

## **Merced air is bad from fires up north. Fireworks will make it worse, experts say**

By Thaddeus Miller

Merced Sun-Star, Wed., July 4, 2018

Smoke is cascading into Merced County from the huge fire in the northern part of the state leading to poor air quality, and fireworks are about to make it significantly worse, according to health officials.

Central San Joaquin Valley residents should be aware of the health risks associated with poor air quality and a "cautionary statement" issued on Monday and Tuesday by the San Joaquin Valley Air Pollution Control District, experts said. The warning comes after more than 70,000 acres burned in the County Fire in Napa Valley, causing smoke to drift south.

The health caution from pollution experts is expected to continue until the fire is extinguished. It was 5 percent contained as of Tuesday, according to Calfire.

And, now, with the Fourth of July upon the Valley, health officials are asking residents to consider not spraying more particulates into the air by setting off fireworks at home.

To decrease the amount of soot, ash and metals in the air, officials recommend Valley residents celebrate Independence Day by going to a professional fireworks show, according to Samir Sheikh, the district's deputy air pollution control officer.

"Each year, people suffer serious health consequences from direct exposure in the neighborhoods where they live and breathe ... from firework activities that are entirely preventable," he said.

The particulate matter in the air is the most hazardous to small children and elderly adults with respiratory problems, officials said. It is bad for lungs and can cause heart problems.

Each year on the Fourth of July, air monitors across the Valley show spikes in particulate matter concentrations that often reach four to five times higher than the federal standards, according to the air district. The spikes appear between 9 p.m. and 10 p.m., about the time people are lighting fireworks in their front yards.

Officials say it's better to stay inside an air-conditioned building rather than continue to breathe in smoke and other particulates. If you can see ash or smell smoke, you're experiencing poor air quality, the district said.

"The County Fire continued to burn actively throughout the day," Calfire reported. "The potential for growth remains high as crews battle the fire in difficult terrain. Firefighters continued to work through the day to construct new containment lines and defend structures impacted by the fire."

The air district provides real-time air quality data by address across the Valley, which residents can track at [www.myraan.org](http://www.myraan.org).

The Sacramento Bee contributed to this report.

## **Where there's fire and fireworks, there's harmful smoke to breathe**

By Barbara Anderson

Fresno Bee, Wed., July 3, 2018

A yellow haze of smoke from the County Fire near Napa Valley is filling the central San Joaquin Valley with small particles of soot and ash that can make the air unhealthy to breathe.

And the smoke from the fire couldn't be drifting into the Valley at a worse time.

"Tomorrow we're going to have a spike in air quality because of fireworks," said Dr. John Gasman, a pulmonologist at Kaiser Permanente

Fourth of July fireworks alone can increase levels of air pollution four to five times higher than limits set by health-based federal standards. And in combination with fire smoke, the pollution levels can become extremely dangerous.

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Late Monday, air quality measured at the very unhealthiest category in the Valley because of smoke from the County Fire. Tuesday morning, the level had dropped to the moderate range but it could peak again, air quality officials warned.

The bowl-shaped Valley is notorious for capturing pollutants. Smoke filtering in the Valley can get caught in stagnant air. "It's amazing how it spreads and it gets trapped in the nooks and crannies of the Valley," Gasman said.

Plumes of smoke from the fire and fireworks contain particle pollution called PM 2.5. The microscopic pieces of soot, ash (and metals in fireworks) are so tiny they can be inhaled and get into the bloodstream. The particles have been linked to heart attacks and stroke, and they irritate the lungs of most people — but anyone with asthma or other respiratory problems is at risk for breathing problems.

And there's a third air pollution factor to consider: This time of year, the Valley has spikes of ozone, a pollutant that irritates lungs. The levels for ozone have been moderate the past few days, but they are creeping up, said Heather Heinks, spokeswoman for the San Joaquin Valley Air Pollution Control District.

But for now, the biggest concern is sooty particles from the fire and fireworks. The elderly, very young and anyone with respiratory issues should avoid breathing smoke-filled air, Heinks said. And someone who plans to exercise outdoors should check the air quality.

A simple safety tip: "If you're seeing smoke, that is a distinct indicator that it's having an impact on you," Heinks said.

Residents can check the district's wildfire page for information about any current wildfires and whether they are affecting the Valley. The Real-time Air Advisory Network (RAAN) allows Valley residents to track pollution at any address. Residents can also follow air quality conditions by downloading the free "Valley Air" app, available in the Apple store or Google Play.

For more information call the district office in Fresno (559-230-6000), Modesto (209-557-6400) or Bakersfield (661-392-5500).

## **Here's the air quality outlook for July 4 and beyond, amid Northern California wildfires**

By Jordan Cutler-Tietjen

Sacramento Bee, Wed., July 3, 2018

Sacramentans planning to watch fireworks burst in the area on Wednesday might not have to worry too much about air quality, but conditions may worsen as the week wears on.

