



Lake Oroville approaches full capacity. (Photo credit: [California Department of Water Resources](#))

California Water and Infrastructure Report

For May 9, 2024

(With expanded coverage of all the Western States)
by Patrick Ruckert

Published weekly since July, 2014

An archive of all these weekly reports can be found at both links below:

<http://www.californiadroughtupdate.org>

<https://www.facebook.com/CaliforniaDroughtUpdate>

A Note to Readers

Nationally, drought has mostly disappeared from the nation, except in the Pacific Northwest and some of the northern Rocky mountain states.

The *U.S. Drought Monitor's* national and Western states report provides some details.

In addition, since the the Pacific Northwest lays claim to well over two-fifths of America's dam-derived electricity, with the Columbia River dams provide providing one-fifth of that, lower production last year from the northwest region resulted in the lowest level of hydropower in the nation in 22 years. Similar figures are expected this year.

A second article following the *U.S. Drought Monitor*, "*Snow Drought Current Conditions and Impacts*

in the West,” shows the affect of especially the northwest states of the continuing drought conditions there.

In California, the reservoirs are mostly full and Lake Oroville, the second largest reservoir in the state has, like last year reached full capacity. Two articles cover the story.

While the state water board and the political class appear to think that the only water policy to embrace is conservation, Edward Ring once again blows that idea away with his article, “*Water Czars Ignore Solutions to Scarcity.*”

Underlining Ring's argument is the continued progress of the funding and planning for a new giant reservoir near Sacramento: The Sites Reservoir. A progress report tells the story.

The U.S. Drought Monitor for May 9, 2024

National Summary

Heavy precipitation fell in western Oregon and adjacent southwest Washington and northwest California this week, and across large portions of the central U.S., as a series of storm systems caused continued bouts of severe thunderstorms and unfortunately included more significant tornadoes.

The wet weather across portions of the Great Plains and Midwest led to either scattered or widespread improvements to ongoing drought or abnormal dryness, dependent on precipitation amounts, improvements to soil moisture and streamflow, and the degree of long-term dryness remaining in different locations.

In Virginia, the Carolinas, and eastern Tennessee and Kentucky, heavy rains or lack thereof this week led to localized improvements or degradations in areas of short-term moderate drought or abnormal dryness.

Very dry weather for the past few months led to increased fire danger in parts of the Florida Peninsula, and short-term moderate drought and abnormal dryness expanded in coverage.

In southwest Kansas and adjacent eastern Colorado, mostly to the west of where this week’s showers and thunderstorms occurred, flash drought conditions continued and severe and moderate drought expanded in coverage.

In Hawaii, wet weather continued on the windward sides of the islands, and some improvement to conditions occurred in Lanai and western Maui. Another wet week in Puerto Rico allowed for the of abnormal dryness from the northwest corner of the island.

The West

The West region this week saw heavy precipitation (locally exceeding 2 inches) fall in eastern Montana, while portions of northern California, northeast Oregon, and western Oregon and southwest Washington also saw heavy precipitation amounts (locally exceeding 5 inches in northwest California and western Oregon).

Streamflows improved amid the wet weather in northwest Oregon.

Farther north in Washington, short-term dryness continued, especially in parts of the Cascade and Olympic ranges, where snow-water content and streamflow remained low, and moderate drought and abnormal dryness expanded.

The heavy rains in eastern Montana ended a recent stretch of dry weather there, preventing any degradation to ongoing drought.

The effects of these rains across the eastern plains will be evaluated further next week. Except for eastern New Mexico and parts of Arizona, most of the West region was colder than normal this week. Parts of Oregon, southern Idaho, northern Utah and northern Nevada saw temperature readings 6-12 degrees below normal.

