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California Water and Infrastructure Report For March 7, 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

For a free subscription to the weekly report: Send me an email-- patruckert@gmail.com

A Note to Readers

The cover photo above focuses this week's report on the ongoing discussions of the continuing crisis on the Colorado River. Forty million people and five millions acres of farm land depend upon the water for the river. The 20 year megadrought in the Colorado River Basin has lowered the flow of the river from 15 million acre feet annually to about 12 million acre feet. That puts at risk the not just the water supply, but a large part of the economy of seven states, but also the power production from Hoover Dam and Glen Canyon dams that provides electricity to millions.

This week the *Department of the Interior's Bureau of Reclamation* released a **final Supplemental**

Environmental Impact Statement (SEIS) in the ongoing, collaborative effort to update the current interim operating guidelines for the near-term operation of Glen Canyon and Hoover Dams

While the report from the Bureau of Reclamation blabbers on about how great the Biden administration's efforts at dealing with the crisis has been, the focus of the articles in this report provide a picture of the importance and the complexities of how seven states and the nation of Mexico will divide up the allocations of the water.

Do they ever learn? In the 1960s, the project that would have provided the water to not only the southwest states, but would have created a continent-wide water management system, the North American Water and Power Alliance, was supported by members of Congress, Robert Kennedy and others, including the Prime Minister of Canada, would have by the 1990s provided water aplenty. I have covered this project often in these reports, and will once again so so in the weeks ahead.

The rest of the report

The U.S. Drought Monitor confirms that California's drought is gone. Now with less than 5% of the state now in the category of "abnormally dry," the affect of two winters of abundant rain and snow has produced the best water availability in about 20 years. That has led to the AccuWeather forecasters to forecast this week that the state will be in no drought for both 2024 and 2025.

Under my title, *"Action and Proposals on Water Storage and Recycling,"* the first article is on the progress of actual work to begin on the Sites Reservoir, which after 70 years since first proposed, and 30 years of delay, is finally moving forward. Sites is an off-stream reservoir and will receive water during wet years from the Sacramento River.

That article is followed by a short video of the Sites Reservoir project, "*California's $4 Billion Water Revolution The Mega Reservoir."*

A third item in this section is by Edward Ring, "*Harvesting Urban Storm Runoff,"* in which he stresses the point that, *"Many of California's most cherished natural assets are artifacts of human intervention,"* making the point long denied by environmentalists and others, that it is human **creativity and intent** that determines the response to crises in general, and the state's frequent drought and water shortages.

The concluding item for this week is title, "*New Development in Fusion Research," with the article, "Tests show high-temperature superconducting magnets are ready for fusion."*

U.S. Drought Monitor

California

March 6, 2024

The West

Heavy precipitation fell this week across much of the central and northern Pacific Coast, and heavy snow also fell in a major storm in the Sierra Nevada.

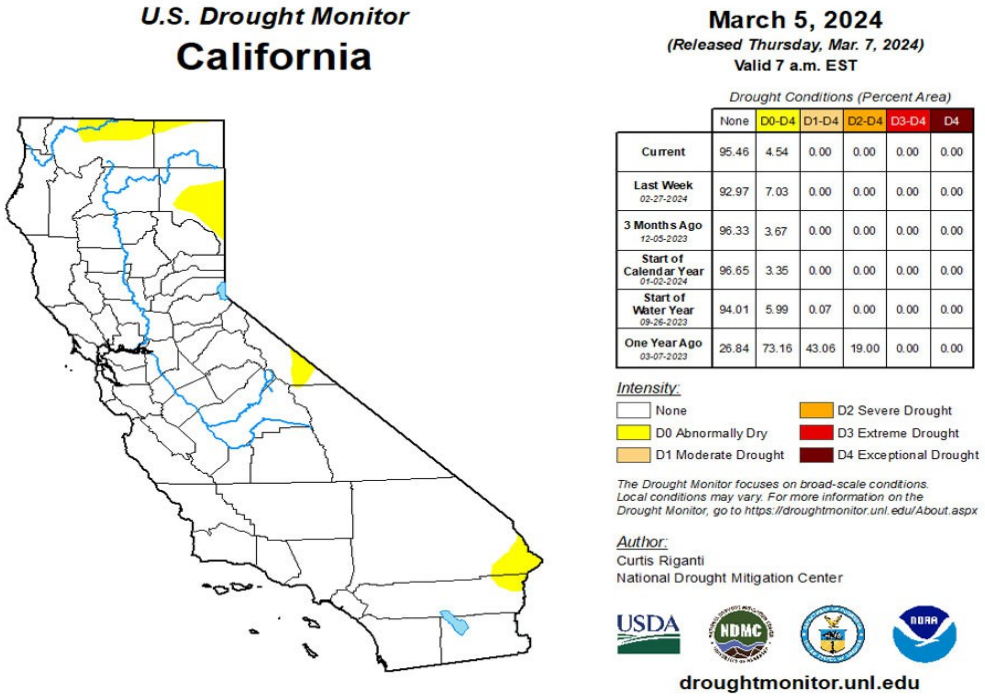
Significant snow amounts also fell across parts of Idaho and northwest and southwest Montana. Improving snowpack in these areas and lessening precipitation deficits led to improvements in drought or abnormal dryness in numerous locations.

