversion layer but is caused by urbanisation, the concrete and buildings. It causes the same effect, this blanket effect," said Moolla, adding that the inversion layer causes air pollution to hang closer the earth's surface, worsening its effects. Data gathered by the South African Air Quality Information Systems (SAAQIS), which tracks pollution levels in the country's major cities, confirms that Johannesburg and its surrounds have been blanketed by industrial smog in recent weeks. Although SAAQIS' downtown station – in Newtown – has been offline, its nearest bases in Diepkloof and Jabavu in Soweto recorded a spike in pollutants since the end of July.

High levels of sulphur dioxide

The Diepkloof station recorded 21,482 parts per billion (ppb) of sulphur dioxide on 26 July, the highest levels in more than a year and four times the annual average. Jabavu's highest sulphur dioxide levels in a year, of 16,704 ppb were recorded on Tuesday. The level of fine Particulate Matter (PM_{2.5}), which pose especially serious health risks, was recorded at double the annual average during the same period.



Image: South African Air Quality Information Systems (SAAQIS)

These pollutant levels coincide with data from IQAir, which listed Johannesburg's air quality levels as some of the worst in the world at various points in the first week of August.

"Sulphur dioxide goes up into the atmosphere [where] it interacts with other pollutants and causes what's called secondary pollution of particulate matter," Rico Euripidou, the director of environmental justice organisation, groundWork, told Business Insider SA.

"When the particulate matter is small, that's PM2.5, that's the stuff you really worry about because that's the stuff that gets deepest into your lungs, exchanges with the oxygen in your system [and] gets carried by the oxygen to the different organs."

"That's why it's a misnomer to say air pollution [only] causes respiratory disease. It doesn't only do that. It causes heart disease, vascular disease, brain disease."

GroundWork is currently battling the government in court – known as the “Deadly Air” case – arguing that the poor ambient air quality in the Highveld is a violation of the Constitution of South Africa. Euripidou says that major industries have been allowed to pollute due to the DEFF's poor regulations and compliance mandates.

Air pollution makes Covid-19 worse

High levels of air pollution are especially dangerous during a pandemic which targets the respiratory system. Gauteng currently accounts for the highest number of Covid-19 deaths and cases in the country, having driven the third wave of infections in June and July.

"The latest literature supports the idea that air pollution exacerbates Covid-19," said Euripidou. "It gives Covid-19 more of an opportunity in your body to cause a bigger infection because people's health is [already] compromised by air pollution."

The impact of air pollution on people's health varies according to exposure. The longer someone is exposed to pollution the more severe and chronic the conditions are expected to be. In Johannesburg, which has been suffering from an air pollution problem for many years, this is especially worrying.

"Some pollution may just have short-term effects, like your sinus' being blocked, runny nose, itchy eyes, common allergy symptoms. What happens

when you're exposed chronically or long term, those effects are very different," said Moolla.

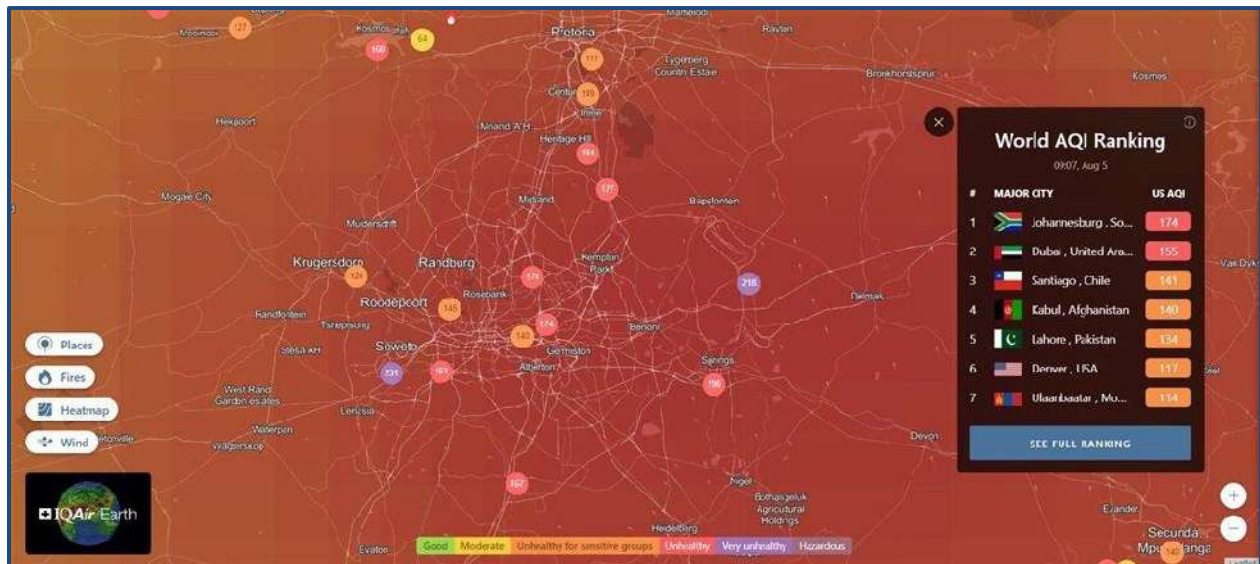


Image: IQAir

Serious health warnings have been triggered by SAAQIS over the past week where levels of pollution have exceeded the National Ambient Air Quality Standards (NAAQS). Air quality levels measured in Diepkloof and Jabavu have reached "unhealthy" and "hazardous", cautioning residents to "reduce physical exertion, particularly outdoors."

Despite high levels of PM2.5 and sulphur dioxide in and around Johannesburg, the City says its "comparable to the previous year's air quality measures."

"We cannot say conclusively that the pollution levels have increased in the city," Lebo Molefe, the director of Johannesburg's air quality, climate change, environment, and infrastructure services department, told Business Insider SA.

"The City, however, can confirm that there has been few incidences of spiking readings on some of pollutants, linked to activities beyond the city's boundary, from petrochemical and power generation industries located in the Vaal Airshed Priority Area and the Highveld Priority Area."

The Department of Environment, Forestry and Fisheries has yet to respond to Business Insider SA's request for comment.

Monitor Air Quality for Respiratory Health

Date:-10-August-2021, Source: jis.gov.jm

According to the World Health Organization (WHO) 4.2 million deaths occur each year as a result of exposure to ambient air pollution with low- and middle-income countries experiencing the highest burden from this type of pollution. Some pollutants are emitted into the air and others are formed in the air from chemical reactions to the emissions. Of great concern is the pollutant particulate matter, which is a key indicator of air quality.

There are many activities that generate particulate matter, like motor vehicle emissions, construction and open burning like bush fires. Even the Saharan dust plume can generate particulate matter.

“When we speak of particulate matter, we’re talking about minute particles suspended in air that consist of a mixture of solid and often liquid material. The particles are made up of many different substances and chemicals depending on the aetiology or cause of the particulate matter. There may be acids, minerals and metals such as lead and copper, as well as other substances such as dirt, soot, or smoke. Particulate matter comes in varying sizes and shapes. They are of concern from an environmental pollution standpoint, as well as presenting a real health hazard,” Senior Medical Officer at the National Chest Hospital and Pulmonologist, Dr. Terry Baker explains to JIS News.

Particulate matter ranges from those that are coarse, about 10 micrometers (PM10), to fine particles, about 2.5 micrometers (PM2.5). Those below the latter size are ultrafine particles but regardless of their size, particulate matter should be of great concern, especially to persons with underlying health issues.

Dr. Baker shares that the larger particles, due to their size, often get trapped in the upper airway such as the nostrils and throat and tend not to diffuse into the lungs as easily as their smaller counterparts. Inhalation of larger particulate matter may result in upper respiratory tract irritation, which may manifest as itching of the nostrils, increased mucus production and allergic reactions causing sniffing, sneezing and nasal congestion. These larger particulates may also cause redness and itching of the eyes, ears and skin.

The fine particulate matter, which can be 20 times smaller than a strand of human hair, has the potential to go deeper into lung tissues and can also get into our bloodstream.

“The smaller particles (PM2.5) are the ones that are often more worrisome. These finer particles when inhaled, readily deposit deep within the lung. They are therefore of particular concern to persons with underlying respiratory illnesses such as asthma and chronic obstructive pulmonary disease (COPD), including emphysema and chronic bronchitis. The particles may cause a sudden worsening or exacerbation of the underlying conditions, with increasing cough, shortness of breath, wheezing and chest discomfort requiring medical attention, and for some persons even hospitalisation. Long-term exposure to high concentrations of particulate matter has been associated with increased risk of lung cancer. Children and some adults are at risk of recurrent pneumonias and worsening lung function,” Dr. Baker shares.

“The concern is not just for lung or respiratory health, but also for persons with underlying heart disease, particularly coronary artery disease. These are persons who may have had a heart attack or a history of angina – heart-related chest pain. Persons with diabetes are also at an increased risk of having coronary artery disease. There is an increased risk of worsening heart disease, irregular heartbeats, heart attacks, hypertension and even death on exposure to pollution due to particulate matter,” she continues.

Minister of Health and Wellness, Dr. the Hon. Christopher Tufton, recently shared figures on non-communicable diseases (NCD) such as those listed above, and explained that having one NCD puts you at risk of developing others. Of the average 18,000 deaths a year, 70% are from non-communicable diseases.

Citing the adverse health effects of exposure to particulate matter, the WHO published an annual average guideline for PM10 and PM2.5 to help cities and countries monitor air pollution and take the necessary actions to reduce local air pollution.

Using these guidelines, the National Environment and Planning Agency (NEPA) monitors local air quality for PM2.5 from its air quality monitoring stations. Using the air quality index which ranges from a low of zero to a high of 500, NEPA can tell how clean or polluted the air is and issues an advisory to the public if the levels are unhealthy for sensitive groups.

“What we’re doing at this time is that we prepare that air quality index, we look at what kind of days are we expecting, and then we will share across the different teams or media platforms. In this regard, the public is able to take some extra precaution in keeping with what they have heard ... along with other announcements. We did, in fact, last year, work a bit with IQ Air and ...

this company allowed us to use satellite data. So, we worked with them to pin stations that would give us an idea based on what's coming into the air from Africa, and in general what the concentrations might be like," says Acting Manager of NEPA's Air Quality Management Branch, Shannen Suckra.

The air quality index also uses colour codes for each category of pollution with green indicating good; yellow for moderate; orange when it is unhealthy for sensitive groups; red when the air is deemed unhealthy; purple for very unhealthy; and maroon for hazardous.

AQI Category and Color	Index Value	Description of Air Quality
Good Green	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Moderate Yellow	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups Orange	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Unhealthy Red	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy Purple	201 to 300	Health alert: The risk of health effects is increased for everyone.
Hazardous Maroon	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

The Air Quality Index (AQI) measures the air quality on a colour-coded scale from 0 to 500. The higher up the scale, the greater the level of air pollution present. Jamaica's air quality information can be accessed on iqair.com and the free Air Quality app for mobile devices. Photo: Contributed, NEPA

Although most persons may not have control over the release of particulate matter from activities like transportation, construction and industry, there is one area that is within the power of the average Jamaican. Both Ms. Suckra and Dr. Baker agree that open burning in an already polluted environment exacerbates air pollution, especially since it is difficult to determine what types of particulate matter are released into the air from fires.

"In areas or circumstances when there is high particulate matter pollution, persons with underlying lung and heart disease are at risk of worsening of their conditions. These persons are therefore encouraged to wear masks, preferably masks designed to filter these small particles, although any mask is better than no mask at all. Persons should reduce exposure by avoid going outside if possible and should consider getting air filters or air purifiers for their homes.

“Persons with chronic illnesses are to ensure they have sufficient medication and are encouraged to take medication as prescribed. Options such as telephone calls to the doctor/pharmacy or telemedicine may need to be explored to avoid going outdoors. Exercise or strenuous activity, particularly if outdoor when particulate matter levels are high, is not encouraged for persons at risk,” advises Senior Medical Officer, Dr. Terry Baker. Part of the preparation is utilising air quality index resources available online, in conjunction with local information.



Acting Manager of the Air Quality Management Branch at the National Environment and Planning Agency (NEPA), Shannen Suckra, services a BAM1020 particulate analyser at NEPA's Spanish Town air quality monitoring station. When the concentration of PM2.5 is found to be higher than the World Health Organization's guideline, NEPA

“IQ Air is another good source of information that you could perhaps look at, to get general information for what's expected. Remember that information from most of these sources that you would find online are in fact satellite data. They do not have any information from our local monitoring network. So, while it may give you a general idea of what's coming, or what's happening...our monitors on the website we post periodic

How to endure Colorado's bad air: Close up the house, stay inside and filter

Date:-11-August-2021, Source: denverpost.com



People visit Washington Park in Denver amidst thick smoke from California and Oregon wildfires on Aug. 7, 2021.

One of Colorado health officials' recommendations for enduring the noxious air pollution that's enveloped residents this summer, included on the state's air quality website until Wednesday evening, was to "try to move to a place with cleaner air."

That can be difficult to find, given how bad the air has been in Colorado this summer thanks to western

wildfires and elevated ozone pollution. State officials later clarified that guidance to suggest people temporarily get away from smoky areas or go inside if they're outdoors.

Creating a relatively safe space inside your home may be the best option.

The idea is to reduce the levels of tiny particulates — 2.5 microns in diameter — from the soot, ash and dust in wildfire smoke that can lead to immediate and long-term health problems such as trouble breathing, asthma attacks, and lung and heart disease.

Inhaling particulates, especially when combined with the already elevated ozone pollution along Colorado's Front Range, is especially dangerous for children, elders and people with sensitive immune systems.

Maximizing clean air in your living space under the current climate-warming-induced conditions — 36 days in a row under air quality health alerts due to smoke and ozone — requires reversing standard procedures.

Tainted indoor air traditionally causes greater harm linked to radon, mold, dust, lead, asbestos and off-gassing from consumer products and construction materials, Colorado Department of Public Health and Environment officials say. And better ventilation — letting outdoor air in — has been the standard remedy.

Now outdoor air is the threat.

“Obviously, you don’t want to keep your windows open. Keep everything closed up right now — common sense,” said Caryn Orr at RDS Environmental in Broomfield, an indoor air-testing firm.

Most healthy people aren’t expected to suffer more than minor and short-term health difficulties due to the heavy particulates and ozone, state health authorities say. But the effects of prolonged exposure to multiple pollutants still aren’t fully understood.

Here are steps, tips and recommendations from state, federal and private sector authorities for enduring this summer’s latest smoke-and-ozone onslaught in your home:

Use the AC to filter your air

Filter air if possible using air conditioning or evaporative coolers. These contain filters that remove some particles from the outside air before it enters your living space. Keep the AC running. But change old filters because otherwise you could make bad air worse. You can also run the fan on your home heating system, if that system is filtered, with the heat turned off. Keep any outdoor intake valves closed and make sure furnace filters are clean.

Don’t let it get too hot

Don’t close your living space too tightly if the result is sweltering heat inside, the state health department warns. Excessive heat also causes health harm.

Shut your windows at night

Be vigilant at night because smoke from wildfires tends to thicken in the darkness. Keep bedroom windows closed.

Get a HEPA filter or go DIY

Consider installing a mechanical HEPA (high-efficiency particulate air) filtering system. If the cost is too high or you don’t want to drive to appliance stores,

you can make a filter using a box fan. Attach a furnace filter — the experts in Washington state who have done this recommend a MERV-13 filter or better — to a fan using tape, bungee cords or screws. Make sure to attach the filter to the back of the fan to make sure air flows through the filter in the direction of the fan.

Cool it on the outdoor exercise

Avoid exercise or other strenuous activities outdoors in heavy smoke or ozone because breathing more means you inhale more. While the N95 masks many residents have used during the COVID-19 pandemic provide protection from smoke, these may be in short supply. The widely-used cloth face coverings offer little protection against harmful air pollutants outside because they don't capture most small particles in smoke.

Find indoor places to visit

Try to find places to go temporarily, such as shopping malls, movie theaters or recreation centers, where air may be at least partially filtered.

Be ready to flee

Be prepared to evacuate due to heavy smoke if necessary, state health officials say. That means planning an evacuation route and destination, and packing items you can't live without.

Smoke, Air Pollution Could Contribute to COVID-19 Infection Rates: Study

Date:-12-August-2021, Source: nbcbayarea.com

A new study shows wildfire smoke or other air pollution may contribute to higher COVID-19 infection rates.

COVID-19 infections spiked during a spate of bad-air days caused by wildfire smoke in 2020, and an observational study by the Journal of Exposure Science and Environmental Epidemiology found there was a correlation between particulate matter and positivity rates.

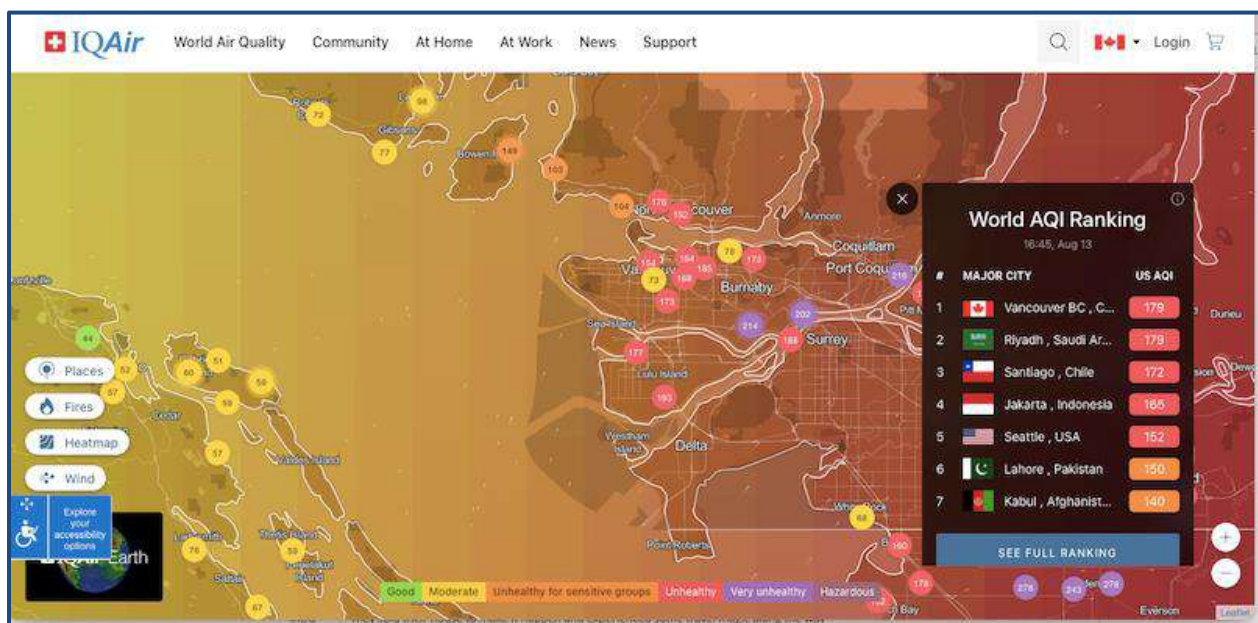
The study's authors say it shows that pollution makes people more susceptible to infection.

A reminder: people most affected by wildfire smoke are people with heart conditions, lung disease, children, elderly and people with respiratory conditions. Here are some tips to help:

- Keep your home as smoke free as possible by keeping windows, doors closed, and running the air conditioner
- If you have to head outside, use N95 masks or respirators if you're in the sensitive groups
- Change the air filters in your home more frequently.

This interactive map shows Vancouver has the worst air quality in the world right now (MAP)

Date:-13-August-2021, Source: vancouverisawesome.com



And as of 4:45 p.m. on August 13, 2021, the IQAir interactive air quality map ranks Vancouver as the worst major city in the world for air quality

Metro Vancouver issued an Air Quality Advisory for the region and the Fraser Valley Friday (Aug. 13) morning stating that high concentrations of fine particulate matter are expected over the next few days.

The advisory notes that outflow winds are bringing the smoke into the region, which is contributing "to elevated fine particulate matter concentrations and hazy skies."

And as of 4:45 p.m. Friday, the IQAir interactive air quality map ranks Vancouver as the worst major city in the world for air quality.

The company notes that the "PM2.5 concentration in Vancouver BC air is currently 10 times above WHO exposure recommendation" and that people should close their windows, wear masks, use air purifiers, and avoid outdoor exercise.

Vancouver has a US AQI of 179 or "Unhealthy." This ranking is matched only by Riyadh in Saudi Arabia.

Within B.C., several cities have higher AQI's than Vancouver. Lumby's has a US AQI of 432 while Vernon has one of 401. West Kelowna's is 372 and Peachland's is 365.

Tips for the heat wave and air quality advisory

Metro Vancouver notes that people with chronic underlying medical conditions or acute infections such as COVID-19 should postpone or reduce outdoor physical activity until the advisory is lifted, especially if breathing feels uncomfortable.

Exposure is particularly a concern for people with underlying conditions such as lung disease, heart disease, chronic obstructive pulmonary disease (COPD) including bronchitis and emphysema, as well as asthma, and/or diabetes; individuals with respiratory infections such as COVID-19; pregnant women and infants; children; outdoor workers (e.g. construction and agricultural workers); and older adults. Individuals who are socially marginalized may also be at elevated risk (e.g. people who are experiencing homelessness or are underhoused).

The hot weather is increasing the potential for heat-related illnesses, too. You should drink plenty of water even before you feel thirsty and stay in a cool place.

Indoor spaces with HEPA air cleaner filtration and air conditioning may offer relief from both heat and air pollution, but please observe any COVID-19 protocols. Consider creating a comfortable space at home with a portable air conditioner (if you do not have central air conditioning).

Check on older family, friends and neighbours. Make sure they are cool and drinking water

If you are experiencing symptoms such as chest discomfort, shortness of breath, coughing or wheezing, seek prompt medical attention. Call 9-1-1 in the case of an emergency.

EPA, New Mexico Collaborate with Sceye on Air Quality Monitoring Initiative

Date:-14-August-2021, Source: natlawreview.com



DALLAS – (Aug. 13, 2021) Yesterday, U.S. Environmental Protection Agency (EPA) announced a partnership with the state of New Mexico related to air quality research. EPA signed a memorandum of understanding with the New Mexico Environment Department (NMED) and Economic Development Department (EDD) to develop a project using airships to monitor and study air quality.

“EPA’s partnership with states is the cornerstone of achieving our mission to protect public health and the environment,” said EPA Region 6 Acting Regional Administrator David Gray. “EPA is committed to helping our state and local partners overcome environmental challenges, especially complex ones like air quality issues that cross multiple national, state, and local borders.”

“Under this partnership, we will study pollution sources and their impacts on climate and air quality from 65,000 feet above New Mexico,” said NMED Cabinet Secretary James Kenney. “As a result, we will increase our scientific understanding of climate change and air pollution to inform our ambitious policymaking.”

“This memorandum of understanding to collaborate on air quality research will help us better understand the nature and source of air pollutants,” said Wayne Cascio, acting principal deputy assistant administrator for science in EPA’s Office of Research and Development. “This effort will build upon previous collaborations with NASA to help EPA advance our knowledge on the use of high-altitude measurements for monitoring air pollutant emissions and concentrations on the ground.”

The MOU facilitates collaborative air- and energy-related research on emission sources within New Mexico as well as neighboring states and countries, such as Texas and Mexico.

Once the MOU is in place, EPA and Sceye, a material science company based in Moriarty, New Mexico, intend to enter into a public-private Cooperative Research and Development Agreement, which will specify how the monitoring data will be shared. Sceye builds and operates High Altitude Platform Stations, or HAPS, to provide environmental monitoring as well as internet access.

“The state Economic Development Department is supporting this collaboration to help boost this innovative company based in New Mexico so it can grow faster and have an opportunity to use its technology on a broader scale,” said EDD Cabinet Secretary Alicia J. Keyes. “New Mexico is one of the cradles for this technology. It is being manufactured here in New Mexico and is creating highly paid, skilled jobs in the state that will help diversify the economy.”

Future data gathered by the airships will:

- Allow NMED to increase monitoring of air quality – especially in rural areas – within the same areas in which the airships will provide broadband internet access
- Provide quantitative information on emissions from air pollutant sources to help support industry compliance with air quality rules and permits
- Provide information to help the state determine how much air pollution stems from Mexico and neighboring states such as Texas and contribute to New Mexico’s air quality issues
- Inform public health and environmental coordination efforts between the U.S. and Mexico
- Help EPA evaluate and enhance the use of high-altitude monitoring and air quality models on a broader, nationwide level

By placing instrumentation on the airships, which rise 65,000 feet above the earth’s surface, scientists and regulators from the EPA and NMED will have an unprecedented view of concentrations of greenhouse gases, particulate matter, ground-level ozone and other harmful air pollutants. In addition, regulators will have an unprecedented view of the sources of these pollutants. With over 60,000 oil and gas sources across New Mexico, utilizing state-of-the-art technology is critical to gaining a comprehensive view of industry emissions.

“We see our HAPS as instant infrastructure,” said Sceye Founder and CEO Mikkel Vestergaard Frandsen. “We can use our position in the stratosphere to not only expand broadband access to all, but also to transform how we monitor

and care for our environment. Tracking emissions with precision and real time data is the key to realizing New Mexico's ambitions for improving air quality. The state can set a national standard."

The five-year joint study between the state and EPA is expected to begin next year.

North State fires burn 26,000 acres in one day, create 'hazardous' air pollution

Date:-15-August-2021, Source: redding.com



The six major fires burning in the North State grew by more than 26,000 acres from Saturday to Sunday, destroying homes, businesses, valuable timberland and leaving "hazardous" polluted air laying over Redding and other communities many miles away.

The largest of the blazes, the Dixie Fire, had burned through 554,816 acres as of Sunday morning, destroying 1,120 structures and damaging another 74, according to the government-run website, Inciweb.

No fatalities have been reported due to the fire. The Dixie Fire started more than a month ago and is burning in five counties, according to Inciweb. It is the largest fire in the country and the second-largest fire in California history.

More than 28,000 residents have been evacuated and 408 people were staying in three shelters. Another 14,838 structures were threatened by the flames, according to Inciweb.

During a community meeting in Susanville on Saturday, fire officials said they were concerned about weather bringing gusty winds that would fan the flames.

Five other fires also continued to burn in Siskiyou, Trinity and Del Norte counties. The blazes have left residents of Redding and other other North State communities breathing polluted air federal officials consider "hazardous."

The Monument Fire in Trinity County had burned 82,435 acres as of Sunday. The McFarland Fire, also in Trinity County, had burned 43,708 acres by Sunday, according to Inciweb.

The Antelope Fire in Siskiyou County had burned 52,566 acres, Inciweb said.

The fires, as well as others burning around the North State, left skies over Redding and nearby communities, under a thick haze of smoke.

In some parts of west Redding the air quality index reached 306 on Sunday morning, which is considered "hazardous," according to Air Now, a website operated by the United States Department of Agriculture and includes information from the Centers for Disease Control.

One reading in Happy Valley reached 548, according to Air Now.

The Shasta County Air Quality Management District air quality map did not provide air quality index ratings Sunday morning. But the county issued an air advisory on Friday that said residents should limit outdoor activities when skies are smokey.

"All members of the public, especially those with respiratory or heart disease, the elderly, pregnant women, and children should remain alert, and if necessary, reduce or avoid all outdoor exertion when wildfire smoke is present," the advisory says. The devastating wildfires have not been confined to far Northern California.

The U.S. Forest Service said Friday it's operating in crisis mode, fully deploying firefighters and maxing out its support system as wildfires continue to break out across the U.S. West.

The agency says it has more than twice the number of firefighters working on the ground than at this point a year ago, and is facing "critical resources limitations." The Dixie Fire in Northern California is the largest of 100 large fires burning in 14 states, with dozens more burning in western Canada.

Throughout California, the number of acres burned is well above 2020, according to the California Department of Forestry and Fire Protection.

As of last week, 959,611 acres had burned this year in California, according to Cal Fire. Last year at this time, 279,885 acres had burned. The five year average for the date is 435,623 acres, according to Cal Fire.

Here is a rundown of each of the six largest fires burning in the North State:

Antelope Fire in Siskiyou County

Fire size and containment: 52,566 acres and 25% contained as of Sunday, according to the U.S. Forest Service

Structures destroyed: At least nine destroyed, three damaged

About the fire: This lightning-caused fire is burning in eastern Siskiyou County. It started in the Antelope Creek drainage in Klamath National Forest.

Evacuations: Check with the Siskiyou County Sheriff's Office on Facebook for evacuation updates at www.facebook.com/SiskiyouCountySheriff

Fire start: Aug. 1

Dixie Fire south of Susanville

Fire size and containment: 554,816 acres and 31% contained as of Sunday

About the fire: The fire started in the Feather River canyon in mid-July. It's the largest active wildfire in the U.S. and second largest wildfire in California history, according to Cal Fire. As of Sunday, 14,838 structures were threatened.

Structures destroyed: 1,120 destroyed and 74 damaged

Evacuations: Orders and warnings are in place for residents of Plumas, Butte, Tehama and Lassen counties. For information on evacuations, go to <https://bit.ly/3IZUdMs>.

Fire start: July 13

McFarland Fire in Trinity County

Fire size: 42,924 acres and 68% contained as of Sunday, according to InciWeb.

Structures destroyed: One bridge destroyed, one weather station damaged

About the fire: The lightning-caused fire is burning in the area of McFarland Ridge south of Highway 36 and west of Platina, according to InciWeb. Check for updates at <https://bit.ly/3s1CC81>.

Closure order: Shasta-Trinity National Forest issued closure orders that prohibit the public from being near the Monument and McFarland fires on trails and roads. The order expires Oct. 31. For updates, go to <https://bit.ly/2U9O593>.

Road closures: One lane of Highway 36 is open from Wildwood Road to Highway 3 with a pilot car escort, according to InciWeb.

Monument Fire in Trinity County

Fire size: 82,435 acres and 7% contained as of Sunday

Structures destroyed: 28 destroyed, one damaged

Closure order: The Shasta-Trinity National Forest, Klamath National Forest, and Six Rivers National Forest issued a three-forest closure of the Trinity Alps Wilderness Area through Nov. 15. In addition, the Shasta-Trinity National Forest issued closure orders Saturday that prohibit the public from being near the Monument and McFarland fires on trails and roads. The order expires Oct. 31. For updates, go to <https://bit.ly/2U9O593>.

About the fire: The lightning-caused fire is burning a half-mile west of Big Bar along Highway 299 and east of Cedar Flat. It's threatening Big Bar, Del Loma, Big Flat and Burnt Ranch, according to forest officials. Highway 299 is closed from Hawkins Bar to Junction City.

Evacuations: About 1,800 residents are evacuated. Check with the Trinity County Sheriff's Office for evacuations at www.facebook.com/ShastaTrinityNF.

Fire start: July 30

River Complex in Klamath National Forest

Fire size: 41,031 acres and 10% contained as of Sunday, according to InciWeb.

Structures destroyed: None reported

About the complex: The River Complex is a group of active fires within the Salmon/Scott River Ranger District of the Klamath National Forest.

As of Sunday, the largest fires were

Haypress Fire: 26,845 acres, 3% Contained

Summer Fire: 12,201 acres, 2% Contained

Cronan Fire: 1,948 acres, 3% Contained

Small fires make up the rest of the complex acreage.

Evacuations: Check with the Siskiyou County Sheriff's Office on Facebook for evacuation updates at www.facebook.com/SiskiyouCountySheriff. For more information call the River Complex fire line at 925-588-6706, the sheriff's office said.

McCash Fire in Klamath National Forest

Fire size and containment: The fire is burning through 2,387 acres and was 1% contained as of Sunday, according to InciWeb and Six Rivers National Forest.

Structures destroyed: None reported as of Sunday

About the fire: This fire is burning in a remote part of Del Norte County near the Ten Bear Mountain-McCash Creek area — an area with limited road access. The town nearest the fire is Somes Bar. The fire threatens many cultural and archaeological sites in the area, according to InciWeb.

Fire start: July 31

98% of state schools in London exceed PM2.5 limits

Date:-16-August-2021, Source: airqualitynews.com

3.1 million children in England go to school in areas with toxic levels of air pollution, according to new analysis conducted by City Hall.



According to the research, children in London are four times more likely to go to school in an area where air pollution exceeds World Health Organisation (WHO) limits.

The analysis also shows that in 2019, before the pandemic:

More than 1.2 million children in London

attended schools in areas that exceed WHO limits for particulate matter (PM2.5).

98% of state primary and secondary schools in London are located in areas that exceed WHO limits, compared to 24% outside of London

On average, PM2.5 concentrations were a third (33%) higher at schools in London than in the rest of England.

The Mayor of London, Sadiq Khan, said: 'For too long it has been accepted that children growing up in London will breathe more polluted air than their friends and family outside this great city.

'But I don't accept this. I'm doing everything in my power to stop young Londoners from breathing air so filthy that it damages their lungs and causes thousands of premature deaths every year. This is why I'm expanding the Ultra Low Emission Zone later this year.

'I want to make sure all of London meets the WHO limits for particulate matter. But I can't do it alone and I want to work with Government to achieve this goal. That's why I'm asking for the new Environment Bill to include legally binding WHO recommended limits to be achieved by 2030. We can't sleep walk from the health crisis of COVID back into complacency over the major impact of toxic air on everyone's health.'

Nick Bowes, chief executive of Centre for London commented on this research, he said: 'Raising children in London shouldn't damage their health but these shocking figures from City Hall show that it does.'

'Successive mayors have promised to do more to tackle this crisis but London still exceeds legal air pollution limits many times over.'

'The expansion of the Ultra-Low Emission Zone in the autumn will be a huge step, but City Hall could be bolder and adopt a pay-per-mile road user charging scheme which would deliver cleaner air, increase active travel and reduce congestion, as well as provide a substantial income stream to help plug Transport for London's finances.'

'London also needs more devolution so that it can tackle other sources of poor air quality beyond road vehicles.'

In related news, reducing air pollution could improve a child's ability to learn, according to new research published by Global Action Plan, the Philips Foundation and the University of Manchester.

Smarter regulation of global shipping emissions could improve air quality and health outcomes

Date:-17-August-2021, Source: news.mit.edu

Emissions from shipping activities around the world account for nearly 3 percent of total human-caused greenhouse gas emissions, and could increase by up to 50 percent by 2050, making them an important and often overlooked target for global climate mitigation. At the same time, shipping-related emissions of additional pollutants, particularly nitrogen and sulfur oxides, pose a significant threat to global health, as they degrade air quality enough to cause premature deaths.

The main source of shipping emissions is the combustion of heavy fuel oil in large diesel engines, which disperses pollutants into the air over coastal areas. The nitrogen and sulfur oxides emitted from these engines contribute to the formation of PM2.5, airborne particulates with diameters of up to 2.5 micrometers that are linked to respiratory and cardiovascular diseases. Previous studies have estimated that PM2.5 from shipping emissions contribute to about 60,000 cardiopulmonary and lung cancer deaths each year, and that IMO 2020, an international policy that caps engine fuel sulfur

content at 0.5 percent, could reduce PM_{2.5} concentrations enough to lower annual premature mortality by 34 percent.



Global shipping emissions arise from both domestic (between ports in the same country) and international (between ports of different countries) shipping activities, and are governed by national and international policies, respectively. Consequently, effective mitigation of the air quality and health impacts of global shipping emissions will require that policymakers quantify the relative contributions of domestic and international shipping activities to these adverse impacts in an integrated global analysis.

A new study in the journal *Environmental Research Letters* provides that kind of analysis for the first time. To that end, the study's co-authors — researchers from MIT and the Hong Kong University of Science and Technology — implement a three-step process. First, they create global shipping emission inventories for domestic and international vessels based on ship activity records of the year 2015 from the Automatic Identification System (AIS). Second, they apply an atmospheric chemistry and transport model to this data to calculate PM_{2.5} concentrations generated by that year's domestic and

international shipping activities. Finally, they apply a model that estimates mortalities attributable to these pollutant concentrations.

The researchers find that approximately 94,000 premature deaths were associated with PM_{2.5} exposure due to maritime shipping in 2015 — 83 percent international and 17 percent domestic. While international shipping accounted for the vast majority of the global health impact, some regions experienced significant health burdens from domestic shipping operations. This is especially true in East Asia: In China, 44 percent of shipping-related premature deaths were attributable to domestic shipping activities.

“By comparing the health impacts from international and domestic shipping at the global level, our study could help inform decision-makers’ efforts to coordinate shipping emissions policies across multiple scales, and thereby reduce the air quality and health impacts of these emissions more effectively,” says Yiqi Zhang, a researcher at the Hong Kong University of Science and Technology who led the study as a visiting student supported by the MIT Joint Program on the Science and Policy of Global Change.

In addition to estimating the air-quality and health impacts of domestic and international shipping, the researchers evaluate potential health outcomes under different shipping emissions-control policies that are either currently in effect or likely to be implemented in different regions in the near future.

They estimate about 30,000 avoided deaths per year under a scenario consistent with IMO 2020, an international regulation limiting the sulfur content in shipping fuel oil to 0.5 percent — a finding that tracks with previous studies. Further strengthening regulations on sulfur content would yield only slight improvement; limiting sulfur content to 0.1 percent reduces annual shipping-attributable PM_{2.5}-related premature deaths by an additional 5,000. In contrast, regulating nitrogen oxides instead, involving a Tier III NO_x Standard would produce far greater benefits than a 0.1-percent sulfur cap, with 33,000 further avoided deaths.

“Areas with high proportions of mortalities contributed by domestic shipping could effectively use domestic regulations to implement controls,” says study co-author Noelle Selin, a professor at MIT’s Institute for Data, Systems and Society and Department of Earth, Atmospheric and Planetary Sciences, and a faculty affiliate of the MIT Joint Program. “For other regions where much damage comes from international vessels, further international cooperation is required to mitigate impacts.”

Colorado proposes rule to curb greenhouse gas pollution from transportation projects

Date:-18-August-2021, Source: coloradonewsline.com



Bicyclists travel on a protected bike lane along Broadway in Boulder on Aug. 14, 2021

Colorado transportation officials have unveiled a proposal that they say will help reduce air pollution from cars and trucks and bring state and local infrastructure projects in line with the state's greenhouse gas emissions goals.

In a formal notice issued Monday, the state's Transportation Commission announced that it plans to move forward with a proposed rule that would require certain transportation planning efforts to comply with greenhouse gas pollution standards. The commission will hold a series of public hearings on the proposal beginning next month, and could vote to adopt the rule as soon as November.

The proposed rule, drafted by staff at the Colorado Department of Transportation, is a key plank in efforts by Gov. Jared Polis' administration to

meet statewide greenhouse gas reduction targets that were enshrined into law in 2019.

“What we build matters. It matters for safety, for our economy, for resiliency and for our ability to reduce air pollution and improve the quality of places where Coloradans across the state live and thrive,” CDOT executive director Shoshana Lew said in a statement. “From smoke-filled air to a confluence of fire and 500-year flooding in Glenwood Canyon, we are reminded that we have no time to waste in fighting climate change in the transportation sector, and this policy will be an important step.”

In addition to governing CDOT’s own statewide plans, the new rule would apply to regional transportation blueprints developed by metropolitan planning organizations, federally-mandated bodies that bring together county and municipal governments to coordinate infrastructure planning in densely populated areas.

Colorado has five MPOs, which oversee regional planning for Denver, Colorado Springs, Fort Collins, Pueblo and Grand Junction. Federal law requires each of them to submit periodic reports, including a 20-year plan outlining their goals, strategies and funding priorities, which must be revised every five years.

Under the proposed rule, any such planning documents adopted after Oct. 1, 2022 would need to comply with a series of statewide targets for reducing transportation emissions, including by adopting pre-approved “mitigation measures” like providing additional transit services or improving bike and pedestrian infrastructure. If MPOs fail to comply, Colorado would withhold state funding from certain high-emitting projects, “requiring that dollars be focused on projects that help reduce transportation emissions,” the rule says.

In recent years, transportation-sector emissions — which mostly come from cars, trucks and other gasoline-powered vehicles — have overtaken electricity generation as Colorado’s largest source of greenhouse gases, according to state estimates. Limiting greenhouse gas emissions from transportation would also help improve air quality in Colorado, since cars and trucks also emit gases that contribute to high levels of ozone and other forms of air pollution.

“We’re always talking about Colorado’s smog issue, and this rulemaking is our chance to do something about it,” Carter Rubin, a transportation technical strategist with the Natural Resources Defense Council, said in a statement. “(CDOT) has a chance to help us say goodbye to the brown cloud by investing

in safer streets and reliable public transportation in the communities that need them most.”

‘They’re going to have to be more aggressive’

The newly proposed rule was the top transportation-sector policy identified by the Polis administration’s “roadmap” for reducing greenhouse gas emissions earlier this year. Its release, however, comes just weeks after another policy outlined in the roadmap, the Employee Traffic Reduction Program, was scrapped by state regulators amid pushback from business groups.



An electric bus in Boulder, Colorado on May 31, 2021

“(ETRP) was a tool that would’ve helped reduce some emissions,” Jacob Smith, executive director of Colorado Communities for Climate Action, said in an interview. “And they’ve basically taken it off the table, which just means now every other tool in the toolbox is going to have to do more work. They’re going to have to be more aggressive,

and push harder with those other tools than they would have otherwise.”

In response to CDOT’s rulemaking notice, environmental advocates released a checklist grading the proposed rule according to a range of criteria. Advocates say they’re concerned about potential loopholes, and want to see more specific deadlines and enforcement mechanisms relating to the “mitigation measures” that MPOs would be required to adopt.

“The most important element of this new rulemaking will be whether or not it’s enforceable,” Smith said. “Does it actually require reductions, or is it more of, cross your fingers and hope that something happens?” Environmental groups also say they want to see a greater focus on environmental justice in the final rule, including by developing a transportation-focused “climate equity

framework” similar to the one drafted by climate staff at the Colorado Department of Public Health and Environment.

“We are concerned that unless the rulemaking is bolder, it will miss the mark on the transportation emission reductions the governor set in his climate roadmap,” Jenny Gaeng, a transportation advocate with Conservation Colorado, said in a statement. “Additionally, Black, Indigenous, Latinx, and other people of color are hurt worst by transportation pollution — and this rule needs to address that explicitly with a plan for how to do better.” CDOT plans to hold at least eight public meetings on the proposed rule in September and October, beginning with a hearing in Durango on Sept. 14. Information about how to register to speak at the hearings is available on CDOT’s website, and Coloradans can also submit written comment on the rules online until Oct. 15.

‘How much more of this can we take?’ Wildfires prompt air quality advisories in Northern California

Date:-19-August-2021, Source: latimes.com



Motor traffic streams along Highway 50 against a smoke-filled sky near the community of Kyburz, Calif., which was under mandatory evacuation orders because of the Caldor fire.

Smoke from a dozen major wildfires is spreading across Northern California, darkening skies, dropping ash and creating health hazards from Lake Tahoe to San Francisco. Officials have issued air quality alerts warning of hazardous conditions that could last into the weekend.

“Overall, there’s smoke pretty much covering most of Northern California,” said Bill Rasch, a meteorologist with the National Weather Service in Sacramento. The Bay Area Air Quality District extended its air quality advisory for wildfire smoke through Friday, noting that light northerly winds are transporting smoke from the fires into the region. The agency also issued a “spare the air” alert through Friday indicating that pollution in the area will exceed federal health standards, officials said.

Agency spokeswoman Kristine Roselius said conditions in the Bay Area tend to be clearer in the mornings and get worse as the day wears on, when smoke meets with heat and mixes down to the surface. Residents are also seeing ash and soot, she said.

“There’s a lot of smoke aloft, and what happens is that ash is heavy, so it starts dropping down,” said Roselius, who lives in the North Bay. “I cleared it off my car this morning.”

The El Dorado County Air Quality Management District advised of dense smoke and unhealthy air quality through Thursday, while the Placer County Air Pollution Control District warned the public to prepare for worsening conditions over the next several days.

Residents who can see or smell smoke are advised to stay indoors with doors and windows shut, and use N-95 masks whenever it is necessary to go outside, Placer County officials said. The smoke is coming from several large fires, including the multicounty, 678,000-acre Dixie fire and the Caldor fire in El Dorado County, officials said.

The Caldor fire, which ignited Saturday, exploded to more than 65,000 acres Thursday morning. The Monument and McFarland fires in Shasta-Trinity National Forest are also generating considerable smoke. EPA air monitoring site AirNow.gov showed air quality in several areas — from Susanville to Mendocino — hovering in the unhealthy or hazardous range.

“How much more of this can the environment withstand, and how much more of this can we take?” said Robin McBain, a San Francisco resident who awakened to yet another day of smoke and soot.

McBain said yellowish skies were giving way to reddish hues, including an intense halo around the sun.

“This is very concerning, of course,” McBain said. “We’re still in the throes of a pandemic and our health is at risk from that, coupled with wildfires which compound COVID. Even if you’re relatively healthy, it’s obviously not good to breathe these pollutants year after year.”

Wildfire smoke is composed of small particles that can be inhaled deep into the lungs, and can cause negative health impacts — particularly for sensitive groups such as people with asthma. Studies have found that the smoke can also contain fungi and bacteria, as well as heavy metals and other toxic substances.

Experts advise people in affected regions to avoid strenuous activity and invest in air filters or purifiers if possible. People with air conditioners can set them to the “recirculation” setting to prevent outside air from pulling into their homes. Another option is to create a “clean room,” or an area in the home closed off to outside air that can be cleaned with a portable filter.

“Sadly, this seems like the new norm for fall,” said Mill Valley resident MJ Gorton. “Every year I get more worried about wildfires. It’s super dry where I live, and that combined with the drought is reason for concern.” Indeed, the conditions are similar to what the region saw during last year’s devastating wildfire season. A Reddit user unearthed a Google Street View image from September 2020 that captured the tell-tale martian glow in Redwood City.

Rasch, the meteorologist, said changing winds could soon shift the smoke in a northeastern direction, which could be good for California but not necessarily for the rest of the country. Already, smoke from the fires has blanketed much of the continent. “It’s worse in some places, but it’s moving around,” Rasch said. “This stuff has been blowing all the way across the country.”

San Joaquin Valley has one of the worst air qualities in the world right now

Date:-20-August-2021, Source: yourcentralvalley.com

FRESNO, Calif. (KSEE/KGPE) – Hazy skies drape over the Central Valley on Friday, continuing a week of unhealthy air quality. Over the last few days, the air quality index has oscillated between 159 to 176. That’s worse than the air quality predicted in both China and India.



“When you step outside right now you don’t even see blue skies, you can’t even see the sun,” said Cassandra Melching of the San Joaquin Valley Air Pollution Control District.

The region’s chronic pollution and smoke

from the Northern California wildfires are to blame.

“I was planning to do some hiking this weekend and I decided not to do it,” shared allergist Dr. Malik Baz.

Dr. Baz suggests following his lead – outdoor activity with this air quality is strongly discouraged, especially for those with respiratory problems and allergies.

“Make sure they take their medication properly, stay indoors, [and do] no exercise outdoors. If they have an air purifier at home, use the air purifier,” he said.

“[Particulate Matter] 2.5 is a very harmful pollutant, all because it’s so small,” said Melching. “It can get into the bloodstream, and it can get deep into your lungs. It triggers asthma attacks, it aggregates chronic bronchitis and it can increase the risk of heart attack and stroke.”

For those who can’t avoid staying outdoors, like farmworkers or construction workers, experts recommend wearing a wet cloth mask and drinking plenty of fluids.

Dr. Baz also points out the Valley’s unhealthy air quality can trigger symptoms similar to COVID-19.

“I have seen two patients in my own office, I was so sure they have allergies, no way they were gonna come back positive with Covid and I was wrong.”

He recommends getting tested if you have any suspicions you might’ve caught the virus.

He also reminds people to beware of a false sense of security at night when you can't see the smokey skies.

"Pollution is not like pollen or the heat. Unfortunately, it's 24/7."

Worst air in the world? Salt Lake City, Utah

Date:-21-August-2021, Source: liberationnews.org

Salt Lake City has ranked first for worst air quality in the world twice in the past two weeks. While poor air quality is not a new problem for Utah, the climate crisis is exacerbating the problem due to the devastating increase in wildfires caused in large part by climate change-fueled severe droughts throughout the region in the warmer months. These wildfires are responsible for Salt Lake City reaching the top of the list for the world's most polluted air on August 6 and again on August 16.

The quickly escalating air pollution in Utah is a public health crisis that warrants immediate, system-wide intervention. To achieve the changes that are needed to clear the air and prevent the worst impacts of climate change, it is critical that the people unite to demand a new system that will value the health and well-being of both the people and the Earth over the profits of the ruling class.

The geography of the Salt Lake Valley makes it particularly susceptible to poor air quality due to a meteorological phenomenon called inversion, which means the valley's cooler air traps a layer of smoke and pollution under a higher, warmer layer of air. With multiple fires in Utah and throughout the West burning out of control due to capitalist mismanagement of the land and climate change, as well as a lack of precipitation, pollutants gather in the atmosphere to dangerous levels.

While the health impacts of breathing in this smoke are particularly dangerous for the elderly, children, pregnant women and people with other pre-existing health conditions, the levels of air pollution reported in recent days are considered a health risk for everyone. Recent research has noted that in addition to causing sudden asthma attacks, pneumonia, heart attacks, and strokes, the poor air quality also increases the risk for transmission and severity of viral infections — including the COVID-19 Delta variant.

Utah is among several states listed with severely high infection rates of the COVID-19 Delta variant, with hospitals recently reporting they are above 100% ICU capacity. With hospitals already over capacity, residents experiencing new

or worsening health conditions due to the toxic air cannot afford inaction from the government.

While these toxic, smoke-filled days are becoming more of a public health threat each year, even the typical air pollution levels documented in recent years have been found to reduce the average resident's lifespan by an average of 2 years according to a study published by BYU in 2020.

According to IQAir, the primary drivers of pollution emissions in the Salt Lake area are motor vehicles (55%), home and business emissions (27%), non-road combustion sources like construction equipment, airplanes, boats, and lawn mowers (10%), and industry-related emissions (8%). While Utah's government has made attempts in recent years to reduce carbon emissions across the state, their attempts will always fall short of what is truly needed to combat the impacts of climate change on the air quality in Utah. A glaring example of this incompetence can be found in Utah Governor Spencer Cox's response to the emergency drought conditions in the state this year. In June, Cox issued two emergency drought declarations and simply encouraged water conservation among individual Utahns, even though residential water use represents a tiny fraction of the total water use in Utah. In addition, Cox urged Utahns to join him in seeking divine intervention to resolve the crisis by asking all Utahns to "pray for rain."

These actions demonstrate the futility of relying on the capitalist government to make the real changes needed to adequately address the climate crisis. But the ineptitude of the ruling class is not without reason — they exist to protect the interests of a tiny class of people, with interests opposed to the vast majority of the world population. Working people around the world need a fundamental reconstruction of society to allow for the system-wide changes needed to combat the climate crisis.

To learn more about socialist solutions to climate change and how to get involved in organizing this imperative struggle, we encourage you to check out a free, online course developed by the Party for Socialism and Liberation.

California lake becomes pool for air pollution during wildfire season

Date:-22-August-2021, Source: accuweather.com

Lake Tahoe has experienced "especially bad" air quality through the second half of this summer, and new data reveals the lake's air quality is at its worst levels of this decade.

The intense wildfire season California has experienced so far and the bowl-like geography surrounding Lake Tahoe that can cause pollutants to linger after getting trapped in the Sierra Nevada Mountain range, are partially responsible for the lake's poor air quality this year, The San Francisco Chronicle reported.

"The second half of summer has been especially bad for air quality around Lake Tahoe," AccuWeather Meteorologist Joe Curtis said. "The first half of summer was not as bad, but things rapidly deteriorated by late July and August."

According to AccuWeather Forecast Manager Bryan Sausman, summer tends to be the worst time for air quality due to less airflow. In addition, the wildfires throughout the state of California have played a role.



Flames from the Caldor Fire scorch the ground near a structure in Grizzly Flats, Calif., Wednesday, Aug. 18, 2021.

The Caldor Fire, currently affecting El Dorado County located directly southwest of Lake Tahoe, continues to burn over 68,000 acres. As of Thursday, the fire has been active for five days and is 0% contained. On Tuesday, California Gov. Gavin

Newsom declared a state of emergency for El Dorado County due

to the fire.

"Any amount of smoke in the air will lead to poor air quality," Curtis said.

