

Air quality officials advise residents to avoid burning

By Vongni Yang

Visalia Times-Delta, Wednesday, Jan. 13, 2021

San Joaquin Valley Air Pollution District officials are advising residents to avoid wood burning.

The district reported conditions are expected to remain cold, dry and stagnant throughout the week, causing particulate matter pollution (PM 2.5) emissions to accumulate, resulting in higher pollution concentrations throughout the Valley air basin, which includes the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and parts of Kern County.

Additionally, this week, strong nighttime inversions and minimal winds are trapping pollutants on the Valley floor.

"Stable conditions like those we are currently experiencing are one of the main challenges the San Joaquin Valley faces during the winter months," said Jaime Holt, Valley Air District Chief communications officer. "This causes residential wood smoke to stay in your neighborhood, impacting the health of you and your neighbors."

According to the air district, residential wood burning is one of the region's largest sources of wintertime PM 2.5 emissions, which has shown to have a direct effect on neighborhood air quality and public health.

Residents should adhere to the "Check Before You Burn" program on the district's website. If possible, residents should avoid heating their homes by burning wood to prevent air pollution from reaching unhealthy levels, the district said.

The district also encouraged residents from refraining the use of any outdoor wood-burning devices, including fire pits, outdoor fireplaces and chimeneas.

The "Check Before You Burn" program runs from Nov. 1 through the end of February every year, reducing PM 2.5 emissions from residential wood smoke.

Wood burning curtailments do not apply to natural gas devices. Residences in areas with no natural gas service or where wood burning is the sole source of heat are exempt.

Daily burn information is available by visiting checkbeforeyouburn.org, by calling 1-800-SMOG INFO (766-4463), or by downloading the free "Valley Air" app on your mobile device.

Warming trend to hit Modesto, and air district urges a pause from wood burning

By Deke Farrow

The Modesto Bee, Tuesday, Jan. 12, 2021

The National Weather Service predicts patchy night and morning fog for Modesto in the days ahead, and above-average temperatures into the weekend.

The San Joaquin Valley Air Pollution Control District warns that the high-pressure system is expected to trap pollution and asks residents to avoid wood burning.

Stagnant, dry conditions through the middle of next week will cause PM2.5 emissions (particulate matter pollution) to accumulate, resulting in higher concentrations through the Valley air basin, which includes Stanislaus, San Joaquin, Merced and other counties, according to a news release.

Strong nighttime inversions and little to no winds trap pollutants on the Valley floor. "Stable conditions like those we are currently experiencing are one of the main challenges the San Joaquin Valley faces during the winter months," air district spokeswoman Jaime Holt said in the news release. "This causes residential wood smoke to stay in your neighborhood, impacting the health of you and your neighbors."

Daily high temperatures this week, according to the NWS forecast for Modesto, will be near 64 degrees Wednesday, near 63 Thursday through Saturday, and near 64 again on Sunday and Monday, which is Martin Luther King Jr. Day. The average temperature for all those dates, Jan. 13-18, is 54 degrees, according to Modesto Irrigation District weather records.

Residential wood burning is among the Valley's largest sources of winter PM2.5 emissions, according to the air district. It warns that adherence to the Check Before You Burn program is critical to prevent air pollution from reaching unhealthy levels.

District officials ask that residents avoid heating their homes by burning wood, if possible, and also not use outdoor wood burning devices including fire pits, fireplaces and chimineas.

Check Before You Burn runs through February every year and provides daily declarations, by county, indicating if wood burning is allowed in the county that day.

Daily burn information is available by visiting www.valleyair.org/cbyb, by calling 1-800-766-4463 or by downloading the free "Valley Air" app on a mobile device. Residents also may sign up for daily email wood-burning notifications at lists.valleyair.org/mailman/listinfo/residential_wood_burning_rule.

The Burn Cleaner incentive program offers up to \$3,000 to upgrade from older, high-polluting wood stoves and open-hearth fireplaces to natural gas inserts. To participate, visit www.valleyair.org/burncleaner.