Recent precipitation in western and central Oregon continued to chip away at long-term precipitation deficits, leading to the removal of one long-term moderate drought area and coverage reductions of another.

Meacher and Park counties in Montana have missed out on recent snowfall, leaving current snowpack numbers very low, and moderate drought worsened to severe drought.

Heavy precipitation in northwest Washington (with some locations likely seeing over 9 inches of liquid precipitation) led to a reduction in moderate drought and abnormal dryness coverage.

Along the Arizona-New Mexico border, severe drought coverage was locally reduced in a reassessment of short- and long-term drought conditions.



No widespread drought is expected in California for the next 2 years, forecasters say

By[David González]
Monday, March 4, 2024 10:52AM

https://abc7.com/california-drought-forecast-accuweather/14490614/

No widespread drought is expected in California for the next two years, through 2025 and into early 2026, AccuWeather forecasters announced.

LOS ANGELES (KABC) -- Following recent winter storms, no widespread drought is expected in California for the next two years, through 2025 and into early 2026, AccuWeather forecasters announced Monday.

The weather company said it came to this conclusion after an extensive review of all available data and consultation with their expert team of long-range forecasters.

"That sets California up to be in a very good position here in terms of water supply over the next couple of years," AccuWeather chief meteorologist Jonathan Porter said.

Porter said El Niño has directed storms at California that has provided a lot of rain and refilled reservoirs.

At the moment, six of the state's most important reservoirs sit at or are above the historical average water levels.

"That gives us confidence that water is not going to be a scarce issue here in the short term in California," Porter said.

All this comes on the heels of what has turned out to be yet another wet winter, swamping California with heavy rainfall and flooding. The frequent deluges have fended off a return to the drought that has plagued the state over the past decade.

Mayor Developments In Regard to the Colorado River

Interior Department continues long-term planning with robust input from Basin States, Tribes and other parties

From the Bureau of Reclamation:

https://mavensnotebook.com/2024/03/05/usbr-news-biden-harris-administration-releases-final-seis-for-current-operations-of-the-colorado-river-basin-joint-statement-from-arizona-california-and-nevada/?doing_wp_cron=1709776930.8288090229034423828125

The Biden-Harris administration today announced a significant milestone in its efforts to protect the stability and sustainability of the Colorado River System and strengthen water security in the West. With historic water conservation enabled by President Biden's Investing in America agenda, the Administration has staved off the immediate possibility of the Colorado River System's reservoirs from falling to critically low elevations that would threaten water deliveries and power production. Due to record conservation investments as well as improved hydrology, Lake Mead levels today, at elevation 1075 feet, are the highest since May 2021, when they were at 1073 feet.

Today, the Department of the Interior's Bureau of Reclamation released a final Supplemental Environmental Impact Statement (SEIS) in the ongoing, collaborative effort to update the current interim operating guidelines for the near-term operation of Glen Canyon and Hoover Dams to address the ongoing drought and impacts from the climate crisis. The identified preferred alternative reflects a historic, consensus-based proposal – secured by the Biden-Harris administration in partnership with the seven Colorado Basin states – that will lead to at least 3 million acre-feet (maf) of system water conservation savings through the end of 2026, when the current guidelines expire.

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As part of these water use reductions, the Department today also announced three new System Conservation Implementation Agreements that will commit water entities in California to conserve up to 399,153 acre-feet water in Lake Mead through 2026. The Department also announced additional progress with the Republic of Mexico to conserve Colorado River System water.

