

Is California headed to 'megadrought'?

By Deborah Sullivan Brennan 12:49 p.m. Oct. 10, 2014 Updated 10:32 a.m. Oct. 11, 2014



In this photo taken Oct. 6, 2014, a dock sits high and dry at the end of a boat ramp yards away from the edge of Folsom Lake near Folsom, Calif. The California Department of Water Resources reported Tuesday, Oct. 7, 2014, the largest monthly decline in water use this year as the severity of California's drought hits home. Water suppliers reported that consumption fell 11.5 percent in August compared with the year before. (AP Photo/Rich Pedroncelli) *The Associated Press*

For three years now, Californians have fixed leaks, ripped out lawns and shortened showers, adjusting to what officials call the most severe drought in memory.

Imagine what changes might come next if the drought continues for the rest of our lifetime.

Megadroughts — dry periods that last decades or even centuries — are very much a reality in the Golden State. They have occurred several times during the past millennium, and researchers said there's a high chance that California is about to enter another super-long dry spell. Some climate experts actually believe the state is already in the realm of a megadrought.

Extended drought could lead to new ordinances that force residents and businesses to sharply curtail their water consumption — while paying more money for the water that's available. It could mean the end of lawns and widespread use of new technologies for saving water. It could reshape California's farms and forests.

During the past three years, California has endured not only meager precipitation and small snowpacks, but also high temperatures in regions like San Diego County. In fact, the state has experienced low rainfall most of the time since 1999.

Reservoirs are currently about a third of capacity — roughly half their normal level.

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“Right now, we’re looking at the worst drought we’ve seen in modern records,” said Alexander Tardy, a meteorologist with the National Weather Service in San Diego.

Scientists warn the worst may still be to come, based on past cycles of megadrought that they’ve pieced together by analyzing tree rings, paleological records, computer modeling and other evidence.

In a study published this month, Cornell University researcher Toby Ault and some of his colleagues calculated the risk of a megadrought happening this century. Ault is a professor in the Department of Earth and Atmospheric Sciences at Cornell University.

He and the other researchers concluded that natural circumstances and climate change combine to put the likelihood of a decade-long drought in the Southwest at 50 percent to 80 percent. And they estimate that the chance of a megadrought, which they define as a 35-year dry period, is 10 percent to 50 percent by the end of this century.

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There’s a small, but real chance that drought could last half a century or longer, said Ault, a professor in the Department of Earth and Atmospheric Sciences at Cornell University.

In 2010, a report by the UC Davis Center for Watershed Sciences found that a seven-decade drought would be ecologically and financially devastating to certain parts of California — but that the state as a whole could survive if regulators relied on water trading and reallocation in smart ways.

“As an adaptable and clever species, we can manage the risks of megadroughts,” Ault said.

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If the current drought extends for years, San Diegans would need to change habits and expectations about water. While no one predicts that drinking water would dry up, other uses — from backyard irrigation to agriculture — could be altered significantly.

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