Air quality officials ask residents to avoid wood burning

Turlock Journal, Tuesday, Jan. 12, 2021

Local air officials are advising San Joaquin Valley residents that conditions are expected to remain cold, dry and stagnant through the middle of next week, causing particulate matter emissions to accumulate, resulting in higher pollution concentrations throughout the Valley air basin. The basin includes the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the Valley portion of Kern.

Strong nighttime inversions and minimal winds are trapping pollutants on the Valley floor.

"Stable conditions like those we are currently experiencing are one of the main challenges the San Joaquin Valley faces during the winter months," said Jaime Holt, Valley Air District Chief Communications Officer.

"This causes residential wood smoke to stay in your neighborhood, impacting the health of you and your neighbors," she added.

Residential wood burning is one of the Valley's largest sources of wintertime PM2.5 emissions and can have a direct effect on neighborhood air quality and public health. The District warns that adherence to the Check Before You Burn Program is critical to prevent air pollution from reaching unhealthy levels and asks that residents avoid heating their homes by burning wood, if possible. Refraining from the use of any outdoor wood burning devices is also urged. This includes fire pits, outdoor fireplaces and chimeneas.

Check Before You Burn runs from Nov. 1 through the end of February every year and provides daily declarations, by county, indicating if wood burning is allowed in the county that day.

Wood burning curtailments do not apply to natural gas devices. Residences in areas with no natural gas service or where burning wood is the sole source of heat are exempt. Areas where propane tanks are used are considered to be without natural gas service. Outdoor wood burning devices at all residences are still subject to daily restrictions, regardless of exemption status.

Daily burn information is available by visiting www.valleyair.org/cbyb, by calling 1-800-SMOG INFO (766-4463), or by downloading the free "Valley Air" app on your mobile device.

Valley residents are encouraged to participate in the Burn Cleaner incentive program and receive as much as \$3,000 to upgrade from older, high-polluting wood stoves and open-hearth fireplaces to natural gas inserts. To participate in this program please visit www.valleyair.org/burncleaner.

Air district warns of high pollution concentrations, poor air in coming days

The Bakersfield Californian, Tuesday, Jan. 12, 2021

The San Joaquin Valley portion of Kern County is expected to receive higher pollution concentrations through the middle of next week, which will result in poorer-than-usual air quality.

According to a news release from the San Joaquin Valley Air Pollution Control District, conditions are expected to be cold, dry and stagnant in the coming days. That will cause PM2.5 emissions (particulate matter pollution) to accumulate, which will lead to an extended “pollution trap” in much of the Central Valley.

“Stable conditions like those we are currently experiencing are one of the main challenges the San Joaquin Valley faces during the winter months,” said Jaime Holt, the Valley Air District chief communications officer.

As a result, the air district is reiterating to residents to check and abide by the Check Before You Burn Program, which it says is critical to prevent air pollution from reaching unhealthy levels. The air district also asks residents to avoid heating homes by burning wood, if possible.

Residential wood burning is one of the Central Valley’s largest sources of wintertime PM2.5 emissions and can have a direct impact on neighborhood air quality and public health, the air district stated.

Daily burn information is available by visiting www.valleyair.org/cbyb, by calling 1-800-SMOG INFO (766-4463), or by downloading the free “Valley Air” app on a mobile device or tablet.

Air quality forecast: A haze of pollution will cover the Valley floor through next week

By Monica Vaughan

Fresno Bee, Wednesday, Jan. 13, 2021

A layer of hazy smog-like pollution is expected to continue blanketing the San Joaquin Valley for several days, and residential fires are a big part of the problem in Valley neighborhoods.

Weather is expected to remain cold, dry and stagnant into the middle of next week, creating conditions for air pollution emissions from several sources to accumulate and become trapped on the Valley floor, according to a press release from the San Joaquin Valley Air Pollution Control District.