'Significant milestone' in Colorado River conservation plan for short term. What's next?

Janet Wilson
Palm Springs Desert Sun
https://www.desertsun.com/story/news/environment/2024/03/05/colorado-river-conservation-plan-released/72856814007/

Federal officials on Tuesday announced that they have finalized a massive environmental document that outlines how to shore up the Colorado River system through 2026 with 3 million acre-feet of additional conservation. Much of the savings would come through payments to California and Arizona farmers, tribes and water agencies of hundreds of millions of dollars to use less water.

They will immediately turn to evaluating how to stabilize the river long-term, with a draft environmental plan expected by year's end, the officials said. States with more than 30 million people who rely on the river are already warring over who should cut what after 2026.

The announcement by the Department of Interior, the Bureau of Reclamation and White House officials of what was billed as a "significant milestone" also includes final agreements for California desert

areas over the next three years with Coachella Valley Water District, Palo Verde Irrigation District and Bard Irrigation District for conservation of nearly 400,000 acre-feet of water via seasonal fallowing of fields and other measures. The bulk of that, 351,000 acre-feet, will come from the Palo Verde district and a related agreement with the Metropolitan Water District of Southern California.

In total, 24 conservation agreements across California and Arizona are expected to conserve up to 1.58 million acre-feet of water through 2026, with an investment of up to $670.2 million from the Inflation Reduction Act, which overall provides $4.6 billion to address the historic drought across the West.

Bumpy roads to reach consensus

Reaching consensus on the interim river agreement required more than a year of at times tense negotiations between the seven states who rely on the river, and others.

Those tensions have resurfaced during discussions about the river's long-term future, with sharp divides between northern and southwestern states. The upper states' negotiators say their residents already incur significant annual losses due to poor hydrology most years, and the lower states need to shoulder the bulk of long-term cuts. The more populated lower states' representatives retort that everyone needs to contribute. Dueling proposals are expected to be submitted to the federal agencies in the next week or two.

Colorado River states face off over dwindling supplies

*By **Jennifer Yachnin** | 03/06/2024D 04:34 PM EST*

https://www.eenews.net/articles/colorado-river-states-face-off-over-dwindling-supplies/

The Upper Basin and Lower Basin states offered very different plans for how to split cuts if the drought-stricken river continues to shrink.

Officials from the seven states that share the Colorado River pitched dueling plans to the Biden administration Wednesday over how to dole out painful cuts, even as the states agreed that climate change means that water supplies could further dry up in the decades ahead.

In separate proposals, the Upper Basin states and Lower Basin states each acknowledge that in extreme conditions, the Biden administration should plan for cuts of up to 25 percent of the Colorado River's flows.

But exactly how to spread the pain of those reductions remains a sticking point.

Negotiations Break Down Between 7 States That Use Colorado River Water — Critical To Southern Californians

By Emily Guerin
Updated Mar 6, 2024 3:04 PM
Published Mar 6, 2024 11:31 AM
https://laist.com/news/climate-environment/colorado-river-negotiation-climate-change

Seven western states are now at an impasse over how to keep the Colorado River from collapsing due to climate change and overuse.

On Wednesday, the states of California, Arizona and Nevada released their plan outlining how they'd like to manage the river over the next twenty years. The states of Colorado, Utah, Wyoming and New Mexico have released a separate, competing plan.

The two factions — known as the Lower and Upper Basin states respectively — vehemently disagree over many of the most important details, including which states should reduce their water use to account for climate change, and by how much.

Current agreements expire in 2026. Beyond that, there's no certainty for farmers, cities and businesses that rely on Colorado River water for growing food, supporting rural economies, and supplying drinking water to millions of people.

"The two plans are diametrically opposed," said Pat Mulroy, a Colorado River policy expert and the former lead negotiator for the state of Nevada on Colorado River issues. But, she still believes there is a "glimmer of hope" for the seven states to come to an agreement.

Who should feel the pain of water shortages? Colorado River states submit competing plans

Brandon Loomis
Arizona Republic
March 6, 2024
https://www.azcentral.com/story/news/local/arizona-environment/2024/03/06/southwest-and-mountain-states-offer-competing-colorado-river-plans/72868640007/

States that use the Colorado River's climate-stressed water offered competing views Wednesday on how the federal government should manage the dams and any needed water restrictions when it adopts new shortage-sharing guidelines in 2026.

