

# California drought: Sierra snowpack is barely there

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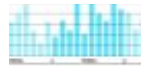
- Frank Gehrke, chief of the California Cooperative Snow Surveys for the Department of Water Resources, conducts the final snow survey of the season at Phillips Station near Echo Summit. Photo: Associated Press

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The heat is on, in more ways than one, as California staggers toward a third drought-plagued summer that will probably include rationing and lots of fighting about how the state should use its precious, dwindling supplies of water.



The snow levels in the Sierra were only 18 percent of average on Thursday, when the last of the season's once-a-month measurements was taken by the [California Department of Water Resources](#). That's worse than last month, when the snowpack was 32 percent of normal for the date.



With mountain temperatures rising into the 70s, it was small surprise that surveyors found no snow at several of the 120 measurement spots, including historic [Phillips Station](#) near Echo Summit.

Conditions get worse the farther north one goes in the Sierra and Cascade ranges. The snowpack is a paltry 7 percent of average in the northern part of the state, according to the measurements.

## Historically dry

The survey results, which are combined with electronic measurements taken from as many as 130 places around the Sierra, are used to calculate California's drinking water supply for the rest of the year. Water resources officials expect that when all the numbers are crunched in a couple of days, they will show this year to be among the six driest in the state's recorded history.

"It's clearly not as bad as it could be ... but we'll be going into next year's rainy season with less water than we went into this year with," said [Frank Gehrke](#), the chief snow surveyor for Department of Water Resources.

He noted that April's showers were the last precipitation most of California can expect until fall. "We're draining our bank account, and that [Social Security](#) check stopped coming in," he said.

The snowpack in California usually peaks in April, so the latest survey was taken after the bulk of the so-called "frozen water supply" had begun to melt. That melted snow makes up 60 percent of the water that is captured in California's reservoirs. The water is used to irrigate 8 million acres of farmland and quench the thirst of most of the state's 38 million people.

## Conservation calls

The lack of water prompted Gov. [Jerry Brown](#) to issue an executive order last week calling on Californians to redouble their efforts to conserve water. In January, the governor declared a drought emergency, several communities initiated voluntary rationing, and a few put in place mandatory cutbacks.

Farmers have had to pull out thirsty almond trees and leave fields bare. Many are scrambling to dig wells, adding to concerns about groundwater depletion in the Central Valley.

Battles have already begun over proposals to loosen water-pumping restrictions designed to help endangered and threatened fish. Politicians and conservationists are pushing everything from building more dams to increasing water recycling and storm-water recapture programs.

Meanwhile, the California Department of Forestry and Fire Protection began hiring seasonal firefighters early in preparation for what is already a busy fire season.

## Glass half-empty

Jan Null, a meteorologist for [Golden Gate Weather Services](#), said rainfall totals paint a stark picture.

San Francisco, with 12.5 inches of rain this season, is at 55 percent of normal. It is the 13th-driest year in the 165 years that records have been kept in the city, Null said. San Jose is at 44 percent and Santa Rosa is at 42 percent of average.

It could be worse - during the 1975-76 season, the first year of a catastrophic two-year drought, barely 8 inches of rain fell in San Francisco.

But "we have to put that in the context of how much water we are using now for agriculture, for industry and for humans," said Null, an adjunct professor of meteorology at [San Francisco State University](#) and a former lead forecaster for the [National Weather Service](#). "There is more demand for the amount of water we have than there was in the 1970s."

Some weather wonks are already looking ahead hopefully to next rainy season, because of indications that an especially strong El Niño weather pattern will develop and bring plenty of storms to the state.

But El Niños can be fickle. Null said one was in place during the second year of that 1970s drought.

"El Niño doesn't automatically mean we are going to get a lot of rain or a lot of storms," Null said. "On average we get more precipitation, but there are no guarantees."

## **Reservoirs low**

As it is, Californians will have to make do with half-full reservoirs.

Lake Oroville, the primary storage reservoir for the State Water Project, is at 53 percent of its capacity, which is 65 percent of average for this time. Shasta Lake, which is part of the [U.S. Bureau of Reclamation's](#) Central Valley Project and is the largest reservoir in the state, is at 53 percent of capacity, or 61 percent of normal.

The San Luis Reservoir - an important summer supply pool for both the State Water Project and the Central Valley Project - is 47 percent full, which is 52 percent of its historical storage level for this time of year.

Meanwhile, the Department of Water Resources and the [Association of California Water Agencies](#) announced the beginning of a campaign on Thursday to educate Californians on water-saving techniques.