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Smoke gets in your skies

Local wildfires add to growing problem of global air pollution

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In the immediacy of a raging wildfire, smoke is a tangible, burning presence. It has a taste and a smell. It can color the world.

But smoke is fleeting, too. When the fires are quenched or the wind shifts, the smoke can seem to vanish.

Only it really doesn't. Rather than ceasing to exist, the smoke may simply have moved on, physically drifting and chemically shifting toward other, sometimes distant, places.

You can see it in photos taken last week by NASA's Terra satellite, orbiting 435 miles above the Earth: Plumes of brown-gray smoke from Southern California's wildfires blowing west over the ocean, extending hundreds of miles out to sea.

Where – and how far – these plumes travel ultimately depends on wind currents and weather patterns. Some of the smoke may, in fact, blow back, becoming a local health hazard once again.

But scientists see in the plumes an even larger and longer-term problem: global air pollution and its effect on climate change.

There are growing concerns among scientists that fires – not just here but around the world – are part of a spiraling and destructive feedback loop: Hot, dry weather caused by climate change increases the frequency and ferocity of wildfires. These fires release into the atmosphere ever-larger amounts of particulates, pollutants and greenhouse gases that, in turn, result in even hotter, drier weather and more fires.

“It's not unreasonable to argue there's a connection,” said Veerabhadran Ramanathan, a noted climate scientist at UCSD's Scripps Institution of Oceanography.

To be sure, the connection is extraordinarily complicated and incompletely understood. Scientists cannot declare Southern California's wildfires last week to be the unambiguous consequence of global warming. The fires may, in fact, be primarily the result of local factors: a years-long drought, abundant fire-prone vegetation and Santa Ana winds, said Anthony Westerling, an assistant professor of environmental engineering at the University of California Merced.

How all of these components fit and work together, said Westerling in a statement with colleagues Thomas Swetnam and Gregg Garfin of the University of Arizona, is “not known with sufficient certainty to conclusively link global warming with this disaster.”

Nonetheless, diverse sources of data gathered here and around the world suggest an ill wind is blowing in an alarming direction.



SCOTT LINNETT / Union-Tribune
Elizabeth Davis, 17, photographed smoke billowing from the Poomacha fire on Palomar Mountain Oct. 23. Wildfires generate tons of atmospheric pollutants.



NASA
A photograph taken by NASA's Terra satellite Oct. 23 showed smoke from the San Diego County wildfires being blown hundreds of miles out to sea.

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