

Veles Water Weekly Report

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October 31st 2024

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VelesWater



WATER FUTURES MARKET ANALYSIS

Welcome to ***WATERTALK***

by Joshua Bell

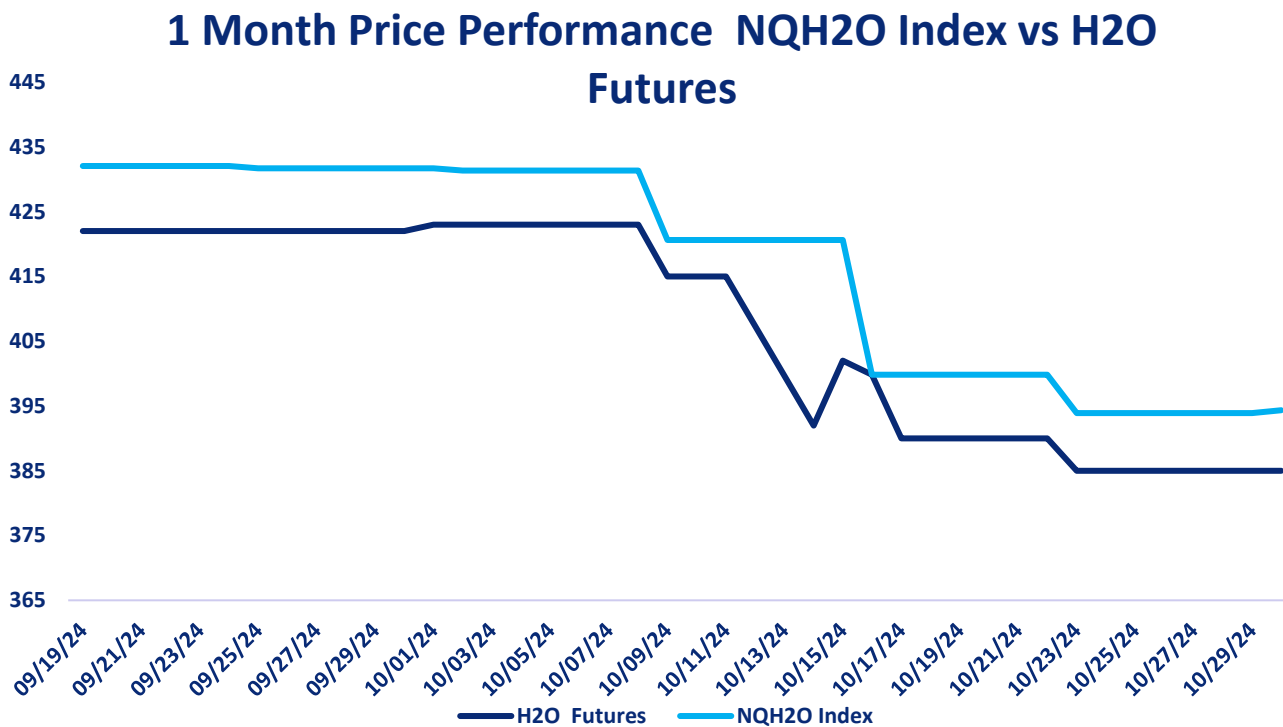
CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

<https://vimeo.com/1025031755?share=copy#t=0>



NQH2O INDEX PRICE vs H2O FUTURES PRICE



Price Chart Based upon Daily Close

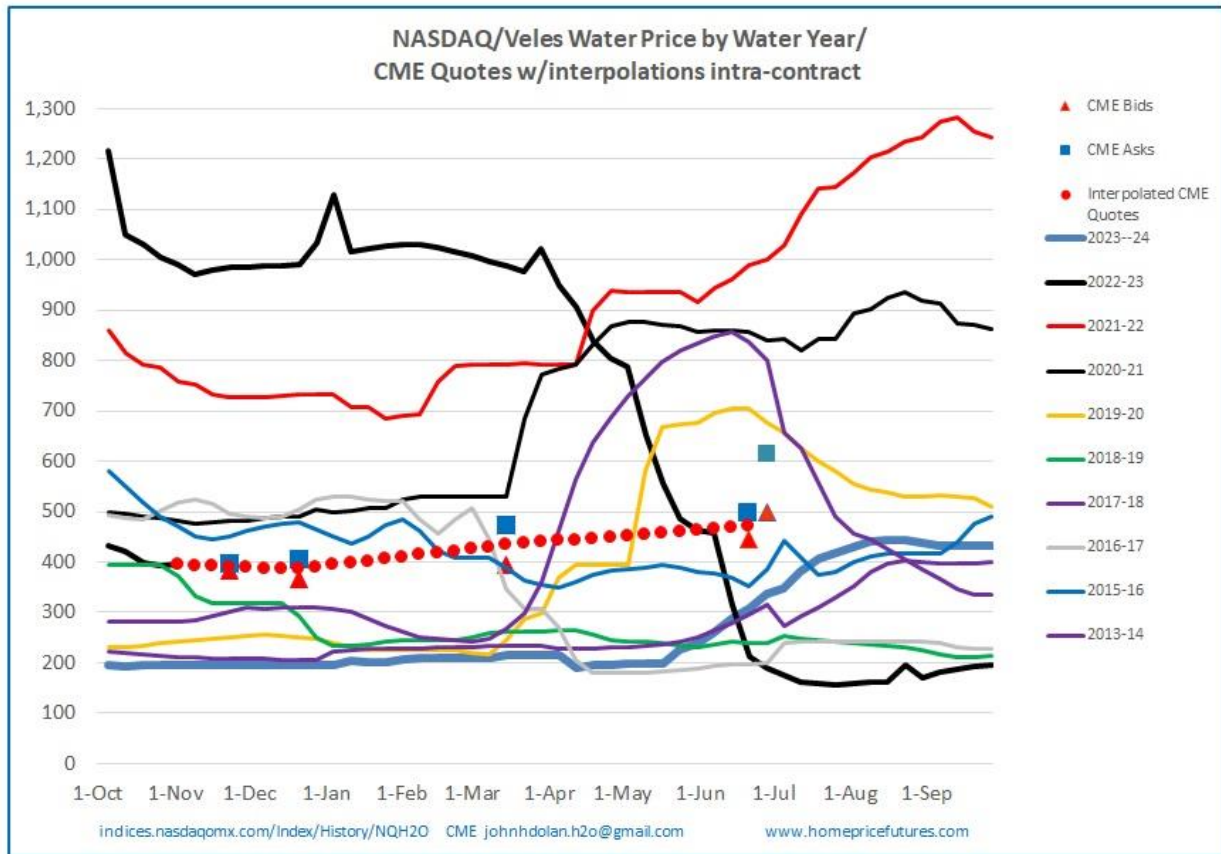
The new NQH2O index level of \$394.37 was published on October 30th up \$0.46 or 0.12% from the previous week. The November contract is considered the front month. The futures prices have closed at a discount of \$8.91 to \$9.37 versus the index over the past week.

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

Nov 24	382@396
Dec 24	365@405
Mar 25	393@473
June 25	445@495
June 26	500@615



NQH20 INDEX HISTORY



The graph above shows the CME water contracts for November 2024, Dec 2024, 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: 385**
- The price has remained flat in this trading session, indicating no change in momentum.

Moving Averages (MA) Analysis

- **MA 5 (5-day Moving Average): 385**
 - The current price is sitting right on the MA 5, suggesting short-term neutrality.
- **MA 10 (10-day Moving Average): 387**
 - The price is slightly below the MA 10, indicating mild short-term bearish momentum.
- **MA 20 (20-day Moving Average): 400**
 - The price is below the MA 20, suggesting some recent market weakness.
- **MA 30 (30-day Moving Average): 407**
 - The price is below the MA 30, indicating medium-term bearish momentum.
- **MA 100 (100-day Moving Average): 419**
 - The price remains below the MA 100, confirming a weakened long-term trend compared to recent sessions.



- **MA 120 (120-day Moving Average): 389**
 - The price is slightly below the MA 120, indicating that the long-term trend has weakened but remains relatively stable.

Support and Resistance

- **Immediate Resistance: 500**
 - This level has been tested several times and remains a key resistance point for a breakout.
- **Immediate Support: 385 (current price level)**
 - The current price may act as support, but if it breaks below this level, the next significant support would be around the MA 100 at 419.

Stochastic Oscillator

- Stochastic (K%: 0, D%: 0)
 - The stochastic indicator shows that the market is in oversold territory, suggesting potential downward pressure but also the possibility of a reversal or bounce if buying interest increases.

