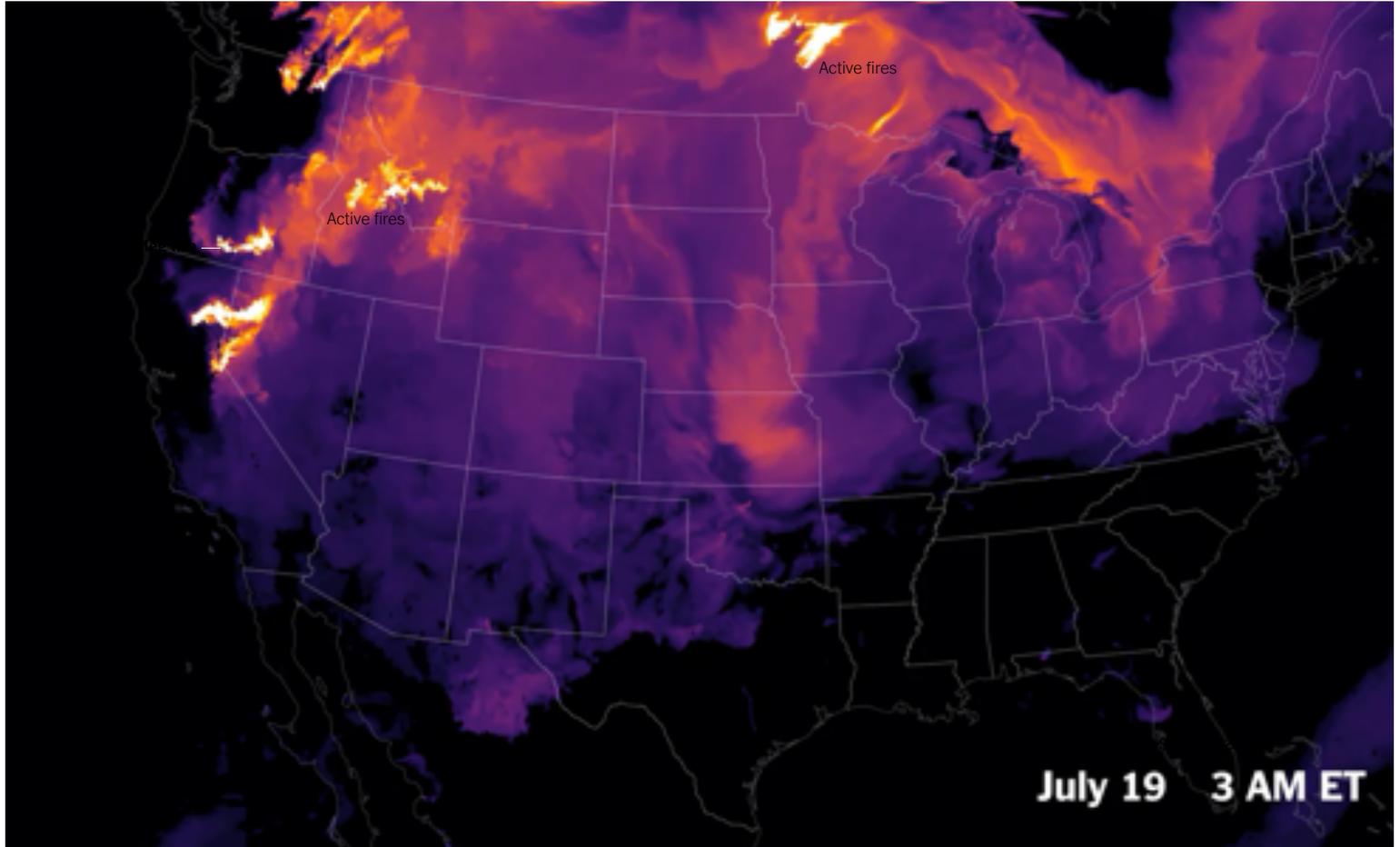


# See How Wildfire Smoke Spread Across America

By Nadja Popovich and Josh Katz July 21, 2021



Source: Global Systems Laboratory, National Oceanic and Atmospheric Administration

Wildfire smoke from Canada and the Western United States stretched across the continent this week, covering skies in a thick haze and triggering health alerts from Toronto to Philadelphia. Air quality remained in the unhealthy range across much of the East Coast on Wednesday morning as the haze pushed southward.

In recent weeks, a series of near-relentless heat waves and deepening drought linked to climate change have helped to fuel exploding wildfires. In southern Oregon, the Bootleg Fire grew so large and hot that it created its own weather, triggering lightning and releasing enormous amounts of smoke. But more than 80 large fires are currently burning across 13 American states, and many more are active across Canada.

Now, the effects are being felt thousands of miles from the flames.

As the smoke moved eastward across Toronto, New York and Philadelphia on Tuesday, concentrations of dangerous microscopic air pollution known as PM2.5 (because the particles are less than 2.5 microns in diameter) reached highs in the “unhealthy” range for most of the day. Minnesota was heavily blanketed by smoke from wildfires burning across the Canadian border, with the city of Brainerd and others recording “hazardous” levels of pollution, the highest designation of concern from the Environmental Protection Agency.

*[Daily updates: See the latest news on extreme weather and the climate crisis.]*



From Minnesota to Manhattan, the sun appeared orange because of haze from wildfire smoke.

Bjoern Kils/Reuters

“What we’re seeing here today is the convergence of several smoke plumes,” said Nancy French, a wildfire scientist at Michigan Technological University, noting that much of the United States was experiencing some amount of haze, even as the highest surface pollution swept across the Midwest and Northeast.

On Tuesday, eerie orange sunsets were coupled with scratchy throats and watering eyes for many people across the two regions.

Fine particulate matter, which is released during wildfires (and also through the burning of fossil fuels), is dangerous to human health. Breathing high concentrations of PM2.5 can increase the risk of asthma attacks, heart attacks and strokes.

The map above, based on modeling from the National Oceanic and Atmospheric Administration, shows how smoke from fires burning in the West and central Canada traveled across the country to reach the East Coast. The map reflects fine particulate pollution released by the fires and does not include pollution from other human sources of PM2.5, like power plants, industry and cars.

It's not unprecedented to see smoke travel such long distances, said Róisín Commane, an atmospheric scientist at Columbia University, but it doesn't always descend to the surface.

Dr. Commane said people should avoid going outdoors in high-pollution conditions, and especially avoid strenuous exercise. She also suggested that wearing filtered masks can provide protection for those who can't avoid the outdoors.

"A lot of the masks people have been wearing for Covid are designed to capture PM2.5," she said, referring to N95-style masks. "That's the right size to be very useful for air quality."