

Veles Water Weekly Report

1. **WATERTALK**
TECHNICAL ANALYSIS BY JOSHUA BELL
2. NQH2O INDEX VS H2O FUTURES PRICE PERFORMANCE
3. NQH2O INDEX HISTORY
4. H2O FUTURES TECHNICAL REPORT
5. NQH2O INDEX AND H2O FUTURES VOLATILITY ANALYSIS
6. CENTRAL VALLEY PRECIPITATION REPORT
7. RESERVOIR STORAGE
8. SNOWPACK WATER CONTENT
9. CALIFORNIA DROUGHT MONITOR
10. CLIMATE FORECAST
11. WESTERN WEATHER DISCUSSION
12. WATER NEWS
 - I. CA WATER NEWS
 - II. US WATER NEWS
 - III. GLOBAL WATER NEWS

March 27th 2025

Authors:

Lance Coogan - *CEO*

Joshua Bell - *Research Analyst*

research@veleswater.com

+44 20 7754 0342



VelesWater



WATER FUTURES MARKET ANALYSIS

Welcome to ***WATERTALK***

by Joshua Bell

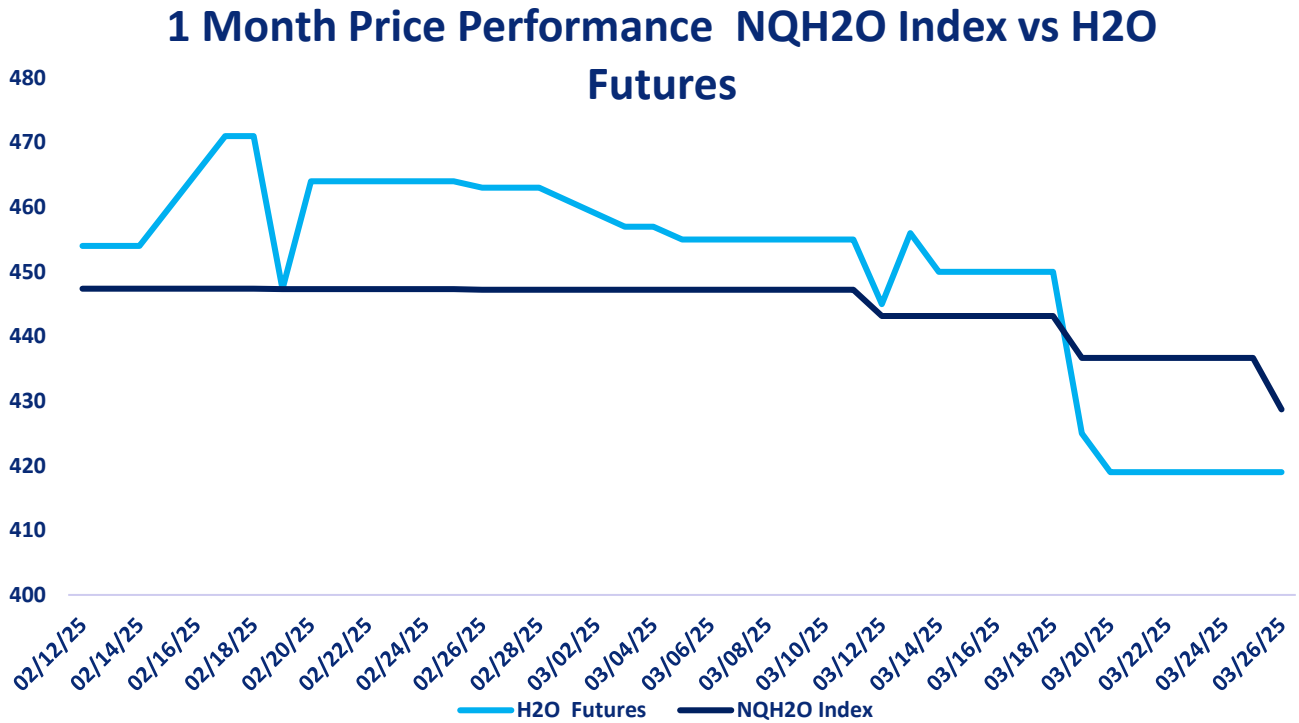
CLICK THE LINK BELOW

“A 2 minute technical analysis video of H2O futures”

<https://vimeo.com/1069863300?share=copy#t=0>



NQH2O INDEX PRICE vs H2O FUTURES PRICE



Price Chart Based upon Daily Close

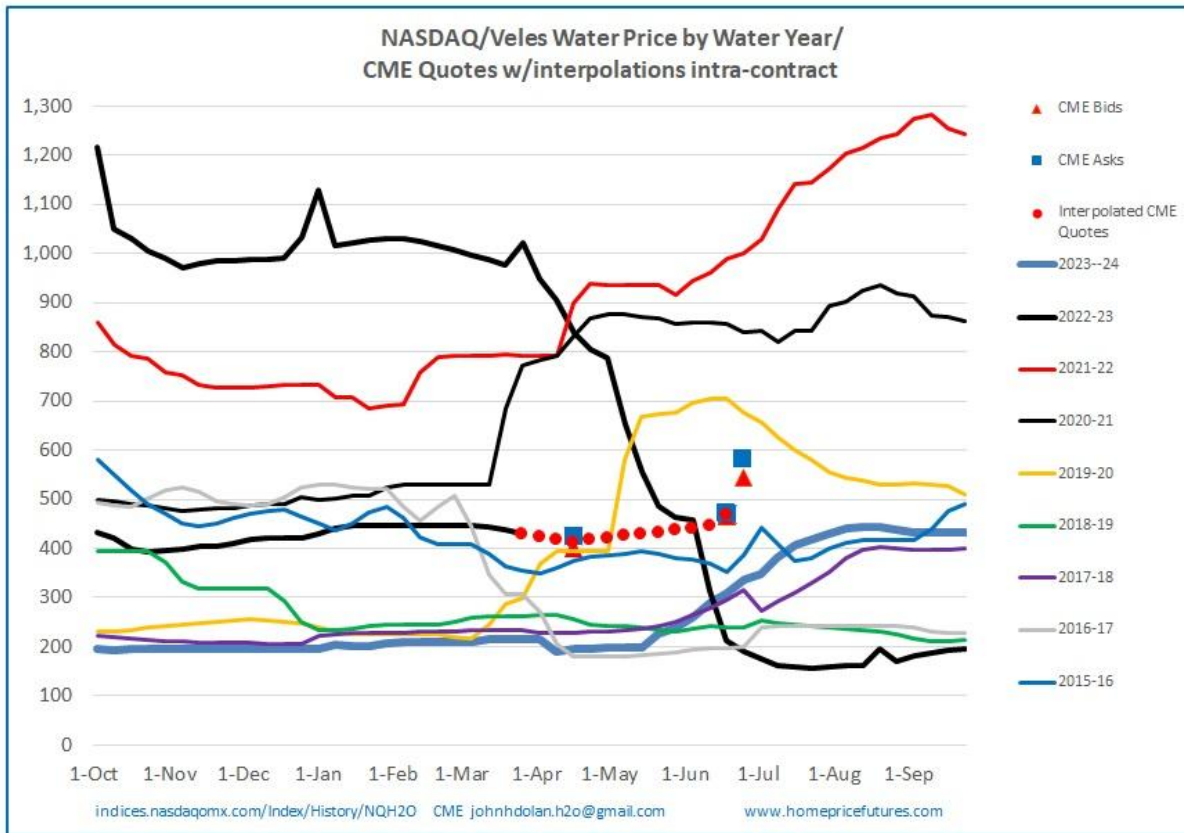
The new NQH2O index level of \$428.71 was published on March 26th, down \$7.96 or 1.93% from the previous week. April Contract is considered the front month. The futures prices closed at a discount of \$9.71 to \$17.67 versus the index over the past week.

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

Apr 25	400@425
May 25	
June 25	465@470
June 26	545@580



NQH20 INDEX HISTORY



The graph above shows the CME water contracts for April 2025, June 2025 and June 2026 superimposed over historical NASDAQ Veles water indices. A red dotted line has been added to interpolate between the June-June contracts for the 2024-2025 water year.