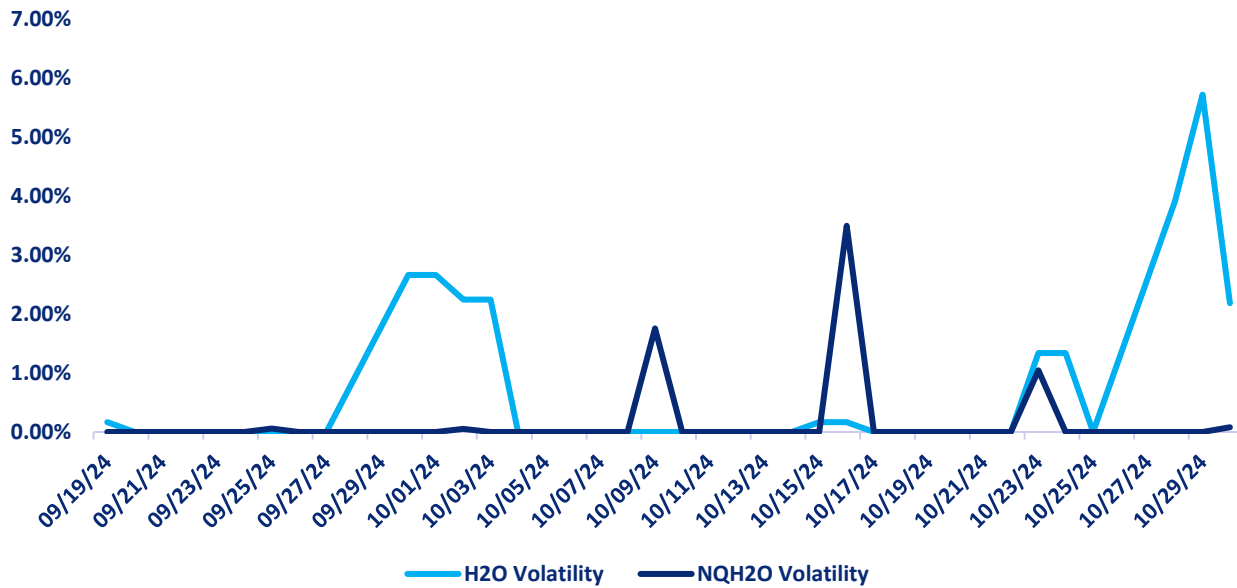
Summary

- The price is currently experiencing short-term and medium-term bearish momentum, sitting below the MA 10, MA 20, and MA 30.
- The long-term trend is weakening as the price is below both the MA 100 and MA 120, signaling cautious outlook in the long term.
- The stochastic indicator signals that the market is deeply oversold, which may open the door for a potential bounce, though further downside remains possible.
- **Key levels to watch:** Immediate support at 385 and resistance at 500. If the price continues to decline, watch for support around the MA 100 at 419.



H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the November contract daily future volatility has been 1.74%.

ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	29.24%	4.52%	5.18%	1.60%
H2O FUTURES	N/A	8.53%	6.85%	0.00%

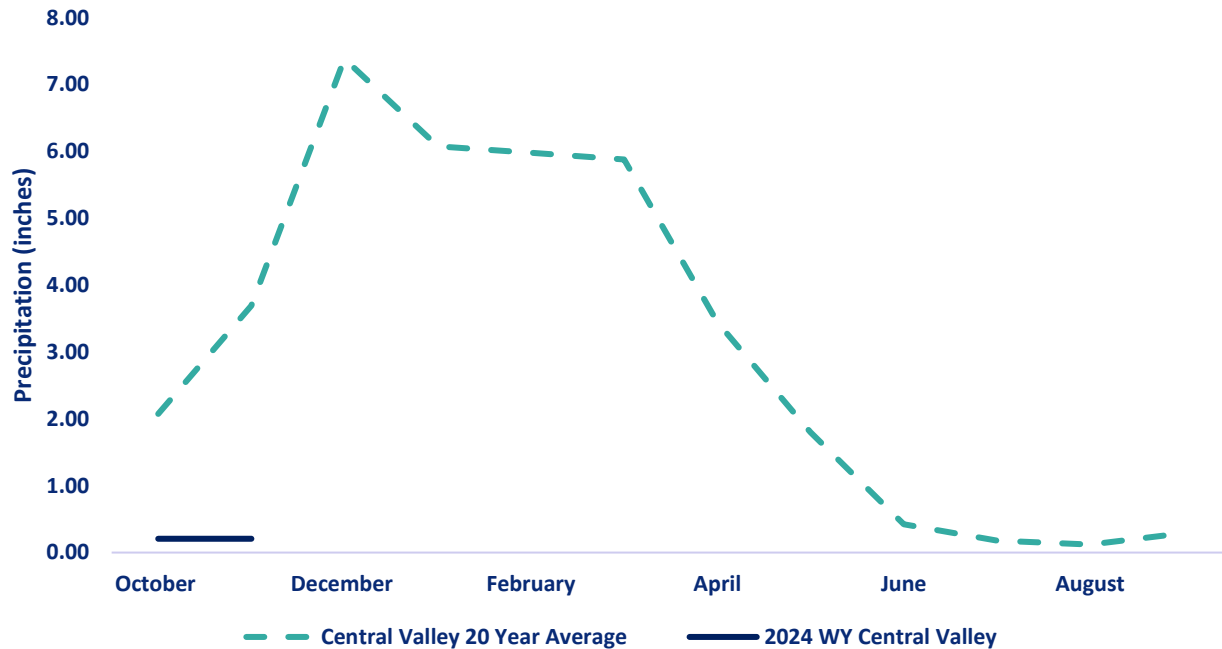
For the week ending on October 30th, the two-month futures volatility is at a premium of 4.01% to the index, down 0.38% from the previous week. The one-month futures volatility is at a premium of 3.31% to the index, down 1.64%. The one-week futures volatility is at a discount of 1.60% to the index, volatility.

*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 30/10/2024

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)	0.18	0.18	8.58%	13	7
TULARE 6 STATION (6SI)	0	0.00	0.00%	0	0
NORTHERN SIERRA 8 STATION (8SI)	0.44	0.44	15.05%	30	16
CENTRAL VALLEY AVERAGE	0.21	0.21	0.00%	20	0

RESERVOIR STORAGE

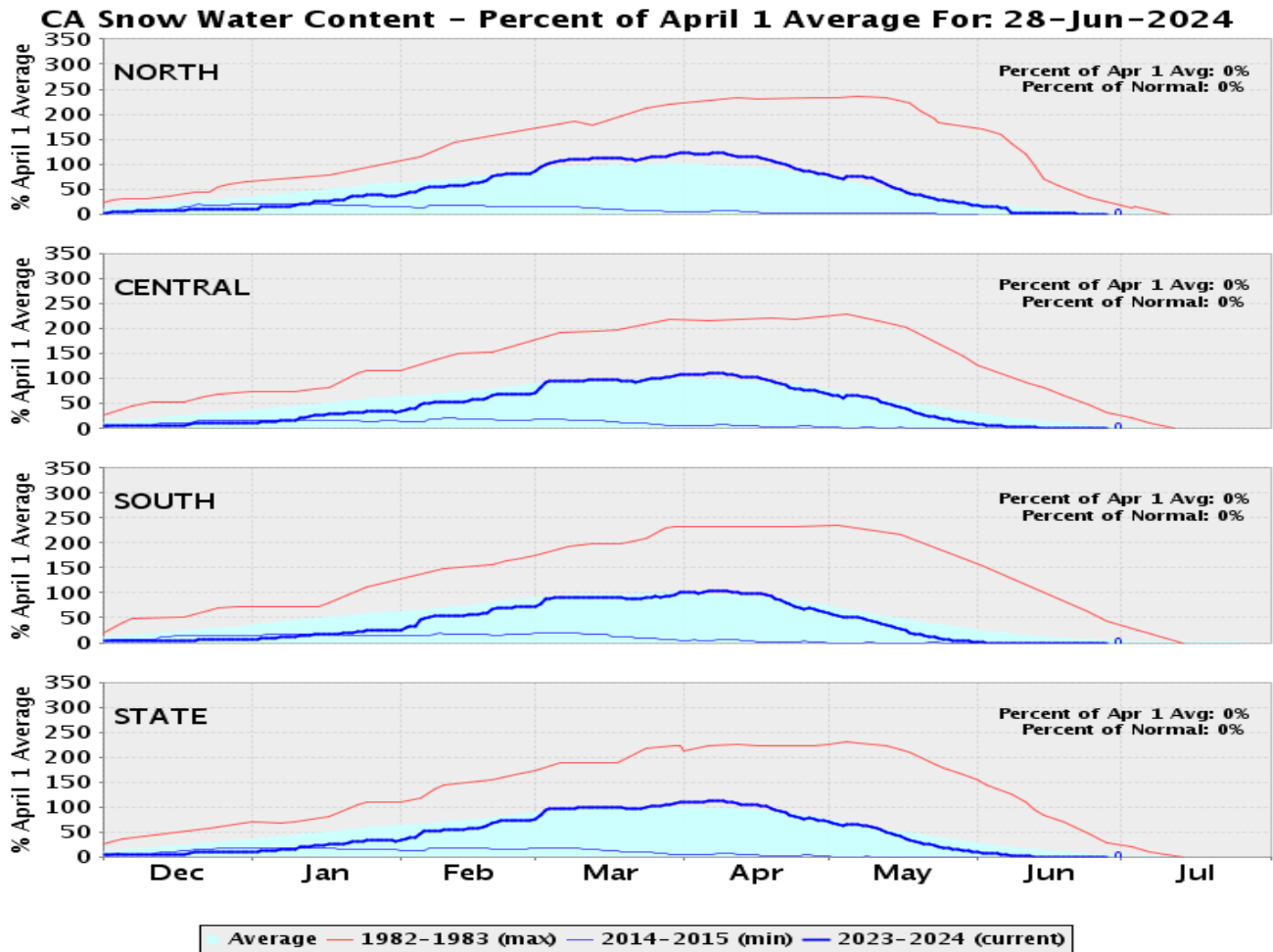
RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	1,628,597	67	50	114
SHASTA LAKE	2,610,453	57	70	107
LAKE OROVILLE	1,728,558	49	69	95
SAN LUIS RES	1,063,773	52	67	117

*% 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.