Snow Drought Current Conditions and Impacts in the West

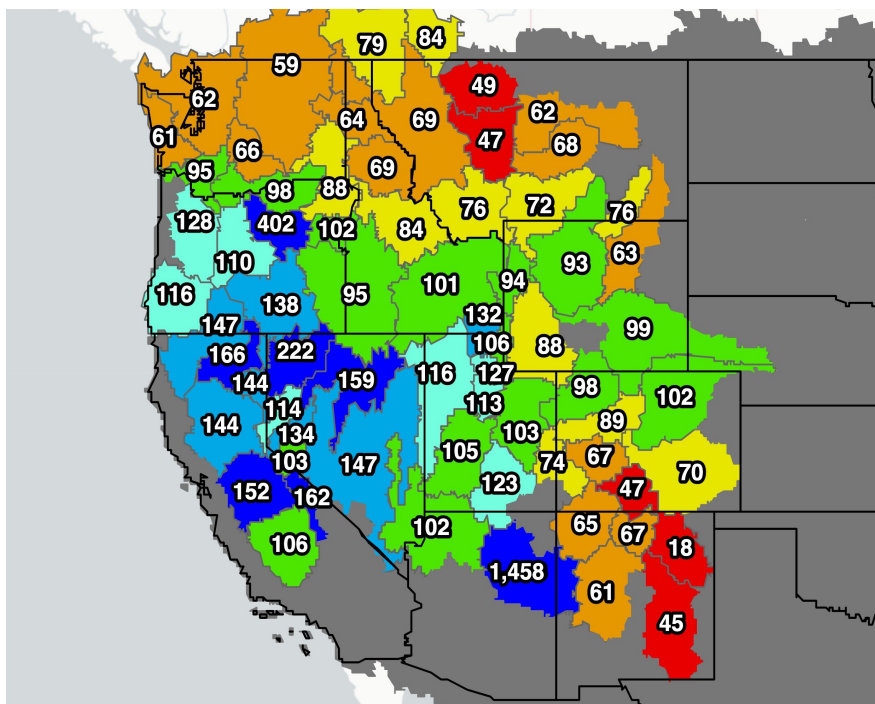
<https://www.drought.gov/drought-status-updates/snow-drought-current-conditions-and-impacts-west-2024-05-08>

NIDIS and its partners release these snow drought updates for the western U.S. every 4 weeks from December through June.

Snow Drought Expands in Parts of the Western U.S. with Early and Rapid Snowmelt

Key Points

- *Western snowmelt season is well underway. Tracking snow drought during this time period helps to evaluate potential impacts to summer water supply, soil moisture, and vegetation conditions.*
- *The most severe snow drought remains in the northern Rocky Mountains and Washington, where the snowpack at many lower elevation sites melted one to four weeks early.*
- *A stretch of warm and dry weather in mid-April triggered rapid snowmelt in the Southwest, especially in southern Colorado and New Mexico.*
- *The NOAA National Weather Service Climate Prediction Center’s Seasonal Drought Outlook projects drought development and expansion in the above regions.*



Snow Telemetry (SNOTEL) snow water equivalent (SWE) values for watersheds in the western U.S. as a percentage of the 1991–2020 median recorded by the USDA Natural Resources Conservation Service (NRCS). Only stations with at least 20 years of data are included in the station averages.

The SWE percent of median, in this figure and in the text, represents the current SWE at selected SNOTEL stations in or near the basin compared to the median value for those stations on the same date from 1991–2020. Significantly high percentages (such as in Arizona) can occur mathematically when the median is zero or near zero and are typical during snowmelt season. This map is valid through the end of the day May 5, 2024.

For an interactive version of this map, please visit [NRCS](#).

Source(s): [USDA Natural Resources Conservation Service](#)

Fast snowmelt raises drought and fire concerns

Across Colorado, 34% of mountain snowpack has already melted away.

Author: 9news.com

Published: 6:20 PM MDT May 5, 2024

<https://www.9news.com/video/weather/weather-colorado/fast-snowmelt-raises-drought-and-fire-concerns/73-e67000ba-512e-4f2b-8169-f5517df2ddaa>

The item provides a two minute video discussion of the topic.

Water Supplies Continue to Improve in California

A wet year boosted California's groundwater, but not enough to address long-term declines

Ian James

Tue, 7 May 2024 at 9:22 pm GMT-7·7-min read

<https://uk.news.yahoo.com/wet-boosted-californias-groundwater-not-042208215.html>

After years of pervasive declines, groundwater levels rose significantly in much of California last year, boosted by historic wet weather and the state's expanding efforts to replenish depleted aquifers.