(John H Dolan, CME Market Maker)



H2O FUTURES TECHNICAL REPORT



Price Action

Current Price: 419

The price has remained flat in this trading session, indicating a pause after recent downside movement.

Moving Averages Analysis

Short-Term Averages:

- **5-day MA:** 419 - The price is sitting exactly at the 5-day MA, suggesting neutral short-term momentum.
- **10-day MA:** 432 - Price is below this level, indicating bearish pressure in the short term.
- **20-day MA:** 444 - Price remains below this, reinforcing continued short-term weakness.

Medium-Term Averages:

- **30-day MA:** 450 - The price is well below the 30-day MA, showing medium-term bearish sentiment.



Long-Term Averages:

- **100-day MA:** 440 - Price is below the 100-day MA, signalling a breakdown in long-term support.
- **120-day MA:** 434 - Also below this level, supporting the shift in long-term trend.
- **150-day MA:** 433 - The price is nearing this level, which may act as a critical support zone.
- **200-day MA:** 430 - The price is just below this, confirming the current bearish bias in the long-term trend.

Support & Resistance Levels

- **Resistance at 500:**
Remains the long-standing breakout level. A move above would indicate strong bullish reversal.
- **Support at 419 (current level):**
This is the immediate support zone.

Stochastic Oscillator

K%: 0.00, D%: 0.00

The stochastic oscillator is in extreme oversold territory, suggesting the possibility of a near-term bounce or consolidation. However, oversold does not always mean reversal – follow-through price confirmation is required.

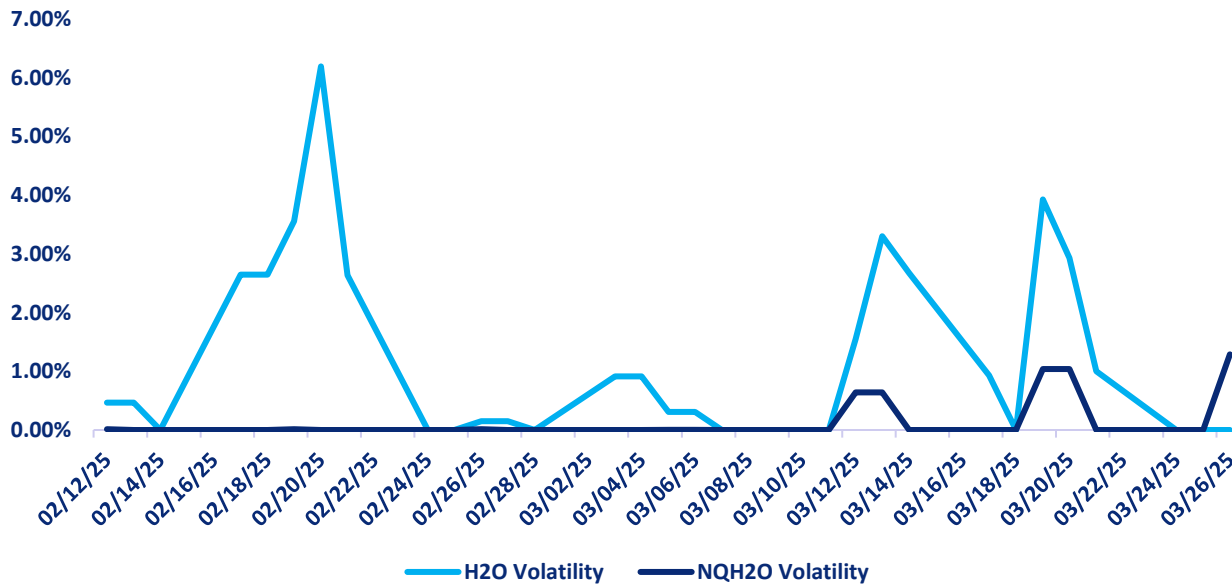
Summary & Key Takeaways

- Short-term and medium-term momentum remain weak, with the price below all key short-term and medium-term moving averages.
- Long-term trend is turning bearish, as the price now trades below the 100, 120, and 200-day MAs.
- The stochastic is deeply oversold, indicating potential for a rebound, but only if support levels hold and volume confirms.
- A break below 419 could open up further downside toward 400, while reclaiming 433–444 would start to shift momentum back to neutral.



H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the April contract daily future volatility high has been 1%.

ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	29.19%	2.02%	0.92%	0.36%
H2O FUTURES	N/A	14.07%	6.70%	1.41%

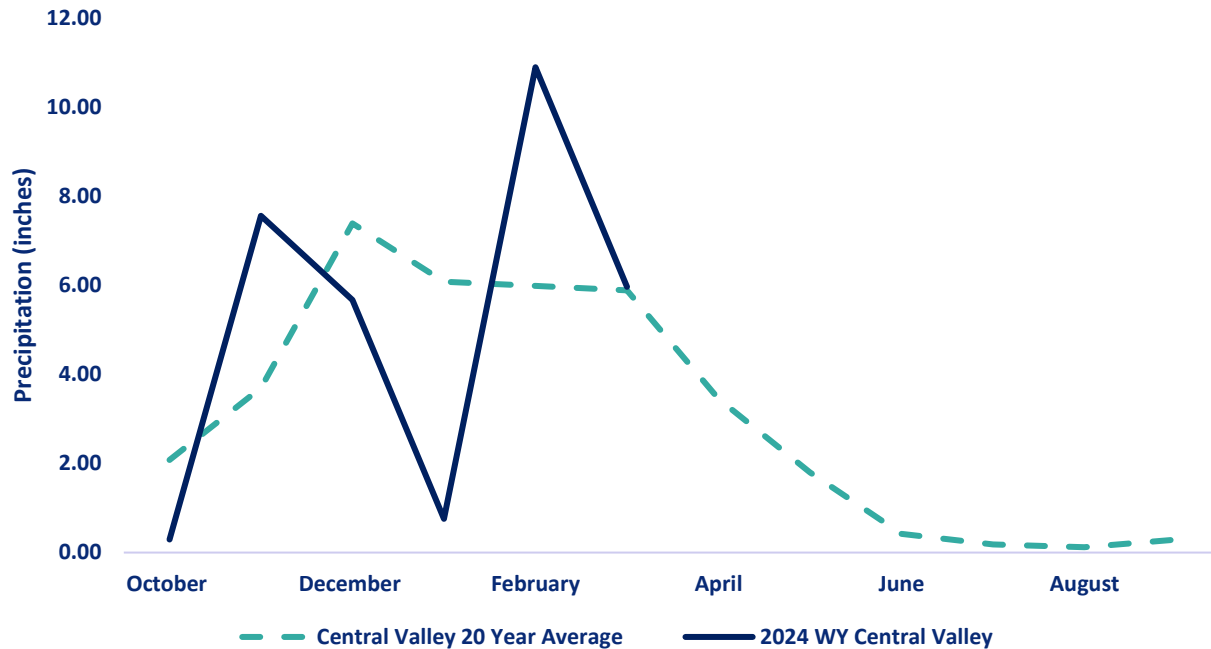
For the week ending on March 26th, the two-month futures volatility is at a premium of 12.05% to the index, up 1.02% from the previous week. The one-month futures volatility is at a premium of 11.84% to the index, down 6.06%. The one-week futures volatility is at a premium of 1.06% to the index volatility.

