

Veles Water Weekly Report

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VelesWater



WATER FUTURES MARKET ANALYSIS

Welcome to ***WATERTALK***

by Joshua Bell

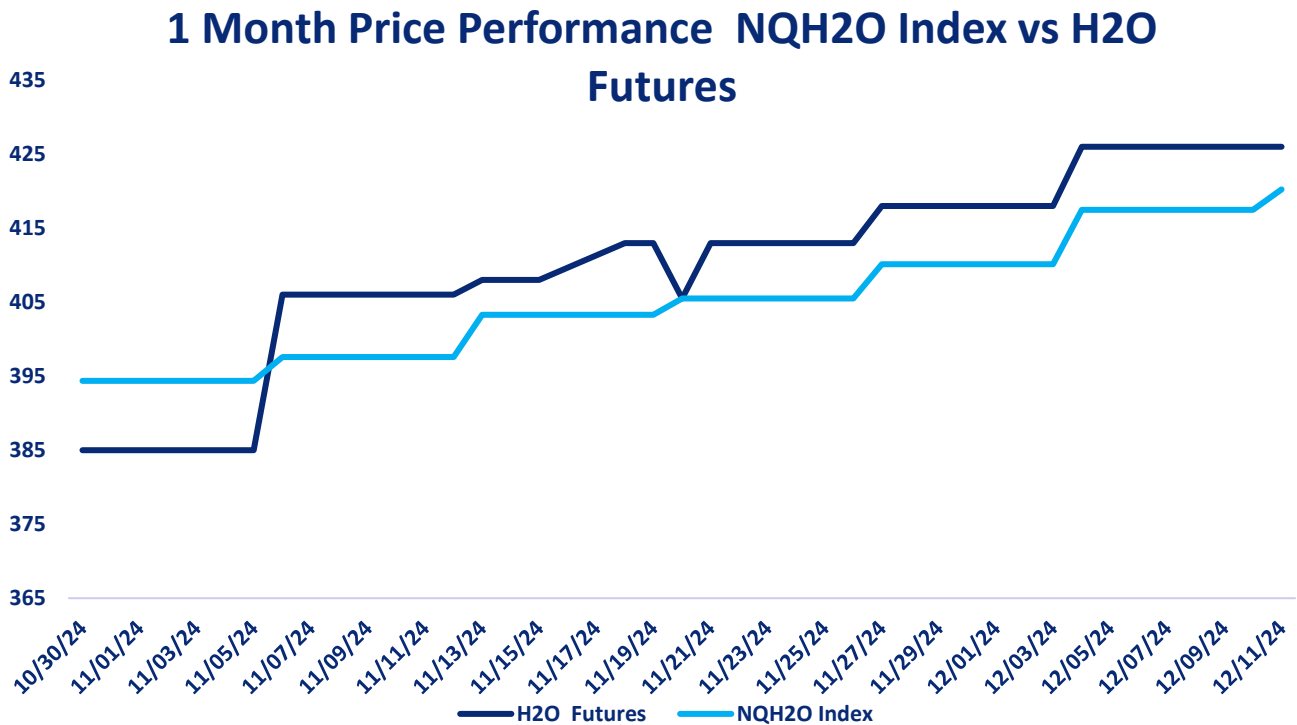
CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

<https://vimeo.com/1038483315?share=copy#t=0>



NQH2O INDEX PRICE vs H2O FUTURES PRICE



Price Chart Based upon Daily Close

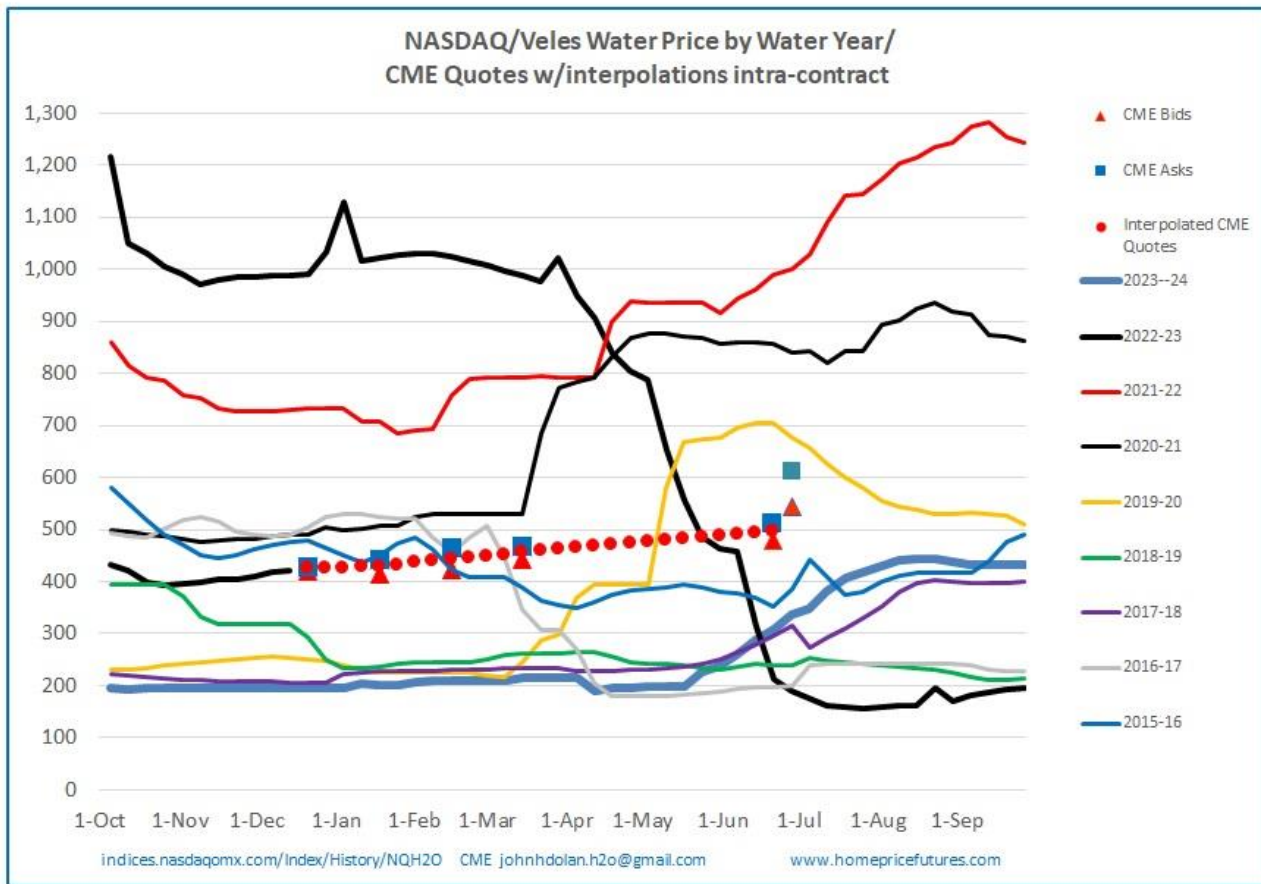
The new NQH2O index level of \$420.24 was published on December 11th up \$2.78 or 0.67% from the previous week. The November settled at the new index level and the December contract is considered the front month. The futures prices have closed at a premium of \$5.76 to \$8.54 versus the index over the past week.

Below are the bid offer prices on different expiries being quoted in the market.

Dec 24	421@429
Jan 25	413@442
Feb 25	422@464
Mar 25	441@469
June 25	480@509
June 26	545@610



NQH20 INDEX HISTORY



The graph above shows the CME water contracts for Dec 2024, January 2025, February 2025, March 2025, June 2025 and June 2026 superimposed over historical NASDAQ Veles water indices. The interpolated curves for 2024-25 and 2025-26 (to include June 2026 contract) are shown in red dots.

(John H Dolan, CME Market Maker)



H2O FUTURES TECHNICAL REPORT



Price Action

- **Current Price:** 426
- The price has remained flat in this trading session, indicating no change in momentum.