The state's aquifers gained an estimated 8.7 million acre-feet of groundwater — nearly double the total storage capacity of Shasta Lake — during the 2023 water year that ended Sept. 30, according to newly compiled data from the California Department of Water Resources.

A large portion of the gains, an estimated 4.1 million acre-feet, came through efforts that involved capturing water from rivers swollen by rains and snowmelt, and sending it to areas where the water percolated into the ground to recharge aquifers. The state said the amount of managed groundwater recharge that occurred was unprecedented, and nearly double the amount of water replenished during 2019, the prior wet year.

Still, the increase in underground supplies follows much larger [long-term declines](#), driven largely by chronic overpumping in agricultural areas. The gains only partially recouped the estimated losses of 14.3 million acre-feet of groundwater during the previous two years of severe drought, when farms relied heavily on wells and aquifer levels plummeted.

California Department of Water Resources



As Lake Oroville approaches full capacity there is the potential for some waves to splash over the crest of the emergency spillway if we experience any particularly windy days. The dam and emergency spillway continue to operate as intended.

Total Feather River releases may be increased over the weekend to account for higher reservoir inflows from weekend precipitation. DWR continues to assess Feather River releases daily.

Lake Oroville Reaches Full Capacity For Second Year In A Row

'What California really needs to do is to hold back on environmental releases'

By [Evan Symon](#), May 8, 2024 2:45

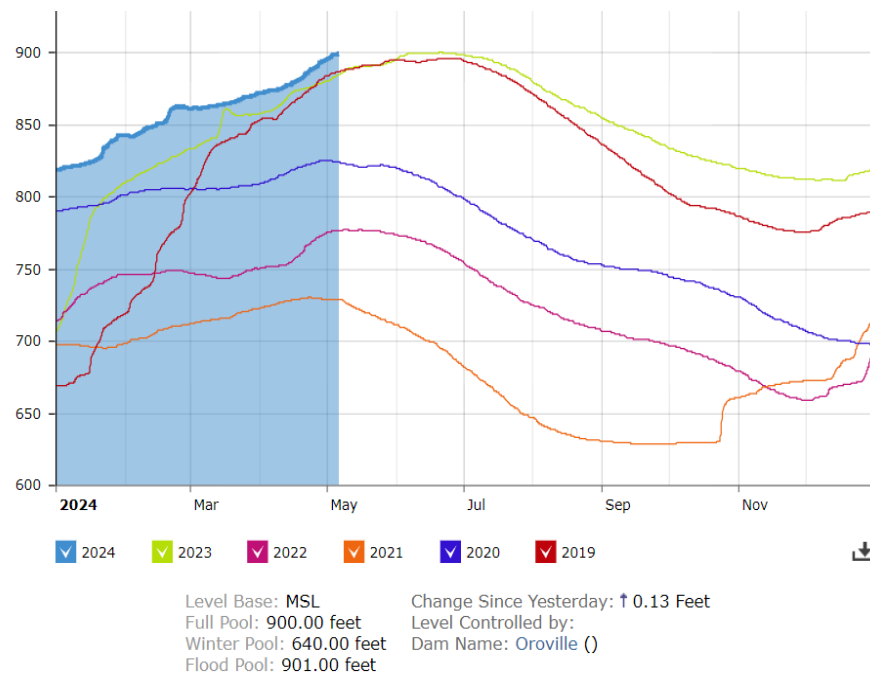
<https://californiaglobe.com/fr/lake-oroville-reaches-full-capacity-for-second-year-in-a-row/>

The California Department of Water Resources announced on Tuesday that Lake Oroville in Butte County has reached it's full capacity, becoming the second year in a row that it has reached that level and quelling drought fears for at least the near future.

Drought conditions were erased throughout 2023, with California becoming completely drought free for the first time since 2020 in November 2023. While many scientists had warned that it was just a one-time fluke, rains returned across the state once again earlier this year. While there was some destructive flooding, it also meant that reservoirs were filled up once again, with a steady supply of water coming in through snowmelt. Groundwater levels also bounced back for the first time in 4 years.