*The 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 26/03/2025

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)	5.51	0.02	94.51	81	74
TULARE 6 STATION (6SI)	6.2	0.01	156.92	82	92
NORTHERN SIERRA 8 STATION (8SI)	6.18	0.26	78.61	96	116
CENTRAL VALLEY AVERAGE	5.96	0.10	101.40	86	94

RESERVOIR STORAGE

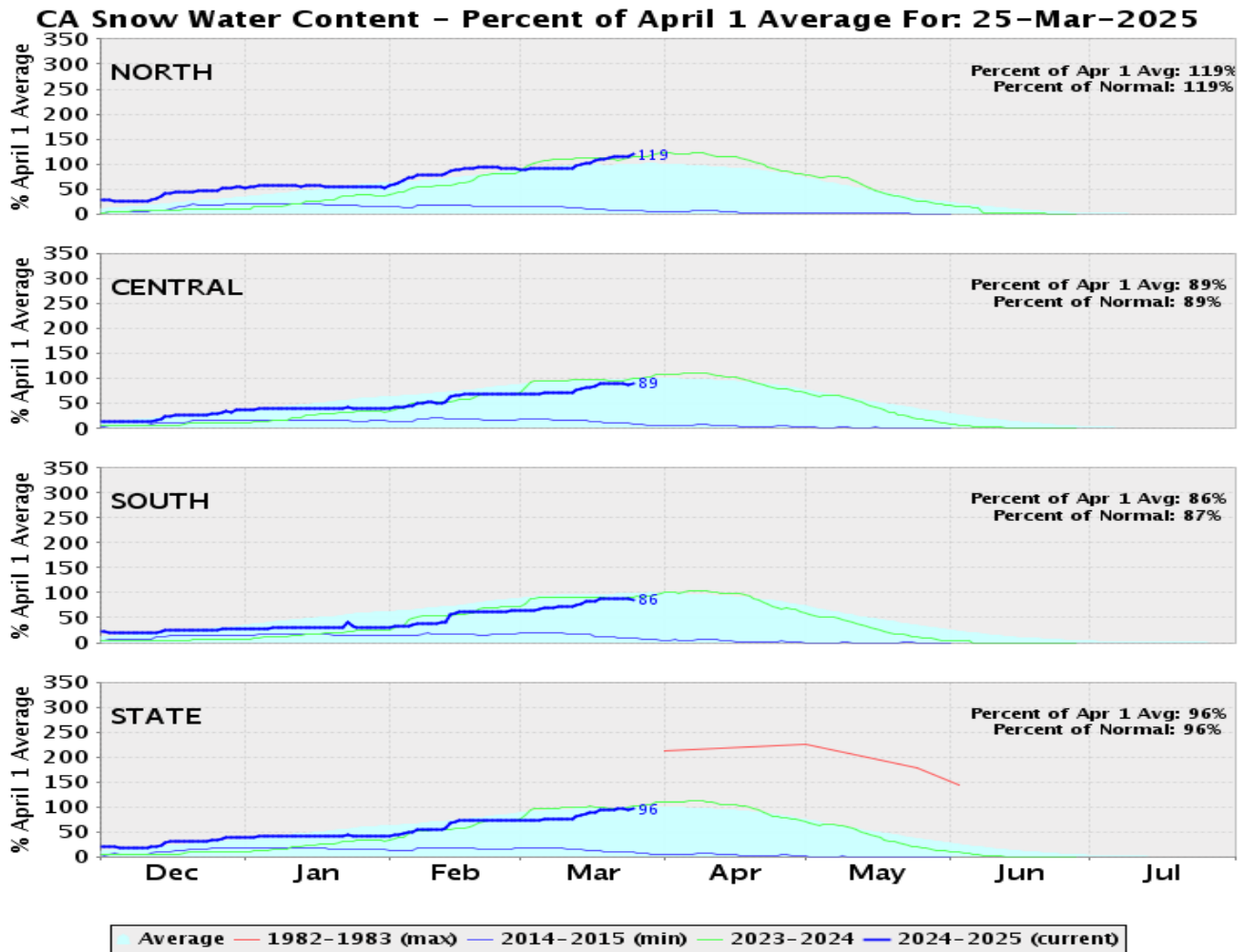
RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	2,054,694	84	78	116
SHASTA LAKE	3,932,740	86	89	111
LAKE OROVILLE	2,958,688	86	89	121
SAN LUIS RES	1,814,518	89	72	104

*% 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 2024. 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	30.7	2.7	114	119	119
CENTRAL SIERRA	27.3	4	101	89	89
SOUTHERN SIERRA	19.1	-0.3	92	87	86
STATEWIDE	25.5	2	103	96	96

*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.

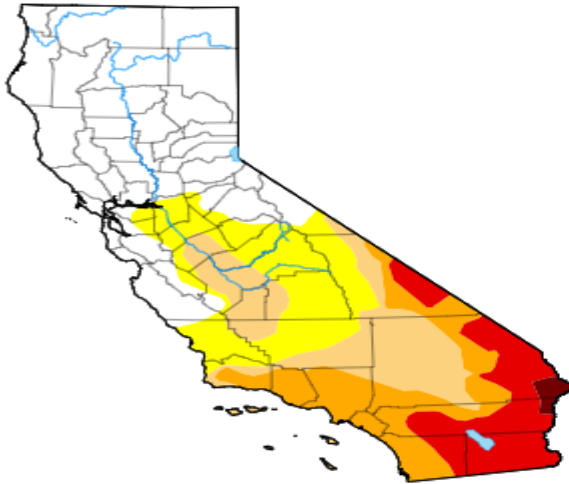


DROUGHT MONITOR

California

[Home](#) / California

Map released: Thurs. March 20, 2025
 Data valid: March 18, 2025 at 8 a.m. EDT



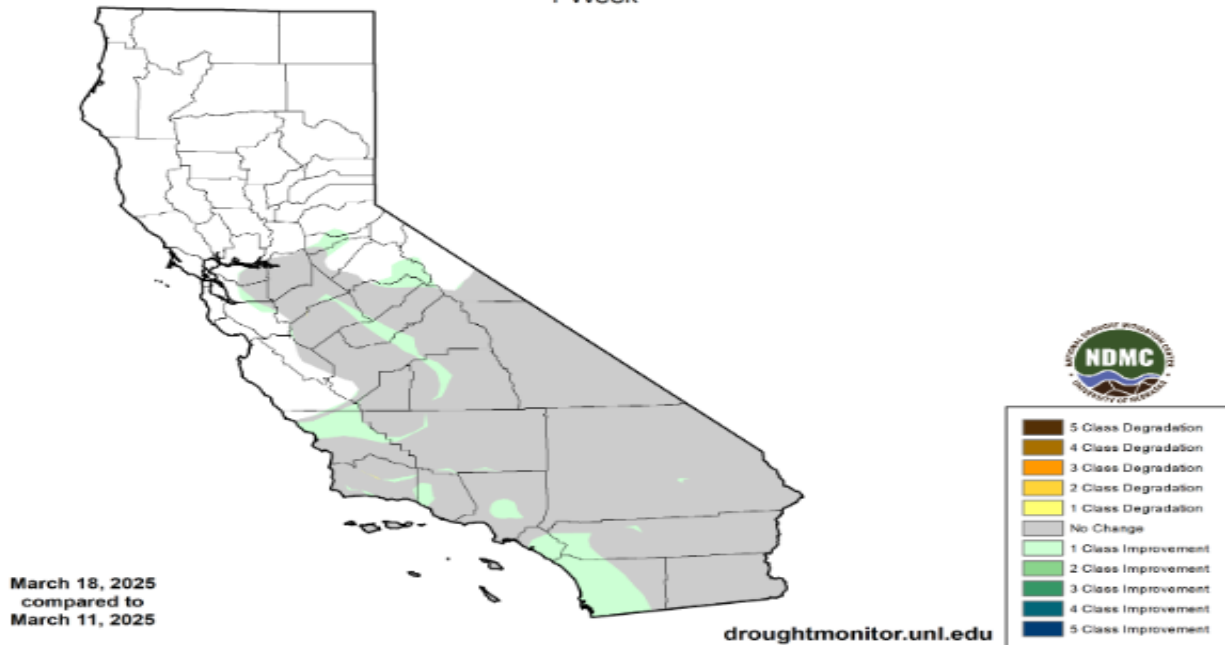
Intensity

- 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):
[Brad Rippey](#), U.S. Department of Agriculture
 Pacific Islands and Virgin Islands Author(s):
[Denise Gutzmer](#), National Drought Mitigation Center