Moving Averages (MA) Analysis

- **MA 5 (5-day Moving Average):** 426
The current price is sitting exactly on the MA 5, suggesting short-term neutrality.
- **MA 10 (10-day Moving Average):** 423
The price is slightly above the MA 10, indicating mild short-term bullish momentum.
- **MA 20 (20-day Moving Average):** 417
The price is above the MA 20, signaling strength in the short-term trend.
- **MA 30 (30-day Moving Average):** 410
The price is well above the MA 30, reflecting medium-term bullish momentum.
- **MA 100 (100-day Moving Average):** 428
The price is slightly below the MA 100, confirming a weakened long-term trend compared to recent bullish sessions.
- **MA 120 (120-day Moving Average):** 424
The price is slightly above the MA 120, signaling slight improvement in the long-term trend, but caution persists.



Support and Resistance

- **Immediate Resistance: 500**
This level has been tested multiple times and remains a key resistance point for a breakout.
- **Immediate Support: 426 (current price level)**
The current price may act as support. If it drops below this level, the next significant support would be around the MA 100 at 428.

Stochastic Oscillator

- **Stochastic (K%: 100, D%: 100):**
The stochastic indicator shows that the market is at the maximum, suggesting that while bullish momentum is strong, there could be short-term downward pressure or consolidation ahead.

Summary

- The price is currently experiencing short-term and medium-term bullish momentum, as it is sitting above the MA 10, MA 20, and MA 30.
- However, the long-term trend remains cautious, as the price is still slightly below the MA 100, though it has moved above the MA 120, indicating some improvement.
- The stochastic indicator signals that the market is at the maximum, suggesting the potential for a pullback or consolidation in the short term.

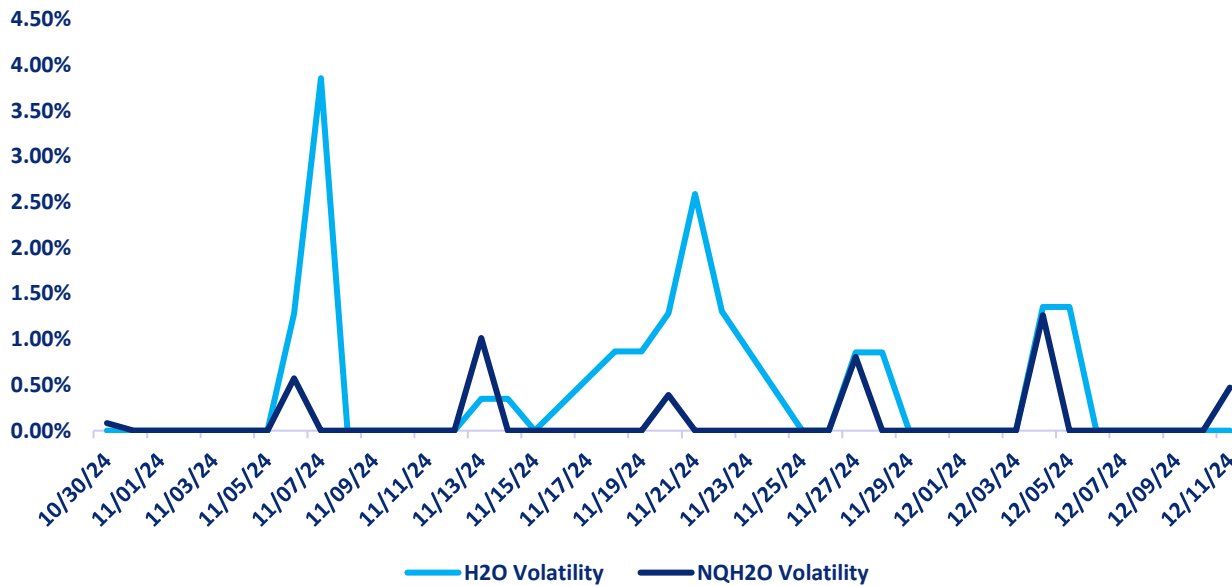
Key Levels to Watch

- **Support:** Immediate support at 426. If the price continues to decline, support around the MA 100 at 428 should be closely monitored.
- **Resistance:** The key resistance level is 500. Breaking above this level would signal a strong bullish breakout.



H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the December contract daily future volatility has been 0%.

ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	29.03%	5.98%	1.11%	1.11%
H2O FUTURES	N/A	7.16%	3.61%	0.00%

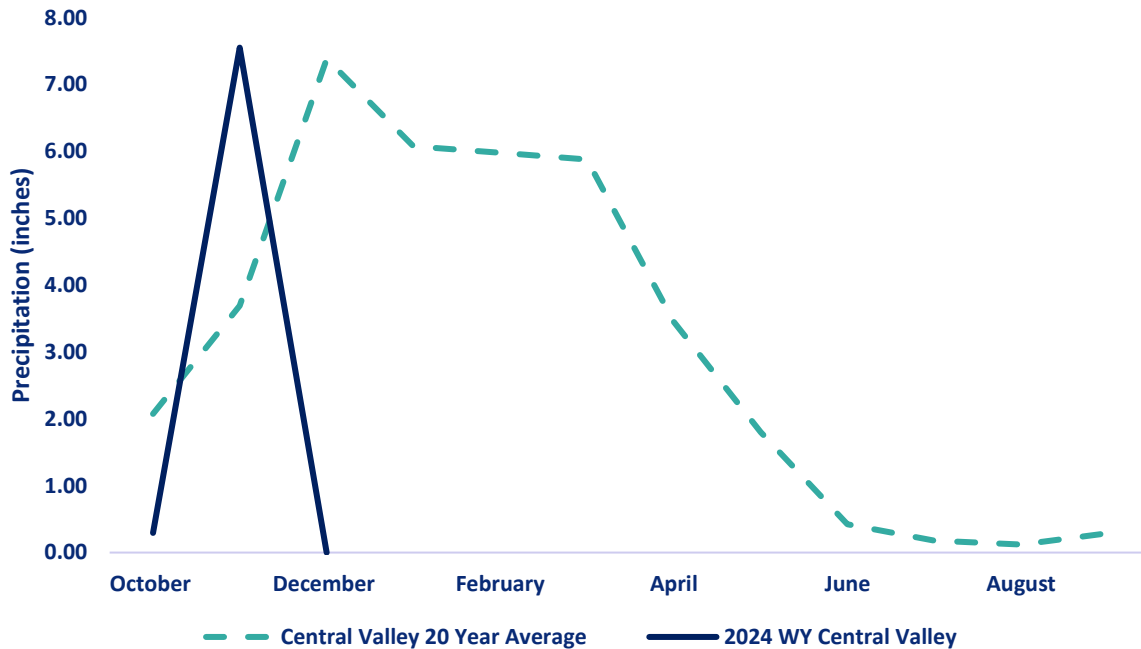
For the week ending on December 11th, the two-month futures volatility is at a premium of 1.18% to the index, down 2.42% from the previous week. The one-month futures volatility is at a premium of 2.49% to the index, up 0.10%. The one-week futures volatility is at a discount of 1.11% to the index, volatility.

*Above prices are all **HISTORIC VOLATILITIES**. All readings refer to closing prices as quoted by CME.*



CENTRAL VALLEY PRECIPITATION REPORT

Central Valley Precipitation Index



Central Valley

average is calculated using data from 19 weather stations in the Central Valley, California.
Data as of 11/12/2024

STATION	MTD (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF 20 YEAR AVERAGE MTD	2025 WYTD VS 2024 WYTD %	2025 WY VS 20 YEAR AVERAGE TO DATE %
SAN JOAQUIN 5 STATION (5SI)	0	0.61	0.00	34	73
TULARE 6 STATION (6SI)	0	1.30	0.00	29	121
NORTHERN SIERRA 8 STATION (8SI)	0	0.08	0.00	46	162
CENTRAL VALLEY AVERAGE	0.00	0.66	0.00	36	119