On Tuesday, Sacramento is forecast to experience similar weather conditions as it did Monday, said Thomas Hall, spokesperson for the Sacramento Metropolitan Air Quality District. That means a clearer morning, followed by the potential for smoke in the evening.

For the Fourth of July, onshore winds (aka the Delta Breeze, which blows from south-southwest to north-northeast) are predicted to dominate in the region. As the County Fire is currently burning northwest of Sacramento County, these winds shouldn't dramatically worsen smoke conditions Wednesday, Hall said.

Thursday will potentially be the worst day this week for smoke in the county, as winds are expected to turn instead toward the southeast, Hall said.

On Monday, Elk Grove and the Arden Arcade area faced the highest particulate matter (PM) concentrations, but it's unclear whether or not that pattern will continue Tuesday night, Hall said.

All of this could change, Hall cautioned, if more wildfires ignite throughout the week. As long as smoke remains in the air, ozone levels are expected to increase, but they are not forecast to exceed the range typical for this time of year. Although normal, these ozone levels are considered unsafe for at-risk groups, such as children, older adults and those with lung conditions.

Smoke will continue to inundate cities near the blaze on Tuesday, according to the Yolo-Solano Air Quality Management District. The cities of Vacaville and Dixon will experience the worst smoke in the

morning and afternoon, while Esparto, Davis and Woodland will be affected in the late afternoon and evening.

On Wednesday, the Delta Breeze will carry most of the smoke toward those three cities, Yolo-Solano Air Quality Management District spokeswoman Jenny Tan said.

Still, Tan said, the winds have been particularly unpredictable as of late, so residents in Rio Vista and Knights Landing should be prepared to take the necessary precautions if they smell smoke coming their way.

Smoke is not expected to completely clear up in Yolo and Solano counties before the end of the week, Tan said.

In general, residents should avoid outdoor physical activity, close windows and doors that might let in smoke, turn off all wood-burning appliances and turn on their air conditioners, according to the district.

Anyone who feels nauseous, dizzy or otherwise unwell after exposure to smoke is encouraged to contact their doctor, Tan said.

Much of the Bay Area received a respite from smoke on Tuesday. According to the Bay Area Air Quality Management District, an inversion layer was protecting San Francisco and the surrounding regions from incoming smoke as of 10:30 a.m. The predicted wind change will also draw smoke away from the region Wednesday and the rest of the week, the district said.

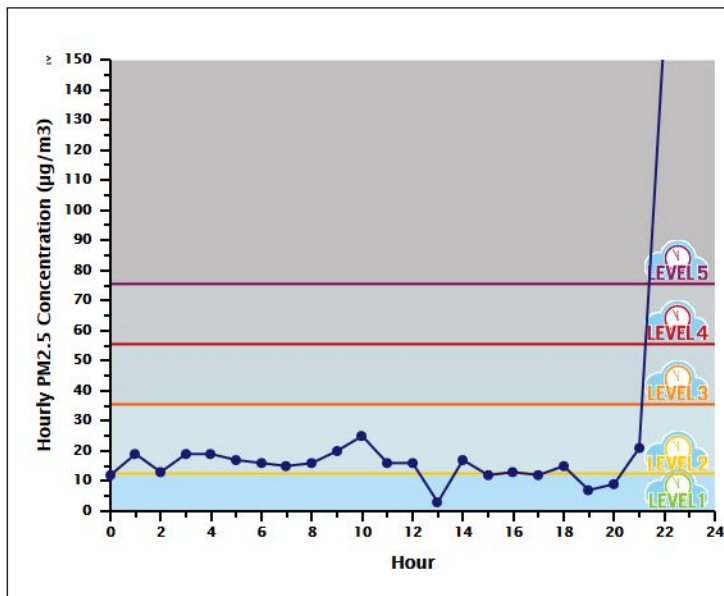
Hourly updates on PM concentration across the state are available via Wildland Fire Air Quality Response Program's monitoring service.

Many regional air quality management districts in Northern California are cautioning residents about the added health hazards that fireworks pose.

Fireworks release nefarious particles such as soot, ash and metals into the atmosphere, and air monitors in the San Joaquin Valley have accordingly detected unsafe spikes in PM concentrations every July 4 evening, the district said.

As such, the city of Winters in Yolo County had canceled its July 3 fireworks show as of Monday morning.

On July 4, 2017, in the city of Visalia, particulate matter levels in the air exceeded the "Heavily Polluted" benchmark around 10 p.m., rendering the air unsafe.



If outdoors in hazardous conditions, residents should consider donning face masks with high efficiency particulate air (HEPA) filters or an N-95 mask, as regular dust masks don't filter out wildfire air pollution safely, the American Lung Association advises. These warnings are especially pertinent for members of at-risk groups.

In general, smoke may look entirely gaseous, but it contains miniscule chunks of PM that pose health risks ranging from headaches to heart problems.

Combined with cloudless weather and hot temperatures, smoke concentration increases the production of ozone. The molecule is an essential component of the Earth's upper atmosphere, but it's unhealthy and synonymous with smog when present in altitudes closer to sea level.