The Dixie Fire and Tamarack Fire, both of which erupted through Northern California this summer, have also played a role in the dwindling air quality of the lake. The Tamarack Fire has burned over 68,000 acres so far and is 82% contained as of Thursday while the massive Dixie Fire remains just 35% contained with more than 699,000 acres already burned.

"It's been bad in the past, it's bad now and it will be bad again in the future," Dave Johnston, air pollution control officer for the El Dorado County Air Quality Management District, told the Chronicle. "Lake Tahoe is in a basin surrounded by mountains, so it is difficult for smoke to dissipate without some wind behind it."

This year's air pollution at Lake Tahoe has been much higher than in previous years.

One way of measuring pollution is through particulate matter (pm). According to the California Air Resources Board, particulate matter is an airborne mixture of chemicals. Most of pm 2.5 is made up of emissions coming from the combustion of gasoline, oil, diesel fuel and wood, and it gets its name from being less than 2.5 microns in diameter.

In 2020, data from the board reveals that Lake Tahoe's air basin had an average level of 5.3 pm 2.5 between June 1 and Aug. 17. The year prior, the basin had an average level of 1.1 pm 2.5 during the same time frame.

The air basin reported an average level of 18 pm 2.5 so far in 2021 -- higher than any other year of this decade within the time frame of June 1 to Aug. 17.

Particulate matter can reduce visibility by affecting the way light is absorbed in the atmosphere and cause negative impacts to the climate and ecosystem when it deposits into water sources, also affecting water quality and clarity.

On Thursday, Lake Tahoe was experiencing "pretty good" air quality; however, with the presence of the Caldor fire just 40 miles away, the good air quality is not expected to last long, Curtis said. He added that forecasters are able to predict changes in air quality by observing changes in wind direction and patterns.

"Anyone visiting the area should take advantage of the nice weather and relatively clean air while it lasts because more smoke and haze will fill the atmosphere again by Friday," he said. "Winds will shift out of the west-southwest Saturday afternoon, which will allow smoke particles from distant wildfires to drift toward Lake Tahoe."

According to Curtis, individuals with underlying respiratory or cardiovascular conditions are at a bigger risk of being affected by poor air quality. He recommended that those who have underlying conditions avoid strenuous outdoor activity when the atmosphere is filled with smoke.

"The best thing to do is to stay inside as much as possible. Using an air filter inside the home will also be helpful because it continuously works to clean the air," he said.

California wildfire smoke closes Reno schools, Tahoe parks

Date:-23-August-2021, Source: fox40.com

RENO, Nev. (AP) — Public schools in Reno-Sparks and parts of Lake Tahoe were closed Monday due to California wildfire smoke that school district officials said made the air quality hazardous, with little relief expected the next few days.

The heavy smoke also forced several flight cancelations at Reno-Tahoe International Airport. Nevada State Parks closed its land around Lake Tahoe on the California line until Friday, depending on conditions, including at a popular beach at Sand Harbor near Incline Village.

Smoke blowing from the Dixie and Caldor fires in neighboring California has blanketed northern Nevada on and off for weeks, leaving particulate matter in the air and causing ash to rain on cars in some areas.

More than 13,500 firefighters were working to contain a dozen large California blazes that have destroyed hundreds of homes and forced thousands of people to flee to safety. New concerns were developing at the explosive Caldor Fire southwest of Lake Tahoe, the famed alpine lake surrounded by peaks of the Sierra Nevada and resort communities.

The Washoe County School District delayed start times at K-12 schools due to the smoke last Tuesday to wait for winds to clear the fumes.

On Monday, government air monitors for the region measured high levels of particulate matter with diameters smaller than 2.5 microns, spiking the air quality index to 331. The U.S. Environmental Protection Agency considers measurements above 300 to be emergency conditions hazardous to everyone's health.

The National Weather Service also issued an air quality alert for much of northeast Nevada's Elko County more than 300 miles (482 kilometers) east of the closest California fires.

Washoe County schools canceled classes for its 67,000 K-12 students district wide, including Reno-Sparks and Incline Village at Lake Tahoe. Before- and after-school activities also were canceled Monday, the district said.

Last August and September, the district's schools were closed six times in four weeks due to smoke.

In an effort to combat the spread of COVID-19, the district installed commercial-grade HVAC systems in its schools last year to help ventilate hallways and classrooms. But it has expressed concerns about juggling wildfire smoke outside and the risk of the coronavirus inside.

The Washoe County Health District said the air quality index was expected to be "very unhealthy" to "hazardous" at times on Monday, Tuesday and Wednesday in the Reno-Sparks area.

It said it declared a "Stage 3 Emergency Episode" for the first time in its history because the air quality index had remained above 200 for 24 hours.

The alert means "all residents should stay indoors as much as possible," the district said.

Although the health district has not taken such action, a Stage 3 episode allows the district control officer to issue a shelter-in-place or evacuation order. It also provides authority for the officer to "curtail operations for specific public, commercial and industrial establishments" which are deemed not necessary for public health and safety "and are contributing to the declared emergency episode."

Under Stage 4, the highest level, the officer may curtail operations at all such businesses and establishments.

The National Weather Service said significant smoke and air quality impacts will continue across the Sierra from south of Yosemite National Park to north of Susanville, California, and parts of western Nevada at least through Wednesday.

The greatest potential for hazardous levels are in Reno, Carson City, Minden, Lake Tahoe, Susanville and Truckee, California, the service said.

It said there's potential for some temporary improvements in air quality each late afternoon and early evening for some areas, but shifting winds make it difficult to say exactly where and for how long.

Mining town of Bor suffering from strongest SO₂ air pollution in Serbia

Date:-24-August-2021, Source: balkangreenenergynews.com



The daily mean limit of the presence of sulfur dioxide in the air was exceeded 15 times since the beginning of the year, according to data from a measuring station in Bor. It was the most in Serbia. The legal maximum is three times per year. The latest toxic cloud was so big that extreme pollution was detected in another unit in the mining town, which rarely happens.

Citizens of Bor experienced another serious episode of air pollution with sulfur dioxide – SO₂, and reported having difficulties breathing. Photos and videos that users of social media published showed one could barely see the town from the mist.

The mining hub has the highest number of such incidents in Serbia this year. The daily mean limit for sulfur dioxide values in the Bor Gradski park station was topped 15 times since the beginning of the year, the most in Serbia, and the legal maximum is three times per annum. The second and third place are

held by the town's two remaining state-run measuring stations, with five breaches each.

SO2 covered entire town

The latest toxic cloud was so wide that the extreme presence of SO₂, three times higher than allowed on an hourly level, was registered at two stations at the same time. Such a phenomenon is rarely seen.

Dejan Lekić, who developed the xECO application for air quality data, told Balkan Green Energy News that excessive levels are usually detected at the Gradski park device. It means SO₂ was much more widespread than usual and that many more inhabitants were exposed to it. Lekić is a member of the expert council of the newly-founded environmentalist organization National Ecological Association (NEA) and he used to be the assistant director in the Serbian Environmental Protection Agency (SEPA).

I can't describe how heavy smoke was

The pollution episodes are more intensive since Chinese company Zijin took over the mining and smelting complex, Bor resident Milica Nikodijević told us. She lived her whole life in the town in Serbia's east. During the spike in SO₂ concentrations, she made a video clip of Bor completely covered with a thick white fog.

"We feel choking. I can't describe how heavy the smoke is to you. We suffer the most in the summer, in the morning hours, when we are taking the children to kindergarten and people are coming back from the third shift. Now imagine what it's like when you can't open the windows at 40 degrees (Celsius). I grew up in a district that was the most exposed to dust from pyrite cinder, but now it happens that the smoke covers the entire town and even reaches the Borsko lake and the Brestovačka banja spa," she asserted.

People of Bor don't have will to resist

She also recalled the fire that erupted last year at a nearby landfill, when extreme air pollution was registered. Of note, there were a dozen fires this summer in landfills in Serbia, including in Vinča just outside of Belgrade. Experts warned that toxic and cancerogenic compounds, particularly dioxins and furans, are released into the air in such situations. However, there are no official measurements of their presence.

“The people initiate a protest every year, usually in the summer. Then the company claims it would conduct maintenance and install filters. So they do something that makes it easier to breathe for a short while, but then it becomes polluted again and it goes on and on. Also, like last year, the response is weaker at the next protest, and then everything fades. Everyone is active in social networks, but they are nowhere to be seen when they should come out to the street,” Milica Nikodijević said.

Why Colorado’s Record Ozone Pollution Is More About Cars Than Wildfire Smoke

Date:-25-August-2021, Source: cpr.org



Denver's air quality is visibly not great on Aug. 20, 2018

Colorado’s Front Range has seen little relief from ozone and wildfire smoke this summer.

The dual pollutants have shrouded the region’s view of the Rocky Mountains and stirred a debate about the best way to tell the public about the relationship between the problems. In particular, Scott Landes, Colorado’s air quality

forecaster, has repeatedly noted smoke from out-of-state wildfires “enhanced” or “exaggerated” ozone levels in the Denver metro.

Frank Flocke, a scientist at the National Center for Atmospheric Research, worries the message is both accurate and misleading. While wildfire smoke can add to ozone levels in some cases, he said his research shows local air pollution sources, like traffic and oil and gas operations, are a much bigger factor.

“Without the wildfire plumes, we would have been capable of making high levels of ozone just with our own emissions,” Flocke said.

The relationship between smoke and ozone is a complicated topic that Flocke said tests the limits of scientific knowledge. At the same time, the answers could shift whether people see ozone pollution as something within human control or a brutal reality blowing in from California. In communicating with the public, Flocke said officials should focus on direct health impacts, not the tricky science behind air pollution. To clear the air, here’s a breakdown.

Wildfire smoke is a pollution problem unto itself

There’s no question the haze from far-off wildfires threatens human health. Tiny particles of incinerated wood can burrow themselves deep inside people’s lungs.

Studies show the short-term consequences can include lung irritation, coughing and sneezing. Eventually, exposure can lead to premature death and leave people more vulnerable to respiratory diseases, including COVID-19.

Winds have brought a rash of smoke from wildfires in California and the Pacific Northwest to Colorado over the summer of 2021. The primary pollutant of concern in the smoke is PM 2.5, shorthand for particulates smaller than 2.5 microns in diameter.

While it’s plenty dangerous, this air quality problem is different from ozone.

The Front Range has seen a record number of high ozone days

Unlike wildfire smoke, ozone is a “secondary pollutant,” meaning it forms in the atmosphere through a combination of nitrous oxides and volatile organic compounds in a chemical reaction triggered by heat and sunlight.

In 2014, Flocke and his NCAR colleague Gabriele Pfister conducted a state-commissioned aerial survey to track the ozone sources along the Front Range.

The research found that the region has background ozone levels of about 40 to 50 parts per billion, which is short of the current federal health standard of 70 parts per billion.

Local emissions of air pollutants pushed air quality to unsafe levels. On days when ozone levels exceeded federal health standards, traffic and oil and gas combined are responsible for more than two-thirds of ozone production along the Front Range.

Colorado's ozone landscape has likely changed in the seven years since the survey. Energy companies have installed more pipelines, cutting down on total emissions from oil and gas production. Over the same period, more people have arrived in Colorado and brought their cars with them. While the COVID-19 pandemic led to a reduction in Front Range traffic in the spring and summer of 2020, Pfister said state data show it has rebounded to record levels in Denver.

"There are basically just more cars on the road," Pfister said.

The return of traffic has coincided with the worst summer for ozone pollution along the Front Range in a decade. Since the traditional ozone season started on May 31, the state has issued 59 ozone action day alerts for the region. The total marks the highest number of warnings since air officials started record-keeping in 2011.

The count is also a sanitized way to describe a problem felt in people's chests and throats. In the long term, studies suggest the inflammation caused by the pollutant can lead to lower birth weights, asthma development and higher rates of premature death.

Smoke can both increase and decrease ozone levels

While local pollution is a major ozone contributor, Emily Fischer, an atmospheric scientist at Colorado State University, said smoke from distant fires often contains the basic building blocks of ozone. As a result, her research suggests wildfires can add to the Front Range's ozone problem.

One recent study examined the potential impact of smoke at an air monitor near Boulder Reservoir. Between 2017 and 2019, it identified 41 days when ozone exceeded federal health standards. Wildfire smoke also hit the air monitor on 13 of those days. A comparison showed the presence of wildfire smoke tended to coincide with higher levels of ozone.

“We would have an ozone problem here in the Front Range without smoke, but when smoke comes to town, it does seem to provide a little bump,” Fischer said.

Another 2017 analysis attempted to quantify the degree to which wildfire smoke could boost the pollutant. Dan Jaffe, an author and a professor of chemistry at the University of Washington, said it showed wildfire smoke in major U.S. cities tended to increase ozone levels by about 10 to 20 percent.

Jaffe said the pattern might occur from smoke reacting with local pollution. If more research proves that’s the case, cutting emissions from smokestacks and tailpipes could “reduce the amount of ozone we get even on smokey days.”

To add another layer of complexity, it also appears smoke can decrease the overall presence of ozone in some cases. Scott Landes, the state’s air quality forecaster, said one example may have occurred last year when the Cameron Peak Fire sent a large plume over Fort Collins and cut the amount of sunlight reaching the surface. Without the sun’s energy, pollutants couldn’t “bake” into ozone pollution.

Why state air quality forecasters have focused on the problem

Landes has also focused on the role of wildfire smoke in interviews about air quality for CPR News and other media outlets, saying plumes can “enhance” ozone levels. He defended the language in a detailed email.

Aside from noting scientific studies, Landes wrote Colorado’s state air monitors show examples of spikes in ozone levels best explained by smoke plumes. One occurred at Chatfield State Park earlier this summer. On July 24, a monitor continued to monitor high ozone levels, even when winds shifted away from human pollution sources.

In that case and others, Landes said it was important to let the public know wildfire smoke could be making a bad pollution problem worse.

“I do not believe that wildfire smoke is the primary cause of our ozone exceedances over the past several weeks,” Landes wrote. “However, I do believe that, in many instances, ozone was indeed enhanced by wildfire smoke.”

European Union as a whole stays within air pollutant emission limits in 2019

Date:-26-August-2021, Source: eea.europa.eu

The European Environment Agency (EEA) briefing 'National Emission reduction Commitments (NEC) Directive reporting status 2021', published today, provides an annual update assessing European Union (EU) Member States' progress in cutting air pollutant emissions. The briefing shows that while most Member States met their respective limits in 2019, further efforts are needed to achieve the reduction commitments set for the period 2020-29 and for 2030 and onwards.

Based on the latest national air pollutant inventories, all Member States respected their national emission ceilings for nitrogen oxides (NOX), non-methane volatile organic compounds (NMVOCs) and sulphur dioxide (SO₂), while four Member States — Croatia, Czechia, Ireland and Spain — exceeded their limit for ammonia (NH₃).

The lockdown measures implemented across Europe to reduce the transmission of COVID-19 and the subsequent reduced economic activity in 2020 can be expected to have had an impact on emissions of some pollutants. The impact of the measures on emissions in 2020 will only become clear once national air pollutant inventories for 2020 are reported in mid-2022.

Looking forward, nine Member States have already achieved cuts in emissions set for the period 2020-2029 for all five key pollutants, including fine particulate matter (PM_{2.5}). However, to reach the 2030 commitments, all Member States except Estonia need to reduce their NOX emissions, 22 Member States need to reduce NH₃ emissions, and 18 Member States need to reduce NMVOCs emissions.

In terms of emissions of PM_{2.5}, — the main pollutant driving premature death and disease from air pollution — EU emissions fell by 29 % from 2005 to 2019. Nevertheless, significant efforts are needed to achieve reduction commitments set for 2030 and onwards for this pollutant. In particular, three Member States — Czechia, Hungary and Romania — will need to reduce their emissions by more than 50 % and 10 Member States by more than 30 %.

Changes in the energy sector will be crucial for meeting the 2020-29 and 2030 reduction commitments for PM_{2.5}, with a focus on reducing the use of biomass and coal in residential heating needed in certain Member States. Ammonia

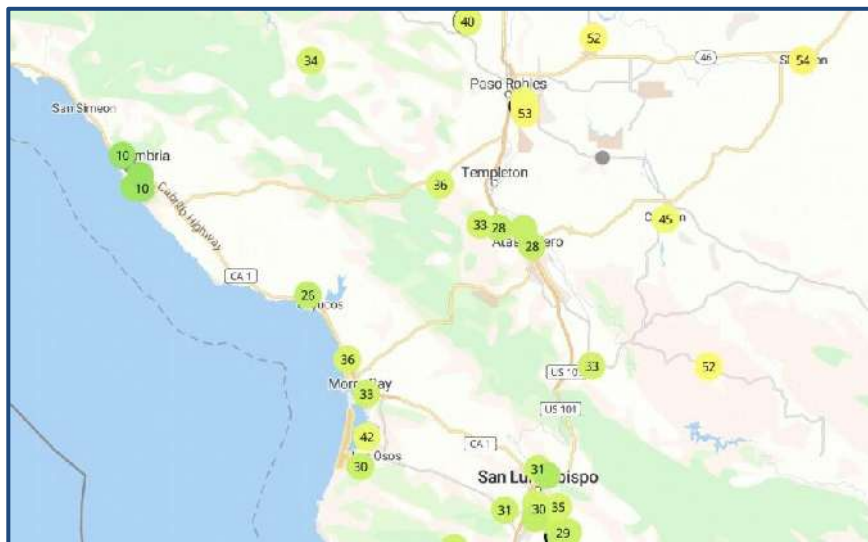
(NH₃) — mainly emitted from the agriculture sector, in particular livestock management and the use of fertilisers — also contributes to the formation of PM_{2.5} in the atmosphere, with further action needed to reduce emissions of NH₃ from the sector. Road transport is the principal source of NO_x emissions.

Reporting under UNECE Air Convention

Along with the EEA briefing on the NEC Directive, the EEA has also published the report European Union emission inventory report 1990-2019, which looks at air pollutant emissions reported under the UNECE Air Convention. The report shows considerable reductions in the 1990-2019 emissions of five key pollutants: carbon monoxide (CO), NH₃, NO_x, NMVOCs, and sulphur oxides (SO_x). SO_x emissions have fallen by 92 % since 1990, as a result of switching from high to low sulphur fuels, the use of emission abatement technologies and increased energy efficiency in industry and in commercial and institutional buildings and households.

SLO County Air Pollution Control District works to expand local air quality monitoring

Date:-27-August-2021, Source: kcbx.org



A look at air quality metrics in north SLO county. Green circles indicate good air quality.

The San Luis Obispo County Air Pollution Control District (APCD) is asking for the public's help in expanding its air quality monitoring on the Central Coast.

The APCD manages and operates regulatory monitors across the county to track air quality. The county also has a number of PurpleAir particulate matter sensors across the Central Coast that contribute to air quality tracking.

The APCD is looking to expand its breadth of tracking by encouraging people to host a Purple Air sensor at their home in areas that have fewer existing monitors and sensors.

Meghan Field is a public information officer and air quality specialist with the SLO County APCD. She said there are some holes in air quality monitoring in North County in San Simeon and parts of Highway 41. Field said the APCD is looking to fill in the gaps.

“It really just helps us, not only see what the air pollution is doing in our little microclimates, since we have so many in this area, but better track when we have smoke in our sky — seeing how the smoke plume is moving — to be able to better inform people,” Field said.

Field said air conditions across San Luis Obispo County vary significantly with temperature and wind. She said having precision air quality tracking is important for public health.

“When we have these wildfires — I feel like they’ve become part of life here in California — we can see how the smoke is moving into our county, what specific communities it’s impacting,” Field said. “That way we can more quickly let people know how they can protect their health.”

Field said being able to respond quickly to poor air quality in your area can mitigate some of the immediate negative health effects like itchy eyes, scratchy throat and coughing. Long-term, Field said poor air quality can exacerbate asthma and cause heart or lung conditions.

Field said over the last 10 years, air quality has generally improved. She said wildfire smoke typically worsens air quality in the summer months but the Central Coast has seen generally good air quality this summer.

Any resident of San Luis Obispo County can apply to receive a PurpleAir particulate matter sensor from the APCD. The unit is free but installation and maintenance is required. The sensor also requires electricity and WIFI.

Poor air quality poses health risk to 173m people in Pakistan

Date:-28-August-2021, Source: dawn.com

ISLAMABAD: Some 173 million people in Pakistan are exposed to medium and high levels of poor air quality due to sand and dust storms, show a United Nations study.



This file photo shows vehicles travelling on a road in Saddar, Karachi in hazy weather

According to the “Sand and Dust Storm Risk Assessment in Asia and the Pacific”, Pakistan is the second country in the region where population is exposed to poor air quality.

More than 500m people in India are exposed to poor air quality, 62m in Iran and 40m in China.

In proportion terms, more than 80 per cent of the entire populations of Turkmenistan, Pakistan, Uzbekistan and Iran are exposed to medium and high levels of poor air quality due to sand and dust storms, says the study released by the UN Economic and Social Commission for Asia and the Pacific (UN-ESCAP) on Thursday.

The impact of sand and dust storms on the generation of electricity by solar power plants in Pakistan, measured in economic terms, has been estimated to be \$37 million per year. The greater loss in India is \$107m and \$46m in China.

The risk to electricity generation posed by sand and storms is likely to become greater as governments strive to ensure access to affordable, reliable, sustainable and modern energy for all, the study notes.

In the aviation sector, the exposure of aircraft engines to dust particles is a considerable risk on flight paths traversing southwestern and central parts of Asia. Flights to and from airports on the Arabian Peninsula, Pakistan, India, and China are most affected.

The risk of a flight delay, diversion and cancellation due to low visibility caused by sand and dust in the atmosphere at ground level is greatest at airports in Central Asia, southern parts of Iran, the border area between Pakistan and India, and northern parts of China.

Large areas of farmland are affected by dust deposition in Turkmenistan (71 per cent of the cropland area), Pakistan (49pc) and Uzbekistan (44pc). Much of this dust is characterised by a high salt content, which typically makes the dust toxic to plants. This reduces yields, representing a significant threat to the production of cotton and other crops, the study states.

Very high dust deposition occurs in the Himalaya-Hindu Kush Mountain range and the Tibetan Plateau, the so-called Third Pole which provides fresh water to more than 1.3 billion people in Asia. The deposition of dust on glaciers induces a warming effect, increasing the melting of ice, with direct and indirect impacts on society through numerous issues, including food security, energy production, agriculture, water stress and flood regimes.

Cities in southwestern parts of Asia have the highest exposure to sand and dust storms, which make a significant contribution to poor air quality in Karachi, Lahore and Delhi, where nearly 60m people experienced more than 170 dusty days a year in 2019.

‘Most toxic air in the UK’: Why is this London neighbourhood covered in dust?

Date:-29-August-2021, Source: euronews.com

In parts of Newham, one of London’s poorest boroughs, residents are suffering the fallout from rapid redevelopment and bad planning.

Situated on the eastern edge of London, adjacent to the river Thames, Silvertown has long been an industrial area. It takes its name from S. W. Silver, who established a rubber factory there in the 1850s. In more recent years it has housed chemical plants, the city’s principal docklands, and the largest sugar refinery in Europe.



The dust can build up in just 24 hours

The 2000s ushered in a new era for Silvertown – with billions of pounds in property investment and the construction of thousands of new homes. It has been regenerated and redeveloped into a residential area.

But the transition has not been a smooth one. As affordable housing jostles for space alongside still-operating factories and industrial sites, Silvertown locals – both new and longstanding – are paying the price.

The wider borough of Newham, which extends up to Stratford and Forest Gate, has been found to have the ‘most toxic air in the UK’. Breathing it in has been likened to smoking 159 cigarettes a year, with seven out of every 100 deaths in the area attributable to poor air quality. But in Silvertown specifically, toxic fumes come accompanied by dust and sand pollution.

In the area surrounding West Silvertown DLR station, roads and pavements are periodically coated with thick layers of sand. Dust settles on doorsteps, windows and just about any other flat, external surface. Otherwise, it simply hangs in the air – presenting a serious risk to human health.

This is a health hazard

“Since I moved here in 2019, I have had two asthma attacks due to the dust,” a resident of Copeland Court, just off the North Woolwich Road, tells Ours to Save.

The World Meteorological Organisation lists skin and eye irritation, asthma, tracheitis, pneumonia, allergic rhinitis and silicosis as impacts of exposure to airborne dust. Some particularly fine particles are even able to make it into the bloodstream, thus damaging internal organs and causing cardiovascular problems.

Silvertown’s new homes are well-insulated, and therefore heat up quickly without fresh air. But residents report dust blowing inside their homes if they try to open windows for ventilation.

“I have to use nets on my windows to try and stop some of the dust coming into our home, whilst trying to get fresh air,” says a resident who has lived on Boxley Street for the past 40 years.

During the COVID-19 lockdown, some households even opted to go and stay with friends and family outside the area. The alternative was being “sealed” inside, with a once-daily dose of dusty air outside.

Although many buildings have balconies, they were and remain virtually unusable - given the amount of dust they can accumulate in just a 24-hour period. Nearby Lyle Park, a short distance away from the source of the dust and sand, is no better.

Where is the dust coming from?

“The dust is from industrial sites located on Bradfield Road and Knights Road,” a spokesperson for Stop The Silvertown Dust tells Ours to Save. “These sites are just metres away from Lyle Park, children’s playgrounds, tennis facilities and thousands of residential homes.

“On these industrial sites, there are large mounts of uncovered dirt, which are blown around the area 24/7 without any proper measures to protect residents. In addition, these businesses use numerous HGVs [large goods vehicles] each day, resulting in the roads and pathways getting regularly covered in dust, sand and mud.”

Stop The Silvertown Dust was formed in July 2020, just as Lockdown 1 – which laid bare disparities in access to green space across the UK – was ending. The community-led group is lobbying for safer living conditions in Silvertown. This will, its spokesperson explains, come only from a more rational approach to planning. As things stand, local authorities are trying to have their cake and eat it too.

“We are astonished that thousands of residential homes have been approved, with thousands more to come, near such polluting heavy industrial businesses. Simply put, proper protections are not in place for residents.”

“The current mitigation measures, which look good on paper, are not working. Newham Council and the Greater London Authority (GLA) have approved such homes but also continue to approve temporary planning permissions for these industrial businesses,” they continue.

“The council needs to make a decision and take a stand. How can heavy industry and thousands of residential homes go hand-in-hand on the same streets?”

A tale of environmental inequality

Stop The Silvertown Dust say they have reported the issue to Newham Council, local MPs, the GLA and the Environment Agency – but feel their complaints are falling down a rabbit-hole.

“We are simply not being listened to, which is frustrating because we can all see the dust and effects it has on residents and the local area. Conversations may be happening, but we do not see results!”

When asked for comment, Councillor Steve Brayshaw said, “I met with constituents this month, including reps from the dust campaign, and we agreed a series of actions for the council to take, which I have communicated to the relevant cabinet leads and we are working to improve the situation.

“I am a resident as well as a representative and recognise the dust problem. The concrete crushing plants are needed where we have development, but any close proximity to residential units causes these growing pains.”

He adds, “We hope to find a solution that improves the air quality for all of our residents.”

It is hard to imagine that dust and sand pollution would be this rife in a wealthier borough.

“While government officials were debating a plan of action, there would be an endless supply of street cleaners to mitigate the impact to residents,” notes the Stop The Silvertown Dust spokesperson.

“However, because this is happening in the London Borough of Newham, it is somehow deemed acceptable and swept under a rug.”

At the end of last year, Ella Kissi-Debrah became the first person in the UK to have ‘air pollution’ listed as the cause of death on their death certificate. Ella was nine years old and living next to the South Circular in Lewisham when she died.

Across the river in Silvertown, schoolchildren are struggling with eye irritation and asthma, and at ever more risk of the longer-term impacts of dust exposure.

To avoid further tragedy, the time to act against toxic air is now.

Smoke trapped in the Redding area generates some of the worst air quality in the country

Date:-30-August-2021, Source: redding.com

With wildfires burning in numerous locations throughout the region, Redding and other parts of the North State are enduring some of the worst air quality in the nation.

On Tuesday afternoon, the air quality reached "hazardous" levels west of Redding. One air quality reading off Rock Creek Road west of Redding was 323 on the air quality index, according to AirNow, a federal government website.

Anything above 151 is considered unhealthy to the general public, according to AirNow. An air quality rating above 300 is considered hazardous and is considered "a health warning of emergency conditions: Everyone is more likely to be affected," according to AirNow.

The air quality rating at Whiskeytown Lake was 459 Tuesday afternoon. A reading of 469 was recorded Monday afternoon in Etna in Siskiyou County, but by Tuesday, the air in the Scott Valley community was ranked 51, a "moderate" ranking.



Seen in a long camera exposure, the Caldor Fire burns on Sunday, Aug.29,2021 in Eldorado National Forest, Califf.

Shasta County air quality officials and National Weather Service officials said the problem will continue this week as wildfires continue to burn in the mountains to the north, southeast and west of Redding.

More than 1.3 million acres from several fires burning just in the North State alone. That does not include the Caldor Fire, which has burned more than 186,000 acres southwest of Lake Tahoe as of Tuesday morning.

While dozens of fires burned across the West, from Washington and Idaho to Arizona, only the North State and the Lake Tahoe area on Monday afternoon included clusters of air quality in the "hazardous range."

Sierra Littlefield, a meteorologist with the National Weather Service, said a combination of factors, including geography and winds from the southwest, create conditions where where smoke tends to accumulate in the Redding area.

Because Redding is at the head of the Sacramento Valley and is surrounded by mountains, it is hard to get smoke out of the area once it gets blown in.

And conditions are not likely to improve as the week goes on, said John Waldrop, Shasta County Air Quality District manager.

"This week is not looking that great for clearing out smoke. We may have short periods in the afternoons, in some areas, that will drop down into the 'unhealthy for sensitive individuals' category," Waldrop said in an email.

"Otherwise, due to so much smoke being trapped in the Sacramento Valley, coupled with increased smoke production, it is estimated that smoke levels will remain unhealthy to hazardous in many areas of Shasta County, especially the western side where smoke is being pumped in from the fires to the north and west," he said.

Air quality officials say that when the smoke gets bad people should try to stay indoors and avoid outdoor activities.

Air pollution taken farther to the east were lower than those west of Redding. The air quality level recorded near Interstate 5 and Highway 299 was 126 on Tuesday afternoon, a ranking considered "unhealthy for sensitive groups."

Littlefield said it takes strong breezes to blow the smoke out of the Redding area.

"There's so much smoke in the air mass over Northern California that it's going to take some time to get some good clearing on that," Littlefield said.

"But slowly, gradually over the course of the week, we'll likely trend better from what we have," she said. But the winds that blow away the smoke could also make the fires burn hotter, she said.

"And then also, unfortunately, it's kind of a double-edged sword, the more air flow we get the more smoke will be produced," Littlefield said.

Less pollution overall, but Michigan's air still exceeds EPA limits at times

Date:-31-August-2021, Source: michiganradio.org

The Department of Environment, Great Lakes, and Energy (EGLE) monitors six different forms of air pollution at locations across the state. In its 112 page Air Quality Annual Report for 2020 it reports periodically some spots exceeded the standards set by the U.S. Environmental Protection Agency.

One pollutant is ozone which causes problems for the west side of the state.

"We have some counties and some areas that are not meeting the national ambient air quality standards for ozone," said Susan Kilmer is the supervisor of the Air Monitoring Unit.

Part of that ozone drifts across Lake Michigan from Chicago.

There's also some areas in southeast Michigan which are also exceeding the ozone standard.

That area, which includes Detroit, also periodically exceeds standards for sulfur dioxide. That's prompted an environmental group to sue the EPA to force Michigan to be in compliance.

Overall, though, Michigan's air has been getting cleaner over the years.

"We've seen a decrease in things like ozone and fine particulate matter. And really it can be attributed to a lot of different factors, things such as cleaner burning vehicles and the public's knowledge of what it takes to reduce air pollution," Kilmer said.

There is one pollutant which spikes at one point each year. Particulate matter, soot, exceeds EPA standards every year right around July 4 because of fireworks.

September 2021

Air pollution above average in 41% UK schools

Date:-1-September-2021, Source: energylivenews.com



Air pollution levels in 41% of British schools is higher than the WHO deem acceptable.

That is according to a study conducted by Airly, that found nitrogen dioxide levels to be worryingly high as children return to schools this month.

Nitrogen dioxide is a pollutant gas produced by road traffic and heavy industry, that increases the risk of asthma and inflammation of the airways.

The study reveals that during the pandemic, air quality around schools plateaued at a safer level but in the last year levels have hiked again. The authors state this as key evidence to show that human activity affects our health, pollution and air.

The research also intimates that air pollution not only impacts general health but also learning ability; harming cognitive intelligence in children.

A map of the affected areas of the UK demonstrated a trend of more deprived areas having heavier air pollution due to lack of green urban areas, older cars and dense housing populations.

London ranked the worst for bad air in Britain.

Airly has launched a campaign to tackle this, providing 50 air quality sensors to schools across the country to monitor the surrounding pollution and after six months of reports, be advised on the best means to improve it.

Air quality in Bath City Centre 'improves' after clean air zone introduction

Date:-2-September-2021, Source: itv.com



The report is the first in a series which will regularly monitor the performance of the clean air zone.

The air quality in Bath City Centre has improved since a clean air zone was brought in, according to new data.

A report submitted to the council shows that nitrogen dioxide levels have fallen by more than 12% compared to the same period in 2019.

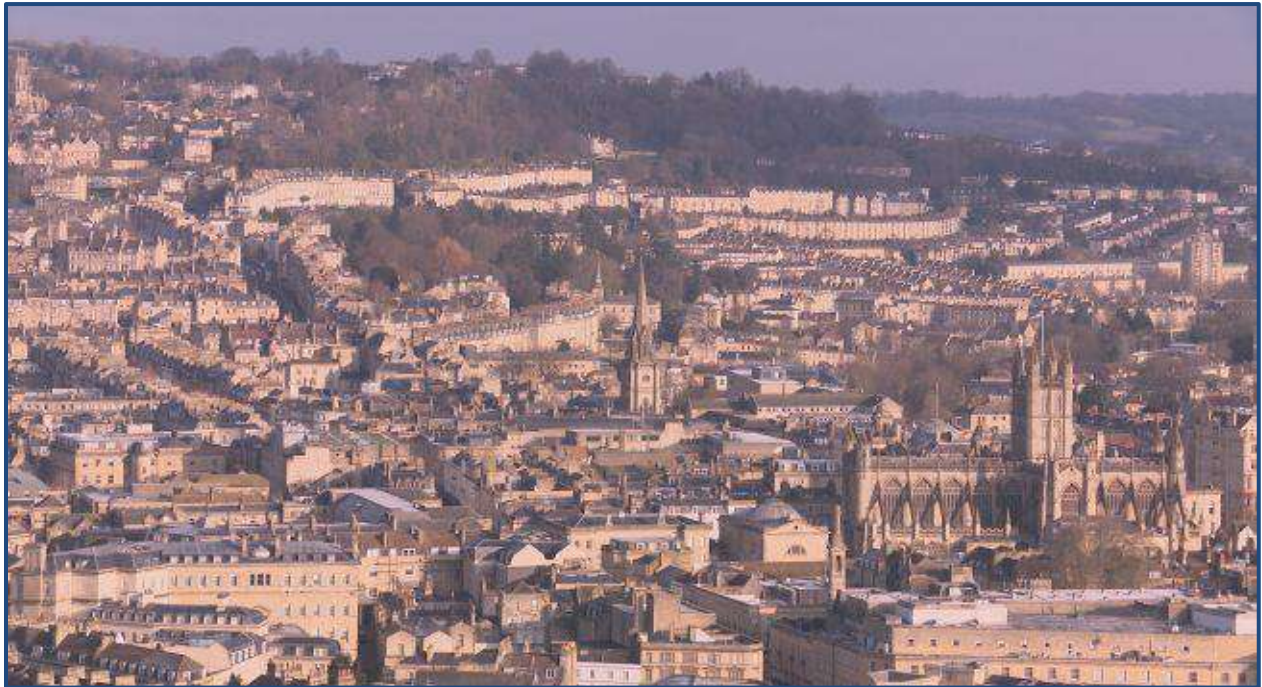
It also shows the number of non-compliant vehicles entering the zone has reduced.

But the report identified four areas in the zone where levels of the gas may still exceed government limits.

The report is the first in a series which will regularly monitor the performance of the CAZ.

All but three of the 220 buses that operate on scheduled routes in the zone and more than 90% of HGVs and 90% of taxis travelling into the zone are now compliant with emission standards.

Councillor Sarah Warren, Deputy Leader and cabinet member for Climate and Sustainable Travel, described the findings as "very encouraging news".



"The aim of the Clean Air Zone is to improve air quality and reduce pollution which can have a devastating impact on people's health, triggering asthma attacks and making heart and lung conditions worse. So, I'm pleased that the early indications are that the Clean Air Zone is working.

"It is, however, early days and more time is needed. Normal traffic volumes in the city have been affected by Covid and the closure of Cleveland Bridge has caused some temporary changes to traffic patterns.

"I am also concerned that despite significant progress in reducing NO₂ levels, there are still four locations in the city - Cleveland Place East junction, Dorchester Street, Victoria Buildings and Wells Road near the Churchill Bridge gyratory - where NO₂ levels have the potential to exceed the government target we are aiming for.

"Our aim is to meet the government target in all locations, whilst minimising the social, economic and distributional impact of the zone on our residents and businesses. To achieve this, our current focus is on upgrading a relatively small cohort of commercial vehicles and, in particular, older highly polluting vans.

The Clean Air Zone was launched in March to tackle harmful levels of air pollution caused by the most polluting taxis, vans, buses and larger commercial vehicles regularly driving in Bath.

It was the first charging CAZ to be launched outside of London and levies a charge on anyone driving certain higher emission vehicle in the zone. This excludes private cars and motorcycles which are not charged.

Grants and interest-free finance are available to encourage owners of non-compliant polluting vehicles to replace them with cleaner ones.

Air quality briefly improved in 2020 due to COVID lockdowns, UN agency confirms

Date:-3-September-2021, Source: cbc.ca

The UN weather agency says the world — and especially urban areas — experienced a brief, sharp drop in emissions of air pollutants last year amid lockdown measures and related travel restrictions put in place over the coronavirus pandemic.

The World Meteorological Organization, releasing its first ever Air Quality and Climate Bulletin on Friday, cautioned that the reductions in pollution were patchy — and many parts of the world showed levels that outpaced air quality guidelines. Some types of pollutants continued to emerge at regular or even higher levels.

"COVID-19 proved to be an unplanned air-quality experiment, and it did lead to temporary localized improvements," said Petteri Taalas, the WMO secretary-general. "But a pandemic is not a substitute for sustained and systematic action to tackle major drivers of both population and climate change and so safeguard the health of both people and planet."

The WMO study analyzed changes in air quality around the main pollutants, including sulfur dioxide, nitrogen oxides, carbon monoxide and ozone. The Geneva-based agency noted an "unprecedented decrease" in pollutant emissions as many governments restricted gatherings, closed schools, and imposed lockdowns.

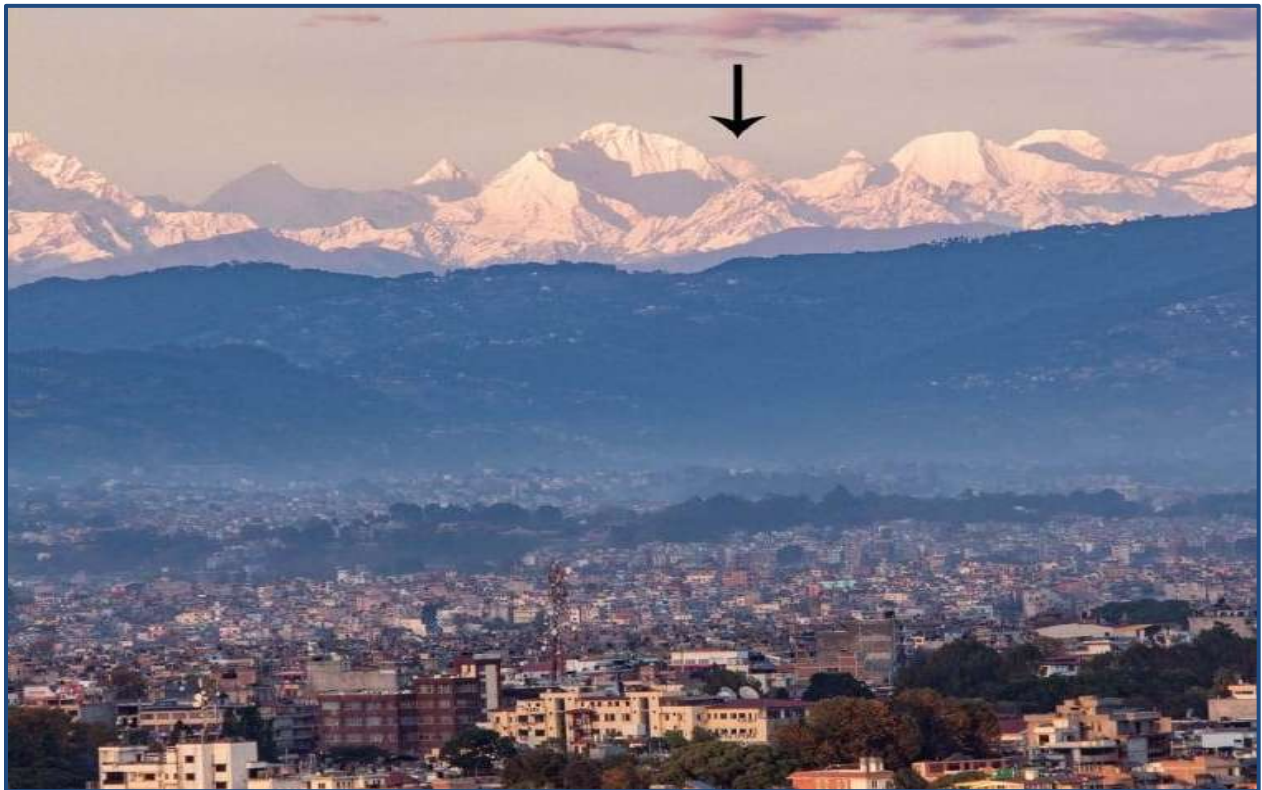
Oksana Tarasova, head of WMO's atmospheric environment research division, said the impact of such measures on major pollutants was short-lived. When measures to reduce mobility mean "there are no cars on the street, you see the

improvement in air quality immediately. And of course, as soon as the cars go back on the street, you get the worsening back."

That compared to "long-lead greenhouse gases" behind global warming like carbon dioxide, whose atmospheric levels can take many years to change.

Nitrogen oxides, particulates see big drops

WMO cited declines of up to nearly 70 per cent in average levels of nitrogen oxides, which are largely emitted through transportation and burning of fossil fuels. It also noted up to 40 per cent drops — the biggest ones recorded in southeast Asia — of average levels of tiny particulate matter in the air during full lockdown measures last year, compared to the same periods from 2015 to 2019.



Mount Everest is viewed from Kathmandu Valley during the pandemic lockdown in 2020. Normally, it can't be seen due to smog

Nitrogen oxides also destroy ozone in the air. Partially as a result of the drop in nitrogen oxides, ozone levels — which vary depending on location — remained flat or slightly increased in some places. Carbon monoxide levels fell in all regions, especially South America.

One conundrum for policy makers is that some pollutants like sulfur dioxide in the air actually help to cool the atmosphere, partially offsetting the impacts of climate change.

Tarasova said air quality was "very complex" and noted that events like wildfires in Australia, smoke from biomass burning in Siberia and the United States, and the "Godzilla effect" — in which sand and dust drift from the Sahara Desert across the Atlantic to North America — also had effects on air quality last year.

Smoke-filled smog from wildfires will hurt Bay Area air quality this weekend

Date:-4-September-2021, Source: mercurynews.com

A Spare the Air Alert has been called for Sunday for unhealthy levels of smog caused by smoke from Northern California wildfires, along with vehicle exhaust and high inland temperatures.

Exhaust from vehicles combines with wildfire smoke to create unhealthy ozone, or smog, that can trigger congestion, throat irritation and asthma.

The air quality index in every Bay Area region will hover around the 50s and 60s, signaling moderate conditions. An air quality index is moderate if it's within 51 to 100, and the air becomes unhealthy for sensitive groups if the index rises past that.

Although fine particle pollution concentrations from smoke are not expected to exceed moderate levels on the Air Quality Index, ozone pollution is forecast to be unhealthy.

The Bay Area Air Quality District also has issued an Air Quality Advisory through Monday for smoke.

Temperatures across the Bay will be warmer than normal this weekend. San Jose will peak in the low-to-mid 80-degree range, with Morgan Hill reaching the low 90s. Inland parts of Alameda and Contra Costa counties will similar hover in the 90s, while Oakland will see highs in the mid-70s.

Although wind speeds are mild, the marine layer off the coast has compressed in the past few days, according to a National Weather Service meteorologist. Because of the warmth of the sun, the marine layer is now 1,000 feet deep, compared with 2,000 feet during cooler days earlier in the week.

“It provides that nice fog in the morning, but once it fades, the marine layer unfortunately doesn’t provide as much relief,” meteorologist Sarah McCorkle said Sunday.

Ozone, or smog, can worsen existing respiratory conditions, including asthma, bronchitis and emphysema, the Bay Area Air Quality Management District said in a release. Long-term exposure can reduce lung functions. The pollution caused by smog is especially harmful for young children and seniors.

“If the smell of smoke is present, it is important that Bay Area residents protect their health by avoiding exposure,” the district said in a release. “If possible, stay inside with windows and doors closed until smoke levels subside, if temperatures allow.”

Crews fighting the Caldor Fire in the Lake Tahoe area advanced containment of the blaze to 37% on Saturday amid more promising weather conditions. The fire has burned more than 214,000 acres, forcing many South Lake Tahoe residents to evacuate and contributing to the air quality woes facing the Bay Area this weekend.

EXPLAINED: Why Paris Thinks Driving At 30Kmph Will Help Fight Pollution, Save Lives

Date:-5-September-2021, Source: news18.com

You need to slow down" has long been an existential exhortation. That it can also have literal real-world benefits is perhaps less well-known. That is why, when civic authorities in Paris announced that they were virtually putting the entire city under a 30kmph speed limit, questions were raised about the logic behind the decision. As it turns out, driving slower contributes both to safety of the roads and protecting the environment by lowering emissions. Here's what you need to know.

HOW IS PARIS SLOWING DOWN TO 30KMPH?

An announcement for a blanket curtailing of speed limits may appear dramatic, but reports say that about 60 per cent of the streets in the French capital already have the 30kmph speed limit. What the latest order does is to extend it to the entire city barring highways, peripheral ring roads and major boulevards, including the iconic Champs Elysees.



The 30kmph speed limit applies to all Paris roads except highways, ring roads and some boulevards, reports said

To violate the set limit can result in a fine and a docking of points on the driving licence. But these actions are not the first in the city aimed at how traffic moves. Reducing the public space taken up by cars is a stated

objective of Paris mayor Anne Hidalgo and along with speed

limits the city will also see a reduction of more than 40 per cent of the city's road parking space, a widening of footpaths and increase in cycling lanes — all aimed at redefining how traffic is to move in the city.

"This measure is part of a coherent policy to transform public space. It's a policy that favours so-called 'soft' mobility such as walking, cycling and public transport rather than the car, which we want to reserve for essential journeys," Paris deputy mayor David Belliard was quoted as telling a French news outlet.

And, the decision seems to have the backing of a majority of Parisiens, 59 per cent of whom told a survey that they supported the new speed limit. But people on the suburbs — who have to mostly rely on their cars to journey into the city — were not as enthused and more than 60 per cent of the respondents in the wider Ile-de-France region said they were against the speed limit.

HOW WILL IT HELP?

From truckers to delivery professionals and taxi-drivers, those who spend substantial hours driving all said they were against the speed curbs. "It's one of those tiny, slightly stupid measures, that means French people are sick of politics," a representative of car drivers' group '40 million d'automobilistes' was quoted as telling another news outlet.

To many motorists, that lower speed limits can contribute to greater energy efficiency appears counterintuitive. Questions have been raised over whether the rule wouldn't lead to more emissions than actually limit air pollution.

Driving slow will lead to traffic snarls and that, in turn, would lead to more emissions, they say.

But deputy mayor Belliard is said to have told a French affiliate of CNN that the rule is aimed at getting more people to ditch their cars in favour of walking, cycling or taking public transport. But he did maintain that it would also reduce air pollution. "A friendly clarification of what those who oppose lowering the speed limit are saying: NO, a speed limit of 30km/h doesn't increase pollution... But actually improves safety for cyclists and pedestrians, reduces noise and makes the city calm," he wrote on Twitter.

WHAT DO EXPERTS SAY?

Various studies and reports suggest that there are several factors that come into play as regards the link between speed limits and air pollution. A report by the European Environment Agency (EEA) says that while having "lower speed limits on motorways is expected to cut both fuel consumption and pollutant emissions", the exact benefit "depends on a number of factors".

Among those are "technological effects such as the fall in energy consumed when decreasing speed, and nontechnological factors such as vehicle fleet composition, driving patterns, frequency of speeding, congestion and traffic diversion due to the speed limit". The debate among French motorists has been fuelled also by reports that seem to suggest that lowering speed limits have a contrary effect on air pollution.

A study by Cerema, the French public agency working on urban planning and ecological and energy transition, has been cited to say that more CO2 emissions were generated when vehicles moved at a constant 30kmph instead of at 50kmph. However, Belliard said the study was "not adapted to traffic in urban centres such as Paris because it was based on average speed". In fact, reports said that this study actually states that a lot of emissions are generated by the constant slowing down and acceleration, which typically happens more if a vehicle is moving at higher speeds. "With this measure we are limiting the effects of acceleration and deceleration," Belliard said.

WHERE ELSE ARE SPEED LIMITS BEING BROUGHT IN?

In May this year, as part of the 6th UN Global Road Safety Week, the World Health Organisation urged that authorities everywhere should adopt the 30 kmph "on streets where pedestrians, cyclists and others who are most at risk mix with motorised traffic". To be sure, the core principle at work in WHO's

appeal is the need for making streets safer and saving lives, but it also noted that lower speeds on roads also helps by “increasing walking and cycling by making the environment safer and more inviting reducing air and noise pollution”.

In a note published on the occasion, Etienne Krug, the Director of WHO’s Department of Social Determinants of Health, said that “30 km/h speed limits and zones in cities such as Graz, London, New York, and Toronto have yielded reductions — often significant — in road traffic crashes, injuries and deaths”. He added further that “evidence shows that 30 km/h streets not only save lives, but also facilitate walking and cycling and a move towards zero-carbon mobility”. Reports say that close to 200 towns in France have applied 30kmph speed limits with more set to embrace the rule. The Netherlands and Spain, too, have such curbs in many of their towns.

While noting that “decreasing car passenger speed limits in motorways could lead to substantial benefits”, EEA says that “speed limitations of 80–90 km/h on motorways when entering cities and on city ring roads could significantly reduce both fuel consumption and pollutants emitted” but, on the other hand, “energy and emissions benefits from more stringent speed limits on local roads (e.g. from 50 to 30 km/h) are less clear”.

It states, hence, that the “the key argument for lower speeds on local roads is therefore the desirability of a safer and more tranquil local environment, rather than environmental considerations”. But a 2009 paper by researchers at Virginia Tech that was cited in a report in The Guardian notes that “traffic calming measures... can result in significantly higher fuel consumption and emission rates when drivers accelerate aggressively” although it also agrees that such measures “reduce vehicle speeds on neighbourhood streets and may contribute to enhanced road safety”.

The study says that “by eliminating sharp acceleration manoeuvres significant energy and emission savings can be achieved. Consequently, significant improvements in air quality and energy consumption may be achievable through driver education”. Which would explain why WHO is stressing that the 30kmph speed limit should be pursued by “building or modifying roads with features that calm traffic, installing in-vehicle technologies such as intelligent speed assistance, and raising awareness among the public of the danger of speeding”.

Birmingham's Clean Air Zone could see 'greater benefits'

Date:-6-September-2021, Source: birminghammail.co.uk



A vehicle's exhaust pipe releases fumes

A drop in air pollution levels in Bath is a possible indicator of “greater benefits” for Birmingham's Clean Air Zone, legal advisers have said.

Average nitrogen dioxide (NO₂) concentrations within Bath’s Clean Air Zone (CAZ) are 12.6 per cent lower following the first quarter of the measures being in place compared to the same period in 2019.