During this time, the district is requesting that residents avoid wood burning in fireplaces and stoves to reduce the health risk to neighbors from breathing in particulate matter.

Air quality officials say pollutants are often caught in low-level air during winter as a result of weather patterns, including minimal winds and strong nighttime inversions (when temperatures in the atmosphere increase with height.)

“Stable conditions like those we are currently experiencing are one of the main challenges the San Joaquin Valley faces during the winter months,” said Jaime Holt, Valley Air District chief communications officer. “This causes residential wood smoke to stay in your neighborhood, impacting the health of you and your neighbors.”

The district says that residential wood burning is one of the Valley’s largest sources of wintertime PM 2.5 emissions, which directly affects neighborhood air quality.

Residents who burn fires in pits, fireplaces or chimeneas during “no burn” days like these are subject to fines. Check before you burn, by visiting <http://www.valleyair.org/aqinfo/cbyb.htm> or calling 1-800-766-4463.

PM 2.5 is a health risk for children’s developing lungs, seniors, and adults with existing cardiovascular and respiratory illness. When the air quality is unhealthy for sensitive groups, those individuals should stay indoors.

Residents may qualify for a Burn Cleaner incentive program and receive up to \$3,000 to upgrade from wood stoves and open-hearth fireplaces to natural gas inserts. Learn more at www.valleyair.org/burncleaner.

Industry impact on bad air

Smoke from fireplaces is not the only cause of elevated PM 2.5 in the Valley. Large polluting industries also produce particulate matter, including oil and gas facilities operated by Chevron USA and Sentinel

Peak Resources, as well as biomass and glass facilities — and advocates say regulators can do more to protect public health.

A coalition of non-profit organizations have called upon the Valley Air Pollution Control District and the California Air Resources Board to increase enforcement of clean air rules and adopt additional pollution reduction measures.

“We know the major contributors to our air pollution: the oil industry, industrialized agribusiness, as well as sprawling and mismatched land uses with heavily trafficked transportation networks,” the coalition says in a letter sent to the agencies in October 2020.

The letter is signed by directors of Central Valley Air Quality Coalition, Central California Environmental Justice Network, Environmental Justice Program at Catholic Charities Diocese of Stockton, Association of Irrigated Residents, National Parks Conservation Association, Clean Water Action, Coalition for Clean Air, Leadership Council For Justice and Accountability, Little Manila Rising, Fresno Building Healthy Communities and Earthjustice.

Collectively, they state in the letter that “The San Joaquin Valley Air District can certainly do more to regulate and enforce regulations on stationary sources, particularly in disproportionately impacted communities.”

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

Matthew Brown, Associated Press

San Francisco Chronicle, Monday, Jan. 11, 2021

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."

Wildfire smoke now causes up to half the fine-particle pollution in Western US, study finds

By Tony Barboza, Los Angeles Times

Merced Sun-Star, Sacramento Bee and other papers, Wednesday, Jan. 13, 2021

Wildfire smoke now accounts for up to half of all fine-particle pollution in the Western U.S., according to a new study that blames climate change for worsening air quality and health risks in both urban and rural communities in recent years.

The study by researchers at Stanford University and UC San Diego found that the concentration of tiny, lung-damaging pollutants known as PM2.5 that are attributable to wildfire smoke roughly doubled between 2006 and 2018, while the share of pollution from other sources like car and truck exhaust declined.

The trend is most pronounced in Western states and highlights the rapidly growing health threat of wildfire smoke. This became shockingly apparent to millions during last year's record-breaking firestorm, which enveloped much of the West Coast in an unhealthy pall for weeks.

Levels of PM2.5 had been steadily improving over the last two decades in which they have been routinely monitored, as a result of regulations that have cut emissions from vehicles and power plants. But those gains started to slow, then reverse, over the last decade or so, according to the study.