RESERVOIR STORAGE

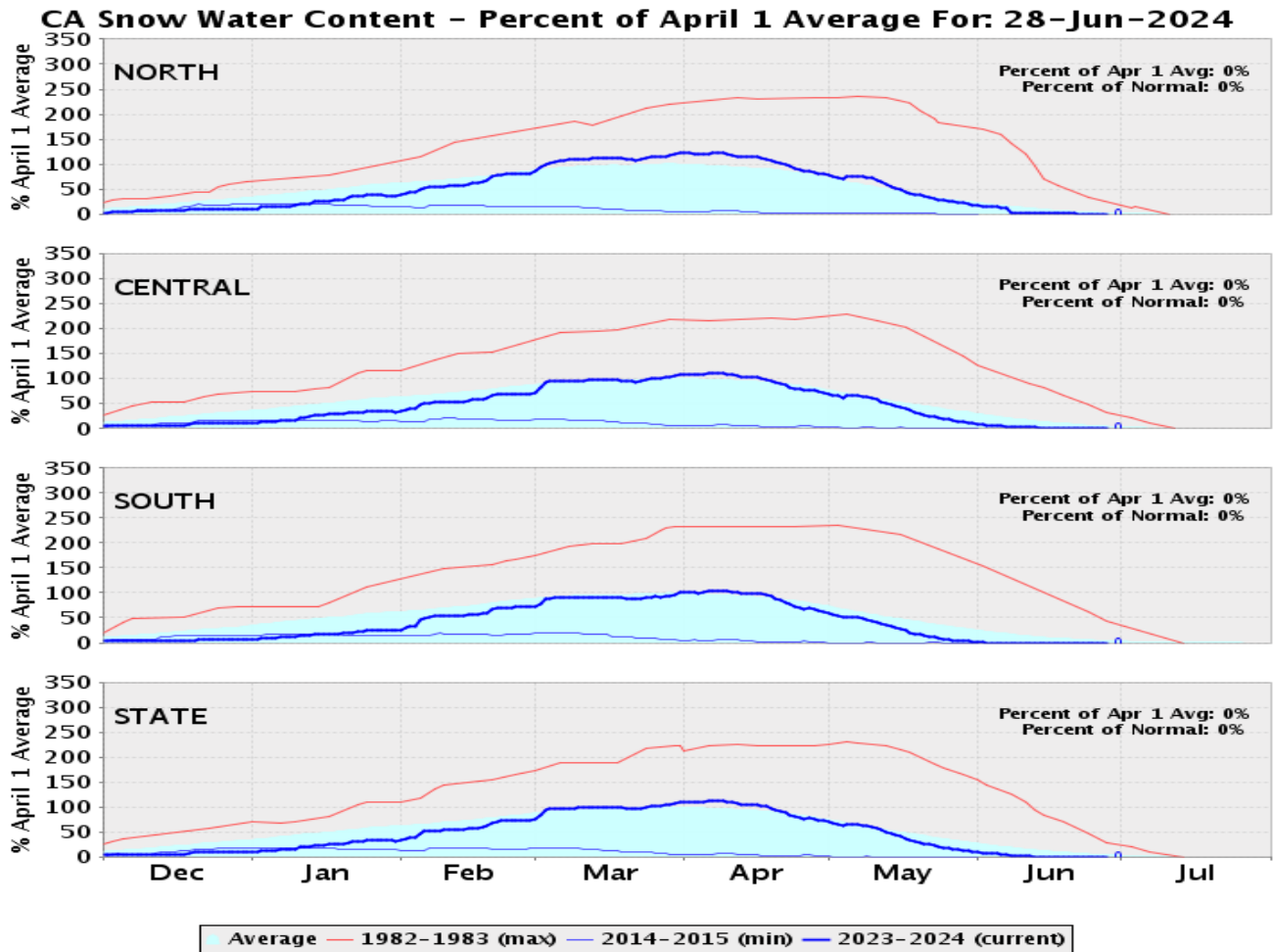
RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	-	-	50	-
SHASTA LAKE	-	-	67	-
LAKE OROVILLE	1,930,784	54	66	109
SAN LUIS RES	1,301,445	64	57	116

*% Historical Average is based on a daily average that is interpolated from historical monthly averages. The monthly averages are computed using monthly data from water year 1991 to 2020. The monthly averages are updated every 5 years using a sliding 30 year period.

[Reference: California Water Data Exchange](#)



SNOWPACK WATER CONTENT



REGION	*SNOWPACK WATER EQUIVALENT (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF AVERAGE LAST YEAR	% OF 20 YEAR HISTORICAL AVERAGE	% OF HISTORICAL **APRIL 1ST BENCHMARK
NORTHERN SIERRA	0	0	0	0	0
CENTRAL SIERRA	0	0	0	0	0
SOUTHERN SIERRA	0	0	0	0	0
STATEWIDE	0	0	0	0	0

*Snow Water Equivalent, or SWE, is a commonly used measurement used by hydrologists and water managers to gauge the amount of liquid water contained within the snowpack. In other words, it is the amount of water that will be released from the snowpack when it melts. SWE has regional variance.

** April 1st is used as the benchmark as it when the snowpack in California is generally deepest. It has been used the benchmark date since 1941 by DWR and can be used to predict spring river flow.

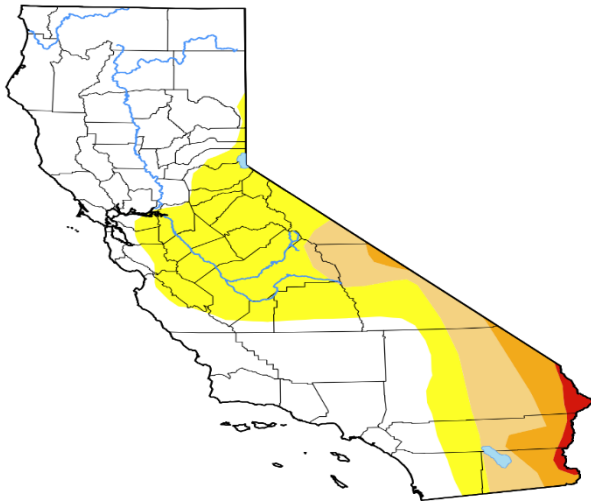


DROUGHT MONITOR

California

[Home](#) / California

Map released: Thurs. December 5, 2024
 Data valid: December 3, 2024 at 7 a.m. EST



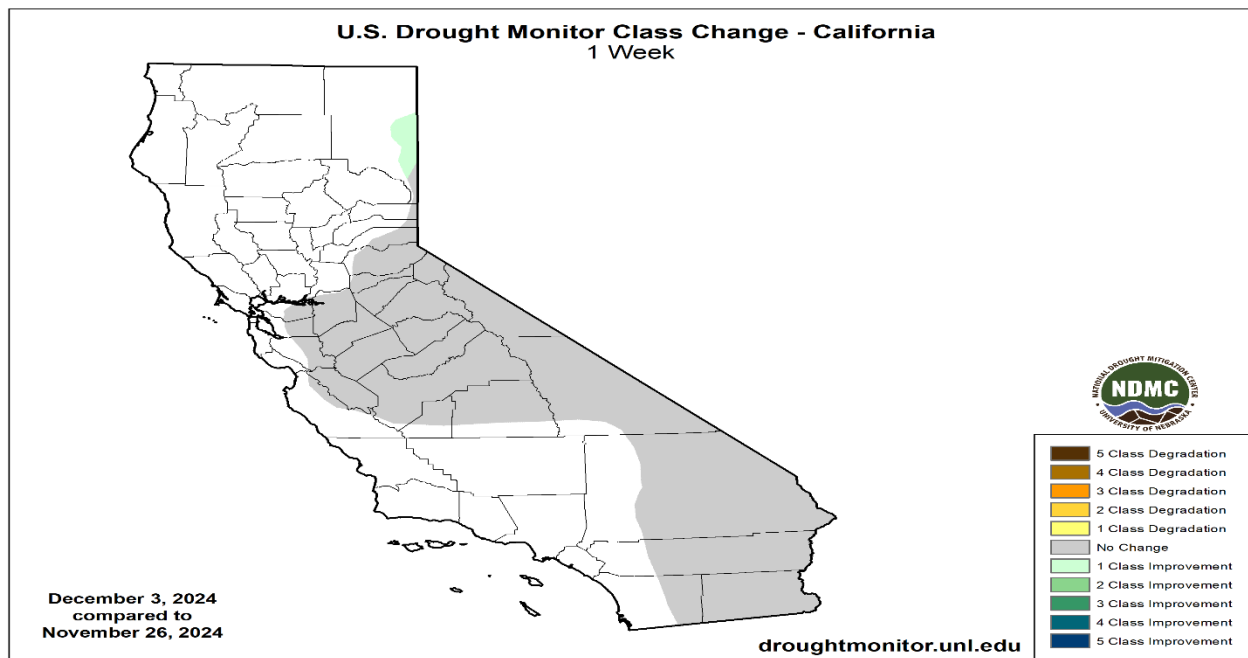
Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

