



Point Blue Publication Brief

Managing Drought in a Changing Climate: Four Essential Reforms

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For California, global climate change will mean hotter temperatures, longer dry seasons, rising sea levels, less snowpack, and more volatile precipitation. These changes will impact water availability for people and ecosystems.

In this report, we use climate model projections and lessons learned from the 2012–16 drought to identify ways California can prepare for the water-related challenges that lie ahead.

During the 2012–16 drought urban communities were less vulnerable than agriculture, and rural communities and freshwater ecosystems were the most exposed. For ecosystems, the challenges were both the lack of water and warm temperatures that stressed cold-water-dependent fishes like salmon.

With respect to improving water management to benefit ecosystems, the drought illustrated three issues. First, there was insufficient information to effectively

manage ecosystems under drought conditions. Second, there was insufficient planning to respond to drought proactively. Third, the current approaches to allocating environmental water did not provide enough flexibility for managers during drought.

Climate model projections suggest that future droughts will present even greater challenges in terms of high water temperatures and lower stream flows.

To prepare for the droughts of the future, we suggest four major reforms. First, California must plan ahead for how best to respond to drought to protect urban water management, groundwater sustainability, rural community drinking water, and freshwater ecosystems. Second, it will be critical to upgrade the water grid to address storage, conveyance, and operational challenges by mid-century. Third, California needs to update water allocation rules to find equitable and efficient ways to allocate supplies

among competing demands. Finally, it will be necessary to find the money to pay for necessary water-management investments and fill funding gaps in the state's water system to prepare for climate change.

Main Points

Climate projections and the 2012–16 drought illustrate that California will need to plan for increasingly severe water shortage in the future.

To prepare for these conditions, we recommend 1) developing drought plans, 2) upgrading water infrastructure, 3) updating water allocation rules, and 4) finding the money to finance these reforms.

Mount, J., et al. 2018. [Managing Drought in a Changing Climate: Four Essential Reforms](#). Public Policy Institute of California report.