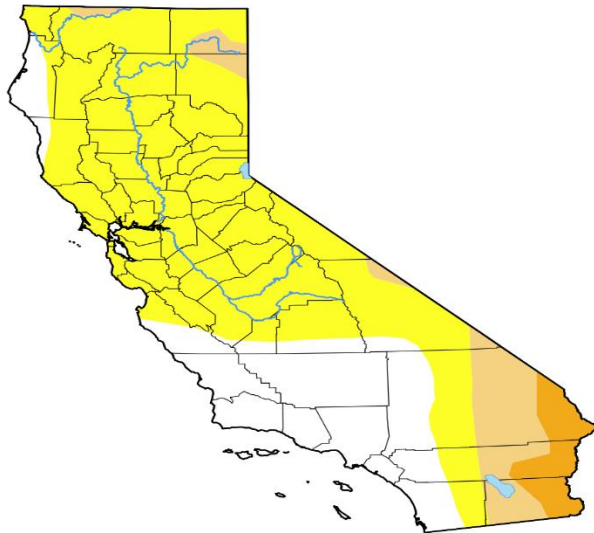
DROUGHT MONITOR

California

[Home](#) / California

Map released: Thurs. October 24, 2024

Data valid: October 22, 2024 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

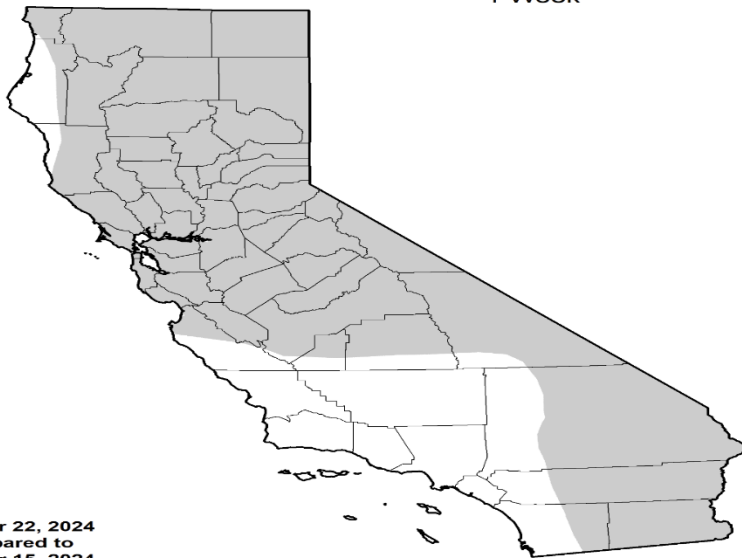
United States and Puerto Rico Author(s):

[Rocky Bilotta](#), NOAA/NCEI

Pacific Islands and Virgin Islands Author(s):

[Brad Rippey](#), U.S. Department of Agriculture

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



October 22, 2024
compared to
October 15, 2024



- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

droughtmonitor.unl.edu

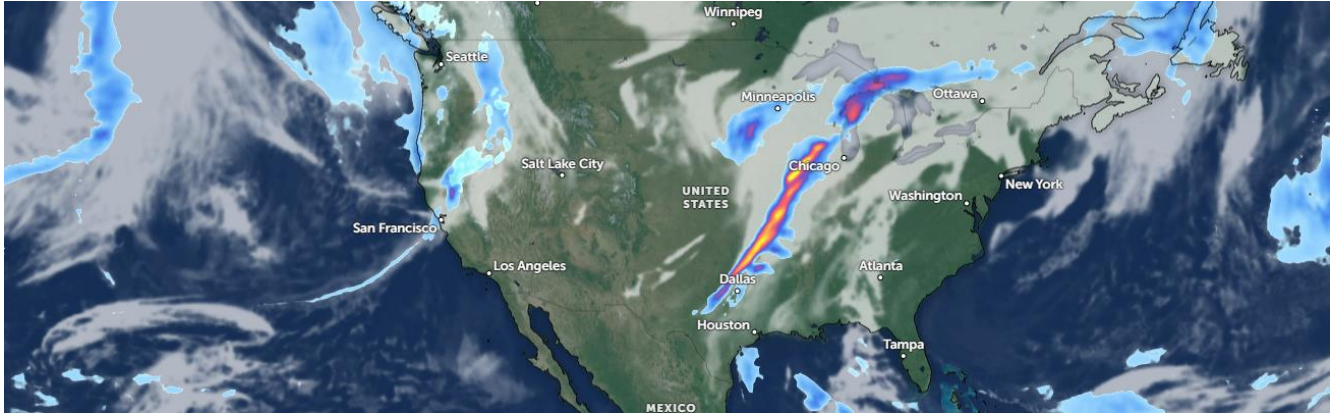
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2024-10-22	24.68	75.32	14.05	4.30	0.00	0.00	94
Last Week to Current	2024-10-15	24.68	75.32	14.05	4.30	0.00	0.00	94
3 Months Ago to Current	2024-07-23	78.80	21.20	4.44	0.00	0.00	0.00	26
Start of Calendar Year to Current	2023-12-26	96.65	3.35	0.00	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	2023-10-24	94.32	5.68	0.00	0.00	0.00	0.00	6

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

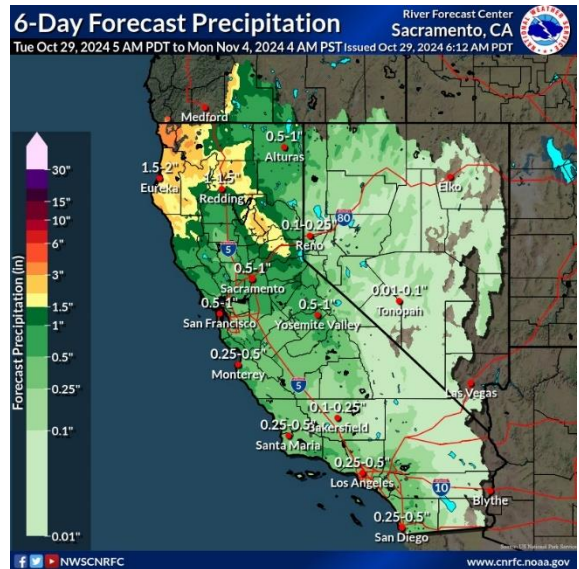
The satellite picture shows 2 weather systems affecting the US. Firstly a frontal system has come off the Pacific and is moving over the northwest and affectin as far south as San Francisco. We expect it not to reach the LA area. Secondly a line of storms from Houston stretching in a northeasterly direction to north of the Great Lakes area moving eastwards.



10 Day Outlook

The next in a series of disturbances expected to impact the region this week is currently moving across the Gulf of Alaska...and will dive toward the southeast and reach the west coast later on Wednesday and linger into Halloween. A narrowing moisture plume ahead of the cold front will bring PW values nearing 1.00-inch to the north coast with the best precip across areas north of I-80 generally ranging from 0.50- to 1.00-inch over the higher terrain with the exception being northwest CA...where models are indicating amounts in the range of 1.00- to 3.00-inches (greatest over the Smith River basin). With the core of the system moving across the Pacific Northwest...as the cold front drops south of I-80 into Thursday...look for the boundary to dissipate and precip to become lighter and a bit more scattered over central CA.

Map Ref: Zoom Earth



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



WESTERN WEATHER DISCUSSION

Average temperatures were mostly above normal across the West this week, while much of the Great Basin, New Mexico and southern California experienced below-normal temperatures, with departures of 1 to 6 degrees F below normal. Conversely, Montana observed temperatures ranging between 3 to 12 degrees F above normal this week. Precipitation fell across much of the region but amounts were mostly normal to below-normal for the region. Heavier rainfall totals, up to 600% above normal, were observed over parts of northwest Washington, Utah and New Mexico. Daily maximum precipitation records were set in parts of Utah and New Mexico. Above-normal precipitation (up to 8 inches above normal), along with cooler temperatures, allowed drought and abnormal dryness improvements in New Mexico, while abnormal dryness was improved in Arizona, Utah, and Washington. Warmer-temperatures and below-normal precipitation resulted in expansion of moderate to extreme drought and abnormal dryness in eastern Montana based on SPI/SPEI data, as well as low soil moisture and streamflow values.

Reference:

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



WATER NEWS

CALIFORNIA WATER NEWS

SJW Group Announces Third Quarter 2024 Financial Results

SJW Group (NYSE: SJW) today reported financial results for the third quarter ended September 30, 2024.

"We are pleased with our financial results for the quarter, which demonstrate the benefits of our national platform combined with the strength of our local water utility operations," stated SJW Group Chair, CEO, and President Eric W. Thornburg. "We continued to deliver on our growth strategy by investing \$252 million year-to-date, or more than three-quarters of our 2024 capital budget, in our water supply and infrastructure across our footprint. We also filed a settlement agreement with the California Public Utilities Commission that reflects resolution with the Public Advocates Office on almost all issues in our California general rate case and submitted a water infrastructure charge filing in Maine and our second system improvement charge in Texas."

"I would also like to acknowledge our teams across the country for SJW Group's recognition by Newsweek as one of 'America's Greenest Companies 2025'. In Connecticut, our local operation was recognized as a Top Workplace by the Hartford Courant for the fourth consecutive year," Thornburg added. "Our strong operating performance and strategic execution position us for continued success as we deliver on our commitment to provide high-quality and reliable water service to our 1.6 million customers and communities nationwide."