The figures are given in a report due to go before Bath and North East Somerset Council’s Cabinet on September 9.

Bath’s CAZ – which launched in March - applies to taxis, private hire vehicles, vans, light goods vehicles, buses, coaches and heavy goods vehicles with many cars not having to pay a charge.

A legal adviser who worked on both zones has said Bath’s success could precede similar achievements for Birmingham’s CAZ – launched in June with charges commencing from June 14 including for private cars.

Rahul Bijlani, legal director at BDB Pitmans LLP which advised on Birmingham and Bath's CAZs, said the Bath results are encouraging.

"London's Ultra Low Emission Zone (ULEZ) is effectively a Category D zone [the same as Birmingham's] and showed a third decrease in NO₂ in the first six months.

"You could potentially be looking at some quite significant reductions in Birmingham."

Asked what he would say to residents who do not agree with the CAZ, he said: "I completely understand why you might be opposed to it.

"It's a significant imposition. But the ULEZ in London is now receiving majority support.

"You can't see NO₂, you can't smell it. But it is a substantial health risk. Once a scheme has been in place for a while and people feel the benefits, perhaps it will see more widespread support."

Early results from Birmingham City Council's analysis of the city's CAZ showed more than 44,000 people were fined for non-payment of the charge in the first month.

And the percentage of cars entering the CAZ which were non-compliant – highly-polluting - dropped from 18 per cent to 12 per cent in the first month, which was hailed as a success.

The CAZ is being introduced to tackle poor air quality in the city responsible for a reported 900 deaths per year.

Italian Study Links Daily Air Pollution Levels to OHCA

Date:-7-September-2021, Source: tctmd.com

Day-to-day concentrations of a variety of air pollutants are positively linked to the incidence of out-of-hospital cardiac arrest (OHCA), new Italian data indicate.

Multiple studies have shown connections between air pollution and heart and lung disease, especially with cumulative exposure, but data linking it to OHCA—a condition with more-urgent implications—have been limited.



Presenting the findings during a dedicated session on sudden cardiac death at the European Society of Cardiology Congress 2021, Francesca Gentile, MD (Fondazione IRCCS Policlinico San Matteo, Pavia, Italy), said her results indicate that “people who live in a very polluted area may be considered more susceptible to cardiac arrest. And air pollutant monitoring could be helpful in the future to predict a higher incidence of cardiac arrest, specific to geographical areas.

“Everyone, especially those at high risk, should be aware that air pollution exposure has harmful effects and when possible should modify their behavior to protect their own health,” she stressed.

In their paper, simultaneously published in PLoS ONE, the researchers write: “Just as genetics, lifestyle, and diet have a well-established role in CVD, environmental pollution is now playing an increasingly important role as well. In an era of precision medicine, air pollution exposure assessment may have a role in predicting OHCA susceptibility, especially for patients affected by other comorbidities. The warning during high-[pollution] days should be addressed to these people in particular, even if to date there is no evidence about the role of previous hospitalizations in modifying the association between the risk of OHCA and short-term increases in pollutant concentration.”

‘A Modifiable Risk Factor’

For the study, Gentile and colleagues analyzed 2019 OHCA rates in southern Lombardy, Italy—encompassing around 1.5 million people and known for being particularly polluted due to industry and population growth—and the corresponding levels of the following air pollutants: fine particulate matter (PM₁₀, PM_{2.5}), benzene (C₆H₆), carbon monoxide (CO), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), and ozone (O₃).

The median age of OHCA patients was 80, and 57% were male. Overall, 19% survived the OHCA, but only 7.4% were alive at hospital discharge.

Concentrations of all pollutants were significantly higher on days with high reported incidence of OHCA (> 0.3 cases per 100,000 people), except for ozone, which appeared to have an inverse relationship. However, after adjusting for temperature, all pollutants including ozone showed a significant dose-response relationship. Additionally, multivariate analysis correcting for temperature, humidity, and day-to-day concentration changes confirmed strong associations with OHCA with all pollutants.

Multivariate Analysis of OHCA Odds and Pollutants

OR	95% CI	
PM₁₀	2.7	1.7-4.4
PM_{2.5}	2.6	1.6-4
Benzene	2.6	1.6-3.6
Carbon Monoxide	3	1.8-5
Nitrous Dioxide	2.8	1.7-4.5
Sulphur Dioxide	4.1	2.2-7.8
Ozone	2.4	1.6-3.6

Other research has indicated the potential negative implications of cumulative air pollution exposure, but Gentile told TCTMD that the day-to-day concentrations are a more likely trigger for OHCA.

“To the best of our knowledge, this is the first study to have provided a significant dose-response relationship between such a large number of air pollutants and an increased risk of OHCA,” the authors write. “The identification of the shape of the exposure-curve is a key issue in decision-making and strategic thinking in public health.”

Specifically, Gentile said, a warning system for ambulances that alerts them to bad pollution—and potential increases in OHCA—“would be useful in order to reduce emergency medical service response times in the case of cardiac arrest.”

She added that air pollution exposure should be “seen as a modifiable risk factor for cardiovascular disease” and physicians might consider advising some patients to stay indoors on particularly polluted days. However, who those specific patients might be remains to be seen.

Denver weather: Hot, dry and smoky conditions lead to bad air quality

Date:-8-September-2021, Source: denverpost.com



The setting sun behind the Rocky Mountains illuminates the clouds and sky Friday, Aug. 27, 2021, in Denver. Forecasters predict that smoke from wildfires burning across the West will funnel into the state Saturday and bring with it a return to temperatures above the 90-degree mark. the skyline of downtown Denver.

Another hot, dry and smoky day is forecast on Wednesday for the Denver metro and surrounding areas, creating unhealthy weather conditions for sensitive groups.

The day calls for a high of 88 degrees and a low of 57, with widespread smoke, according to the National Weather Service. The agency issued a hazardous weather outlook alert for northeast and north central Colorado, warning of more dry conditions with smoke through Friday, with potentially record high temperatures Thursday and Friday. This weekend, the high country could see some evening showers and storms with some cooler temperatures in the plains.

The Colorado Department of Public Health and Environment issued an air quality alert at least through 4 p.m. Wednesday in the seven counties in the Denver and Boulder metro area, recommending that people limit driving gas or diesel vehicles.

“Hot, dry weather combined with an influx of out-of-state wildfire smoke will allow both ozone and fine particulate concentrations to reach the Unhealthy for Sensitive Groups category on Tuesday and Wednesday. ... Additional air pollution in this region may directly worsen air quality or contribute to precursors which may also adversely affect air quality,” the alert stated.

The National Weather Service in Boulder expects the smoke to be the worst in the northwest third of the state.

Global study: Wildfire smoke kills people in cities far from fires

Date:-9-September-2021, Source: ehn.org



Wildfire smoke causes more than 33,000 deaths a year across 43 countries, according to a new global study.

While previous studies estimated premature deaths from wildfires in a specific country or region, authors of a study published Wednesday in Lancet Planetary Health say this is the most comprehensive assessment to-date of global wildfire mortality. The findings come as the smoke from yet another season of record-breaking wildfires in the Northern Hemisphere impacts air quality hundreds of miles away from burn areas.

"Policy makers and public health professionals should raise awareness of wildfire pollution to guide prompt public responses and take actions to reduce exposure," write the study authors. The study authors first estimated daily fine particulate matter (PM 2.5) concentration using a combination of machine learning, ground measurements, weather conditions, and chemical transport models. They then cross-referenced those pollution levels with data on more than 65 million deaths from 2000-2016 across 749 cities in 43 countries to get city-specific death estimates from wildfires.

They found that short-term exposure to wildfire PM 2.5 pollution caused, on average, 33,150 deaths a year in the countries looked at in the study, with an estimated 6,993 cardiovascular deaths and 3,503 respiratory-related deaths a year. Of the countries studied, Guatemala had the highest proportion of estimated deaths from wildfire smoke, followed by Thailand and Paraguay. The authors note that all the mortality data used in the study comes from cities, and that the study is not a comprehensive look at global mortality; for example, although wildfires have burned more than 40 million acres in Siberia this summer, no Russian cities were included in the study.



Wildfire approaching South Lake Tahoe, September 1, 2021

Far-reaching impacts of wildfires

Lead author Yuming Guo, professor of global environmental health and biostatistics at Monash University, told EHN that he was surprised to see that citizens from certain countries that don't have frequent wildfires, like France

and Germany, were still harmed from wildfire smoke.

PM 2.5 refers to particles that are 2.5 microns or smaller in diameter—for reference, a human hair is about 70 microns wide. Because of their small size, these fine particles can travel deep into the lungs, where they can damage airways and enter the bloodstream. Children, infants, older adults and people who already have heart and lung conditions are especially at-risk from PM 2.5 pollution.

While wildfires are far from the only source of PM 2.5 pollution in cities, the study authors found that PM 2.5 exposure from wildfires was more deadly, and longer-lasting, than fine particle pollution from other urban sources. They suspect that's in part because of the chemical makeup and smaller size of the particles in wildfire smoke.

Wildfire smoke also contributes to suicide, diabetes, renal diseases, and other conditions, said Guo. The study authors suggest that future research should look at the mortality data by age, sex, and other factors to better understand who is most vulnerable.

Climate change is worsening wildfires by making wildfire-prone parts of the world, like California and Australia, hotter and drier.

Office Air Quality May Impact Employee Performance

Date:-10-September-2021, Source: [technologynetworks.com](https://www.technologynetworks.com)



The air quality within an office can have significant impacts on employees' cognitive function, including response times and ability to focus, and it may also affect their productivity, according to new research led by Harvard T.H. Chan

School of Public Health.

The one-year study, which included participants in offices across six countries working in a variety of fields, including engineering, real estate investment,

architecture, and technology, found that increased concentrations of fine particulate matter (PM_{2.5}) and lower ventilation rates (measured using carbon dioxide (CO₂) levels as a proxy) were associated with slower response times and reduced accuracy on a series of cognitive tests. The researchers noted that they observed impaired cognitive function at concentrations of PM_{2.5} and CO₂ that are common within indoor environments.

“Our study adds to the emerging evidence that air pollution has an impact on our brain. The findings show that increases in PM_{2.5} levels were associated with acute reductions in cognitive function. It’s the first time we’ve seen these short-term effects among younger adults,” said Jose Guillermo Cedeño Laurent, a research fellow in the Department of Environmental Health and lead author of the study. “The study also confirmed how low ventilation rates negatively impact cognitive function. Overall, the study suggests that poor indoor air quality affects health and productivity significantly more than we previously understood.”

The study was published online in *Environmental Research Letters* on September 9, 2021.

A growing body of research has shown that indoor and outdoor air pollution diminishes cognitive function. While it is well known that air pollutants such as PM_{2.5} can penetrate indoor environments, few studies have focused on how indoor exposures to PM_{2.5} and outdoor air ventilation rates affect cognition. Cedeño-Laurent noted that this is a particularly important area of research given the high percentage of time people spend indoors, especially office workers.

To better understand the issue, the research team enrolled more than 300 office workers in cities across China, India, Mexico, Thailand, the United Kingdom, and the United States. All participants were between the ages of 18 and 65, worked at least three days a week in an office building, and had a permanent workstation within the office. Each participant’s workspace was outfitted with an environmental sensor that monitored in real-time concentrations of PM_{2.5} and CO₂, as well as temperature and relative humidity. Additionally, each participant had a custom-designed app on their phones through which cognitive tests and surveys could be administered.

Study participants were prompted to participate in tests and surveys at prescheduled times or when the environmental sensors detected levels of PM_{2.5} and CO₂ that fell below or exceeded certain thresholds. Two types of tests were administered: One test required employees to correctly identify the

color of displayed words and was used to evaluate cognitive speed and inhibitory control—the ability to focus on relevant stimuli when irrelevant stimuli are also present. The second test consisted of basic arithmetic questions and was used to assess cognitive speed and working memory.

The study found that response times on the color-based test were slower as PM2.5 and CO2 levels increased. They also found that accuracy on the color-based test was affected by PM2.5 and CO2 levels. For the arithmetic-based test, the study found that increases in CO2 but not PM2.5 were associated with slower response times. As concentrations of both pollutants increased, however, participants completed fewer questions correctly in the allotted test time.

“The world is rightly focused on COVID-19, and strategies like better ventilation and filtration are key to slowing infectious disease transmission indoors,” said Joseph Allen, associate professor of exposure assessment of science and senior author on the study. “Our research consistently finds that the value proposition of these strategies extends to cognitive function and productivity of workers, making healthy buildings foundational to public health and business strategy moving forward.”

New Thames tunnel will make London pollution worse, warn climate activists

Date:-11-September-2021, Source: theguardian.com



Extinction Rebellion activists protesting against the planned tunnel last August. The 26 shoes displayed represent the 26 people that die every day from air pollution in London.

Burrowing deep under the Thames, Silvertown tunnel is scheduled as the first new road link across the capital's river for 30 years. But, the four-lane highway, due to be completed in 2025, is about to become the focus of environmental protests in the lead-up to the Cop26 global

climate summit in Glasgow in November.

Preliminary construction work has begun and tunnelling is due to begin next spring, but campaigners insist it is not too late to halt the £1bn-plus engineering project and are planning protests at both ends of the tunnel later this month.

A major target of the protest is Sadiq Khan, the Labour mayor of London, who is one the tunnel's chief advocates while also championing decisive action to "avert a catastrophic climate crisis". Khan claims the tunnel will ease congestion and reduce pollution. But a letter sent on Friday from the Stop the Silvertown Tunnel Campaign urged the mayor to commission new studies on the impact of the scheme. "Spending billions on new road capacity for cars is not a policy that is consistent with acting on the climate emergency, or improving London's air," it said.

The tunnel's opponents include traffic and public health experts, local residents, political parties, trade unions, campaign groups, teachers, doctors, several London boroughs and mayors. In April dozens of academics said it would be "foolhardy to press ahead with an infrastructure project that can only contribute to the UK's excessive greenhouse gas emissions". In July, the London Labour regional conference voted three to one in favour of scrapping it. Extinction Rebellion supporters are planning to join this month's protests. The twin bore tunnel will link Silvertown in Newham on the north bank of the Thames to the Greenwich peninsula on the south bank. Its path lies close to the Blackwall tunnel, which is frequently backed up in both directions with traffic attempting to cross the river.



Transport for London (TfL) awarded the contract to design, build and maintain the tunnel to a private consortium, RiverLinx. TfL, which will charge a toll for using both the Blackwall and the Silvertown tunnels, will repay RiverLinx the costs of construction over a

25-year period.

In a leaflet delivered to residents of Greenwich and Newham, TfL said: “For too long the Blackwall tunnel has been plagued by chronic congestion and daily incidents, and the cross-river road network in east London just cannot cope... Our plans will effectively eliminate congestion... This will mean quicker and more reliable journeys and reduced emissions, leading to better air quality.” The leaflet claimed there will be no increase in traffic.

But Simon Pirani, senior research fellow at the Oxford Institute of Energy Studies, told the Observer: “The claim that the tunnel is not going to make the problem of pollution worse is just not sustainable. It will definitely increase the amount of traffic.”

In a report last year, Stop Digging, Pirani cited research into an “induced traffic” effect, meaning more roads result in more vehicles. “We can’t have more traffic in big cities in rich countries. And if you’re reducing the number of cars, you do not need another tunnel. This tunnel is incompatible with taking the climate emergency seriously,” Pirani said.

Siân Berry, the co-leader of the Green party who unsuccessfully stood in the London mayoral elections this year, said she was “baffled” that Khan hadn’t cancelled the tunnel proposal. “There’s an enormous amount of community opposition to this. The fact that the tunnel will deliver more traffic and more pollution into streets which already have some of the highest pollution in London has really focused people’s minds,” she said. In June, hundreds of people protested against the tunnel in Newham, which has extremely poor air quality.

In a message of support to the protest, Rosamund Kissi-Debrah, whose nine-year-old daughter Ella died in 2013 due to air pollution poisoning in south London, said: “The Silvertown Tunnel means even more people will be impacted by air pollution.... Ella’s death tells us we must never create more toxic air, but less. Building roads always means more traffic, and not less. Please continue to fight for the sake of your children’s health.”

A spokesperson for Khan said: “The mayor is taking some of the boldest action of any city in the world to tackle air pollution in London.... Anyone who has been caught in traffic due to a problem in the Victorian-era Blackwall tunnel will know that there is an urgent need for another river crossing in this part of London.”

The introduction of tolls on both tunnels at Silvertown and Blackwall “will mean no overall increase in traffic and an improvement in air quality”.

Record high air pollution days in Blenheim

Date:-12-September-2021, Source: rnz.co.nz



Data from Blenheim's airshed shows it breached allowed levels 16 times during winter

Under New Zealand's air quality laws, councils have to keep track of the coarser PM10 particulate matter and flag when it goes above safe levels.

Data from Blenheim's airshed shows it breached those levels 16 times during winter - a new high. This was despite a new rule being brought in earlier this year which banned braziers over winter, in a bid to lift compliance.

However, there were no breaches during the three weeks at alert levels three and four.

Marlborough District Council environmental scientist Sarah Brand said while the record high was unfortunate, Blenheim was not alone. Several towns

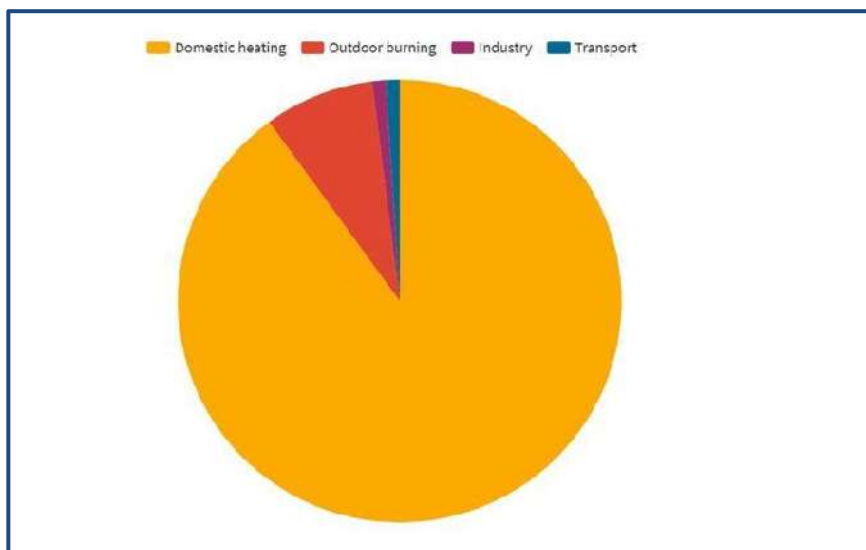
around the country had also recorded a higher than normal number of breaches.

The Land Air Water Aotearoa (LAWA) website showed Gisborne has had 27 breaches so far (up 12 from last year), Napier had six breaches (up four), and Taupō had 17 (up from zero).

Brand thought that Blenheim's breaches might be a reflection of this winter's meteorological conditions, but said she would know more once she analysed the data.

The Marlborough District Council began keeping a log of air pollution in Blenheim in 2006 and since then has struggled to keep to the lawful standard of one breach a year. Previously, the worst year for air pollution was 2017, with 11 breaches.

Air pollutants can come from human activities, like heating or vehicles, or from natural sources, like dust, pollen and salt.



Eleven of this year's limit breaches occurred in June (most were one after the other), four in July, and one at the start of August. The highest pollution level was recorded on 4 June.

Brand said warming temperatures and the occasional gust of wind had likely helped Blenheim keep within safe levels over lockdown. Residents were less likely to light a fire or keep it alive for long periods of time during warmer nights.

Air pollution levels also improved under last year's lockdown. Meanwhile, the number of complaints skyrocketed, which the council had since chalked up to more people being at home and noticing what was being burnt in their neighbourhood.

PDEQ issues Ozone Pollution Air Advisory Monday

Date:-13-September-2021, Source: kgun9.com



TUCSON, Ariz. (KGUN) — The Pima County Department of Environmental Quality issued an advisory for ground-level ozone air pollution for the Tucson metro area Monday.

Anyone who is especially sensitive to air pollution could suffer coughing and trouble breathing and are advised to limit intense physical activity between noon and 6 p.m.

How are Krakow residents coming together to fight air pollution?

Date:-14-September-2021, Source: euronews.com

The Polish city of Krakow dates back to the 7th century. It is steeped in history and there are many places in this ancient city that have remained unchanged for centuries.

However, there are also spots that have shifted a lot in recent years. Signs of these changes are becoming more and more visible, such as the abundance of cars on the roads for example.

Lukasz Franek, director of the Public Transport Board in Krakow, says there are now 700 cars per 1,000 inhabitants - and the city was not built for this many cars.

"We just don't fit in with these cars. Our streets in the historic part of the town are not as wide as in Warsaw, Wrocław and Poznań," he explains.

With almost 1 million inhabitants, the city now has a problem with air quality and pollution is being fought on all fronts.

Pollution fighting initiatives

Krakow now has a deliberate policy in place to push private cars out of the centre and some streets are only open to residents, cyclists and scooters.



One of Poland's largest footbridges is in Krakow

The city has one of Poland's largest footbridges for pedestrians and cyclists too.

It has also launched an electric public bicycle system as part of the EU's Low-Carb project.

We caught up with one of the city's residents, Marek Rybarczyk, who is a regular user of the public system.

He says he's happy with the price as "they're free!". But more seriously, he thinks the bikes are located in convenient places and loves the fact that they're electric.



Krakow's electric public bicycle system

Who are the opponents?

Changes to Krakow's traffic system have been met with some opposition.

Those against it hail from mainly designated Clean Transport Zones and tend to be entrepreneurs. In these areas, deliveries of goods to restaurants and shops are allowed only at certain hours and clients are not allowed to drive there at all. So entrepreneurs say this has a direct impact on their income.

Izabela Bobula is an entrepreneur from the Kazimierz district, where these restrictions are in place.

"When people buy a lot of things, they prefer to drive somewhere by car where they can buy everything in one place and they do not have to carry their purchases in bags or in trolleys," she explains.

The authorities in Krakow admit that they are aware of this and although they do not intend to change the path towards cleaner air, they say they will take further steps after consultations with residents.

These consultations are expected to take place towards the end of the year or the beginning of next year. According to Andrzej Kulig, the deputy mayor of Krakow, "discussing urban mobility issues is crucial" to the mayor.

He says that they don't want to do anything top-down because they want to work together with the locals.

When is the time for talks?

The COVID-19 pandemic has meant environmental talks have been put on the backfoot for a while.

But with many residents working remotely and fewer cars on the streets, the air quality in Krakow showed an immediate and significant improvement.

In some districts, Krakow even wants to implement a 15-minute city model.

The goal of this initiative is to have everything people need within a 15-minute walk or cycle. For this, the authorities would need the green light from the city's inhabitants.

Bay Area Air Quality Management District Offering \$1,200 To Buy Back Older, More Polluting Vehicles

Date:-15-September-2021, Source: [sanfrancisco.cbslocal.com](https://www.sanfrancisco.cbslocal.com)

SAN JOSE (KPIX 5) — The Bay Area Air Quality Management District is offering \$1,200 to get some of the oldest and worst polluting cars off the road, as part of a buyback program. "Our vehicle buyback program pays owners of older, more polluting cars, vans and small trucks to trade in their vehicles voluntarily," says Erin DeMerritt, a spokesperson for the district.

DeMerritt said removing even a single older model car from the road eliminates roughly 75 pounds of airborne pollution over the course of a single year. Ed Hollshwandner took advantage of the buyback program for his 27-year-old Subaru. "It's the Subaru that we brought my daughter home from the hospital in," Hollshwandner told KPIX 5.

The car was so reliable and long-running it was featured in one of the automaker's ads, having been passed from father to teenage daughter and back again, over the course of nearly three decades on the road.

"It was just time. A 27-year-old car obviously just doesn't have the same pollution quality controls as a current vehicle," he said. To be eligible, the cars

must be model year 1997 or older. Vehicles need to be in working condition and must have been registered in the state of California for at least the past two years. Some, however, wonder if people aren't holding onto these older cars not because they're not concerned about the environment but because of economics.

"We understand the need to protect the environment, for sure. But the economic reality of so many people, especially that I've worked with, is that's all they can afford," said Pastor Scott Wagers, an advocate for the homeless and affordable housing. Bay Area Air Quality Management District officials said the program is entirely voluntary. According to DeMerritt, they managed to get roughly 3,000 older cars off the road last year.

China's winter air pollution drive to encompass more cities

Date:-16-September-2021, Source: reuters.com



Construction at the site of the former Workers' Stadium is seen on polluted day before the closing session of National People's Congress (NPC) in Beijing, China

BEIJING, Sept 16 (Reuters) - China plans to include more cities in its 2021 winter air pollution campaign, the environment ministry said in a draft on Thursday, as Beijing attempts to clear smog-laden skies.

The campaign was introduced in 2017 and initially focused on 28 key regions, including the capital city Beijing and nearby areas. China is due to host the Winter Olympics in Beijing and the nearby city of Zhangjiakou in early February, 2022.

The new draft plan covers regions in northern Hebei, northern Shanxi, eastern and southern Shandong and some cities in the southern Henan province, bringing the total to 64.

China's Ecology and Environment Ministry (MEE) said it will publish monthly air quality data for each region and issue alerts to those who see less progress of improving air quality.

"We will hold regulatory talks with the local government official publicly," the MEE said, adding that officials will be held accountable if found to be tampering with or falsifying emissions data. The draft plan did not detail overall air quality targets.

The campaign, which will run from October to the end of March, is being widened this year to take "the atmospheric environment in autumn and winter and the influence of regional transmission" into consideration, it added.

The MEE will continue to push for the reduction of burning coal use this year, aiming to replace it with natural gas or electricity heating systems at 3.67 million households. It said it would not hike city-gate gas prices at these residences.

The plan also emphasized central government's stand of banning new high-energy consumption and high-emission projects, in particular in industries such as petrochemical, steel, coking, non-ferrous and coal-fired power.

Steel mills in the 64 regions will be ordered to curtail production in the six months, based on their emission levels.

Wildfire smoke fills Willamette Valley ahead of storm

Date:-17-September-2021, Source: statesmanjournal.com

Some areas of the Willamette Valley woke up to smoky skies Friday from wildfires burning in Oregon and Northern California.

Lake County and parts of Marion, Linn and Douglas counties are under an air quality advisory through Friday afternoon.

At 10 a.m. Friday, air quality was rated as moderate in the Salem area, reaching unhealthy for sensitive groups in some areas of the Santiam Canyon.

Much of the smoke there is coming from the Bull Complex Fire, burning north of Detroit. The fire has burned 21,191 acres and is 15% contained.



Smoke from wildfires in South Salem looking southwest on Friday, Sept 17, 2021

In Eugene, air quality was rated unhealthy.

The smoke was expected to clear Friday night as heavy rain moves into the area.

The National Weather Service predicts as much as three-quarters of an inch of rain overnight, with heavy rain continuing Saturday and Sunday.



Smoke rises over the Bull Complex fire burning near the Bull of the Woods Lookout in the Cascades Range

The Oregon Health Authority offers recommendations for staying safe during smoke events:

- Pay attention to local air quality reports and public health messages.
- Refer to visibility guides if they are available. Not every community has a monitor that measures the particles in the air. In the Western part of the United States, some communities have guidelines to help people estimate the Air Quality Index (AQI) based on how far they can see.
- If you are advised to stay indoors, keep indoor air as clean as possible. Keep windows and doors closed unless it is extremely hot outside. Run an air conditioner if you have one, but keep the fresh air intake closed and the filter clean to prevent outdoor smoke from getting inside. Running a high-efficiency particulate air (HEPA) filter or an electrostatic precipitator (ESP) can also help you keep your indoor air clean. If you do not have an air conditioner and it is too warm to stay inside with the windows closed, seek shelter elsewhere.

- Don't add to indoor pollution. When smoke levels are high, do not use anything that burns, such as candles, fireplaces or gas stoves. Do not vacuum because vacuuming stirs up particles already inside your home. Do not smoke inside.
- Don't rely on masks for protection. Paper "comfort" or "dust" masks are designed to trap large particles, such as sawdust. These masks will not protect your lungs from smoke. Respirators must be fitted, tested and properly worn to protect against wildfire smoke. If you choose to wear a respirator, select an "N95" respirator, and find someone who has been trained to help you select the right size.

Streets in Norwich close for car-free day

Date:-19-September-2021, Source: eveningnews24.co.uk



Alexandra Road was closed for a street party to celebrate Norfolk's Car Free Day.

Streets in Norwich closed to traffic over the weekend as people celebrated Norfolk's Car Free Day.

The day, organised locally by Norfolk County Council, encourages drivers to give up their cars in support of its aim to reduce air pollution and congestion on our roads.

Ben Price, a Green Party city and county councillor, brought a motion to Norwich City Council three years ago to endorse the day, which is celebrated internationally.

He: "Not only is there less carbon being used, creating better air quality, but it is also a day where communities come together."

Anyone could apply for a temporary road closure and free Street Play licence for September 19 as a way to celebrate the day.

Mr Price added: "It's about raising awareness that we can use cars less to create a better shared environment for communities.

"There's a psychological benefit in just being able to step out into the road and not be confined to the pavement in fear of cars that is very healthy for people.

"We need to transition away from cars and we need to as a community to lower the impacts of fossil fuels and it has to be led by people as we can't simply rely on the government."

Sue Lawrence used the day to hold a street party for her neighbours, after lockdown marked the first time her neighbours got to know one another.

The 60-year-old applied for a licence for Alexandra Road in Norwich's golden triangle after a Green Party leaflet was posted through her door.

She previously said: "I remember thinking how eerie it was at the beginning of lockdown to walk about with hardly any traffic and so little noise.

"But as daily walks became the norm, and everyone ventured out for their hourly exercise, I started to really enjoy how stress-free it all felt.

"It was so lovely to see so many people cycling, especially with young children."

Matt White previously founded Car Free Norwich, and said this year's event marked the second of being a countywide initiative.

The streets which applied for licences to close were: Lincoln Street Cardiff Street, Grange Road, Highland Avenue, Mount Pleasant, Sewell Road, Cambridge Street, Lindley Street, Alexandra Road, Helena Road, Carnarvon Road and Denbigh Road.

Air quality advisory issued for Las Vegas due to wildfire smoke

Date:-20-September-2021, Source: fox5vegas.com



Clark County extended an air quality advisory for the Las Vegas through Monday.

The advisory was issued by the Department of Environment and Sustainability due to south central

California wildfires producing smoke drifting into the area.

Original story: LAS VEGAS (FOX5) -- Clark County issued an air quality advisory for the Las Vegas area on Saturday through Sunday night.

The Department of Environment and Sustainability issued the advisory through Sept. 19 due to wildfire smoke drifting into the area from south central California.

"DES Division of Air Quality officials say smoke is made of small particles and other pollutants that can aggravate respiratory diseases such as bronchitis and asthma or heart disease. Consult your physician if you have a medical condition that makes you sensitive to air quality conditions. Under today's conditions, it may be best for children, the elderly and people with respiratory and heart disease to stay indoors," the county wrote in a release.

To limit exposure to smoke, limit outdoor activity, keep windows and doors closed and consider changing air filters if necessary.

Air pollution still too high in most EU Member States

Date:-21-September-2021, Source: eea.europa.eu

The EEA briefing 'Europe's air quality status 2021' presents the latest official data for 2019, as well as provisional data for 2020, on concentrations of key air pollutants measured at over 4,500 monitoring stations across 40 European countries.

The EEA data show that air pollution is still a major health risk for Europeans. In central and eastern Europe, the burning of solid fuels for domestic heating and industry results in high concentrations of both fine and coarse particulate matter, as well as benzo[a]pyrene, a known carcinogen. Exposure to fine particulate matter causes cardiovascular disease, lung cancer and other diseases that lead to premature deaths. In bigger cities, high concentrations of nitrogen dioxide persist due to road traffic, with nitrogen dioxide linked to asthma and breathing problems. And, especially in southern Europe, pollutants emitted from human activities react in heat and sunlight to produce high concentrations of ground-level ozone, linked to cardiovascular disease and irritation of the eyes, nose and throat.

Key results:

- Particulate matter (PM10): 21 countries (of which 16 were EU Member States[1]) registered concentrations above the EU daily limit value in 2019, while 31 countries registered concentrations above the stricter World Health Organization (WHO) guideline from 2005.
- Fine particulate matter (PM2.5): 7 countries (of which 4 were EU Member States) registered concentrations above the EU annual limit value in 2019, while 28 countries registered concentrations above the 2005 WHO guideline.
- Ground-level ozone (O3): 24 countries (of which 19 were EU Member States) registered concentrations above the EU annual limit value in 2019, while all countries registered concentrations above the 2005 WHO guideline.
- Nitrogen dioxide (NO2): 22 countries (of which 18 were EU Member States) registered concentrations above the EU annual limit value in 2019, which is the same as the 2005 WHO guideline.

The EEA's data show that air quality in Europe improved in 2020, as lockdown measures to control the spread of COVID-19 led to a fall in transport emissions, combined with favorable weather patterns. An EEA analysis of the impacts of COVID-19 lockdowns on air quality in 2020 is presented in a separate briefing and more extensively in the Air Quality in Europe – 2020 report.

Background

The WHO has established air quality guidelines to protect human health from the impacts of air pollutants. These guidelines are from 2005 and based on the best scientific evidence available at that time. WHO is expected to publish new air quality guidelines on 22 September 2021.

The EU's Ambient Air Quality Directives set maximum values for a total of 13 air pollutants. Although these values take into account relevant WHO guidelines, they also reflect the technical and economic feasibility of their attainment across EU Member States. For most air pollutants, the EU air quality standards are less strict than the WHO 2005 air quality guidelines.

Other key resources:

- European Air Quality Index shows near real-time air quality data for Europe, allowing users to check local air quality where they live or travel.
- European city air quality viewer compares average levels of fine particulate matter in 323 European cities, over the past two calendar years.
- National air pollutant emissions data viewer gives access to the latest air pollutant emission data, reported by EU Member States under the National Emission reduction Commitments (NEC) Directive.
- Air quality data center gives access to all relevant EEA data on air quality in Europe
- Air pollution: how it affects our health shows how exposure to fine particulate matter contributes to disease and premature death in Europe and how this burden is distributed across European society

WHO issues new air quality recommendations for six major pollutants

Date:-22-September-2021, Source: healio.com

WHO has issued new global air quality guidelines, updating its previous recommendations that were made 16 years ago.

The new guidelines aim to protect people from air pollutants, including those that contribute to climate change, according to a steering group led by WHO's European Centre for Environment and Health.

“Nothing is more essential for life than air,” WHO Director General Tedros Adhanom Ghebreyesus, PhD, MSc, said during a press briefing. “The simple act of breathing contributes to 7 million deaths a year.”

Exposure to air pollution is linked to an increased risk for respiratory diseases like pneumonia, asthma, chronic obstructive pulmonary disease and severe COVID-19. It is also a major cause of noncommunicable diseases such as ischemic heart disease, stroke and cancer, Tedros said.

The updated levels on six “classical pollutants” are intended as interim targets to guide all people, including policymakers, organizations and individuals, Maria Neira, MD, MPH, director of the department of Environment, Climate Change and Health at WHO, said.

Tedros urged all countries to put the guidelines into use.

Updated levels

The pollutants include PM_{2.5}, PM₁₀, ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide. The recommendations did not include suggestions for simultaneous exposure to multiple pollutants.

WHO decreased the maximum levels of acceptable exposure to all pollutants except sulfur dioxide compared with the 2005 guidelines. Specifically, WHO recommended average exposure levels of:

- 5 µg/m³ PM_{2.5} annually compared with 10 µg/m³ in 2005;
 - 15 µg/m³ PM_{2.5} over 24 hours compared with 25 µg/m³ in 2005;
 - 15 µg/m³ PM₁₀ annually compared with 20 µg/m³ in 2005;
 - 45 µg/m³ PM₁₀ over 24 hours compared with 50 µg/m³ in 2005;
 - 60 µg/m³ ozone during “peak season”;
 - 100 µg/m³ ozone over 8 hours;
 - 10 µg/m³ nitrogen dioxide annually compared with 40 µg/m³ in 2005;
 - 25 µg/m³ nitrogen dioxide over 24 hours;
 - 40 µg/m³ sulfur dioxide over 24 hours compared with 20 µg/m³ in 2005;
- and

- 4 mg/m³ carbon monoxide over 24 hours.

The new recommended exposure level to sulfur dioxide is higher than the recommended exposure level in 2005.

“This value is believed to cut health effects to the same extent as the guidelines for other pollutants, so we believe that it is fair to have it in the form that it is now,” Michal Krzyanowski, MD, co-chair of the Guideline Development Group, told Healio Primary Care during the briefing.

Although the guidelines are “not legally binding,” they are intended as pollution level caps for all countries, according to WHO.

Intersection between air quality, health and policy

Hans Henri P. Kluge, MD, WHO regional director for Europe, said during the briefing that

“Clean air is a political choice and a societal response,” he added.

Tedros said that vulnerable populations in low- and middle-income countries are particularly affected by “poor air quality due to urbanization and rapid economic development and air pollution in the home caused by cooking, heating and lighting.”

If air quality levels are kept below WHO’s new standard for PM. alone, globally, about 80% of deaths linked to particulate matter exposure could be avoided, according to the guidelines.

Petter Ljungman, MD, an associate professor of epidemiology at the Institute of Environmental Medicine at Karolinska Institutet and senior consultant of cardiology at Danderyd Hospital in Sweden, and colleagues recently published findings in The BMJ that showed long-term air pollution exposure at levels below U.S., European Union and previous WHO guidelines was significantly associated with mortality from natural causes, CVD and respiratory disease.

“These are significant changes for the better,” Ljungman said in response to the new WHO air quality guidelines.

He said that reductions in nitrogen dioxide levels specifically “are helpful for policy planning,” since nitrogen dioxide is a “good capture of local emissions.”

Ljungman expected that WHO’s new guidelines will put some pressure on the Environmental Protection Agency to develop and implement new U.S. air

quality guidelines. However, “the U.S. is a huge country and there are vast disparities when it comes to air pollution exposure, and it is going to be challenging,” he said.

The new guidelines are particularly relevant to primary care physicians.

“It is really important to create an awareness of this issue amongst primary physicians to make sense of this and promote this for the general audience as well as for their patients to actually come to terms with changes that need to be done to secure health,” Ljungman said. “As doctors, we work with patients and we do a lot of secondary prevention, but at the end of the day, we are interested in having good health to start off with. We are interested in prevention, and pollution is a scenario where we can do a lot to provide prevention and protection from becoming sick.”

EU air pollution limits way out of step with new WHO guidelines

Date:-23-September-2021, Source: euronews.com

The World Health Organization (WHO) has tightened its guidelines for recommended air pollution limits, after it found evidence of damage to human health at lower levels than previously thought.

This leaves the EU legal limit for air pollution way out of step with the WHO’s recommendations, with the bloc allowing certain types of pollution to be four or five times higher.

Since 2005, when the WHO last updated its global recommendations, there has been “a marked increase in evidence that shows how air pollution affects different aspects of health” the organisation said.

It says it aims to save millions of lives with its new Global Air Quality Guidelines.

Around 7 million people are estimated to die prematurely due to air pollution, which can cause respiratory problems and lung damage in children, and heart disease and stroke in adults.

The new guidelines recommend air quality levels for six pollutants: two types of particulate matter (PM), ozone (O₃), nitrogen dioxide (NO₂) sulfur dioxide (SO₂) and carbon monoxide (CO).

According to environmental law charity ClientEarth, the new levels widen the gap between the WHO's recommendations and the legal limits in the EU.

For example, for PM2.5, EU legal limits are now five times higher than WHO recommendations, while they are four times higher for NO2. The charity claims they are "frequently or even systematically exceeded", exposing citizens to dangerous levels of pollution.

According to Ugo Taddei, ClientEarth's head of clean air, the new recommendations should "serve as a wake up call" to governments across Europe.

"Clean and healthy air is a fundamental right and EU laws should be fit to protect individuals," he said.

"The Commission is now looking to reform EU air quality standards and these new WHO recommendations must absolutely be reflected in legislation. The revision of the Air Quality Directive is a once-in-a generation opportunity to ensure people in the EU don't have to breathe harmful levels of air pollution for years to come."

Announcing the new recommended levels, WHO director-general Dr Tedros Adhanom Ghebreyesus said air pollution hits people in low and middle-income countries hardest.

"WHO's new Air Quality Guidelines are an evidence-based and practical tool for improving the quality of the air on which all life depends. I urge all countries and all those fighting to protect our environment to put them to use to reduce suffering and save lives," he said.

The new guidelines were based on evidence obtained from six systematic reviews that considered more than 500 papers.

Study: Unfit vehicles responsible for 15% of air pollution in Dhaka

Date:-24-September-2021, Source: dhakatribune.com

Unfit vehicles are responsible for 15% of the air pollution in Dhaka, according to a recent study.

The study by Centre for Atmospheric Pollution Study (CAPS) also found that 30% of the air pollution is caused by unplanned and uncontrolled road digging and construction work in the capital.



Recent study finds unplanned road and construction works were causing 30% of the air pollution

Other sources of air pollution include brick kilns and factories (29%), vehicle exhaust fumes (15%), transboundary air pollution (10%), household and cooking stove (9%), and waste incineration (7%).

Smoke from run-down vehicles still remains a concern as the amount has increased in the last two years since a crackdown on black smoke in 2003, experts say.

According to Stamford University Department of Environmental Science Chairman Dr Ahmad Kamruzzaman Majumder, poorly maintained vehicles are behind the emission of black smoke that is polluting the air.

He said that not only are vehicles running without fitness, even a large number of fitness certified vehicles also produce black smoke.

The harmful substances emitted by vehicles burning liquefied petroleum while stuck in traffic, is also harmful to the environment.

According to the latest government study in 2019 , there are 1.6 million registered vehicles in Dhaka.

Out of those, the total number of vehicles with expired fitness is 500,000—and the number is increasing by 20% to 30% every year.

The fitness issuance and verification authorities BRTA (Bangladesh Road Transport Authority) uses manual methods 90% of the time in order to check the fitness of the car. The test usually takes one to five minutes for every vehicle.

Meanwhile, the Vehicle Inspection Center (VIC) has limited capacity to digitally test the black smoke of the vehicle through emission test machines at the BRTA Mirpur offices.

Given that there are only two such machines, the fitness test is conducted manually most of the time, according to the BRTA officials.

“Diesel-powered heavy vehicles usually emit black smoke,” BRTA Assistant Director (fitness section) Morshedul Alam told Dhaka Tribune.

He says that the problem occurs when the engine oil is not changed timely and the engine is not properly maintained.

During manual testing the inspectors and experts identify the markers and manually mark how much black smoke is emitted, added Alam.

According to him, only 32 vehicles are tested everyday as it takes about 15 minutes to check the fitness of each vehicle.

“Police are fining those vehicles that do not come to us for fitness,” he said adding that while the BRTA provides one-year fitness certificates.

Black smoke is emitted from the vehicles if they are not maintained for three months, Alam said before adding: “So, in some cases, even if they have a certificate, they aren’t actually fit,” he said.

During a visit to the BRTA offices earlier this week, it was found that the authorities machine-inspected only one vehicle for fitness between 11am and 2pm. Another car was in the queue but the server crashed.

The Department of Environment says they regularly conduct mobile court operations to penalize vehicles emitting black smoke.

“In addition, some of our projects are working to make people aware of the adverse effects of air pollution,” said Md Ziaul Haque, its director for Dhaka region.

“But we need a big project to reduce emissions from vehicles and other sources. Which is what we are planning with other government agencies like BRTA,” he added.

According to the CAPS study, the amount of small particulate matter Dhaka air is about 80% of the total particulate matter which is one of the causes of lung disease.

Harmful substances like chromium, mercury, lead, copper, nickel and silver are regularly found in the air and if inhaled in high amounts, these metals can cause severe illnesses including heart diseases.

Dhaka has been grappling with air pollution, consistently topping the list of world cities with the worst air quality.

On April 24, Dhaka's air quality index (AQI) at 6:29am read 489 which is considered “severe.”

An AQI between 201 and 300 is considered “poor,” while a reading of 301 to 400 is said to be “hazardous,” posing serious health risks to city residents. And an AQI between 401 and 500 is said to be “severe.”

During the 90 days between January 2021-March 2021 Dhaka's air was “hazardous” for 12 days, “very unhealthy” for 58 days, “unhealthy” for 19 days and “unhealthy for sensitive groups” on one day.

As per the World Health Organization (WHO), air pollution kills an estimated seven million people worldwide every year, largely as a result of increased mortality from stroke, heart disease, chronic obstructive pulmonary disease, lung cancer and acute respiratory infections.

World Bank To Assist Ghana In Eliminating Air Pollution To Improve Public Health

Date:-25-September-2021, Source: republicworld.com

The World Bank's country director for Ghana, Pierre Laporte announced on Friday that the World Bank will assist Ghana in reducing air pollution to improve public health. As per the website Ghana Business News, Laporte made this statement during an event of the establishment of an information-sharing workshop on pollution management and environmental health on Friday, September 24, in Ghana's capital, Accra.



The research had found that about 100% of Ghana citizens are exposed to the levels of air pollution which are much higher than World Health Organisation (WHO) limits, yet, attempt to minimise the air pollution in the country has always been inadequate. Laporte further stated that air pollution is dangerous because it causes or contributes to heart attacks, strokes, lung cancer, and respiratory illnesses. It is the country's sixth-highest overall risk of death.

As per the CGTN website, Laporte said that the World Bank had partnered with the Environmental Protection Agency of Ghana to conduct a pilot program of pollution management and environmental health initiative in Ghana which aims to reduce the nation's atmospheric air pollution levels and improves the quality of air. He went on to say that the two organisations will continue to work on a comprehensive air quality control plan for Accra.

Consequences of Ghana's air pollution

According to the website GhanaWeb, air pollution in the country has been identified as the top environmental threat to public health. As per Bank Country Environmental Analysis (CEA), it is revealed that around 16,000 premature deaths have occurred due to air pollution. Out of the total 16,000 annual premature deaths, nearly 8,500 have occurred in the urban cities while 7,600 have occurred in the rural areas. In Ghana, the air pollution mortality rate includes both outdoor as well as indoor air pollution which is basically the

air pollution created from households. Domestic air pollution comprises nearly 66% of the deaths in rural Ghana.

The Ghana Business News further reports that a study released on May 30, 2019, in Boston, USA, states that cooking fuels that are utilised in most Ghanaian houses, such as charcoal and firewood, are said to be the source of domestic air pollution. The study further reveals that domestic air pollution caused by the usage of solid fuels for cooking, such as wood, coal, charcoal, as well as other biomass, resulted in almost 10,000 fatalities in Ghana every year.

New air quality advisory issued for Southern California mountain areas due to wildfire smoke

Date:-26-September-2021, Source: sbsun.com



Visibility from the top of Day Creek Blvd. in Rancho Cucamonga is diminished looking south towards Norco as seen on Thursday, Aug. 26, 2021

An air quality advisory for parts of Southern California was announced for Monday, Sept. 27, due to continued wildfire smoke drifting from the central parts of the state, the South Coast Air Quality Management District said Sunday.

Elevated air quality index levels are expected to affect higher-elevation areas throughout the San Bernardino and San Gabriel mountains beginning Monday morning, the air quality management district said. The impact to surface air quality is expected to last through Monday afternoon, the district said.

The San Gabriel Mountains in general are expected to be affected while the western and central portions of the San Bernardino Mountains are forecasted to expect poor air quality levels, the district said.

A previous air quality advisory impacting similar mountain regions announced Thursday, Sept. 23, expired on Friday afternoon, Sept. 24.

Residents in areas experiencing poor air quality are encouraged close all windows and doors and run air conditioning or an air purifier to keep air clean, the district said. They also advised against using house fans or swamp coolers that bring in outside air.

Avoiding wood burning fireplaces and firepits was also recommended as well as minimizing sources of indoor air pollution such as candles, incense, pan-frying, and grilling, the district said.

Air pollution app launched in Northern Ireland to alert people to high levels of pollutants

Date:-27-September-2021, Source: belfastlive.co.uk

A new app has been launched to alert people in Northern Ireland to high levels of air pollution.

Poor air quality is the largest environmental risk to public health across the UK, as long term exposure to air pollution can cause chronic condition like cardiovascular and respiratory diseases as well as lung cancer while government statistics estimate that air pollution reduces everyone's life expectancy by an average of 7 to 8 months.

According to research from Public Health England, 553 Northern Ireland citizens aged 25 and over died from causes that could be attributed to air pollutants caused by human activity in 2010. The sources of this pollution include industry, domestic combustion and transport.

Now it is hoped "Northern Ireland Air" mobile application, announced by Ministers Edwin Poots and Robin Swann, will allow people with "underlying

conditions health issues such as heart and lung conditions, or asthma to get more localised information when they need it".



Minister launch the new app

The new app was designed to improve how the public are informed when periods of high air pollution are forecast or being experienced in Northern Ireland and will compliment DAERA's existing SMS alert service, Air Quality NI website and Mobile App.

Welcoming the improvements to the alert protocol, Minister Poots said: "Northern Ireland tends to experience seasonal fluctuations in certain types of air pollutants due to behavioural changes as a result of colder weather.

"Therefore, as we approach autumn/winter, I would ask everyone to consider their actions when it comes to heating their homes using the most efficient methods available.

"It is more important than ever to ensure that the public is alerted as soon as possible to forecast or actual High Air Pollution events.

"Interest in the quality of the air we breathe has grown massively over recent years, and the improvement of this alert system allows people with underlying health issues such as heart and lung conditions, or asthma to get more localised information when they need it.

"The revised protocol utilises social media as a form of getting this information out to the public at a greater pace and informing a larger proportion of the population." Health Minister Robin Swann has encouraged people to sign up to receive the alerts by downloading the NI Air app. Minister Swann explained: "If you suffer from, or care for anyone with health conditions that may be exacerbated by high air pollution events I would urge you download the Northern Ireland Air Mobile App.

"It offers a push notification service that sends a notification to the user's mobile phone when levels of elevated pollutants are detected or the air quality forecast has identified elevated levels of pollutants. Alternatively, you can sign up to the 'Air Aware' SMS-alert service."

The Northern Ireland Air App can be downloaded free via the Air Quality Northern website at www.airqualityni.co.uk and from both android and iPhone App stores by searching Northern Ireland Air.

Air Pollution Linked to 6 Million Premature Births in 1 Year

Date:-28-September-2021, Source: usnews.com



TUESDAY, Sept. 28, 2021 (HealthDay News) -- Air pollution impacts the youngest humans, with new research linking dirty air to almost 6 million premature births and almost 3 million underweight babies worldwide in 2019.

More than 90% of the world's population lives with polluted

outdoor air, a new study points out. And its effects continue through the years: Premies or children with low birth weight have higher rates of major illness throughout their lives. Preterm birth is also the leading cause of neonatal mortality worldwide.

"The air pollution-attributable burden is enormous, yet with sufficient effort, it could be largely mitigated," said lead author Rakesh Ghosh, a public health specialist at the Institute for Global Health Sciences at the University of California, San Francisco.

Ghosh and his colleagues from UCSF and the Institute for Health Metrics and Evaluation at the University of Washington quantified preterm birth and low birthweight risks using total indoor and outdoor pollution exposure. They also accounted for the likelihood that the negative effects taper off at higher levels.

The team found that preterm births and low birthweight could be reduced by almost 78% if air pollution were minimized in Southeast Asia and sub-Saharan Africa. Those regions experience the highest preterm birth rates in the world.

The researchers also found that more developed areas, including the United States, also had significant risks from ambient air pollution. U.S. outdoor air pollution is estimated to have contributed to almost 12,000 preterm births in 2019.

In an earlier study, the researchers concluded that air pollution contributed to the deaths of 500,000 newborns worldwide in 2019.

"With this new, global and more rigorously generated evidence, air pollution should now be considered a major driver of infant morbidity and mortality, not just of chronic adult diseases," Ghosh said in a UCSF news release. "Our study suggests that taking measures to mitigate climate change and reduce air pollution levels will have significant health co-benefit for newborns."

Wales enforces 50mph speed limits and fines to reduce air pollution

Date:-29-September-2021, Source: [energylivenews.com](https://www.energylivenews.com)

Drivers exceeding the 50mph speed limits on some of the most polluted roads in Wales could face fines from next week.