Authors

United States and Puerto Rico Author(s):
[David Simeral](#), Western Regional Climate Center

Pacific Islands and Virgin Islands Author(s):
[Denise Gutzmer](#), National Drought Mitigation Center



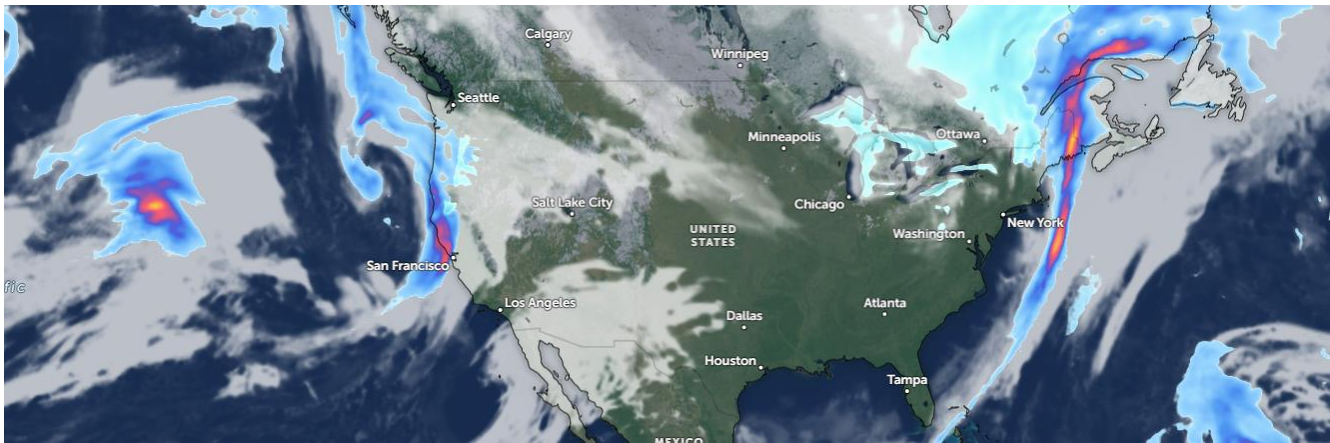
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2024-12-03	56.78	43.22	16.72	5.70	1.03	0.00	67
Last Week to Current	2024-11-26	56.09	43.91	16.72	5.70	1.03	0.00	67
3 Months Ago to Current	2024-09-03	45.59	54.41	8.36	0.00	0.00	0.00	63
Start of Calendar Year to Current	2023-12-26	96.65	3.35	0.00	0.00	0.00	0.00	3
Start of Water Year to Current	2024-10-01	28.40	71.60	10.67	0.08	0.00	0.00	82
One Year Ago to Current	2023-12-05	96.33	3.67	0.00	0.00	0.00	0.00	4

The U.S Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC.



CURRENT SATELLITE IMAGERY

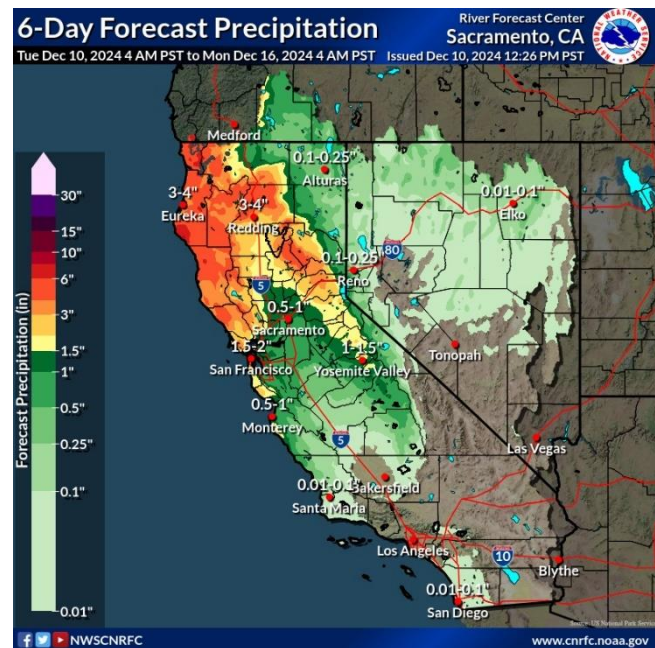
The western US is experiencing 2 systems. Firstly a large Pacific storm is hitting the coastline stretching from Canada down to just north of LA, this will move eastwards bringing significant precipitation to the inland areas. Further south there is a moisture inflow of warmer air which is causing cloud cover over the LA area and further inland to southern Arizona and west Texas. A very large storm is just exiting the east coast into the Atlantic.



10 Day Outlook

Last day of quiet conditions until a more progressive westerly onshore flow sets up across the region...allowing a series of disturbances to impact the west coast. The first s/wv trof will act to weaken and displace the upr ridge across the region...arriving tomorrow morning...while a system on the heels of this one will spread precip across northern CA during the later afternoon and evening hours before the cold front and associated moisture plume drops south toward central CA on Thursday morning. Models have trended slightly wetter with this feature and for the afternoon forecast issuance...have bumped up amounts mainly from Cape Mendocino south to the Big Sur coast and then inland over the length of the Sierra...generally from 0.10- to 0.33-inch or so.

Map Ref: Zoom Earth



The more impressive s/wv trof is expected to arrive for Friday into the weekend. Models are still struggling a bit in terms of timing and trajectory of this system...as can be

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expected several days out in a progressive fast-flow pattern. Incorporating the latest NBM and WPC QPF into the previous forecast...the overall amounts didn't change dramatically. Still anticipating the best totals over northern CA with 0.75- to 1.50-inches for lower elevations...and 2.00- to 5.00-inches for the favorable higher terrain. Once again...as the frontal boundary drops southward and weakens along with the moisture plume narrowing...amounts will drop off across central CA.

Reference: National Weather Service / California Nevada RFC / Sacramento CA



WESTERN WEATHER DISCUSSION

Out West, areas of the region received mountain snowfall during the past week, including the Southern Sierra Nevada, the eastern Great Basin, ranges of south-central Utah, and the Colorado Rockies. On the map, storm events during the past several weeks led to continued improvements in drought-affected areas of Washington, Oregon, California, Nevada, Utah, Colorado, and New Mexico, while some degradation occurred in isolated areas of Arizona, New Mexico, and Wyoming. Looking at the regional snowpack situation, the Natural Resources Conservation Service SNOTEL network is reporting (December 3) the following region-level (2-digit HUC) SWE levels (% of median): Pacific Northwest 126%, Missouri 75%, Upper Colorado 110%, Great Basin 111%, Lower Colorado 72%, Rio Grande 124%, Souris-Red-Rainy 94%, and Arkansas-White-Red 149%. In California, the California Department of Water Resources is reporting statewide snowpack at 157% of normal for the date (December 2). For the week, average temperatures were below normal across much of the northern tier of the region, with the greatest departures observed in northern Montana where temperatures ranged from 10 to 25 degrees below normal. In the Desert Southwest, areas of southern Arizona and New Mexico were 5 to 10 degrees above normal.

Reference:

Lindsay Johnson, National Drought Mitigation Center
Richard Tinker, NOAA/NWS/NCEP/CPC



WATER NEWS

CALIFORNIA WATER NEWS

California water agency votes to spend \$141 million on Delta tunnel project

The board of California's largest urban water supplier voted on Tuesday to spend \$141.6 million for a large share of the preliminary planning work on the state's proposed water tunnel in the Sacramento-San Joaquin River Delta.

With the decision, the Metropolitan Water District of Southern California will continue covering nearly half of the preconstruction costs for the proposed 45-mile tunnel beneath the Delta, which Gov. Gavin Newsom says the state needs to protect the water supply in the face of climate change and earthquake risks.

"This is about planning for the next 100 years," said Adán Ortega, Jr., chair of the MWD board.

The MWD's 38-member board decided to approve the funding after heated debate.

Supporters, who included business advocates and local water officials, said the project will ensure the reliability of supplies to protect Southern California's economy. Opponents, including environmental advocates and Delta residents, argued the project is a costly boondoggle that would harm the environment and push threatened fish species to the brink while failing to deliver the promised water-supply benefits.

The Metropolitan Water District's board has yet to decide whether to invest in building the tunnel, which the state has estimated will cost \$20.1 billion. That decision is not expected until 2027.