The more populous Lower Basin group of states — Arizona, California and Nevada — asked the U.S. Bureau of Reclamation to review a plan that would force them to deepen their conservation in most dry years, but also would force reductions on the four Upper Basin states in the Rocky Mountains during extremely dry periods.

The Upper Basin states of Wyoming, Colorado, Utah and New Mexico asked instead for a plan that protects their far-lower take from the river in all years.

Colorado and others in the Upper Basin have argued that they already suffer the sting of climate change most years because, under the Colorado River Compact and related laws, they must send 7.5 million acre-feet of water through Glen Canyon Dam every year, plus more for Mexico's share.

In recent decades that has amounted to far more than half of the river's flow, and it forces farmers and others in the Rocky Mountains to dry their canals and croplands in many years. The Lower Basin states argue they've borne the brunt of reduced water downstream in Lake Mead and are willing to take more — but not all — of the coming reductions to prevent an unpredictable lawsuit over allocation.

Competing plan would change the way reservoirs are managed

The states divided the water in the last century in a deal that counted on a river theoretically providing the two basins with 7.5 million acre-feet apiece, with water left over for Mexico. In recent decades, the river has at times provided 12 million acre-feet or less, forcing big withdrawals from stored water in Lake Mead to satisfy the Lower Basin's fully developed allocation, and from Lake Powell to restock Lake Mead.

Arizona Water Resources Director Tom Buschatzke characterized the Upper Basin's proposal as one that forces all the cuts on Arizona, California, Nevada and Mexico.

“They take no reductions under any circumstance” in their proposed plan, he said.

Why the river is shrinking

The current crisis on the Colorado River began in the early 2000s, when water experts began to realize the so-called “Millennium Drought” wasn’t going away.

If the seven states can't agree on a compromise, the federal Bureau of Reclamation may propose its own plan, which may not be popular with anyone. And depending on the results of this fall’s election, a new administration could throw out anything proposed by the current Bureau of Reclamation.

There’s also a risk that the disagreement could end up in the Supreme Court — which many experts say would be a disaster, as the case could drag on for years and in the interim, there would be little clarity about how to manage the river.

California agrees to long-term cuts of Colorado River water

by Rachel Becker March 6, 2024

https://calmatters.org/environment/water/2024/03/california-colorado-river-agreement/

Water levels in Lake Mead, a major Colorado River reservoir shown here on June 6, 2023, were extremely low last year. California has agreed to cut its river allocations. Photo by Matt York, AP Photo

In summary

California, Arizona and Nevada would cut their allocations about 20% when reservoir levels drop. But other states have their own opposing plan. Now the federal government has to decide how to manage the drought-plagued river.

Bracing for an ever-growing gap between supply and demand of Colorado River water, three Southwestern states today unveiled an agreement that would cut California’s portion by about 10% in most years.

California, Nevada and Arizona submitted their plan to the federal government, which is weighing how to manage the drought-plagued river after 2026, when another historic deal expires. The decision will shape long-term management of a vital water source for 40 million people, including 30 tribal nations and 5.5 million acres of agriculture.

For more than a century, the river’s water has been allocated among seven states, tribes and Mexico

through a collection of deals, acts, treaties and legal decisions known as the Law of the River. But a decades-long mega-drought, culminating in the driest 23-year period in more than a century, has shriveled the river's already over-allocated flows.

Despite recent improvements after storms, Lake Mead and Lake Powell, the basin's major reservoirs, remain "historically low, and long-term conservation measures will still be necessary," the U.S. Bureau of Reclamation reported Tuesday.

California takes the biggest share of Colorado River water, with a yearly allocation of 4.4 million acre-feet. And Imperial Valley growers are, by far, California's biggest user — allocated 3.1 million acre-feet a year, or more than two-thirds of the state's supply, to irrigate half a million acres of alfalfa, winter vegetables and other crops via the Imperial Irrigation District.

Action and Proposals on Water Storage and Recycling

Long-planned Sites Valley reservoir moves toward construction

By Wilson Walker

Updated on: March 1, 2024 / 12:16 PM PST / CBS San Francisco

https://www.cbsnews.com/sanfrancisco/news/long-planned-sites-valley-reservoir-moves-toward-construction/

As California enjoys a second robust winter in a row, calls for additional water storage may soon be getting an answer.

