

'Worse Than Anything Seen in 2,000 Years' as Megadrought Threatens Western States

<http://www.commondreams.org/news/2014/09/03/worse-anything-seen-2000-years-megadrought-threatens-western-states>

A new study warns that the chances of western states in the U.S. experiencing a multi-decade 'megadrought'—not seen in historical climate records in over 2,000 years—has a much higher chance of occurring in the decades ahead than previously realized. In fact, scientists are warning, the drought now being experienced in California and elsewhere could be just the beginning of an unprecedented water crisis across the west and southwest regions of the country.

The research—a project between scientists at Cornell University, the University of Arizona, and the U.S. Geological Survey—shows that chances for a decade-long drought this century is now at fifty-fifty, and that a drought lasting as long as 35 years—defined as a "megadrought"—has a twenty- to fifty-percent chance of occurring.

“For the southwestern U.S., I’m not optimistic about avoiding real megadroughts,” Toby Ault, Cornell assistant professor of earth and atmospheric sciences and lead author of the paper, [told](#) the *Cornell Chronicle*. “As we add greenhouse gases into the atmosphere – and we haven’t put the brakes on stopping this – we are weighting the dice for megadrought.”

And if such a megadrought does occur, warned Ault, "This will be worse than anything seen during the last 2,000 years.”

And as *USA Today* [notes](#), "The difference now, of course, is the Western USA is home to more than 70 million people who weren't here for previous megadroughts. The implications are far more daunting."

The study—entitled [Assessing the Risk of Persistent Drought Using Climate Model Simulations and Paleoclimate Data](#)—used both "climate model projections as well as observational (paleoclimate) information" as it looked back over the historic records of drought in the region while also looking forward by using advanced predictive techniques used to measure the possible impacts of current and future global warming.

According to the [study's abstract](#), its findings "are important to consider as adaptation and mitigation strategies are developed to cope with regional impacts of climate change, where population growth is high and multidecadal megadrought—worse than anything seen during the last 2000 years—would pose unprecedented challenges to water resources in the region."

"The picture is not pretty," said Julia Cole, a professor of geosciences and atmospheric sciences at the University of Arizona and co-author of the study. "We hope this opens up new discussions about how to best use and conserve the precious water that we have."

Changing the way western states manage their water resources and policies that respond aggressively to the issue of climate change, Cole indicated, could mitigate the worst impacts.

"I think we'd really have to change the way we think about water and the way that we use water because right now we're on a path that would be unsustainable if we had a drought of 35 years," Cole said.

*The Modern Farmer* [spoke](#) to Richard Seager, a climate scientist at Columbia University and other author of [many studies](#) of historic droughts, about the report and were told the prospect of a looming megadrought is "not so crazy."

“By some measures the west has been in drought since 1998 so we might be approaching a megadrought classification.” Seager said.

“We know that megadroughts — droughts as severe as the ones in past century, but lasting much longer, up to a few decades – occurred over the past millennium in the southwest and the Great Plains,” he continued Seager, who also noted that megadroughts are more notably for their duration than their severity. Seager also told the *The Modern Farmer* that the U.S. hasn’t had a megadrought in several centuries and that even the great Dust Bowl drought of the 1930s—famously depicted in the *The Grapes of Wrath*—“though incredibly severe, was not long enough to qualify.”

According to the *Cornell Chronicle*:

[As of Aug. 12, most of California sits in a D4 “exceptional drought.”](#) which is in the most severe category. Oregon, Arizona, New Mexico, Oklahoma and Texas loiter in a substantially less severe D1 moderate drought. Ault says climatologists don’t know whether the severe western and southwestern drought will continue, but “with ongoing climate change, this is a glimpse of things to come. It’s a preview of our future,” he said.

While the 1930s Dust Bowl in the Midwest lasted four to eight years, depending upon location, a megadrought can last more than three decades, which could lead to mass population migration on a scale never before seen in this country.