Providing funds for the initial work, Ortega said, will enable the agency "to gather critical information about the project's benefits and costs that will allow us to evaluate whether we will participate in the full construction of the project."

Newsom praised the agency's support and said the tunnel, called the Delta Conveyance Project, is "the most important climate adaptation project in the United States of America."

"We're doing everything in our power to move that project forward," the governor said during an [event at a rice farm](#) in Northern California.

Newsom met with MWD leaders in Los Angeles last week to encourage them to support the project, and state Natural Resources Secretary Wade Crowfoot spoke at Tuesday's meeting to make the administration's case.

"Gov. Newsom has two years left in office, and we are focused like a laser on completing the permitting and the certification for this project to make it shovel-ready," Crowfoot said. "Your continued partnership is essential for this project to move forward."



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Crowfoot reiterated the Newsom administration's position that building the tunnel is essential to modernize the state's infrastructure for more severe droughts and deluges with climate change, and to withstand sea-level rise and the risks of an earthquake that could put existing infrastructure out of commission.

"We need in coming decades to keep this source of plentiful, cheap water moving across California," Crowfoot told the board. "This is a cornerstone project of our water resilience."

The board voted overwhelmingly to support providing the funds the state requested.

A single board member, Mark Gold, voted no. Gold, who represents Santa Monica, raised various concerns and questions during a committee meeting Monday. He pointed out there are currently about 10 lawsuits in which environmental groups, local agencies and tribes are seeking to block the state's plans.

Gold noted that state regulators also are in the midst of a [contentious process](#) updating California's plan for managing water in the Delta.

In addition, Gold said it seemed premature to decide on funding for 2026 and 2027 now. While 11 other water agencies in Southern California and the Bay Area have agreed to the state's funding request, two agricultural water suppliers, Kern County Water Agency and Dudley Ridge Water District, [have not yet approved](#) additional funds, which Gold called a "red flag."

He also questioned why the state isn't footing more of the bill. "If this is such a high priority for the state of California, why isn't the state even offering to pay some of this? Most of it? All of it?" Gold said.

Among other things, Gold raised questions about whether the MWD ultimately will be able to afford the project, especially when considered alongside other large investments. He noted that the district is also moving ahead with plans to build an \$8 billion [water recycling facility](#) in Southern California, a project that could be completed within a decade.

Original Article: [The LA Times by Ian James](#)

Where California stands in the multistate negotiations over the Colorado River

What happens at the Colorado River conference in Las Vegas stays at the Colorado River conference in Las Vegas — because nothing really happened.

A multistate effort to lock in long-term plans for conserving vital shared water from the struggling Colorado River [remains stalled](#).

The conference is typically an opportunity for the seven states that rely on the river — California, Nevada, Arizona, New Mexico, Colorado, Utah and Wyoming — to come to the table and make progress on a deal. But not this year.



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“Those on both sides say they are willing to continue trying to reach a deal on how to apportion cutbacks in water use after 2026, when the current rules expire,” Times reporter Ian James [wrote this week](#). “But they also say easing the stalemate will be difficult.”

Basin-based tensions

The rift has widened between the three states in the river’s lower basin (California, Nevada and Arizona) and the four upper basin states (Wyoming, Utah, Colorado and New Mexico).

[Dueling proposals](#) from both camps outline how mandatory cutbacks should be determined and how much water each state would be mandated to cut back. Each group views the other’s proposal as unfairly burdening them.

Ian also noted that water managers in the upper basin states are facing criticism “for moving ahead with plans for new dams and diversions that would take more water from the river.”

As the impasse continues, so has public finger-pointing. Previous conferences included closed-door meetings of representatives from all seven states, but no meeting was scheduled this year. Some reps accused the other side of undermining efforts to hash out an agreement.

Still, some expressed optimism that they can get a deal done.

“I really feel like we might want to spend some time looking at where we have some common ground, and see what we can build on from there,” Becky Mitchell, Colorado’s top negotiator, told Ian. “We have to look at what the supply is and share that.”

A river in peril

The Colorado River originates in the Rocky Mountains and is a key source of the water we and our crops drink. Among the seven states that rely on the waterway, California takes the biggest gulp. In 2020, 4.1 million acre-feet streamed into the Golden State (more than 1 trillion gallons) out of more than 11 million acre-feet sent out across the West (Mexico also receives water from the river).

The seven-state arrangement to share the river’s water was established with the [Colorado River Compact](#), signed in 1922. Even before that, some scientists warned that the river could not sustain that level of demand.

A century later, [those concerns are on full display](#) in near-empty reservoirs, receding lakes and dusty stretches of desert where the river once flowed.

“The average flow of the river has shrunk about 20% since 2000,” Ian wrote.

“California water agencies say they have reduced water use by more than 1.2 million acre-feet over the last two years, decreasing the state’s usage of Colorado River supplies to the lowest levels [since the 1940s](#),” he added.



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If the seven states can't reach an agreement, a legal battle could ensue, Ian noted, though that would bring "uncertainty that water managers in both camps have said they hope to avoid."

Experts at the conference floated the possibility that the aquatic quarrel could [make its way to the Supreme Court](#), though that's viewed as a crisis that should be averted.

I wondered what impact the incoming Trump administration could have in negotiations, so I asked Ian about that. He believes the president and his team will follow their predecessor's administration in being largely hands-off. Why? To avoid "making enemies in states where they'd like political support," he said.

"Eventually, Trump will appoint people to lead the Bureau of Reclamation, who will set the tone with their decisions about the federal environmental review," Ian told me. "Those appointees will likely play a key role as encouragers — encouraging the states to get a deal done."

Original Article: [The LA Times by Ryan Fonseca](#)

Biden-Harris Administration announces \$65m for Northern California water projects

The Department of the Interior announced a total of over [\\$849 million from President Biden's Investing in America](#) agenda to revitalize aging water delivery systems across the West. The funding includes **support of 11 projects in Northern California** totaling \$65.1 million to improve water conveyance and storage, increase safety, improve hydropower generation, provide water treatment, as well as funding for fishery improvements.

The funding was announced by Reclamation's Senior Counselor John Watts during a visit to Shasta Dam in California's Shasta County this morning. Projects focusing on water and power include:

- Shasta Powerplant Service Transformer - \$11,198,509
- Shasta Dam 850' and 950' Outlet Works Rehabilitation - \$9,550,000
- Shasta Power Plant Generator Step Up Transformers Replacement - 7,250,000
- Keswick Dam Spillway Regulating Gate Rehabilitation - \$4,400,000
- Keswick Power Plant Generator Step Up Transformers Replacement - \$3,200,000
- Shasta Pumping Plant Modernization - \$2,530,000
- Spring Creek Power Plant Turbine Runners Replacement - \$2,500,000
- Shasta Power Plant and Keswick Power Plant Elevator Modernization - \$1,400,000

Original Article: [Smart Water Magazine](#)



US WATER NEWS

Opposition surfaces as deadline nears to ratify tribal water settlement in Arizona

A coalition of tribes, water officials and water board members from the Lower Basin of the Colorado River came to the Colorado River Water Users Association meeting last week on a mission: overcome resistance by Upper Basin states to passing key water rights settlement legislation before Congress adjourns later this month.

The [Northeastern Arizona Indian Water Rights Settlement Act](#) would ratify an agreement reached after nearly six decades of negotiation and litigation over portions of the Colorado and Little Colorado rivers and groundwater. The settlement act would also fund the infrastructure to bring safe and reliable water to the Navajo Nation and the Hopi and San Juan Southern Paiute tribes, which most Arizonans take for granted. The historic settlement was [signed by Arizona Gov. Katie Hobbs](#) in November after being [finalized in May](#).

The bills were sponsored by Democratic Sen. Mark Kelly in the Senate and a companion House bill by Rep. Juan Ciscomani, R-Ariz., and co-sponsored by outgoing Sen. Kyrsten Sinema, I-Ariz., and Rep. Eli Crane, R-Ariz., who represents the three tribes and other communities in northeastern Arizona.

The legislation would also settle claims by several other communities and stakeholders outside tribal lands. Some of those include Flagstaff, Snowflake, St. Johns and other towns and cities, all of which have sought certainty in their water supplies.

The bill, which is among many under consideration in the lame-duck session at the end of the current congressional term, would also give the San Juan Southern Paiute Tribe a long-awaited 5,400-acre trust land base, enabling the 300-member tribe to build needed infrastructure like housing and tribal administration facilities.