U.S. Drought Monitor Class Change - California 1 Week



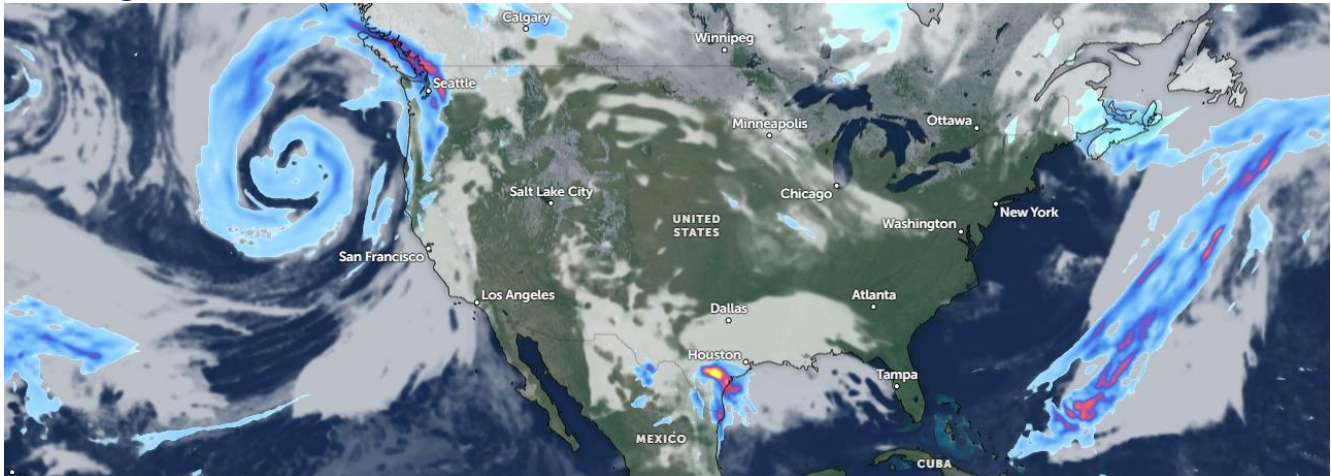
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2025-03-18	42.90	57.10	39.81	24.73	11.76	0.73	134
Last Week to Current	2025-03-11	41.78	58.22	41.58	24.83	14.75	0.73	140
3 Months Ago to Current	2024-12-17	43.49	56.51	16.72	5.70	1.03	0.00	80
Start of Calendar Year to Current	2024-12-31	40.90	59.10	31.52	5.70	1.06	0.00	97
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	2024-03-19	95.46	4.54	0.00	0.00	0.00	0.00	5

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

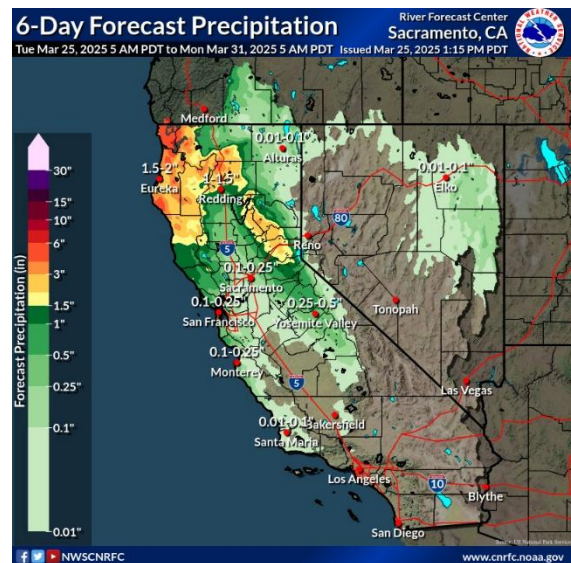
Large storm system off the Pacific west coast which will bring associated inclemental weather to the northwest, this may affect as far south as LA. At present there is clear air over LA stretching in a band northward to Salt Lake City and then westwards to the east coast. This will close in over the next 2 days. There is some sever weather around Houston and stretching up to as far as Dallas. The east coast is clear but there is a cold blast coming down from Canada affecting the northern Midwest and blowing towards Washington.



Map Ref: Zoom Earth

10 Day Outlook

Still anticipating one s/wv trof exiting the area to the northeast...while the next disturbance moves toward the northern CA coast to start the period on Friday. Then...a break in the precip will develop along the west coast on Saturday as a rather transitory upr ridge slides across the region. Finally...a return to wetter conditions will occur on Sunday with the next disturbance rotating through a broad upr low that sets up across the northeast Pacific. Still some model differences amongst the 25/12Z runs...lowering confidence somewhat...but overall a trend toward cooler with rounds of precip is looking more and more likely...especially the northern portion of the region. Changes to the afternoon forecast were slightly up on Friday with plus 0.10- to 0.25-inch for the far north coast...northern Sierra...and northeast NV. Then into Sunday...given the uncertainty amounts were decreased from 0.10- to 0.33-inch for northern/central CA with some localized down 0.50-inch over the Sierra.





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

WESTERN WEATHER DISCUSSION

A pair of Pacific storms system delivered widespread precipitation, which was heaviest along the West Coast and in the Cascades and Sierra Nevada. Parts of central and southern California and the Pacific Northwest noted up to one category of drought improvement. According to the California Department of Water Resources, the water equivalency of the high-elevation Sierra Nevada snowpack improved to nearly 25 inches by March 18, effectively ensuring a “normal” season. Notably, snowpack in the southern Sierra Nevada has greatly improved with recent storms, following an imbalanced start to the winter wet season during which much heavier precipitation fell in the northern Sierra Nevada. Although meaningful precipitation extended into the Southwest, snowpack deficits are so significant that any improvement in the overall drought and water-supply situation has been extremely limited. Additionally, harsh winds across the lower Southwest have led to extensive blowing dust in recent days, particularly across the areas of southern New Mexico experiencing severe to exceptional drought (D2 to D4).

Reference:

Lindsay Johnson, National Drought Mitigation Center

Richard Tinker, NOAA/NWS/NCEP/CPC



WATER NEWS

CALIFORNIA WATER NEWS

What California Could Learn from the Restoration of a Nevada Lake

California is not alone in its struggles to [save its freshwater biodiversity](#). Across the West, rivers and lakes have been tapped to supply water to farms and cities—and ecosystems have paid the price. One project has been restoring water to a Nevada lake through an unusual mechanism: environmental water acquisitions. We spoke with the Walker Basin Conservancy’s Carlie Henneman and Peter Stanton to learn more.

First, tell us a little about Walker Lake.

Peter Stanton: Walker Lake was once a thriving ecosystem in Nevada: people have lived around it for thousands of years. It’s a major North American Flyway stopover for migratory birds, and it’s also home to the largest freshwater trout in North America: the Lahontan cutthroat. This 40–50-pound fish has huge cultural and historical importance to the region. For example, the Walker River Paiute Tribe refer to themselves as *A’gai Di’Cutta*—“trout eaters.” Historically, the trout was a major regional food source, and it drove tourism and recreation throughout the 20th century. People used to fly in from Southern California for trout-fishing tournaments. But over time, diversions from the river decreased inflow to the lake. For many years, the river went bone dry during irrigation season. The lake grew too saline, and the trout and all other fish disappeared.

Carlie Henneman: The diversions have been happening for more than 150 years, but the trout went extinct locally only in 2009.

How have you acquired water for the environment?

CH: We were born out of the 2009 Desert Terminal Lakes legislation, which emphasized the permanent acquisition of water rights—and we do that through working with farmers. Farming is hard in rural Nevada—the water supply is very dynamic. Some years you have a lot of water, and some years you don’t. Much of our work was talking to farmers and ranchers in upstream areas. We helped them identify the benefits of selling their water and developed a database of all farmers and ranchers in the area. These willing sellers have so far contributed 27,500 acre-feet of water per year to restore the lake.

PS: The Walker River is over-allocated. The rights to divert it actually exceed its yearly discharge! For a sustainable long-term water supply, we must reduce irrigated acreage. We work with the Walker River Irrigation District on a temporary leasing pilot program—now in its fifth year. The district leases water stored in Topaz and Bridgeport reservoirs from downstream irrigators and sends it to Walker Lake instead of diverting it. Nevada has no legal concept of minimum environmental flows. In this context, the simplest and most direct way to protect the lake is to acquire rights.



