The Washington Post

Smoke from wildfires wiped out the U.S. pandemic-related clean air gains in 2020

The country's average for the deadliest type of air pollution rose nearly 7 percent over 2019

By Hannah Dormido , John Muyskens and Bonnie Berkowitz March 17

Wildfires that charred millions of acres in the West wiped out the country's pandemic-related clean air gains in 2020, according to a report released this week.

Because pandemic restrictions limited travel and other activities, fine-particle pollution from the burning of fossil fuels dropped 13 percent between March and July compared to the previous year and dipped again in November and December, said Lauri Myllyvirta, lead analyst at the Centre for Research on Energy and Clean Air, who collaborated on IQAir's annual World Air Quality Report.

But the 2020 historic wildfire season more than made up the difference. Overall, the U.S. average for the deadliest type of air pollution rose nearly 7 percent over 2019 because of smoke from fall fires, primarily those in California, Oregon and Washington.

Fine-particle pollution refers to bits that are 2.5 microns in diameter or smaller, or less than one-20th the diameter of a human hair. These particles are tiny enough to penetrate deep into lungs and enter the bloodstream, where they can trigger asthma attacks and other lung and heart problems and may cause cancer.

While no fine-particle pollution is considered to be safe, the World Health Organization's about target is 10 parts per cubic meter or less. In 2020, the U.S. average was 9.6, and thirty-eight percent of U.S. cities exceeded the target level compared to 21 percent in 2019.

The country's worst annual average was in Yosemite Lakes, Calif., 37.8 micrograms per cubic meter. The highest U.S. reading was 4,709.3 during heavy smoke in Weed, Calif., on Sept. 13.

In September, 24 of the world's top 25 most polluted cities were in California and Oregon, the report said. Leading the list was Happy Camp, Calif., with a monthly average of 154.4 micrograms per cubic meter. The city with the lowest fine pollution levels

recorded was Waimea, Hawaii, with 2.2.

Worldwide, fine-particle pollution dropped in 84 percent of countries and 65 percent of cities included in the analysis. The company measured air quality at ground-based

monitoring stations in 106 countries. About half of all European cities still missed the WHO target.

The country with the worst air quality was Bangladesh, with an annual average of 77.1 micrograms per cubic meter. All but one of the world's 50 most polluted cities are in Bangladesh, China, India and Pakistan.

Fire was not just a U.S. problem. Wildfires and agricultural fires significantly contributed to air pollution in Australia, Siberia, South America, Indonesia and Africa.

During a fire, the concentration of tiny pollution particles soars and increases the risk of acute respiratory problems such as asthma attacks.

"You might get up to a thousand [parts per million] in some of these places that are just downwind of a really bad fire in California," said Jeffrey Pierce, an associate professor at Colorado State University who studies the health effects of wildfire smoke. "But generally those only last for a few days or few weeks at most. What we don't know is, if you get hit by really high concentrations, is it the same as if you just took that and averaged it over a long period of time?"

For example, perhaps one large fire raises the annual average in an area from 10 to 20 micrograms per cubic meter. Epidemiologists are trying to figure out whether that is more — or less — harmful to a person's long-term health than year-round exposure to 20.

The working hypothesis is that they are the same, Pierce said.

Now that wildfires are becoming larger and more common while fossil-fuel emissions have trended downward in the United States for decades, a better question may be which type of pollution is more toxic. Unfortunately, new research from the Scripps Institution of Oceanography suggests that wildfire smoke may be significantly worse.

Public Relations
Careers
Diversity & Inclusion
Newspaper in Education
Today's Paper
WP BrandStudio
Events
Policies & Standards

Home Delivery
Digital Subscription
Gift Subscriptions
Mobile & Apps
Newsletters & Alerts
Washington Post Live
Reprints & Permissions
Post Store
Photo Store
e-Replica

Contact the Newsroom
Contact Customer Care
Reader Representative
Advertise
Licensing & Syndication
Request a Correction
Send a News Tip

Digital Products Terms of Sale
Print Products Terms of Sale
Terms of Service
Privacy Policy
Submissions & Discussion Policy
RSS Terms of Service
Ad Choices

washingtonpost.com © 1996-2021 The Washington Post