At Lake Oroville, California's second largest reservoir and the most critical reservoir in the water system, the CDWR announced on Tuesday that Lake Oroville reached full capacity this month. Officials noted that, even if 2025 turns out to be a dry year, the amount of water in Lake Oroville, as well as snowmelt coming in through the rest of the year, the lake will have a sufficient enough water supply to give to residents through the next year at least.

The remarkable turnaround, from the barren reservoir being the symbol of the California drought only three years ago, to being 128% of it's historical average today, proved to many in the state on Tuesday that California can bounce back climate wise and can sustain it should they play it smart.



Lake Oroville levels since 2019 (Photo: CDWR)

“But now the state needs to play it smart. Locally, they have tried and true emergency measures on the books now in case things get bad again, so we have that buffer. We also have more storage space and better methods of how to use the water supply, so there is another buffer. But what California really needs to do is to hold back on environmental releases, or at least limit the number of them, during drought years going into the future. Everything is at capacity and water needs to go out to help fish? Fine, two birds with one stone. But if there is not enough water from agriculture or urban use, then we need to figure the most precise way to limit such releases, as it is just a waste of freshwater otherwise. The [releases in 2020 and 2021 proved that.](#)”

Edward Ring, Once Again, Points Out the Obvious-- At Least for Those Who Can Think Beyond “Conservation as the Only Policy Allowed.”

I urge the reader to go to the link for the full article

Water Czars Ignore Solutions to Scarcity California's Water & Energy Future with Edward Ring

May 9, 2024

<https://mailchi.mp/calpolicycenter/whats-current-issue-377693?e=6b595f1938>

The Delta Tunnel proposal exemplifies California’s political dysfunction. It will probably never get built, but it promises to dominate all discussions of major state and federal spending on water infrastructure for the next decade, preventing any other big ideas from getting the attention they merit.

If the Delta Tunnel is ever completed, say sometime around 2050 or 2060, after costing — let’s be real

— \$30 billion or more (in 2024 dollars) it will move [500,000 acre feet of water per year](#), which is nothing. California’s farmers require [30 million acre feet per year](#); its cities, around 8 million acre feet per year. If it gets built, then every year activist regulators and environmentalist litigators will ensure that getting that 500,000 acre feet through the tunnel will be a perennial battle. And they will see to it that to the extent water does flow through the tunnel, comparable amounts of water will no longer be moved using the existing pumps located northwest of Tracy.

All that time. All that money. All that cement! For nothing.

There are so many better ways to spend \$30 billion (or more) on water projects that it boggles the mind. For \$30 billion, we could build plants with a combined capacity to desalinate a million acre feet per year, and the energy required to do it would be no more than is currently required to operate the six pumping stations that move water from the Delta to the Los Angeles Basin. You could probably construct treatment plants to purify and reuse about a million acre feet of urban wastewater for that amount of money. Or you could build the Pacheco, Sites, Del Puerto, and Temperance Flat Reservoirs and raise the Shasta Dam, yielding around 1.5 million acre feet per year (or more), and still have \$10-\$15 billion left over to repair and upgrade California’s levees and aqueducts – something that has to be done no matter what.

Jennifer Pierre wants more water

By [CAMILLE VON KAENEL](#)

05/03/2024 07:30 PM EDT

With help from Blanca Begert, Alex Nieves and Ariel Gans

<https://www.politico.com/newsletters/california-climate/2024/05/03/jennifer-pierre-wants-more-water-00156132>

Jennifer Pierre, general manager of the State Water Contractors, is trying to make the Delta tunnel happen. | Courtesy of Jennifer Pierre

WRINGING IT OUT: Jennifer Pierre is disappointed.

Despite this year’s deep snowpack, record-setting rainstorms and consequently full reservoirs, the 27 water agencies she represents as general manager of the State Water Contractors are getting just 40 percent of their contracted deliveries, [as we reported](#) earlier this week.