Third Quarter Operating Results

Net income prepared in accordance with U.S. generally accepted accounting principles (GAAP) for the quarter ended September 30, 2024, was \$38.7 million, or \$1.17 diluted EPS, a 7% increase compared to \$36.2 million, or \$1.13, in the same quarter last year. Adjusting for merger and acquisition activities expense and real estate transactions, SJW Group's adjusted net income (non-GAAP) in the third quarter of 2024 was \$39.0 million, or \$1.18 per diluted share (non-GAAP), an increase in adjusted diluted EPS of 4% compared to \$1.13 adjusted diluted EPS from the prior-year period.

Adjusted net income is a non-GAAP measure representing GAAP net income excluding special items. The difference between 2024 GAAP net income and adjusted net income for the quarter was primarily due to expenses incurred for merger and acquisition activities of \$0.3 million, net of tax. A full reconciliation of GAAP net income to adjusted net income for the quarter is included in the tables at the end of this news release.



VELES WATER WEEKLY REPORT

Operating revenue for the third quarter was \$225.1 million compared to \$204.8 million for the same quarter last year. The increase was largely driven by rate increases of \$17.0 million, primarily in California and Connecticut.

Operating expenses for the quarter ended September 30, 2024, were \$166.7 million, up 12% compared to \$148.2 million for the same quarter last year. This change in operating expenses primarily reflects:

- An increase in water production expenses of \$13.1 million compared to the same quarter last year due primarily to higher purchased water and groundwater extraction charges;
- An increase in maintenance costs of \$2.1 million primarily due to expenses related to contracted work for others;
- An increase in administrative and general expenses of \$1.8 million primarily due to higher contracted work and inflationary increases, partially offset by higher allocations to construction activities; and
- An increase in depreciation and amortization of \$1.0 million primarily due to utility plant additions.

Original Article: [Nasdaq by SJW Press Release](#)

Newsom makes first visit to ailing sewage treatment plants along U.S.-Mexico border

Gov. Gavin Newsom on Monday toured wastewater treatment facilities on both sides of the U.S.-Mexico border, marking his first in-person visit to the sites undergoing critical upgrades to reduce rampant sewage polluting Tijuana and south San Diego County communities.

The California leader started his tour at the San Ysidro-based South Bay International Wastewater Treatment Plant, which on Tuesday will begin a yearslong effort to repair and expand its capacity, which has long been insufficient for treating Mexico's sewage. He then traveled to the San Antonio de los Buenos plant in Baja California, which also is being overhauled after at least a decade of dumping millions of gallons of untreated wastewater into the Pacific Ocean.

Years of negligence and underinvestment in wastewater treatment plants in both countries have resulted in sewage and toxic chemicals pouring over the border, leaving people ill with headaches, nausea, respiratory issues and other symptoms. Pollution has also affected wildlife, closed shorelines and hurt local economies.

"The Tijuana River sewage crisis has impacted our communities for far too long," Newsom said in a statement released after the tour. "Thanks to our partnership with international, federal, and local partners, we are making real progress. But our work is far from over – we need serious, continued action to protect public health and restore our environment."



VELES WATER WEEKLY REPORT

Newsom made no public mention of declaring a state of emergency. Many local elected officials repeatedly have called on his administration and President Joe Biden to issue a declaration and unlock more funding and resources without government red tape. The Governor's Office has repeatedly made the case that the issue is a federal one as the U.S. government owns the South Bay plant. But the federal government has asserted that the issue does not qualify for such a declaration under the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Still, both administrations have said they are working with a sense of emergency in their efforts with each other and San Diego County.

Most recently, the state and county worked to enlist the help of the Centers for Disease Control and Prevention and the federal Agency for Toxic Substances and Disease Registry to survey people about how cross-border pollution has impacted their health and the immediate help they may need.

The county also is purchasing and distributing nearly \$3 million worth of air purifiers for affected residents, which the California Air Resources Board will reimburse.

Earlier this year, Congress approved \$156 million for the U.S. International Boundary and Water Commission to use for construction projects along the border, including the South Bay plant it owns and manages. The move was critical for a federal agency that had only invested \$4 million from 2010 to 2020 into the dilapidated plant with at least \$150 million in deferred maintenance. Additionally, Congress granted the IBWC authority to accept funding from non-federal entities and other government agencies, including local and state.

Original Article: [The San Diego Union Tribune by Tammy Murga](#)

California looks to streamline desalination plants

State water regulators are in the early stages of easing environmental rules for desalination plants along California's coast to boost water supplies as the climate changes.

The State Water Resources Control Board kick-started its process to amend its ocean protection standards for desalination plants at a scoping meeting Monday after Gov. Gavin Newsom ordered the regulator to consider streamlining new projects in August 2022.

Though the board has yet to publish new draft rules, staff said Monday they were looking to speed permitting, especially for novel technologies, and clarify how and when to measure and mitigate the loss of marine life to the highly saline water that plants discharge back into the ocean. They are also interested in requiring projects to prove a strong need for the additional water supply.

Advertisement



VELES WATER WEEKLY REPORT

California officials have forecast a 10 percent decrease in the state's water supplies by 2040 because of climate change. Desalination is more expensive than other water supply alternatives, costing twice as much as water recycling, but it appeals to otherwise arid coastal areas willing to experiment with new technology. California currently has eight operating desalination plants and three facilities in the planning or permitting phase.

Original Article: [E&E News by Camille von Kaenel](#)

Victory for California's Water Security: AB 460 Signed into Law

Efforts. AB 460 closes this loophole, giving real teeth to existing laws and providing a powerful deterrent against harmful water use practices.

CalTrout's primary focus in supporting this bill was to discourage illegal water diversions during curtailment actions, which harm both fish and downstream water users. These diversions pose an existential threat to our state's already limited water resources, particularly during drought conditions when our rivers and streams are most vulnerable.

A Step Towards Sustainable Water Management

By providing the State Water Board with the ability to leverage meaningful deterrents against illegal water diversions, AB 460 helps secure water supplies for communities throughout California. This is a critical step towards more sustainable water management in our state.

We at CalTrout understand that effective restoration is not possible without supportive policy. AB 460 is a prime example of how we're working to elevate freshwater conservation priorities to state decision-makers, ensuring that our on-the-ground restoration efforts are backed by robust legislative support.

Original Article: [Cal Trout](#)



US WATER NEWS

The Future of Water Resilience in the U.S.

Water plays an essential role in our daily lives. Beyond household consumption, water is critical for agriculture and industry — accounting for 90 percent of total freshwater use in the United States.

This J.P. Morgan x ERM report explores the critical challenges and opportunities surrounding water resilience in the U.S. Amidst climate change, reshoring, and AI advancements, the gap between water supply and demand is becoming more pronounced. This exacerbates water stress in already vulnerable regions, leading to a need for prioritization between daily needs and business use. As the importance of water grows, it will influence strategic decisions and could impact corporate valuations. The report highlights how comprehensive water strategies, infrastructure investments and innovative technologies could help address water scarcity and stress. It also emphasizes the role of public and private sectors in funding and developing sustainable water solutions. In summary, corporates can strategize around water as a business risk, integrating water management into their strategic planning for a more resilient future.

Original Article: [J.P Morgan](#)

USGS Satellites And Test Tubes Meet Ensure Safe Drinking Water

From space, it can be more challenging because of water's light absorbing qualities. Scientists from the USGS Earth Resources Observation and Science (EROS) Center are working with other USGS researchers to find more ways to use Landsat satellite data and other remotely sensed data to identify harmful algal blooms (HABs) on Earth.

The goal is to coordinate efforts across the USGS to use every resource available to warn the public of potential issues as soon as possible and to provide policy makers with information in their states. HABs can pollute drinking water sources and produce toxins that are potent enough to threaten people's wellbeing. Recreational water bodies can be unsafe to swim in. Aquatic life and habitat conditions are also threatened when HAB levels grow too high.

'We Can't Be in All Places at All Times'

Using satellite data to monitor algae isn't new, but the USGS plans to leverage Landsat satellite data even more in its new scientific plan to study HABs.

The appeal of pairing satellite observations with traditional water testing methods is clear. Earth observation satellites like Landsat can track color changes in water bodies that indicate algal growth, helping biologists and ecologists determine when and where to concentrate their testing efforts on the ground.

"There's a lot of value in the remotely sensed information because we can't be in all places at all times," said Jennifer Graham, a USGS research hydrologist at the New York



VELES WATER WEEKLY REPORT

Water Science Center. “One of the biggest challenges when studying harmful algal blooms in the field is they are incredibly variable in space and time, and things can change very quickly.”

The remote sensing observations have to be detailed enough and frequent enough to capture changes in color “so we can start to pin down what the biology is of these algal blooms and whether or not they may be toxic or have the potential to become toxic,” said Chris Crawford, a USGS research physical scientist at EROS.

“We define a harmful algal bloom as when you have an accumulation of algae that is extensive enough to cause some kind of harm,” said Graham.

“Excessive biomass can foul drinking water intakes and can cause real aesthetic challenges because some algae-produced compounds aren’t necessarily toxic but do cause taste and odor problems in drinking water supplies,” she said.

Original Article: [USGS by EROS](#)

Up to 95 million Americans may rely on untreated groundwater containing PFAS for drinking water

In a recent study published in Science, researchers from the United States Geological Survey (USGS) developed an extreme gradient boosting model to predict the occurrence of per- and polyfluoroalkyl substances (PFAS) in groundwater.