VELES WATER WEEKLY REPORT

CH: Nevada does have a regulatory basis to manage groundwater rights. Over the last couple of years, we've also gotten a grant for those. But the regulation challenges are so high, the market-based approach is the easiest way to make an impact. Even policymakers and regulators see market-based approaches as a win-win.

Do you have plans to acquire water from California?

PS: We do. We have a lot of interest from ranchers and farmers on the California side, who'd like to participate in a market-based program like the one in Nevada. In the summer of 2024, we completed a public process with Mono County to explore what a water transactions program would look like there.

When might the fish populate the lake again?

PS: Our overall goal is to restore the lake to its level in the year 2000, reduce its salinity, and restore a trout fishery. With 58% of the water we'd need, we're not there yet. Climate is a factor: in 2023, the lake rose 16 feet! If we had two more years like that, we could talk about reintroducing the Lahontan cutthroat, but we can't count on that happening. In the meantime, we'll do what we can with short-term acquisitions, long-term permanent transfers, and climate variability.

What other factors have played a role in your success?

CH: Money and time. Stable funding from the Terminal Desert Lakes Program has made this effort possible. And it takes time to get legislators and people to contribute to the solution. We have been here for 15 years, working to understand the community's constraints and needs. That effort has the highest impact. We advocate not only for the lake, but also for the farmers and ranchers.

Final thoughts?

PS: We've put a ton of thought into figuring out what happens to land when we remove water from it. The majority of our on-the-ground work has been about changing land use, restoring habitat, and facilitating less water-intensive agriculture. The more tools we have in the toolbox, the better it is for everyone in the region.

If you want to drive long-term water resilience in communities, put land use planning at the top of your priorities. We've developed recreation and tourism, established a new state park, expanded wildlife areas, and improved public access to parts of the Walker River. With stable funds, we can find the least productive land to retire and change land use in a way that benefits the community in the long run. We need solutions that work for everyone.

Original Article: [PPIC by Sarah Bardeen](#)



Metropolitan Water District Allocation Rises to 35%, Ensuring Sufficient Water Supply for 2025

The Metropolitan Water District (MWD) of Southern California will receive an increased allocation of 35 percent from the California Department of Water Resources this year, according to a report by Cynthia Kurtz, Pasadena’s representative on the MWD Board.

The City of Pasadena imports about 60% of its water from the MWD.

Kurtz will present detailed information about the water supply outlook during a meeting of the Pasadena Municipal Services Committee on Tuesday, where she will deliver her first quarterly update to the Committee.

“With the current demand, a 35% allocation will mean MWD has sufficient supply to meet all member agency demands in 2025 and can add to the existing 3.4 million acre feet of water already in storage,” Kurtz said in a preliminary memorandum for the Committee.

The allocation could potentially increase further, as recent storms have brought additional precipitation to the Sierra Nevada mountains since the initial announcement, Kurtz’s report said.

Despite the Colorado River Aqueduct currently being shut down for annual inspection and maintenance, the MWD expects to receive its normal supply of Colorado River water this year due to reserves stored in Lake Mead.

Negotiations over Colorado River water rights have recently resumed after reaching a standstill, with the seven basin states agreeing to produce a framework for a new agreement by May this year and a comprehensive proposal by August.

“Negotiations reopened after January 22 (when) a letter signed by the Senators of all seven Colorado River basin states was received encouraging a seven-state consensus and offering legislative assistance if necessary,” Kurtz reported.

The current water rights agreements expire in late 2026, requiring a new arrangement that addresses both historical over-allocation and reduced water availability due to climate change impacts on the Colorado River system.

Under a proposal from the lower basin states, California would reduce its annual water usage by 440,000 acre-feet as part of taking responsibility for past over-allocation of the river’s resources, Kurtz said.

Meanwhile, MWD continues developing its Climate Adaptation Master Plan for Water, which aims to balance addressing climate change impacts, ensuring long-term water supply reliability, and maintaining affordable rates for consumers.

Kurtz noted that Pasadena has been “very involved” in the Joint Task Force that includes Board directors and general managers from member agencies working on the adaptation plan.

Original Article: [Pasadena Now by Cynthia Kurtz](#)



New desalination technology being tested in California could lower costs of tapping seawater

Californians could be drinking water tapped from the Pacific Ocean off Malibu several years from now — that is, if a company’s new desalination technology proves viable.

[OceanWell Co.](#) plans to anchor about two dozen 40-foot-long devices, called pods, to the seafloor several miles offshore and use them to take in saltwater and pump purified fresh water to shore in a pipeline. The company calls the concept a water “farm” and is testing a prototype of its pod at a reservoir in the foothills of the Santa Monica Mountains.

The pilot study, supported by Las Virgenes Municipal Water District, is being closely watched by managers of several large water agencies in Southern California. They hope that if the new technology proves economical, it could supply more water for cities and suburbs that are vulnerable to shortages during droughts, while avoiding the environmental drawbacks of large coastal desalination plants.

“It can potentially provide us Californians with a reliable water supply that doesn’t create toxic brine that impacts marine life, nor does it have intakes that suck the life out of the ocean,” said Mark Gold, director of water scarcity solutions for the Natural Resources Defense Council. “If this technology is proven to be viable, scalable and cost-effective, it would greatly enhance our climate resilience.”

OceanWell’s Mark Golay, left, and Ian Prichard, deputy general manager of Calleguas Municipal Water District, walk toward a prototype of the desalination pod being tested in Las Virgenes Reservoir.

During a recent demonstration at Las Virgenes Reservoir, Tim Quinn, the company’s water policy strategist, watched as the 12-foot-long cylindrical prototype was lowered underwater on a cable.

“We pull fresh water only up out of the ocean, and the salt stays down there in low concentrations, where it’s not an environmental problem,” Quinn said.

The testing at Las Virgenes Reservoir will help the company’s engineers check how the system works in filtering out plankton and discharging it back into the water. When the pod was nearly 50 feet underwater, Mark Golay, the company’s director of engineering projects, turned on the pumps and water flowed from a spigot.

The next step, expected later this year, will involve conducting trials in the ocean by lowering a pod from an anchored boat into the depths about 5 miles offshore.

“We hope to be building water farms under the ocean in 2028,” Quinn said.

Quinn previously worked for California water agencies [for four decades](#), and he joined Menlo Park-based OceanWell two years ago believing the new technology holds promise to ease the state’s conflicts over water.



VELES WATER WEEKLY REPORT

“Ocean desal has never played a prominent role in California’s water future,” he said, “and this technology allows us to look to the ocean as a place where we can get significant sources of supply with minimal, if any, environmental conflict.”

Managers of seven Southern California water agencies are holding monthly meetings on the project and studying what investments in new infrastructure — such as pipelines and pump stations — would be needed to transport the water the company plans to sell from the shore to their systems.

Leaders of Las Virgenes Municipal Water District, who are spearheading the effort, held an event at the reservoir Friday to showcase how the technology is being tested. The pilot study is being supported by more than \$700,000 in grants from the Metropolitan Water District of Southern California and the U.S. Bureau of Reclamation.

The company still will need to secure additional permits from the federal government and the state. And it has yet to estimate how much energy the process will require, which will be a major factor in determining the cost.

But water managers and other experts agree that the concept offers several advantages over building a traditional desalination plant on the coast.

Significantly less electricity is likely to be needed to run the system’s onshore pumps because the pods will be placed at a depth of about 1,300 feet, where the undersea pressure will help drive seawater through reverse-osmosis membranes to produce fresh water.

While the intakes of coastal desalination plants typically suck in and kill plankton and fish larvae, the pods have a [patented intake system](#) that the company says returns tiny sea creatures to the surrounding water unharmed. And while a plant on the coast typically discharges [ultra salty brine](#) waste that can [harm the ecosystem](#), the undersea pods release brine that is less concentrated and allow it to dissipate without taking such an environmental toll.

If the technology proves viable on a large scale, Gold said, it would help make Southern California less reliant on diminishing imported supplies from the [Sacramento-San Joaquin River Delta](#) and the [Colorado River](#).

