## Sierra snow still below average, despite storms

Snowpack at 85 percent of norm; El Nino could take state over the top



Lake Oroville in Northern California is a key water reservoir that's been low in recent years. This view is from Sept. 16.

California Department of Water Resources



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SACRAMENTO, Calif. - California's first snow survey of the winter showed the Sierra snowpack below normal Wednesday despite a series of storms that has drenched much of the state and pleased ski resort operators.

The state Department of Water Resources reported the findings from monitors located along the 400-mile-long Sierra Nevada. The snowpack, which is the source for much of the water used by California cities and farms, contains about 85 percent of its usual water content for this time of year.

Sue Sims, the water department's chief deputy director, said the results suggest California may be facing a fourth year of drought.

"Despite some recent storms, today's snow survey shows that we're still playing catch-up when it comes to our statewide water supplies," Sims said in a statement in which she also urged conservation.

Measuring water content in the Sierra snowpack is important because it helps hydrologists determine how much water farmers and cities can expect in the coming year.

Most of California's December-through-March wet season lies ahead, providing hope that the state can avoid another year of drought.

## El Nino offers hope

Forecasters also are predicting a moderate to strong El Nino effect this winter. The periodic warming along the equatorial Pacific generally produces heavier-than-normal precipitation in California.

Kathy Hoxsie, a meteorologist at the National Weather Service in Sacramento, said Northern California has "an excellent shot of getting above-average precipitation" through early March.

"If we have an above-normal year this year, it will really ease the drought conditions," she said.

Three years of below-average rain and snowfall have drained California's reservoirs. Lake Oroville, the key reservoir in the State Water Project, is slightly less than half as full as it should be at this time of year.

Earlier this month, state officials announced they expected to release a record-low amount of water to 25 million California residents next year if the drought continues — just 5 percent of what contractors have requested.

Farmers who depend on state and federal water deliveries say they are hoping for a cold, wet winter.

"We're so dependent on Mother Nature," said Paul Wenger, a Modesto almond and walnut grower and president of the California Farm Bureau Federation. "We just cross our fingers and hope and pray that we get some wet weather."

## Measurement data

At Phillips Station near South Lake Tahoe, state water officials measured the snow depth at 38.5 inches and the water content at 9 inches, which is 75 percent of the average for this time of year. The area is at an elevation of 6,800 feet.

Electronic readings show the average water content level for the northern Sierra, which stretches from the Trinity River to the Feather and Truckee rivers, was 77 percent of normal. Water content was 85 percent of normal in the central Sierra snowpack and 99 percent of normal in the southern region, which stretches from the San Joaquin River and Mono Lake basin to the Kern River.

While the snow levels were below normal, the recent storms have drawn skiers and snowboarders to the slopes in the Sierra over the holiday season. At the Lake Tahoe ski resort of Alpine Meadows, more than 100 inches of snow had fallen by mid-December, said resort spokeswoman Rachael Woods.

"We were very optimistic about the season because it had been forecast as an El Nino winter," Woods said. "That typically brings significant amounts of snowfall to our region."

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