The Navajo Nation in particular has suffered from a lack of fresh, clean water. During the COVID-19 pandemic, the death rate for Navajos was [about 800 per 100,000 people](#), more than twice the rate of the United States as a whole, according to [Johns Hopkins University's final COVID report](#).

None of those statistics, nor the strong consensus among Lower Basin officials seemed to sway the Upper Basin states, even though New Mexico and Utah have enacted settlements with Navajo. Among other concerns: Because Navajo has land and claims to water in both basins, Colorado, New Mexico, Utah and Wyoming leaders said all seven states must reach consensus according to federal law.

Original Article: [AZ Central by Debra Utacia Krol](#)



‘Zero progress’: Western states at impasse in talks on Colorado River water shortages

Seven Western states that depend on the Colorado River are ending the year at an impasse in negotiations over the writing of new rules for dealing with chronic water shortages.

Representatives of California and other states who attended an annual Colorado River conference in Las Vegas last week said they remain deadlocked in their talks on long-term plans for reducing water use to prevent the river’s reservoirs from reaching critically low levels.

Disagreements over competing proposals have created a deep rift between two camps: the three states in the river’s lower basin — California, Arizona and Nevada — and the four states in the river’s upper basin — Colorado, Utah, Wyoming and New Mexico.

Those on both sides say they are willing to continue trying to reach a deal on how to apportion cutbacks in water use after 2026, when the current rules expire. But they also say easing the stalemate will be difficult.

Negotiations over the last year have brought “zero progress,” said JB Hamby, California’s Colorado River commissioner. He blamed the upper basin states for an entrenched position resisting participation in the cutbacks, which he said is untenable.

It’s worrying that there is a “widening chasm” between the sides, Hamby said. “We are running out of time, and we’re no closer to much of anything at this point than at the beginning.”

The Biden administration last month [outlined a range of alternatives](#) for the new guidelines, which will replace interim rules that were adopted in 2007. Along with that ongoing federal review process, President-elect Donald Trump’s administration is set to inherit a role in searching for a plan that all seven states can accept.

The impasse has raised the possibility that if disagreements aren’t resolved, the states could enter a legal battle, a path riddled with uncertainty that water managers in both camps have said they hope to avoid.

The tensions were apparent during last week’s Colorado River Water Users Assn. conference in Las Vegas, an event that often features negotiating sessions in addition to speeches outlining proposals for reducing demands on the river.

One public disagreement emerged over the lack of a meeting of the seven states’ representatives at the conference, a closed-door discussion that was usually scheduled in previous years.

Becky Mitchell, Colorado’s top negotiator, [said during one public session](#) that she had expected representatives of all seven states to meet before the gathering started, but “that did not occur.”

Hamby took issue with her comment in an interview after the conference, saying it was untrue to suggest the lower basin states had denied a request to meet. Hamby said



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Mitchell had emailed him and others Dec. 2 to ask if they would have time to meet on Dec. 3 before the start of the conference, but he told her that wouldn't work because his flight was scheduled to arrive later.

Hamby accused Mitchell of trying to portray representatives of California, Arizona and Nevada as being unwilling to talk.

"It was a last-minute pointed request meant to not generate a meeting, and then use it as a media sound bite," Hamby said. "It begs the question, why would we want to talk to them when this is the sort of childish antics that seem to be increasingly dominating the upper basin's manner of behavior? Not focused on actual issues, but how do we play gotcha games in the media that misrepresent each other."

Mitchell denied that, saying she emailed hoping all the states' representatives would meet during the week, but that didn't happen.

"My intention is to find a way to move forward," she said. "And so I'd be willing to meet any time — Zoom, phone, in person, anywhere."

The Colorado River provides water for cities from Denver to Los Angeles, 30 Native tribes and farmlands from the Rocky Mountains to northern Mexico.

The river has long been over-allocated, and its reservoirs have declined dramatically since 2000. The average flow of the river has shrunk about 20% since 2000, and scientists have estimated that roughly half that decline has been [caused by global warming](#) driven by the burning of fossil fuels and rising levels of greenhouse gases.

The decline in flow is projected to worsen as temperatures rise.

In recent years, the states have adopted a series of incremental water-saving plans to try to prevent reservoirs from reaching perilously low levels.

California water agencies say they have reduced water use by more than 1.2 million acre-feet over the last two years, decreasing the state's usage of Colorado River supplies to the lowest levels [since the 1940s](#). Some of those water savings have come through the Biden administration's funding of programs that pay farmers to [temporarily leave fields dry](#) to reduce water use.

Those efforts have helped conserve water in Lake Mead, the country's largest reservoir. As of this week, the reservoir near Las Vegas is 33% full.

Upstream on the Utah-Arizona border, the water level of Lake Powell, the nation's second-largest reservoir, stands at 38% of capacity.

With the negotiations on future water reductions at an impasse, some experts at the conference discussed the possibility of a legal fight [being decided by the U.S. Supreme Court](#).

Summarizing the mood at the meeting in an [article for the news site Aspen Journalism](#), reporter Heather Sackett wrote that "speakers invoked Dr. Strangelove, the Hunger Games and Alice in Wonderland to convey the dire, darkly dystopian and illusory state of the negotiations."



Mitchell told The Times in an interview that the hard discussions reflect the difficulty of making substantial changes to adapt when the reservoirs are at low levels. Original Article: [The LA Times by Ian James](#)

President Biden's Investing in America Agenda Supports \$65 Million Investment to Fulfill Indian Water Rights Settlements

The Department of the Interior today announced more than \$65 million investment through President Biden's Investing in America agenda to continue fulfilling settlements of Indian water rights claims with funding from the Bipartisan Infrastructure Law. The funding will support major water projects across the West to secure reliable water supplies for Tribes.

The President's Investing in America agenda has deployed record investments to provide affordable high-speed internet, safer roads and bridges, modern wastewater and sanitation systems, clean drinking water, reliable and affordable electricity, good paying jobs and economic development in every Tribal community. The Bipartisan Infrastructure Law alone invests more than [\\$13 billion directly in Tribal communities](#) across the country. This includes \$2.5 billion to implement the Indian Water Rights Settlement Completion Fund (Completion Fund), which is helping deliver long-promised water resources to Tribes. The allocation announced today will fully exhaust the \$2.5 billion provided through the Completion Fund.

"Today, the Interior Department has upheld our trust responsibilities through President Biden's Investing in America Agenda and ensured that Tribal communities will receive the water resources they were long promised," said Secretary Deb Haaland, who made the announcement in remarks at the 2024 White House Tribal Nations Summit. "Reliable water is crucial to ensuring the health, safety and empowerment of Indigenous communities. I am grateful that Tribes, some of whom have been waiting for this funding for decades, are finally getting the resources they are owed. I hope that future Congresses continue to recognize the importance of delivering on these long overdue commitments."

Indian water rights are vested property rights for which the United States has a trust responsibility to Tribal Nations. Federal policy supports the resolution of disputes regarding Indian water rights through negotiated settlements. Settlement of Indian water rights disputes breaks down barriers and helps create conditions that improve water resources management by providing certainty as to the rights of all water users who are parties to the disputes.

Prior to the signing of the Bipartisan Infrastructure Law, many Indian Water Rights settlements remained underfunded. The funding included in the law aligns with the President's commitment to ensure the federal government honors its commitment to Tribal Nations and Indigenous communities. The Department will allocate nearly \$65.9



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million from the Law for settlements that were enacted prior to the Bipartisan Infrastructure Law's execution.

Original Article: [The US Dept. of the Interior](#)

EPA Takes Action to Address Water Quality Challenges in Tucson, Arizona

The U.S. Environmental Protection Agency (EPA) continues to prioritize public health and environmental protection in Tucson, Arizona, by addressing critical water quality challenges. Recent initiatives have focused on mitigating contamination risks associated with per- and polyfluoroalkyl substances (PFAS) and lead, two of the most pressing threats to the region's water supply.

These measures aim to ensure that Tucson's residents have access to clean, safe drinking water, securing the city's resources for future generations.

As a rapidly growing desert city, Tucson faces unique challenges in managing its water supply.

Limited natural resources, aging infrastructure, and emerging contaminants like PFAS demand innovative and collaborative approaches. Recognizing the urgent need for action, the EPA has implemented targeted strategies and formed partnerships to address these issues comprehensively.