Research has shown that human-caused climate change is [driving worsening droughts](#) in the western United States. Gov. Gavin Newsom’s administration has projected that as rising temperatures diminish the snowpack and intensify droughts, the average amount of water available from the reservoirs and aqueducts of the State Water Project [could shrink between 13% and 23%](#) over the next 20 years.

Southern California’s water agencies are moving ahead with [plans to build new facilities](#) that will transform [wastewater into clean drinking water](#), and have also been investing in projects to [capture more stormwater](#).

In addition to the economic viability, other questions need to be answered through research, Gold said, including how well the system will hold up filtering tiny sea life, how



VELES WATER WEEKLY REPORT

much maintenance will be needed, and whether the pods and hoses could present any risk of entangling whales.

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

US WATER NEWS

Water is a precious resource in Nevada. These bills could change how it's used

There's no question Nevada's in the middle of a brutal drought. Some even think it's not a drought, that this is the geological norm and it won't be ending.

Water managers say Nevada has conserved well, but conservation is no longer the long-term answer. State lawmakers are seeking ways to save and protect every drop of water the state holds. Several bills introduced in the Nevada Legislature aim to do just that.

How would they work? Could they add more water to Nevada's 256 water basins, where now about half use more than they hold?

Original Article: [KNPR Nevada by Paul Boger](#)

Spring is getting warmer across the U.S., especially in the Mountain West, analysis finds

A new scientific analysis shows spring is getting warmer across the U.S. because of climate change. Some of the fastest-warming cities are in the Mountain West, threatening to shrink water supplies and increase wildfire risk.

Since 1970, the average spring temperatures in Reno, Nev., have risen by nearly 7 degrees – the most in the nation. Not far behind is Las Vegas, Nev., which has warmed 6 degrees during that span, according to a [new analysis](#) from Climate Central, a policy-neutral nonprofit.

Elsewhere in the Mountain West, several cities have warmed more than 3 degrees, including Albuquerque, N.M. (3.7 degrees); Boise, Idaho (3.4 degrees); Salt Lake City, Utah (3.4 degrees); and Colorado Springs, Colo. (3.1 degrees). Cheyenne, Wyo., has warmed 2 degrees.

Those numbers might not sound like big increases, but the trend is shriveling mountain snowpacks that supply water to farms and communities, said Kaitlyn Trudeau, a senior researcher at Climate Central.



VELES WATER WEEKLY REPORT

“It has a huge impact on our drinking water availability, right?” Trudeau said. “And it has a huge impact for people that depend on water for agriculture. It means we can lose more water earlier in the year; it means that we might not have enough water at the end of the summer.”

Trudeau said that can lead to severe drought conditions across the West, raising the risk of wildfires to grow longer and stronger.

Original Article: [KUNR by Kaleb Roedel](#)

New York City Water will flow back to the market with refunding

The refunding deal comes just one month after the authority's last issuance, which was upsized by more than \$300 million.

"I would expect that [the deal's underwriters] would not be counseling the authority to come to market unless they thought that they would see good demand," said Patrick Luby, senior municipal strategist at CreditSights. "Which is kind of remarkable, given that investors had an opportunity to buy the name just a month ago."

The \$600 million negotiated deal will have a retail order period Monday and institutional pricing on Tuesday.

The second general resolution bonds will have maturity dates in 2027 through 2032, 2037 through 2039, and 2046.

"Most of this principal is going to be front loaded at 11 years in," Luby said, "where there's been really strong demand from investors."

The deal is rated Aa1 by Moody's Ratings and AA-plus by S&P Global Ratings and Fitch Ratings.

Raymond James and Siebert Williams Shank are senior managers with 22 co-managers. Frasca & Associates is the deal's municipal advisor and Nixon Peabody and HLF are co-counsels.

The authority's deal in late February was [upsized from \\$600 million to \\$950 million](#) of new money bonds.

The authority may be swimming against the current this time around, Luby said. For one thing, this week has a busy calendar. And while New York issuers redeemed billions of dollars of bonds in February and March, Luby expects redemptions to be light in April and May.

Original Article: [The Bond Buyer by Christina Baker](#)

Hopi awarded more than \$4 million for water infrastructure project

The Hopi Tribe has been awarded more than \$4 million for a solar-powered microgrid to advance its energy and water independence

The funds, awarded from the Department of Energy, will be used to build a 250-kilowatt,



VELES WATER WEEKLY REPORT

solar-powered microgrid to power two wells at the unelectrified Side Rock Well Field located on the Hopi Reservation in northeast Arizona.

The wells will deliver water to the villages of Upper and Lower Moenkopi via a pipeline that is currently under construction.

“It'll be bringing much-needed water to the village of Moencopi on the Hopi Reservation,” Hopi tribal council representative Leroy Shingoitewa told ICT.

Two Arizona Democratic senators, Ruben Gallego and Mark Kelly, announced the news.

“I'm excited to announce that the Hopi Tribe has been awarded over \$4 million to help secure its energy and water future,” said Gallego. “Clean water is vital for community health and economic development, and this innovative project will ensure that some of the most remote parts of the Hopi Reservation have reliable access for years to come.”

“This project means Hopi families will have a steady, reliable water source,” said Kelly. “By using solar power to run these wells, they're lowering costs and making sure the community has the water it needs for years to come.”

The addition of a microgrid is part of a larger, ongoing project – Side Rock Water Supply project, which aims to provide a reliable water source for the Hopi Tribe.

A microgrid is a self-contained electrical network that can work independently from the main power grid or alongside it. The new Hopi microgrid will work independently from its main power source.

But the Upper and Lower Moencopi villages are disconnected from the rest of Hopi Tribe. The Hopi Tribe is surrounded by the Navajo Nation, but the Moencopi village is separated from the main Hopi land. Shingoitewa told ICT that this leaves Moencopi far from the main Hopi water supply.

“We live on the western portion of the reservation approximately 55 miles away from the Hopi tribal headquarters, and we really are kind of sitting on an island outside of the main Hopi Reservation,” Shingoitewa told ICT.

The Moencopi village has wells, but the water produced from them is not “adequate,” said Shingoitewa.



According to the U.S. Department of Energy, the current water source is now insufficient for community needs.

“With the money that's now gonna be available for the wells to bring water here, we will have the opportunity to provide more water to meet the needs of our people here in our village ... and also for the future,” said Shingoitewa.

The fight for water is ongoing for tribal nations, with many tribes still fighting for their water rights in courts.

Senators Kelly and Gallego introduced the Northeastern Arizona Indian Water Rights Settlement Act of 2025, which was referred to the Senate Indian Affairs Committee. A version of the act also has been introduced in the U.S. House of Representatives. Both houses of Congress would need to pass the legislation, which would ratify and fund the largest Indian water rights settlement in the country. It would secure water rights for the Navajo Nation, Hopi Tribe and the San Juan Southern Paiute Tribe. Original Article: [ICT News by Daniel Herrera Carbajal](#)

Lawmakers push to spend billions of dollars for water projects and debate which ones to prioritize

Texas lawmakers agree that the answer to the state’s looming water crisis is to invest billions of dollars into fixing the problem. What they don’t agree on, at least for now, is exactly how to spend the money.

[State Sen. Charles Perry](#), R-Lubbock, and [state Rep. Cody Harris](#), R-Palestine, [filed bills](#) this month that take big swings at solving the ongoing water issues plaguing Texas. They include investing billions of dollars into repairing and upgrading aging infrastructure like water pipes as well as creating new water sources for the future.

The discussion comes at an important time — [a Texas Tribune analysis](#) found the state could face a severe water shortage by 2030 if there was a recurring, statewide record-breaking drought and if state leaders and water entities failed to use strategies that secure water supplies.

A pair of proposals — [Senate Joint Resolution 66](#) and [House Joint Resolution 7](#) — would allocate up to \$1 billion a year to boost water projects. Their accompanying bills, [House Bill 16](#) and [Senate Bill 7](#), both would create new water committees to oversee the funding and promote investment into new water projects.

The Texas Tribune thanks its sponsors. [Become one.](#)

[Gov. Greg Abbott](#) has declared water an emergency item for this legislative session, which means the bills could be on a fast track in the Legislature.



