



ARTICLE

Climate Corner, January 2018

Management and Modeling Climate Change Impacts on California's Vegetation Communities

Uncertainties in what future carbon emissions scenarios may look like—and the many factors that can interact to affect the response of natural systems to those scenarios—make it challenging for land managers to understand and make decisions about how to best prepare for the effects of climate change.

A recent *Ecosphere* article describes a localized analysis that looks at how sources of uncertainty (e.g., different emission scenarios, different climate model outcomes) affect the future of all of California's different vegetation communities. The analysis is also unique in that it considers the interplay and linkages among the climate change mitigation decisions managers may make and policy decisions that affect carbon emissions.

["The impact of climate change uncertainty on California's vegetation and adaptation management \(http://onlinelibrary.wiley.com/doi/10.1002/ecs2.2021/full\)"](http://onlinelibrary.wiley.com/doi/10.1002/ecs2.2021/full) may be accessed in its entirety for free on the Ecological Society of America's website.

Tracking Drought History Through Blue Oak Tree Rings

A recent study examining the history of precipitation as reflected in the rings of blue oak trees suggests that just the first three years of the most recent drought (2012–14) were the most severe that California has seen in the last thousand years.

Long-lived and with a growth spurt that coincides with the rainy season, blue oak tree rings are a good way to look at historical precipitation patterns. Just based on rainfall amounts, researchers initially concluded that, while severe, the recent drought was not out of the range of past events. However, the amount of water lost through transpiration is also a critical factor in how drought affects plants. When precipitation levels were considered in combination with the higher temperatures seen during this last dry period, the magnitude of this recent event became clear. With average temperatures predicted to continue to rise in California, the effects of drought may continue to become more severe in the future as well. You can read more about this study [here](https://massivesci.com/articles/california-climate-change-how-bad-trees/). (<https://massivesci.com/articles/california-climate-change-how-bad-trees/>).



sfan

blog

climate corner

Last updated: January 31, 2018

Was this page helpful?

☐ Yes

☐ No



An official form of the United States government. Provided by [Touchpoints](https://touchpoints.app.cloud.gov/)
(<https://touchpoints.app.cloud.gov/>)