The speed limits have been brought in at five locations in south and north-east Wales to lower nitrogen dioxide (NO₂) levels and cameras have been installed to monitor traffic speeds.

By changing the speed limit to 50mph in previous trials, NO₂ levels were reduced by up to 47% in the areas, which is why the government has decided to make the changes permanent.

Breathing air with high levels of NO₂ can irritate airways, worsen illnesses like asthma, cause the development of serious illnesses like heart disease, lung cancer and asthma as well as increase the risk of catching respiratory infections.

Poor air quality is estimated to contribute to around 2,000 deaths per year in Wales.

While most people drive at around 50mph, the National Police Chiefs Council (NPCC) suggests many people are still driving at 57mph.

From 4th October 2021, drivers will receive warning letters for breaking the speed limits, with the worst offenders facing potential prosecution.

The areas are:

- A494 between the Wales/England border and St David's Interchange Deeside
- A483 between junctions 5 and 6 Wrexham
- M4 between junctions 41 and 42 Port Talbot
- M4 between junctions 25 and 26 Newport
- A470 between Upper Boat and Pontypridd

Deputy Minister for Climate Change, Lee Waters, who has a responsibility for Transport said: "We've made significant progress in bringing emissions levels down in recent years but we now have to go further and faster.

"We know that slower speed limits are not a popular choice but we need to do things differently and be bold if we are to stand a chance of tackling climate change.

"It's clear that the speed restrictions we've introduced on our most polluted roads are working – the results speak for themselves – but compliance with

these limits is essential if we are to achieve the reductions we need to make in the shortest possible time.

“We need to act now to make Wales a safe place to live with clean air for everyone.”

Swiss air pollution exceeds new WHO guidelines

Date:-30-September-2021, Source: lenews.ch

On 22 September 2021, the World Health Organisation (WHO) adjusted its healthy guidelines for key air pollutants. Switzerland now regularly exceeds maximum guidelines for several pollutants.

According to WHO, exposure to air pollution is estimated to cause 7 million premature deaths a year globally and result in the loss of millions more healthy years of life. The damage includes reduced lung growth and function, respiratory infections and aggravated asthma in children. In adults it mainly causes ischaemic heart disease and strokes. Evidence is also emerging of other effects such as diabetes and neurodegenerative conditions. The burden of disease attributable to air pollution is on par with unhealthy diet and tobacco smoking, said the health agency.

The WHO said that there was a marked increase in evidence that shows how air pollution affects different aspects of health. After a systematic review of the evidence the body decided to adjust almost all of its air quality guideline levels downwards.

The guidelines set out new healthy guideline levels for six pollutants, which include particulate matter (PM_{2.5} and PM₁₀), ozone (O₃), nitrogen dioxide (NO₂) sulfur dioxide (SO₂) and carbon monoxide (CO).

Pollutant	Averaging time	2005 AQGs	2021 AQG level
PM _{2.5} , µg/m ³	Annual	10	5
	24-hour ^a	25	15
PM ₁₀ , µg/m ³	Annual	20	15
	24-hour ^a	50	45
O ₃ , µg/m ³	Peak season ^b	–	60
	8-hour ^a	100	100
NO ₂ , µg/m ³	Annual	40	10
	24-hour ^a	–	25
SO ₂ , µg/m ³	24-hour ^a	20	40
CO, mg/m ³	24-hour ^a	–	4

The annual guideline for PM_{2.5} was halved from 10µg/m³ to 5µg/m³ – PM_{2.5} particulate matter penetrates into lungs with the potential to pass through the lungs into other organs. The same annual rates for PM₁₀ were cut from 20µg to 15µg and for NO₂ they were cut from 40µg to 10µg.

Much of Switzerland regularly exceeds these new guidelines. In 2019, Bern came in with a PM_{2.5} reading of 10.9 µg/m³, well in excess of the new guideline of 5µg/m³.

Air pollution in Switzerland is seasonal. In 2019, air quality in Bern declined in November from around 8 µg/m³ of PM_{2.5} to 11.6µg/m³. This then climbed to 14.7 µg/m³ in January, and then to a yearly high of around 18 µg/m³ in February, the most polluted month.

In winter, burning wood, gas and heating oil add to Switzerland's pollution. In addition, between 2-3% of the electricity generated in Switzerland is from fossil fuels.

During September 2021, Bern managed PM_{2.5} levels under 5µg for only 3 out of 30 days, according to IQAir. On the worst day air concentration of PM_{2.5} rose as high as 14.8µg/m³, close to three times the annual guideline limit. September air in Bern scored better on PM₁₀ concentrations. The new annual WHO guideline is 15µg/m³. Bern had PM₁₀ concentrations above this level for only 17 out of 30 days (57%).

Much of Switzerland's pollution comes from vehicles and factories. Cars and trucks generate large amounts of NO₂ and SO₂ in addition to rubber particles from their tyres, which continue to accumulate. 200 tonnes of these particulates have been spread around Switzerland over the last 20 years alone.

Those most at risk from poor air quality are people living near factories and areas of dense traffic. Road commuters are also exposed to road pollution.

October 2021

London borough improves air quality with co-innovation project

Date:-1-October-2021, Source: smartcitiesworld.net

As well as reduce pollution, Transport for London worked with Here Technologies and Bosch to discover how wind and the weather affect the dispersion of pollutants across the inner-city area.



Seventeen Bosch air quality boxes were installed across London as part of the project

Traffic management solutions have contributed to a 20 per cent reduction in nitrogen oxide (NOx) exposure in the London Borough of Lambeth.

Transport for London (TfL) has been working with location data and technology specialist, Here Technologies, and technology and services company, Bosch, to measure and improve air quality in the borough by reducing traffic congestion.

The companies report that the project led to a marked improvement in localised air quality, smoother traffic flow, reduced traffic congestion and a greater understanding of how wind and the weather affect the dispersion of pollutants across the inner-city area.

Air pollution

In 2019, it was announced that more than two million Londoners lived in areas where nitrogen dioxide (NO₂) levels regularly exceeded the legal limits for air pollution. Backed by the mayor of London's Transport Strategy, TfL looked for new ways to measure and understand air quality and to target local traffic congestion as one of the major sources of pollution.

"We applied an approach that put users front and centre and could be adapted to explore different innovative solutions to move further forward with the vital work to improve London's air," said Rikesh Shah, head of commercial innovation at TfL.

"Toxic air pollution in the capital is still the biggest environmental risk to the health of all Londoners and by using smart technologies we can help London breathe easier." Bosch deployed air quality monitors in the centre of Brixton and in the streets nearby. The data that they collected was combined with TfL traffic count data and used as inputs to sophisticated emissions and dispersion modelling from Bosch.

This allowed TfL to intelligently control the traffic flow through adjusting traffic light timing, and to complete the loop the Bosch air quality monitors then collected further data, which showed the significant benefit of the traffic management measures.

Across Brixton, 17 Bosch air quality boxes measured the air for a range of pollutants including NO₂, and O₃, as well as particulates PM_{2.5} and PM₁₀. Here Technologies data was used to better understand the dynamic flow of vehicles passing through the Brixton neighbourhood and to model emissions. Here probe data and TfL traffic volumes were then collected for traffic analysis and included in a dispersion calculation that considered the impact of topology and weather on air quality.

This resulted in a high-accuracy emission heatmap of Brixton town centre. This heatmap is updated hourly, accurate down to 20 metres, and allows traffic managers to better understand and adapt their traffic mitigation solutions. Here aggregates voluminous data about traffic flow and congestion from hundreds of sources, including anonymised data from connected vehicles and mobile applications. The insights provided on vehicle speeds, down to a specific road segment, generated the model of real-time driving behaviour and traffic dynamics in particular areas of the Borough of Lambeth.

“We have conclusively reduced emissions and improved traffic flow in Brixton and that’s a fantastic outcome. With our highly accurate air quality monitoring and modelling coupled with key additional data points, we ended up with a sophisticated model that enabled us to understand the best way to improve air quality,” said Ian Larbey, air quality lead for Bosch UK. “We’ve made a real difference in Brixton and we’re excited about the huge potential we have to improve the air quality in other areas of London but more widely in the UK and beyond.”

Gino Ferru, general manager EMEAR and senior vice president, Here Technologies, added: “Road transport accounted for 33 per cent of emissions of nitrogen oxides in the UK in 2019. By collaborating with Bosch on the air quality solution, Here is helping cities such as London to not only analyse the origin of local air pollution, but to decrease it by putting in place environmentally sensitive traffic management. We look forward to expanding our collaboration to other London boroughs and to offering our services in many other cities.”

Air pollution in La Palma forces several municipalities into confinement

Date:-2-October-2021, Source: euroweeklynews.com



Air pollution levels in La Palma have forced several municipalities on the island into confinement.

Air quality on the island of La Palm has deteriorated so badly over the past few days that residents in the areas of San Borondón, Marina Alta, Marina Baja and La Condesa nuclei have been forced into confinement, according to a report from *diariodesevilla*.

The direction of the Volcanic Risk Prevention Plan in the Canary Islands, Pevolca, last night (Friday, October 1), ordered the confinement of several population centres in the municipalities of El Paso and Los Llanos de Aridane due to a worsening of the air quality due to the volcanic eruption of Cumbre Vieja.

The new confinement order was agreed as a consequence of a change in meteorological conditions that together with a thermal inversion prevents the dispersion of gases, keeping them at low levels of the atmosphere and closer to the ground- making them a danger to public health.

The scientific committee had recently warned that the meteorological conditions could favour a worsening of the air quality that until now had remained within allowed parameters.

In the latest development, the Cumbre Vieja eruption now has two new active mouths. They are about 15 meters from each other on the northwest face of the island and at a distance of about 600 meters from the crater.

About 6,000 people have so far been evacuated since the eruption began and are still not able to return home. More than 800 buildings including houses, churches and schools have been destroyed by the lava stream.

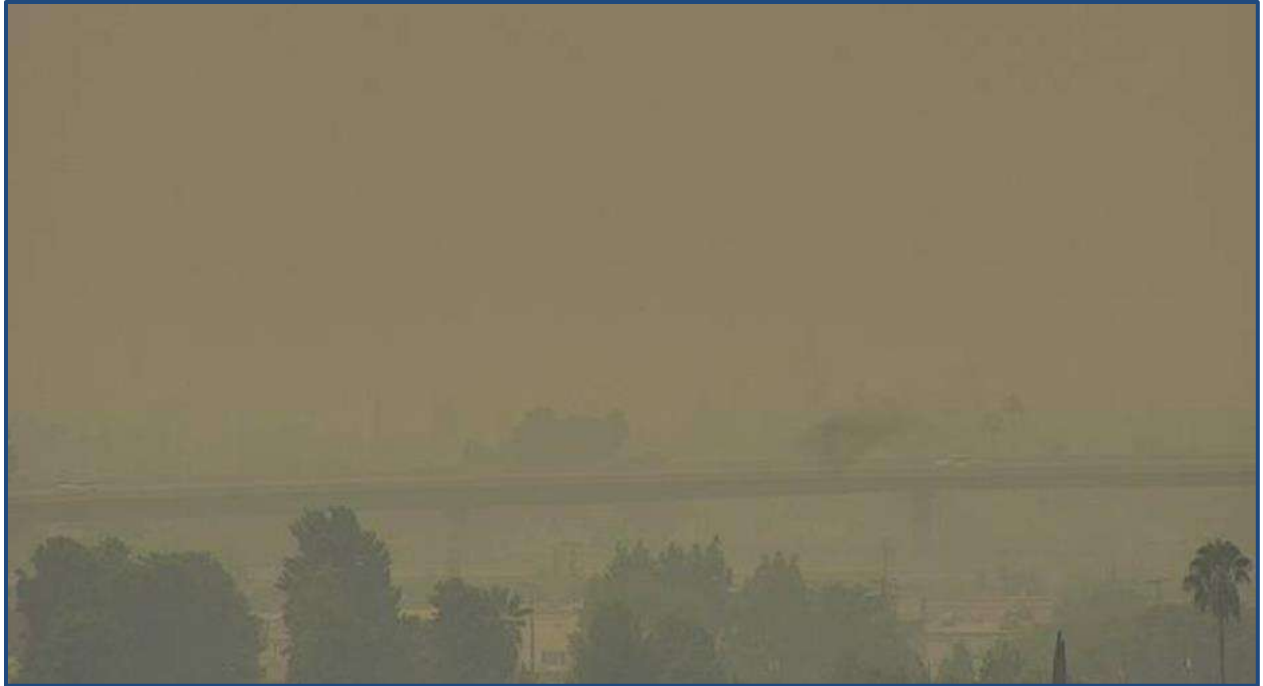
The volcano has thrown out 80 million cubic metres of molten rock, regional leader Angel Victor Torres said, doubling the amount expelled during La Palma's last major eruption 50 years ago in half the time.

Wildfire smoke continues to affect Central Valley residents

Date:-3-October-2021, Source: yourcentralvalley.com

TULARE COUNTY, Calif. (KSEE/KGPE) – Smoke from the KNP Complex and Windy fires in Tulare County has continued to affect Central Valley residents throughout the week, according to San Joaquin Valley Air officials.

An advisory warning from the San Joaquin Valley Air Pollution District was issued on Thursday, Sept. 30, and will continue until Monday, Oct. 4.



Downtown Fresno on Oct. 3

Officials warn residents of the particular matter in smoke that can trigger asthma attacks, aggravate chronic bronchitis and increase the risk of heart attack and stroke.

Air district authorities also advise individuals with heart or lung disease to follow doctor's advice when dealing with particular matter exposure. Individuals with existing respiratory conditions are especially vulnerable to smoke and particular matter, officials say.

More information on wildfires affecting the Central Valley and resources to protect yourself from exposure to wildfire smoke can be found on the San Joaquin Valley Air website.

Free Metro rides Wednesday for California Clean Air Day

Date:-4-October-2021, Source: dailynews.com

LOS ANGELES — Wednesday is California Clean Air Day, and Metro will encourage people to reduce their vehicle trips by offering free access to its bike share program and free rides on its train and buses.

“Metro remains dedicated to reducing tailpipe emissions and air pollution by providing more sustainable ways to get around the region,” said Metro Board

Chair and Chair of the L.A. County Supervisors Hilda Solis, who introduced the motion to have free Metro access on Clean Air Day.



A Metro bus is seen on Wilshire Boulevard at Vermont Avenue in Los Angeles on Wednesday, Apr. 14, 2021. Riding the bus has been free during the COVID-19 pandemic.

“We know that transportation is the number one cause of our emissions, so I’m encouraging Angelenos of all types to leave their car at home as we take action for clean air.”

People can access the free bike share program by using the promo code 100621 on Wednesday. Buses have already been operating fareless during the COVID-19

pandemic, but trains will go fareless as well on Wednesday.

“Clean Air Day is a perfect opportunity to invite Angelenos far and wide to leave their cars at home and reduce their carbon footprint by taking Metro for free October 6,” said Metro CEO Stephanie Wiggins. “Our transit system takes cars off the road and has reduced our region’s greenhouse gas emissions by 6.5 million metric tons of CO2 equivalent over the last decade alone.”

“We are committed to reducing 100% of our agency’s operational greenhouse gas emissions by 2050. We are clearly committed over the long-term to help ensure our transit system contributes to meeting our region’s rigorous clean air goals.”

California Clean Air Day is meant to encourage people to improve community health through their actions. On cleanairstday.org, Californians can make pledges ranging from large steps to small steps, like buying local produce, planting a tree, walking, biking or taking public transit or installing solar panels on their home.

El Paso had 126 elevated air pollution days in 2020

Date:-5-October-2021, Source: elpasotimes.com



A smoky haze hovers over El Paso,TX and Juarez on Monday Sept. 13,2021 on scenic drive

The El Paso area had 126 days of elevated air pollution in 2020, the second most in Texas, according to a new report from Environment Texas Research & Policy Center, Frontier Group and TexPIRG Education Fund.

The report's findings means that El Pasoans were breathing air with elevated levels of pollution on one out of every three days last year.

“Even one day of breathing in polluted air has negative consequences for our health,” said Luke Metzger, Executive Director of Environment Texas, based in Austin. “One hundred and twenty six days is unacceptable and we need to do more to deliver cleaner air for our communities.”

The report measured days with elevated levels of small particulate matter and elevated ozone. The El Paso area had 78 days with elevated small particulate matter and 68 days of elevated ozone. In total, the city had 126 days with either elevated ozone, particulate matter, or both.

El Paso trailed only Brownsville, which had 129 days of elevated air pollution in 2020. Austin came in third at 103 days, San Antonio fourth at 101 days and Houston rounded out the top five with 96 days.

Both El Paso and Brownsville contend with air pollution coming from Mexican border cities. Vehicle emissions standards and other air quality regulations differ across the border, posing challenges to reduce air pollution. El Paso, Ciudad Juárez and parts of Doña Ana County in New Mexico all share an air basin, meaning efforts must be coordinated across multiple jurisdictions.

While COVID-19 shutdowns may have briefly cleared skies in 2020, the record-setting wildfire season caused dangerous levels of air pollution across the western states.

The report includes recommendations for policymakers to electrify buildings, equipment and transportation, to transition to clean renewable energy and to strengthen federal air quality standards.

"Zeroing out pollution from all aspects of our lives will protect our lungs and our climate at the same time," said Metzger of Environment Texas.

El Paso's sunny skies and warm temperatures make the city prone to ozone pollution, also known as smog. Wildfire smoke is increasingly contributing to particulate pollution in the region.

The EPA has proposed designating El Paso to the "nonattainment" status for ozone. If so, Texas would have to make a new plan with the EPA to reduce ozone pollution in El Paso.

Exposure to ozone and particulate pollution is linked to premature death, damage to the respiratory and cardiovascular systems, increased risk to cancer and problems with fertility, conception, pregnancy and birth. Air pollution is also linked to increased risk of infection from infectious diseases, including COVID-19.

While particulate matter or ozone are elevated, people who are unusually sensitive to particulate pollution should spend less time outdoors and reduce their physical activity. People with pre-existing conditions including asthma, heart or lung disease are at high risk and should pay special attention to levels of smog and particulate matter.

California Clean Air Day puts focus on air pollution in Central Valley cities

Date:-6-October-2021, Source: yourcentralvalley.com

FRESNO, Calif. (KGPE) – Californians were urged to ride their bike, take the bus, and limit activities that create air pollution as part of the state's annual Clean Air Day.

Blue skies over Fresno were a refreshing sight on Wednesday after weeks of anything but clean air.

"We are also seeing a lot of patients who have never had problems before," explained allergist Dr. Malik Baz.

Dr. Baz says air pollution triggers asthma and other respiratory issues.

According to data from the Population Reference Bureau, Tulare and Kings County have the highest percentage of children diagnosed with asthma.

Tulare at 32.7% and Kings at 28.4 percent– much higher than the state's 14.3%.

"Proper diagnosis is very important and once the proper diagnosis is made make sure you get the appropriate medical help, whether it be from a family doctor or allergist," said Dr. Baz.

Those at risk include the young, the old, and the vulnerable.

Research by the environmental protection agency shows communities of color are more exposed to particulate matter based on where they live or work. It's not all doom and gloom.

"The overall outlook for the San Joaquin Valley is very positive," said Heather Heinks with the Valley Air District.

While more needs to be done, Dr. Baz and Heinks agree progress has been made to reduce air pollution in the Valley, on the local, state, and federal levels.

"We are 30 years into policy, decisions, and funding that has helped billions of dollars to come into the valley to invest in cleaner technology to help businesses and residents reduce their emissions output," Heinks explained.

Until then, you can protect yourself by staying indoors in a filtered air environment, change the filters often, and wear an N95 mask.

Long-term exposure to permissible concentrations of air pollution linked with increased mortality risk

Date:-7-October-2021, Source: hsph.harvard.edu



Boston, MA – Exposure to low concentrations of air pollution, even at levels permitted under federal regulations, may be causing tens of thousands of early deaths each year among elderly people and other vulnerable groups in the U.S., according to a large national study from

Harvard T.H. Chan School of Public Health.

The study was published October 7, 2021, in *The Lancet Planetary Health*.

“We found that among elderly patients enrolled in Medicare, small increases in long-term exposure to both particle and gaseous air pollutants increased the risk of death, even at levels deemed safe by current regulations,” said lead study author Mahdieh Danesh Yazdi, a postdoctoral fellow in Harvard Chan School’s Department of Environmental Health. “Our findings suggest that current air pollution limits are not adequate to protect the health of vulnerable groups.”

Previous studies have suggested that people exposed to air pollution concentrations that are lower than those permitted by the U.S. Environmental Protection Agency may still have an increased risk of illness and mortality. But most earlier studies didn’t focus on individuals who were continually exposed to lower concentrations of pollutants during the study period, as the new study does. Researchers also used a robust causal modeling technique and a large dataset for their analysis that gave them enough power to detect links between air pollution and mortality in demographic and socioeconomic subgroups.

The analysis included data on millions of Medicare enrollees from 2000 to 2016. The researchers predicted people's exposure levels by using satellite-based measurements, land-use data, meteorological data, and chemical-transport models to generate daily air pollution predictions as well as annual averages of exposure levels across the U.S. Participants were assigned exposures based on their residential postal codes. The researchers adjusted for factors such as age, sex, race, education level, and smoking history.

The study looked at the effects of three different types of pollutants, including fine particulate matter, or PM_{2.5}—particulates with a diameter of less than 2.5 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$)—nitrogen dioxide (NO₂), and summer ozone (O₃). The researchers limited their dataset to individuals who were exposed to air pollution concentrations below the annual maximums recommended by the EPA. For PM_{2.5}, the threshold is 12 $\mu\text{g}/\text{m}^3$; for NO₂, it's 53 parts per billion (ppb). There is no regulation regarding long-term exposure for O₃, so the researchers chose 50 ppb as an upper exposure limit for the purposes of the study.

All of the studied pollutants increased the mortality risk among the participants. Thousands of deaths could be attributed to even small increases in annual air pollution concentrations, according to the researchers.

Each 1 $\mu\text{g}/\text{m}^3$ increase in annual PM_{2.5} concentrations increased the absolute annual risk of death by 0.073%. Each 1 ppb increase in annual NO₂ concentrations increased the annual risk of death by 0.003%, and each 1 ppb increase in summer O₃ concentrations increased the annual risk of death by 0.081%. These increases translated to approximately 11,540 deaths attributable to PM_{2.5}, 1,176 deaths attributable to NO₂, and 15,115 deaths attributable to O₃ per year for each unit increase in pollution concentrations.

Men were at greater risk of death from PM_{2.5} and O₃, and people who identified as Black had a higher risk of death caused by NO₂ and O₃. The study also found an increased risk of death for people living in lower-income areas, pointing to disparities in the adverse effects of air pollution.

The results suggest that a 2020 EPA decision not to tighten standards for ambient PM_{2.5} “was unjustified,” the researchers wrote. They listed interventions that could reduce air pollutants, such as stricter controls on industry and fossil-fuel electric-generating units, larger and more efficient catalysts on automobiles, city planning to promote active transport, and improved public transit.

“Our finding that people living in lower income areas are more susceptible to the harmful effects of air pollution means they are suffering a double whammy—more exposure, and greater risk from that exposure,” said Joel Schwartz, professor of environmental epidemiology and senior author of the study. “The Clean Air Act requires the EPA to protect sensitive populations with an adequate margin of safety. It is time for it to do so.”

Other Harvard Chan School authors of the study included Yan Wang, Qian Di, Weeberb Requia, Yaguang Wei, Liuhua Shi, Matthew Sabath, Francesca Dominici, Brent Coull, John Evans, and Petros Koutrakis.

Funding for the study came from U.S. Environmental Protection Agency grant RD-835872, from National Institute of Environmental Health Sciences P30-ES000002, and Health Effects Institute grant 4953-RFA14-3/16-4.

“Long-term Effect of Exposure to Lower Concentrations of Air Pollution on Mortality Among US Medicare Participants and Vulnerable Subgroups: A Doubly-Robust Approach,” Mahdiah Danesh Yazdi, Yan Wang, Qian Di, Weeberb J. Requia, Yaguang Wei, Liuhua Shi, Matthew Benjamin Sabath, Francesca Dominici, Brent Coull, John S. Evans, Petros Koutrakis, and Joel D. Schwartz, *The Lancet Planetary Health*, October 7, 2021, doi: 10.1016/S2542-5196(21)00204-7.

New air quality alert system launched in Northern Ireland

Date:-8-October-2021, Source: airqualitynews.com



Northern Ireland has announced changes to the Air Pollution Alert Protocol to improve public awareness during periods of high air pollution.

The updated system has been a joint effort between the Department of

Agriculture, Environment and Rural Affairs (DAERA) and the Department of Health (DoH).

Changes will include the use of social media to disseminate information about high levels of air pollution to the public, health professionals and those in high-risk groups.

It comes in addition to DAERA's existing SMS alert service, Air Quality NI website and Mobile App.

Edwin Poots, Northern Ireland's Environment Minister said: 'With the Covid-19 pandemic still affecting our daily lives, it is more important than ever to ensure that the public is alerted as soon as possible to forecast or actual High Air Pollution events.

'The revised protocol utilises social media to get this information out to the public at a greater pace and inform a larger proportion of the population.

'Interest in the quality of the air we breathe has grown massively over recent years, and the improvement of this alert system allows people with underlying health issues, such as heart and lung conditions or asthma, to get more localised information when they need it.'

Health Minister Robin Swann has encouraged the public to sign up to receive alerts by downloading the NI Air app.

Robin Swann said: 'If you suffer from, or care for anyone with health conditions that may be exacerbated by high air pollution events I would urge you download the 'Northern Ireland Air' Mobile App, which offers a service that sends a notification to the user's mobile phone when levels of elevated pollutants are detected or the air quality forecast has identified elevated levels of pollutants.'

The Northern Ireland Air App can be downloaded from both the Android and iPhone App stores by searching 'Northern Ireland Air'.

Egypt's Prime Minister reviews government efforts to combat 'black clouds' phenomenon

Date:-9-October-2021, Source: dailynewsegypt.com

Egypt's Prime Minister Mostafa Madbouly has followed up on the measures adopted by the Ministry of Environment to confront acute episodes of air pollution (black clouds) in Greater Cairo and the Delta regions during September.



After reviewing a report presented by Minister of Environment Yasmine Fouad on Saturday, Madbouly praised the efforts made by the ministry in partnership with the concerned authorities, to confront air pollution, and to address negative practices in this regard, whether from industrial facilities or farmers.

He also stressed the importance of awareness and follow-up in stopping the causes of pollution and maintaining more air quality.

In the report, the Minister of Environment indicated that the aforementioned period witnessed the collection of 13,190 tonnes of rice straw, from the amount targeted to be collected at the end of the harvest season. In addition, 221 sites were opened for collecting and pressing rice straw, through the support of equipment provided by the Ministry of Environment.

The minister added that 16 axes affiliated to the ministry were activated to follow up and control the open burning of agricultural waste, in cooperation with the concerned authorities, pointing out that 614 burning points were monitored and dealt with during the aforementioned period.

She further added that during the period from 1 to 21 September, 21 separate fires were monitored and dealt with in the governorates of Sharqiya and Behira, noting that the Ministry of Environment controls public and random landfills and garbage collection areas, by providing the necessary equipment and daily traffic to the various sites in coordination with all concerned authorities.

Moreover, the report pointed out that during the aforementioned period, no transgression was observed in the emissions of smokestacks of establishments connected to the industrial emissions monitoring network, which amounted to 383 smokestacks for 84 industrial facilities.

Air district issues air quality high-wind advisory

Date:-10-October-2021, Source: [bakersfield.com](https://www.bakersfield.com)

The San Joaquin Valley Air Pollution Control District is alerting residents that strong northwesterly winds expected late Sunday night could cause blowing dust and elevated PM10 concentrations through Tuesday night.

People in affected areas are advised to stay inside with windows and doors closed to avoid exposure to blowing dust.

"Strong winds often cause localized blowing dust in areas where soils are exceptionally dry — creating unhealthy concentrations of particulate matter 10 microns and smaller (PM10). Exposure to particulate pollution can cause serious health problems, aggravate lung disease, trigger asthma attacks and bronchitis, and increase risk of respiratory infections," the air district said in a news release.

Go to airnow.gov to monitor PM10 levels or download the "EPA AirNow" app for android or iPhone. Go to valleyair.org for more information.

OREGON NEWS: Report shows parts of Oregon spent months last year with elevated air pollution levels

Date:-11-October-2021, Source: [malheurenterprise.com](https://www.malheurenterprise.com)

Klamath Falls had as many elevated pollution days as cities like Phoenix, Cincinnati and San Antonio in 2020, according to a new report.

The non-profit Environment America, part of the left-leaning Public Interest Network, used EPA air quality data taken from monitors in every state.

Despite fewer Americans using cars every day or undertaking major travel due to coronavirus restrictions, many parts of the American West experienced months of poor air due to wildfires. In Klamath Falls, residents spent nearly half a year in air deemed moderate to hazardous by the EPA, according to the report.



Smoke from fires in southern Oregon during 2020 settle over a farm further north in Washington

Sophie Goodwin-Rice is a health care associate with the Oregon State Public Interest Research Group Part of the national Public Interest Network. She knows for many, the data isn't surprising.

"You don't need to tell people in southern Oregon, people living in Harney County, they lived it," she said of areas heavily impacted by the Almeda Fire and the air quality issues that came with it. "What we hope is that this shows leadership around the state that it's an issue. Having data like this is helpful because it isn't just anecdotal."

Two pollutants are singled out in the report for causing worse levels on the Air Quality Index, used by the EPA to determine the safety of air for breathing. Those pollutants are ground level ozone, a byproduct of combustion like that from running a car, and particulate matter, pollution smaller than 2.5 micrometers that can, over time, become deposited deep into the lungs, like particles from smoke and wildfire.

Particulate matter reached record highs in Portland in 2020 from fires across the region, according to the EPA. The EPA standard for healthy air is a 50 or below on the Air Quality Index, which goes from 0 to 500. Air is considered very unhealthy when it gets above 200 on the index.

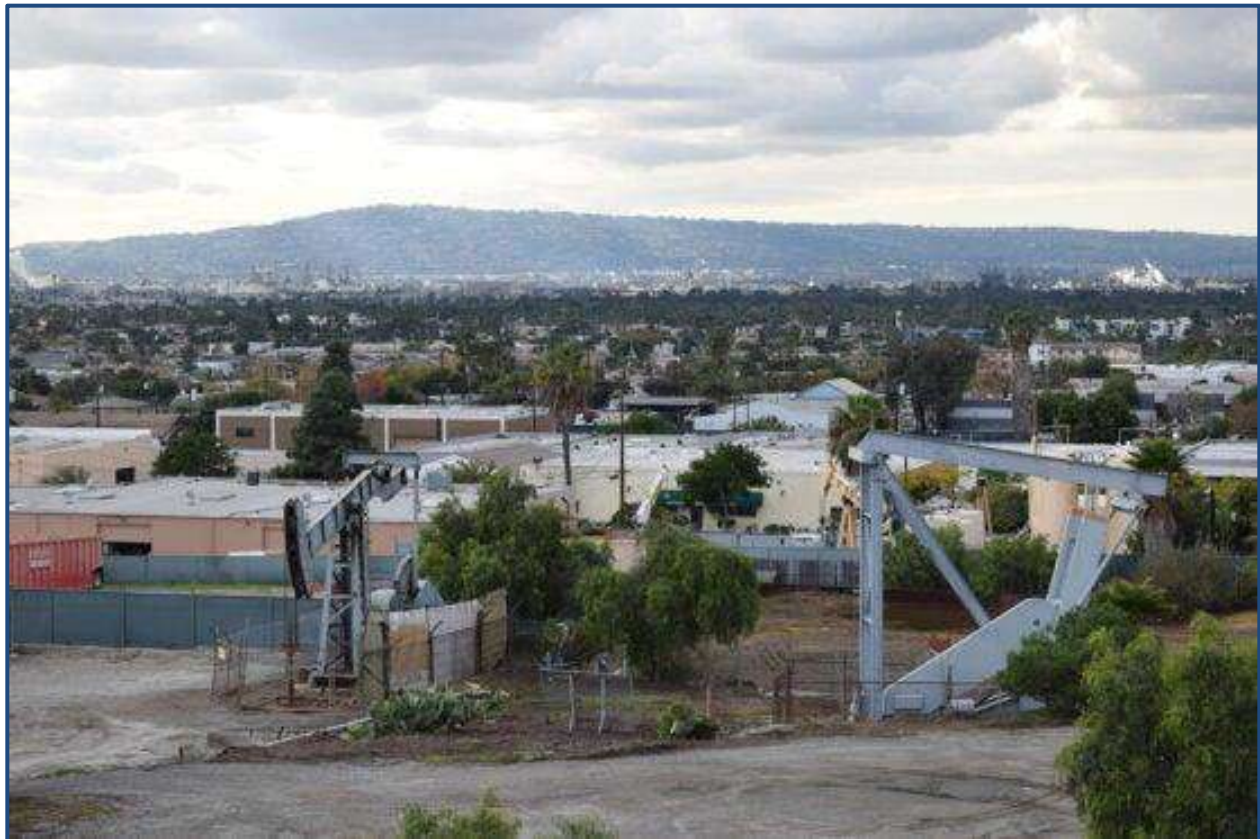
Researchers determined the number of days people spent in parts of the country where the levels were above 51. The report notes that the World Health

Organization has stricter standards for what counts as bad air quality than the EPA and several interest groups like the American Lung Association recommend lower thresholds for acceptable pollution levels.

Automobiles continue to be the primary cause of air pollution in the U.S., but as wildfires become larger and more frequent due to climate change, they may play a larger role in overall air quality in the years to come, according to the report. The report recommended addressing the root causes of climate change as a matter of dramatically improving air quality in Oregon and around the country.

Living near oil and gas wells increases air pollution exposure, according to Stanford research

Date:-12-October-2021, Source: news.stanford.edu



Oil wells operating in Signal Hill, a city in Los Angeles County, California. Researchers found that drilling and operating wells emits harmful levels of pollution that may affect the health of nearby residents

In a 14-year analysis of air quality across California, Stanford researchers observed higher levels of air pollutants within 2.5 miles of oil and gas wells, likely worsening negative health outcomes for nearby residents.

The scientists analyzed local air quality measurements in combination with atmospheric data and found that oil and gas wells are emitting toxic particulate matter (PM2.5), carbon monoxide, nitrous oxide, ozone and volatile organic compounds (VOCs). The findings, which appear in the journal *Science of the Total Environment*, will help researchers determine how proximity to oil and gas wells may increase the risk of adverse health outcomes, including preterm birth, asthma and heart disease.

“In California, Black and Latinx communities face some of the highest pollution from oil and gas wells. If we care about environmental justice and making sure every kid has a chance to be healthy, we should care about this,” said lead author David Gonzalez, who conducted research for the study while a PhD student in Stanford’s Emmett Interdisciplinary Program in Environment and Resources (E-IPER). “What’s novel about our study is that we’ve done this at a population, state-wide scale using the same methods as public health studies.”

The findings align with other smaller-scale studies that have measured emissions from a handful of wells. At least two million Californians live within one mile of an active oil or gas well.

“It’s really hard to show air quality impacts of an activity like oil and gas production at a population scale, but that’s the scale we need to be able to infer health impacts,” said senior study author Marshall Burke, an associate professor of Earth system science at Stanford’s School of Earth, Energy & Environmental Sciences (Stanford Earth). “While it’s not necessarily surprising that drilling and operating oil and gas wells emit air pollutants, knowing the magnitude of the effect improves our broader understanding of who is exposed to what and how to intervene to improve health outcomes.”

A global killer

The research reveals that when a new well is being drilled or reaches 100 barrels of production per day, the deadly particle pollution known as PM2.5 increases two micrograms per cubic meter about a mile away from the site. A recent study published in *Science Advances* found that long-term exposure to one additional microgram per meter cubed of PM2.5 increases the risk of death from COVID-19 by 11 percent.

“We started in 2006 because that’s when local agencies started reporting PM2.5 concentrations,” said Gonzalez, who is now a postdoctoral researcher at the University of California, Berkeley. “We’re very concerned about particulate matter because it’s a leading global killer.”

The team evaluated about 38,000 wells that were being drilled and 90,000 wells in production between 2006 and 2019. They developed an econometric model incorporating over a million daily observations from 314 air monitors in combination with global wind direction information from the National Oceanic and Atmospheric Administration (NOAA) to determine if the pollutants were coming from the wells.

Other factors that could be contributing to elevated emissions were controlled for – such as wildfire smoke or industrial activities – and monitors located far from drilling sites were used to identify those factors unrelated to wells. They also analyzed locations with air quality data from both before and after a well was drilled.

“Sometimes the wind is blowing from the well, sometimes it’s not, and we found significantly higher pollution on days when the wind is blowing from the wells,” Gonzalez said. “As a control, we assumed wells that are downwind of the air monitor shouldn’t contribute any pollution – and that is indeed what we saw.”

The research also reveals that ozone – a powerful oxidant that can cause wheezing, shortness of breath and aggravated lung disease – was present up to 2.5 miles from wells. Children are at the greatest risk from exposure to ozone because their lungs are still developing, according to the Environmental Protection Agency (EPA).

Chronic exposure

The new study contributes to a growing body of evidence about the dangers of living near oil and gas wells that may help guide ongoing policymaking around residential setbacks from drilling sites. For example, LA County recently voted to phase out oil and gas drilling, citing issues of climate change, environmental impacts and equity, and other California cities are in discussion about neighborhood drilling regulations.

“Many of California’s oil fields have been operating for decades. People that live near them have been chronically exposed to higher levels of pollution – and a lot of these wells are located in neighborhoods that are already burdened by

pollution,” Gonzalez said. “Our study adds to the evidence that public health policies are needed to reduce residents’ exposure to air pollution from wells.”

Although data for the research is from California, the co-authors say the findings are likely applicable to other regions with oil and gas operations.

“We’ve had earlier papers suggesting that proximity to oil and gas production worsens health outcomes, and the likely channel was through air pollutants, but we previously didn’t have a good way to demonstrate that was the case,” Burke said. “This new work is helping confirm that air pollution was the missing link between this type of energy production and the bad outcome that we cared about.

Smoke from Alisal Fire affecting air quality in Southland

Date:-13-October-2021, Source: spectrumnews1.com



In this photo provided by Santa Barbara County Fire Department, the Alisal Fire continues to burn the dry vegetation in Refugio Canyon on Tuesday morning, Oct. 12, 2021, in Santa Barbara County, Calif

LOS ANGELES (CNS) — The South Coast Air Quality Management District has issued a special air quality advisory through Thursday afternoon due to heavy

smoke drifting into parts of Los Angeles, Orange and Riverside counties from the Alisal Fire near Santa Barbara.

Impacts on surface air quality are expected in the South Coast Air Basin, with elevated Air Quality Index (AQI) levels expected in the entire basin through Thursday afternoon, the SCAQMD said.

As of Wednesday morning, good and moderate air quality index levels were being measured throughout the area, but elevated levels were expected in the coastal regions starting Wednesday afternoon, with smoke moving farther inland.

In areas affected, the AQI may reach Unhealthy for Sensitive Groups levels or higher from midday Wednesday through at least Thursday afternoon, the SCAQMD said.

Officials recommended that, to help keep indoor air clean during periods of poor air quality, people should close all windows and doors and run air conditioners and/or air purifiers.

The SCAQMD also recommended that people not use whole house fans or swamp coolers that bring in outside air; avoid burning wood in fireplaces or firepits; minimize sources of indoor air pollution such as candles, incense, pan-frying and grilling; and limit the use of gasoline-powered lawn and garden equipment.

Breathing in fine particulate matter can lead to a wide variety of heart and lung health effects such as heart attacks, asthma aggravation, decreased lung function, coughing or difficulty breathing and may lead to premature death in people with heart or lung disease.

Also Wednesday, the National Weather Service issued a red flag warning for critical fire danger for much of the Southland from Friday morning through Saturday evening.

With gusty Santa Ana winds combining with low relative humidity, the warning will be in effect from 6 a.m. Friday to 8 p.m. Saturday, and will apply to the LA County coast, downtown LA, the Los Angeles County Mountains, the Angeles National Forest and the San Fernando and Santa Clarita valleys.

U.S. and Ghana Commission Air Quality Monitoring Stations

Date:-14-October-2021, Source: gh.usembassy.gov



U.S. Ambassador Stephanie S. Sullivan delivering her remarks

Accra, GHANA, October 14, 2021 – Today, U.S. Ambassador Stephanie S. Sullivan inaugurated an air quality monitoring station on U.S. Embassy grounds in Cantonments, Accra together with Hon. Henry Kwabena Kokofu, Executive Director of EPA Ghana representing Minister for Environment, Science, Technology, and Innovation (MESTI); Prof. Sandow Mark Yidana, Dean, School of Physical and Mathematical Sciences, University of Ghana; and other senior officials. It is the third of three air monitoring stations in Accra. The Environmental Protection Agency (EPA) Ghana, with the support of the World Bank Pollution Management and Environmental Health project, installed two other state-of-the-art air quality monitoring systems – one at the University of Ghana in Legon and another at the St. Joseph’s Roman Catholic Basic School in Adabraka. Today’s event serves to commission all three monitoring stations.

“These monitoring stations help scientists, researchers, government officials, and the public understand the data in real-time, as we work together to identify and mitigate sources of harmful air pollution. Air pollution, just like

the climate crisis, threatens our health and our prosperity. We are happy to work today with our partners to share information that can lead to solutions,” said U.S. Ambassador Stephanie S. Sullivan.

The collaboration among the U.S. Embassy in Accra, EPA Ghana, the University of Ghana, the U.S. Environmental Protection Agency, the World Bank Group, and other partners to establish three air quality monitoring stations in Accra will provide state-of-the-art, timely data on air pollution in the Accra Metropolitan Area.

All three monitors measure PM2.5 black carbon (a component of PM2.5) as well as weather data, such as temperature, relative humidity, pressure, wind speed, and wind direction. The particulate matter monitors, black carbon analyzers, and weather stations will provide high quality data on a continuous basis. Data from air quality monitoring station at the U.S. Embassy in Accra is available online at [https://www.airnow.gov/international/us-embassies-and-consulates/#Ghana\\$Accra](https://www.airnow.gov/international/us-embassies-and-consulates/#Ghana$Accra).

The data from all three monitoring stations will enable government agencies to inform the public about the current level of air quality and steps the public can take to reduce exposure to pollution. This data can also help the Ghana EPA and the Accra Metropolitan Assembly formulate strategies, policies, and decisions to reduce air pollution and improve public health. In addition, the data from the station will be available to scientists, academics, and students for educational and research purposes.

These stations complement the Air Quality Management Plan for the Greater Accra Metropolitan Area launched in 2018.

Study finds many undocumented health problems among individuals exposed to bushfire smoke

Date:-15-October-2021, Source: news-medical.net

The physical and mental burden of prolonged exposure to bushfire smoke is vastly underestimated by official statistics that are based upon admissions into the health system, finds a large survey of residents affected by the widespread bushfires close to Canberra, Australia's capital city, in the summer of late 2019 and early 2020. Improved knowledge in this area will improve initiatives that are aimed at building resilience among individuals and communities impacted by these catastrophic events.

Prolonged exposure to bushfire smoke creates a heavy mental and physical burden not portrayed by official statistics of admissions into the health system, finds a new study, published in *Frontiers in Public Health*. It highlights the urgent need for improved knowledge in this area to support and build resilience among individuals and communities that are impacted by these catastrophic events.

"Just less than one-fifth of respondents sought help from a medical practitioner, despite the widespread reporting of negative health burdens in our survey," he continues. "This shows that the rate of people presenting into the health system is much less than the number of people who experience health symptoms when exposed to bushfire smoke."

Widespread devastation

Air pollution from bushfires is known to increase the likelihood of death in humans and it especially affects people with pre-existing respiratory and cardiovascular problems. Its impacts on mental health are not so well understood.

The Australian summer of late 2019 to early 2020 saw fires burn 10m hectares (nearly 25m acres), which spread blanketing, choking smoke over an even larger area. As soon as was possible after this event, the researchers of this study conducted a survey of residents in the area to get a more thorough assessment of the impact of bushfire smoke on the community.

"Our survey of residents living in and around Canberra, Australia's capital city, asked a wide range of questions about the physical and mental health symptoms the participants had experienced, as well as how their behaviors changed during the bushfire period. For example, staying indoors to avoid the smoke, which in turn reduces physical activity," explains Walker.

Over 2000 people responded to the survey, which was administered via post, door to door visits, social media, and telephone contact to maximize the number and range of individuals reached.

Widespread negative health burden

"The survey showed that physical health effects were more extensive than previously thought and that there were very high levels of anxiety and depression," reports Walker. "It is likely that official statistics greatly underestimate the prevalence of health problems because of the major hurdles in the way of anyone presenting into the system, and we think many residents

were motivated to avoid overburdening the health system at a time when it was stretched."

Walker explains that improving our understanding in this area is important to help design better public health communications and service delivery.

"There is a real need for improved knowledge on the long-term effects of exposure to bushfire smoke, and how these effects vary across different segments of the population. We are conducting further studies to understand how bushfires continue to affect the mental health of people impacted by these fires and the smoke, and how we can build resilience among individuals and communities."

Air quality remains poor in Phoenix, where pollution outlasted the pandemic shutdown

Date:-16-October-2021, Source: azcentral.com



Air pollution is seen over a hazy downtown Phoenix on Jan. 2, 2021

Phoenix has ranked as one of the worst cities for air quality in the country and a new report shows that not even the pandemic lockdown could change that.

The report found that air pollution remains a serious problem across the metro area, with 2020 pollution levels not so different from those in previous years.

The region experienced 149 days of elevated air pollution in 2020, according to Environment America, a research and policy group that used data from the U.S. Environmental Protection Agency.

The report looked at air pollution in the most highly populated areas of the country, and out of those, Phoenix was the fourth-worst, behind three California metro areas: San Diego, Los Angeles and Riverside. Payson, east of Phoenix, also reported high levels of pollution with 100 days of elevated ozone.

"The main takeaway is that air pollution definitely remains a threat in Arizona and across the country," said Eve Lukens-Day, a global warming solutions campaign associate with Environment America. "Even one day of polluted air is too many. 149 is absolutely too many."

A pre-pandemic report from the American Lung Association placed Phoenix among the nation's 10 worst cities for two common and dangerous air pollutants, ozone and particle pollution, which are shown to have negative health effects.

Many people watched for signs of better air quality during the pandemic. Shutdowns and other restrictions forced people across the world to stay at home, decreasing fossil fuel emissions and improving air quality at an unprecedented rate in some parts of the world, according to the United Nations.

Some Phoenix residents noticed cleaner air and an improvement in their asthma. But in Phoenix, ozone stubbornly persisted, despite a reduction in emissions. Unusually high temperatures, local weather and international ozone transport patterns contributed to high ozone concentrations in Maricopa County in April and May of 2020.

The new report found that Phoenix area residents breathed in 103 days of air with elevated ozone, the main ingredient in smog. Residents experienced 62 days of air with particulate matter under 2.5 microns in diameter.

These small particles are especially dangerous because they can settle deep in people's lungs. In total, there were 149 days in 2020 with either elevated ozone, elevated particulate matter or both.

Tom Cahill, an associate professor at Arizona State University who researches air quality, said he's not surprised by the levels of air pollution. Ozone needs three ingredients to form: volatile hydrocarbons, sunlight and heat.

Volatile hydrocarbons start the chemical reaction to create ozone. They come from human-made pollutants like vehicle emissions and natural sources like wildfires. With plenty of heat and sun, Phoenix creates a friendly environment for volatile hydrocarbons to react.

"We have heat and sunlight in spades," Cahill said. "We are a great factory for making ozone, just by our climate." Research shows that air pollution can cause premature death, damage internal organs like hearts and lungs, increase cancer risk, worsen mental health and decrease fertility.

In 2018, Phoenix had 153 days of elevated air pollution, according to the Environment America report. There were only 110 days of elevated air pollution in 2016.

"If anything, the numbers that we have are actually an undercount of bad air days, just because there aren't air quality monitors for both ozone and particulate matter all across the state or all across the country," Lukens-Day said. "If we had even more air quality monitors, we might find the number of bad days are even higher."

Transportation is the main cause of nitrogen oxide emissions in Arizona, accounting for 75% of the total, according to 2017 EPA data. Nitrogen oxide reacts with other chemicals in the air to form ozone and particulate matter.

Wildfires and planned fires account for the largest source of volatile organic compounds in Arizona, making up 47% of emissions. Such compounds react with nitrogen oxides to produce ozone. Both large, unexpected fires, like the Museum Fire in Flagstaff, and planned fires, which are increasingly seen as a key forest management tool to help prevent massive wildfires, contribute to emissions.

"It's true that intentional burns as a fire management tool can help prevent more severe wildfires," said Morgan Folger, the Destination: Zero Carbon Campaign Director for Environment America. "Unfortunately, climate change will only continue to make the wildfire season last longer with more severe drought and hotter temperatures. As climate change worsens, it can add more fuel to potential wildfires and it will get harder to prevent. Our best long term

solution is to stop burning fossil fuels so we can lessen the impact of climate change on wildfire season."

The authors of the report called for electrification of buildings, equipment and transportation.

"Using fossil fuels in our homes, businesses, industry and transportation necessitates emitting air pollution — including greenhouse gases — at every step of the process, from pumping the fuel out of the ground to piping it around the country and then to burning it where we live and work," the report said.

Environment America supports President Joe Biden's Build Back Better Act, which is stalled in Congress, although the report didn't mention the legislation specifically. The measure would invest in electric vehicles and zero emission heavy duty vehicles.

Africa: Air Pollution Second Largest Cause of Death in Africa

Date:-17-October-2021, Source: allafrica.com



Air pollution was responsible for 1.1 million deaths across Africa in 2019, a new study shows. Most of these deaths -- 697,000 -- were as a result of household air pollution driven largely by indoor cooking stoves.

But while household air pollution is the predominant form of pollution, it is declining, whereas outdoor or ambient air pollution is increasing, signalling a looming problem, said Boston College professor of Biology Philip Landrigan, who led the project with United Nations Environment Programme Chief Environmental Economist Pushpam Kumar.

According to the report, air pollution is the second largest cause of deaths in Africa. It is a major threat to health, human capital, and economic development, and was responsible for 16.3 percent of all deaths.

Outdoor air pollution resulting from sources like exhaust smoke and pollutants emitted by industries claimed 394,000 lives on the continent.

Air pollution is responsible for more deaths than tobacco, alcohol, road accidents, and drug abuse. Only HIV/Aids causes more deaths.

But besides the loss to life, air pollution from smog-inducing ozone and fine particles may be siphoning billions of dollars off the continent's economy each year.

Thanks to sustained interventions by governments, non-governmental organisations, and UN agencies, disease and deaths from household air pollution across Africa are now declining, albeit slowly and unevenly. Polluting fuels such as charcoal and kerosene are still prevalent.

Deaths attributable to air pollution result from lower respiratory infections stand at 336,460 deaths, ischemic heart disease -- related to blockage in the arteries -- (223,930), neonatal disorders (186,541), chronic obstructive pulmonary disease (70,479), and stroke (193,936).

The report also associates air pollution to far-reaching effects of diminishing intellectual development of Africa's children.

According to the research, economic output lost to air pollution related disease wiped about \$3 billion off of Ethiopia's economy, that is 1.16 percent of the nation's Gross Domestic Product; \$349 million was lost from the Rwandan economy (1.19 percent of GDP) and \$1.6 billion in Ghana (0.95 percent of GDP).

In the first continent-wide examination of the far-reaching impacts of this pollution, the assessment aimed to quantify how air pollution is affecting health, human capital, and economies, but with a particular focus on three rapidly developing sub-Saharan countries: Rwanda, Ethiopia and Ghana.

The report -- International Day of Clean Air for blue skies -- published on October 7 in the latest edition of the journal *The Lancet Planetary Health*, indicates that patterns of air pollution-related disease and death vary across Africa. The highest rates are seen in countries with the lowest social development indices.

An upward trend in ambient air pollution-related mortality is evident in Ghana, the most economically advanced of the three countries we examined in detail, and is beginning to emerge in Ethiopia and Rwanda.

Differences in air pollution-related disease and death are seen by gender, with 43 percent of ambient (outdoor) air pollution related deaths and 47 percent of household air pollution related deaths occurring in women.

In the three countries that are the focus of this analysis, household air pollution exposures are greatest in Ethiopia and Rwanda, where an estimated 98 percent of households burn solid fuels for cooking and heating.