VELES WATER WEEKLY REPORT

Here's what you need to know as lawmakers begin to debate the two packages of bills.

Why is there a debate between creating new water supply versus fixing leaking pipes?

Both proposals would funnel up to \$1 billion a year to the Texas Water Fund — a special account [voters approved in 2023](#) to help pay for water projects.

Perry's resolution calls for 80% of the money to fund projects to create new water supplies and 20% to repair aging infrastructure. Harris' resolution does not specify how the money would be split and would leave the structure how it is — letting the Texas Water Development Board decide how to prioritize projects.

The debate around the bills centers on whether to prioritize projects for new water sources or repairing aging water pipes that leak massive amounts of water throughout the state.

Water experts agree that projects to create new sources of water need to be funded. However, there is concern about neglecting repairs on water pipes around the state.

A [Texas 2036 report](#) estimated that the state needs nearly \$154 billion by 2050 for water infrastructure, including \$59 billion for water supply projects, \$74 billion for leaky pipes and infrastructure maintenance, and \$21 billion to fix broken wastewater systems.

Perry Fowler, executive director of the Texas Water Infrastructure Network, said the House and Senate will have to find a balance to move water legislation forward.

"I don't think anybody takes issue with the fact that we need to invest in new water supplies," Fowler said. "But there is a tremendous need to address aging infrastructure. We have a lot of immediate needs, like yesterday."

Where would new water supplies come from?

Texas is looking to desalination to remove salt from seawater or brackish groundwater to create more water for drinking, irrigation and industrial uses.

Another strategy would be treating produced water, which is wastewater that comes out of the ground during oil and gas production. [According to the Texas Public Policy Foundation](#), every barrel of oil produced also generates five barrels of wastewater.

Perry lists both options as eligible for state money in Senate Bill 7. He also acknowledged that old pipes are leaking massive amounts of water every year, calling that primarily a local issue.

"But I'm willing to leverage tax dollars, as we have in the past, and work on that at the same time," Perry said. "But supply has to be priority one."

Jennifer Walker, director for the Texas Coast and Water Program for National Wildlife Federation, said repairing old, leaking infrastructure should be considered a new water supply and urges lawmakers to be more liberal in that definition.

"Stopping that [water] loss and delivering more drops to customers, that is a new water supply for our communities," she said. "We're not delivering it to our customers otherwise, unless we address that."



Why would the state need to pay for local infrastructure repairs?

[A 2022 report](#) by Texas Living Waters Project, a coalition of environmental groups, estimated that Texas water systems lose at least 572,000 acre-feet per year, or about 51 gallons of water per home or business connection every day — enough water to meet the total annual municipal needs of Austin, El Paso, Fort Worth, Laredo and Lubbock combined.

Some of Texas' water infrastructure is nearly as old as the state itself — [the oldest pipes](#) date back to as early as the 1890s. In 2019, Little Bill's Plumbing in Pampa [unearthed a wooden water pipe](#) that experts believed could have been used before the city was incorporated.

Original Article: [Texas Tribune by Jayme Lozano Carver and Alejandra Martinez](#)

Texas farmers struggle as U.S. denies Mexico's water request over treaty shortfalls

The United States denied Mexico's request for a special delivery of Colorado River water on Thursday, citing Mexico's ongoing failure to meet its obligations under an 80-year-old water-sharing treaty between the two countries.

Facing worsening drought conditions and a dwindling water supply, South Texas farmers have been caught in the middle of a growing water dispute between the U.S. and Mexico. The United States denied Mexico's request for a special delivery of Colorado River water on Thursday, citing Mexico's ongoing failure to meet its obligations under an 80-year-old water-sharing treaty between the two countries.

This marks the first time the U.S. has formally refused a non-treaty water request from Mexico, according to the Western Hemisphere Affairs division of the U.S Department of State.

"Mexico's continued shortfalls in its water deliveries under the 1944 water-sharing treaty are decimating American agriculture — particularly farmers in the Rio Grande valley," the federal agency said via [a social media post](#) on Thursday.

The lack of water in the Rio Grande Valley has already had serious consequences for Texas agriculture, with irrigation cutbacks threatening crops, livestock and livelihoods. The region suffered an economic impact of nearly \$1 billion in 2023 due to the ongoing water shortage, according to [Texas A&M AgriLife](#). This eventually led to the 2024 closure of Texas' [last sugar mill](#), which operated in the RGV for more than 50 years.

Why Mexico isn't delivering water

Under the [1944 Water Treaty](#), Mexico delivers the U.S. water from the Rio Grande, while the U.S. gives water to Mexico from the Colorado River. But Mexico, like Texas, is also grappling with severe drought conditions. By the end of 2024, more than half the Rio Grande and Bravo River Basin was in moderate to exceptional drought, according to data from the [North American Drought Monitor \(NADM\)](#).



VELES WATER WEEKLY REPORT

Mexican officials argue that they simply don't have the water to spare.

"There's been less water. That's part of the problem," Mexico President Claudia Sheinbaum [told reporters on Thursday](#).

For years now, Mexico has failed to hold up its end of the agreement. Mexico is required to deliver 1,750,000 acre-feet (AF) of water over a five-year cycle, at an average of 350,000 AF annually. By the end of 2024, Mexico had only delivered 488,634 AF of water since Oct. 2020, according to data from the [U.S. International Boundary and Water Commission](#). Meanwhile, the U.S. has reportedly met its required delivery quotas.

In November, the U.S. and Mexico agreed to [amend the water treaty](#), giving Mexico more options to meet its water deliveries. Despite this, South Texas farmers are still facing severe shortages.

Texas officials demand action

Federal and state officials recently launched a [\\$280 million grant program](#) to help struggling farmers in South Texas. The Texas Department of Agriculture will oversee the program, which will send direct payments to farmers in eligible counties who experienced water delivery losses in 2023 and 2024. More information on [the application process](#) is expected in April.

Texas lawmakers like Sen. Ted Cruz and Sen. John Cornyn, both Republicans, have previously called for the federal government to take stronger action against Mexico. Last year, they pushed for [sanctions on Mexico](#) due to the lack of water deliveries. Cruz says he intends to [continue the effort](#) this year.

On Friday, Gov. Greg Abbott echoed this sentiment, saying he would "work closely with the Trump Administration to hold Mexico accountable" for continuous breaches in the water agreement.

"Mexico's blatant disregard of water obligations must not be allowed to continue," Abbott wrote on [social media](#).

Original Article: [HPPR/ KERA by Lucio Vasquez/ Texas Newsroom](#)

AMWA requests information on AI action plan; urges water considerations

The Association of Metropolitan Water Agencies (AMWA) said it submitted comments to the White House Office of Science and Technology Policy (OSTP) and the National Science Foundation (NSF) regarding the development of a national artificial intelligence (AI) action plan.

AMWA, which represents large drinking water systems across the United States, highlighted the critical intersection of AI development and water resource management in its comments. The association said it is urging policymakers to assess AI's impact on water demand while leveraging AI for water efficiency.

"AI presents both challenges and opportunities for water utilities," said AMWA CEO Tom Dobbins, CAE. "As AI-driven industries expand, we must account for increased water



VELES WATER WEEKLY REPORT

demands in data centers, manufacturing, and technology, while harnessing AI's potential to optimize utility operations, improve leak detection, and enhance water conservation efforts."

Original Article: [Water FM](#)

GLOBAL WATER NEWS

From deluges to drought: Climate change speeds up water cycle, triggers more extreme weather

Prolonged droughts, wildfires and water shortages. Torrential downpours that overwhelm dams and cause catastrophic flooding.

Around the globe, [rising temperatures](#) stoked by climate change are increasing the odds of both severe drought and heavier precipitation that wreak havoc on people and the environment.

Rainfall can disappear for years only to return with a vengeance, as it did in California in 2023, with record-setting rain and snowfall. That led to heavy vegetation growth that [provided fuel](#) for the devastating January wildfires in Los Angeles after drought returned.

But how can global warming cause both drier and wetter extremes? Here's what experts say.