What are PFAS?

PFAS, commonly referred to as ‘forever chemicals,’ are highly persistent contaminants present in various environmental matrices, including groundwater. Due to the wide range of adverse health effects linked to exposure to PFAS, extensive resources in the United States have been dedicated to monitoring PFAS levels in the environment, particularly drinking water supplies.

For example, the U.S. Environmental Protection Agency (EPA) fifth Unregulated Contaminant Monitoring Rule (UCMR 5), requires that 29 PFAS are monitored between 2023 and 2025 in all public water systems that serve over 3,300 people and 800 representative small public water supplies serving less than 3,300 people. Despite these regulations, over 90% of small public water supplies and private household wells are not included in the UCMR 5 sampling system, thus increasing the risk that a significant proportion of U.S. residents are unknowingly exposed to PFAS-contaminated water.

Original Article: [News Medical by Dr. Sanchari Sinha Dutta, Ph.D.](#)

Colorado River negotiators vow to slog on as timelines shift

Key state officials negotiating the future of the drought-ravaged Colorado River said Monday that a multi-state agreement is still in the works, even as “sticky issues” continue to bar consensus and prompt the Interior Department to shift back an expected analysis of any plans.



Anne Castle, the Biden administration's appointee to the Upper Colorado River Commission, outlined the change in timing for developing the next operating plans for the Colorado River during a meeting of the group on Monday. She said the Bureau of Reclamation will not publish in December a full draft environmental impact statement analyzing the options, as had been originally planned.

The delay comes as the seven Colorado River states — Arizona, California and Nevada in the Lower Basin and Colorado, New Mexico, Utah and Wyoming in the Upper Basin — continue to debate a potential consensus agreement dictating how the pain of future cuts to water supplies would be shared.

"The discussions among the seven basin states regarding post-2026 operations are ongoing," said Castle, a former Interior assistant secretary for water and science in the Obama administration.

Original Article: [E&E News by Jennifer Yachin](#)

U.S. Supreme Court sets date to hear Uinta oil train dispute

A years-long legal battle that could result in billions of gallons of oil being shipped along the Colorado River will go before the United States Supreme Court in December.

The case, Seven County Infrastructure Coalition v. Eagle County, asks the Supreme Court to review a lower court decision that found there was insufficient environmental analysis of a railway project in eastern Utah. That project, the Uinta Basin Railway, would construct about 80 miles of new track in order to connect oil production sites with existing train routes.

Opponents said that expansion would increase the risk of hazardous material spills into the most important waterway in the Western United States. The concerns prompted a lawsuit from Eagle County to halt the project.

At issue is whether or not the National Environmental Policy Act requires agencies to consider environmental impacts beyond the immediate scope of the project. In August, the U.S. Court of Appeals for the D.C. Circuit ruled that the Surface Transportation Board erred by not considering risks to the Colorado River.

That led to an appeal by the Seven County Infrastructure Coalition, which is backing the project, which will go before the Supreme Court on Dec 10. Earlier this year, leaders in support of the project said the existing environmental reviews fairly evaluated the proposal.

"We are optimistic about the Supreme Court's review and confident in the thorough environmental assessments conducted by the STB," Keith Heaton, director of the infrastructure coalition said in a June statement. He added that the project is "vital for the economic growth and connectivity" of the area.

Numerous Colorado officials, including Attorney General Phil Weiser, have submitted briefs in support of Eagle County's call to halt the project. Colorado's Senior U.S. Senator



VELES WATER WEEKLY REPORT

Michael Bennet and Congressman Joe Neguse, whose district includes Eagle County, have also come out against the project.

“I hope the Supreme Court seriously considers Eagle County’s arguments, the concerns raised by Colorado’s Attorney General and numerous local governments in their amicus briefs, and the implications for those most deeply affected by a potential derailment in the headwaters of the Colorado River,” Bennet said in a statement.

Original Article: [CPR News by Tom Hesse](#)

Two years after voters rejected it, Arizona starts process to install water panel in Willcox

After years of debate on how to handle the strain on the Willcox basin in Cochise County, the Arizona Department of Water Resources has started the process of enacting an Active Management Area in the basin.

“When I traveled to Willcox, I heard stories from farmers, local well owners, and a bipartisan group of elected officials who are concerned about their community’s future because of groundwater depletion,” said Gov. Katie Hobbs in an Oct. 23 press release. “I saw dried up wells, fissures in the earth, and farms struggling to survive because of unchecked pumping of the precious water that Arizonans rely on.”

Some have spoken out against AMAs in basins where agriculture is one of the main water users, saying that it puts too many restrictions on farming which drives the economy in many of these areas.

“Cuts of water use at 10% could cost millions of dollars to the agricultural economy in the area,” said Phil Bashaw, CEO of the Arizona Farm Bureau Federation. “Agriculture in the Willcox basin in particular, is a huge part of the economy down there. So, the imposition of new regulatory structures on that industry is going to have an impact.”

Voters in the area voted against establishing an AMA in the Willcox basin during the 2022 midterm election.

Most of rural Arizona’s groundwater lies outside of an AMA or an Irrigation Non-Expansion Area, meaning that the water supply is neither monitored nor regulated. However, the ADWR periodically monitors the basin levels in rural areas. While this data is sparse, the ADWR can be sure that the demands on rural basins outweigh the supply. The biggest draw on rural basins is agriculture as commercial farming is one of the biggest economic drivers in those communities, with agricultural use of rural basins reaching up to 99% of the overall groundwater use.

Bashaw said that he believes that the groundwater in rural areas does need to be monitored, but that there needs to be another type of groundwater management plan, such as SB 1221 which was proposed by Republicans in this year’s legislative session.

SB 1221 would restrict all users of the Gila Bend, Hualapai Valley and Willcox basins if it is determined by an established board that the basin needs to be managed. If a basin



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management area is enacted, those users of the basin will be granted a water right certificate, outlining how many acre-feet they are awarded. Additionally, the bill would shut down the basins to prevent further drilling or expansion and prohibit the moving or selling of water.

However, this bill did not go through due to there not being enough support from Democrats, saying that there was too much “red tape.”

Earlier this year, Hobbs said that if the legislature did not come up with a way to manage rural groundwater, she would take action.

“For too long, politicians have stuck their heads in the sand and refused to take action to fix the problems Arizonans face,” Hobbs said. “I won’t. I know protecting our water isn’t a Democratic or a Republican issue, it’s an Arizona issue. I will continue to put politics aside and work across the aisle to deliver the solutions Arizonans are desperate for.”

While the Arizona Farm Bureau stands firm in their stance that AMAs would be harmful to the agricultural producers that use the Willcox basin, others in the industry have spoken out in support of an AMA.

“We support and welcome this step taken towards protecting our water supplies,” reads a statement from Mark Jorve, owner of Zarpara Vineyard. “As a small business vineyard in the Willcox groundwater basin we’ve experienced firsthand the alarming declines in our local water levels due to decades of unchecked, unlimited groundwater pumping. An AMA designation would finally put us on a path to stabilizing this precious and shared resource to safeguard local growers and business owners.”

Original Article: [The Center Square by Madeline Armstrong](#)

Nevada precipitation levels in 2024 were abnormally normal. What will happen in 2025?

If you don’t like the weather, wait five minutes. It’s an old joke penned by the celebrated writer Mark Twain, who lived in Nevada in the mid-1800s, and it continues to ring true in the Silver State.

In 2024, Northern Nevada was under a blizzard warning in the spring and Southern Nevada shattered heat records in the summer. By fall, most of the state was in some level of drought — despite the 2024 water year wrapping up Sept. 30 with mostly normal numbers.

Now, water scientists and wildfire experts are looking for signs of what 2025 might hold for the state but it’s largely still up in the air — according to the National Oceanic and Atmospheric Administration’s (NOAA) Climate Prediction Center, the region has an equal chance of having above, near or below-normal precipitation in 2025.



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“It’s still very uncertain,” said Dan McEvoy, a climate researcher at the Desert Research Institute’s Western Regional Climate Center. “There’s a lot of data gaps in Nevada at the end of the day.”

Here’s a breakdown of how 2024’s water year went, what to expect for the coming winter, and an update on wildfire risk in the state.

An abnormally normal water year

Water years are measured from Oct. 1 to Sept. 30, a timeline that, in the West, coincides with the start of the rainy and snowy season, followed by the melting of the snowpack and a drying period in the summer.

Despite a dry start to the 2024 water year, late-season storms in February and March left most of Nevada and California with near-normal precipitation.

Atmospheric rivers — rivers in the sky that drop large volumes of rain and snow when they hit land — picked up in January, February and March and included a four-day blizzard in early March that dropped as much as 7 feet of snow in some areas. With the late-season storms, Nevada ended the water year close to normal — the state averaged 70 percent to 130 percent of normal precipitation.

“It was unusual how close to average everything was,” McEvoy said. “We never seem to end up right at average.”

With memories of last season’s Miracle March storm and the big winter of 2023, some Tahoe ski resorts are predicting they will open in early to mid-November — despite temperatures that, to this point, have been largely balmy and dry.

It’s not just Tahoe skiers who look forward to big snow years, though. Nevada ranchers and farmers rely on snowfall for everything from irrigation to better pasture conditions for livestock.

But NOAA’s Climate Prediction Center’s forecast through January doesn’t offer much insight into the coming year.