These efforts underscore the EPA's commitment to proactive water management, balancing immediate health concerns with long-term sustainability. By addressing both current contamination risks and the underlying causes of water quality issues, the EPA seeks to protect Tucson's vital water resources while building resilience against future challenges.

Key Actions to Address PFAS Contamination

PFAS, or per- and polyfluoroalkyl substances, are synthetic chemicals that have been widely used in industrial applications and consumer products for decades. Their durability and resistance to degradation have earned them the nickname "forever chemicals."

However, these same properties also make PFAS a significant environmental and public health concern. Studies have linked PFAS exposure to serious health effects, including liver damage, thyroid disease, immune system disruption, and certain types of cancer. Recognizing the urgency of this issue, the EPA has taken decisive action to address PFAS



contamination in Tucson, where these chemicals have been detected in the local water supply.

1. Safe Drinking Water Act Order to the U.S. Air Force

The EPA has issued a Safe Drinking Water Act order directing the U.S. Air Force to take responsibility for addressing PFAS contamination in Tucson’s drinking water. Historical use of aqueous film-forming foam (AFFF), a firefighting substance containing PFAS, at Air Force facilities is a significant source of contamination. The EPA’s order requires the Air Force to implement immediate and long-term remediation measures.

Original Article: [EIN Press News Wire](#)

Feds release \$850M to fix aging water infrastructure in the West

The projects selected for funding are part of the Biden administration’s effort to make Western communities more resilient to climate change and to address the ongoing megadrought across the region.

A big portion of the funding will go to projects working to bring the Colorado River — on which [one in eight Americans depend](#), according to Vox — back from the brink of crisis amid the region’s worst dry spell in more than 1,200 years. Fourteen projects totaling \$118.3 million will help support the Colorado River Basin, per the DOI.

New Mexico will receive \$143 million to realign the Rio Grande for improved water conveyance and to provide a long-term strategy to manage sediment, while California is getting \$204 million to address structural impacts to the Delta Mendota Canal from dropping groundwater levels.

“As we work to address record drought and changing climate conditions in the Colorado River Basin and throughout the West, these investments in our aging water infrastructure will conserve community water supplies and revitalize water delivery systems,” said Acting Deputy Secretary Laura Daniel-Davis in the release.

Water infrastructure is a booming industry right now in the U.S. and around the world: CEOs at [Jacobs](#), [AECOM](#), [WSP](#) and other major construction companies have talked about their positive outlook on the sector in recent earnings calls.

Original Article: [Construction Dive by Julie Strupp](#)

Water Rights Agreement Will Save \$20 Million, Help Protect Colorado River

The [San Diego County Water Authority](#) announced a new multi-agency agreement this week that will save local water customers \$20 million while protecting Colorado River supplies.

The water exchange agreement with the [Imperial Irrigation District](#) and the Los Angeles-based [Metropolitan Water District](#) is the second over two years. Together the actions



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will conserve more than 100,000 acre-feet of water in Lake Mead, the giant reservoir behind Hoover Dam that has fallen dramatically in recent years.

“For the second year in a row, the Water Authority and its partners have struck a deal to conserve water in Lake Mead and save our local ratepayers approximately \$20 million,” said Water Authority Board Chair Nick Serrano.

“This is a win-win for all of us and demonstrates how the Water Authority is strategically using its assets to help protect ratepayers and the Colorado River through innovative thinking.”

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The cost saving for local customers is funded by the [U.S. Bureau of Reclamation](#) as part of its efforts to protect the over-utilized Colorado River.

The deal was announced during a meeting of the Colorado River Board of California at this year's Colorado River Water Users Association's conference in Las Vegas.

Because the San Diego region started investing heavily in desalination, storage and other water security measures nearly 30 years ago, the region has reliable supplies for the foreseeable future and can exchange water with other jurisdictions.

Original Article: [Times of San Diego by Chris Jennewein](#)



GLOBAL WATER NEWS

Thames Water will run out of cash by March without £3bn emergency funding

Thames Water has said it will run out of cash by next March if it fails to secure a £3bn financial lifeline, as it admitted its sewage spills had risen sharply.

Britain's biggest water supplier said on Tuesday that all of its funds may be "exhausted" if it failed to secure the emergency funding from its creditors, putting it at risk of temporary nationalisation.

The heavily indebted company recorded a 40% increase in the number of pollution incidents in the six months to 30 September. Thames reported 359 category one to three pollution incidents in that period, blaming an especially wet spring and summer.

The industry has faced [public outcry over sewage spills](#) into seas and waterways. The Thames Water chief executive, Chris Weston, said that after "record rainfall and groundwater levels in our region, pollution and spills are unfortunately up".

Thames faces two critical court dates, on 17 December and 20 January, in order to secure approval for the money – referred to as a "liquidity extension" – which some creditors have already agreed to lend.

Weston sought to justify staff receiving bonuses of £770,000 despite criticism from regulators, rising consumer bills and problems with environmental performance.

He said: "We need to attract talent to this company. We operate in a competitive market and if we don't offer competitive packages people will not come and work at Thames and that will not solve the problem."

Weston took on the job in January and was awarded a £195,000 bonus for his first three months at the company.

On Tuesday, Thames said net debts for its operating company had grown to £15.8bn during the half-year, from £14.7bn during the same period a year earlier. However, its overall debt is likely to be even greater – it has previously said its total debt was more than £19bn.

The financial update comes at a critical time for the company, which supplies 16 million customers across London and the Thames Valley and needs billions of pounds to maintain its water and waste treatment services.

If the court and its creditors approve, the proposed deal would give Thames enough funds to continue until October. Thames is also seeking to raise £3.25bn in new equity to fund investments up to 2030.

Thames said it had "sufficient cash to meet [its] liabilities as they fall due until prior to the end of March 2025 and any delays to the implementation of the liquidity extension transaction could result in that cash being exhausted".



Giles Bristow, the chief executive of the pressure group Surfers Against Sewage, said: “Yet more excuses from Thames [Water](#) for yet another period of shocking sewage performance. What have their customers’ bills been going towards? This is a prime example of the urgent need for the government to radically reform England’s broken water sector.”

Tim Farron, the environment spokesperson for the Liberal Democrats, said “This latest shocking rise in sewage spills must be the final straw for Thames Water. The government must put this broken firm into special administration to give customers the fair deal they deserve.”

Original Article: [The Guardian by Anna Isaac and Helena Horton](#)

New system for detecting bugs in water supply is ‘very significant improvement’

A new technology for detecting harmful bugs in public water supplies is a “very significant improvement” on existing systems, scientists have announced.

Researchers at [Heriot-Watt University](#) have developed a new system for detecting waterborne pathogens that they say has a success rate of more than 70%, compared with an industry standard of 30%.

They said the system, which is undergoing performance testing at a “major UK water company”, will reduce the likelihood and severity of contamination incidents, such as the cryptosporidium outbreak in [Devon](#) earlier this year.

Our system has achieved a very significant improvement in detection rates of harmful bugs in the water

Professor Helen Bridle, Heriot-Watt University

The outbreak saw about 17,000 households and businesses in the town of [Brixham](#) told to boil drinking water, and scores of reported cases of illness.

Researchers also pointed to figures showing the amount of illness linked to cryptosporidium in the UK each year is growing, with several thousand cases linked to the microscopic parasite in the UK each year.

Project lead Professor Helen Bridle said: “[People](#) across the UK are very concerned about potential contamination in public water systems: incidents like the one in Devon show just how serious an impact they can have on people’s lives and livelihoods.

“Our system has achieved a very significant improvement in detection rates of harmful bugs in the water so this technology will prevent illness and economic losses much more effectively in future.”

Water companies routinely monitor water quality but the scientists said the “different approach” taken with their monitoring system allowed them to achieve a “significantly better performance”.



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The team is in the process of setting up a spin-out company called Aquazoa to take the new system to market and it is expected to be commercialised by early 2026. It has secured high growth spin-out funding from Scottish Enterprise, Scotland's national economic development agency.

Original Article: [The Independent by Nick Forbes](#)

Thames Water reports 40% rise in pollution incidents as debts swell

Thames Water saw a 40% increase in pollution incidents in the first half as its debts continued to spiral.

The company reported 359 so-called category one to three pollution incidents in the six months to September 30, blaming an especially wet spring and summer.