We wanted to go a little deeper on how Pierre — one of the most seasoned observers of California’s perpetual water conflicts — sees this year’s supply, the longer-term economics of big water projects and whether she sees any end in sight for some of the state’s most intractable knots.

This conversation has been edited for length and clarity.

Giant new Calif. reservoir plan would bring water to 24 million people

By [Farley Elliott](#) May 8, 2024

<https://www.sfgate.com/bayarea/article/sites-reservoir-project-money-19446954.php>

California's reservoirs are not only vital to the state's complex water systems, providing millions of people and the state's agricultural economy with needed access to water; they're also important gauges for how healthy the state is overall. This year's [at-capacity reservoirs](#) have been a boon for a region [besieged by drought](#) over much of the past decade, but more work is needed to help ensure a plentiful and water-wise future for the most populous state in America..

Enter [Sites Reservoir](#), a long-in-the-works project that aims to be the biggest reservoir development in nearly half a century. It's been a massive dream [for decades](#), an idea first worked up by landowners and water districts northwest of Sacramento. Thanks to a new infusion of federal cash, the proposal is closer than ever to actually happening — but not without a very real cost.

As the [Mercury News reported](#) earlier this year, Sites Reservoir has received nearly a quarter-billion dollars in new federal funding from Congress, inching it ever closer to becoming a reality. In total, the Colusa County project is slated to cost more than \$4 billion, with an opening timeline pushed out to 2032.

That may seem far off but not when considering the state's last big reservoir project way [back in 1979](#). If completed, Sites Reservoir would become one of the 10 largest reservoirs in the state, encompassing [more than](#) a million acre-feet of water fed in by “winter runoff from uncontrolled streams below the existing reservoirs in the Sacramento Valley,” according to [Sites project facilitators](#). When full, the reservoir would span 4 miles across and reach 13 miles north to south, with the water mostly being piped to the Central Valley and Southern California. In total, water from the reservoir could reach roughly 24 million people.

The Colorado River

Why Colorado River basin states are split on long-term plan to manage its water

By [Carter Williams, KSL.com](#) | Posted - May 5, 2024 at 12:20 p.m.

<https://www.ksl.com/article/50998344/why-colorado-river-basin-states-are-split-on-long-term-plan-to-manage-its-water->

Editor's note: *This article is published through the [Colorado River Collaborative](#), a solutions journalism initiative supported by the Janet Quinney Lawson Institute for Land, Water, and Air at Utah State University.*

MOAB — Utah and the six other Colorado River basin states met virtually toward the end of April to address their differing opinions on how Lake Powell and Lake Mead should be managed in the long term and those discussions are expected to pick up steam this month.

The states are dealing with the [Colorado River Post 2026 Operations Plan](#), which is mostly an update to an agreement the Colorado River basin states approved in 2007 to manage Lake Powell and Lake Mead — the nation's two largest reservoirs — as a part of the distribution of the river's water. It will be the latest agreement since the original distribution plan was settled in 1922.

Additional in-person meetings are scheduled for this month, according to Gene Shawcroft, chairman of the Colorado River Authority of Utah. He said discussions have been "cordial" to this point, but the upper Colorado River basin states — Utah, Colorado, New Mexico and Wyoming — and the Lower Basin states — Arizona, California and Nevada — haven't budged from the [different recommended](#)

[plans](#) they submitted to the federal government earlier this year.

Experts agree that [Lake Powell](#), at 33% capacity, and Lake Mead, at 36% capacity, are in a better position now than at this time last year, but both have a long way toward full recovery.

What helps, though, is the states do agree on many of the challenges facing the Colorado River, right now, which led to this situation. Colorado River water users appear to understand that both reservoirs dropped significantly because of drought and overconsumption and the way both were managed played into that.

The discussions of how the river is managed have changed, as the entities accept the river's management should be based on supply instead of the old way of managing it by demand.

