

## **That smoke hovering over Stanislaus County? Here's where it's all coming from.**

By Lydia Gerike

The Modesto Bee, Wednesday, July 28, 2021

Officials issued a health caution Wednesday for air quality in Stanislaus County and other parts of the northern San Joaquin Valley, warning residents to avoid increased particulate matter emissions caused by wildfire smoke.

The San Joaquin Valley Air Pollution Control District issued the warning in response to the Dixie Fire, a more than 217,000-acre fire burning in Butte and Plumas counties north of Sacramento. As of Wednesday afternoon, CAL FIRE reported the two-week old blaze at just 23% contained.

"The health caution will remain in place until the fire is extinguished, or until smoke is no longer impacting the Valley," according to a release from the control district.

Jaime Holt, a control district spokesperson, said the fire's smoke has been moving to the east so far, but shifting winds are expected to bring it south to Stanislaus, San Joaquin and Merced counties through Friday.

The particulate matter may affect people with heart and lung conditions, including asthma, chronic bronchitis and COVID-19. It can also increase the risk of a heart attack or stroke.

Children, the elderly and people with respiratory conditions are especially susceptible to the health effects of this decreased air quality.

"We are seeing unhealthy for sensitive groups levels of air quality right now, but it could become unhealthy for everyone," Holt said. "If they can see or smell smoke, they should also stay inside."

Cloth or paper masks being used to prevent the spread of COVID-19 do not necessarily meet the standards for protection against wildfire smoke, the control district warned.

Staying inside a filtered, air-conditioned area with closed windows is the best way to protect oneself from the emissions, the control district said.

## **Smoke tilts Sacramento air quality to unhealthy range — which wildfire is causing it?**

By Amelia Davidson

The Sacramento Bee, Wednesday, July 28, 2021

Smoke coming from the large Dixie Fire, burning about 100 miles north of the city, has pushed air quality in Sacramento into the unhealthy range Wednesday.

Air quality monitors from the Sacramento Metropolitan Air Pollution Control District registered an AQI reading of 172, or "unhealthy," downtown just after noon, and a reading of 205, or "very unhealthy," in Arden Arcade around 3 p.m.

At that level, residents with respiratory or heart disease, the elderly and children are most at risk from the poor air quality and all residents should limit their outdoor exposure.

Emily Heller, a meteorologist at the National Weather Service's Sacramento office, said that the smoke arrived due to expected northerly winds at the Dixie Fire.

"As well as the winds, there was a strong inversion this morning, sort of keeping the smoke confined to lower levels of the atmosphere," Heller added. The inversion — a bubble of warmer-than-expected air — explains why so many residents can smell the smoke.

Jamie Arno, a spokeswoman for the Sacramento Metropolitan Air Pollution Control District, said that the thickness of the smoke from the fire came as a surprise for air quality experts. AQI levels spiked quite quickly just before noon as smoke rapidly blew into the area.

"While we did expect smoke from the Dixie Fire to enter the region today, we didn't expect it to be so dense," Arno told The Bee. "... The best sensor and monitor for these things is your nose. When you

smell smoke, it means you are breathing it, which is unhealthy, and you should go inside. So Sacramento residents should rely on their nose as well as on our air quality readings.”

Heller said the wind is expected to switch directions and the inversion should lift a bit into the afternoon, and most of the smoke should leave the area by late afternoon.

Arno added that the a Delta breeze from the southwest should keep the smoke from the Dixie Fire out of Sacramento at least through the weekend. Arno expects all smoke to be out of the area by Thursday morning.

The Dixie Fire has burned over 217,000 acres in Plumas, Butte and Tehama counties as of Wednesday morning.

Sacramento has dodged the smoke for most of the summer, while major wildfires pumping out toxic emissions in California, Oregon and Western Canada have moved across the continent to the Midwest and East Coast.

