

Skies turn red across parts of Indonesia as crisis from fire-induced haze escalates



Firefighters try to extinguish forest fires at the Sebangau National Park area in Palangkaraya, Indonesia, on Sept. 14. (Willy Kurniawan/Reuters)

By [Andrew Freedman](#)

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Wildfires, many of them intentionally set to clear the way for agricultural operations, have turned the skies over Indonesia's Jambi province a dark blood red. Images and video shared on social media call attention to the country's escalating fire problem, with data showing that emissions of greenhouse gases from these blazes are nearly on par with those from Indonesia's devastating 2015 fire season, which harmed the health of millions via air pollution and vaulted the country to the top 20 list of carbon emitters for the year.

So far this year, the blazes have scorched an [estimated 800,000 acres](#), which is larger than the state of Rhode Island.

According to data from the Copernicus Atmosphere Monitoring Service, or CAMS, which is a European Union program, forests and peatlands in Indonesia — which store a large amount of carbon dioxide — are going up in flames.

What explains the red skies?

The reddish hues to the sky came this weekend, amid reports of a smoky haze that caused people to cough, and coincided with indications from satellite imagery that a thick layer of fire-induced smoke particles was present in the area. It's not absolutely clear whether this blanket of haze alone caused the red skies or whether other, natural factors contributed, but the fact that many of the pictures were taken around midday Saturday offers a clue.

For many locals in Jambi province on the east coast of central Sumatra, the connection between the fires, smoke and red skies was obvious, even if the science behind it was not self-evident.

Twitter user [Zuni Shofi Yatun Nisa](#) stated: "This is afternoon not night. This is earth not planet mars. This is jambi not outer space. This is what we breathe with lungs, not with gills. We humans need air that is clean, not smoke-filled. Location: Kumpeh, Muaro Jambi."

Ini sore bukan malam. Ini bumi bukan planet mars. Ini jambi bukan di luar angkasa. Ini kami yang bernafas dengan paru-paru, bukannya dengan insang. Kami ini manusia butuh udara yang bersih, bukan penuh asap.

Lokasi : Kumpeh, Muaro Jambi [#KabutAsap](#) [#KebakaranHutanMakinMenggila](#) pic.twitter.com/ZwGMVhItwi

— [Zuni Shofi Yatun Nisa \(@zunishofiyn\)](#) [September 21, 2019](#)

Most likely, high concentrations of tiny particles contained within the blanket of smoke helped scatter incoming sunlight in such a way that more red light with longer wavelengths was let through than blue light, causing the sky to appear blood-red and orange.

Hey [@elonmusk](#),

All we know about Planet Mars is the reddish planet, also it atmosphere.

Well.. I don't want you have some misunderstanding, so I'll tell you before; THIS IS NOT MARS!

This is Jambi @ Indonesia. The air somehow changed cuz of forest fire. pic.twitter.com/3WhjcVx5Lc

— [Duke of Condet \(@DukeCondet\)](#) [September 21, 2019](#)

Similar to what has been taking place in the Amazon, Indonesia also struggles with “slash and burn” agriculture, as rainforests are cut down for palm oil plantations, paper mills and other uses. Past haze crises have resulted from such illegal practices, including the one in 2015, and they have caused the government to take more steps to prevent them. However, lax regulations may still be contributing to the problem, as are unusually dry conditions.

On Friday, CAMS issued a statement saying that the daily estimated equivalent carbon dioxide emissions are “reaching a similar level” to those from fires in the same period of 2015.

Between Aug. 1 and Sept. 22, about 450 megatons of carbon dioxide were released into the air from these fires, compared with about 460 megatons released over the same period in 2015, said Mark Parrington, a CAMS senior scientist, via email.

The fire activity has been especially severe in Kalimantan, with air quality as poor there as during the 2015 fires, which forced schools to close and affected air quality in nearby Malaysia, Singapore and the Philippines.

“Approximately half of the local fire season having passed, it is clear that these fires are unusual and are causing significant concern. In Indonesia, burning peat, which can smolder at low temperatures and underground, is the most significant concern,” because it releases carbon that has been long stored in the ground, Parrington said in a statement.

“Some of this carbon will be taken up again by the biosphere, but this is difficult to estimate in near-real-time,” he said. “The very high and persistent levels of pollution in Indonesia and the Maritime continent that CAMS forecasts and monitors are undoubtedly a threat to human health, flora and fauna.”

Smoke from fires produces a combination of pollution that can affect health for hundreds of miles downwind of the blazes. Tiny particles inside these smoke plumes can enter a person’s lungs and bloodstream, aggravating chronic illness and raising the risks of heart disease, asthma attacks and other ailments. The most vulnerable groups include the very young, the elderly and people with chronic illnesses or compromised immune systems.