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# Why Everything They Say About California Fires — Including That Climate Matters Most — Is Wrong



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Many blame climate change for California's fires, but the main causes lie elsewhere ASSOCIATED PRESS

In 2018, a fire ripped through the town of Paradise, California, killing 85 people. It was the deadliest and most destructive wildfire in the state's history.

Liabilities from wildfires started by its powerlines bankrupted Pacific Gas & Electric, which cut off power to nearly one million homes and businesses last month to prevent wind from triggering and fanning fires.

Many blame climate change. "The reason these wildfires have worsened is because of climate change," [said](#) Leonardo DiCaprio. "This is what climate change looks like," [said](#) Rep. Alexandria Ocasio-Cortez.

On Sunday, after President Donald Trump tweeted, "The Governor of California, [@GavinNewsom](#), has done a terrible job of forest

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management,” Newsom [tweeted](#) back, “You don’t believe in climate change. You are excused from this conversation.”

But can the increase in fires in California really be blamed on climate change?

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I asked [Dr. Jon Keeley](#), a US Geological Survey scientist who has [researched](#) the topic for 40 years, if he thought the 2018 Paradise fire could be attributed to climate change.

“It’s almost certainly not climate change,” he said. “We’ve looked at the history of climate and fire throughout the whole state, and through much of the state, particularly the western half of the state, we don’t see any relationship between past climates and the amount of area burned in any given year.”

Much else in the media’s coverage of the issue has been misleading if not outright wrong, including the suggestion that 2019 is comparable to 2017 and 2018. “Three years in a row feels like – well, it starts to feel like the new, and impossible, normal,” [said](#) climate activist-journalist Bill McKibben in *The Guardian*.

“We’ve had some unbelievable fire years the last couple of years,” said [Hugh Safford](#), a forest ecologist with the US Forest Service. “This one has not been nearly as bad yet, even with this outbreak of fires over the last week and a half.”

All of the scientists I interviewed expressed frustration that journalists have failed to distinguish between two distinct types of fires.

“The media haven’t gotten the idea that we have two very different fire problems,” Keeley said. “And so the politicians haven’t been reading about the two very different problems.”

The first is the wind-driven fires on coastal shrubland, or chaparral, where most of the houses are. Think: Malibu and Oakland. Nineteen of the state’s 20 most deadly and costly fires were there.

The second is the forest fires in places like the Sierra Nevadas where there are far fewer people.

Mountain ecosystems have the opposite problem from coastal ones. There are too many fires in the shrublands and too few prescribed burns in the Sierras.

Keeley [refers](#) to the Sierra fires as “fuel-dominated” and the shrubland fires as “wind-dominated.”

The on solution to fires in the shrubland is to prevent them and/or harden homes and buildings to them.

Before Europeans arrived, fires burned up woody biomass in forests every 10 to 20 years, preventing the accumulation of (wood) fuel, and burned in the shrublands every 50 to 120 years.

But for the last 100 years, the US Forest Service (USFS) and other agencies put out most fires, resulting in the accumulation of wood fuel. “It’s like the forests have become a really tall version of chaparral,” said Safford.

The result can be fires that burn so hot they sometimes kill the forest, turning it into shrubland.

“I did a paper that found if you looked at Sierra Nevadas you’d want a half-million acres a year burned,” said US Forest Service research ecologist, [Malcolm North](#). But, “over a 10-year period, the Forest Service was treating 28,000 acres and burning 7,000 acres, and so we’re at just seven to eight percent of where you would want to be.”

In 2006, scientists predicted climate change would increase the east-to-west blowing winds, worsening these coastal fires, but in 2011 and [again in 2019](#) scientists predicted they would decrease.

“Some will argue that it’s climate change but there is no evidence that it is,” said Keeley. “It’s the fact that somebody ignites a fire during an extreme [wind] event.”

The scientists emphasize that higher temperatures from climate change may be contributing to fire risk in the Sierras. “Fire season has lengthened 50 - 80 days per year,” notes North, “and that definitely has a signature to it from changing climatic conditions.”

But, North adds, “We want to pay particular attention to the fuels. It’s really the one way we’ve got to change fire patterns because we can’t change the climate.”

Keeley published [a paper](#) last year that found that *all* ignition sources of fires had declined except for powerlines.

“Since the year 2000 there’ve been a half-million acres burned due to powerline-ignited fires, which is five times more than we saw in the previous 20 years,” he said.

“Some people would say, ‘Well, that’s associated with climate change.’ But there’s no relationship between climate and these big fire events.”

What then is driving the increase in fires?

“If you recognize that 100% of these [shrubland] fires are started by people, and you add 6 million people [since 2000], that’s a good explanation for why we’re getting more and more of these fires,” said Keeley.

What about the Sierras?

“If you look at the period from 1910 - 1960,” said Keeley, “precipitation is the climate parameter most tied to fires. But since 1960, precipitation has

been replaced by temperature, so in the last 50 years, spring and summer and temperatures will explain 50% of the variation from one year to the next. So temperature is important.”

Isn't that also during the period when the wood fuel was allowed to build due to suppression of forest fires?

“Exactly,” said Keeley. “Fuel is one of the confounding factors. It's the problem in some of the reports done by climatologists who understand climate but don't necessarily understand the subtleties related to fires.”

So, would we have such hot fires in the Sierras had we not allowed fuel to build-up over the last century?

“That's a very good question,” said Keeley. “Maybe you wouldn't.”

He said it was something he might look at. “We have some selected watersheds in the Sierra Nevadas where there have been regular fires. Maybe the next paper we'll pull out the watersheds that have not had fuel accumulation and look at the climate fire relationship and see if it changes.”

I asked Keeley what he thought of the Twitter spat between Gov. Newsom and President Trump.

“I don't think the president is wrong about the need to better manage,” said Keeley. “I don't know if you want to call it ‘mismanaged’ but they've been managed in a way that has allowed the fire problem to get worse.”

What's true of California fires appears true for fires in the rest of the US.

In 2017, Keeley and a team of scientists modeled 37 different regions across the US and **found** “humans may not only influence fire regimes but their presence can actually override, or swamp out, the effects of climate.”

Of the 10 variables, the scientists explored, “none were as significantly significant... as the anthropogenic variables.”

I asked Keeley if the media’s focus on climate change frustrated him.

“Oh, yes, very much,” he said, laughing. “Climate captures attention. I can even see it in the scientific literature. Some of our most high-profile journals will publish papers that I think are marginal. But because they find climate to be an important driver of some change, they give preference to them. It captures attention.”

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