Debt levels were £15.8 billion at the end of the period, before the company agreed a £3 billion extra loan deal to keep it operating beyond mid-2025.

Chief executive Chris Weston said the company has made “solid progress” on its attempted turnaround, but that after “record rainfall and groundwater levels in our region, pollutions and spills are unfortunately up”.

He added that the company has reached “key milestones in establishing a more stable financial platform, agreeing a liquidity extension transaction proposal and progressing our equity raise process”.

“The next critical step is receiving an investable final determination (from regulator Ofwat) which is fundamental to our future,” he added.

Thames Water has been at the centre of growing public outrage over the extent of pollution, rising bills, high dividends, and executive pay and bonuses at the UK's privatised water firms.

It recently asked regulator Ofwat to let it raise average bills by 59% over the next five years, compared with current levels.

The company, which serves about 16 million people, is in the grip of a funding crisis, and needs at least £3.3 billion in equity over the next five years to keep operating.

Thames Water is also the subject of bids by several investment groups who are looking to buy the company out.

But the process for an equity injection cannot be finalised until Ofwat makes a final decision on planned bill increases, due on December 19.

Ofwat has also appointed an independent monitor to supervise Thames Water as it attempts a turnaround.

Original Article: [News Hopper by PA News Agency](#)

Rethinking responses to the world's water crises

The world faces multiple water crises, including overextraction, flooding, ecosystem degradation and inequitable safe water access. Insufficient funding and ineffective



implementation impede progress in water access, while, in part, a misdiagnosis of the causes has prioritized some responses over others (for example, hard over soft infrastructure). We reframe the responses to mitigating the world's water crises using a 'beyond growth' framing and compare it to mainstream thinking. Beyond growth is systems thinking that prioritizes the most disadvantaged. It seeks to decouple economic growth from environmental degradation by overcoming policy capture and inertia and by fostering place-based and justice-principled institutional changes.

Original Article: [Grafton, R.Q., Fanaian, S., Horne, J. et al. Rethinking responses to the world's water crises. *Nat Sustain* \(2024\). <https://doi.org/10.1038/s41893-024-01470-z>](https://doi.org/10.1038/s41893-024-01470-z)

Water security needs water intelligence

In Canadian cities, new homes and highways crowd out wetlands and industrial expansion takes a toll on already diminishing groundwater supplies. Large prairie cities reliant on snowmelt from the Rockies are often scrambling to cope with dwindling supplies, all while infrastructure ages and human population expands. As our forests burn and permafrost thaws in the North, water quality is degraded, challenging our municipal works and Indigenous communities who have long struggled to secure clean drinking water. Abandoned, existing, and future mines that support energy transition have far-reaching impacts on our water that we struggle to balance with the economic opportunities they provide. All of this is occurring while recent rumblings from our American neighbours about diverting Canadian water south leads to heightened anxiety. Golf courses in the deserts of Arizona and Nevada need to be kept green.

Original Article: [The Hill Times by Sean Carey](#)

Global hydropower projects advance resilience

Around the world, ambitious hydropower projects are making significant strides in boosting energy security, improving infrastructure, and adapting to environmental challenges. From the spillway upgrades at Tasmania's Meadowbank Dam to the tunnelling breakthroughs in Australia's Snowy 2.0 and Lesotho's Highlands Water Project, engineers are pushing the boundaries of what these energy systems can achieve. As efforts continue across the US and the UK, these projects are not only securing power for millions but also laying the groundwork for a more resilient, renewable energy future.

In September, [Hydro Tasmania](#) announced it has completed a \$16million upgrade of the spillway gates at Meadowbank Dam in the Central Highlands.

The newly upgraded crest gates have seen extreme rainfall and have performed well and as expected in these weather conditions. The gates will allow Hydro Tasmania to better manage water levels for lake users and power station operations.



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The works were carried out over two summers and Community Engagement Advisor Jane Alpine thanked local residents for their engagement with the project team. “We are incredibly grateful for the support the community has shown us as we completed this critical work,” said Alpine. “We know how important Lake Meadowbank is to the community. It offers something for everyone, from supporting key agriculture and tourism businesses to providing summer fun for the whole family.”

At Lake Meadowbank, the dam’s spillway is automatically controlled by two crest gates that sit on top of the dam wall. The upgrade replaced the 20 4.2-tonne hydraulic cylinders that keep these hardworking gates moving with new lighter models from Europe. After consulting with the community, the upgrades were split into two stages to minimise disruption during peak holiday and irrigation periods.

Works were also carried out with the water level as high as safely possible to lessen the impact on lake users.

“Doing the upgrades with the water level higher than usual meant we got a shower or two but we knew it was important for the community to be able to use the lake over summer,” said Hydro Tasmania Project Manager Andrew Rumsby.

As a gesture of thanks to the broader community, Hydro Tasmania contributed to the recently upgraded Dunrobin Park, including the installation of visitor interpretation.

The works are part of Hydro Tasmania’s \$1.6 billion program of upgrades to optimise and modernise its hydropower network over the next 10 years.

Tunnelling work

While Tasmania’s Meadowbank Dam upgrades improve local hydropower resilience, Australia’s Snowy 2.0 megaproject takes a bolder step towards national energy security, addressing fresh tunnelling challenges.

A new tunnel boring machine will be deployed to help keep [Snowy 2.0](#) on its delivery timeline, subject to approval by the NSW Department of Planning, Housing and Infrastructure. New ground testing techniques have provided a better understanding of the full extent of a complex fault zone on the route of the 17km tunnel that will connect Snowy 2.0’s upper reservoir to its underground power station.

Snowy Hydro CEO Dennis Barnes said activating a fourth tunnel boring machine is the right course of action, given that what is now known about the tunnelling challenges ahead has provided the opportunity to mature the design.

“We’ve always known the fault zone was there and I’ve said in the past we will need to take action,” Barnes said. “While the fault zone is not a surprise, further ground testing since the project reset has revealed it is far more geologically challenging than earlier investigations indicated.

“We’ve carefully considered a range of options to get through the fault zone and overcome the initial design immaturity. Bringing in a fourth machine is the best way to keep the Snowy 2.0 on track for its target completion date of December 2028.”



A modification for Snowy 2.0's project approval has been submitted to the NSW Department of Planning, Housing and Infrastructure, and will be subject to the Department's independent community consultation and assessment processes.

The planning modification seeks approval for a change to construction methods within the hydropower project's already approved work zone. There is no proposal to increase approved land clearing areas, surface or groundwater impacts. Local communities will be consulted about relevant changes to construction methodologies.

"We're mindful that we are building Snowy 2.0 in a precious and protected national park. We have worked diligently to arrive at a proposal that does not step outside our existing construction area or increase our already approved impacts," Barnes said.

He said the company remains committed to transparency regarding the project, given the inevitable challenges ahead.

"Just like the construction of the original Snowy Scheme, this is one of the most challenging and complex megaprojects underway in the world," he said. "The fourth tunnel boring machine is an example of adapting to the situation in front of us, so we are doing everything we can to safely meet Snowy 2.0's delivery timeline."

While the need for a new tunnel boring machine is driven by new information about the fault zone, Mr Barnes acknowledged that the disappointing performance of Florence, the tunnel boring machine excavating the same tunnel that the new machine will also work on, has contributed to the need to take significant action.

"It's difficult to say with certainty whether the same action would be needed if Florence had performed as we had hoped. However, it's likely that the fourth machine would still be needed," Barnes said.

Snowy 2.0 pumped storage hydropower project will help underpin Australia's transition to renewable energy through its ability to generate enough flexible, fast-dispatch energy to power 3 million homes continuously for a week.

The unmatched scale and duration of Snowy 2.0's storage and generating ability will effectively provide the network with critical electricity supply insurance against extended periods without enough wind and sunlight. Most other forms of storage, including batteries, can only generate power for a handful of hours.

According to AEMO (the Australian Energy Market Operator), Snowy 2.0 will supply a majority of the National Electricity Market's storage needs, greater than every other storage asset combined.

"Snowy 2.0 is critical to Australia's energy future. We need to get this job done," Barnes said.

Subject to planning approval, the new machine will be tunnelling before the end of 2025.

Original Article: [Water Power Magazine by Carrieanna Stocks](#)



Note the attachment is not an inducement to trade and Veles Water does not give advice on investments.