



PPIC WATER POLICY CENTER

What If California's Drought Continues?

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Summary

California is in the fourth year of a severe, hot drought—the kind that is increasingly likely as the climate warms. Although no sector has been untouched, impacts so far have varied greatly, reflecting different levels of drought preparedness. Urban areas are in the best shape, thanks to sustained investments in diversified water portfolios and conservation. Farmers are more vulnerable, but they are also adapting. The greatest vulnerabilities are in some low-income rural communities where wells are running dry and in California's wetlands, rivers, and forests, where the state's iconic biodiversity is under extreme threat. Two to three more years of drought will increase challenges in all areas and require continued—and likely increasingly difficult—adaptations. Emergency programs will need to be significantly expanded to get drinking water to rural residents and to prevent major losses of waterbirds and extinctions of numerous native fish species, including most salmon runs. California also needs to start a longer-term effort to build drought resilience in the most vulnerable areas.

Introduction

In 2015, California entered the fourth year of a severe drought. Although droughts are a regular feature of the state's climate, the current drought is unique in modern history. Taken together, the past four years have been the driest since record keeping began in the late 1800s.¹ This drought has also been exceptionally warm (Figure 1). Heat amplifies the effects of drought. It reduces snowpack, a major component of natural seasonal water storage. It decreases soil moisture, stressing natural vegetation and increasing irrigation demands. And it raises water temperatures, stressing fish and other species that live in rivers and lakes.

The combination of low flows and high temperatures make this a “drought of the future”—the type of drought California is increasingly likely to experience as the region's climate warms.²