

Veles Water Weekly Report

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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

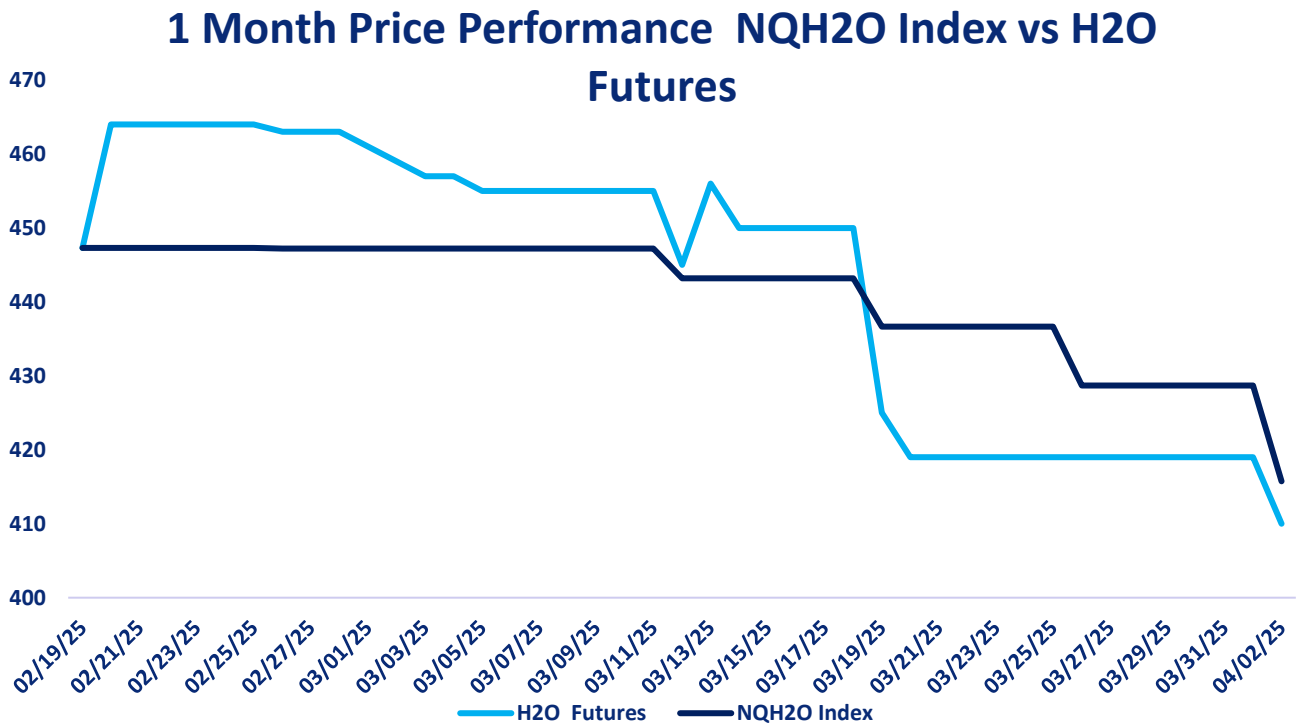
CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

<https://vimeo.com/1074200392?share=copy#t=0>



NQH2O INDEX PRICE vs H2O FUTURES PRICE



Price Chart Based upon Daily Close

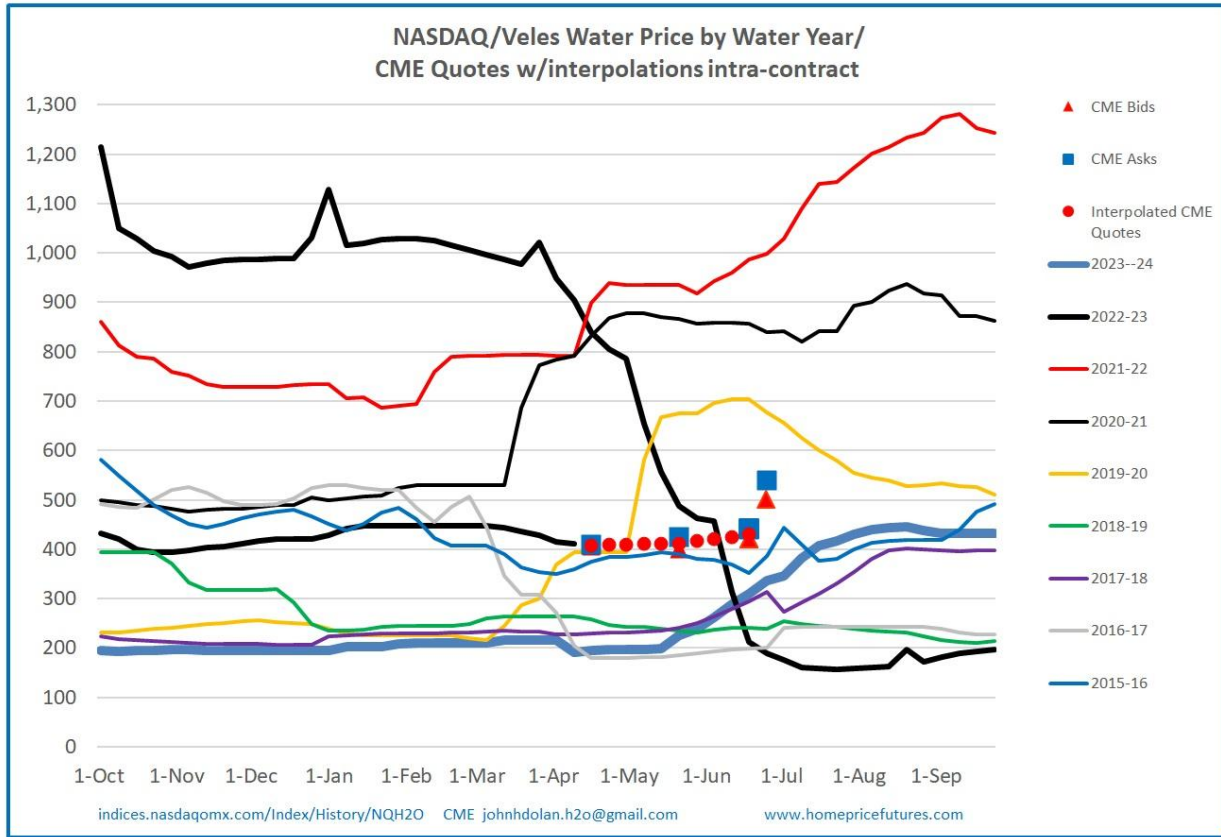
The new NQH2O index level of \$411.08 was published on April 9th, down \$4.66 or 1.12% from the previous week. April Contract is considered the front month. The futures prices closed at a discount of \$6.08 to \$20.74 versus the index over the past week.

