



# CALIFORNIA'S WATER: A CRISIS WE CAN'T IGNORE

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## CLIMATE CHANGE

Experts agree that long-term climate change is occurring and that it is already affecting California's water resources. Continued warming temperatures, changing patterns of precipitation and runoff, and rising sea levels will profoundly affect the state's ability to manage water supplies and other natural resources. Adapting the state's water management systems to climate change presents one of the most significant challenges for the 21st century.

### **Less Snow, More Rain Will Strain Water Infrastructure**

Increases in average annual temperatures could have a significant impact on California's water resources. Warmer temperatures will reduce the annual snowpack and increase the frequency of extreme storm events, changing runoff patterns and further stressing water infrastructure and management capabilities.

California's mountain snowpack serves as a natural reservoir that is fundamental to our water supply, but it is also particularly sensitive to climate variability and change. Climate change modeling suggests that warmer conditions will result in a long-term and significant loss of snow in the Coast Ranges and Southern California mountains, and in the lower and mid-elevations of the Sierra Nevada. Less snowpack would mean less natural water storage. Because much of the state is highly dependent on existing reservoir storage and snowpack for water supply and flood management, this trend would further strain our complex and already-stressed water management system.

Some new scenarios suggest that as much as one-third of the precipitation that currently falls as snow could instead come in the form of rain, resulting in earlier runoff and potentially producing major floods. More rain means periods of heavy runoff in months when there is the least amount of storage capacity available.

These changes hold real implications for the state's reservoirs and flood control facilities, which were designed to accommodate the relatively slow runoff of melting snow, not the rapid runoff from rain.

### **Climate Change Create Ecological Challenges**

State water planners have serious concerns about increased water demand due to the Earth's rising temperatures. Steady and increasing warmer temperatures could likely increase water use, especially in the inland parts of the state, to meet both human and environmental needs.

Additionally, the predicted rise in sea level could increase salinity intrusion into coastal aquifers, further threatening water quality and fragile levees in the Sacramento-San Joaquin River Delta.

For more information, please visit [www.calwatercrisis.org](http://www.calwatercrisis.org).