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**NATION**

# 'Megadrought' emerging in the western US might be worse than any in 1,200 years

**Doyle Rice** USA TODAY

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## Story Highlights

Scientists say that about half of this historic drought can be blamed on man-made global warming.

The study covers an area stretching across nine U.S. states from Oregon down to New Mexico.

Naturally-occurring western megadroughts have occurred many times before.

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Fueled in part by human-caused climate change, a “megadrought” appears to be emerging in the western U.S., a study published Thursday suggests.

In fact, the nearly-20-year drought is almost as bad or worse than any in the past 1,200 years, scientists say.

Megadroughts – defined as intense droughts that last for decades or longer – once plagued the Desert Southwest. Thanks to global warming, an especially fierce one appears to be coming back:

"We now have enough observations of current drought and tree-ring records of past drought to say that we're on the same trajectory as the worst prehistoric droughts," said study lead author A. Park Williams, a bioclimatologist at Columbia University, in a statement. This is “a drought bigger than what modern society has seen.”

Scientists say that about half of this historic drought can be blamed on man-made global warming. Some of the impacts today include shrinking reservoirs and worsening wildfire seasons.

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Since temperatures are projected to keep rising, it is likely the drought will continue for the near future – or fade briefly only to return, researchers say.

The study covers an area stretching across nine U.S. states from Oregon and Montana down through California, New Mexico and part of northern Mexico.

Daniel Swain, a UCLA climate scientist who wasn't part of the study, called the research important because it provides evidence "that human-caused climate change transformed what might have otherwise been a moderate long-term drought into a severe event comparable to the 'megadroughts' of centuries past."

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Williams said that "because the background is getting warmer, the dice are increasingly loaded toward longer and more severe droughts. We may get lucky, and natural variability will bring more precipitation for a while.

"But going forward, we'll need more and more good luck to break out of drought, and less and less bad luck to go back into drought," he said.

Williams said the region could stay dry for centuries. "That's not my prediction right now, but it's possible."

Naturally occurring western megadroughts have taken place many times before. In fact, most of the USA's droughts of the past century, even the 1930s Dust Bowl that forced migrations of Oklahomans and others from the Plains, "were exceeded in severity and duration multiple times by droughts during the preceding 2,000 years," the National Climate Assessment said.

**Megadroughts:** Will plague the Southwest as climate warms, study says

The difference now, of course, is the western USA is home to more than 70 million people who weren't here for the previous medieval megadroughts. The implications are far more daunting.

University of Michigan environment dean Jonathan Overpeck, who studies southwestern climate and was not part of the study, calls this drought "the first observed multidecadal megadrought in recorded U.S. history."

**Global warming:** 2020 expected to be Earth's warmest year on record, scientists say

To identify past droughts, scientists studied thousands of tree rings to find out how much – or little – rain fell hundreds of years ago. Scientists used historical data in combination with

several computer model simulations to reach their conclusions.

One additional worrisome fact from the study was that the 20th century was the wettest century in the entire 1,200-year record. It was during that time that the population boomed in the western U.S., and that has continued.

"The 20th century gave us an overly optimistic view of how much water is potentially available," said study co-author Benjamin Cook, a NASA climate scientist, in a statement.

"It goes to show that studies like this are not just about ancient history," he said. "They're about problems that are already here."

The study was published Thursday in the peer-reviewed journal *Science*.

*Contributing: The Associated Press*