“There are some signals to suggest closer to normal precipitation. But one storm can make or break the situation, especially across much of Nevada,” said state climatologist Baker Perry.

A La Niña watch is in place, which could lead to warmer and drier conditions in Southern Nevada, although dry conditions are already in place for many Nevadans.

More of the state is in some type of drought condition than a year ago this month, with roughly 2.1 million Nevadans living in areas inflicted by drought, partially brought on by a lack of summer monsoons.

“This year, in Southern Nevada, when you expected to get moisture from the summer monsoon, it was extra dry,” McEvoy said.

In June, less than 2 percent of California and Nevada were considered to be in drought or abnormally dry. By Oct. 1, all of Nevada was considered afflicted by some type of



drought conditions. Portions of Lincoln and Nye counties and almost all of Clark County are considered in severe drought.

Original Article: [The Nevada Independent by Amy Alonzo](#)

Watershed moment: Engineers invent high-yield atmospheric water capture device for arid regions

The idea of turning the air around us into drinking water is a marvel on its own. And grabbing a sustainable amount of it from low-humidity environments has long been closer to science fiction than reality.

As a megadrought stresses the water supply throughout the Southwest, revolutionary research out of UNLV is answering this problem with a groundbreaking technology that pulls large amounts of water from the air in low humidity. The research was published Oct. 22 in the journal Proceedings of the National Academy of Sciences (PNAS).

UNLV mechanical engineering professor H. Jeremy Cho leads a team of researchers with a radically different approach to atmospheric water harvesting, or transforming water vapor in the air around us into a usable form. Existing atmospheric water harvesting approaches have low yields and diminishing returns below 30% humidity.

“This paper really establishes that you can capture water at a very fast rate,” said Cho. “We can start to forecast how big of a system we would need to produce a set amount of water. If I have one square meter, which is around three feet by three feet, we can generate about a gallon of water per day in Las Vegas, and up to three times more in humid environments.”

This technology and approach has been tested outdoors in Las Vegas, and is effective down to 10% humidity. It directly captures water in a liquid salt solution that is suitable for subsequent processing into drinking water or energy production, enabling new capabilities for arid regions.

A key ingredient in the process is a hydrogel membrane “skin.” The inspiration for this material comes from nature – specifically tree frogs and air plants, which use a similar technique to transport water from ambient air into a liquid for internal storage.

“We took that biological idea and tried to do it in our own way,” he said. “There are so many cool things happening in nature – you just have to look around, learn, and be inspired.”

Additionally, the research demonstrates that atmospheric water harvesting can be solar-powered. Thanks to the frequent sunlight experienced in places such as the Las Vegas Valley – which averages 300 sunny days a year sunlight can provide enough energy to reduce the theoretical and eventual cost for generating water.

“Our water resources are depleting and our planet’s climate is changing,” said Cho. “To reach sustainability, we have to change our habits. This whole idea seemed like science fiction, but this is possible, and we’re actually doing it.”



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The research is already being put into practical use in the form of WAVR Technologies, Inc. Cho co-founded this UNLV startup, making devices capable of capturing water vapor from the air around us for commercial and individual uses. WAVR is the premiere university business spinoff from the National Science Foundation (NSF) Regional Innovation Engines program aimed at bringing to market technologies that address regional sustainability and climate concerns.

Original Article: [Smart Water Magazine](#)

Securing Essential Water Infrastructure for Sustainable Growth in Texas

People are moving to Texas, and businesses are building new facilities. That rapid growth is straining resources, particularly water. According to a new report, Texas must invest \$154 billion over the next 50 years in new water supply and infrastructure—critical needs to support the state’s expanding population and booming industries.

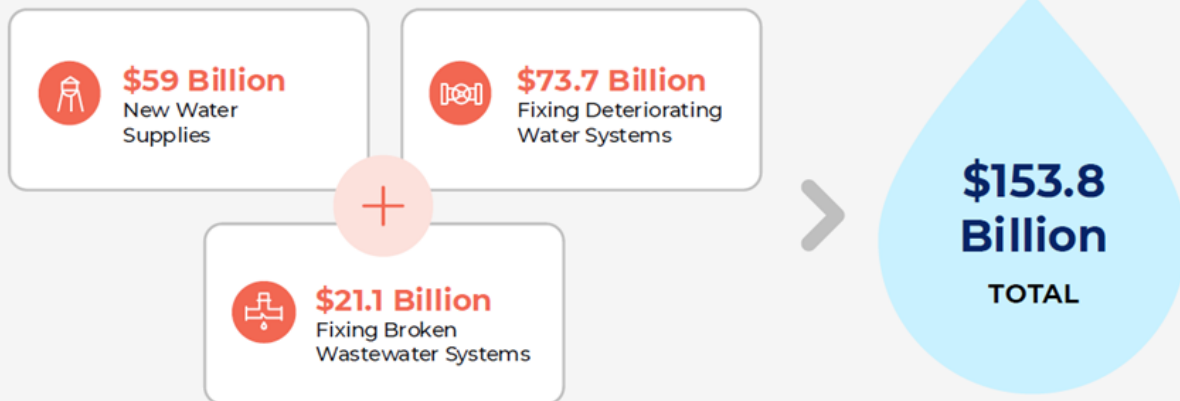
The [report](#) from Texas 2036, a nonpartisan public policy think tank, highlights the urgency of this investment. Without reliable water infrastructure, Texas could face the loss of a million jobs and more than \$160 billion in economic impact over the next five decades. The report underscores a stark reality: a comprehensive, sustainable funding strategy for water is necessary to keep Texas economically resilient and competitive.

Investment Needs

The 2022 Texas Water Plan and US EPA initially estimated that Texas would need \$132 billion in water infrastructure investments over the next 50 years. However, Texas 2036 has adjusted this figure for inflation, raising the projected cost to \$154 billion. While state and federal programs—such as the State Water Implementation Fund for Texas (SWIFT) and the newly established Texas Water Fund—are expected to provide around \$40-45 billion in financial support over the coming decades, a significant long-term funding gap persists.



Texas' 50-Year Water Infrastructure Financial Assistance Needs



Sources: 2022 Texas State Water Plan, US EPA. Cost estimates reflect 2024 values.

Dual Challenges

According to the report, Texas faces two challenges. First, the state must develop a broad, diversified water supply portfolio to meet the demands of a rapidly growing population and economy while strengthening resilience to future droughts. The water supply gap poses additional risks to the state's electricity generation, as low water levels during droughts could limit power from natural gas, nuclear and coal plants.

Second, aging and deteriorating drinking water and wastewater systems. Over the past five years, nearly 3,000 boil water notices have been issued annually, leaving communities without reliable water service.

Impact on Industries

A severe, prolonged drought would have widespread effects on industries across Texas. Manufacturing, a key driver of the state's economy, is one example.

The top five manufacturing regions—Dallas-Fort Worth, the Greater Houston area, East Texas (Beaumont, Tyler, Lufkin), Central Texas (College Station, Temple, Waco), and South Central Texas (San Antonio, Victoria)—together account for 82% of the state's manufacturing GDP and 77% of its manufacturing jobs. According to research from Rice University's Baker Institute for Public Policy, within the next 20 years, these regions could face nearly \$20.8 billion in lost manufacturing GDP and over 116,000 job losses due to water shortages during a drought of record.

The potential economic fallout underscores the need for immediate and strategic investments in water infrastructure to safeguard key industries and the communities that rely on them.

Original Article: [Greater Houston Partnership by Brina Morales](#)



AI chips and data centers are making America's water problems worse, JPMorgan says

The artificial intelligence boom is making water strain in the U.S. worse, a new report says — and it could lead to global supply chain disruptions.

Water-stressed regions of the U.S., including in Arizona and Texas, are expecting increased manufacturing of data centers, chip fabrication facilities, and other AI-related infrastructure that need massive amounts of water to operate, according to a report called “The Future of Water Resilience in the U.S.” by JPMorgan Chase (JPM-1.19%) and the ERM Sustainability Institute.

Data centers, which are essential to AI model training, require water to cool server rooms — often from drinking water sources, the report said. While a growing and moving U.S. population is the main driver of a decrease in fresh water supply in parts of the U.S., according to the report, “20% of the water used by data centers today is drawn from already stressed watersheds, presenting risks to the technology industry and the surrounding communities and environment.”

A mid-sized data center consumes, on average, about 300,000 gallons of water each day, according to the report. But larger data centers can use up to 5 million gallons of water each day — or the same amount as a town with 10,000 to 50,000 residents, the report said, adding that in 2023, U.S.-based data centers used over 75 billion gallons of water. Additionally, data centers require chips, which need vast amounts of water to manufacture. Chips also discharge “highly toxic wastewater that is saturated with chemicals and heavy metals,” according to the report.

Climate change and water management issues already create challenges for the water supply, but “AI and data centers are increasing the scale of the challenge,” Rama Variankaval, global head of corporate advisory at JPMorgan and a leading contributor to the report, said in a statement shared with Quartz. But it’s “also putting a spotlight on the issue.”

Mishandling the impact on water-stress “could cause real disruption to global supply chains,” the report said, especially in the AI industry, which count data centers and chips as crucial businesses. Despite the negative impact to climate goals, experts previously told Quartz that data and other AI infrastructure will be the winners of AI’s next phase, as companies seek to power their growing AI offerings.

Original Article: [Quartz by Britney Nguyen](#)

Solar-powered desalination system requires no extra batteries

MIT engineers have built a new desalination system that runs with the rhythms of the sun.