"The most disturbing finding was the increase in deaths from ambient air pollution," said Landrigan

"While this increase is still modest, it threatens to increase exponentially as African cities grow in the next two to three decades and the continent develops economically."

And the problem could get even worse with burgeoning population numbers on the continent.

With Africa's population on track to more than triple in this century, from 1.3 billion in 2020 to 4.3 billion by 2100, cities are expanding, economies are growing, and life expectancy has almost doubled, note the researchers. Which they say could be problematic.

Already, fossil fuel combustion has driven an increase in outdoor air pollution that in 2019 killed 29.15 people per 100,000 population, an increase from 26.13 deaths per 100,000 in 1990, according to the report.

The report warns air pollution will increase morbidity and mortality, diminish economic productivity, impair human capital formation, and undercut development if no intervention is made.

Air quality in Lahore ‘unhealthy’, transition in weather brings back smog

Date:-18-October-2021, Source: nation.com.pk



According to the latest statistics by IQAir, Lahore’s air quality has reached to 161 US AQI, with main pollutant reaching at PM 2.5.

It is to note that PM2.5 concentration in Lahore air is currently 7.5 times above the WHO

annual air quality guideline value.

Lahore suffers from high levels of air pollution, with the city regularly ranking at the top of IQAir AirVisual’s live pollution rankings of major global cities. However, pollution only rose to the top of the public’s consciousness in early 2017, when actionable air quality data was published for the first time in Pakistan. In the absence of publicly available government data, a network of citizen-operated sensors began to monitor fine particulate matter, also known as PM2.5, and report data in real-time. The data laid bare Lahore’s high levels of air pollution, shocking the public and becoming a media talking point.

The resulting publicity led to a public interest petition to review the government’s response to the smog crisis, which was heard at Lahore’s High Court in November 2017. The court ordered authorities to prepare an updated smog response action plan, and publish daily pollution updates until able to publish hourly updates, as the non-government monitors do.

Following the court order, the Punjab Environment Protection Council approved a Smog Action Plan and adopted an Air Quality Index (AQI) classification system in 2017. However, the AQI has been criticized by air quality advocates as being too lax and underreporting the severity of the pollution. While the U.S. AQI deems a PM2.5 concentration of 60 micrograms per cubic meter in the air as “Unhealthy”, Punjab’s AQI reads as

“Satisfactory”, with the advice: “May cause minor breathing discomfort to sensitive people.”

Because of this discrepancy, in November 2019, three children asked a court to declare the Punjab AQI “illegal and unreasonable.”

Air quality in Lahore usually worsens during the winter season from October to February when farmers in the wider Punjab province set light to the remnants of crops, producing smoke that adds to smog. At the same time, weather changes mean pollutants remain trapped in the air for longer.

In November 2019, during the heart of Pakistan’s “smog season”, Lahore regularly came second only to Delhi – and sometimes overtook the Indian city – as the world’s most polluted city on IQAir AirVisual’s live rankings of major global cities.

In 2018, Lahore ranked 10 in IQAir AirVisual’s 2018 World Air Quality Report. Neighbouring city Faisalabad’s air pollution ranked number 3, while air pollution in Islamabad came in significantly lower at number 239. Karachi air pollution was the lowest among the four cities at number 318.

Overall, Pakistan air pollution caused the country to be ranked as the second most polluted in the world with an annual PM2.5 average of 74.3 $\mu\text{g}/\text{m}^3$.

Air pollution in Lahore is caused by a combination of vehicle and industrial emissions, smoke from brick kilns, the burning of crop residue and general waste, and dust from construction sites. Other factors of air pollution include large scale losses of trees to build new roads and buildings.

Winter air pollution is worse due to temperature inversion, which results in a layer of warm air that is prevented from rising trapping air pollutants.

Real-time air quality data must first be made available to everyone with greater granularity. When people know how much pollution they are breathing, they can better take measures to protect themselves and be enabled to mobilise efforts around tackling air pollution.

Reducing industrial and vehicular emissions is also critical to improving the air quality. Prime Minister Imran Khan has told his cabinet that tackling air pollution is a priority, and authorities have taken measures to reduce pollution from brick kilns. Under the Punjab Green Development Program (PGDP) project, there are plans to do more, including establishing 10 air quality monitoring stations in Lahore.

Individuals can take steps in their daily life to reduce personal emissions by carpooling or taking public transport, actively switching to greener fuel alternatives, and more.

Sheffield city centre Clean Air Zone expected to be approved

Date:-19-October-2021, Source: bbc.com



The proposed zone will cover the inner ring road and city centre

Drivers of the most polluting vehicles will have to pay to enter Sheffield city centre should plans for a Clean Air Zone (CAZ) go ahead.

The measure is expected to be approved at a city council meeting next week.

Taxis and LGVs that do not meet the emission standards will be charged £10 a day and coaches, buses and HGVs will be charged £50.

Private cars will not pay, because they make up 80% of traffic but contribute 50% of pollution, the council said.

The zone, expected to start next year, will cover the inner ring road and city centre, including Park Square and the A61 / Parkway junction. It will be enforced using automatic cameras that will track vehicles.

According to the Local Democracy Reporting Service, plans were first announced in 2018 but the council delayed implementing them due to Covid-19, saying the situation in 2020 was "dramatically different" to the one in which original proposals were developed.

Air pollution contributes to 500 deaths a year in Sheffield and parts of the city exceeds legal limits of nitrogen dioxide, the council said.

As a result, Sheffield was told by the government to reach legal limits in the shortest time possible.

The city was given £30m of government funds for the scheme, £24m of which will go towards supporting drivers to upgrade.

The council said the CAZ is a standalone scheme that will be funded by government grants and money collected through the charge.

Any money made through charging will go into measures tackling pollution.

Fossil fuel production ‘dangerously out of sync’ with climate change targets

Date:-20-October-2021, Source: news.un.org



Emissions from coal-fired power plants contribute to air pollution in Ulaanbaatar, Mongolia

That's according to the 2021 Production Gap Report, released this Wednesday by leading research institutes and the UN Environment Programme (UNEP).

Over the next two decades, governments are projecting an increase in global oil and gas production, and only a modest decrease in coal production.

Taken together, these plans mean that fossil fuel production will increase overall, to at least 2040.

Urgent matters

For Executive Director of UNEP, Inger Andersen, “there is still time to limit long-term warming to 1.5°C [above pre-industrial levels], but this window of opportunity is rapidly closing.”

Ms. Andersen said that at the UN Climate Conference, COP26, taking place in early November in Glasgow, “governments must step up, taking rapid and immediate steps to close the fossil fuel production gap and ensure a just and equitable transition.”

“This is what climate ambition looks like”, she said.

This year’s report provides profiles for 15 major producer countries, showing that most will continue to support fossil fuel production growth.

Reacting to the report, the UN Secretary General highlighted recent announcements by the world’s largest economies to end financing of coal, calling them “a much-needed step” in phasing out fossil fuels.

For António Guterres, though, the report shows that “there is still a long way to go to a clean energy future.”

“It is urgent that all remaining public financiers as well as private finance, including commercial banks and asset managers, switch their funding from coal to renewables to promote full decarbonization of the power sector and access to renewable energy for all”, he said.

Main findings

Countries surveyed plan to produce around 110 per cent more fossil fuels in 2030 than would be consistent with the 1.5°C limit, and 45 per cent more than what would allow a 2°C heating impact.

The report, first launched in 2019, measures the gap between governments’ production plans and the levels consistent with the Paris Agreement. Two years later, the size of the gap has remained largely unchanged.

Current plans would lead to about 240 per cent more coal, 57 per cent more oil, and 71 per cent more gas production in 2030, than would be consistent with limiting global warming to 1.5°C.

Global gas output is projected to increase the most between 2020 and 2040, continuing a trend of long-term global expansion inconsistent with the Paris Agreement.

Since the beginning of the COVID-19 pandemic, countries have directed over \$300 billion in new funds towards fossil fuel activities - more than they have towards clean energy.

In contrast, international public finance for fossil fuels from G20 countries and major multilateral development banks has decreased. Currently, a third of these banks and G20 development finance institutions have adopted policies that exclude fossil fuel production in the future.

Decline must start now

For lead author of the report, Ploy Achakulwisut, the research is clear: "Global coal, oil, and gas production must start declining immediately and steeply to be consistent with limiting long-term warming to 1.5°C."

The report is produced by the Stockholm Environment Institute (SEI), International Institute for Sustainable Development (IISD), ODI, E3G, and UNEP.

More than 80 researchers contributed to the analysis and review, including numerous universities, think tanks and other research organizations.

Croatian Capital City Listed Among World's Most Polluted Cities This Week

Date:-21-October-2021, Source: total-croatia-news.com

As Poslovni Dnevnik writes, earlier this week on the above-specified date, we, the citizens of Zagreb, weren't really able to "enjoy" the fresh air. The Croatian capital city has had its air quality scrutinised and complained about several times in the past, but this week it found itself among the ten most polluted in the entire world and considered unhealthy for vulnerable groups, according to data from the Swiss portal IQAir, which publishes daily data on air quality around the world.



October the 21st, 2021 - The Croatian capital city of Zagreb was unfortunately listed among the world's most heavily polluted cities this week, more precisely on the 19th of October

IQAir units show that the concentration of PM 2.5 particles in the City of Zagreb was elevated by as many as 4.4 times higher than what is recommended by the World Health Organisation (WHO).

PM2.5 are particles made up of a combination of solid and liquid which is floating in the air, they're microscopic and as such completely impossible to see with the naked eye. They are the result of the burning of solid fuels and exhaust gases.

On that infamous scale, the Croatian capital city of Zagreb came in a not particularly impressive eighth place, Sarajevo in neighbouring Bosnia and Herzegovina came ninth, while the Serbian capital of Belgrade took tenth place. The worst situation was found in Lima in Peru, Bishekek in Kyrgyzstan and, rather unironically, Wuhan in China. It is expected that in the coming days the air quality in Zagreb should be much better.

What about the air quality at the Croatian level?

The Ministry of Economy and Sustainable Development regularly publishes the state of Croatian air quality on its website, and on the same day the Croatian

capital city was listed among the worst in the world, the worst air quality on that same date was recorded in Zagreb, Koprivnica and Slavonski Brod, according to a report from Vecernji list.

For more, make sure to check out our lifestyle section.

Bad air quality or not, what not see what the bustling Croatian capital has on offer? Head over to Zagreb in a Page and select your preferred language.

Combinations of Air Pollutants Linked With Adverse Childhood Asthma Outcomes

Date:-22-October-2021, Source: ajmc.com

Twenty combinations of toxic pollutants were identified by a machine learning algorithm as being tied with asthma outcomes.

The idea that air pollutants are associated with childhood asthma is well established, but a new study suggests particular mixtures of pollutants can further exacerbate asthma risk.

The study was published in The Journal of Clinical Investigation. It was based on a novel approach to asthma epidemiology—using a machine learning algorithm to draw connections between real-world asthma outcomes and the pollutants to which the patients might have been exposed.

“Asthma is one the most prevalent diseases affecting children in the United States,” said senior author Supinda Bunyavanich, MD, MPH, MPhil, of the Icahn School of Medicine at Mount Sinai.

Bunyavanich and colleagues suspected that combinations of air toxics—hazardous pollutants that can lead to health effects—might increase the risk of asthma in children. To test their hypothesis, they used geocoding levels of 125 air toxics from the US Environmental Protection Agency’s National Air Toxic Assessment. They then mapped those data to the addresses of 151 children who participated in a study called the Airway in Asthma study.

The goal of the model was to examine potential links between toxic exposures early in life and particular asthma outcomes around age 12, such as the need for daily asthma medication, visits to emergency departments, and hospitalizations.

The model identified 18 individual pollutants that correlated with adverse asthma outcomes. Yet, it also found another 20 combinations of pollutants that appeared to increase the risk of negative asthma outcomes.

“Traditionally, for technical reasons, it has been difficult to study the health effects of more than one toxic at a time,” said Gaurav Pandey, PhD, another senior author of the study. “We overcame this by tapping into the power of machine learning algorithms.”

Many of those 20 combinations had not previously been linked with asthma risk.

The investigators noted that a significant number of the toxics in problematic combinations “are similar in structure, and have analogous formation, production, chemical fate, and chemical transport properties.” Chlorine was commonly found in dangerous air toxic combinations, they wrote. A few combinations had heavy metal compounds, and many were acidic chemicals.

“This aligns with prior literature implicating acidic chemicals, chlorinated chemicals, and heavy metal compounds as risk factors for asthma and asthma severity,” the authors wrote. “However, an understanding of the biological mechanisms through which these combinations of air toxics can jointly affect respiratory health and asthma merits further study.”

The authors noted that exposure to acrylic acid by itself increases a child’s risk of needing daily asthma medication, but when acrylic acid is mixed with other toxics, not only does the risk of needing daily medication increase, so does the risk of emergency department visits and hospitalizations.

“As a physician who treats children with asthma, I was struck by how many potential air toxics are not on our radar,” Bunyavanich added. “These results changed my view of the heightened risk some children face.”

The investigators also found that socioeconomic factors may be linked with exposure to certain toxic combinations. For instance, the combination of hydroquinone and ethylidene dichloride was the strongest predictor of overnight hospitalizations. Children from low-income families were more likely to be exposed to the combination, they noted.

Florida is ditching palm trees to fight the climate crisis

Date:-23-October-2021, Source: komu.com

When you think of Florida, beaches and palm trees come to mind. But what if those palm trees were slowly replaced with other trees? That could happen over time because of climate change, and communities in South Florida are trying to save the world from the climate crisis, one tree at a time.

"Palm trees do not sequester carbon at the same rate as our native canopy trees and do not provide shade, cool down streets and sidewalks to help counter the urban heat island effect that canopy trees do," said Penni Redford, the Resilience and Climate Change Manager for West Palm Beach.

With atmospheric carbon dioxide levels today higher than at any point in at least the past 800,000 years, according to the National Oceanic and Atmospheric Administration (NOAA), the Earth needs to remove it or humans have to stop adding it. In fact, the last time carbon dioxide concentration was this high was more than 3 million years ago.

Scientists are working on solutions to capture and safely contain atmospheric carbon. One approach is called "terrestrial sequestration" -- which is essentially planting trees. A tree absorbs carbon during photosynthesis and stores it for the life of the tree.

But Florida's beloved palms are the least effective at carbon sequestration. The average palm in southern Florida only absorbs 5 pounds of CO₂ per year.

Compared to other trees -- oaks, mahogany, pines, and cedars -- that can sequester more than 3,000 pounds of CO₂ over their lifetime, it may be best to exclude palms in favor of more broadleaf trees or conifers.

Kristine Crous, a senior lecturer at Western Sydney University, explains that palms don't produce wood, so they're poorer at storing carbon.

That is why some don't think palms are actually trees at all. Botanists, ecologists, and forestry specialists all have a variety of definitions of what a tree actually is. (Palms are sometimes defined as big grasses, shrubs, and even trees, depending on whom you ask.)

Regardless, the concern is that a standard passenger vehicle emits about 10,000 pounds (4.6 metric tons) of CO₂ per year, which means we need a lot of trees to combat the amount of vehicles on the roads.

Even though palms may not be great at carbon sequestration, chopping them down isn't the answer. Instead, programs in both West Palm Beach and Miami Beach, Florida, are taking the initiative to plant trees more adept at handling changing climate conditions.

"Palms, while an iconic part of Miami Beach's landscape, have moved from being an accent plant to a major component of the city's urban forest," it says in Miami Beach's program outline.

Having that many palms will not allow for these cities to handle carbon sequestration nearly as well as they would have with other tree varieties. By 2050, Miami Beach's palms should make up no more than 25% of the public tree population, according to Miami Beach's Rising Above plan.

"Southern Live oak, *Quercus Virginiana* -- large canopy trees, can withstand occasional floods and hurricanes and are resistant to salt spray, provide habitat for birds and a variety of moss and bromeliads in south Florida," Redford said.

Even without considering logging and deforestation, Mother Nature brings down a lot of trees. As Earth continues to warm rapidly, tree loss from hurricanes and flooding will become even bigger concerns in the future.

However, in the case of palms, the best solution may not be to simply replace them with more palms. Instead, they should be replaced with trees that are better at mitigating the climate crisis.

But we can't blame palm trees alone, since the type of tree is only one piece of the puzzle.

Crous told CNN the age of the tree matters, too: Younger trees absorb less carbon dioxide than older trees.

"Yes, tree species matter, some grow faster than others and so their response to elevated CO₂ may differ, too," Crous said. "But it is important to distinguish between responses from younger trees compared to older trees."

Scientists set out to study whether you really can teach old trees new tricks to help them adapt to a changing climate.

Age isn't just a number

Young trees and mature trees do not adapt to changes equally. So "just plant more trees" as an effort to combat climate change is not a universal remedy.

Climate change is making hurricanes stronger, knocking down mature trees, and even entire forests, which are needed most to ease climate change.

"Planting trees is great, but valuing old growth forest is equally important," said Crous.

A joint research study from the University of Birmingham, Western Sydney University, Australian EucFACE , and BIFoR FACE is being done across the globe to study how trees adapt to the increase of carbon dioxide in the atmosphere.

The research shows that mature oak trees can increase their rate of photosynthesis by up to a third in response to higher CO₂ levels. In just the first three years of the 10-year project, the 175-year-old oaks clearly responded to higher CO₂ by increasing their rate of photosynthesis.

"We aimed specifically to quantify the photosynthetic response (carbon uptake) of these trees to future levels of atmospheric CO₂," Anna Gardner said.

It's great news from a carbon mitigation standpoint. We still need to reduce human emissions of greenhouse gases, but knowing that some species of trees are able to adapt to increased levels of CO₂ is encouraging.

"Planting trees will certainly help reducing CO₂ levels," Crous said. "But as trees take a long time to mature it will be a delayed effect, and we really need to bring emissions down now by including other measures too."

The study looked at a variety of things such as tree age and type to how much sunlight was available.

"The type of tree most certainly matters in this regard. But more so, our climate models are using data from seedlings and young trees to diagnose how old forests will absorb future increases in CO₂ in the air," said David Ellsworth, Professor of Tree Physiology at the University of Western Sydney.

That is why it is so important that we save the landscapes and forests with very dense older and mature trees.

"Our CO₂ in the atmosphere and its impacts on climate would be far worse if we didn't have these old forests, and that these old forests can adjust and increase CO₂ uptake into the future," Ellsworth said.

The study notes that the amount of forest carbon-uptake in the future, and subsequent carbon sequestration, "will be crucial determinants of future

atmospheric CO2 concentrations. So, quantifying the photosynthetic response under elevated CO2, especially for mature trees, is critical to understanding the carbon uptake of forests under changing atmospheric composition."

Planting new trees in Florida

Trees alone will not solve the climate crisis, but they can help if we know how to use them properly.

Redford says West Palm Beach gives out 1,000 native trees a year for residents and businesses to plant.

"We have an active tree planting program," Redford explains about the program they are using in West Palm Beach. The goal is to help Floridians not only beautify their surroundings, but also to better prepare them for a future of global warming. In order to do that, Redford said, you have to be selective.

"We do not use our canopy tree fund to plant palms," Redford said.

Miami is also joining the initiative to shift planting priority to a variety of trees - just not palms. Miami Beach's Rising Above program to combat the climate crisis includes an urban forestry master plan which details the environmental benefits of planting shade trees, including species such as oak, ash, elm and sycamore, in place of palms.

"It may seem simple to select trees, but it requires thought and planning to have the right tree in the right place -- one that can provide maximum benefits with minimal maintenance and does not contribute to other concerns like fertilizer run off and higher costs for water and maintenance," Redford said.

There's also a plan for when construction leads to the removal of trees. Redford said that if a developer needs to remove trees and cannot replace them, they can pay into a fund for trees to be planted elsewhere.

"Of course, we try first to save the trees or replant on that location," Redford said. "But if it's not possible, we look to plant trees where they are most needed."

Planting trees to remove carbon dioxide from the atmosphere is a critical component of climate change mitigation, experts say. But it's important to be smart about which trees we plant, and to put more focus on saving the older trees we already have.

Weather warning as Karachi air pollution goes dangerously up

Date:-24-October-2021, Source: dawn.com



High level of dust particles in the air reduce visibility and envelope the Quaid's mausoleum on Saturday

KARACHI: The city witnessed 'very unhealthy' levels of pollution in the air on Saturday, which the meteorological department said could continue for another day or two pushing health experts to warn that such weather conditions could lead to several infections and people should avoid exposing themselves to such an atmosphere to avoid 'lasting effects'.

The US Consulate Karachi's Air Quality Monitor Feed posted multiple tweets on its social media platform and in the last tweet weighed air quality to 204 US AQI [air quality index] at 6pm in the city.

Amateur meteorologists and officials said that it was the second-worst air quality recorded in the whole country after Bahawalpur's where the air quality was recorded at 180 US AQI. The weather experts and officials termed it an impact of change in the wind direction and sounded confident that although it was unhealthy, it was not a new or any abnormal phenomenon.

“It often happens whenever the wind changes its direction,” said Sardar Sarfaraz at the Met office while explaining the reasons behind the fresh weather experience for Karachiites.

“You can call it hazy or dusty weather and there’s a very obvious reason for such a trend. There’s a high wind pressure from Afghanistan and Central Asia side that led to wind direction from the northwest. Since that particular side has a desert area of Balochistan’s Chaghi, we see there’re dust particles making it hazy and unhealthy.”

Not the smog seen in Lahore

Responding to a question about any comparison between the current weather conditions of Karachi and Lahore, which often witnessed unhealthy levels of pollution in the air mainly during the winter season, Mr Sarfaraz ruled out any parallels between the weather conditions of the two cities calling the current trend in the port city “a temporary one”.

“In Lahore, it’s actually smog which affects the air quality index and the situation often turns worst,” he added.

“That smog is basically emerges as combination of smoke and fog which ultimately creates that atmosphere which lasts several days and we often see it in winter in Lahore. But here it’s not new whenever there’s a change in the wind direction, the city witnesses such dusty or hazy weather conditions. It’s a temporary thing and we hope it will be over within a day or two.”

Lahore in winter often witnesses worst air quality which normally stays from October to February in the Punjab capital when farmers are blamed for setting light to the remnants of their crops, producing smoke which adds to smog.

The situation worsened in November 2019 when Lahore was spotted second after Delhi as the world’s most polluted city on several major and globally recognised air quality ranking sites.

Although the Met office forecast about the prevailing weather conditions may bring a sigh of relief to Karachiites, the health experts warned that even a temporary phenomenon of “very unhealthy” air quality could leave a lasting effect.

“So the best possible thing is that one should avoid exposure to such air,” said Dr Qaiser Sajjad of the Pakistan Medical Association (PMA). “We have already started witnessing a rise in the number of patients of common cold and flu. For

those who have to go outside for different reasons, mainly bikers, must take protection and keep their face covered. This weather condition can lead to rhinopharyngitis, throat infection, bronchitis and lungs infection. Those who suffer from nasal allergy should also take care of themselves in these weather conditions.”

Updated: Air pollution reaches ‘shocking levels’ in Grand Harbour

Date:-25-October-2021, Source: independent.com.mt



Measurements of air quality taken over the past weeks in Malta’s shipping activity hotspots revealed concentrations up to 100-200 times higher than the air levels expected of areas not exposed to any pollution sources, BirdLife Malta officials said.

The NGO hosted a conference during which a Danish scientist presented results of air pollution measurements taken in Malta over the past weeks.

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“The air pollution measurements taken in Valletta and Senglea showed a high concentration of ultrafine particles in the ambient air during the time ships are transiting through the Grand Harbour. These included cruise liners and smaller boats,” the NGO said in a statement about the findings.

Recent measurements from Italy show very high pollution levels from ferries as well, the NGO said.

“Such particles, which are deposited in the finest parts of the lungs and transferred into the blood, are known to be a major risk to human health as they trigger severe heart and lung diseases.”

The results were presented by Danish scientist Kare Press-Kristensen, Senior Advisor for Green Transition Denmark, an independent NGO in Denmark promoting the green and sustainable transformation of society.

Press-Kristensen has in the past weeks visited Malta to take measurements of air pollution for LIFE4MEDECA – an EU LIFE-funded project leading efforts for the establishment of an Emission Control Area (ECA) in the Mediterranean Basin. “This partnership is composed of different organisations from several Mediterranean countries and its Advisory Board includes the European Commission and the competent Ministries of France, Italy, Spain and The Netherlands,” BirdLife Malta said.

As an active member of the Together against Air Pollution from Ships network, BirdLife Malta shares the same objectives.

“Over the past years we have been, together with other partner NGOs in the region raising awareness about the damage caused to our health and climate by maritime transport air pollution in the Mediterranean and promoting solutions on how this can be reduced. Even in our case, the goal is the establishment of a Mediterranean ECA, which effectively means that large ships operating in the region are obliged to use cleaner fuels and flue gas cleaning systems, limiting sulphur (SO_x) content and nitrogen (NO_x) emissions when entering the Mediterranean.”

During his presentation, Kare Press-Kristensen explained how there is some good news for Malta: there is clean air in the island.

“However the bad news is that small ships pollute locally whilst large ships visiting the Maltese Islands pollute whole cities,” BirdLife said.

“Press-Kristensen said that around 250 people (6.5% of 3,800 annual deaths) die from air pollution every year in Malta and in 2020-2021 air pollution killed more people in the Maltese Islands than Covid-19. (500 compared to 460). The effects of air pollution on human health include cardiovascular diseases such as strokes and heart diseases, together with airway diseases and cancer which are the main causes of death in Malta. On the other hand, it is very cost-effective to reduce air pollution from shipping due to saved health costs.”

Speaking about solutions, he listed the benefits of existing Emission Control Areas in Europe such as the Northern European ECA, comprising the Baltic and North Seas.

“Thanks to stricter controls established in these areas to minimise airborne emissions from ships, a high reduction in sulphur on land (50% drop in 2015) was registered together with significant health and economic benefits for society which came about without any notable price increases for consumers or extra costs for ship owners and authorities. Whilst also mentioning the use of electric ferries as an area of great potential in Malta, another important solution – he explained – was the use of shore power at berth which would also significantly improve public health in Malta,” a statement issued by BirdLife Malta read.

“In 2020, Infrastructure Malta launched the Grand Harbour Clean Air Project, a €50 million shoreside electricity project whose aim is to cut over 90% of the air pollution that cruise liners and Ro-Ro ships produce when visiting the Grand Harbour. Shore-to-ship power facilities will allow cruise liners to switch off their gas or HFO-fired engines and plug in to shoreside electricity points to power their services while they are berthed. Estimates show how shore power can also be good for business, with negligible extra costs per passenger per port.”

An example cited shows how whilst a cruise ship uses about 30 kWh per passenger and normally produces electricity for €0.18/kWh, if port electricity could be sold for €0.23/kWh (€0.05 higher), the extra cost per passenger per port would amount to just €1.50 or 1% (30 kWh x €0.05 per kWh) which is less than the price of a cup of coffee at a cruise port. Translated into a typical seven-day cruise visiting four ports, the increase would be €6. (€670 without shore power vs €676 with shore power).”

BirdLife said that, complemented with other possible solutions such as the creation of a Mediterranean ECA, this could potentially lead to a drastic reduction in air pollution with tangible health and environmental benefits to Malta.

In response to the statement, the Environment and Resources Authority (ERA) acknowledged the impact that port activities have on air quality and said that it has in the past also carried out discussions with Birdlife on the said measurements.

"ERA and the University of Malta have been monitoring the air quality downwind of the Grand Harbour in Gardjola Gardens, Senglea, since May 2020 so as to get a clearer picture of the situation in the area. The impact of the shipping industry on ambient air quality cannot be done at random over selected days, but has to look at reliable averages over extended periods of time. Further scientific data is necessary to be able to evaluate the situation and enough samples need to be taken after cruise-ship activities return to post-pandemic normality in order to have a clear picture of the situation," ERA said.

"Nonetheless, following ERA's advice, TM already took steps to improve the situation with future zero-emissions vessels planned in the area and the current €50 million shore-to-ship project enabling vessels to run off power coming from the shore rather than from onboard generators, thus contributing to significantly cleaner air in the area," the ERA statement read.

Portland: Air pollution surcharge would cost biz \$2M yearly

Date:-26-October-2021, Source: pamplinmedia.com

Portland City Hall will consider charging some of the city's major industries for the pollution they pump into the air.

Officials say the proposed Clean Air Surcharge would raise an estimated \$2,042,750 annually from 72 facilities who already pay the state for various heavy-duty air quality permits.

"The federal and state governments have their roles, so it is imperative we take local action now to complement those efforts," said Commissioner Carmen Rubio, who is overseeing the idea via the Bureau of Planning and Sustainability. "Community members and businesses will set priorities and define success for this new program and the investments that can impact us most directly."



Wildfire smoke floats over Portland and the Hawthorne bridge in 2020

The Clean Air Protection Program is a significantly scaled back version of two climate fees pitched in late 2020 by Mayor Ted Wheeler and Commissioner Jo Ann Hardesty, which would have collectively raised \$11 million annually.

Under the new plan, businesses with Simple or Standard Air Contaminant Discharge permits licensed through the Oregon Department of Environmental Quality would pay a flat surcharge of \$20,000 yearly. Payees would include Portland General Electric, Boeing, cookie-maker Mondelez, Journal Graphics, Bullseye Glass and many others.

Eighteen of the city's largest industrial facilities holding more stringent Title V permits would pay the flat \$20,000 surcharge plus a \$250 per-ton fee for emissions of "particulate matter, NO_x, SO_x, or volatile organic compound," according to planning documents, using abbreviations for nitrogen oxides and sulfur oxide.

At the high end, that would tack on an estimated \$142,475 cost for EVRAZ steel mill and \$102,825 for shipbuilder Gunderson, while Cully glassmaker Owens Brockway would pay \$65,050 and controversial fuel terminal Zenith Energy would pay an extra \$5,625 a year.

A city document highlights that none of the affected businesses are owned by women or minorities.

The biggest benefit, officials say, would be the financial incentive pushing local companies to limit their emissions, thereby improving the air quality across Portland skies that have the "highest risk (in Oregon) to the population from air toxics due to business and population density," according to a 2012 DEQ study.

Officials say the cash itself could be used to expand access to air filtration and cooling systems, plant trees, provide cooling community centers in East Portland, among other emission reducing policies.

"A local program focused on local solutions that helps both people and businesses is long overdue," said Commissioner Rubio.

Electric buses to improve CBD air quality

Date:-27-October-2021, Source: cbdnews.com.au



Some of the harmful diesel buses that run along Lonsdale St could be replaced with electric alternatives as early as June 2022, in a move that will lessen air pollution in the CBD.

During the next nine years, 341 electric and hybrid buses will be introduced into the metropolitan network, including a commitment for five in the first half of 2022.

The pledge was part of a \$2.3 billion contract announced in October between the state government and Melbourne-based company Kinetic to operate a third of the metropolitan bus network, taking over current operator Transdev.

While the state government could not yet confirm specific zero or low-emission routes, some of the 16 routes that travel along Lonsdale St — Melbourne's busiest bus corridor which — are likely to feature in the initial stages of the rollout.

Kinetic has committed to introducing 36 fully electric buses to the network by mid-2025.

The move is a welcome one for CBD locals after a report earlier this year suggested diesel fumes from buses on Lonsdale St, which saw more than 1000 bus movements a day, was a significant factor in the city's air quality.

In a submission to the state government inquiry into the health impacts of air pollution, the City of Melbourne said the busy bus street should be made a priority.

"Converting the Lonsdale St bus corridor to zero emissions would be a significant step towards reducing the harm caused by air pollution in the city," it read.

"The buses run on diesel fuel, the emissions of which are implicated in human cancer, heart and lung damage, and undermining mental functioning."

As part of the new contract, almost two-thirds of the 537-bus fleet will be replaced with low or zero emission vehicles before mid-2031.

The electric buses will be deployed from the Sunshine and Heatherton depots.

The state government had already pledged for all new public transport buses to be zero emissions from 2025.

Speaking of the deal in parliament, Minister for Public Transport Ben Carroll said it was addressing an important issue.

“We know tackling transport emissions is imminent and vitally important. It is the second-largest source of emissions in our economy and the fastest growing,” he said.

“We know buses coming out of COVID have been one of the most resilient forms of public transport. We also know that buses return \$5 to the community for every \$1 invested (and that) one bus has the equivalent of taking 50 cars off the street.”

The Public Transport Users Association gave it the tick of approval.

“The shift towards electric buses is very welcome and will help public transport continue to be one of the cleanest ways to get around our city,” the PTUA said on Twitter.

At peak times, more than 1400 people walk on Lonsdale St between Swanston and Russell streets every hour.

In its submission to the air pollution inquiry, the City of Melbourne said the need to replace diesel buses had become more pertinent during the past 18 months, particularly as some hospitality venues made outdoor dining arrangements permanent.

“One of the reasons the City of Melbourne supports zero emission buses is the need to improve the quality of the outdoor environment in the city, including reducing air pollution, to support all sorts of activity including outdoor dining as well as to reduce the harmful effects of pollution on health,” it said.

St. Louis environmentalists to check for air pollution in communities of color

Date:-28-October-2021, Source: news.stlpublicradio.org

A coalition of churches will work with environmentalists and Washington University engineers and students to collect data on air quality in St. Louis neighborhoods with high levels of pollution.

The Turner Group research lab at Washington University will place air quality monitoring systems and outdoor air samplers at more than 12 churches beginning next month. For nine months, the systems will measure ozone levels, carbon monoxide and other pollutants.

A 2019 report by the Interdisciplinary Environmental Clinic at the Washington University School of Law and the Environmental Justice Roundtable found that



The Rev. Rodrick Burton (left) and air quality monitoring researchers assess New Northside Missionary Baptist Church for a space to install air quality monitors, which will measure high levels of pollution in the area.

Black St. Louisans are at a greater environmental risk than white residents. The research suggests that most of St. Louis' top pollutant sources are concentrated in neighborhoods of color.

“Our goal is to drive the momentum of this community with unified advocacy that will increase pressure on our target audiences — polluters, legislatures and enforcement agencies — to improve air quality standards and conditions,” said Beth Gutzler, lead environmental justice organizer at Metropolitan Congregations United.

The data at the churches will be transferred over a cellular network to a real-time database that community members will have access to.

The team also will collect samples of volatile organic compounds from the absorbed pollution. The research lab will analyze the samples to look for

dozens of air toxics including benzene and toluene — hazardous air pollutants that people breathe in every day.

“Certainly, ozone is a big environmental justice issue here in St. Louis,” said Jay Turner, a Washington University engineering professor and lead researcher for the Turner Group. “Children of color have a much higher rate of asthma than the general population in St. Louis and so ozone is a risk factor for that.”

According to the Environmental Racism Report, Black children in St. Louis went to the emergency room for asthma treatments about 10 times more than white children.

For the air quality program, Metropolitan Congregations United chose churches in St. Louis included in that report. ZIP codes 63118, 63106 and 63107 were among the areas with people who have high levels of asthma.

Air quality monitoring could bring north St. Louis residents essential information, said the Rev. Rodrick Burton of the New Northside Missionary Baptist Church. He said two-thirds of his congregation has asthma or knows someone who suffers from the lung condition. Burton’s church will host air quality monitors.

Burton said environmental issues are widespread in predominantly Black neighborhoods. He hopes the data collected can help make people more aware about the air they are breathing.

Black people need to call for an end to air pollution that harms their communities, Burton said.

“I felt that we had to do something and to be an example because ironically, a lot of churches are probably already operating in this space with a lot of members who are probably activists,” Burton said. “This fight is not for any one segment of the population. This is us, too, so in addition to all the other things we’re lifting up, criminal justice reform and all the different things we are dealing with, this needs to be right up there.”

Air quality affected by Sahara dust, volcanic gases

Date:-29-October-2021, Source: trinidadexpress.com

People who are allergic or sensitive to dust are being advised to limit outdoor activities due to decreased air quality.



The recent eruption of the Cumbre Vieja Volcano on La Palma

The Environmental Management Authority (EMA), in a news release yesterday, said the country is experiencing “moderate” air quality.

“The increase in particulate matter (PM) is attributed to Saharan dust,” the EMA noted.

“It is therefore advised that unusually sensitive persons

reduce heavy or prolonged outdoor activity.”

The Trinidad and Tobago Weather Centre (TTWC) said the usual haze that is attributed to Saharan dust was made worse by volcanic gases (vog) from Cumbre Vieja Volcano on the Canary island of La Palma, which erupted on September 19.

According to the TTWC, “vog” is a form of air pollution that results when sulphur dioxide and other gases and particles emitted by an erupting volcano react with oxygen and moisture in the presence of sunlight.

It said a surge of dust and vog is moving across the Lesser Antilles, with its peak occurring on Wednesday. This surge is forecast to linger through the end of the week across the region.

The air quality is expected to return to “good” levels over the weekend. The EMA said it continues to monitor the air quality.

“The EMA, through its national ambient air quality monitoring network and air quality index programme, has been obtaining accurate, real-time assessment of ambient air quality in several locations nationally,” the Authority said.

There are currently four such monitoring stations across the country, located in Port of Spain, Point Lisas, San Fernando and Signal Hill, Tobago.

The Tobago and Point Lisas stations showed “good” air quality yesterday while the Port of Spain and San Fernando stations recorded “moderate” air quality.

According to the EMA, the moderate ranking should be of concern to persons who are unusually sensitive as there could be possible aggravation of heart or lung disease in people with cardiopulmonary disease, as well as older adults.

Time to check before you burn (unless it's a natural gas fireplace)

Date:-30-October-2021, Source: bakersfield.com



Every year the day after Halloween, when cooler weather finally settles in around Kern County, a routine kicks in that's there for the common good. And no one who enjoys a warm hearth much likes it.

It's time to start checking whether it's OK to use a residential fireplace or wood or pellet stove.

Burning wood for residential heat is one of the biggest sources of winter pollution. That's partly because cold air settling underneath relative warmth

creates a pressure differential that condenses fine particulates near human breathing level.

Last year, the San Joaquin Valley Air Pollution Control District prohibited all forms of wood heating in Kern County, with few exceptions, 44 times between the start of November and the end of February. That's more than four times the rate of the year before.

Conditions point to continuing restrictions this year on residential burning.

Particulates from summer's wildfires linger in stagnant air. Not enough storms are washing away a form of pollution blamed for a variety of respiratory and cardiac problems.

Think twice before attempting it on a no-burn day. The district sends out inspectors, and it has high-tech cameras that can photograph smoke rising from a chimney.

The first fine is \$100; there's a half-off discount if the violator attends "smoke school," like traffic school but about the health impacts of dirty air. Repeat offenders have had to pay penalties in the thousands of dollars. Last year the district penalized 58 households for violations.

More than that, it's a matter of protecting everyone's health. Even on days when it's permitted to use a fireplace, the district asks that people don't. Trash burning is banned regardless.

"Choosing not to use your wood burning fireplace or fire pit this winter is critical in our pollution reduction efforts and key to public health," the district's executive director, Air Pollution Control Officer Samir Sheikh, said in a news release Friday.

No-burn days apply differently based on geography and heating devices.

Frazier Park and areas with no access to natural gas are generally exempt. People with certain wood or pellet stoves can apply to get certifications allowing them to burn on some days fireplace owners can't, but on particularly poor air-quality days all burning is forbidden irrespective of the device.

The air district recommends a cleaner alternative: natural gas inserts. It offers rebates of up to \$3,000 for residents who want to get one, and for people who qualify as low-income the district will pay the entire cost. It also subsidizes electric heat pumps, which tend to be more expensive.

A spokeswoman for the district, Jaime Holt, switched to a natural gas insert heater years ago. She reports loving it.

For only a few hundred dollars out of pocket (they can range much higher, depending in part on what sort of gas lines the house has installed), she said, "it's a great way to heat your home."

"You can use those whenever you want because they're less polluting," Holt said.

The manager at Econo Air, 314 Union Ave., sells natural gas inserts and works with the air district to equip people with them. He has a lot to say about how efficient they are — comparable to wood stoves but cheaper, more convenient, adjustable and backed up with batteries in case the power goes out.

Manager Greg Flanagan said the devices typically heat 800 square feet, easily enough to warm anyone in the living room, where the device is usually located about 8 to 15 feet from the couch.

Wood costs more than gas and has to be purchased in advance and stored, Flanagan noted. Inserts are far more efficient than fireplaces, which he said suck in colder air even as they heat. They're on a level of efficiency similar to wood stoves, he said.

The air district used to offer rebates of no more than \$1,500, he said. Now that the subsidy has increased, he said, more people are buying them, especially when the no-burn restrictions set in this time of year.

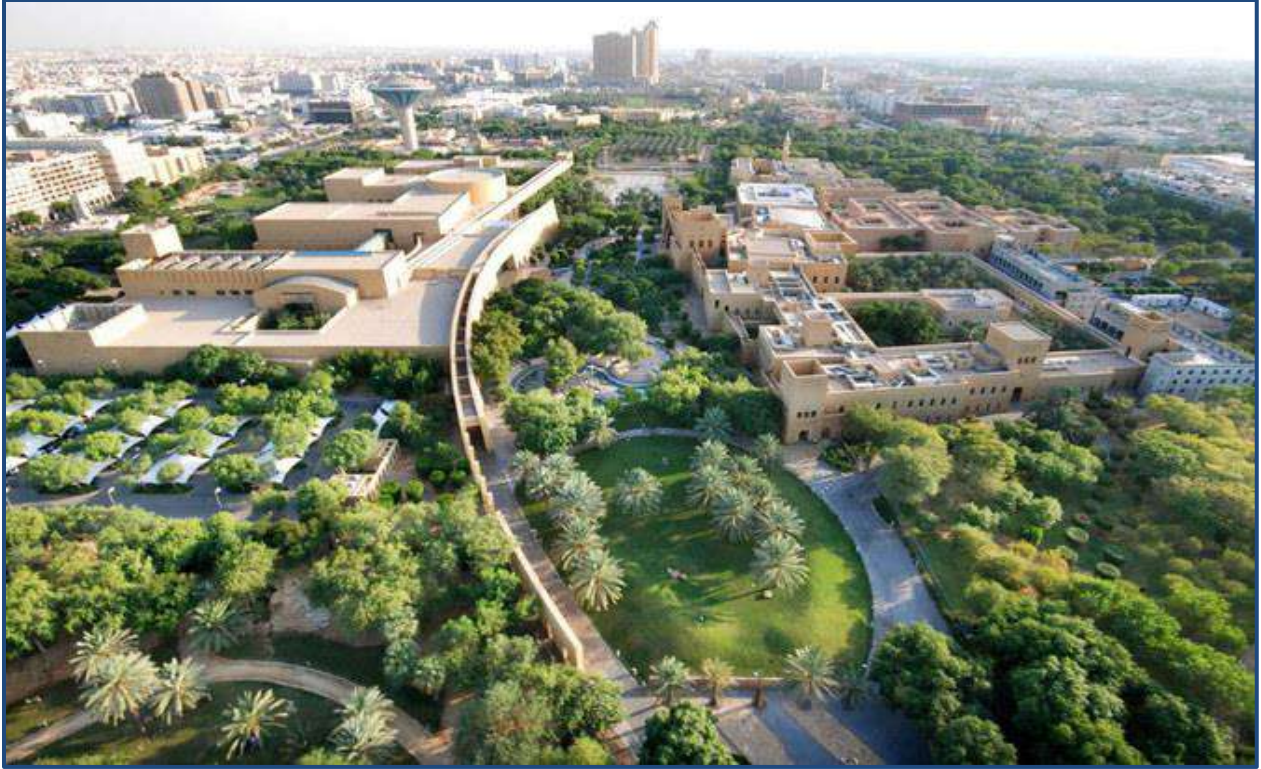
"It's a no-brainer," he said. "They're giving you \$3,000. They're paying more than you are in a lot of cases. ... We sell a lot of them."

Riyadh's ambitious plans to reduce effects of climate change

Date:-31-October-2021, Source: arabnews.com

RIYADH: Saudi Arabia's capital is transforming in an attempt to reduce the effects of climate change.

As a part of the Saudi Green Initiative, the Kingdom aims to plant 10 billion trees, and Riyadh and its surroundings will, according to Dr. Osama Ghanem Al-Obaidy, adviser and professor of law at the Institute of Public Administration, be the site of 7.5 million of them.



As part of the initiative, Saudi Arabia aims to plant 10 billion trees to fight climate change, reduce its carbon footprint to zero and cut healthcare expenditure by promoting a healthier lifestyle for its residents

Al-Obaidy told Arab News: “This project is one of the most ambitious tree-planting projects ever undertaken worldwide. The (7.5 million) trees (around Riyadh) will be selected from those compatible with Riyadh’s weather and environment. New irrigation networks will be established to use recycled water. This will raise the quantity of recycled water being used across the city.”

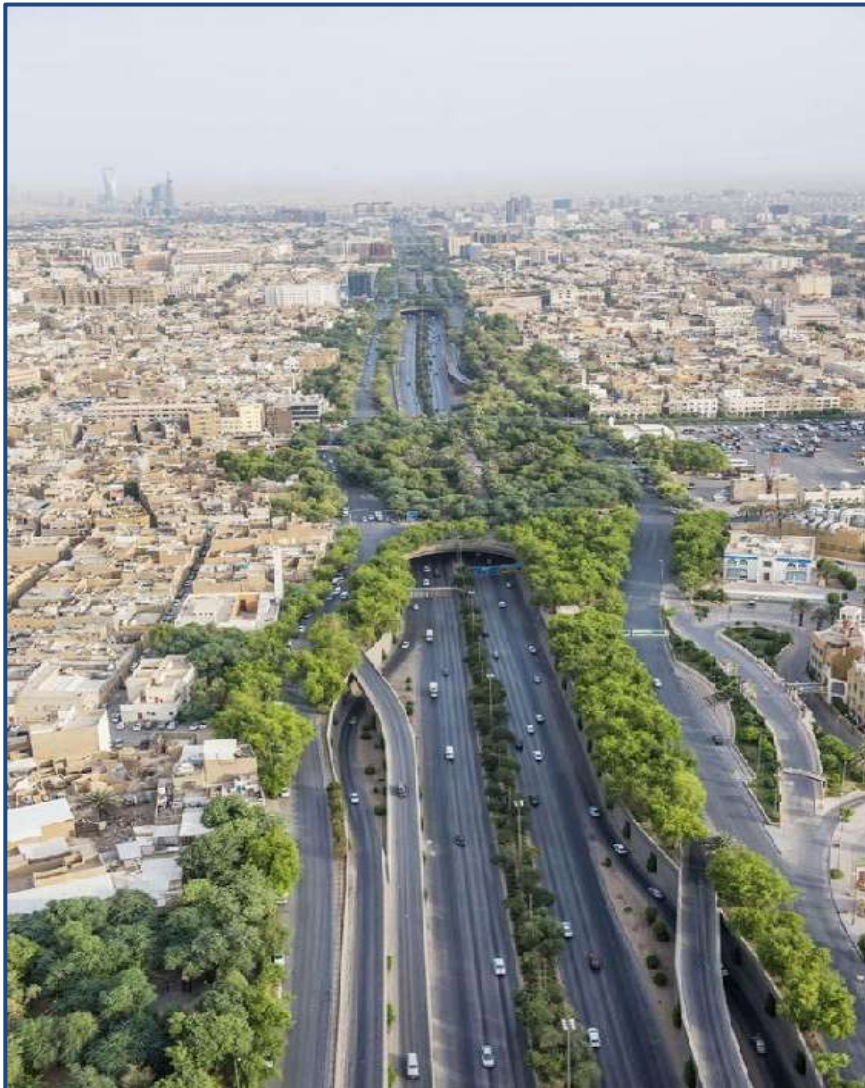
He added that the project will help improve and promote Riyadh’s image as an environmentally friendly metropolis, and that it will reduce the capital’s energy consumption and ultimately reduce health-care expenditure by promoting healthier lifestyles for its residents.

“It will also boost Riyadh’s position in the World’s Top 100 most-livable cities ranking,” Al-Obaidy said. “But it is important to raise the local community’s awareness of the importance of preserving and protecting trees and green spaces and the environment in general in order to achieve the project’s goals and improve the quality of the environment and life in our beloved capital city.”

Professor Salem Alghamdi from the College of Agriculture at King Saud University told Arab News, “Humans have impacted the earth’s processes to the

point that they have been transformed. Cities are home to the vast majority of the world's inhabitants. The United Nations General Assembly established its Sustainable Development Goals to improve people's quality of life in a changing environment. These broad-term objectives enumerate the most pressing issues confronting our generation. Planting and protecting trees, especially in urban areas where most people reside, is an effective technique for achieving these goals."

He added: "Providing people with green areas and planting and maintaining trees is an important strategy to alleviate the issues that urban populations face. The reduction of air pollution is one of the most important benefits that urban woods may give."



Alghamdi said that air pollution — from particulate matter, ozone, carbon monoxide, polycyclic aromatic hydrocarbons, nitrogen dioxide, and sulfur dioxide — has been linked to bronchitis, intraocular pressure, heart attacks, changes in autonomic and microvascular function, autism, and blood pressure issues, as well as to cognitive-development issues in children.

"The literature shows that there is a relationship between trees, green areas, and mortality," he

said. “More trees — particularly mature species planted in strategic areas — might reduce particle matter and other kinds of air pollution, potentially lowering mortality and morbidity in our cities.”

Saudi Arabia is also collaborating with other Arab governments on a Middle East Green Initiative, which includes a pledge to plant an additional 40 billion trees, the world’s largest forestation effort.

Clean-energy output in the Middle East now stands at 7 percent, and Saudi Arabia has stated that it will cooperate with its neighbors to reduce carbon emissions from hydrocarbon production in the region by more than 60 percent.

Alghamdi said: “There is a need for government research institutes, universities, colleges, and schools in the Kingdom to launch such policies, including multimedia campaigns, to explain the benefits of tree plantation, and its impact on human health, climate change, and the reduction of carbon dioxide.”

Professor Sultan Ayoub Meo from King Saud’s University College of Medicine said the Saudi Green Initiative’s 10 billion tree policy will reduce air pollution, diabetes, and cardiorespiratory, endocrine, neurological, and infectious diseases.

“Environmental pollution is an emerging global public-health problem,” he said. “Air pollutants such as particulate matter PM2.5 and PM10, carbon monoxide, and ozone cause various illnesses and act as a risk factor, particularly in the COVID-19 pandemic.”

Meo explained that air-pollution levels are unsafe in 80 percent of cities around the world. Air pollution causes 7 million deaths yearly, he said — the equivalent of 15.5 deaths per minute, resulting in a \$2.9 trillion loss globally.

He praised the plan to transform Riyadh, saying it would help to minimize environmental pollution, tackle climate change, and reduce disease regionally and worldwide.

November 2021

Dhaka air continues to be ‘unhealthy’ as winter approaches

Date:-1-November-2021, Source: dhakatribune.com



A student covering her face as dust pollution reaches an alarming stage in Dhaka

Air quality in the capital usually turns unhealthy during winter and improves during monsoon

Dhaka ranked fourth on Monday morning in the list of world cities with the worst air quality.

The city's Air Quality Index (AQI) score was 178 around 09.44 am, indicating that the quality was unhealthy.

Pakistan's Lahore and India's Delhi and Croatia's Zagreb occupied the first three slots with AQI scores of 398, 220 and 197 respectively.

An AQI between 101 and 200 is considered 'unhealthy', particularly for sensitive groups of people like children and elderly population.

AQI, an index for reporting daily air quality, is used by government agencies to inform people how clean or polluted the air of a certain city is, and what associated health effects might be a concern for them.

In Bangladesh, the AQI is based on five criteria pollutants - Particulate Matter (PM10 and PM2.5), NO2, CO, SO2 and Ozone.

Dhaka has long been grappling with air pollution. Its air quality usually turns unhealthy during winter and improves during monsoon.

A report by the Department of Environment (DoE) and the World Bank in March 2019 pointed out that the three main sources of air pollution in Dhaka "are brick kilns, fumes from vehicles and dust from construction sites".

Air pollution consistently ranks among the top risk factors for death and disability worldwide. Breathing polluted air has long been recognised as increasing a person's chances of developing heart disease, chronic respiratory diseases, lung infections and cancer, according to several studies.

According to the World Health Organization (WHO), air pollution kills an estimated seven million people worldwide every year, largely as a result of increased mortality from stroke, heart disease, chronic obstructive pulmonary disease, lung cancer and acute respiratory infections.