Wednesday’s hint of smoke is a reminder that southerly winds will shift in the coming months to northerly winds, which are known in California as Diablo or Santa Ana winds. That shift could push more dangerous pollutant into the capital region if wildfires continue to rage to the north and east.

Scientists have long known that smoke inhalation can have significant health effects on humans. Weather and air quality experts say that if you can smell smoke in the air, air quality is likely unhealthy enough that you should limit outdoor time.

But recent studies are showing that wildfire smoke may be more dangerous than previously suspected, and could pose significant risks even when inhaled for a short amount of time.

This month, the California Air Resources Board released a study that analyzed the smoke from a number of California wildfires, including the 2018 Camp Fire, California’s deadliest wildfire to date. The study found that smoke from structure-destroying wildfires contains an array of toxic chemicals such as lead and zinc.

In Chico, the site measured nearest to the Camp Fire, lead concentration in the air spiked to over 50 times the normal average when smoke from the fire descended into the city.

In another study published in March, a team of researchers from the Scripps Institute of Oceanography at UC San Diego found that the fine particulate matter in the air during wildfires may be up to 10 times more dangerous to humans than those same fine particles when they exist in non-smoky air.

Fine particulate matter can lodge in the lungs and sink into the bloodstream, and are therefore the cause of most pollution and smoke-related illnesses.

According to the Centers for Disease Control and Prevention, cloth masks used to curb the spread of COVID-19 “offer little protection against wildfire smoke.”

“They might not catch small, harmful particles in smoke that can harm your health,” the agency writes.

The CDC says N95 and KN95 respirators can provide protection from wildfire smoke. The CDC does not recommend N95 masks, saying they should be reserved for health workers, making KN95s the better bet.

## **Dixie Fire growth slows, but crews still expect ‘instability’ at blaze**

By Amelia Davidson

The Sacramento Bee, Wednesday, July 28, 2021

Calmer winds and higher humidity slowed the growth of the Dixie Fire overnight, providing a brief respite for crews battling the blaze heading into Thursday morning. But officials say the wildfire, which has threatened homes in Butte, Plumas and Tehama counties, is far from over.

Throughout the week, cyclical weather patterns have slowed the fire during periods of humidity and whipped it back up during hotter daytime periods. On Wednesday, warmer temperatures and stronger winds roared the fire’s leading edge back to life after a night of brief calm, sending smoke into the Sacramento Valley.

Officials say the same thing may happen through the day Thursday, forecasting temperatures in the triple-digits and changes in humidity that could bring “instability” to the area.

“This could be a repeat of yesterday,” fire behavior analyst John Cook said in the Dixie Fire’s Thursday morning incident briefing. “We talked about how activity was going to pick up yesterday and then we saw it did. And when you start getting into successive days of drying and sun and repeating, it just picks up a lot of fuels that become available that weren’t available before.”

The Dixie Fire expanded by around 4,000 acres in the 24 hours headed into Thursday morning, marking a relatively slow day of growth for the blaze. In its Thursday morning incident report, the state fire agency said the fire encompassed 221,504 acres (346 square miles) and remained 23% contained.

Over 5,900 firefighters are battling the blaze, which ignited July 14 above the Cresta Dam in Feather River Canyon, in the burn scar of the deadly 2018 Camp Creek fire. The fire is California’s largest so far this season, and is now California’s 13th-largest of all time by acreage.

According to Cal Fire’s Thursday incident report, the Dixie Fire has destroyed 64 structures so far. The Associated Press reported that 36 of those structures were in the Plumas County town of Indian Falls, population 53. The town was all but destroyed by the fire.

Over 10,720 structures were threatened by the fire as of Thursday morning.

The blaze has generated large amounts of smoke. Northerly winds pushed smoke into the Sacramento Valley Wednesday, creating hazy and smoky conditions across the capital region and causing Sacramento County to issue an air quality alert.