The solar-powered system removes salt from water at a pace that closely follows changes in solar energy. As sunlight increases through the day, the system ramps up its



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desalting process and automatically adjusts to any sudden variation in sunlight, for example by dialing down in response to a passing cloud or revving up as the skies clear.

Because the system can quickly react to subtle changes in sunlight, it maximizes the utility of solar energy, producing large quantities of clean water despite variations in sunlight throughout the day. In contrast to other solar-driven desalination designs, the MIT system requires no extra batteries for energy storage, nor a supplemental power supply, such as from the grid.

The engineers tested a community-scale prototype on groundwater wells in New Mexico over six months, working in variable weather conditions and water types. The system harnessed on average over 94 percent of the electrical energy generated from the system's solar panels to produce up to 5,000 liters of water per day despite large swings in weather and available sunlight.

“Conventional desalination technologies require steady power and need battery storage to smooth out a variable power source like solar. By continually varying power consumption in sync with the sun, our technology directly and efficiently uses solar power to make water,” says Amos Winter, the Germeshausen Professor of Mechanical Engineering and director of the K. Lisa Yang Global Engineering and Research (GEAR) Center at MIT. “Being able to make drinking water with renewables, without requiring battery storage, is a massive grand challenge. And we’ve done it.”

The system is geared toward desalinating brackish groundwater — a salty source of water that is found in underground reservoirs and is more prevalent than fresh groundwater resources. The researchers see brackish groundwater as a huge untapped source of potential drinking water, particularly as reserves of fresh water are stressed in parts of the world. They envision that the new renewable, battery-free system could provide much-needed drinking water at low costs, especially for inland communities where access to seawater and grid power are limited.

“The majority of the population actually lives far enough from the coast, that seawater desalination could never reach them. They consequently rely heavily on groundwater, especially in remote, low-income regions. And unfortunately, this groundwater is becoming more and more saline due to climate change,” says Jonathan Bessette, MIT PhD student in mechanical engineering. “This technology could bring sustainable, affordable clean water to underreached places around the world.”

The researchers report details the new system in a paper appearing today in *Nature Water*. The study's co-authors are Bessette, Winter, and staff engineer Shane Pratt.

Pump and flow

The new system builds on a previous design, which Winter and his colleagues, including former MIT postdoc Wei He, reported earlier this year. That system aimed to desalinate water through “flexible batch electrodialysis.”



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Electrodialysis and reverse osmosis are two of the main methods used to desalinate brackish groundwater. With reverse osmosis, pressure is used to pump salty water through a membrane and filter out salts. Electrodialysis uses an electric field to draw out salt ions as water is pumped through a stack of ion-exchange membranes. Scientists have looked to power both methods with renewable sources. But this has been especially challenging for reverse osmosis systems, which traditionally run at a steady power level that's incompatible with naturally variable energy sources such as the sun.

Winter, He, and their colleagues focused on electrodialysis, seeking ways to make a more flexible, "time-variant" system that would be responsive to variations in renewable, solar power.

In their previous design, the team built an electrodialysis system consisting of water pumps, an ion-exchange membrane stack, and a solar panel array. The innovation in this system was a model-based control system that used sensor readings from every part of the system to predict the optimal rate at which to pump water through the stack and the voltage that should be applied to the stack to maximize the amount of salt drawn out of the water.

When the team tested this system in the field, it was able to vary its water production with the sun's natural variations. On average, the system directly used 77 percent of the available electrical energy produced by the solar panels, which the team estimated was 91 percent more than traditionally designed solar-powered electrodialysis systems.

Still, the researchers felt they could do better.

"We could only calculate every three minutes, and in that time, a cloud could literally come by and block the sun," Winter says. "The system could be saying, 'I need to run at this high power.' But some of that power has suddenly dropped because there's now less sunlight. So, we had to make up that power with extra batteries."

Original Article: [Smart Water Magazine](#)



GLOBAL WATER NEWS

Humanity consumes nearly seven trillion cubic meters of water per year to grow crops worldwide: Study

A new study by researchers at the UT sheds light on historical changes in the amount of water humanity consumes to grow the world's main crops. The analysis demonstrates that despite increasing crop water productivity, the total amount of water we consume keeps growing, which may exacerbate the already existing myriad of related environmental and socio-economic issues.

The study, published in *Environmental Research Letters*, looks at 175 crops from the 1990–2019 period in terms of their green and blue water footprints. Green water refers to water coming from rainfall and blue water comes from irrigation and shallow groundwater.

"We need to differentiate between these two water types as they play different roles in ecosystems and society," says Oleksandr Mialyk, a postdoctoral researcher at the Multidisciplinary Water Management group.

Nearly 80% of analyzed crops required less water per ton in 2019 compared to 1990. However, these productivity gains were insufficient to stop the global total water footprint of crop production from increasing. Since 1990, the latter has increased by almost 30% or 1.55 trillion m³. "Our estimate for 2019 stands at 6.8 trillion m³ of mainly green water, which is around 2,400 liters per person per day," adds Mialyk.

What drives the increase

Close to 90% of the total increase occurred between 2000 and 2019 which the authors link to three main socio-economic drivers. First, accelerated globalization and economic growth substantially increased the consumption of various imported crops and crop products. Second, global diets shifted to more water-intensive products such as animal produce, sweetened drinks, and sugary & fatty foods. Third, the energy security and green agendas of many governments boosted the production of crop-based biofuels.

These socio-economic changes mostly favored the cultivation of flex crops or crops which can be processed into many diverse products (food, animal feed, biofuels, etc.). These crops allow farmers, investors, and insurers to reduce financial risks associated with crop production as diverse end-user markets ensure stable profits and return on investments.

Combined with active agricultural lobbying, the production of these crops rapidly increased over the last decades. For example, just the three largest ones—oil palm fruit, soya beans, and maize—can explain half of the total increase in the total water footprint of crop production between 1990–2019.

Hotspots of crop water consumption



India, China, and the U.S. are the largest water consumers according to the study. However, the total water footprint increase occurred mostly across the tropics, which often comes together with other environmental impacts, including deforestation and biodiversity loss.

"This region offers optimal geographical conditions for crop production while favorable agricultural policies attract investments from large agrifood corporations," explain the authors. As a result, some regions became increasingly specialized in a small range of water-intensive crops, like oil palm fruit in Indonesia or soya beans and sugar cane in Brazil.

Original Article: [Phys.org by University of Twente](#)

Black & Veatch Promotes Sustainable Water Management Practices at the International Mining and Resources Conference (IMARC) 2024

Asia Pacific's mining industry can accelerate the adoption of more sustainable water management practices to protect freshwater resources for the local community while ensuring a more resilient and reliable water future, says Black & Veatch, a global leader in critical human infrastructure solutions.

For example in Australia, national science agency CSIRO estimates that mining and other industries use about 20 percent of all water consumed in Australia.

"Proven and readily available water solutions, such as desalination and water recycling, can be designed and engineered to achieve greater energy efficiency, and reduce operational costs and carbon emissions for Asia Pacific's mining sector, offsetting significant strategic risks," said Mick Scrivens, vice president, director, Australia Pacific, Black & Veatch. "Partnering to implement these solutions will benefit the environment, local communities, mining companies and the industry overall."

At the International Mining and Resources Conference (IMARC) 2024, Black & Veatch is convening the conference's only dedicated session on water management in the mining industry on 30 October.

Hosted by Scrivens and featuring industry leaders and Black & Veatch experts, the session will explore how more resilient sustainability results can be achieved by integrating water planning across all stages of the mine lifecycle. The session also will explore more targeted and affordable investments in appropriate technologies and solutions, and meaningful inclusion of critical stakeholders in the planning and design phases of projects.

Sessions that Black & Veatch leaders will be part of at IMARC 2024 include:

"Where's the Water Coming From? The Importance of Infrastructure Planning and Delivery"



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Brady Hays, senior vice president and executive managing director, Fuels and Natural Resources will be interviewed by Corinne Cheeseman, chief executive officer, Australian Water Association

"How to Sustainably Manage Water in Mining within Australia"

Garrick Field, solutions director, Industrial Water and Mining will convene a panel featuring water leaders from BHP, Legacie, ICMM and the Government of Western Australia.

"Getting Projects Out of the Ground and Off the Ground Faster"

Jonathan Dunham, associate vice president and managing director, Mining and Metals, will participate in the panel discussion.

IMARC 2024 is taking place 29-31 October in Sydney.

Black & Veatch's multi-disciplinary capabilities to deliver integrated water and energy solutions span the full project delivery chain and are proven by a track record of diverse projects delivered to utilities, governments and industry. In Australia, Black & Veatch has a strong track record of partnering with clients and communities to deliver quality services to water utilities, including award-winning projects such as the Bundamba Advanced Water Treatment Project that supported the nation's response to the millennium drought.

Original Article: [Yahoo Finance by Business Wire](#)

Severn Trent's £800m fund targets pollution issues

Untreated waste going into Midlands rivers is to be tackled with an £800m investment, Severn Trent Water has said.

It comes after concerns were raised over phosphate not being removed from waste at the firm's Diglis treatment plant in Worcester.

According to Environment Agency data, untreated waste was discharged into the river 81 times during 2023.

On Sunday, thousands of people from across the Midlands will be joining forces to highlight the importance of clean water in their lives.