With the advent of winter, the city's air quality starts deteriorating sharply due to the massive discharge of pollutant particles from construction works, rundown roads, brick kilns and other sources, they said.

Pakistan: Lahore declared most polluted city in the world

Date:-2-November-2021, Source: gulfnews.com

ISLAMABAD: The provincial capital of Punjab, Lahore, despite the fact 'smog season' has not formally set in, is declared the most polluted city of the world.

According to the IQAir, a Swiss air quality watchdog, specialising in protection against airborne pollutants, Lahore tops the world in poor air quality ranking and suffers from high levels of air pollution, with the city regularly ranking at the top of IQAir AirVisual's live pollution rankings of major global cities.



The Punjab government, while taking notice of the deteriorating level of air quality, has decided to take action against those causing air and environmental pollution through the burning of crop stubble, garbage as well as the industrial, vehicular emissions

According to IQAir's live pollution ranking, the top most polluted city Lahore is followed by Wuhan (China) and Dhaka (Bangladesh).

The IQAir ranking showed on Tuesday the city's Particulate Matter (PM) or Air Quality Index (AQI) swelling to 231 between 9am and 5pm. This classified the city under the "unhealthy" category of air quality.

A day earlier, the provincial capital was ranked second after Delhi but even then it was included among the top five cities with bad air quality in the world. On Tuesday, however, its ranking worsened and it topped the list with Wuhan coming second (185 PM) and Dhaka (184) third respectively.

Earlier, India's capital Delhi was on top the list on Sunday but on Tuesday it stood fourth with 179 PM followed by another Indian city Kolkata with 177.

According to the United States Environmental Protection Agency air quality of a city is considered satisfactory if the AQI is under 50.

According to IQAir, two countries—India and China — are heavily represented on IQAir's Live City Ranking with seven out of 10 cities.

Transport, industry major contributor to Lahore's pollution

According to the environmental experts and in the light of a report by the Food and Agriculture Organisation (FAO), the cause of smog can be traced in years-long pollution caused mostly by the transport sector and industries, and not just crop burning.

The Punjab government, while taking notice of the deteriorating level of air quality, has decided to take action against those causing air and environmental pollution through the burning of crop stubble, garbage as well as the industrial, vehicular emissions.

The district administrative officers have been directed to enforce the Section 144 imposed throughout the province as part of the efforts to combat the smog.

Under section 144, the burning of crop residue and garbage have been banned across the province for one month from October 6.

People face health issues as smog engulfs city gradually

As the weather is turning cold, smog has started engulfing the provincial metropolis gradually, blurring vision and causing serious health problems for citizens.

According to health officials, there could be several scientific studies on the link between diseases and pollution.

They might include premature death in people with heart or lung disease, non-fatal heart attacks, irregular heartbeat, aggravated asthma, lung malfunctioning, increased respiratory symptoms, such as irritation of the airways, coughing or difficulty in breathing.

Emissions Reductions Now Could Yield Dramatic U.S. Health Benefits by 2030

Date:-3-November-2021, Source: nicholas.duke.edu

DURHAM, N.C. – Acting now to reduce fossil fuel emissions will result in improved air quality and dramatic reductions in pollution-related deaths, illnesses and economic losses across the United States by 2030, a new study by scientists at Duke University, NASA and Columbia University shows.



About 4.5 million premature deaths, 1.4 million hospitalizations and emergency room visits, 300 million lost workdays due to heat exposure or pollution-related respiratory illnesses, and 440 million tons of crop losses could be prevented nationwide if governments worldwide agree to immediately begin reducing emissions to levels needed to meet the Paris Agreement's goal of limiting global warming to 2°C through the end of the century.

Roughly two-thirds of those benefits would be realized even if only the U.S. acted to reduce emissions, the analysis shows.

"These benefits outweigh the costs of transitioning toward a completely net zero carbon economy, even in the very first decade," said Drew Shindell, Nicholas Distinguished Professor of Earth Science at Duke, who led the research.

Shindell and his coauthors published their peer-reviewed study the week of Nov. 1 in the Proceedings of the National Academy of Sciences. They posted state-by-state projections of the health and economic benefits online to help inform discussions and decisions about emissions reductions at state and local levels.

When burned, fossil fuels emit carbon dioxide and other heat-trapping gases that contribute to global warming. They also emit air pollutants such as nitrogen, particulate matter and sulfur oxide that contribute to asthma and other respiratory illnesses and can cause premature deaths due to these illnesses.

Knowing that emissions reductions could yield significant short-term health and economic benefits linked to cleaner air should give governments an added incentive to stop dragging their feet because of the upfront costs of transitioning to a net-zero economy, Shindell said.

“Transitioning your economy to renewable energy and your cars to electric vehicles — all these kinds of things — requires spending a lot of money. It will save you money in the long run by reducing the disastrous effects of climate change, but in the near term, it doesn’t really give you climate benefits that compensate for the cost because climate is slow, it just doesn’t respond that quickly,” Shindell said.

“The benefits of cleaner air, on the other hand, occur very quickly,” he said. “Just look at how noticeably air quality improved after just a few months of reduced emissions during the COVID lockdowns.”

The new projections are based on updated public health datasets and rely in part on a model developed at the NASA Goddard Institute for Space Studies in New York City to simulate fluctuations in air pollution and heat exposure. They also rely on modeling to account for potential demographic and economic changes around the world – including population growth and urbanization – and the pace and effects of those changes over the next 70 years.

Learning more than ever, faster than ever, about what we breathe

Date:-4-November-2021, Source: news.ucr.edu

Nobody is currently taking continuous, routine measurements of the particles suspended in America’s air, called aerosols. That is set to change as a new, nationwide monitoring network launches with a site in Riverside, California.

When American scientists want information about the aerosols, they have to collect samples and ship them to a laboratory for analysis. The samples are typically collected every three to five days, which is suboptimal for understanding air quality events that happen more frequently.



Map of the ASCENT aerosol monitoring sites nationwide

“You want a real-time look at what’s happening, not a piecemeal puzzle picture,” said Roya Bahreini, UCR professor of atmospheric science and co-leader of the monitoring project.

Airborne particles can affect the climate, Earth’s ecosystems, and human health. Without understanding their nature — what they are, how often they appear, where they come from, their quantity and origin — efforts to mitigate them aren’t as effective.

For these reasons, the National Science Foundation has granted \$12 million for the next three years to the Atmospheric Science and mEasurement NeTwork, or ASCENT project, whose principal investigator is Nga-Lee “Sally” Ng, chemical engineering professor at the Georgia Institute of Technology. The network establishes state-of-the-art aerosol monitoring at 12 sites in the U.S., spread among urban and remote environments. Three of the sites are in Southern California.

Locally, Bahreini is overseeing the installation of new monitoring equipment at the South Coast Air Quality Management District's Rubidoux monitoring site in Riverside, a good spot for gathering data about particulate matter that floats inland from the Los Angeles metro area.

Data collected at Rubidoux, along with data from Pico Rivera and Joshua Tree National Park, will allow scientists to investigate changes in aerosol properties as they are transported away.

"We know air flows bring pollution inland," Bahreini said. "That's why we believe this spot will be interesting for epidemiologists who want to see how this aged air pollution is impacting the health of local people."

With the increase in Southern California wildfires, phone apps that offer air quality information have seen a surge in popularity. However, Bahreini explains that those services offer an idea of the total concentration of aerosols, rather than specifically what they are made of, their size, or their age.

Some instruments being installed at Rubidoux will offer data about the airborne amounts of sulfate, ammonium, nitrates, chloride, trace metals, and soot, or black carbon. Others will measure the size distribution of various aerosols.

Differently sized aerosols can have different impacts on our health. In addition, size can indicate something about the way the particles are formed.

"Larger-sized particles have been in the atmosphere for a while and accumulated components from other aerosols or condensable gases," Bahreini said. "If we're comparing aerosols in Pico Rivera to those in Riverside, we want to know their size. If they've grown, what has led to this growth?"

To make the data as widely available as possible, Bahreini will help train officials from the South Coast Air Quality Management District in the use of the new instruments, and a website with the real-time data from all the sites will be publicly accessible.

Ultimately, Bahreini hopes that the ASCENT partnership and establishment of a national aerosol monitoring infrastructure will open pathways for future research by atmospheric chemistry and climate scientists, air quality modelers, and epidemiologists.

"We are much more likely to be able to control what we can understand," she said. "Data from this network will help us truly understand the influence of

infrequent events on our air quality. Long-term trends in the data are also critical for formulating new policies to better protect human health and the climate.”

Smog-hit Beijing shuts down roads, playgrounds as coal production rises

Date:-5-November-2021, Source: firstpost.com



People ride bikes along a street past the China Central Television headquarters on a polluted day in Beijing

Beijing: Highways and school playgrounds in Beijing were closed Friday due to heavy pollution, as China ramps up coal production and faces scrutiny of its environmental record at make-or-break international climate talks.

World leaders have gathered in Scotland this week for COP26 negotiations billed as one of the last chances to avert catastrophic climate change, though Chinese president Xi Jinping made a written address instead of attending in person.

China — the world's largest emitter of the greenhouse gases responsible for climate change — has ramped up coal output after supply chains in recent

months were roiled by an energy crunch owing to strict emissions targets and record prices for the fossil fuel.

A thick haze of smog blanketed swathes of northern China on Friday, with visibility in some areas reduced to less than 200 metres (yards), according to the country's weather forecaster.

Authorities in Beijing blamed the pollution on "unfavourable weather conditions and regional pollution spread" as schools in the capital — which will host the Winter Olympics in February — were ordered to stop physical education classes and outdoor activities.

Stretches of highways to major cities including Shanghai, Tianjin and Harbin were closed Friday due to poor visibility.

Pollutants detected Friday morning by a monitoring station at the US embassy in Beijing reached levels defined as "very unhealthy" for the general population.

Levels of small particulate matter, or PM 2.5, which penetrate deep into human lungs and cause respiratory illnesses hovered around 220 — far above the WHO recommended limit of 15.

The smog is likely to persist until at least Saturday evening, according to city officials.

China said earlier this week it had increased daily coal production by more than one million tonnes to ease an energy shortage that had forced factories to close in recent months.

Rapid industrialisation has made China no stranger to air pollution, although severe smog episodes have become less frequent in recent years as authorities have increasingly prioritised environmental protection.

Beijing has pledged to bring emissions of planet-heating carbon dioxide to a peak by 2030 and reduce them to net zero by 2060.

China hit back Wednesday at criticism by Joe Biden, saying "actions speak louder than words" after the US president accused Beijing of not showing leadership to combat climate change.

China generates about 60 percent of its energy from burning coal.

Illegal air pollution in Texas fell 54 percent in 2020

Date:-6-November-2021, Source: mrt.com



EnLink's Lobo Gas Plant in Loving County was cited as a top benzene producer last year. But the company says it has taken steps to improve emissions performance at its facilities, including the Deadwood natural gas processing plant in Glasscock County

There were in reality some positive effects resulting from the economic downturn caused by the COVID-19 pandemic.

One positive was a 54 percent decrease in illegal air pollution in Texas compared to 2019, according to a report issued by the Environmental Integrity Project and the Environment Texas Research and Policy Center. Data analyzed by the two entities found 46 million pounds of illegal air pollution was released due to industrial accidents, shutdowns and other "upset" events, compared to the 72 million pounds averaged annually over the previous five years.

But officials with the two entities predict the decline will be short-lived.

“I’m confident it will be a short-term ray of light,” Gabriel Clark-Leach, attorney with the Environmental Integrity Project, told the Reporter-Telegram in a telephone interview. He predicted rates would increase as economic activity rebounds.

What will help is for state regulators to get more stringent as activity increases, Clark-Leach said. The Texas Commission Environmental Quality has made some changes to enforcement, but he remains skeptical unless emissions trend lower over a long period. “The proof is in the pudding.”

The TCEQ declined to respond to the report.

The report found the Midland region reported the largest amount of unauthorized emissions at 30.7 million pounds – nearly six times the next highest region, Houston with 5.5 million pounds. Four of the top five polluters in the state’s database of reported emission incidents last year were in West Texas, led by the Sand Hills Gas Plant in Crane County, which reported releasing 2.3 million pounds of total pollutants.

The Big Spring Carbon Black Plant in Howard County was in the top 10 in particulate pollution while EnLink’s Lobo Gas Plant in Loving County and Targa Resources’ Wildcat Gas Plant in Winkler County were among the top-10 benzene polluters, the report said.

“Overall, we do not believe the report to be accurate and it is not a representation of EnLink’s Lobo plant performance today,” Jill McMillan, vice president of strategic relations and public affairs, told the Reporter-Telegram by email. “We have proactively addressed prior thermal oxidizer repairs and added a secondary control to the plant, which has eliminated benzene releases from occurring at Lobo.”

Neither Tokai Carbon, owner of the Big Spring Carbon Black Plant, nor Targa Resources responded to requests for comment.

Clark-Leach said the Environmental Protection Agency is doing a good job monitoring the Permian Basin, performing flyovers seeking unlit flares and leaks, issuing stiffer fines and requiring third party audits.

Eliminating illegal air pollution needs the participation of all stakeholders, from industry to regulators.

“We need industry to do its part and not wait for crippling fines,” he said. Improvements in one area can be used elsewhere, he said.

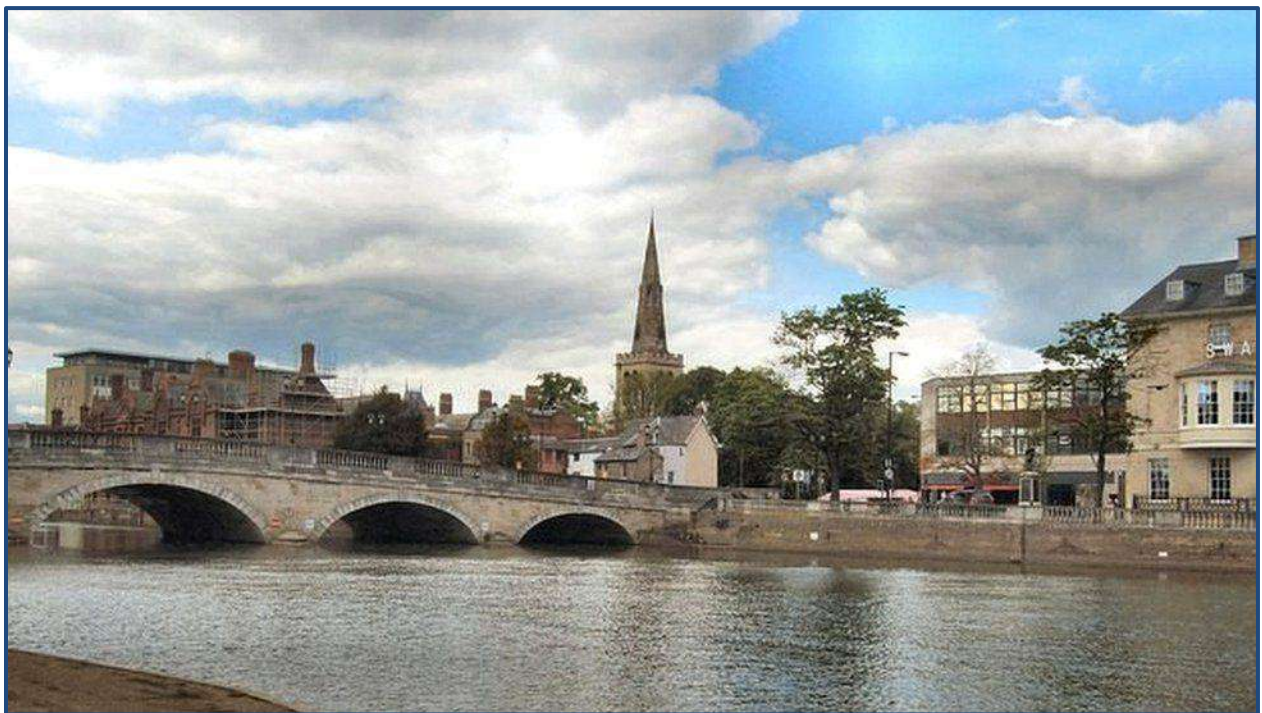
“A lot of emergency situations could be avoided if companies planned better and plants were better maintained and better monitored,” he said.

Clark-Leach acknowledged that ‘upset’ events will never be completely avoided – processing facilities are complicated and parts do break down.

But, he said, to issue enforcement orders for less than 3 percent of illegal air pollution events over the last nine years “is not a good sign.”

Bedford: Council works to improve air quality

Date:-7-November-2021, Source: bbc.com



Bedford's air quality is mostly good

Action to cut air pollution is being undertaken after studies found high levels of nitrogen dioxide in parts of Bedford.

Councils across the country have declared parts of their towns or cities Air Quality Management Areas where they have higher levels of pollutants.

A 2020 Bedford Borough Council air quality report found that, although the town was mostly very good, pollution had built up in some areas.

In these areas "pollutants build up and are slow to disperse due to traffic volumes and road traffic routes with unfavourable layouts/local geography", the report said.

It highlights Prebend Street, High Street, part of Midland Road and Seven Oak, St Peters Street, where the amount of NO₂ exceeds the annual air quality objective of 40 micrograms per cubic metre of air.

Prof Gurch Randhawa, director of the Institute of Health Research at the University of Bedfordshire, said: "We know poor air quality can impact on people's health in terms of respiratory illnesses and lung function.

"Our challenge is - how do we improve the environment around us?"

To help tackle air pollution - mostly caused by vehicle emissions, power plants and off-road equipment - Bedford Borough Council said it was working with the national cycle network Sustrans to improve cycle networks.

It said it was also using more air quality monitors, cutting speed limits in the centre of the town and providing more pavement space for walkers.

Charles Royden, deputy mayor of Bedford Borough Council and environment portfolio holder, said: "We've invested £5m in cycling in the last year to encourage people to feel safe. But we are not trying to make choices in Bedford that are anti-car.

"The change we have made in the high street, is that it is open to cars but reduces the speed limit to 20mph and we've widened the pavement and that makes things better for pedestrians."

Reducing air pollution can prevent heart attacks

Date:-8-November-2021, Source: earth.com

According to preliminary research to be presented at the American Heart Association's Scientific Sessions 2021, reduced air pollution in the United States during the COVID-19 lockdown in 2020 was linked to fewer severe heart attacks.

"Reducing pollution is not only helpful for the environment it may also have significant health benefits at the population level such as preventing heart attacks," said study lead author Sidney Aung, a medical student at the University of California, San Francisco.



Heart attack is the leading cause of death in the United States. Besides risk factors such as smoking, obesity, diabetes, high cholesterol or physical inactivity, air pollution can also increase the frequency of heart attacks, according to a 2020 American Heart Association policy statement.

By reviewing daily pollution measurements from the U.S. Environmental Protection Agency during the first months of lockdown and data regarding heart attacks in the U.S. population, Aung and his colleagues found that with each 10 $\mu\text{g}/\text{m}^3$ (micrograms per cubic meter) drop in particulate matter 2.5 (a common type of air pollutant containing microscopic pieces of solid substances), the number of heart attacks decreased by 6 percent.

“This study highlights the importance of reducing air pollution, which could, in turn, prevent heart attacks,” Aung said. “We also hope our study may influence other investigators to pursue similar research to corroborate these results or to investigate other forms of air pollutants outside of particulate matter 2.5 that may have also declined during the pandemic lockdowns.”

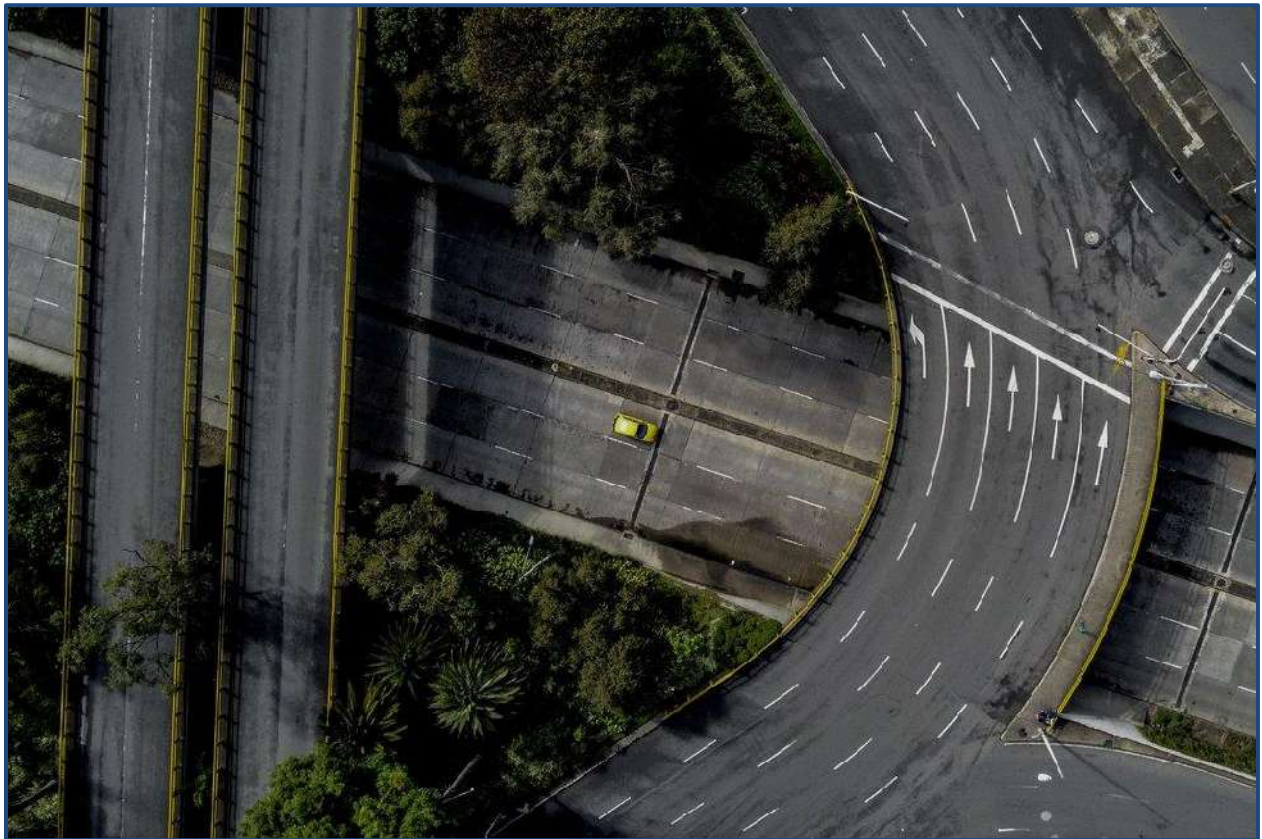
“If it turns out that we can meaningfully link a reduction in traffic-related air pollution during COVID lockdowns to a reduction in heart attacks, it points the way toward a major change that could help to reduce the burden of heart

disease. We know how to reduce air pollution concentrations and have seen that it is possible,” added Joel Kaufman, the chair of the American Heart Association’s 2020 policy statement on air pollution.

“This could reinforce the benefits of air pollution reduction as a cost-effective way to improve health. It also means that reducing fossil fuel combustion, which we need to do anyway to combat climate change, may yield tremendous health benefits now, even if the climate benefits take years to accrue,” he concluded.

Emission Reductions From Pandemic Had Unexpected Effects on Atmosphere

Date:-9-November-2021, Source: jpl.nasa.gov



Worldwide restrictions during the COVID-19 pandemic caused huge reductions in travel and other economic activities, resulting in lower emissions. Seen here, almost-empty highways in Colombia during the pandemic

Earth's atmosphere reacted in surprising ways to the lowering of emissions during the pandemic, showing how closely climate warming and air pollution are linked.

The COVID-19 pandemic and resulting limitations on travel and other economic sectors by countries around the globe drastically decreased air pollution and greenhouse gas emissions within just a few weeks. That sudden change gave scientists an unprecedented view of results that would take regulations years to achieve.

A comprehensive new survey of the effects of the pandemic on the atmosphere, using satellite data from NASA and other international space agencies, reveals some unexpected findings. The study also offers insights into addressing the dual threats of climate warming and air pollution. "We're past the point where we can think of these as two separate problems," said Joshua Laughner, lead author of the new study and a postdoctoral fellow at Caltech in Pasadena, California. "To understand what is driving changes to the atmosphere, we must consider how air quality and climate influence each other."

Published Nov. 9 in the Proceedings of the National Academy of Sciences, the paper grew from a workshop sponsored by Caltech's W.M. Keck Institute for Space Studies, led by scientists at that institution and at the Jet Propulsion Laboratory in Southern California, which is managed by Caltech. Participants from about 20 U.S. and international universities, federal and state agencies, and laboratories pinpointed four atmospheric components for in-depth study: the two most important greenhouse gases, carbon dioxide and methane; and two air pollutants, nitrogen oxides and microscopic nitrate particles.

Carbon Dioxide

The most surprising result, the authors noted, is that while carbon dioxide (CO₂) emissions fell by 5.4% in 2020, the amount of CO₂ in the atmosphere continued to grow at about the same rate as in preceding years. "During previous socioeconomic disruptions, like the 1973 oil shortage, you could immediately see a change in the growth rate of CO₂," said David Schimel, head of JPL's carbon group and a co-author of the study. "We all expected to see it this time, too."

Using data from NASA's Orbiting Carbon Observatory-2 satellite launched in 2014 and the NASA Goddard Earth Observing System atmospheric model, the researchers identified several reasons for this result. First, while the 5.4% drop in emissions was significant, the growth in atmospheric concentrations was

within the normal range of year-to-year variation caused by natural processes. Also, the ocean didn't absorb as much CO₂ from the atmosphere as it has in recent years – probably in an unexpectedly rapid response to the reduced pressure of CO₂ in the air at the ocean's surface.

Air Pollutants and Methane

Nitrogen oxides (NO_x) in the presence of sunlight can react with other atmospheric compounds to create ozone, a danger to human, animal, and plant health. That's by no means their only reaction, however. "NO_x chemistry is this incredibly complicated ball of yarn, where you tug on one part and five other parts change," said Laughner.

As reported earlier, COVID-related drops in NO_x quickly led to a global reduction in ozone. The new study used satellite measurements of a variety of pollutants to uncover a less-positive effect of limiting NO_x. That pollutant reacts to form a short-lived molecule called the hydroxyl radical, which plays an important role in breaking down long-lived gases in the atmosphere. By reducing NO_x emissions – as beneficial as that was in cleaning up air pollution – the pandemic also limited the atmosphere's ability to cleanse itself of another important greenhouse gas: methane.

Molecule for molecule, methane is far more effective than CO₂ at trapping heat in the atmosphere. Estimates of how much methane emissions dropped during the pandemic are uncertain because some human causes, such as poor maintenance of oilfield infrastructure, are not well documented, but one study calculated that the reduction was 10%.

However, as with CO₂, the drop in emissions didn't decrease the concentration of methane in the atmosphere. Instead, methane grew by 0.3% in the past year – a faster rate than at any other time in the last decade. With less NO_x, there was less hydroxyl radical to scrub methane away, so it stayed in the atmosphere longer.

Lessons From the Pandemic

The study took a step back to ask what the pandemic could teach about how a lower-emissions future might look and how the world might get there.

Notably, emissions returned to near-pre-pandemic levels by the latter part of 2020, despite reduced activity in many sectors of the economy. The authors reason that this rebound in emissions was probably necessary for businesses and individuals to maintain even limited economic productivity, using the

worldwide energy infrastructure that exists today. “This suggests that reducing activity in these industrial and residential sectors is not practical in the short term” as a means of cutting emissions, the study noted. “Reducing these sectors’ emissions permanently will require their transition to low-carbon-emitting technology.”

Western Boom Cities See Spike in Harmful Ozone

Date:-10-November-2021, Source: khn.org



This summer, chronically hazardous levels of ozone were the worst on record in Colorado’s Front Range which stretches from Fort Collins through the Denver metropolitan area (pictured) and Colorado Springs

The reduction of harmful ground-level ozone across most of the U.S. over the past several decades has been an air pollution success story. But in some parts of the country, especially in the heavily populated mountain valleys of the West, the odorless, colorless gas has remained stubbornly difficult to reduce to safe levels.

Meanwhile, a growing body of research shows that the levels considered safe may still be too high and should be substantially lowered.

Cities with chronically hazardous levels of ozone include Salt Lake City, Phoenix and Albuquerque, New Mexico. But the levels in Colorado's Front Range, along the eastern edge of the Rockies, are among the highest in the country — and this summer were the worst on record there.

The spike in ozone, a smoke-filled wildfire season and the ongoing pandemic created a no-win situation for people living within the Front Range, the most populated area of Colorado, which stretches more than 130 miles from Fort Collins through the Denver area and Colorado Springs. Exercising indoors with others is a high risk for covid transmission, while high levels of ozone and particulate matter outdoors are dangerous to human health.

“What should you do? We don't really know,” said James Crooks, an air pollution researcher at National Jewish Health, a hospital specializing in respiratory disorders. “Unfortunately, there's not a great body of research to figure out what the trade-off is.”

Along the Front Range, a place where you might expect fresh mountain breezes, this past summer the levels of ozone routinely spiked above the federal limit of 70 parts per billion — a level that the Environmental Protection Agency lowered from 75 parts per billion in 2015. Officials issued “action alert” health warnings on 65 days there during the peak season from May 31 to Aug. 31, the highest since record-keeping began in 2011.

The World Health Organization suggests that, based on new research, the limit should be 60 parts per billion to better protect human health. The EPA said at the end of October it was reviewing the 70 ppb limit to see whether change was warranted.

Children, older adults, and people with heart and lung problems and other preexisting conditions are warned not to spend extended time outdoors. For much of the summer, the indoors was the only safe place for many people.

“The last two years it has been really, really bad,” said Crooks. Ozone is “the second-most dangerous widespread pollutant after particulate matter, and we know it impacts not just your lungs.”

In some places, sporting events were canceled because of high levels of ozone and wildfire smoke. Schools in Provo, Utah, canceled football and soccer games in August because of ozone and other air pollution. The athletic department at

the University of Utah in Salt Lake City has its own air quality monitor for tracking particulate and ozone levels to know when to cancel practice or games.

Ozone, which is chemically similar to chlorine, though less toxic, may be most often thought of as a gas in the upper atmosphere, or stratosphere, where it acts to shield the Earth from the sun's ultraviolet rays. Ground-level, or tropospheric, ozone is created when auto exhaust and emissions from oil and gas production get baked by the sun. Cities at higher elevations get more solar irradiance than cities lower in altitude and that increases the reactions that turn nitrous oxide and volatile organic compounds into ozone.

The gas is highly toxic to plants and animals, including humans. "Good up high, bad nearby" is the phrase some use to differentiate the protective, stratospheric ozone layer from ground-level ozone.

Ozone poses multiple serious threats to human health. "When our bodies breathe in ozone, it's like a sunburn of the lungs," said JoAnna Strother, senior director of advocacy for the American Lung Association. It can cause shortness of breath and stinging in the eyes, trigger asthma attacks, and make people susceptible to pulmonary inflammation and coronary damage. It can increase the risk of other respiratory infections and trigger cardiac arrest. Exposure to ozone during pregnancy may result in lower birth weights.

It's also been shown to exacerbate covid-19 symptoms and increase mortality from the disease, and to increase the prevalence of Type 2 diabetes in people who spend time outdoors. In a study published last year, researchers in Colorado detected a reduction in bacterial diversity in the microbiome of the human gut from ozone, which could increase the risk of numerous chronic illnesses.

More than a million premature deaths are caused globally each year by ozone. Experts also say the burden of air pollution falls disproportionately on low-income, nonwhite and otherwise disenfranchised people who often lack the resources to move.

A new type of research into the impacts of air pollution at the single-cell level has found that exposure to ozone and fine-particle pollution may cause lifelong health problems. In a study of predominantly Hispanic children 6 to 8 years old in California's ozone-plagued Central Valley, air pollution was found to impair the expression of genes that regulate the immune system, and can lead to

increased levels of heart disease and other problems. These changes may even be passed on to offspring.

“It looks like even brief air pollution exposure can actually change the regulation and expression of children’s genes and perhaps alter blood pressure, potentially laying the foundation for increased risk of disease later in life,” said Dr. Mary Prunicki, director of air pollution and health research at Stanford University’s Sean N. Parker Center for Allergy and Asthma Research.

Ground-level ozone is primarily human-caused. The smoke from wildfires, which plague Colorado and the West every summer but were especially bad this year, add much to the problem of both ozone and fine-particle pollution. Ozone from Asia also crosses the Pacific and adds to the burden.

“We are not nearly as strict as other states — for example, California — and not nearly as strict as Europe for vehicle emissions,” said Frank Flocke, an atmospheric chemist at the National Center for Atmospheric Research in Boulder, Colorado, who studies air pollution.

The other major factor is volatile organic compounds — methane, ethane, benzene and other substances — emitted by the burning and production of natural gas and oil and gas operations, he said.

“The meteorology here is also part of the problem,” said Flocke. “You have prolonged high-pressure systems and the air gets really stagnant and the effects get amplified.”

Climate change is a major contributor. “If you are under polluted conditions as the climate warms, you get more ozone,” said Daniel Jacob, a professor of atmospheric chemistry at Harvard University.

While the air quality on the Front Range improved through the past decade, it grew worse the past two years. State officials say they are moving to address sources of pollution; critics say they are not taking it seriously enough as the Front Range continues to boom, adding people and pollution.

“I don’t think there’s an easy fix,” said Flocke. “We need more aggressive regulation and shifting of our habits. We need to try to get people to use public transit.”

Increasing the use of electric vehicles and renewable energy is key to the strategy in Denver and other ozone-plagued cities, he and others said. “The

things that we do to address climate change are the things that would clean up our air immediately,” said Crooks. “We’d get two birds for one stone.”

Hazy skies, poor air quality: Is port congestion worsening L.A. pollution?

Date:-11-November-2021, Source: latimes.com



A jogger makes his way on a trail below the Griffith Observatory in Los Angeles as hazy weather conditions envelope the Southland on Monday

It hung over the Los Angeles Basin like a curtain — a veil of stagnant air that blotted out the sun and concealed both the San Gabriel Mountains and the skyscrapers of downtown L.A.

Over the first weekend of November, residents across the region were puzzled by a surprising fog that seemed to roll in from nowhere and failed to burn away like any other overcast morning. Was it wildfire smoke? Was it smog? Was it mutant June gloom?

Now, in the wake of last weekend's mystery pall, some clean air advocates are blaming the long line of idling cargo ships anchored off the coast of Southern California for triggering the haze.

For their part, air quality regulators say the poor visibility was due to seasonal weather effects that trap air pollution over the region. They told The Times on Wednesday, however, that they would look into whether shipping was a factor.

It's a mystery that wraps itself around chemistry, weather and international trade.

Ships often travel in and out of the ports in Southern California within a relatively short window. Ships outside the Port of Los Angeles are now waiting up to 14 days on average to enter, according to port officials. Over 100 ships are anchored and idling there, awaiting their chance to offload cargo.

Ship emissions have increased substantially when compared to the pre-pandemic era, said Chris Cannon, chief sustainability officer with the Port of Los Angeles. Anchored ship emissions went from just 1% of overall ship emissions to 42% of emissions in December 2020.

"While we have not seen any obvious emissions increases at our local [air quality] monitoring stations during these anchorage periods, we continue to carefully monitor this activity and are coordinating with local and state agencies to assess impacts," Cannon said in a statement.

Last weekend's haze arrived just as the port gridlock entered its second month.

"In recent times, ships usually operate using shore power when docked at the port, but they can't do that when they are anchored offshore waiting for their turn to unload," said Michael Kleeman, civil and environmental engineering professor at UC Davis. "I'm speculating that the fuel used by those ships while they are anchored contains enough sulfur to contribute to the regional haze problem."

Along the coast of California, cargo ships are required to use fuel with low sulfur content.

Suzanne Paulson, professor of atmospheric and oceanic studies at UCLA, said that up until January 2020, cargo ships burned heavier fuel. Now, when those ships get near the coast of California, they're required to shift to low-sulfur fuel. What's unclear is whether the ships idling along California's coast have enough of that fuel to wait out the backlog at the ports.

“This issue is unprecedented,” Paulson said. “Usually, ships come and go. The ships off the coast may be a component that contributes to the pollution we’re seeing, but a lot of it has to do with the chemistry.”

It’s a theory that Kleeman thinks could be tested by measuring the air pollution for trace amounts of “chemical fingerprints” such as vanadium, an element that can be traced back to burned sulfur fuel used by cargo ships.

The question remains up in the air, said Sarah Rees, deputy executive officer at the South Coast Air Quality Management District.

It’s not uncommon to see this type of winter pollution buildup stretching out over several days at a time, air officials said.

On Tuesday, the South Coast district extended its 24-hour ban on residential wood-burning in fireplaces, wood stoves and fire pits, in an effort to limit the amount of pollution released into the air. Of particular concern are microscopic particles known as PM_{2.5}, which can irritate the eyes, nose and throat, and cause difficulty breathing. They can also trigger strokes, asthma attacks and heart attacks.

Starting Nov. 4, the South Coast Basin — which includes Orange, Los Angeles, Riverside and San Bernardino counties — recorded a five-day period in which the daily average of PM_{2.5} exceeded the national 24-hour health standard, according to available air quality data. On Nov. 5, spikes were recorded at air quality management district stations in Compton, North Hollywood, Reseda, Upland and Ontario. In the last few years, similar periods of unhealthy air coincided with massive heat waves and wildfires burning across the region.

The current available data offer a glimpse at the trends but not whether idling cargo ships are to blame.

Rees said the cargo ships could be a contributing factor to the haze but are just one part of the tapestry of machines pumping pollution into the L.A. Basin.

“It’s a little hard to say how much,” Rees said. “Even without the ships, we would have seen high levels of [particulate matter] around this time of year.”

Ships along the coast pump emissions into Southern California that contribute to PM_{2.5} levels, but they also contribute precursors that become fine particulates over time. The source of each pollutant is difficult to nail down, according to the South Coast district.

“Since these pollutants are emitted by many other sources throughout the region, it is challenging to determine how much these ship emissions contribute to measured PM2.5 concentrations,” South Coast spokesperson Nahal Mogharabi said in an email.

Weather patterns and atmospheric chemistry all influence how emissions move and affect air quality, furthering the mystery on the source of the haze.

But Adriano Martinez, senior attorney at environmental nonprofit Earthjustice, said the weather is just one factor in the pollution question.

“Whenever we see this spike in fine particulate pollution, people point to the weather,” Martinez said. “What some of that explanation misses is that impact of some of the urban areas where people live, and glosses over the specific solutions that could be pursued to curb emissions.”

There was a time when L.A. was submerged in a thick layer of smog that made people afraid to leave their homes, Martinez said. Industry regulations over the last several decades improved the quality of life for cities across the country, but there’s still much more that needs to be done, he noted. Just last year, smog remained a threat to those living in L.A., and not just for children, seniors and people with health conditions.

Kleeman said there has been tremendous progress carried out by regulatory agencies such as the South Coast district and at the federal level, but this most recent deluge of pollution is a reminder that progress is fragile.

“We’re having a little bit of a throwback to what it was like 15 to 25 years ago,” Kleeman said. “It’s a reminder of how far we’ve come and a reminder that we have to realize that these problems go away when we take the steps to make them go away.”

The National Weather Service forecasts that Santa Ana winds will return to Southern California this week. The winds are likely to blow away the haze but will also increase the chance for wildfires.

Calls for more clean air zones in the West Midlands to tackle pollution

Date:-12-November-2021, Source: planetradio.co.uk

Two major charities are behind calls for new clean air zones to be introduced in cities across the West Midlands, not just Birmingham.



The Clean Air Zone came into force in Birmingham this year

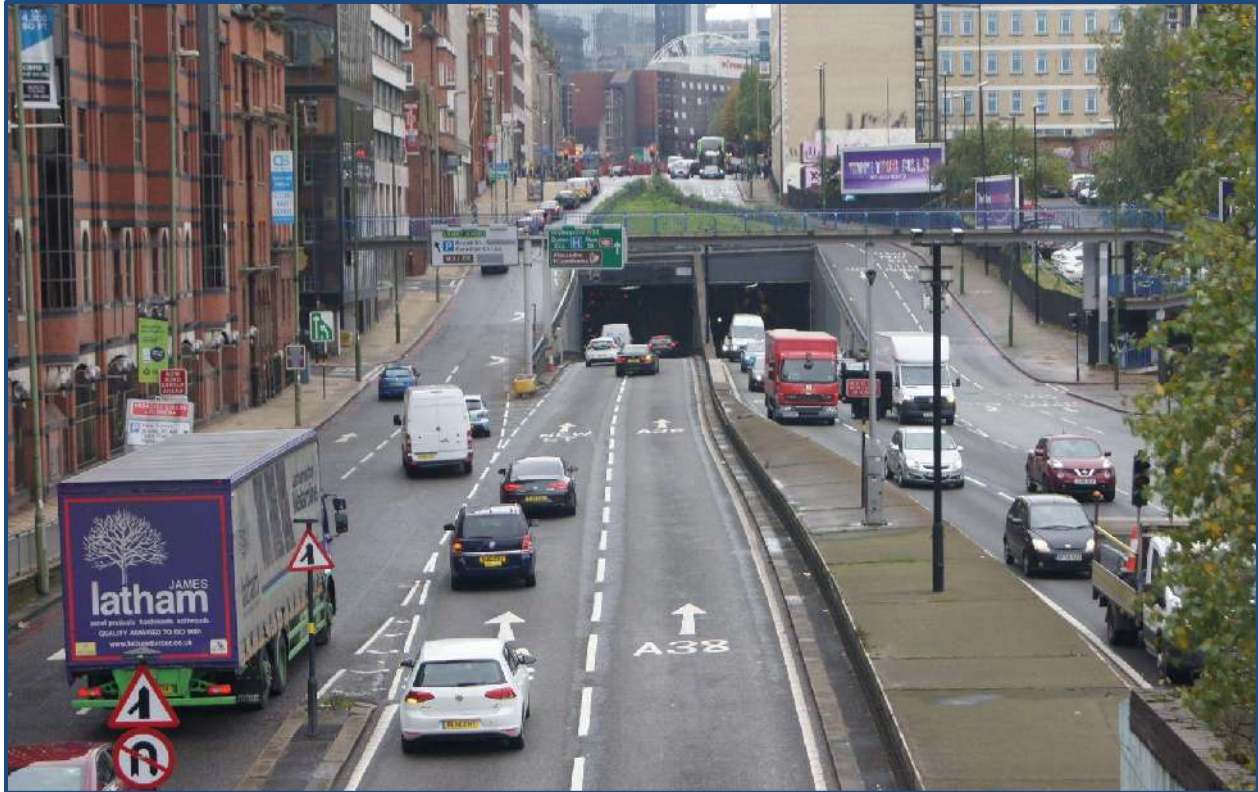
The city council introduced the zone there in June 2021 to help tackle dangerous levels of pollution. It sees drivers of some of the most polluting vehicles having to pay to enter parts of the city centre. For cars, taxis and LGV's it's £8 per day, and £50 a day for coaches, buses, and HGVs.

With the Cop26 climate summit coming to an end, the charities Asthma UK and The British Lung Foundation are putting pressure on local and national leaders to do more to tackle air pollution. They want to see measures, like a clean air zone, extended to other West Midlands cities like Wolverhampton and Coventry.

It comes as their research shows more than 250,000 children in the UK in 2019 were born in toxic air hotspots, where pollution levels exceeded World Health Organization's (WHO) 2005 recommendations.

In the West Midlands it affected more than 55,000 babies with the local breakdown looking like this;

- Birmingham; 15,483.
- Coventry; 4,198.
- Wolverhampton; 3,257.



Birmingham's Clean Air Zone covers all roads within the A4540 Middleway Ring Road

The charities have called the data 'A national shame' and are calling on the Government to tackle traffic fumes, the biggest cause of air pollution which can put children at risk of developing asthma, and causing existing lung conditions to worsen. Groups including pregnant women, infants, children, older people and those living with lung conditions are particularly vulnerable to the effects.

Speaking to us Harriet Edwards from Asthma UK and The British Lung Foundation says; "Nationally we want to see the Government put far more funding into public transport, walking, and cycling. And locally, we're supporting clean air zones being rolled out like the one in Birmingham which is really helping to tackle the toxic emissions on Birmingham's roads.

What we want to see now is the clean air zone extended to other parts of the West Midlands because we know pollution across the West Midlands is at really unsafe levels. We know that many schools, care homes, and hospitals are located in these areas."

The charities are calling for the UK Government to put improving air quality at the heart of its levelling up agenda.

Pollution wrecks havoc in Pakistan's Lahore as air quality degrades

Date:-13-November-2021, Source: aninews.in



Islamabad, November 13 (ANI): The people of Pakistan's Lahore on Saturday woke up sniffing and coughing due to air pollution, choking the city with smog. The Air Quality Index of the city was recorded as a hazardous 346.

On Thursday, Lahore was also declared as the most polluted city in the world, Samaa TV reported citing the Air Quality Index. According to experts, smog is caused by air pollution that can not only cause accidents but is also harmful to health. Rain can only recede the smog.

Meanwhile, the deputy commissioner of Lahore has also formed an 'Anti-smog Task Force' to cope up with the matter, the team will comprise heads of the environmental department, Water and Sanitation Agency, Metropolitan Corporation Lahore, industries, and police, Samaa Tv reported.

"Two special teams have been formed to monitor cars emitting smoke in the city," Lahore DC Muhammad Usman said adding that the government has

decided to visit all brick kilns and factories in the city using boilers and surfaces. On Friday, the Lahore High Court also ruled that no measures have been taken in city by the authorities to curb smog.

The court also slammed bureaucrats in Pakistan and said that they are just seating in their offices sending reports from there, Samaa Tv reported.

New fuel rules for fireplaces and log-burners confusing homeowners

Date:-14-November-2021, Source: cambridge-news.co.uk

Winter has well and truly begun to arrive with cold weather and long nights.

And, in 2021, people are being forced to reckon with the government's new rules around fireplaces and log-burners for the first time since they were introduced in the spring.

Many Brits have been left unclear on the types of fuel that they're allowed to burn in their homes.

A survey by the Coal Merchants Federation revealed that 58 per cent of respondents were unclear on the rules, the MEN reports.

In May, the government began to ban the sale of coal and wet wood for use in home fires in an effort to cut down on air pollution.

Among the 2.5 million households in the UK that have an open fireplace or stove, many believed that they would have to give up their use.

But there are plenty of smokeless fuels that coal and wet wood can be substituted for, so there's no need to rip out your fireplace.

The government rules state: "Burning at home, particularly with traditional house coal or wet wood, is a major source of the pollutant PM2.5 - which has been identified by the World Health Organisation as the most serious air pollutant for human health.

"People with log burners and open fires can still use them, but will be required to buy cleaner alternative fuels – if they are not already – such as dry wood and manufactured solid fuels which produce less smoke.

"Both of these cleaner options are just as easy to source and more efficient to burn, making them more cost effective.

"Burning dry wood also produces more heat and less soot than wet wood and can reduce emissions by up to 50%."

The new rules came into effect on May 1, 2021 and mean that bagged house coal and wet wood in units smaller than 2m³ can no longer lawfully be sold.

Wet wood in larger volumes must include advice on how to dry it before burning and all manufactured solid fuels to have a low sulphur content and only emit a small amount of smoke.

A new scheme will see all products certified and labelled with a 'ready to burn' logo by suppliers so they can be easily identified as safe for use and retail outlets will only be able to sell fuel that is accompanied by the correct label.

But homeowners that currently use house coal can continue to buy it from their local Approved Coal Merchant until May 2023 when it will be fully banned.

Julian Martin, Spokesperson for the Coal Merchant's Federation, said: "Open fireplaces and multi-fuel stoves are traditionally at the heart of the home and play an integral role in bringing together friends and family, as well as being a cost-efficient way to heat a house or supplement your central heating.

"The good news is there is no need to remove your stove or fireplace this winter, we instead urge anybody who has a multi-fuel stove or open fireplace to use 'ready to burn' solid fuel, which is compliant with the Government's Clean Air Strategy."

Glasgow has 'dirtiest air in Scotland', asthma charity head warns

Date:-15-November-2021, Source: glasgowlive.co.uk

The head of an asthma charity has said the number of cars at hospitals and GP surgeries should be restricted as Glasgow has the "dirtiest air in Scotland."

Joseph Carter, head of the Asthma UK and the British Lung Foundation for Scotland, pointed out how air pollution causes children to develop asthma and wants traffic levels reduced.

Mr Carter said "Glasgow has the dirtiest air in Scotland" and calls on the council to take the "issue seriously."



COP26: The British Safety Council hold a photocall to promote their #TimeToBreathe campaign, in Glasgow

It comes as 72,000 children in Scotland suffer with asthma out of a total of 368,000 people with the condition in the country.

Mr Carter said: “We can see the link between air pollution and the condition.”

Speaking during Cop26 at a media briefing in the city’s Broomielaw about the impact of air pollution on outdoor workers last week, Mr Carter said he is supportive of new low emission zones in the city.

Glasgow City Council has also started banning cars from entering streets around certain schools to reduce congestion and pollution. Mr Carter would like to see that expanded to other buildings too.

He said: “We would like to see vehicles restricted around hospitals and GP surgeries and playgrounds. “We need to take air pollution away from the vulnerable if possible.”

He added: “We need people to use active travel and avoid the car.”

Chairman of British Safety Council Peter McGettrick said: "Glasgow is one of the most polluted cities in the UK."

"It is one of the only cities that has a motor way running through the heart of it." He called for the UK to adopt World Health Organisation (WHO) exposure limits for the main pollutants of nitrogen dioxide, particulate matter and ozone.

He is also campaigning for better pollution data availability and for Canairy, the British Safety Council free mobile app for outdoor work, to be used more widely.

The British Safety Council says outdoor air pollution is linked to lung cancer, heart disease, strokes, reductions in cognition and can endanger unborn babies.

It is running a Time to Breathe campaign to raise awareness of the effect of poor air quality on outdoor workers including builders and refuse collectors.

Mr McGettrick said: "We are campaigning for employers, policy makers and regulators to take the issue seriously."

There are 36,000 early deaths in the UK every year from ambient air pollution.

Mr McGettrick added: "It has been ignored for far too long."

Councillor Anna Richardson Ward, city convener for sustainability and carbon reduction, said: "Our air quality is generally good. The vast majority of the city meet the legal limits.

Nitrogen dioxide (NO₂) levels on Hope Street in Glasgow in 2019 were higher than The European Ambient Air Quality Directive limit.

Councillor Richardson said an upcoming Glasgow low emission zone banning older diesel and petrol vehicles will reduce those levels of pollutants.

Councillor Richardson said: "The LEZ will bring that down. We are optimistic about that. "

The Langside politicians said the council will continue to look at ways to improve the quality of air and the environment.

London pollution has improved with evidence for small initial ULEZ effect: study

Date:-16-November-2021, Source: imperial.ac.uk



London's ULEZ reduced the city's nitrogen dioxide levels by a few per cent during the first few weeks of its implementation

This is according to a study by Imperial College London researchers who say their findings highlight that ULEZs are not a silver bullet and that sustained improvements in air pollution require multiple measures.

Between 2016 and 2020, the number of Londoners living in areas with illegally high levels of nitrogen dioxide fell by 94 per cent, and alongside this there were other reductions in London's air pollution. New research from Imperial has found that changes in air pollution around the introduction of the ULEZ in April 2019 were small in comparison to these longer-term improvements.

The researchers used publicly available air quality data to measure changes in pollution in the twelve-week period from 25 February 2019, before the ULEZ

was introduced, to 20 May 2019, after it had been implemented. They controlled for the effects of weather variations, and then used statistical analysis to look for and quantify changes in pollution.

The researchers behind the study, published in *Environmental Research Letters*, say it highlights the importance of combining a wide set of effective clean air measures that could encompass local actions like reducing transport emissions and use of wood burning stoves, and regional policies that reduce, for example, agricultural emissions. This is particularly important for cities that are considering introducing an ULEZ, and it comes as London's ULEZ was expanded to create a larger zone in October 2021.

Corresponding author of the research Dr Marc Stettler, from Imperial's Department of Civil and Environmental Engineering and Centre for Transport Studies, said: "Our research suggests that a ULEZ on its own is not an effective strategy to improve air quality – the case of London shows us that it works best when combined with a broader set of policies that reduce emissions across sectors like bus and taxi retrofitting, support for active and public transport, and other policies on polluting vehicles."

