

How climate change contributes to wildfires like Chile's

February 5 2024, by Ed Davey



Smoke raises from burnt-out houses after a wildfire reached Villa Independencia neighborhood in Vina del Mar, Chile, Feb. 3, 2024. Scientists say climate change creates conditions that make the drought and wildfires now hitting South America more likely. Credit: AP Photo/Esteban Felix, File

At least 112 people have been killed by wildfires in central Chile,

leading its president to declare two days of national mourning. The devastation comes soon after Colombia declared a disaster over wildfires. Scientists say climate change makes the heat waves and drought now hitting South America more likely—and both contribute to wildfires by drying out the plants that feed the blazes.

WHAT'S HAPPENING IN CHILE?

The fires in Chile came amid a heat wave that pushed temperatures in the capital city of Santiago to about 37 degrees Celsius (nearly 100 degrees Fahrenheit). Extreme heat bakes moisture from wood, turning it into ideal fuel. Fires take hold more rapidly, and also burn with more intensity. Just a few extra degrees can be a tipping point that makes the difference between a mild [fire](#) season and a severe one.

Edward Mitchard, a forests expert at the University of Edinburgh School of Geosciences in Scotland, said climate change "makes the world hotter, which means that plants evaporate more water through them and soils get drier."

It only takes a few days of very dry, hot weather for leaves to feel crisp and dry, he said. "That's fuel that burns very well," he said, adding: "Drier soil means fires are hotter and last longer."

A *Nature* study [showed](#) that fire seasons are an average of 18.7% longer in length due to [climate change](#). That means an increased window for disastrous fires to start.



Residents evacuate on a motorcycle amid wildfires into Vina del Mar, Chile, Feb. 3, 2024. Scientists say climate change creates conditions that make the drought and wildfires now hitting South America more likely. Credit: AP Photo/Esteban Felix, File

WHAT ROLE DO GLOBAL WEATHER CYCLES PLAY?

The increased number of droughts as global rain cycles are interrupted means whole regions can be left unusually parched and more vulnerable to ignition.

"Climate change has made droughts more common," said Mitchard. "And that's especially happened in South America this year.

"We've had the most extreme drought ever recorded in the Amazon basin, and if you have droughts in the Amazon basin, you also get less rainfall in the south of South America."

In Chile's case, some unusually heavy rains last year are thought to have increased the growth of brush that makes perfect kindling for fires.

On top of this has come the El Niño weather pattern, the natural and periodic warming of surface waters in the Pacific that affects weather around the globe. In South America, it's meant increased temperatures and [drought](#) this year.



A man helps a fellow resident cool down with bottled water as wildfires burn nearby, in Vina del Mar, Chile, Saturday, Feb. 3, 2024. Scientists say climate change creates conditions that make the drought and wildfires now hitting South

America more likely. Credit: AP Photo/Esteban Felix

Climate change makes stronger El Niños more likely, said Mitchard, and droughts caused by it are likelier to be more intense. Last month, Colombia's government declared a disaster over dozens of wildfires associated with the weather phenomenon.

And the huge amount of carbon released by forest fires itself increases global warming.

ARE FOREST FIRES GETTING WORSE?

The World Resources Institute used [satellite data](#) to [calculate](#) that wildfires now destroy about 11,500 square miles of forest annually (30,000 square kilometers), an area about the size of Belgium and about twice as much as 20 years ago.

And the Intergovernmental Panel on Climate Change has found that globally, extreme [heat waves](#) happen five times more often because of human-caused global warming. Fire seasons are thus drier with higher temperatures. These are ideal conditions for forest fires to take hold.

© 2024 The Associated Press. All rights reserved. This material may not be published, broadcast, rewritten or redistributed without permission.

Citation: How climate change contributes to wildfires like Chile's (2024, February 5) retrieved 27 April 2024 from <https://phys.org/news/2024-02-climate-contributes-wildfires-chile.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.