The firm said it was reducing its impact "quickly" and remained committed to helping to improve the health of rivers.

However, campaigner Glyn Marshall said he had seen a huge impact on the river and believed it could "die" unless action was taken, with the impact on fish and other creatures had been significant.

The angler showed the BBC data from his own testing, showing what he claimed was waste water going into the river on dry days.

The practice of discharging sewage on days when it was not raining is known as "dry spilling".

It is banned because it can lead to higher concentrations of sewage in waterways.



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Glyn Marshall has fished the River Severn for many years

Mr Marshall said: "Unless something is done quickly, I fear that the fish living in the river will be drastically reduced. I'm worried that some of the bigger species won't be here within five years."

Severn Trent Water said it worked closely with citizen scientists, but one-off tests were not always reliable.

"All of our spill data is shared with the Environment Agency and we continue to be completely open and transparent while continuing to reduce spills and improve river health," a spokesperson said.

Concerns have been raised that phosphate isn't being removed from waste at the Diglis treatment plant

The company added it was set to spend £100m improving 23 of its sites in Worcestershire.

"We're reducing our impact on the River Severn quickly, as we're investing more and progressing faster than any other water company," the spokesperson continued.

"While there's many factors make up river health, we have invested heavily in phosphate removal across our sites that feed into the River Severn and are investing a further £24m specifically at our treatment works in Diglis on more phosphate removal."

Campaigners are urging authorities to take action against the people and companies polluting rivers, lakes and seas.

Environment Secretary Steve Reed says he "shares the public's anger on this issue".

Original Article: [BBC by Josh Sandiford and Nicola Goodwin](#)

Rival Thames Water bondholders to table £3bn rescue plan

A second group of Thames Water lenders will this week submit a fully funded £3bn financing package that it will argue is cheaper and more certain than a rival offer endorsed by the company last week.

Sky News has learnt that the water utility's Class B bondholders - which are reported to include Aviva, BlackRock and MetLife - will table a proposal as early as Tuesday, as the company and its advisers seek to avert what would rank among one of the most significant insolvencies in recent British corporate history.

The group is expected to argue that its offer will be significantly cheaper than one from Class A - or more senior - creditors backed by Thames Water late last week, which included £1.5bn of guaranteed funding and a further £1.5bn of provisional money.

The Class B group is understood to have calculated that Thames Water could save approximately £375m in interest payments and fees over a 12-month period if it chooses its proposal. Insiders said they had calculated that the Class A group, which includes the American hedge funds Elliott Advisers and Silverpoint, would earn in the region of £650m during that time.



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Thames Water chief executive Chris Weston said last week that the Class B group's proposals, which include funding lent at an interest rate of 8%, were insufficiently detailed to garner the board's support.

The group is likely to counter that on Tuesday by tabling fully developed loan documentation to the company.

It emerged over the weekend that the Class As' proposals incorporate a management incentive plan aimed at retaining key Thames Water executives.

While details of that structure are yet to be set out, a person close to the process said it raised questions about a potential conflict of interest that Thames would need to be transparent about.

Any substantial pay packages for water company executives - particularly at one standing on the brink of collapse - would be highly contentious, with the government recently having established an independent review of the industry that will look at far-reaching reforms.

A significant incentive plan would also be controversial given that Thames Water will require forbearance from Ofwat, the industry regulator, in terms of substantial fines and other penalties it is likely to have to pay because of its dire record on sewage leaks and wastage.

It was unclear whether the Class B bondholders' proposals would contain any similar incentive package for the company's management.

Original Article: [Sky News by Mark Kleinman](#)

Recent rains increase water reserves to nearly 30%

Water levels in Catalonia's reservoirs have risen after heavy rains over the past three days.

The total volume of water in the nine internal reservoirs rose from 27.6% on Thursday to 29.5% on Monday morning.

With this increase, the reservoirs are getting a respite after a slight but continuous decline since July, when the water level was 37%.

Despite the heavy rains in September, it did not rain near the headwaters of the rivers, which did not benefit the water reserves.

But the current level of 30% in the reservoirs is far from the low of 14.3% that they reached in March this year, prompting the government to activate emergency drought measures.

The weekend rains benefited especially the La Baells reservoir, in the interior of Catalonia, which exceeded 50% for the first time since July.

Original Article: [Catalan News](#)



Why building more big dams is a costly gamble for our future water security and the environment

Climate change and biodiversity loss are mounting threats to Australia's water security. So we often hear calls for more dams. But is that the answer?

Our recent research reveals large dam projects are costly gambles with public money. They often fail to deliver promised economic benefits. They also have major environmental, financial and social impacts.

In New South Wales, some members of the Lower Lachlan River community were concerned about plans to expand Wyangala Dam. They first asked us in 2020 to investigate its full costs and benefits, with findings presented at a local workshop in 2022.

The first WaterNSW estimate of capital and operating costs was A\$620 million in 2018. Within a few years, it had soared to as much as \$2.1 billion. In 2023, the project was scrapped because it wasn't economically viable.

Similar concerns surround other projects overseas and in Australia, including Hells Gate Dam in Queensland, and Dungowan Dam and Snowy Hydro 2.0 in NSW.

To avoid repeating costly mistakes and mismanaging taxpayers' money, we need a smarter approach to major water projects. This includes independent assessments and greater transparency, with business cases made public and decision-making open to scrutiny. And planning for climate change must become a priority.

Lessons from past mistakes

Inadequate economic assessments of big dam projects are a global problem. The Grand Ethiopian Renaissance Dam and India's Subansiri Lower Hydroelectric Project promised big, but had rising price tags and devastating impacts on ecosystems.

In Australia and worldwide, big dam cost overruns can be up to 825%. The average overrun is 120%. This casts serious doubt on such projects' financial and social viability. Public costs for private gains are a major concern.

Our study reviewed the original business case for the Wyangala Dam expansion. The original study had concluded there would be net social benefits and gave the project the green light.

Our review found the business case was seriously flawed. It overestimated benefits and grossly underestimated physical capital and environmental costs.

Estimated building costs blew out by 239%. If the project had gone ahead, the costs would undoubtedly have increased.

On top of this, assessments of impacts on rivers and wetlands were poor and superficial. They greatly undervalued the environmental effects of expanding the dam, particularly on downstream wetlands.

On the other side of the equation, its benefits were overblown, particularly for water security and agriculture.



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Local voices believed many of their concerns had been ignored. There were deep concerns that flood-dependent farmers downstream might lose some of their livelihoods. Indigenous communities were worried about their cultural sites being destroyed.

Our analysis provided a more rigorous assessment of benefits and costs of the Wyangala Dam expansion.

We found total project costs were underestimated by at least 116%. The benefits were inflated by 56%. This meant the true impacts on the environment, agriculture and local communities were misrepresented.

Original Article: [The Conversation by John Kandulu, Richard Kingsford and Sarah Ann Wheeler](#)

Alberta chiefs seek clarity on Canada's view of water rights following class action defense

A committee of Alberta chiefs is questioning Canada's commitment to upholding First Nations' water rights following the government's defence in a \$1.1-billion national class-action lawsuit.

The chiefs say the case only adds to their concerns Canada is trying to absolve itself of treaty rights and legal responsibilities through a federal clean water bill, C-61, that they call "dump and run legislation."

The group is speaking out after federal lawyers argued in court earlier this month that Canada has no legal duty to ensure First Nations have access to clean water, even if ministers publicly suggest otherwise.

Canada's position has Rupert Meneen, chief of Tallcree Tribal Government on Treaty 8 land in northern Alberta, wondering "who is telling the truth" — the politicians or the lawyers?

"If they're saying it's not your treaty right to own water or drink water, have water in your community, who do you believe?" he said.

"That kind of puts a little bit of the damper on what we're trying to do. Because where do we go from here?"

Indigenous Services Minister Patty Hajdu has denied the government wants to avoid its legal obligations, telling reporters on Oct. 10 in Ottawa the law would impose "a very high legal bar" on Canada.

But Hajdu declined to comment directly on the legal defence, only saying, "this legislation would not give those kinds of arguments to government lawyers."

Canada's defence has chiefs like Meneen reiterating their calls for a rewrite of the water bill. Chiefs in Alberta met with Hajdu to discuss the bill the following week.

Troy Knowlton, chief of Piikani Nation in southern Alberta, said he remains unconvinced.



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"All First Nations across Canada matter. Their health matters. Their human right to safe drinking water matters," he said.

"I have to stand in solidarity with those and support those that perhaps don't have the benefit of having that infrastructure that supports them."

Bill 'flawed' in 4 or 5 areas, says CEO

The bill is winding through the House of Commons with support from the Assembly of First Nations (AFN), which represents chiefs across the country. But Treaty 8 hasn't been part of the AFN for about three years now, said Meneen, nor does the AFN have an Alberta regional chief currently.

Meneen and Knowlton are on the Chiefs Steering Committee on Technical Services, which advocates for water and related infrastructure needs of 47 First Nations in Treaty 6, 7 and 8 regions.

The committee oversees the First Nations Technical Services Advisory Group, a non-profit organization that trains First Nations water and wastewater operators across Alberta.

Vaughn Paul, CEO of the technical advisory group, shook his head and uttered an expletive when CBC read him Canada's arguments on water rights and asked what he thought.

"It doesn't surprise me that they'd come at that from that perspective," Paul said.

"But it just goes to the point that we need to continue to fight, push back and educate."

Original Article: [CBC by Brett Forester](#)

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