Air pollution caused 40,000 deaths in the UK in 2019 – around 4,000 of which were in Greater London. Worldwide, outdoor air pollution accounts for around 4.2 million deaths per year due to conditions such as stroke, heart disease, lung cancer, and acute and chronic respiratory diseases.

In April 2019 the Mayor of London introduced the ULEZ, an area in which drivers of more polluting vehicles must pay a daily charge, with the aim of reducing air pollution emissions from road transport and accelerating compliance with EU air quality standards. The ULEZ is one of several London air pollution policies introduced since 2016 like the Low Emission Zone, Low Emission Bus Zones, and bus and taxi electrification.

Monitoring air quality

To carry out the study, the researchers analysed air quality data from roadside and non-roadside air quality monitors across London, comparing data over a twelve week period from before and after the ULEZ was introduced.

They found that, compared to the overall decrease in London's air pollution levels, the ULEZ caused only small improvements in air quality in the weeks following its start date: an average reduction of less than 3 per cent for

nitrogen dioxide concentrations, and insignificant effects on ozone and particulate matter (PM2.5) concentrations.

They also found that the biggest improvements in air quality in London in fact took place before the ULEZ was introduced in 2019.

They detected changes in levels of nitrogen dioxide and ozone at 70 per cent and 24 per cent of the monitoring sites around the time that the ULEZ was introduced, respectively. Among these sites, changes in air pollution varied quite significantly and at some sites pollution actually worsened, with relative changes ranging from -9 per cent to 6 per cent for nitrogen dioxide, -5 per cent to 4 per cent for ozone, and -6 per cent to 4 per cent for PM2.5.

The researchers suggest that other cities considering implementing these schemes should consider them alongside a combination of other measures. Dr Stettler said: "Cities considering air pollution policies should not expect ULEZs alone to fix the issue as they contribute marginally to cleaner air. This is especially the case for pollutants that might originate elsewhere and be blown by winds into the city, such as particulate matter and ozone."

"Since the London ULEZ was introduced, similar schemes have been introduced in Bath, Birmingham and Glasgow, yet on a much smaller scale. Several other cities have plans to implement clean air zones and our findings could contribute to the development of their policy."

Air pollution, proximity to green space impact quality of life for patients with COPD

Date:-17-November-2021, Source: healio.com

In a new study, higher exposure to traffic-related air pollution and greater living distance from green and blue spaces were associated with poor health-related quality of life for patients with COPD.

"A large part of the population is living with COPD," Subhabrata Moitra, MD, postdoctoral fellow in the division of pulmonary medicine at the University of Alberta, Canada, said in a related press release. "If we are able to provide a clean and green environment to those patients, that will help in improving their quality of life."



Moitra and colleagues analyzed cross-sectional data from a multicenter study on 407 patients with stable mild to very severe COPD (mean age, 69 years; 85% men) living in Barcelona, Spain. All patients responded to the COPD

Assessment Test (CAT) and Clinical COPD Questionnaire (CCQ), and their residential distances to blue or green spaces were measured using the Urban Atlas. Mean CAT score was 12 and mean CCQ total score was 1.4.

Researchers estimated exposure to air pollutants, including nitrogen dioxide, fine particulate matter (PM)_{2.5}, PM₁₀ and PM_{2.5} absorbance, road traffic noise and land surface temperature using long-term averages from land use regression models, 24-hour noise maps and land surface temperature maps.

“To our knowledge, this is the first study to assess the relationship between major environmental factors and respiratory-specific health-related quality of life between major environmental factors and respiratory-specific health-related quality of life among clinically stable mild to very severe COPD patients,” the researchers wrote.

Median exposure concentration to NO₂ was 43.5 µg/m³, PM_{2.5} was 12.6 µg/m³, PM₁₀ was 24.9 µg/m³ and PM_{2.5} absorbance was 2.2 µg/m³, and median exposure to noise was 63 dB.

“These levels are above the WHO recommended annual average levels to protect health, both for air pollution (recommendations: NO₂ < 40 µg/m³, PM_{2.5} < 10

µg/m³, PM₁₀ < 20 µg/m³, PM_{2.5}absorbance: not available) and road traffic noise (L_{den} < 53 dB), the researchers wrote.

The mean living distance from blue and/or green space was 299 m.

Results published in Environmental Research showed that NO₂, PM_{2.5}absorbance and distance to blue and/or green space were associated with worse scores on the CAT and CCQ-mental tests, according to single-exposure multivariable models. An interquartile range increment in NO₂ was associated with a 0.13-point worse CAT score and a 0.17-point worse CCQ-mental score, while an interquartile range increment in PM_{2.5}absorbance was associated with a 0.1-point worse CAT score and a 0.21-point worse CCQ mental score. These associations remained in multiple exposure models, the researchers wrote.

In addition, in single-exposure models, each 100 m increase in distance from blue or green spaces was associated with worse CAT score (0.03 per 100 m increment; 95% CI, 0.002-0.06) and marginally worse CCQ-mental score (0.07 per 100 m increment; 95% CI, -0.003 to 0.14). However, in multiple exposure models, distance to blue or green spaces was no longer statistically significantly associated with CAT score (0.02 per 100 m increment; 95% CI, -0.007 to 0.05).

“If you spend time in any blue or green space — like in the forest, a park, or near to the ocean or to a river — it actually gives immense benefit to mental health,” Moitra said in the release. “And if you have access to those places, then you’re more likely to achieve a better physical activity by walking or jogging, and this also helps in improving one’s physical and mental health as well.”

Air pollution in Latrobe Valley requires urgent action

Date:-18-November-2021, Source: miragenews.com

The Victorian Greens have welcomed the findings of an inquiry into air pollution but say they ignore important health concerns raised by communities in the Latrobe Valley and Melbourne’s inner-west.

The inquiry tabled its final report today, which made a number of important findings including that the Government has failed to release its promised 2019 Air Quality Strategy.

Importantly, it recommended that clean air zones be established and that a review be undertaken of the scheme for conditional licences for heavy industry.

However, evidence provided to the inquiry on the disproportionate effects of air pollution in the Latrobe Valley and Melbourne's inner-west were not responded to adequately in the final report.

This is despite the fact the committee heard from many experts and residents over several months about how these communities were being ignored and forgotten by governments, left to endure the devastating consequences of air pollution.

Leader of the Victorian Greens, Samantha Ratnam, was on the committee and said it was disappointing that the inquiry's report failed to recommend measures to reduce air pollution at its source, such as brown coal power stations, and respond to the evidence it received about the poor health outcomes being experienced by families in the Latrobe Valley and Melbourne's inner-west.

She added that the report failed to acknowledge the disease burden these communities were carrying or recommend the types of interventions that could improve air quality.

In a minority report submitted by Ms Ratnam, she cited a number of findings that were left out of the majority report including that:

- Residents of the Latrobe Valley experience poorer health outcomes than the Victorian average
- Residents of the Latrobe Valley are concerned and frustrated that their health concerns aren't adequately considered in decision making about the operation of industries that contribute to pollution in their environment
- The renewal of the licences for Victoria's brown coal power stations did not include the implementation of best practice standards for air pollution mitigation
- The failure of the EPA to require point source emissions controls in the renewal of brown coal power stations in Victoria represented a missed opportunity to reduce air pollution

- Residents of Melbourne's inner-west experience poorer health outcomes when compared to the Australian average

Ms Ratnam said that while the committee omitted these findings from the final report, it was critical that the state government take action to reduce the poorer health outcomes faced by communities in the Latrobe Valley and Melbourne's inner-west.

In her minority report Ms Ratnam has made a raft of her own recommendations including that the real-time monitoring of air quality in the Latrobe Valley be implemented and shared with the community.

As stated by Leader of the Victorian Greens, Samantha Ratnam MLC:

"Communities in the Latrobe Valley and Melbourne's inner-west have been pleading with the state government for action on the air pollution in their areas for years to no avail.

"The inquiry heard from experts and residents alike who gave us startling evidence on the poor health outcomes facing families and the government's woeful inaction.

"I'm pleased with many of the findings and recommendations in our majority report today, but am disappointed so much was left out that could have spurred the government to act.

"Communities everywhere deserve protection from breathing in dirty air, and in the Latrobe Valley where the country's most polluting coal-fired power station sits, this should be a priority."

Pollutionwatch: the double benefit of cutting methane emissions

Date:-19-November-2021, Source: theguardian.com

Reducing carbon dioxide alone will not limit global temperature rises to 1.5C; we have to limit methane emissions too. The global methane pledge could therefore be one of the biggest achievements from the Glasgow climate conference.

Cutting methane has a double benefit. In addition to contributing to climate heating, methane is also one of the main gases that causes ozone to form in the lower atmosphere, where it harms our health and damages our crops. The

global pledge is the first step to a 45% reduction target. The United Nations Environment Programme estimates that the decreased ozone that would follow would prevent 255,000 early deaths, 775,000 asthma-related hospital visits and 26m tonnes of crop losses globally each year.



A pipeline that moves methane from a landfill to an onsite power plant in Irvine, California

Prof Mathew Heal, of the University of Edinburgh, said: “Targeting local and regional energy and transport will not be sufficient to achieve substantial ozone air quality benefits in the UK and Europe without also targeting methane sources. If methane concentrations continue to rise, average ozone will increase, and vice versa.”

Methane from waste decaying in landfill sites can be captured and flared or used to generate electricity. Travel to a historical coalmining area and you will meet communities that have lost loved ones in explosions from what the Victorians called “fire-damp”. This methane emitted from coalmines looks set to increase as modern pits become deeper. However, it can be removed from vents, and old mines can be flooded. Changes to the ways that rice is grown, modified animal feeds, better treatment of manure and less crop burning are all needed along with decreasing food waste and meat consumption.

The biggest benefit could come from the petroleum and fossil gas industries, where stemming leaks would increase revenue. Individual leaks on wells and pipes may be small but their total is huge. Leakages from the US fossil gas industry have been measured as far away as the Swiss Alps and in Cape Verde.

Fossil gas also contains ethane, which is far more potent in forming ozone. Prof James Lee, of the University of York, said: "Air pollution around fracking operations in the US is highly sensitive to gases such as ethane, which contributes about 50% to the ozone production. Prioritising leaks from fossil gas would have the added benefit of helping to limit local ozone. This is likely to be true in the UK too." India has experienced the greatest rise in ozone and experiences the greatest health impact and crop losses of any country. It has not signed the global pledge.

Decade of ammonia air pollution traced in Africa - NASA study

Date:-20-November-2021, Source: jpost.com



The unrecognized villages around Ramat Hovav which suffer from a high level of air pollution from nearby evaporation ponds of the chemicals and the IEC power plant. December 28, 2017

A NASA study has traced a decade of ammonia air pollution in concentrated areas in Africa. Ammonia (NH₃) is a colorless gas with a pungent smell composed of nitrogen and hydrogen that can cause heart and lung-related illnesses.

The study, published on Tuesday in the European Geosciences Union, reports that ammonia's presence can make soil more acidic and negatively affect the growth of plants.

NASA researchers used satellite data to identify the level of ammonia emissions and what the cause was for rises and falls in ammonia concentrations.

The compound can be emitted naturally from vegetation fires and soil, as well as from the use of fertilizer and the raising of livestock. According to the study, ammonia emissions will rise alongside the scaling up of agriculture as the global population increases.

Furthermore, African governments are promoting the use of fertilizer in order to increase the production of food. Vegetation fires are also common in Africa and are the result of both human and natural processes.

The principal investigator of the study, Jonathan Hickman, noted how ammonia concentration changes throughout the continent:

- West Africa saw vegetation fires corresponding with ammonia concentration.
- The Lake Victoria region saw expansions of agriculture and fertilizer use.
- In South Sudan, however, there was a decrease in ammonia caused by soil wetness.

Overall, Hickman believes that there will be higher concentrations of atmospheric ammonia due to Africa's expansion of its agricultural processes.

Fine dust blankets much of South Korea

Date:-21-November-2021, Source: newsinfo.inquirer.net

SEOUL — A choking pall of fine dust plagued much of South Korea on Saturday, prompting authorities to urge vulnerable people to stay indoors.



A road around Gwanghwamun Square in Seoul, is shrouded in fine dust on Saturday. Photo by Yonhap via The Korea Herald/Asia News Network

As of noon, the density of ultrafine dust, called PM 2.5, hit the “very bad” level for Seoul, Incheon, Gyeonggi Province and South Chungcheong Province, according to data from the state-run Korea Environment Corp.

Other parts of the country, excluding Gwangju and South Jeolla Province in the southwest, registered “bad.”

The level of fine dust, called PM 10, remained “bad” for Seoul, Gyeonggi, and central and northeastern regions, while the reading elsewhere was “average.”

PM 2.5 and PM 10 refer to particulate matters smaller than 2.5 micrometers and 10 micrometers in diameter, respectively.

The nation measures fine dust air pollution in a four-tier system — “good,” “average,” “bad” and “very bad.”

The high concentration is attributable to the combination of micro particles from China, which began to blow in Thursday night, and domestic air pollutants accumulated due to stagnant air, the state-run National Institute of Environmental Research said.

On late Friday, fine dust and ultrafine dust advisories were issued for Seoul and Gyeonggi for the first time in about six months.

Other affected parts of the country were also put under fine dust advisories Saturday.

An ultrafine dust advisory is issued when the concentration of PM 2.5 exceeds 75 micrograms per cubic meter for two hours. A fine dust advisory is issued when the concentration of PM 10 stays above 150 micrograms per cubic meter for two hours.

Micro-dust air pollution is expected to remain high for central, northeastern and southwestern regions through Sunday afternoon, the institute said, before it begins to ease with rain and strong winds expected Sunday night.

Ninety-four out of top 100 most polluted global cities are in India, Pakistan and China

Date:-22-November-2021, Source: wionews.com



In what can be a warning sign for Asia and the world, 94 out of 100 most polluted cities in the world were located in India, Pakistan and China with India making up for largest chunk of the total.

As per IQAir's 2020 air quality index, India had 46 of the world 100 most polluted cities. This was followed by China (42), Pakistan (6), Bangladesh (4). It's worth noting that almost all of these countries are in South Asian region.

As per the rankings, Ghaziabad was the most polluted city in India. The Chinese city of Hotan was the most polluted city for China while in Pakistan, Lahore grabbed the top spot. Lahore often features in the list of most polluted cities in the world. China and India are some of the world's biggest carbon emitters but air pollution has worsened in Pakistan as well, in recent years.

"Children are experiencing breathing diseases... for God's sake, find a solution," labourer Muhammad Saeed told AFP. "We are poor people, can't even afford a doctor's charges," shopkeeper Ikram Ahmed told AFP.

"We can only plead with them to control the pollution. I am not a literate person, but I have read that Lahore has the worst air quality and then comes India's Delhi. If it continues like this, we will die."

"Before, I used to come (for a walk) with my children but now I don't bring them out with me," Saeed the labourer said. "There are factories and small industries operating here, either shift them somewhere else, give them compensation or provide them with modern technology, so we can get rid of this smog."

Pakistan's Lahore becomes world's 3rd most polluted city

Date:-23-November-2021, Source: fairfieldcitizenonline.com



Vehicles drive along a highway as smog envelops the area of Lahore, Pakistan, Monday, Nov. 22, 2021. People of Lahore and adjacent area are suffering from respiratory problems because of poor air quality related to thick smog hanging over the region.

LAHORE, Pakistan (AP) — Lahore on Tuesday became the world's third most polluted city as increasing smog has engulfed Pakistan's cultural capital, an air quality monitoring company said.

The bad air has sickened hundreds with respiratory and other illnesses.

Lahore ranked third behind Dhaka, the

capital of Bangladesh, and Mongolia's capital Ulaanbaatar on the pollution index, according to Switzerland-based air quality information platform IQAir.

Increasing air pollution and smog have forced authorities to order a partial closure of schools in Lahore, once known as the city of gardens. Authorities said they closed some factories and some were fined for not using technology that helps in controlling pollution.

Doctors are advising people to wear face masks to avoid respiratory related diseases.

Rafeh Alam, an environmental expert who has been campaigning to create awareness among people about the dangers of increasing pollution, said many people, including women and children, have been exposed to toxic air, which causes several diseases. He urged the government to take measures to reduce air pollution.

Adding to vehicle and industry pollution is the popular practice among poor Pakistani farmers of setting fire to remnants of the previous season's crop before preparing land for the next planting. Winds worsen the pollution by further spreading smog across the region.

City of Vernon begins tracking local air quality with six new sensors

Date:-24-November-2021, Source: globalnews.ca

Between intense wildfire smoke and spring dust challenges, Vernon, B.C. has suffered through some periods of very poor air quality.

Now, the municipality is getting into the business of tracking local air quality conditions.

Earlier this month, the City of Vernon installed six new air quality monitoring sensors in neighbourhoods around the city.

"Anywhere from the Foothills to the Landing to the to the North End, we can get an idea of what the air quality is at any moment," said the city's general manager of public works Chris Ovens.

While other air quality tracking is done locally, the new civic-installed sensors are believed to be the first time the municipality has gathered its own air quality data.

"I'm pleased and proud that Vernon is doing this. This is actually very progressive and I think this is a step in the right direction," said Thompson Rivers University professor Michael Mehta, who studies air quality.

Mehta applauded the new sensors. He believes they will help the municipality make more informed decisions.

“If you want to make a decision...about a community development, a project, a road, highways, whatever it happens to be, you need that basic information at the local level,” said Mehta. “It’s not enough to be able to rely just upon data that might be gathered provincially, it might be taken from an air sensor that is quite a distance away.” However, Mehta argued the data should be made public in real time, something the city says it doesn’t yet have the capacity to do.

“The platform is just a website with a secure log-in for the City of Vernon staff. We will just evaluate that and see if at any point we are going to make that available to the public,” Ovens said. A look at what the sensors have gathered is expected to come out in the spring when staff update city council on the issue.

Increased air pollution linked to more cases of one type of lung cancer globally: Study

Date:-25-November-2021, Source: straitstimes.com



A tanker discharging black smoke into the air in the waters near National Service Resort & Country Club in Changi Coast Walk on Jan 17, 2021

SINGAPORE - In the past, it has not clear why more females and non-smokers worldwide were contracting lung cancer.

Now, an international team of scientists led by Nanyang Technological University (NTU) has found a link between increased air pollution and a global uptick in cases for a certain type of lung cancer.

Known as lung adenocarcinoma (LADC), it is strongly tied to genetic, environmental and lifestyle factors, as shown by research, said NTU on Thursday (Nov 25).

The study, done in collaboration between NTU and The Chinese University of Hong Kong, found that every 0.1 microgram per cubic metre increment of black carbon or soot in the Earth's atmosphere is associated with a 12 per cent increase in LADC incidence globally.

Black carbon is a fine particulate matter emitted from the incomplete combustion of fossil fuels, such as from gas and diesel engines as well as coal-fired power plants.

Professor Joseph Sung, NTU's senior vice-president for health and life sciences, who led the study, said: "In our study, we were able to determine that the global increase of lung adenocarcinoma is likely associated with air pollution."

Prof Sung, who is also dean of the Lee Kong Chian School of Medicine, added: "It had always been unclear, in the past decades, why we are seeing more females and more non-smokers developing lung cancer worldwide.

"Our study points to the importance of environmental factors in the causation of specific types of lung cancer."

The study, whose findings were published in scientific journal Atmospheric Environment on Nov 9, looked at lung cancer trends linked to air pollution and smoking from 1990 to 2012.

It found a relation between an overall lower consumption of tobacco worldwide and fewer people contracting another type of lung cancer called lung squamous cell carcinoma (LSCC).

LSCC is commonly associated with those who have a history of smoking.

The study noted that a 1 per cent decline in smoking prevalence was linked to a 9 per cent drop in LSCC incidence globally.

In addition, the number of smokers worldwide decreased by 0.26 per cent a year, cumulatively falling by nearly 6 per cent from 1990 to 2012.

However, the connection between the black carbon pollutant and incidence rates of both types of lung cancers were stronger in females than males.

Globally, a 0.1 microgram per cubic m annual increment of black carbon was linked to a 14 per cent rise in LADC in women, compared with 9 per cent in men. As for LSCC, the same increase in the pollutant was linked to a 14 per cent spike in females, compared with 8 per cent in the opposite sex.

Prof Sung said that while it is not known why women are more susceptible to lung cancer, several factors for consideration include genetic factors, as well as a possibility that they are more susceptible to certain types of chemicals or have a different environmental exposure.

He noted some have said that cooking at home could subject one to fumes from the stove that could raise lung cancer risk.

The rising incidence of LADC is particularly prominent in Asia, where emissions of black carbon and sulfate have been climbing, with South Korea presenting the largest hike for both pollutants.

Associate Professor Steve Yim from NTU's Asian School of the Environment, who was the first author of the study, said it is important for countries to come up with effective strategies to reduce air pollution.

"These emission control strategies are the same ones needed to reduce greenhouse gas emissions, which can help to mitigate climate change at the same time," he added.

However, aside from reducing emissions locally, countries would also have to work together to mediate the impact of transboundary emissions, Prof Yim noted.

Prof Sung said the impact of climate change has always been perceived as something that could impact humanity only 30 to 40 years later. However, a recent report by the World Health Organisation has shown more immediate and tangible impacts of climate change on human health.

The report on Oct 11 noted that air pollution, which also drives climate change, causes 13 deaths per minute worldwide.

"With disease, we're no longer talking about something that happens 30 years later, but over a shorter period of a few years. In some instances, lung and heart disease could also be precipitated on hot and polluted days," he added.

Moving forward, the research team aims to investigate how black carbon and sulfate contribute to the development of LADC, and explore other pollutants that may also be linked to lung cancers.

Lung cancer is the third-most common cancer in males and females in Singapore. During a five-year period from 2014 to 2018, 14 per cent of all cancer incidences in men were lung cancer. For women, the figure was 7.5 per cent.

Pakistan orders closure of private offices and schools on Mondays in Lahore to combat toxic smog

Date:-26-November-2021, Source: independent.co.uk



In this picture taken on 24 November 2021, commuters make their way along a road amid smoggy conditions in Lahore

Pakistan's northern Lahore city will implement lockdown-like measures by extending its weekends until mid-January next year to tackle toxic smog that has blanketed the country's agrarian states during the winter season.

Authorities in the country's second-largest city and the capital of Punjab province will shut schools and offices every Monday until 15 January 2022, leading to an extended weekend in an attempt to reign in choking air pollution, which has led to clouds of thick brown smog engulfing the city and its surrounding areas.

Punjab's relief commissioner Babar Hayat Tarar said in his directive that the efforts were aimed to act "as a preventive and speedy remedy" to combat air quality levels that have shot up in Lahore and the areas surrounding the city.

The directive stated that the efforts were being taken after the "persistent deterioration in Air Quality Index of the city of Lahore, fluctuating from satisfactory to poor levels, which is likely to cause breathing discomfort, respiratory tract diseases and heart diseases."

The order will only be enforced in Lahore and the territorial limits of Lahore's metropolitan corporation, after the city had earlier topped a list of cities with the most polluted air in the world after the air quality level shot up to 300, according to IQAir, a Swiss tech company that operates AirVisual, a real-time, air quality information monitoring platform.

The city's current AQI has now dipped to 234, which is, however, still in the unhealthy category. An AQI level of 100 or below is considered moderate.

The cities of Pakistan's Punjab province and India's northern belt, including its side of Punjab, the northern Haryana and Uttar Pradesh states and national capital Delhi suffer dramatic increases in pollution levels every year, leaving millions of citizens on either side of the border gasping for breath.

Much like India, Pakistan's air pollution is also the result of year-round emission sources such as transport, factories and construction activity.

The seasonal practice of crop burning, which turns into a visible smog as smoke mixes with fog as the winter air arrives, is yet another existential problem for which regional governments have failed to provide farmers with sustainable alternatives.

India's Supreme Court, just days ago, unleashed a scathing attack on the federal government and Delhi's state government, saying short-term measures

taken by Delhi, similar to the one taken by Lahore, to shut schools and offices were “very ad hoc”.

“This is the national capital. Look at the signal we are sending to the world,” one of the Supreme Court judges, sitting in a three-judge bench, said on Wednesday.

Suffolk summit to tackle air pollution issues

Date:-27-November-2021, Source: bbc.com



Air pollution will be discussed at a summit early next year

A summit to tackle concerns around air pollution in Suffolk is to take place in January.

The state of air quality across the county and measures to help improve the situation are on the agenda.

Suffolk County Council's Conservative leader Matthew Hicks said it was "a long-term priority for public health looking at air quality, and the summit will raise the awareness of air quality to us all."

It will take place on 28 January. Both national and local speakers are set to address the meeting, the Local Democracy Reporting Service said.

Mr Hicks said: "All of this will feed back into the Health and Wellbeing Board, and it will help to inform us as we start rolling forward that wider piece of work." The board is made up of members of the council, health service and police. In July it pledged to improve air quality in the county and help combat the harmful effects of air pollution.

A report from the board in the summer, said: "Air pollution causes diseases of the heart and lungs, contributes to poor public health, shortens life and is recognised as a contributing factor in the onset of heart disease and cancer." It continued: "However, there is limited knowledge across the population of its harmful effects and measures that can be taken individually and across sectors to improve air quality.

"Therefore, it is not only important to improve air quality overall, but also to improve population knowledge and data knowledge on the scale of the problem and the various measures that can be put in place to support the improvement of air quality across Suffolk."

Rally in Belgrade demands end to alarming air pollution

Date:-28-November-2021, Source: whec.com



A man holds a banner during a protest for clean air in Belgrade, Serbia, Sunday, Nov. 28, 2021. Several thousand people have rallied in Belgrade for another environmental protest, a day after demonstrators blocked bridges and roads on several locations in Serbia, and scuffled with riot police who deployed to stop them

BELGRADE, Serbia (AP) - Thousands of people rallied in Belgrade on Sunday to demand an end to Serbia's alarming levels of air pollution. The rally came a day after another environmental protest in which demonstrators blocked bridges and roads in different parts of the country and scuffled with riot police.

The protest on Sunday decried the high air

pollution in Serbia produced by coal-fueled power plants, a lack of proper air-filtering devices in mines and factories, and the use of old cars and pollution-producing fuels for home heating.

The protesters, carrying banners reading "The Air Is Dangerous" and "You Are Suffocating Us," marched through downtown Belgrade, blowing whistles and chanting anti-government slogans.

"We don't have to measure the pollution, we can see it and feel it," said Bojan Simisic from the Eco Guard, the environmental group that organized the protest. "It is killing our children. I don't want my children to be forced to flee the country because of the pollution."

Serbia is one of the most polluted nations in Europe, but public protests over the problem have gained attention only recently. Activists accuse Serbia's populist authorities of allowing foreign investors, mostly from China, to further hurt the Balkan nation's environment in their search for profits.

On Saturday, thousands of protesters blocked a key traffic artery in Belgrade and in other towns, angered over two laws they say would pave the way for further projects to wreck the environment.

The hour-long blockade on Saturday led to skirmishes with police and organizers said a number of protesters were detained. In the western town of Sabac, a video emerged on social networks of unidentified thugs beating protesters with batons.

Western Serbia has been at the center of the ecological movement because of a bid by the Rio Tinto mining company to open a lithium mine in the area. The company says it will meet the highest ecological standards, but activists and experts insist the mine would destroy farmland, wildlife and Serbian rivers.

Serbia's autocratic President Aleksandar Vucic and his populist government have dismissed the environmental protests as political. They have promised to tackle Serbia's huge ecological problems that have piled up after decades of neglect, but stressed that they have no intention of stopping coal mining any time soon.

Vucic on Sunday downplayed the number of protesters who took part in the blockades Saturday, saying they breached the constitution by "jeopardizing the freedom of movement of other citizens."

Vucic's government is formally seeking European Union entry, but he has instead forged close ties with Russia and China. A number of major Chinese investments, such as the purchase of a large copper and gold mine and the country's only steel mill, have considerably increased CO2 emissions in the country, environmentalists say.

Air Pollution Prompts Extended Ban On Wood-Burning In Temecula

Date:-29-November-2021, Source: patch.com



Gas and other non-wood burning fireplaces are not restricted, the SCAQMD said

RIVERSIDE COUNTY, CA — The South Coast Air Quality Management District has extended a mandatory prohibition on indoor and outdoor wood burning in much of the Southland for the fourth consecutive day due to a forecast of high air pollution in the area.

The residential wood-burning ban will now be in effect through at least 11:59 p.m. Tuesday for all those in the South Coast Air Basin, including the non-desert portions of Riverside, San Bernardino and Los Angeles counties and all of Orange County. The ban includes Temecula.

The order does not apply to mountain communities above 3,000 feet, the Coachella Valley or the high desert. Homes that rely on wood as a sole source of heat, low-income households and those without natural gas service also are exempt from the requirement.

The no-burn rule prohibits burning wood as well as manufactured fire logs, such as those made from wax or paper. Gas and other non-wood burning fireplaces are not restricted, the SCAQMD said.

Fine particles in wood smoke, also known as particulate matter or PM2.5, can get deep into the lungs and cause respiratory problems such as asthma.

Tehran Air Pollution Reaches Alarming Level On Tuesday

Date:-30-November-2021, Source: iranintl.com

Iran's capital Tehran on Tuesday registered red air quality alert and ranked as the world's fourth most polluted city where all population groups are at risk.

The air quality index stood at 162, considered to be "unhealthy" by world standards. This means the degree of the pollution hanging over the city is so high that it is dangerous for all groups, including healthy people.

All ten top-ranking cities on Tuesday were in Asia with two Indian and one Pakistani cities at the top three spots, followed by Tehran.

Mojtaba Khaledi, a spokesman for emergency services, said that due to air pollution calls for assistance have increased by 28 percent.

Iran's capital and other large cities grapple with pollution most of the year and even occasional rains have a short impact on improving air quality. Most private and public vehicles are old, with three-decade-old technology because of long-running economic problems and government controls.

A new problem added in the past few years is burning of mazut, a heavy diesel fuel, which is banned in most of the world. Iran's natural gas production is declining, and power plants are forced to use the dirty fuel. The country has the second largest gas reserves in the world, but lack of investment and technology are gradually reducing output.

December 2021

How an Arctic City Became One of the World's Most Polluted Places

Date:-1-December-2021, Source: ecowatch.com



The Norilsk power plant No. 1 supplying electricity to industrial enterprises of the Norilsk Nickel company, the world's largest producer of palladium and one of the largest producers of nickel, platinum and copper, in Norilsk, Russia on Oct. 18, 2021.

In Norilsk, the northernmost city in the world, the Arctic is warming twice as fast as the rest of the world, but the permafrost and structural problems have not been caused by climate change alone.

A smelting company has polluted rivers and destroyed boreal forest.

Norilsk, population 176,000, is known by environmentalists and the Russian Federation government as one of the most polluted places on Earth. According to The Atlantic, the life expectancy there is ten years less than in other regions of Russia, respiratory diseases are widespread and the risk of cancer is two times higher. The culprit is Norilsk Nickel, a company that produces more

palladium and high-grade nickel than any other in the world. It is also a major producer of cobalt, platinum and copper.

“Norilsk Nickel outlasted communism, embraced capitalism and now aims to ramp up production to sell the high-purity metals needed for batteries and other technologies of the 21st century clean energy economy,” reported Marianne Lavelle in Inside Climate News. “The company’s ambitions coincide with those of Russian President Vladimir Putin for greater development in the Far North, which he maintains can be accomplished sustainably.”

The pollution caused by the company has turned one of the world’s biggest carbon sinks into a wasteland of dead and dying forest in the taiga, or boreal forest. The company produces the worst sulfur dioxide in the world and last year a holding tank gave way, releasing 6.5 million gallons of diesel fuel that flowed into the Kara Sea, the biggest Arctic oil spill in history. The company denies that any diesel made it into the Arctic, but “the Russian government’s fisheries agency told Inside Climate News that its testing showed that the contamination had reached that far,” according to NBC News.

The company admitted that it had been dumping wastewater into the Arctic tundra, as Agence-France Press (AFP) reported. According to Agence-France Press, as reported by The Guardian, “Independent newspaper Novaya Gazeta published videos from the scene showing large metal pipes carrying wastewater from the reservoir and dumping foaming liquid among nearby trees.”

Norilsk Nickel says that it can rehabilitate the environment. The company paid a \$2 billion fine for last year’s diesel spill, the largest environmental fine in the Russian Federation’s history. The company has promised over \$5 billion for pollution control and economic and social revitalization throughout the territory of Krasnoyarsk Krai, according to Inside Climate News.

“We do acknowledge that there are legacy issues relating to our business,” a spokesman for Norilsk Nickel said in reference to lingering problems from the Soviet era, as reported by Inside Climate News. “We are implementing far-reaching measures to address them.”

A new environmental strategy was approved by Norilsk Nickel this year with goals for cleaning up air, water, soil and waste, as well as addressing climate change and biodiversity issues.

In a project called Sulfur Programme 2.0, the company has said it will spend at least \$4.1 billion to deal with air pollution and has committed to reducing

Norilsk's sulfur dioxide pollution by 45 percent by 2023 and by 90 percent by 2025.

Considering Norilsk Nickel's track record of pollution and inaction on cleanup even after paying its fine, local residents like Igor Klyushin, who moved to Norilsk in 1977 and used to fish with his father for grayling in the area, is skeptical. Klyushin advocated with other local environmental activists for Russia's environmental protection agency, Rosprirodnadzor, to establish a presence in Norilsk, as reported by Inside Climate News.

"When I came that night to see the Daldykan, my heart really sank, and it was broken," Klyushin said, speaking by phone through an interpreter, two weeks after filming the polluted Daldykan River, as reported by Inside Climate News. "The river was red with pulp and the chemical smell is still in my lungs."

Miami to use PlanetWatch and Algorand for air quality monitoring

Date:-2-December-2021, Source: cointelegraph.com



PlanetWatch has been tapped to deploy a network of air quality sensors around the city to monitor the concentration of air pollution.

Miami is preparing to be one of the first major U.S. cities to monitor its air quality using a decentralized Internet of Things (IoT) network built on Algorand.

French environmental technology company Planetwatch has developed five different types of air quality sensors. With funding from Borderless Capital's

\$10 million PLANETS fund, sensors will be deployed throughout the city, including in the homes of city residents.

Each sensor detects the concentration of air pollution in an area. When combined into a network, they will help residents and city officials analyze

where higher levels of pollution exist. Data collected by the sensors will be recorded on the Algorand blockchain making it tamper-proof and permanent.

Miami Mayor Francis Suarez has been a long-time advocate for the use of blockchain technology. He said at the DeCipher event in Miami on Nov. 29:

Residents who agree to run a sensor in their home will be rewarded with Planet Tokens (Planets). Planets can be sold for fiat in the open market or be exchanged for Earth Credits. Earth Credits are non-exchangeable tokens that are used by PlanetWatch as internal currency for its products and services.

Algorand is a carbon-negative blockchain. Algorand also recently gained \$1.5 billion in funding from former Citi executive Matt Zhang.

Why the air in the Bay Area is so gross right now

Date:-3-December-2021, Source: sfgate.com



The San Francisco skyline is visible through hazy conditions from Alameda Beach in Alameda, Calif., on Dec. 1, 2021. The Bay Area is experiencing unseasonable warm temperatures.

There are many reasons for the gross-looking air, but a key factor is what's called a temperature inversion, which is concentrating pollution near the ground, said Kristine Roselius, a spokesperson with the Bay Area Air Quality Management District.

"As it gets colder over night, you have warmer air over the colder air and it acts as a lid, pushing that air down and concentrating the pollution more than it would normally," Roselius said. "As temperatures warm in the afternoon, you get more movement. It allows for more mixing and it really helps dilute the pollution down."

Roselius said the pollution is the result of emissions from vehicles and especially from wood smoke.

"We have 1.4 million fireplaces in the Bay Area and when we have temperature inversions, that wood smoke gets concentrated and makes the air unhealthy," she explained. "That's why when we call a Spare the Air day, we ban wood burning."

The management district's air quality map showed "moderate" (yellow) levels in the 51 to 101 range on the Air Quality Index on Wednesday, while Purple Air showed levels as "unhealthy for sensitive groups" in the 101 to 150 range.

The Air Quality Index, or AQI, operates on a scale from 0 to 500. The higher the AQI value, the greater the level of air pollution and the greater the health concern. An AQI value of 50 or below represents good air quality, while an AQI value over 300 signals hazardous conditions. Both Purple Air and the air quality district use this scale.

The air quality district pulls its AQI readings from highly accurate sensors monitored by the Environmental Protection Agency. Purple Air sensors are installed by everyday people and connected to the company's app, Roselius said.

"These are people who buy these and put these in their yards," Roselius said. "If you put it in your backyard by your dryer vent that humidity will throw off the sensor. If you're barbecuing in your backyard one day, that will throw it off."

The Purple Air site has a filter that you can apply to the map to correct the inflated numbers. In the upper-left corner of the map under the Purple Air logo, you can click on "US EPA" and apply the LRAPA filter, Roselius explained.

Whether you look at Purple Air or the air district numbers, the air quality in the Bay Area is concerning, though Roselius said it's not severe enough to declare a Spare the Air day.

"The air district calls Spare the Air alerts when we expect federal air quality standards to be exceeded, and we're not expecting that at this time," Roselius said. "We've definitely noticed some hourly readings that are elevating, but it's a 24-hour standard. What's happening is we're seeing high AQI numbers in the morning and then it's dropping as the temperatures warm up. And you see more mixing and less concentration of pollution."

The hazy polluted conditions are expected to continue for several more days, Roselius said.

Meteorologist Jeff Lorber with the National Weather Service said he doesn't expect the haze to fully clear out until next week.

"There's going to be a change in the wind direction to more onshore over the weekend, which may help, but it's not going to be strong," Lorber said. "It could help improve visibility over the weekend. Next Monday into Tuesday we're having a system dropping down from the Pacific Northwest that should lead to stronger onshore breezes. By Tuesday things should be cleared out."

Chronic exposure to particulate matter linked with high blood pressure

Date:-4-December-2021, Source: news-medical.net

According to the WHO, air pollution is the greatest health risk worldwide, accounting for more than 4.2 million deaths annually. In addition, chronic exposure to particulate matter contributes to the risk of cardiovascular and respiratory diseases, and in particular has been associated with high blood pressure, according to a study published in Scientific Reports by the Biomedical Research Networking Centre in Diabetes and Associated Metabolic Disorders (CIBERDEM) and the Biomedical Research Institute of Málaga (IBIMA).

The study by Gemma Rojo's team has assessed the impact of particulate pollution on the long-term incidence of hypertension in Spain, supporting the need to improve air quality to the extent possible in order to reduce the risk of cardiometabolic diseases among the population.

To this end, CIBERDEM researchers have carried out a study, di@bet.es , where 1103 people aged between 18 and 83 took part. None of the participants presented high blood pressure hypertension at the start of the study (2008-2010), and they were monitored until 2016-17. The cohort participants were assigned air pollution concentrations for particulate matter, obtained through combined modelling, with measurements taken at air quality stations. During this period, 282 cases of incident high blood pressure were recorded.

The study has been carried out in collaboration with the air pollution department of the Research Centre for Energy, Environment and Technology (CIEMAT).

As explained by Sergio Valdés, CIBERDEM researcher at the IBIMA and endocrinologist at Hospital Regional Universitario de Málaga, "Several previous studies have described the short- and long-term association of ambient air pollutants with hypertension and blood pressure levels, but few studies have addressed the association between long-term exposure to these particles and the incidence of hypertension in a prospective manner. Therefore, the di@bet.es study has offered us the opportunity to do so in the Spanish population".

During the study phases, the participants underwent a medical examination at a health centre and blood samples were taken. In addition, a questionnaire was used to obtain information on age, sex, educational level, ethnicity, smoking, alcohol consumption and other variables. Food consumption was determined using a Mediterranean diet adherence questionnaire, the level of physical exercise was analysed and BMI was calculated. Blood pressure was measured with a blood pressure monitor and it was determined as hypertension if the mean systolic blood pressure was greater than or equal to 140 mmHg and/or if the mean diastolic blood pressure was greater than or equal to 90 mmHg.

In this regard, she states, "Although previous associations between exposure to gaseous pollutants and hypertension have shown some discrepancies, most studies reporting long-term exposure to particulate matter and incident high blood pressure have reported positive associations consistent with our findings."

In short, the CIBERDEM study contributes to assessing the impact of particulate pollution on the incidence of high blood pressure in Spain and, as Sergio Valdés explains, "our results support the need to improve air quality to the extent possible in order to reduce the risk of high blood pressure among our population, as even moderate levels such as those we report here increase the risk significantly."

Is air quality in the West getting better or worse? The data may surprise you

Date:-5-December-2021, Source: deseret.com



An inversion begins to fill the Salt Lake Valley on Monday, Nov. 29, 2021. With wildfire smoke filling the summer skies in recent years on top of the perennial winter inversions trap pollution in populated valleys, it would seem air quality has worsened in the past decade. Or has it?

With wildfire smoke filling the summer skies in recent years on top of the perennial winter inversions trap pollution in populated valleys, it would seem air quality has worsened in the past decade.

Or has it?

The federal Environmental Protection Agency said concentrations of air pollutants have dropped “significantly” since 1990. And over the past decade in the Intermountain West, days rated as variants of “unhealthy” in the EPA’s Air Quality Index dropped to new lows in 2019, a Deseret News analysis found.

Adding up days designated as “unhealthy for sensitive groups,” “unhealthy” and “very unhealthy,” the average number of total unhealthy days across Arizona, Colorado, Idaho, New Mexico, Nevada, Utah and Wyoming in 2020 was less than it was in 2010.

“The Air Quality Index tells you how clean or polluted your outdoor air is, along with associated health effects that may be of concern,” EPA spokesperson Melissa Sullivan said in an email. “Millions of people live in areas where air pollution can cause serious health problems.”

Overall, Arizona had the worst air quality of any state in the Intermountain West with the average of unhealthy days per year reaching nearly 20, double that of second place Utah.

And that ranking comes without data from Maricopa County, Arizona’s most populated area, which was excluded from the past decade’s data because the EPA said the results “are not reliable” due to “anomalous, elevated ozone concentrations from one monitor.”

“We are working with the reporting agency to resolve the issue,” Sullivan said.

Although air quality data goes through a quality assurance procedure, it isn’t always reliable because of delays in reporting, state data gathering and reporting methods, faulty monitors or other anomalies.

“Like all tools, the AQI is only as good as the data used to drive it,” Sullivan said. “It is the best tool available to communicate air quality levels to the general public and has been used for over 20 years. Because of its reliability it has been adopted and imitated worldwide.”

Regarding methods varying by state, some do not consistently report data for all counties and might not track all pollutants.

“States choose to site monitors in areas with higher concentrations and/or higher population since the minimum monitoring requirements are based on population size,” Sullivan said. “Therefore, not all counties have monitors from one year to the next (and those that do have monitors do not necessarily measure every pollutant).”

There’s a noticeable dip in average unhealthy days across the Intermountain West in 2019, something the EPA attributes to fewer wildfires.

“The air quality, specifically particulate matter pollution, in most (if not all) of those states was impacted by high wildfire activity in 2017 and 2018, and again in 2020,” Sullivan said.

And in 2013, Utah had an uptick in average total unhealthy days, something that the EPA can’t explain.

“Unfortunately, we do not have information regarding a 2013 uptick in Utah,” Sullivan said.

As far as the good days over the past decade: In 2010, Clear Creek County, Colorado, only had four “good” days reported. But in 2012, Taos County, New Mexico, had all 365 days classified as “good.”

In 2011, Pima County, Arizona, had 22 “very unhealthy” days — the most out of any county in the Intermountain West during the past decade.

Last year, three counties in Idaho — Kootenai, Nez Perce and Shoshone — had the most “very unhealthy” days with four days each.

According to the EPA, “very few locations (about 0.3% of counties) have any days in the very unhealthy or hazardous categories.”

Wyoming consistently has the least “unhealthy” days around the region with little average variance over the decade.

Check the EPA data on how the air quality in your county has been changing:

Wildfires produced record-breaking emissions this year from U.S. to Turkey

Date:-6-December-2021, Source: cnbc.com

Wildfires worsened by climate change produced a record amount of carbon emissions in parts of Siberia, the U.S. and Turkey this year, scientists with the Copernicus Atmosphere Monitoring Service said on Monday.

Intense and prolonged blazes emitted an estimated total of 1.76 billion tons of carbon — the equivalent of more than a quarter of U.S. annual carbon emissions. The Sakha Republic in northeastern Siberia, Turkey, and the western U.S. recorded their highest wildfire emissions in 2021, according to Copernicus. Wildfires also devastated Albania, Algeria, Greece, Italy, North Macedonia, Spain and Tunisia.



A Cal Fire firefighter from the Lassen-Modoc Unit watches as an air tanker makes a fire retardant drop on the Dixie Fire as trees burn on a hillside on August 18, 2021 near Janesville, California.

“As the year draws to a close, we have seen extensive regions experience intense and prolonged wildfire activity, some of which has been at an level not observed in the last couple of decades,” said senior Copernicus scientist Mark Parrington.

Human-caused climate change has fueled hotter temperatures and drier conditions across the world, which have contributed to longer and more intense wildfire seasons. 2020 was one of the hottest years on record, and 2021 is virtually certain to be among the 10 hottest years ever recorded.

In July, the Dixie fire started in Northern California and burned for more than three months. It became the second-largest wildfire in the state’s history. Fires in California, Canada and the U.S. Pacific Northwest this year emitted about 83 million tons of carbon, and plumes of smoke from those blazes traveled across the Atlantic Ocean and reached large swaths of Europe.

Many countries around the eastern and central Mediterranean also suffered several days of intense wildfires over the summer that led to high concentrations of fine particulate matter and degraded air quality. In July, fires in Turkey prompted widespread evacuations and killed thousands of animals.

“Drier and hotter regional conditions caused by global warming increase the risk of flammability and fire risk of vegetation and this has been reflected in the extremely large, fast-developing and persistent fires we have been monitoring,” Parrington said. “It is clear from 2021 that climate change is providing the ideal environments for wildfires.”

Pakistan: How Lahore's smog is harming residents

Date:-7-December-2021, Source: dw.com



Commuters drive their vehicles through heavy smog in Lahore

Momina Rajput took her 2-year-old daughter and left Pakistan's second-largest city Lahore in early November after experiencing continuous bouts of coughing and breathing difficulties.

"When the pulmonologist told me that I had acute asthma because of the smog and I could not live in Lahore during the smog season, I was devastated that I had to leave my life, my husband and home for my health," Rajput told DW.

Lahore recently claimed the ignominious title of "the most-polluted city in the world," according to IQAir, a global environmental think tank.

Seasonal smog in the eastern city saw the pollutant-measuring Air Quality Index (AQI) record a level of 296 last week. In early November, the AQI rose

above 500 — a level that causes respiratory difficulties even for otherwise healthy individuals, according to the Punjab Environmental Protection Department.

Lahore's smog crisis occurs annually. But environmental and health awareness among the city's residents is growing.

Many Lahore residents have shared their personal experiences of coping with the smog on social media. An Instagram account named Naveen has been covering and sharing smog stories from citizens as well as expert opinions. Community-led webpages have also sprung up to track AQI and share health tips.

Growing awareness about smog and its dangers

According to the Center for Disease Control, air pollution increases the risk of many preexisting conditions, including diabetes, lung diseases, asthma, heart disease and cancer. On average, a Pakistani's life is reduced by two years due to the impact of pollution, while a Lahore resident's life is reduced by five years.

Environmental lawyer Rafay Alam told DW that increased pressure from citizens on the government is due to growing awareness that pollution is "a human rights violation" because "people are dying from the air they breathe."

Laiba Siddiqi, a 20-year-old undergraduate student, told DW that she feels that citizen petitions have made issues surrounding air pollution "mainstream." She was one of several teenagers who petitioned to challenge the AQI measurement system adopted by the provincial body, accusing it of "underreporting the severity of air pollution" in 2019.

More and more young people are realizing that this issue will only get worse over time if nothing is done, she told DW. "We all breathe in the same air. Smog was brought to the forefront of discourse because it's an environmental issue impacting everyone, even the rich and privileged," said Siddiqi.

Is the Lahore local government to blame?

Alamsays there are two misunderstandings behind the smog crisis in Lahore. The first is an issue of government responsibility. He explained that smog is not solely the problem of the Lahore government, but that it needs to be tackled by the Punjab provincial government.

The second misunderstanding is that smog is wrongly considered a seasonal issue. "Lahore produces the same number of emissions all year round but the difference is that in winter months, air does not rise so the pollutants become visible. To prevent smog, the causes of air pollution have to be addressed every day of the year by the government, " said Alam.

Siddiqi agreed that the government has still not taken accountability for monitoring air pollution, which is the first step for sustainable change.

Could better air quality monitoring be the solution?

Abid Omar, however, thought that making smog levels the responsibility of the Punjab government would not bring about lasting change.

Omar founded the Pakistan Air Quality Initiative in 2016. The citizen-led initiative has installed 50 self and community-funded air quality monitors across the country. He believed that without reliable, quantifiable air monitoring, nothing would change.

"When I realized AQI was not really being measured in my city, I was curious to see what the air quality was. Measuring AQI is not just about recording emissions, but setting a data standard that is locally and globally transferrable and applicable," he said.

Omar was surprised when the levels of emissions he recorded were markedly different than available government data, a factor he attributes to the government's intermittent readings rather than sustained monitoring.

"We are setting our nation up for failure because the long-term health consequences are severe and intergenerational. By not acknowledging real data, we can bury our heads in the sand right now but we won't be able to escape in the future," added Omar.

Alam agrees: "If we don't have adequate information on air pollution and its consequences, then governmental will and remedial actions will be lacking. Air pollution is a political, environmental and health issue that needs to be spoken about in the language of hurt and harm now."

But this could come too late for Momina and her daughter. She told DW that she is considering making her seasonal move to escape Lahore's smog if the government does not step up to tackle the problem.

"What is the point of living in a place where you can't even breathe?" She asked.

Authorities warn of “unhealthy” levels of air pollution in Bangkok, elsewhere this week

Date:-8-December-2021, Source: thethaiger.com



Authorities have warned that particulate matter 2.5 levels in Bangkok and other parts of Thailand will reach an unhealthy stage this week. According to a Pattaya News report, the Centre for Air Pollution Mitigation says PM2.5 pollution levels are exceeding safe standards in many central parts of the country, including the capital.

The CAPM operates under the authority of the Pollution Control Department and yesterday reported that emissions of PM2.5 particles in Bangkok were between 19 and 59 $\mu\text{g}/\text{m}^3$. Levels have been reported as above average, at 55 $\mu\text{g}/\text{m}^3$, in the area around Ma Charoen Road in the district of Nong Khaem, and 52 $\mu\text{g}/\text{m}^3$ in the sub-district of Mahachai, in the central province of Samut Sakhon.

Meanwhile, in northern Thailand, areas of concern are the sub-district of Nai Mueang, in the province of Phitsanulok, where PM2.5 emissions were

measured at 60 µg/m³, and the sub-district of Tha Luang, in the province of Phichit, which reported levels of 55 µg/m³.

The Pollution Control Department says air pollution in the rest of the country, including the north-east, east, and south, remains at safe levels. In Bangkok, air pollution is expected to reach unhealthy levels as a result of an increase in PM_{2.5} dust particles over the next 7 days. The situation is expected to ease from December 13.

The Pattaya News reports that officials in the capital are advising residents to reduce time spent outdoors and to wear face masks and other protection if necessary.

Air pollution crisis poses risks to life in South Asia

Date:-9-December-2021, Source: yenisafak.com



Despite some positive steps toward reducing carbon emissions, air pollution is still a serious issue around the world, especially in Asia, as the continent hosts the top 10 most polluted cities worldwide.

According to reports and live rankings on air quality, Asian countries, especially those in South Asia, top the list and experts note that this is a result of human-caused drivers of air pollution such as a high dependence on fossil fuels.

Speaking to Anadolu Agency, Shibayan Raha, South Asia senior digital organizer for 350.org, an international environmental organization addressing the climate crisis, said that burning of biomass and plastics plays a role in low air quality on the continent as well as lax regulations on industrial emissions, but one of the leading reasons is the region's dependence on fossil fuels, especially coal for electricity production.

"Asia hosts the top 10 most polluted cities worldwide, with the highest concentration of dangerous PM2.5 particles... Combined with rapid industrialization, urbanization and congestion, air pollution is becoming an increasingly significant threat to human health in the region," Raha noted.