The Runoff | Study brings new accounting of Colorado River water uses

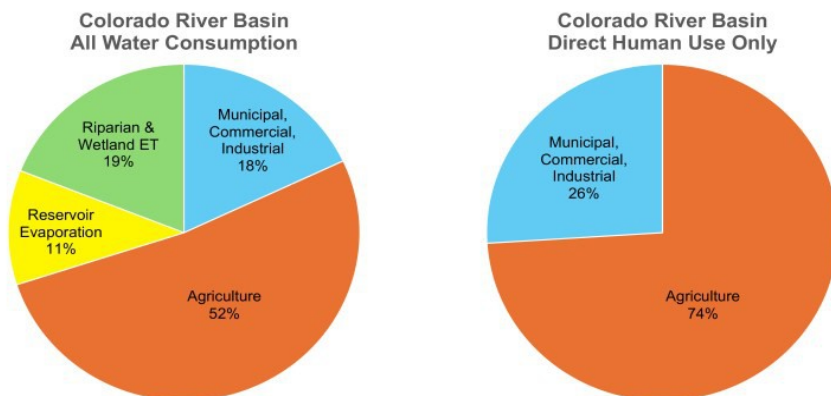
by [Heather Sackett](#) May 7, 2024

<https://aspjournalism.org/newsletter/the-runoff-study-brings-new-accounting-of-colorado-river-water-uses/>

New Colorado River water accounting

Journalists and water managers may have to revise one of the most-often-repeated shorthand expressions of how water is used in the Colorado River basin — that nearly 80% of the water is used by agriculture — after a new study by 12 scientists put a finer point on the numbers.

Published at the end of March, [“New water accounting reveals why the Colorado River no longer reaches the sea”](#) finds that irrigated agriculture is responsible for just 74% of direct human use and 52% of overall water consumption. Still, water consumed for agriculture remains far and away the biggest water use on the river — about three times all other direct human uses (cities and industry) combined.



Graph courtesy of study author Brian Richter.

These new numbers take into account water use by Mexico and in the Gila River basin — an important tributary for Arizona water users — two areas that were traditionally unaccounted for in previous calculations. Another finding was that 19% of the water goes to evapotranspiration, meaning the water used by plants along riverbanks and wetlands adjacent to the Colorado River and its tributaries. Scientists used the remote sensing platform of OpenET to get these numbers, which break down to 24% in the upper basin and 14% in the lower basin. The fact that riparian areas use nearly one-quarter of

the water in the upper basin is an important thing for water managers to know, said the study's lead author Brian Richter.

Hydroelectric Power: The West Produces Most of It

I have reported on how 2013 was the nation's lowest year of production of hydroelectric power in 22 years. Another article underlines both that reality and how the Western states produce the vast majority of hydropower in the country.

Rivers And Drought

By Syris Valentine | Grist

Published May 6, 2024

<https://laist.com/brief/news/climate-environment/rivers-clean-energy-when-drought-strikes>

Utilities look for ways to keep up with demand



Don and Melinda Crawford Education Images / Universal Images Group via Getty Images

In Washington, a dozen dams dot the Columbia River — that mighty waterway carved through the state by [a sequence of prehistoric superfloods](#). Between those dams and the hundreds of others that plug the rivers and tributaries that lace the region, including California and Nevada, the Western United States accounts for most of [the hydroelectric energy the country generates from the waters](#) flowing across its landscape. Washington alone captures more than a quarter of that; combined with Oregon and Idaho, the Pacific Northwest lays claim to well over two-fifths of America's dam-derived electricity. So when a drought hits the region, the nation takes notice.

- This story was originally published by [Grist](#). Sign up for Grist's [weekly newsletter here](#).
- Grist is a nonprofit, independent media organization dedicated to telling stories of climate solutions and a just future.

That happened in 2023 when, according to a recent report, U.S. [hydroelectric power hit its lowest level](#)

in 22 years. While the atmospheric rivers that poured across California provided the state with abundant energy, the Pacific Northwest endured low summer flows after a late-spring heat wave caused snowpack to melt and river levels to peak earlier than normal. Though dam turbines kept spinning throughout the year — proving that even during a drought the nation's hydro system remains reliable — last year offered energy providers in the West a glimpse of the conditions they may need to adapt to as the world warms and seasonal weather patterns shift.