

## How Sierra Nevada Record Snowpack Will Impact California Drought

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The snowpack in the Sierra Nevada mountains, which has continued to increase throughout January as a result of storms battering much of the state since the New Year, might help California combat its ongoing drought.

As of January 20, the Sierra snowpack state-wide was at 240 percent of the average for this time of year. The South Sierra stations, located between the San Joaquin and Mono counties through to Kern county, reported snowpacks at 283 percent of the January 20 average.

The Sierra Nevada snowpack usually peaks around April 1. Currently, state-wide, the snowpack is at 126 percent of the average for April 1, with the South Sierras in particular at 149 percent.

"The snowpack in California is now 240 percent of average for this date and is at 126 percent of average for the April 1 measurement. We are now within 4" of our normal seasonal snowfall at the snow lab of 360" (current is 356")," Andrew Schwartz, the lead scientist and manager at the Central Sierra Snow Laboratory, UC Berkeley, told Newsweek.

The Sierra Nevada mountain range stretches about 400 miles from north to south, between the Central Valley of California and the Great Basin. The amounts of snow falling in the higher elevations of the Sierras come as a result of several powerful atmospheric river storm systems hitting the West Coast, which led to huge rainfall and flooding at lower ground.

"Updated total precipitation map for California for a period of 22 days stretching from December 26 to January 17. The AVERAGE over the ENTIRE STATE in that time frame was 11.47 inches, with several locations in central California setting 3-week records," tweeted the National Weather Service's NWS Weather Prediction Center on January 19.

This larger snowpack could be a boon for the state, helping to combat California's drought in the coming months.

"There is a tremendous amount of snow this year, so that's very encouraging," Donald Bader, the Lake Shasta area manager for the U.S. Bureau of Reclamation, previously told *Newsweek*. "That will come down later in the spring when it starts warming up, so we can anticipate that and add that to our [reservoir] storage volumes because we know we've got that extra storage sitting up there in the mountains."

This snow will eventually melt, and run down from the mountains into reservoirs and at lower elevations. Sierra Nevada snowmelt supplies about 30 percent of California's water

requirements throughout the year, and the fact that the snowpack is now over the average yearly peak is very encouraging for the water supplies for the coming year.

These effects may help to replenish water levels not only in California reservoirs like Lake Shasta and Lake Oroville in Butte County, both in the northern part of the state, but also as far as the Colorado River basin, even helping Lake Powell in Utah and Arizona.

"We may see increased inflows to Lake Powell compared to recent years if we continue to get widespread increases across the western U.S. However, we won't know the extent of level increases until later in the spring. At this point, it's still too early to speculate," Schwartz said.

While the large levels of snow will certainly help California alleviate its drought, alongside the large amounts of water having fallen as rain this month of January, the state still requires a large amount of rain to fully replenish the groundwater supplies.

"Surface water levels are only part of the picture—groundwater levels will likely still remain chronically low, because (rain or no rain) we deplete more groundwater than is replenished," Aakash Ahamed, a hydrologist and co-founder of the Water Data Lab, previously told *Newsweek*.

Additionally, if the temperatures in the Sierras increase too fast, the snow will melt too rapidly to properly be absorbed into the ground, instead running straight into the ocean, Jacob Petersen-Perlman, a water resources geography expert and assistant professor at East Carolina University, previously told *Newsweek*.

Despite numerous challenges still ahead, the recent rains have made a massive impact on the drought status of California so far. As of January 3, the U.S. Drought Monitor showed that 27.10 percent of the state was in "extreme drought," and 2.07 percent was drought-free or "abnormally dry" instead. January 17 data shows that, 0 percent of the state is under "extreme drought," 42.84 percent was in "severe drought," 49.28 is experiencing "moderate drought," while 7.24 percent was "abnormally dry."

For the first time in a long time, 0.64 percent of the state is considered free of any drought or drought-like conditions, in a small section of Del Norte County on the Oregon border.

The snowy and icy conditions in the Sierras have had some negative impacts such as posing a risk for motorists, with slippery roads and whiteout conditions making travel difficult.

Additionally, the snowpack melting may cause issues depending on how rapidly it occurs. "There isn't really too much risk with an above average snowpack unless we get a sudden melt event, which can cause flooding," Schwartz previously told *Newsweek*.

"We do have some risks associated with increasingly snowy conditions, such as increased avalanche risk, strain on structures and equipment, and problems with travel

during the storms. One of the largest issues that we see in above average years around the Donner Summit area is propane leaks that develop from tanks buried under the heavy snow. It has resulted in explosions in the past."

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## **Rep. Harder calls Delta tunnel project ‘Boondoggle’ during townhall meeting**

Stocktonia.org, 01/19/23

U.S. Rep. Josh Harder didn't have to convince an overflowing crowd in French Camp this week that the Delta Tunnel is a bad idea.

Instead, the town hall served as a sort of call to arms for those who do not want to support what many called a “water grab” by Southern California in the longtime-going war of words and policies in the fight for ownership of the state's water resources.

A crowd of more than 150 Wednesday night gathered in the community room at Health Plan of San Joaquin on Manthey Road to listen to Harder speak about one of the state's most studied, talked about and debated issues — water. The hour-long meeting saw discussions on flooding, water storage and, of course, the divisive Delta Tunnel, a \$16 billion project from that would divert water from the Delta down to our SoCal neighbors that is supported by both Gov. Gavin Newsom and the Department of Water Resources.

Harder is a harsh critic of the plan, which he calls a “boondoggle.” He said that the citizens of San Joaquin County and the San Joaquin Valley at large must mobilize if they want to be heard. Attendees were also given paperwork and instructions for protesting the project.

“There's a lot of people that live in Los Angeles, about 20 million of them. There's a lot less who live here, and so it's no surprise why we are overlooked on this issue time and time again,” said Harder, who was joined at the meeting by Barbara Barrigan Parrilla of Restore The Delta and Bruce Blodgett, executive director of the Delta Protection Commission.

The Delta tunnel plan was first proposed in the 1980s and has gone through many changes over the years. The current version supported by the governor is a smaller than previous blueprints and features a single tunnel rather than the originally-proposed double tunnel idea.

Ector Olivares of the Catholic Charities' Environmental Justice division said any version of the tunnel project is bad for San Joaquin Valley, accusing Southern California of abusing water resources.

“They will drink us dry. They will turn us into a desert without putting a dent in their water use,” Olivares said.

Although Harder has been in congress since 2019, he has only represented Stockton and most of San Joaquin County for a few weeks. With the retirement of longtime District 9 Congressman Jerry McNerney, Harder switched from the 10th District to the 9th following California's redistricting last year, winning the election in November.

Ria Jones of Lodi said she was glad to hear Harder's interest in water issues because his views matter.

"Did I get all my questions answered? I did not, but I learned a lot, not only from him but from the audience," Jones said. "The main thing I take away is that people made it very clear to him that we are concerned and not going to lay down and take whatever the Army Corps of Engineers wants us to do or what Southern California voters think they are entitled to."

As of Wednesday, the Army Corps of Engineers, as well as state and other federal agencies, do not plan to host in-person hearings on the 700-page Environmental Impact Statement concerning the Delta Tunnel project. Written public comment is being accepted until Feb. 14.

Harder has been critical of that decision and sent a letter to the corps with signatures from other fellow representatives, including John Garamendi (D-Walnut Grove), Mark DeSaulnier (D-Concord) and Mike Thompson (D-St. Helena).

"You are not the people they want to hear from," Harder said. "So, you have to be heard."