Mentioning the effects of rapid developments in Asian cities that led to escalating air pollution in recent decades, he cited WHO reports that of the seven million people who die from air pollution every year, two-thirds are in Asia.

- 'Second most important risk factor for health'

Touching on the last year's air quality report which showed that out of the top 50 cities in the world with the poorest air quality, 42 are in South Asia, Raha underlined that there is a need for promising steps regarding phasing out fossil fuels as air pollution becomes the second most important risk factor for health in South Asia.

"Governments in South Asia have to phase out fossil fuels -- coal, gas and oil -- to avert the twin crises of air pollution and climate change," he said.

Giving an example, he pointed out that Bangladesh "suffers some of the world's highest air pollution levels" and its capital Dhaka "faces enormous air pollution challenges."

"This is attributed to an increased number of vehicles, high levels of construction involving the use of wood and coal-fired furnaces for brickmaking, as well as the existence of coal-fired power plants in the country," Raha said.

Despite some positive developments and commitments on the issue, however, he noted that countries like China, Japan, and South Korea continue to fund overseas coal-fired power plants.

Noting that fossil fuel use is a common factor for the increase in air pollution in general, Raha stressed that transitioning to renewable energy sources would play a huge role in minimizing the "crisis" in the region.

- Role of mining, oil, and gas industries

Also speaking to Anadolu Agency, Sisilia Nurmala Dewi, Indonesia team leader at 350.org, noted that in addition to burning fossil fuels, some development projects led by the mining, oil, and gas industries also play a "significant role" in the air quality conditions in Asia in general and especially in Indonesia.

"This is compounded by other issues such as high population density in large cities such as Jakarta, where air pollution levels consistently exceed the safety levels deemed by the WHO, and where there is a proportionally high number of diesel-based vehicles in use," she said.

She went on to say that forest and peatland fires caused by land clearing for palm oil plantations also exacerbate poor air quality conditions and have disastrous impacts on health in Indonesia and even neighboring countries.

"It is estimated that current air quality levels will reduce the life expectancy of Indonesians by 2.5 years on average, and 7 to 8 years for Jakartans," Dewi noted.

Reiterating that the threat of air pollution to human health has always been an issue for decades, however, she highlighted that recently it has become more prevalent in urban centers, "as intra-migration and economic dynamics have led to dramatically increased urban populations and the expansion of cities around the world."

- 'Transition away from fossil fuels is a must'

While Bangladesh and Pakistan have the worst air quality in Asia and around the world, the Indonesian capital Jakarta consistently ranks as one of the most polluted cities in Asia, said Dewi.

She said there are currently 10 coal-fired power plants in and around Jakarta, and along with the significant impacts on air quality, this also negatively affects farming, fishing, and other work activities.

"First and foremost, countries must transition away from economies that depend on fossil fuels towards renewable-energy-based sources of energy," she said.

Touching on countries like China, Japan, and South Korea, which continue their overseas coal-fired power plants projects, especially in developing

countries like Indonesia and Bangladesh, she stressed that this makes it more difficult for countries to shift to renewables.

"As long as governments and financial institutions in richer countries in Asia continue to finance fossil fuel developments elsewhere, there will be limitations on the incentives for governments to enact transformative energy policies at home," Dewi added.

As of Dec. 9 at 0600GMT, the top 10 list consisted of all South Asian cities -- three each from China and India, two from Pakistan and one each from Afghanistan and Vietnam, according to Swiss-based AirVisual, an organization that ranks the world's cities according to an Air Quality Index.

South Korean capital deploys drones to fight air pollution

Date:-10-December-2021, Source: smartcitiesworld.net



To help kick-start the programme, SMG hired 50 citizen inspectors to inspect air quality

Seoul's city government will use drones and measurement vehicles to closely monitor fine dust emissions in construction and industry sectors.

The Seoul Metropolitan Government (SMG) is seeking to induce large companies to voluntarily cut emissions while actively cracking down on the operation of unauthorised or restricted facilities.

Fine dust monitoring

Additionally, SMG plans to deploy 55 inspection teams to monitor businesses and construction sites during the third seasonal fine dust monitoring period (December 2021 to March 2022).

Large construction sites subject to environmental impact assessment (EIA), and in areas congested with small businesses will come under the joint inspection of the SMG and the Metropolitan Air Quality Management Office.

When drones and measurement vehicles detect a high density of contaminants, inspection teams will be dispatched to conduct an on-site investigation of the suspect facility. Any violation of regulation may result in accusations, fines, or administrative penalties under Seoul's zero tolerance policy.

SMG cautions that businesses creating a significant amount of fine dust should voluntarily cut the amount during the seasonal monitoring period.

Furthermore, Seoul plans to introduce more stringent control systems than before. It will, for example, run a pilot programme where private companies run eco-friendly construction sites for large-scale construction deals.

To help kick-start an on-site inspection system where citizens can participate, the SMG hired 50 citizen inspectors in October, and these inspectors have been patrolling and monitoring air pollutants in neighbourhoods on a daily basis from November.

The monitoring process is currently divided into automatic detection apparatus for chimneys of large facilities, while IoT-powered measuring devices, and simplified fine dust measuring devices are used for construction sites. Seoul plans to integrate them and conduct monitoring through the integrated air environment information system.

"We will increase our effort to reduce high-density fine dust by aggressively monitoring major emitting sources during the seasonal monitoring period," said Ha Dong-Joon, director of Air Quality Policy Division.

Asking for citizen participation, he added: "Please do not hesitate to report businesses or construction sites suspicious of emitting air pollutants."

Dhaka keeps struggling with ‘unhealthy’ air

Date:-11-December-2021, Source: newagebd.net

Dhaka’s air quality continues to be ‘unhealthy’. The densely populated capital of Bangladesh has, in fact, been ranked fourth-most polluted in the latest list of world cities with the worst air quality.

On Saturday, the capital’s air quality index was recorded at 194 at 9:36am.

Pakistan’s Lahore, Afghanistan’s Kabul and India’s Delhi occupied the top three spots with AQI scores of 234, 201 and 195, respectively.

An AQI between 101 and 200 is considered ‘unhealthy’, particularly for sensitive groups.

Similarly, an AQI between 201 and 300 is said to be ‘poor’, while a reading of 301 to 400 is considered ‘hazardous’, posing serious health risks to residents.

AQI, an index for reporting daily air quality, is used by government agencies to inform people how clean or polluted the air of a certain city is, and what associated health effects might be a concern for them.

In Bangladesh, the AQI is based on five criteria pollutants — Particulate Matter (PM10 and PM2.5), NO2, CO, SO2 and Ozone.

Dhaka has long been grappling with air pollution issues. Its air quality usually turns unhealthy during winter and improves during monsoon.

A report by the Department of Environment and the World Bank in March 2019 pointed out that the three main sources of air pollution in Dhaka ‘are brick kilns, fumes from vehicles and dust from construction sites’.

With the advent of winter, the city’s air quality starts deteriorating sharply due to the massive discharge of pollutant particles from construction works, rundown roads, brick kilns and other sources.

Air pollution consistently ranks among the top risk factors for death and disability worldwide. Breathing polluted air has long been recognised as increasing a person’s chances of developing heart disease, chronic respiratory diseases, lung infections and cancer, according to several studies.

As per the World Health Organisation, air pollution kills an estimated seven million people worldwide every year, largely as a result of increased mortality

from stroke, heart disease, chronic obstructive pulmonary disease, lung cancer and acute respiratory infections.

Hanoi air quality at 'very bad' level

Date: -12-Dec-2021, Source: e.vnexpress.net/



Smog in Hanoi's Cau Giay District, November 16, 2021.

Monitoring results recorded at various stations across Hanoi on Sunday show Hanoi's air quality index at officially designated "very bad" level.

At Sunday noon, three monitoring stations run by the municipal Environment Department showed Air Quality Index (AQI) of above 200.

The AQI is a metric used to measure how polluted the air is. An AQI level above 100 is considered unhealthy for humans. Children, seniors, and individuals with respiratory and heart diseases are recommended to avoid sustained and high-intensity outdoor exercises when AQI levels reach 150 or above.

The stations in the districts of Bac Tu Liem, Ba Dinh and Dong Da had index readings of 232, 231 and 211, respectively. Another station in Cau Giay District recorded an index of 134.

The weather station of the U.S. Embassy in Hoan Kiem District revealed an index of 176.

Hundreds of stations of the Vietnamese environment monitoring app PAM Air, developed by Hanoi-based D&L Technology Integration and Consulting Joint Stock Company and launched in Vietnam in February, recorded the AQI index in most areas of Hanoi at "red" and "purple," which mean "bad" and "very bad," respectively.

The AQI readings at Ha Dong was 254, and Hoan Kiem 267.

The Switzerland-based air quality monitoring facility, IQAir AirVisual, ranked Hanoi the fourth most polluted city in the world with a Sunday AQI of 188.

It has forecast that air quality in the capital city will improve on Monday with an AQI of around 127 and increase again by Wednesday.

Hanoi is in its winter season now and the typical weather is dry with very little rain, which has contributed to the increase of fine dust.

Researchers from the University of Engineering and Technology under the Vietnam National University in Hanoi said earlier this month that Hanoi had the highest annual average fine particulate matter (PM2.5) concentration of all Vietnam localities in 2020.

The researchers were citing Vietnam's first national-scale study using the machine learning statistical model combined with satellite imagery to evaluate air quality even in areas without air quality stations.

From the beginning of November, the department has coordinated with a number of units to organize a pilot emission inventory with about 5,000 motorbikes. The results will be the premise for the city to come up with specific methods to reduce air pollution from traffic.

The Hanoi Department of Natural Resources and Environment has recommended that people limit the burning of garbage and reduce cooking with honeycomb charcoal. Suburban districts, meanwhile, should not burn straw to limit pollution, it said.

Air pollution can cause serious health consequences to more than 600 million people in South Asia

Date: -13-Dec-2021, Source: news-medical.net

With another smoggy winter hanging over the vast and thickly populated Indo-Gangetic plains, there are fears of serious health consequences to more than 600 million people living in northern India and Nepal as well as in eastern Pakistan and Bangladesh.

Delhi, the biggest city in the region, showed an average air quality index (AQI) of 376 in November forcing the closure of schools that had just begun to reopen after COVID-19 restrictions.

Last year, the November AQI average for the region was 327 while for the same month in 2019 it was 312, indicating a rising trend that attracted the ire of the Supreme Court.

Delhi saw 11 'hazardous' air quality days last month, the worst since the Central Pollution Control Board began the AQI measurement system in 2015. The hazardous category indicates an AQI of 301—500. The 'good' category is 0—50 which is followed by 'moderate' at 51—100 while anything in the 101—301 AQI range is considered unhealthy.

"We feel that nothing is happening... the pollution keeps increasing," India's chief justice N.V. Ramana said during a hearing on 2 December on deteriorating air quality in New Delhi and other north Indian cities. "If as many efforts as you (government) are claiming have been made, then why is pollution increasing?"

While wrangling goes on year after year over the source of the high levels of toxic pollutants in Delhi's air and who is to be held responsible, there appears to be little public awareness of the consequences of inhaling particulate matter and other constituents of smoggy air.

Particulate matter that is smaller than 2.5 microns in size (PM 2.5) can increase risk of blockage of the carotid artery, the main blood vessel supplying the brain, says Gupta. "Even short-term exposure to PM 2.5 can lead to hospitalisation and death due to stroke."

The WHO's global air quality guidelines issued in September recommend tolerance levels for PM 2.5 at an annual average of five micrograms per cubic meter. Delhi's average PM 2.5 levels in 2020 was 93 micrograms per cubic

meter — 16.8 times the WHO limit — according to a paper released by the Council on Energy Environment and Water in June.

The Air Quality Life Index, released by the Energy Policy Institute, University of Chicago, in September, describes South Asia as "consistently the most polluted region with the people there seeing their lives shortened by an average of five years relative to what it would be if the region met the WHO guidelines".

India alone has more than 510 million people living in the Indo-Gangetic plains who are on track to lose more than nine years of life expectancy if 2019 pollution levels persist, the report said.

For Bangladesh, residents may live 5.4 years longer if pollution levels meet the WHO guidelines, while residents of its capital city Dhaka could live 7.7 years longer. Those living in the polluted Terai region of Nepal stand to gain 6.7 years. In Lahore, Pakistan's second-largest city, residents may live five years longer if the WHO guidelines are followed.

"While the exact source of smog over the Indo-Gangetic plains is still being investigated, it is evident that residents of the region, including Kathmandu, are severely affected by respiratory and cardio-vascular ailments during winter," says Bhupendra Das, a pollution researcher at the Institute for Advanced Sustainability Studies, in Potsdam and at Tribhuvan University, Kathmandu.

"The winter months see 'temperature inversion' which traps particle pollutants and prevents the dispersion," he adds. "If the pollutants come from burning plastic waste they are likely to release chlorides, including dioxins and furans which are among the most toxic substances known to man."

The WHO says particulates cause health problems according to source, size and physical and chemical properties and that the wide variability makes research difficult. Additionally, airborne particulate matter is constantly on the move and undergoes chemical and physical changes in the atmosphere.

Some of the complexity of studying PM 2.5 is evident in research conducted by the Indian Institute of Technology - Madras and published January in Nature Research that showed how pollution over Delhi is different from that in other cities for its high chloride content that was responsible for the haze, lowered visibility and health impacts.

The authors suggest that local concentrations of hydrochloric acid, emitted from burning plastic, contributed significantly to reduced visibility. "Our work

implies that identifying and regulating gaseous hydrochloric acid emissions could be critical to improving visibility and human health in India."

In 2019, the Indian government declared a "war on pollution" and launched a National Clean Air Programme with a declared goal of reducing particulate pollution by 20—30/ per cent by 2024 from 2017 levels, although the situation has only worsened since.

In August the local state government in Delhi began installing smog towers at key areas of the city to vacuum up particulate matter and pollutants. However, these 24-meter high structures have not performed at the claimed 80 per cent efficiency with readings for late November and December showing efficiency rates of less than 40 per cent.

In fact, one tower showed the filtered air bearing 300 milligrams of particulate matter per cubic meter — a far cry from the safe limit of five micrograms per cubic meter prescribed by the WHO, making little difference to the number of years of life expectancy that Delhi residents stand to lose.

EPA: Clean up air pollution from New Orleans-area plant

Date: -14-Dec-2021, Source: houstonchronicle.com

CHALMETTE, La. (AP) — Federal regulators have announced plans to make Louisiana and a suburban New Orleans fuel plant clean up emissions that have violated air quality standards since at least 2013.

The Environmental Protection Agency says a plant owned by Rain CII Carbon LLC of Stamford, Connecticut, spews sulphur dioxide into the air of St. Bernard Parish, The Times-Picayune / The New Orleans Advocate reported.

The plant in Chalmette said in March 2013 that it was responsible for most of that chemical in the parish's air, the newspaper noted.

The plant and Louisiana were given a cleanup deadline of October 2018, and the EPA says that hasn't been met. People have until Jan. 6 to comment on the proposal published earlier this month.

Rain Carbon Inc. did not respond to requests for comment, the newspaper reported.

The EPA proposal calls for giving the Louisiana Department of Environmental Quality a year to submit a cleanup plan.

The agency cited the parish in 2013 for failing to meet sulfur dioxide standards — a complaint based on data from 2009 through 2011, according to the proposal in the Federal Register.

Past citations by the state agency have included at least \$75,000 in fines and \$7,200 in enforcement costs to settle almost 150 violations of state regulations between 2006 and 2013, the newspaper reported.

Rain turns an oil refinery byproduct into calcined coke, a rock-like fuel used to make aluminum. Coke production releases large amounts of sulfur dioxide, a colorless gas that can irritate noses and throats, impair breathing and cause lung illnesses. People with asthma, particularly children, are highly sensitive to sulfur dioxide.

State officials say Rain has significantly reduced emissions. But the EPA said combined sulfur dioxide emissions from Rain and other plants in St. Bernard still exceed the federal standard for sulfur dioxide. That allows no more than 75 parts per billion of the chemical during a one-hour period, with that average maintained for three years.

As part of a state plan required under federal law, the Department of Environmental Quality in 2017 and 2018 ordered Rain to change its manufacturing processes to keep sulfur dioxide levels in check.

However, Rain said conventional meters melted, making it difficult to find a way to monitor the heat and flow of gases and other materials.

In 2019, when Donald Trump was president, U.S. Sen. Bill Cassidy, R-La., joined the state agency in convincing EPA to delay the plan.

Now, under Democratic President Joe Biden, the agency is acting.

Pollution affects people of color to higher degree: US study

Date:-15-December-2021, Source: aa.com.tr

Six air pollutants have taken a greater toll on the health of people of color than on white people, according to a new study detailed Wednesday in the Washington Post.

The University of Washington study, Environmental Health Perspectives, is the most detailed to date on how air pollution takes a heavier toll on Blacks, Hispanics and Asians.



It is a problem that has caught the attention of US President Joe Biden who wants to move quickly to bolster clean energy in communities that have suffered from decades of pollution.

"Our hope is that documenting these disparities not only provides useful information, but also provides a call to action for turning to solutions," Julian Marshall, senior author of the study and professor of civil and environmental engineering at the school, told the newspaper.

The study investigated how six pollutants, including nitrogen dioxide, carbon monoxide, ozone, sulfur dioxide, as well as particle matter from dust and vehicle exhaust adversely affect the health of minorities in all 50 US states and the capital area.

It details while pollution levels have decreased in the last 30 years, people of color are more exposed to the six pollutants than whites because they are more likely to live near sources of pollution, including power plants, toxic waste sites and manufacturing facilities, the Washington Post reported.

A historical racist housing plan was also named as a factor. In the 1930s the US government employed "redlining" --coloring sections of cities that were home to Blacks and immigrants and outlining them in red, a deterrent to federal investment in housing. The communities are still home to the same minorities.

"It's the racial segregation which has been present in our society forever," said Marshall.

Robert Bullard, a professor at Texas Southern University who is known as the "father of environmental justice" for his dedication to the disparity issue, said it is past time the federal government acted to "do as much as it can within the law to focus on those communities that have been hit the hardest."

Biden established a program called Justice40 Initiative, which is designed to provide 40% of the benefits of environmental investments to the affected communities.

Air pollution in London has improved significantly since 2016, says Mayor

Date:-16-December-2021, Source: airqualitynews.com



There has been more than a 90% reduction in the number of Londoners living in areas that exceed legal limits for nitrogen dioxide (NO₂) between 2016 and 2019, according to new data published by City Hall.

The new data reveals that:

- In 2019, 84% of major roads in London met the legal limit for NO₂, compared to 46% in 2016
- There has been a 22% reduction in NO₂ across the whole of Greater London from 2016 to 2019
- 70% of the Transport for London Road Network (TLRN) meet the legal limits for NO₂, an increase of 29% from 2016.
- There was a 19% reduction in PM_{2.5} across the whole city since 2016.

However, there is still much more work to do with 16% of all major roads in London still exceeding the legal limits for NO₂.

The Mayor of London Sadiq Khan said: 'I pledged to be the greenest Mayor London has ever had and today's report demonstrates the transformative and rapid impact of my air quality policies. I'm proud that Londoners are breathing cleaner air, that we're saving the NHS in London billions of pounds and that the ambitious measures we've introduced now will help prevent hospital admissions and premature deaths in the future.

'However, air pollution still remains a major public health challenge and it's time for Government to step up, set ambitious national targets and provide the powers and funding we need to clean up London's air once and for all. We can't sleepwalk from one public health crisis – Covid-19 into complacency over the devastating impact of another – toxic air, on everyone's health.

'This is also an issue of social justice – we know pollution hits the poorest Londoners, who are least likely to own a car, the hardest. I will not stand by while London's air quality leads to our capital's children growing up with stunted lungs. The recently expanded ULEZ is another vital step I have taken towards combatting the illegal air in our city and reducing the toxic emissions that are harming our planet.'

Jemima Hartshorn, Founder of the campaign group Mums for Lungs commented on these findings: 'These findings give real reason for hope – the Mayor's schemes are having a real impact and the air our children breathe is becoming less polluted. But the data also cannot hide that Londoners are still breathing filthy air, and we need to see more action on cleaning up the air starting with the hotspots, to ensure that all children can breathe safely where they live, study and play.'

Wood burners cause nearly half of urban air pollution cancer risk – study

Date:-17-December-2021, Source: theguardian.com

Wood burning stoves in urban areas are responsible for almost half of people's exposure to cancer-causing chemicals found in air pollution particles, new research has shown.

The polycyclic aromatic hydrocarbons (PAHs) in tiny pollution particles are produced by burning fuels and have long been known to have carcinogenic

effects. The new study examined the sources of the PAHs and found wood burning produced more than the diesel fuel or petrol used in vehicles.



Scientists warn that as well as polluting the air outside, wood burners triple the level of harmful pollution inside homes

The analysis was done in Athens, Greece, but the researchers were clear that this was not an unusual case. They said that home wood burning was a significant issue for urban air quality throughout Europe and that excessive exposure to wood smoke could cause severe health effects.

“Athens is not an exception – it’s more representative of a rule,” said Athanasios Nenes, at the Foundation for Research and Technology Hellas in Patras, Greece, and the École Polytechnique Fédérale de Lausanne, Switzerland, and one of the team behind the new study. “On the one hand, it’s: ‘Oh, my goodness, this is terrible.’ But on the other hand, it points to something people can actually do to reduce this risk without too much effort. You basically stop burning wood. That’s the bottom line.”

Research published in the last year has shown wood burning in homes is the single biggest source of small particle air pollution in the UK, producing three times more than road traffic, despite just 8% of the population using wood burners.

Even new wood burning stoves meeting the “ecodesign” standard still emit 750 times more tiny particle pollution than a modern HGV truck. Wood burners also triple the level of harmful pollution inside homes and should be sold with a health warning, according to scientists.

The new research, published in the journal *Atmospheric Chemistry and Physics*, took background samples of the air in Athens every day for a year. These were analysed for 31 PAHs and a wide range of other chemical markers.

Specific compounds are associated with different sources of pollution and these enabled the scientists to calculate the proportion of PAHs produced by each source. They found 31% of annual PAHs came from wood burning, mostly in the winter, 33% from diesel and oil, and 29% from petrol (gasoline).

Some PAHs are more carcinogenic than others, however, and when this was taken into account, the proportion of the cancer risk to people as a result of wood burning rose to 43%, with diesel and oil at 36% and petrol at 17%.

“We know that [smoke from] wood burning is much more toxic than other types of particles,” said Nenes, and the results clearly highlight wood burning as a principal driver of long-term carcinogenic risk.

The level of PAH pollution in Athens was the same order of magnitude as found in studies of other European and North American cities, the researchers said, with much higher levels usually reported for cities in China.

The average annual concentration of the PAHs in the Athens study was below EU limits but double the World Health Organization’s reference level. Based on WHO data, the PAHs in Athens would be expected to cause 5 extra cancer cases for every 100,000 people, the researchers said.

“Given [the carcinogen exposure] and the extended usage of [wood] burning throughout Europe, eg France, Germany, Ireland and the UK, European action and policies aimed at the regulation of [wood] burning emissions are immediately required, as they can lead to considerable benefits for public health,” the scientists said.

Nenes said PAHs were not the only carcinogen in wood smoke, and it also had many other compounds that damaged health. “Wood smoke is particularly potent and causes all kinds of ailments from cancer to oxidative stress, which leads to heart attacks and strokes, obesity, premature ageing, diabetes – anything that has to do with inflammation in the body. So overall, I’m really worried about wood burning.”

Gary Fuller at Imperial College London, who was not part of the research team, said: “We tend to think that burning wood is somehow harmless, because wood is a natural product. These measurements remind us that wood burning is not pollution-free. The UK data on emissions of benzo(a)pyrene, one of the main PAHs, shows an increase of 16% since 2000 due to home wood burning.”

Prof Alison Tomlin at the University of Leeds, UK, said the move to electric cars would reduce PAH exposure from traffic. “However, unless suitable mitigation methods are developed to reduce PAH emissions from domestic wood burners and boilers, they will continue to pose a significant health risk,” she said.

The Athens study showed much of the PAH exposure occurred on winter days with low wind and rain, meaning the wood smoke did not disperse. Tomlin said implementing “no-burn days” at such times could be a useful short-term measure. “However, enforcing such a policy, or even wider restrictions on wood burning in densely populated areas, could be challenging,” she said.

Earlier in December, Utrecht council in the Netherlands announced subsidies of up to €2,000 (£1,700) to encourage people to replace their wood burning stoves and fireplaces in order to clean up the city’s air.

Earlier research by Nenes and colleagues found that wood smoke emitted at night time oxidised into more harmful compounds much faster than had been expected. This means the pollution becomes more dangerous to health while it is still concentrated near the source, rather than oxidising over a few days as it disperses.

Chemical air pollution creates new toxins over time: Study

Date:-19-December-2021, Source: hurriyetdailynews.com

Remnants of industrial chemicals in the air can potentially transform into new substances more toxic and persistent than the original pollution, according to a global study published this week.

Using samples gathered around the world, the study published in Nature found that these previously unidentified products are present in the atmospheres of 18 big cities including Lagos, New York, Tokyo and Warsaw.

Regulatory guidelines like those listed in the Stockholm Convention assess the danger of different chemical pollutants based on how long they remain in the environment, how toxic they are and to what degree they contaminate living things.



But, the study notes, this approach has been limited to a list of known substances and does not take into account how they may change as they break down.

The research proposes a new framework using laboratory tests and computer simulation to predict what chemicals will arise as products interact with the air and how toxic they will be.

Study main author John Liggiio, a research scientist for Environment Canada, worked with a team to test the framework on nine flame-retardant chemicals most commonly found in the atmosphere.

"They are chemicals that are added to a large variety of materials to delay the onset of fire," Liggiio told AFP.

In a laboratory, they observed how these chemicals changed over time when in contact with oxidants in the air and found that they gave rise to 186 different substances.

Comparing these new substances with field samples, they found 19 derived from the five most common flame retardants. None of the 19 had ever been identified in the ambient atmosphere before.

The team then used computer simulations to gauge the persistence, toxicity and bio-accumulation of the derived chemicals.

They discovered that the new chemicals could have longer-lasting impacts on the environment and could be more toxic than their parent chemicals - in some cases 10 times as much.

"The framework should provide a new avenue for including transformation products in routine air-monitoring programmes and for prioritizing transformation products of high concern for further scrutiny," the study says.

While the study looked at 9 common chemical pollutants and their 19 daughter chemicals present in the urban air samples, Liggio says these results are only the tip of the iceberg.

"Likely thousands of different chemicals exist," he said, adding that future tests will look at vehicle tire chemicals, antioxidants, and other plastic additives.

Another goal is to test toxicity of the pollutants in real-life studies, going beyond the computer modelling used for this study.

Decreasing vehicle emissions will reduce deaths tied to air pollution, study finds

Date:-20-December-2021, Source: consumeraffairs.com

As more research highlights the health risks associated with air pollution, a new study identified how efforts to lower vehicle emissions can be of great benefit to consumers' health.

Researchers from Harvard's T.H. Chan School of Public Health found that long-standing policies that work to decrease vehicle emissions may help reduce deaths that are related to air pollution.

"Recent reductions in vehicle emissions have yielded major health benefits, even though only small progress has been made on reducing their climate impact," said researcher Ernani Choma. "Our results indicate that to achieve further public health and climate gains, even more stringent policies will be required."



Lowering emissions can save lives

For the study, the researchers assessed national vehicle emissions from 2008 through 2017. They compared emissions levels with mortality rates while noting the types of cars being driven and demographic information.

The researchers learned that deaths linked to air pollution-related vehicle emissions decreased over the course of the study. The number of related deaths in 2008 was 27,700; by 2017, that number dropped to 19,800. The team believes the decline was a result of efforts geared towards lowering vehicle emissions. They theorized that deaths in 2017 could have been as high as 48,200 if these emissions policies had never been put in place.

Despite the progress being made across the study period, certain types of vehicles are still contributing to harmful levels of emissions. The study showed that passenger light-duty vehicles were linked to 30% more deaths related to pollution and vehicle emissions, and they were responsible for two-thirds of all health complications related to air pollution.

Moving forward, the researchers hope tighter policies continue to be mandated across the country that prioritize lower vehicle emissions.

“If the trends of increased population density with an aging population, and a shift to larger passenger vehicles continue, emissions, especially in urban areas, will continue to become more harmful and it will be harder to achieve further public health gains by small incremental improvements in new vehicles,” said researcher John Spengler. “Our study findings strengthen the case for policies at the municipal level that encourage electric vehicles while discouraging conventional gasoline vehicles and for making our cities more accessible for non-motorized transportation such as biking or walking.”

Study finds race erased in air pollution mortality calculations

Date:-21-December-2021, Source: openaccessgovernment.org

Study finds older Black and Hispanic people are more likely to die prematurely due to exposure to air pollution, with race disparities in health costing \$100 billion in the U.S.

Across the U.S., federal regulators monitor air pollution due to its effects on human health.

Present regulatory analyses have suggested that all people are all impacted equally by air pollution, but a new study estimates the mortality impacts of air pollution across different races and ethnicities.

The study, by researchers at Carnegie Mellon University (CMU) and the Environmental Defense Fund, found that older Black and Hispanic people are a lot more likely to die prematurely due to air pollution exposure. This means that regulators’ former approaches of ignoring these differences across race and ethnicity has miscalculated the total mortality costs of air pollution by around \$100 billion.

Air pollution exposure linked to heart disease, stroke, and dementia

Researchers in this study used new findings from epidemiological research, determining how estimates accounting for race and ethnicity – using race/ethnicity-specific data in the analysis – compared to standard estimates.

Former regulatory analyses of air pollution policies require using concentration-response functions (which link concentrations of pollutants in the air to mortality risks and other negative health effects), as well as the

effects associated with policy-related changes in fine particulate matter (PM2.5).

However, these previous analyses did not incorporate different vital statistics of race and ethnicity. This study used the 2014 National Emissions Inventory to evaluate the mortality impacts of air pollution from all sources, from a constant increase in concentrations and from regulations imposed by the Mercury Air Toxics Standards.

Researchers also used a race and ethnic-specific baseline health data for Whites, Black Americans, Hispanic Americans, Asian Americans, and Native Americans.

Nicholas Z. Muller, Professor of Economics, Engineering, and Public Policy at CMU's Tepper School of Business, co-author of the study, said: "Underlying mortality rates, pollution exposure, and pollution vulnerability differ significantly across racial and ethnic groups.

"The use of mortality rates specific to race and ethnicity did not significantly affect the total number of deaths, but it distributed them differently across racial and ethnic groups by altering the race/ethnicity-specific distribution of risk of premature mortality."

Air pollution increases premature mortality by 9%

Fine particulate matter (PM2.5) is an air pollutant of tiny particles, which reduce visibility when levels are higher. Premature mortality estimates increased by 9% in people older than 65 years, when relating PM2.5 to pollution exposure, when considering racial and ethnic differences in underlying health conditions affected by air pollution. This estimated in a \$100-billion difference from currently used estimates in mortality costs.

However, even still the distinctive impact across race was much larger. Factoring in the differences across races and ethnicities furthered the estimated mortality impacts on older Black Americans by 150% and on Hispanic Americans by 52%.

Where air quality depleted across the country, older Black Americans had more than three times higher mortality than White Americans.

It was additionally found that standard approaches like using non-racial or ethnic-specific information underestimated the benefits of the Mercury Air Toxics Standards to older Black Americans by up to 60%, while overestimating

the benefits to older White Americans by 14%. It is noted that the study is limited by the geographical accumulation of data at the county level, with researchers observing that intra-county concentrations of PM2.5 still varied significantly. As well as this, they found that Black Americans are generally more likely to live near highways and other major sources of emissions.

Elisheba Spiller, Lead Senior Economist at the Environmental Defense Fund, who led the study stated: “Based on our results, we recommend that the best available and most up-to-date race/ethnicity-specific information be used in regulatory assessments, especially those related to estimating the health effects of policy changes, to identify and reduce environmental injustices of air pollution.”

Air pollution returns to Bangkok

Date:-22-December-2021, Source: bangkokpost.com



Air pollution shrouds the area around the parliament in Dusit district on Tuesday, when the quantity of PM2.5 dust was above the safe level in 13 areas of Bangkok

The annual problem of air pollution has returned to Bangkok, with PM2.5 levels measured above the set safe level at 65 spots at 7am on Wednesday.

The highest level of PM2.5, 80 microgrammes per cubic metre ($\mu\text{g}/\text{m}^3$), was detected at Phetkasem 81 road in Nong Khaem district. Thailand's safe limit is $50 \mu\text{g}/\text{m}^3$, while the safe limit recommended by the World Health Organisation is $25 \mu\text{g}/\text{m}^3$.

Places with $70\text{--}77 \mu\text{g}/\text{m}^3$ of PM2.5 were: Suan Thawi Wanarom in Thawi Wathana district; Suan Thonburirom in Thung Khru district; the entrance of Sanam Luang 2 in Thawi Wathana district; Bang Bon Market in Bang Bon district; at the Khong Sam Wa district office; in front of Lat Krabang Hospital in Lat Krabang district; on Phutthamonthon Sai 4 road in Talingchan district; and at the Bang Khun Thian district office.

Iodine from Desert Dust Decreases Ozone Air Pollution, New Study Shows

Date:-23-December-2021, Source: sci-news.com



A valley in the Atacama Desert in Chile

Iodine, the same chemical added as a nutrient to table salt, is an atmospheric trace element emitted from oceans that efficiently destroys ozone. Low ozone in airborne dust layers is frequently observed but poorly understood. New research led by the University of Colorado, Boulder, shows that dust is a source of iodine, indicated by aircraft observations of iodine monoxide ions inside lofted dust layers from the Atacama and Sechura deserts in Chile and Peru. The finding has implications for not only air quality, but climate, too — iodine chemistry can make greenhouse gases stick around longer and should give us pause to re-think geoengineering schemes involving dust.

Atmospheric researchers have long been interested in the observation that dusty layers of air are often very low in the air pollutant ozone, which, when concentrated, can damage people's lungs and even crops.

It seemed that some kind of dust-surface chemistry was eating up ozone, but no one had been able to show that happening in laboratory experiments.

"Others have speculated about this, but there's been a lot of doubt," said Professor Rainer Volkamer, a researcher at the University of Colorado, Boulder.

By contrast, lab experiments have long shown that a gaseous form of iodine can gobble up ozone, but there were only hints of a connection between dust and iodine. There were other tantalizing hints about the process in a dataset from 2012, from a series of aircraft flights offshore Chile and Costa Rica. Dust seen blowing offshore from South America had striking levels of gaseous iodine.

"Dust seemed to destroy ozone, but why? Iodine and ozone clearly connect, but there weren't any 'photos' of both with dust," said Theodore Koenig, an air pollution researcher at Peking University.

The data from the Tropical Ocean Troposphere Exchange of Reactive Halogens and Oxygenated Hydrocarbons (TORERO) field campaign captured those three characters together, finally, in one image and it was clear that where desert dust contained significant levels of iodine, like dust from the Atacama and Sechura deserts, the iodine was quickly transformed into a gaseous form and ozone dropped to very low levels.

"So the picture is another blurry one, but still, the science is sharper than it was. I have more questions at the end of the project than at the start. But they're better, more specific questions," Koenig said.

"They're also very important, for anyone interested in the future of the atmosphere," Professor Volkamer added. "Iodine's reactions in the atmosphere

are known to play a role in reducing levels of OH, for example, which can increase the lifetime of methane and other greenhouse gases.”

“Perhaps more importantly, various geoengineering ideas involve injecting dust particles high into Earth’s atmosphere, to reflect incoming solar radiation.” “There, in the stratosphere, ozone is not a pollutant; rather, it forms a critical ozone layer that helps shield the planet from incoming radiation.” “If iodine from dust was chemically transformed into an ozone-depleting form in the stratosphere,” Professor Volkamer said.

“Well, that’d not be good, as it could delay the recovery of the ozone layer. Let’s avoid adding anthropogenic iodine into the stratosphere!”

Holiday season in Mexico City means more fireworks—and higher pollution levels

Date:-24-December-2021, Source: mexiconewsdaily.com



A flag flies above Chapultepec on a smoggy day

Pollution in the capital has already been 'bad' or 'very bad' six days this month

Another of Mexico's frequent bursts of heightened fireworks activity is upon us and for Mexico City that means higher pollution on Christmas and New Year's Day.

Mexico City has recorded elevated pollution levels on those days every year for the past 21 years due to the explosion of fireworks, according to the agency responsible for monitoring air quality in the capital.

The fine particle pollution was so bad at Christmas in 2018 and 2019 that air quality emergencies were declared.

Pollution has already been a problem in the capital this month as mobility increased due to the switch to low risk green on the federal government's coronavirus stoplight map. There have been six December days when air quality in the capital was deemed very bad or extremely bad. The explosion of cohetes (bottle rockets) and cuetes (fireworks) only exacerbates the problem.

"During fireworks displays there is a significant increase of metal traces in the air and they can sometimes also produce highly toxic contaminants such as dioxins and polychlorinated furans," said a National Polytechnic Institute study.

Pollution from fireworks is also a problem in neighboring México state, especially in the municipalities of Tultepec, Tultitlán and Zumpango, where the explosives are sold at markets.

Fireworks are a staple of all kinds of celebrations in Mexico, including religious, patriotic and sporting ones.

Bangkok 14th worst air quality globally, more PM2.5 next week

Date:-25-December-2021, Source: thethaiger.com

Not quite as pride-inducing as being ranked the number 1 city for a workation in the world or the 4th best place to live in Southeast Asia, but Bangkok has recently been listed as having the 14th worst air pollution globally on the World Air Quality Index. The dubious honour was awarded on Wednesday as Bangkok faces more days where particle matter in the air reaches the dangerous PM2.5 level next week.



Bangkok is ranked 14th worst on the World Air Quality Index

The Pollution Control Department warns that air quality in Bangkok and around the country will worsen over the next 7 days with air quality readings yesterday by the PCD and Bangkok Metropolitan Administration showing Particles at that PM2.5 level can cause lung, throat, eye, and nose irritation and other short-term health effects like shortness of breath, runny nose, coughing and sneezing as the fine, tiny particles are able to penetrate deep into a person's respiratory tract.

50 microns is the standard level and Bangkok is reporting excessive dust in the air in most areas. One location in neighbouring Samut Prakan and 2 in Bangkok province are considered particularly unhealthy. Paknam sub-district in Samut Prakan registered 93 microns, while Ma Charoen-Phetkasem 81 in Nong Khaem district had readings of 101 microns and Thawee Wattana canal in Thawee Wattana district recorded 97 microns.

Outside of Bangkok, other provinces around Thailand have also been warned by the PCD about the high levels of PM2.5 detected in their air, with people being advised not to take part in unnecessary outdoor activities and to wear a face mask if you must be outside.

Chon Buri, Nakhon Pathom, Phitsanulok, Ratchaburi, Samut Prakan, Samut Sakhon, and Saraburi have all been noted in particular to have dangerous air

Regional Air Quality Readings	
Northern Region	22-51 microns
Northeastern Region	18-45 microns
Central and Western Regions	39-67 microns
Eastern Region	28-57 microns
Southern Region	9-30 microns

quality.

Pollution leads state to start monitoring air quality in Wasatch Back

Date:-26-December-2021, Source: kpcw.org

Population growth in the Wasatch Back is leading to more air pollution. Because of this, a state agency is stepping up data tracking in Summit and Wasatch counties.

The office of Bo Call, the air monitoring section manager of the Utah Division of Air Quality, collects data on how pollution gets trapped in specific areas and advises people on air quality situations that can severely affect health. In Utah, poor air quality is a significant problem in winter.

“During the winter, when we have these inversions,” Call says, “we’re basically looking for weather patterns that are going to indicate the standard inversion. We get the warmer air trapping the colder air beneath it because we have mountains surrounding us, so that basically puts a lid on our valleys. You know, it’s similar to if you put Saran wrap on a bowl.”

The state agency follows federal guidelines to determine where to set up stations for collecting data.



This Jan. 23, 2013, file photo, shows a poor air quality sign is posted over a highway, in Salt Lake City. Utah's air quality has improved in recent years due to improvements in vehicle fuel efficiency, according to an official for the Utah Division of Air Quality.

"This year, we've recommended to the governor, and he put it in his budget, to start monitoring in Summit and Wasatch counties, because the population has gotten high enough there to require some baseline monitoring to see what's going on," Call says. "[In accordance with] our monitoring requirements, while I'd love to put monitors everywhere, you have to do what you can with the resources that you have."

Despite population growth, Call says pollution is "a ton better" now than 10 and 20 years ago. That's due in part to cleaner vehicles and fuel.

He explains humans going about their daily lives are the primary contributors to the smog that gets sealed into valleys. While industry also accounts for a large chunk of it, he says that actually has only about a third of the impact of car pollution.

So, he says the best way to cut back as a society is to start at the individual level. He says the Division of Air Quality uses the data it collects to proactively encourage people to cut back.

“The point is, that we all are the ones that create the pollution. Our cars pollute, our houses pollute, when we grill outside that pollutes, our water heaters pollute, all that kind of stuff. So, we all contribute to it, and so we all should be part of the solution, and if that solution is driving less or driving cleaner car, then that all goes to the good to reduce the amount of pollution that comes out of our tailpipes, which is probably the easiest way that individually, we can curb some of our pollution.”

He says people can drive less, carpool and drive newer cars that are more fuel efficient and use a special type of gas called “tier-3,” which is about 80% less polluting than other types.

He says local governments can help cut down on emissions by banning future wood burning stoves and fireplaces.

Analysis suggests Oregon’s wildfire smoke comes with a side of cancer-causing chemicals

Date:-27-December-2021, Source: opb.org



The Jack Fire outside Roseburg fills the air with smoke at North Umpqua Highway in July 2021.

Over the past decade, there's been a noticeable uptick in wildfires in the Pacific Northwest. With those fires come smoke and air quality issues for surrounding communities.

The Oregon Department of Environmental Quality monitors particulate at more than 20 air quality stations scattered all over the state. At nine of those sites, they're also monitoring for a host of chemical compounds known to be dangerous to human health. Several of these chemicals were detected at elevated levels during the wildfires of 2020.

"We take VOC (volatile organic compound) measurements every six days and if it happens to overlap with a forest fire smoke plume, then we can see some of that," said Ben Ayres, a DEQ air quality scientist.

The results of that monitoring were presented at the December meeting of the American Geophysical Union, an association of scientists and science enthusiasts.

Overall, tiny particulate matter — called PM 2.5 — has been the main focus of DEQ's monitoring. These particulates are so small that they can absorb from the lungs into the bloodstream. They're associated with respiratory and heart disease, but recent research has shown that the particulates can even pass from the bloodstream into the brain.

But there are other chemicals connected to wildfire smoke that state and federal agencies recognize as cancer risks.

DEQ found some of these compounds were present in locations across Oregon at near or above levels of concern for health impacts other than cancer.

"So benzene and we'll also see benzo(a)pyrene. We've seen very high levels of formaldehyde. All of that is actually not that great for your health. So we want to be able to incorporate that eventually into the app that we use for air quality index," Ayres said.

Masks that are effective at filtering out particulate matter may not work for compounds like formaldehyde and benzene. More robust filtration would be needed to protect people when the concentrations are high.

Ayres said these elevated levels appear to correspond with elevated levels of wildfire smoke, but the agency only had a limited number of samples to base their analysis on. And the agency also doesn't know what wildfire fuels — natural or man-made — are the source of these emissions.

“I would like to have a mobile lab where we can actually set up next to a forest fire. If there are structures in there, that could dramatically change how much toxics are coming out,” he said.

This would be valuable information to know for communities like Talent, Mill City and Blue River that burned in the Labor Day fires of 2020.

“Not only do they have to deal with rebuilding, but possibly some health effects. We don’t know that yet,” Ayres said. “That’s the problem. We really don’t know exactly what is coming out.”

Civil society welcomes plan for air quality monitoring stations

Date:-28-December-2021, Source: thenews.com.pk

PESHAWAR: Civil society activists have welcomed “Khyber Pakhtunkhwa Winter Contingency Plan Peshawar” by the Provincial Disaster Management Authority (PDMA) for the establishment of air quality monitoring stations under the Environmental Protection Agency (EPA) in major cities of the province, which is severely affected by toxic smog during the winter season.

A press release issued by the Peshawar Clean Air Alliance and Sarhad Conservation Network stated that air quality data would be made available to all government departments and people for adopting mitigation measures. The authority declared “smog is one of the severe health hazards and can be fatal for human health, especially children,” with a plan for conversion of all brick kilns to zigzag technology by the EPA.

Another directive was issued by the Director Transport & Mass Transit Khyber Pakhtunkhwa to “all educational institutions about enforcement of a ban on old vehicles registered before December 2000 or model year 2000 to ply any route in the province after January 15, 2022, with a grace period of one month granted to the vehicle owners for replacement of old vehicles”.

Dr Prof Asif Khattak, from Environmental Sciences Department, UoP, said: “The directive is meant to reduce air pollution caused by polluting old vehicles run on diesel fuel. However, there are many other important steps contributing to emissions, such as action on old public and government transport including cars, auto rickshaws and wagons, ensuring better driving standards, enforcement of the existing traffic rules, mandatory annual vehicular emission tests for a holistic approach.”

Another concerned citizen said that after the narrowing of roads due to the BRT route, traffic has increased manifold. Additionally, previously banned station wagons and auto rickshaws have started plying under the BRT corridor again, making a mockery of government resolve, he said.

“The KP transport sector stands at 3rd rank compared to Punjab and Sindh. Overall GHG emission in KP from transport is 5.66 million tons CO₂. The government needs to follow up with appropriate actions, like VETS revitalisation, reduction in taxation on e-cars and hybrid cars, reducing congestion by introducing vehicular taxation in urban areas during peak hours, reducing congestion by improved traffic engineering & signals to minimise traffic congestion, public awareness together with improving road networks,” stated Dr Asif Khan, from the UET, Peshawar, an expert on climate change and water.

The civil society welcomed mayor-elect Zubair Ali, hoping that he would exercise his position to tackle worsening air quality through a comprehensive plan of action, involving stakeholders of the city.

Beijing sets air quality record for first 11 months of 2021

Date:-29-December-2021, Source: news.cgtn.com



Beijing saw the reading for a major air-pollution index fall to the lowest level in the January-November period since records began in 2013, authorities said.

The city's average concentration of PM2.5 was 33 micrograms per cubic meter in the first 11 months of the year. It is also the lowest in 28 cities in the Beijing-Tianjin-Hebei region and neighboring provinces, Yu Jianhua, deputy director of the Beijing municipal ecology and environment bureau, told a press briefing Tuesday.

The PM2.5 reading is a gauge monitoring airborne particles of 2.5 microns or less in diameter that can penetrate deep into people's lungs and pose serious health risks. The improved air quality is credited to measures that included limits on the total amount of carbon emissions and carbon intensity. Besides, a series of regulations strengthen the management of carbon emissions. In 2021, authorities in Beijing issued quotas for big carbon emitters and helped establish a voluntary greenhouse gas-emission reduction alliance, the official said.

Bay Area Residents Asked To Not Burn Wood Over New Year's Weekend

Date:-30-December-2021, Source: patch.com



BAY AREA, CA — The Bay Area Air Quality Management District is calling on the region's residents to forego burning wood in their fireplaces and wood stoves this weekend to prevent air pollution.

While air quality is not expected to be poor during the New Year's holiday weekend and the district has not issued a Spare the Air alert, the district is still discouraging wood burning to prevent poor indoor and outdoor air quality.

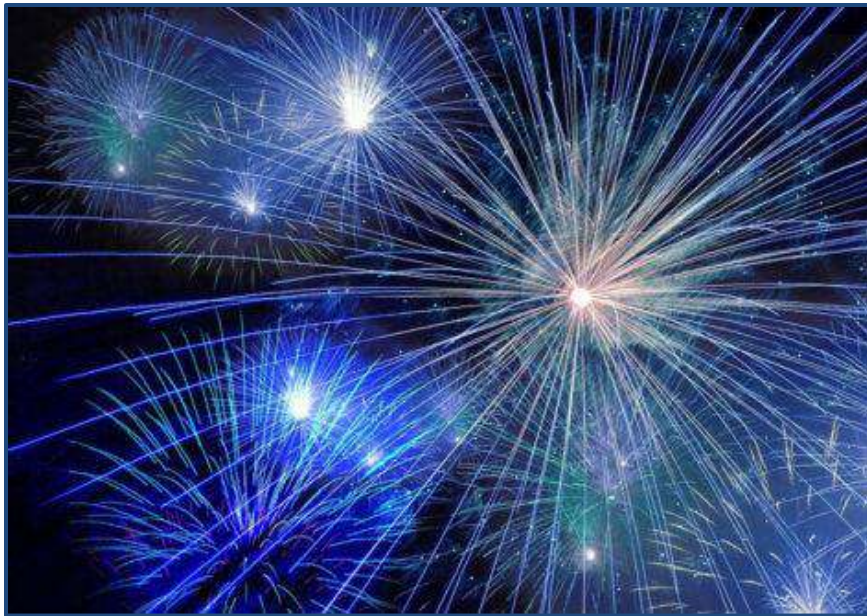
The district has also asked residents to not set off fireworks, which can also contribute to air pollution and create excess smoke and ash.

"Let's all celebrate the new year and protect the health of our family and neighbors by refraining from wood burning and personal fireworks displays," district executive director Jack Broadbent said. "Both wood burning and fireworks can create significant air pollution in our neighborhoods."

According to the district, wood smoke contains small particles and carcinogens that can make the air unhealthy, especially for children, older adults and people suffering from respiratory illnesses.

Air Quality Prompts Advisory Against New Year's Eve Fireworks, Wood Burning

Date:-31-December-2021, Source: hometownstation.com



The South Coast Air Quality Management District (AQMD) issued an advisory against New Year's Eve Fireworks, as well as wood burning due to poor air quality in the area.

Poor air quality has been reported in areas of the South Coast Air Basin, prompting the AQMD's advisory that

is scheduled to be in effect through Saturday morning.

“Due to fireworks related to New Year celebrations, the Air Quality Index (AQI) may reach the Unhealthy AQI category or higher from Friday evening through Saturday morning,” said a statement from AQMD.

Fireworks are known to emit high levels of particulate matter and metal air pollutants, so personal “backyard” fireworks can contribute to air pollution.

According to AQMD, fine particulate matter levels on days with excessive firework activity are typically among the highest days of the year in the South Coast Air Basin.

Fireworks are also known to be frightening for pets, making holidays such as New Year’s Eve hard on pet owners. Santa Clarita veterinarian Dr. Jaimie Ronchetto with Cinema Vet discussed with KHTS tips on making the holidays easier for pets.

“If pet owners think ahead if they know their dog or cat will experience intense fear as a result of fireworks, contact their Santa Clarita veterinarian as far in advance as possible for a calming agent or sedative,” recommends Ronchetto. Next Ronchetto advises bringing both dogs and cats inside before the festivities begin, and setting up an area for the pet in a smaller room with the door closed.

In addition to fireworks, AQMD has also issued a residential no burn day alert on Friday for all those living in the South Coast Air Basin, which includes Orange County and non-desert portions of Los Angeles, Riverside and San Bernardino counties. This includes burning wood in fireplaces or any indoor or outdoor wood-burning device.

“No burn day alerts are mandatory in order to protect public health when levels of fine particulate air pollution in the region are forecast to be high,” said AQMD’s statement.

Both smoke from wood burning and combustion products from fireworks can cause health problems.

Particles in wood smoke can get deep into the lungs and cause respiratory problems and increases in emergency room visits and hospitalizations. Products from fireworks add to the fine particles already present in the area that are caused by motor vehicles, residential wood combustion, fugitive dust and industrial emissions.

According to AQMD, when AQI levels are Unhealthy for Sensitive Groups, people with heart or lung disease, pregnant women, children, and older adults should limit prolonged or heavy outdoor exertion. When air quality reaches Unhealthy AQI levels, everyone may experience adverse health effects and sensitive groups should avoid prolonged time outdoors. At Very Unhealthy AQI levels, sensitive groups should avoid all outdoor physical activity and everyone else should avoid prolonged or heavy outdoor exertion.

During periods of poor air quality, there are steps one can take to avoid the pollution, including closing all windows and doors and running your air conditioner or an air purifier. Avoid burning wood in your fireplace or firepit and minimize sources of indoor air pollution such as candles, incense, pan-frying, and grilling. Limit the use of gasoline powered lawn and garden equipment.



CLIMATE ACTION

CALENDAR 2022



Get the Calendar

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