Air quality monitors from the Sacramento Metropolitan Air Pollution Control District registered an AQI reading of 172 downtown just after noon, and a reading of 177 in Arden Arcade around 1 p.m.

Jamie Arno, a spokeswoman for the Sacramento Metropolitan Air Pollution Control District, said that the thickness of the smoke from the fire came as a surprise for air quality experts.

“While we did expect smoke from the Dixie Fire to enter the region today, we didn’t expect it to be so dense,” Arno told The Bee.

But Arno added that a Delta breeze should keep the smoke out of Sacramento at least through the weekend. Most of the smoke lifted from the valley by late-afternoon Wednesday.

Numerous mandatory evacuation orders remain in place due to the blaze, including for the communities of Meadow Valley, Bucks Lake, Prattville, Big Meadows and Lake Almanor West in Plumas County; Butte Meadows, Jonesville, Philbrook and High Lakes in Butte County; and the area of Colby Creek in Tehama County.

Detailed information on evacuation zones spanned seven pages of Cal Fire’s incident report. Many roads are closed, including stretches of Highway 36, 70 and 89.

Officially, the fire’s cause remains under investigation by Cal Fire. But Pacific Gas and Electric Co. in a July 18 filing to state regulators said its equipment may have started the fire.

Cal Fire is battling the Dixie Fire in unified command with Lassen National Forest.

### **Tamarack Fire**

Firefighters appear to have turned the tide on the Tamarack Fire, pushing containment up to 59% and keeping expansion minimal through the beginning of the week. The Tamarack Fire is burning in Alpine County and Douglas County, Nev.

Rain early in the week helped crews push containment up beyond the 50% mark, allowing the California and Nevada governors to visit the fire site and speak about containment efforts.

The Tamarack Fire charred 68,571 acres as of Thursday morning, after expanding under 200 acres from the previous day. Containment has remained at 59% since Wednesday morning.

At a news conference Wednesday in an area on the state line, California Gov. Gavin Newsom and Nevada Gov. Steve Sisolak praised the collaboration between the states in managing the fire. But the

governors also added to a chorus of ongoing criticism of the U.S. Forest Service for their handling of the fire and called on the agency to raise pay for those fighting fires.

“At the end of the day, the U.S. Forest Service is understaffed and under-resourced,” Newsom said. “It has been for years and years and years. ... You look at the federal pay for these men and women, it’s deplorable, it’s unacceptable.”

The Tamarack Fire ignited by lightning in early July on U.S. Forest Service land and began to grow explosively in mid-July amid heavy winds. The U.S. Forest Service has faced criticism for originally leaving the small fire to burn itself out.

The Alpine County Sheriff’s Office lifted all mandatory evacuation orders Wednesday, and Douglas County did the same on Monday. Some areas of the Humboldt-Toiyabe National Forest remain closed.

An interactive map from the Alpine County Sheriff’s Office shows that at least 15 buildings were destroyed within the county. Estimates for Douglas County have not yet been released.

### **Other California wildfires**

- The Beckwourth Complex, which previously held the title of California’s largest wildfire so far this year, has remained stagnant for the last week.

The fire complex is now 98% contained and officials lifted all evacuation orders and warnings.

The larger of the two fires within the incident, the Sugar Fire, flared and destroyed several homes in the town of Doyle in mid-July. The fire ultimately burned over 105,600 acres.

Like the Tamarack Fire, lightning started the Beckwourth Complex in early July.

- The Lava Fire, which raged in Shasta-Trinity National Forest in late June and early July, has remained at around 78% containment for nearly two weeks. The fire is burning in the rugged terrain near Mount Shasta, making it difficult for firefighters to access the fire to mop up.

Despite the stagnant containment, the fire has expanded minimally over the past two weeks. The only minor expansion occurred in wilderness areas near Mount Shasta.

The fire flared at the beginning of the month, forcing evacuations for thousands of Siskiyou County residents. The fire also burned through thousands of acres of marijuana farms run by the local Hmong population.