

California wildfires growing bigger, moving faster than ever

September 10 2020, by Don Thompson



In this Sept. 5, 2020, file photo, provided by the California National Guard, dozens of people are evacuated to safety on a Cal Guard Chinook, after the Creek Fire in central California left them stranded. A weekend wildfire east of Fresno exploded so fast that it trapped hundreds of holiday campers who were airlifted to safety in a dramatic rescue that strained the limits of two California National Guard helicopters. (California National Guard via AP, File)

When it comes to California wildfires, it now takes days, not decades, to produce what had been seen as a once-in-a-lifetime occurrence.

Last weekend, a [fire](#) burning in California's Sierra National Forest exploded in size, trapping hundreds of Labor Day holiday campers who could only be rescued by helicopters that made a series of white-knuckle flights into the smoke. Fire officials said they'd never seen a fire move so fast in forestland—15 miles (24 kilometers) in a day.

On Wednesday, a wildfire in Plumas National Forest northeast of San Francisco spread 25 miles (40 kilometers) in a day and devoured an estimated 400 square miles (1,036 square kilometers),

In between those events, a [massive fire](#) in Monterey County doubled in size overnight, trapping 14 firefighters who had to deploy their emergency shelters; one was critically injured.

They are only the latest examples of what a half-dozen fire experts agreed is more extreme fire behavior driven by drought and warming temperatures they attribute to climate change. Among the most concerning developments is that fast-moving wildfires leave less time for warnings or evacuations.

Recently "we have seen multiple fires expand by tens of thousands of

acres in a matter of hours, and 30 years or more ago that just wasn't fire behavior that we saw," said Jacob Bendix, a professor of geography and the environment at Syracuse University who studies wildfires.

Hotter temperatures, longer fire seasons and an estimated 140 million dead trees from a five-year drought mean that "fires in California are moving faster and growing larger," said University of Utah fire expert Philip Dennison.



This Saturday, Sept. 5, 2020, file photo provided by the California National Guard shows the view from a Cal Guard Chinook helicopter rescuing people trapped after the Creek Fire in central California left them stranded. A weekend wildfire east of Fresno exploded so fast that it trapped hundreds of holiday campers who were airlifted to safety in a dramatic rescue that strained the limits of two California National Guard helicopters. (California National Guard via AP, File)

Mike Flannigan, who directs the Western Partnership for Wildland Fire Science at Canada's University of Alberta, remembers the first report of a fire-created thunderstorm in 1986.

"They were rare events, and now they've become commonplace," he said. "It's because these fires are higher intensity."

A prime example is the so-called Creek Fire in Sierra National Forest near Yosemite National Park, which exploded through miles of drought- and beetle-killed timber, moving so fast that it trapped hundreds of campers.

"When you have a fire run 15 miles in one day, in one afternoon, there's no model that can predict that," U.S. Forest Service forester Steve Lohr said. ""The fires are behaving in such a way that we've not seen."

The phenomenon isn't restricted to California. Doug Grafe, chief of Fire Protection at the Oregon Department of Forestry, said it was unprecedented in his state for fires this week to spread from the crest of the Cascade Mountains into the valleys below, and so quickly, "carrying tens of miles in one period of an afternoon and not slowing down in the evening—(there is) absolutely no context for that in this environment."

California already has seen a record 3,900 square miles (10,100 square kilometers) burn and it's only now is entering what traditionally is the most dangerous time for fires. Labor Day weekend brought record-breaking temperatures across the state that exacerbated what already are drought conditions in a large swath of the state.

On Thursday, a Northern California wildfire was threatening thousands of homes after winds whipped it into a monster that incinerated houses in a small mountain community and killed at least three people.



In this Sept. 7, 2020, file photo a firetruck drives along state Highway 168 while battling the Creek Fire in the Shaver Lake community of Fresno County, Calif. A weekend wildfire east of Fresno exploded so fast that it trapped hundreds of holiday campers who were airlifted to safety in a dramatic rescue that strained the limits of two California National Guard helicopters. (AP Photo/Noah Berger,

File)

University of Colorado-Boulder professor Jennifer Balch said measurements of how quickly the hot, dry air is sucking moisture out of fuels are "the highest seen in at least four decades" across major parts of the West.

The abundant dry tinder produces more [heat energy](#), which in turn superheats the air so it becomes more buoyant and creates a strong updraft that condenses with the smoke plume, "creating its own wind to feed that thunderstorm," Flannigan said.

The cloud itself is called a pyro-cumulonimbus, which may or may not produce lightning, and strong winds that can pick up burning embers and ignite new fires far in front of the initial blaze.

An extreme example in July 2018 spun off what was then only the second documented "firenado," killing a firefighter as he helped evacuate residents from a fire in the Northern California city of Redding.

Yet just this month a fire north of Lake Tahoe spun off at least two and as many as four firenadoes, while the Plumas National Forest fire appears to have produced "a handful" overnight Tuesday, said Neil Lareau, a professor of atmospheric science at the University of Nevada, Reno.

The Creek Fire produced at least two firenadoes that appeared to touch down Saturday, he said, one straddling an access road to a popular campground at Mammoth Pool Reservoir where 214 people became trapped.

"It's really kind of a testament to the remarkable extremes that we're seeing right now," Lareau said. "It really is kind of this vicious cycle that it gets into, and that's when the fire really takes off and becomes these unstoppable infernos."



In this Sept. 8, 2020, file photo, a table stands outside the destroyed Cressman's General Store after the Creek Fire burned through Fresno County, Calif. Experts agree that more extreme fire behavior is driven by drought and worsening conditions that they attribute to climate change. Among the most concerning developments is that wildfires can spread far more quickly, leaving less time for warnings or evacuations. (AP Photo/Noah Berger, File)

Two California National Guard helicopters called in to rescue the

trapped campers Saturday night found visibility deteriorating so swiftly that the crews opted to load their aircraft "to the absolute maximum" and well beyond normal safety limits in an unprecedented mission.

On one trip, Chief Warrant Officer 5 Joseph Rosamond and his three-member crew took on 102 desperate campers in a CH-47 Chinook twin-rotor helicopter designed for 30 passengers. A UH-60 Black Hawk ferried 22 evacuees in a helicopter with a normal operating capacity of 11 or 12 passengers.

The overloaded Chinook slowly climbed to 8,000 feet (2,440 meters) to clear surrounding mountains and dense smoke.

"It was an absolute emergency and people's lives were at stake," Rosamond recalled. "It was pretty dicey. The charts don't go that high."

Such harrowing escapes are only likely to become more common, the experts said.

Columbia University's Williams said California's record heat and record acreage burned already this year are part of a trend that has been accelerating for 50 years due to global warming.

"So, while the magnitudes of the current heat wave and the resultant wildfires have been shocking, they're consistent with what scientists have been predicting for decades," Williams said in an email.

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