"The overall picture is of a stalled and reversed improvement, which is a result of other sources getting cleaner and wildfires getting a lot worse," said Marshall Burke, a professor of Earth system science at Stanford University and lead author of the study published in the Proceedings of the National Academy of Sciences.

The two major factors driving the increase in wildfire smoke are the warming climate and decades of fire suppression that have allowed fuels to build up, according to researchers. They made their estimates by developing a statistical model using fire and smoke data from satellites and readings from ground-based air quality monitoring stations.

Nationwide, wildfires are now responsible for up to 25% of fine-particle pollution, the study found.

"We know wildfires generate smoke. We know smoke is bad for health. But we really didn't have a comprehensive national picture for how much wildfires are contributing to poor air quality," Burke said.

Francesca Dominici, a professor of biostatistics at Harvard's T.H. Chan School of Public Health who was not involved in the research, called it "an excellent study that relies on sophisticated data science approaches" and "provides strong evidence that wildfires are an increasing threat to human health."

Dominici said its findings are concerning, "especially at the time where the U.S. EPA has recommended to retain the current standards for PM2.5 pollution and as we are fighting COVID-19 that is attacking our lungs."

"I hope that reducing the risk of climate change-related disasters, such as wildfires, will be a priority for the new administration," she added.

For decades, motor vehicles and industrial emissions have been responsible for most of the West's PM2.5, though at least some of that type of pollution has always come from fires. Previous studies have predicted that greenhouse gas emissions will dramatically increase wildfire smoke in the in the Western U.S. in the coming years as temperatures rise and dry the landscape.

In the latest study, Stanford and UC San Diego researchers predicted dramatic health impacts if nothing is done to slow climate change by slashing emissions and better managing forests. Within decades, they found, exposure to wildfire smoke alone could increase dramatically to the point of being one of the deadliest climate impacts.

The study projects an additional nine to 20 smoke-related deaths per 100,000 people by midcentury if emissions continue at their current pace, which is close to the roughly 24 additional deaths per 100,000 people predicted directly from rising heat — the deadliest effect of climate change on people.

"Wildfires are going to be the way that many of us experience climate change, as important as these direct heat impacts," Burke said. "These changes in wildfire risk are the combination of two main things we have done: A century of wildfire suppression and climate change. None of these future estimates are an inevitability. They are a choice."

The analysis also found that while people of color continue to be exposed to higher levels of total PM2.5 — as has long been the case — higher-income counties with a higher proportion of white people are on average more exposed to higher levels of PM2.5 from wildfire smoke.

Researchers acknowledge that measuring outdoor pollution does not necessarily correspond to people's actual exposure because it does not factor in how much time they spend outdoors or the age and quality of their home. Past research shows that more outdoor pollutants seep into "older, smaller homes and for lower-income households and these differences could lead to disparities in overall individual exposure even if ambient exposures are not different," according to the study.

Scientists suspect the 2020 wildfires inflicted widespread health damage by fouling the air of nearly 96 percent of Californians with smoke levels exceeding federal standards, according to the state Air Resources Board. The weeks-long siege of smoky air generated both the highest readings and most widespread unhealthy levels of fine-particle pollution since continuous monitoring began in the late 1990s.

Of greatest concern are the microscopic particles in smoke that can be inhaled deep into the lungs and enter the bloodstream. Not only do those pollutants irritate the eyes, nose and throat, tighten the chest and cause difficulty breathing, they can trigger asthma attacks, strokes and heart attacks. Wildfire smoke poses serious risks to young children and the elderly, and people with chronic health conditions such as asthma, lung disease and heart disease face increased risk of hospitalization and death.

Scientists know from decades of research that breathing the fine-particle pollution in urban smog can lead to long-lasting health problems.

Though less is known about the long-term damage from the fine-particle pollution in wildfire smoke, early research suggests it impairs people's lungs long after the smoke clears. An ongoing health study in Montana reported last year that people in a community that was blanketed with wildfire smoke for 49 days in 2017 still had decreased lung function two years later.