A new reservoir is something voters approved funding for years ago, and while progress has been slow, there are hopes that it may finally be moving ahead.

"Nothing has been built like this in California for more than 30 years,' said Executive Director of the Sites Reservoir Authority Jerry Brown.

It's been nearly 70 years since California took a look at the Sites Valley, and saw the potential for a reservoir that could have been as large as Shasta. he plan now is for something not quite that large, but still massive.

"60 years," Brown said of the time elapsed. "And it's never happened. So you can imagine the fatigue that you might feel with people telling you you've got a move, and then no, you don't. But I think, but I think they're getting to the place, and they're older, where they understand the importance of this to the community. "

The state, with a push from the Governor, is trying to get things moving. A project design has been submitted, and now a water right must be obtained. That critical hurdle is expected to be cleared in the next year.

"After after that, we will then start construction in 2026," Brown projected. "And we figure it's about a seven year construction. So about the end of 2032."

Video: California's $4 Billion Water Revolution The Mega Reservoir

https://www.youtube.com/watch?v=TFfBDLnHZ_8

In the heart of California's ever-evolving battle with water supply and demand, a groundbreaking project is on the horizon. The $4 billion Sites Reservoir, nestled in a naturally formed valley, is set to revolutionize the state's water infrastructure. Imagine a reservoir so vast it could cover all of San Francisco in 50 feet of water. Join us as we delve into this ambitious endeavor, which promises to quench the thirst of millions of homes and acres of crops, all while navigating the complex waters of environmental concerns and climate change. California's water future is about to change forever.

Ringside: Harvesting Urban Storm Runoff

Many of California's most cherished natural assets are artifacts of human intervention

By Edward Ring, March 7, 2024 2:15 am

https://californiaglobe.com/fr/ringside-harvesting-urban-storm-runoff/

In a normal year, by the end of March downtown Los Angeles receives 13 inches of rain. Last year 27.8 inches fell, and through March 3 of this year, 21.3 inches has already fallen. This suggests that both this year and last year, over 1.0 million acre feet of rainfall hit the region. Even in an average year, rainfall totals about a half-million acre feet.

If Californians could somehow capture more of this runoff, it would tip the balance from scarcity to abundance in a state that has coped with chronic water shortages for several decades. A 2022 study by the Pacific Institute concluded that California's urban "stormwater capture potential is 580,000 AFY in a dry year to as much as 3.0 million AFY in a wet year." But can engineers design systems to capture whatever the skies deliver?

More generally, is it possible for California's coastal megacities to become completely independent of imported water through a combination of runoff harvesting, wastewater reuse, and desalination? Orange County Water District, with a service population of 2.5 million, is the furthest down the path to water independence.

In an average year, they capture about 75,000 acre feet of baseflow from the Santa Ana River, in addition to harvesting 55,000 acre feet of storm runoff. So-called incidental percolation from rain contributes another 60,000 acre feet per year to their groundwater basins, and the agency built the biggest water recycling plant on the West Coast, allowing it to reuse 130,000 acre feet of wastewater every year. With a total demand for water at 390,000 acre feet, OCWD only has to import 70,000 acre feet per year from the State Water Project.

New Development in Fusion Research

Tests show high-temperature superconducting magnets are ready for fusion

by David L. Chandler, Massachusetts Institute of Technology

https://phys.org/news/2024-03-high-temperature-superconducting-magnets-ready.html

In MIT's Plasma Science and Fusion Center, the new magnets achieved a world-record magnetic field strength of 20 tesla for a large-scale magnet. Credit: Gretchen Ertl

In the predawn hours of Sept. 5, 2021, engineers achieved a major milestone in the labs of MIT's

Plasma Science and Fusion Center (PSFC), when a new type of magnet, made from high-temperature superconducting material, achieved a world-record magnetic field strength of 20 tesla for a large-scale magnet. That's the intensity needed to build a fusion power plant that is expected to produce a net output of power and potentially usher in an era of virtually limitless power production.

The test was immediately declared a success, having met all the criteria established for the design of the new fusion device, dubbed SPARC, for which the magnets are the key enabling technology. Champagne corks popped as the weary team of experimenters, who had labored long and hard to make the achievement possible, celebrated their accomplishment.