It's all about the water cycle

Water constantly moves between the Earth and its atmosphere. But that system — called the hydrological cycle — is speeding up as global temperatures get hotter, primarily due to the burning of fossil fuels like coal and gas.

A hotter atmosphere sucks up more water vapor from bodies of water and vegetation and soil.

Over land, this atmospheric demand and loss of surface moisture leads to longer and more intense droughts, even causing some arid areas to expand. Though rain falls less often, when it does, it's often in intense and destructive deluges.

That's because the atmosphere holds 7% more water vapor for every degree Celsius.

"Basically, global warming is turning the atmosphere into a bigger sponge so it can soak up more moisture ... and then when the conditions are right for rainfall, it's like squeezing that sponge," said Jonathan Overpeck, a climate scientist at the University of Michigan. "You get more moisture coming out faster."

Oceans play outsized role

Oceans absorb most of the planet's extra heat. That causes the water to expand and ice to melt at the poles, raising sea levels. The warmer water also provides fuel for larger [hurricanes](#) and cyclones that can dump massive amounts of water in a short time.



VELES WATER WEEKLY REPORT

In 2023, for example, heavy one-day rains from Mediterranean storm Daniel caused massive flooding across eastern Libya that [overwhelmed two dams](#), sending a wall of water through [the coastal city of Derna that destroyed entire neighborhoods](#) and swept bridges, cars and people out to sea. Climate scientists say climate change made that storm far [more likely](#).

Snowpack is diminishing

Climate change also is [affecting snowpack](#), a critical part of the hydrological cycle.

Melting snow helps fill reservoirs and waterways, including for drinking and agriculture.

But less snow is falling in general, and what does often is absorbed by thirsty soil.

What's more, because winters are becoming warmer overall, the growing season is longer, meaning snowmelt also is being lost through evapotranspiration of plants. But, just like rain, climate change also can cause more intense and sometimes damaging snowstorms.

"All this stuff is related to warming, which we know with perfect confidence is almost all due to human activity," Overpeck said. "The good news is, we know how to stop it if we want to."

Original Article: [AP News by Tammy Webber and Donavon Brutus](#)

Forensic Accountant to be appointed to examine projected NI Water overspend

The Department for Infrastructure is to engage forensic accountancy services to investigate the reasons why NI Water has been unable to live within its resource budget allocation this year.

The decision to start the process of appointing a forensic accountant, which was announced today by Infrastructure Minister Liz Kimmins in an [Oral Statement](#) to the Assembly, comes after NI Water informed the Department that it is forecasting an overspend for this financial year.

Speaking in the Assembly, Minister Kimmins said:

"Protecting public funds is of the utmost importance, particularly in light of the wider pressures faced not only in my own Department, but across all areas of public services.

"Difficult decisions are having to be made across all Departments and Arm's Length Bodies and therefore it is essential that I fully understand the budgetary management decisions that the Board of NI Water has taken this year that have led to this disappointing outcome.

"My decision to appoint a forensic accountant is a necessary step, that takes a measured approach, to help us work in partnership with NI Water and enable better planning going forward in these times of constrained budgets."

Original Article: [Infrastructure NI](#)



NASA launches satellite on mission to detect water on the moon

A dishwasher-sized [NASA](#) satellite was launched into space from Florida on Wednesday to identify where water – a precious resource for lunar missions – resides on the moon’s surface in places such as the permanently shadowed craters at its poles.

A [SpaceX Falcon 9](#) rocket lifted off from the [Kennedy Space Center](#) in Cape Canaveral carrying NASA’s Lunar Trailblazer orbiter. The Lunar Trailblazer spacecraft was built by Lockheed Martin’s space division. The satellite was a secondary payload onboard the rocket, with the primary payload being a lunar lander mission led by Intuitive Machines. The lunar surface is often thought of as arid but previous measurements have found the presence of some water, even in warmer sun-lit locations. In cold and permanently shadowed places at the lunar poles, it has long been hypothesized that there could be significant amounts of water ice.

[Lunar Trailblazer](#), which weighs about 440 pounds (200 kg) and measures about 11.5 feet (3.5 meters) wide when its solar panels are fully deployed, is being sent to find and map this water on the moon’s surface.

For future moon exploration, including potential long-term lunar bases staffed by astronauts, lunar water would be of vital importance because it could be processed not only as a drinking supply but also into breathable oxygen and hydrogen fuel for rockets. The bottoms of hundreds of craters at the moon’s South Pole, for instance, are permanently shadowed and may hold ice patches. Some water also may be locked inside broken rock and dust on the lunar surface.

Lunar Trailblazer is scheduled to perform a series of moon flybys and looping orbits over a span of several months to position itself to map the surface in detail. It eventually will orbit at an altitude of roughly 60 miles (100 km) and collect high-resolution images of targeted areas to determine the form, distribution and abundance of water and to better understand the lunar water cycle.

“We see tiny amounts of water on sunlit portions of the moon, which is mysterious,” said planetary scientist Bethany Ehlmann, the mission’s principal investigator and director of Caltech’s Keck Institute for Space Studies.

But, Ehlmann added: “The most interesting (aspect) for many is the potentially large amounts of ice in the permanently shadowed regions of the lunar poles. Lunar Trailblazer will peer inside to see how much is at the surface.”

Such locations could serve as a resource for lunar explorers in the future.

“Understanding where a rover would drive or an astronaut would walk to examine deposits for science and future resource use will benefit all future landed missions,” Ehlmann said.

Two Lunar Trailblazer instruments will take measurements from orbit together. The Lunar Thermal Mapper, or LTM, will map and measure the lunar surface temperature.



VELES WATER WEEKLY REPORT

The High-resolution Volatiles and Minerals Moon Mapper, or HVM3, will look at the moon's surface for a telltale pattern of light given off by water.

"We believe that the movement of water on the moon is likely driven by the surface temperature. So by measuring the presence and amount of water via the HVM3 instrument and the surface temperature via the LTM instrument we can better understand this relationship," said [University of Oxford](#) planetary scientist Tristram Warren, who worked on developing the LTM instrument.

Lunar water is thought to come from several potential sources. One possibility is that solar wind – charged particles from the sun – could react with lunar minerals to create water. Another source might be comets or meteorites, which may have delivered water to the moon over billions of years. The exact amount of lunar water remains uncertain, but it is potentially hundreds of millions of tons.

Original Article: [Arizona Digital Free Press by Will Dunham](#)

EU winter crops show promising yields despite eastern drought

Winter crops in the European Union had a promising start to 2025, but more rainfall will be required in the east to maintain a yield potential currently seen above both last year and the five-year average, crop monitoring service MARS said on Monday.

In its first projections for this year's harvest, MARS pegged the 2025 soft wheat yield in the bloc at 6.00 metric tons per hectare (t/ha) this year, up 8% from 2024 and 4% above the five-year average.

It also forecast the EU's average rapeseed yield at 3.20 t/ha, up 9% from last year and 1% above the average.

For winter barley, this year's EU yield was expected to rise 6% to 5.15 t/ha, while the yield for durum wheat was pegged at 3.70 t/ha, up 4%.

"Across most of the EU, winter crops are in fairly good condition. Compared with the same time last year, there are fewer and generally smaller areas where crops are currently affected by unfavourable weather conditions," MARS said in a report.

Torrential rain in Western Europe last year damaged fields and led to the smallest French wheat crop since the 1980s.

This year again some areas of northern France have suffered from soggy conditions that persisted over winter, although drier weather earlier this month offered some relief.

Meanwhile dryness in Eastern Europe has hurt crops, particularly in Romania and Bulgaria, MARS said.

MARS did not give yield projections for spring crops, planting of which is in progress or yet to start, but said weather conditions had been generally favourable for the planting of spring cereals and other field operations.

Soft wheat is the most produced cereal in the EU, while rapeseed is the bloc's main oilseed crop.



MARS' crop yield forecasts at this early stage of the season are predominantly based on historical trends, resulting in figures at EU level that are above last year's poor results and above the five-year average, it said.

Original Article: Market Screener by [Sybille de La Hamaide and Gus Trompiz](#)

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