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

Apr 25	405@410
May 25	399@424
June 25	420@440
June 26	500@540



NQH20 INDEX HISTORY



The graph above shows the CME water contracts for April 2025, May 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: 405

The price has increased by 2.53% in this trading session, showing a potential rebound after recent sharp declines. However, the broader trend remains under pressure.

Moving Averages Analysis

Short-Term Averages:

- **5-day MA:** 397 – Price is above this level, signaling a potential short-term recovery.
- **10-day MA:** 407 – Price is just below this level, showing hesitation at reclaiming short-term bullish ground.
- **20-day MA:** 419 – Price is still well below this level, which acts as a short-term resistance.

Medium-Term Averages:

- **30-day MA:** 432 – Price is below this level, confirming that the medium-term trend remains bearish.

Long-Term Averages:

- **100-day MA:** 441 – Price remains significantly below the 100-day MA, suggesting long-term weakness.
- **120-day MA:** 433 – The price is also below this level, reinforcing the long-term bearish view.



Support & Resistance Levels

- **Immediate Resistance:** 419 (20-day MA)
This is the first key level to watch. A break above could indicate a shift in short-term momentum.
- **Secondary Resistance:** 432 (30-day MA)
The next major test in the recovery path.
- **Immediate Support:** 397 (5-day MA)
If the price pulls back, this is the first line of support.
- **Long-Term Support:** 400 psychological level and 390 zone
A breakdown below 400 would confirm the continuation of the downtrend.

Stochastic Oscillator

- **K%: 41.67, D%: 13.89**
The stochastic oscillator is moving up from oversold levels. This suggests potential for a short-term bounce, but it's still early for a confirmed reversal.

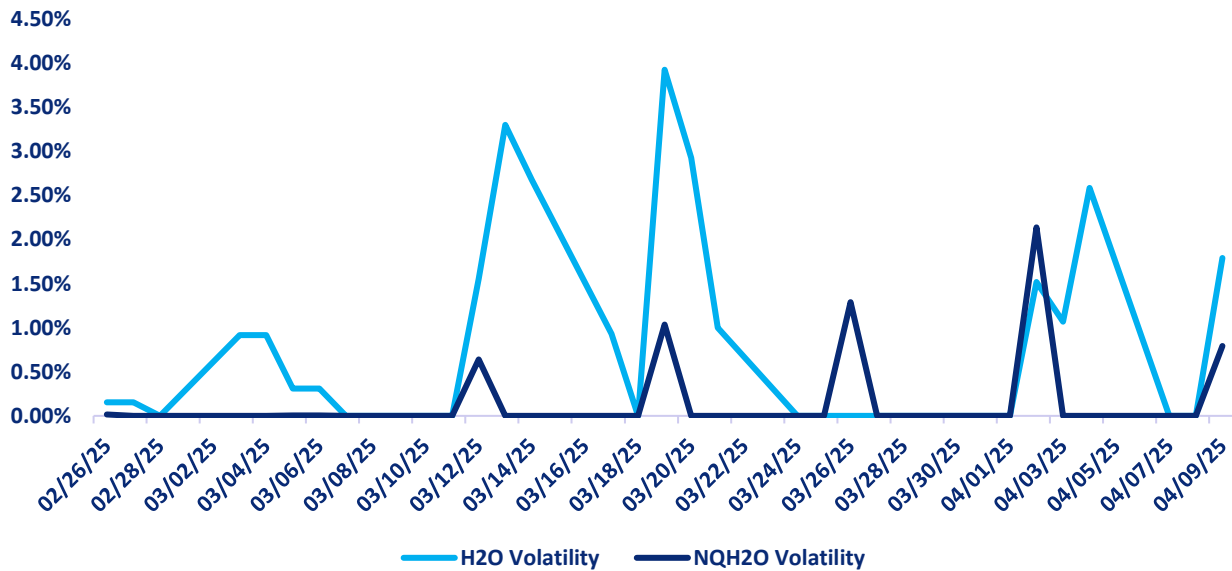
Summary & Key Takeaways

- Short-term sentiment is trying to recover, but the price is still struggling to move above the 10-day and 20-day moving averages.
- Medium- and long-term trends remain bearish, with price clearly below all key longer-term moving averages.
- Stochastic is climbing out of oversold territory, which may attract bargain hunters, but resistance levels must be reclaimed to confirm strength.
- Key level to watch is 419 — a breakout above this could open the path toward 432. On the downside, holding above 397 is crucial to prevent further deterioration.



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 2.59%.

ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	29.53%	2.92%	1.93%	1.90%
H2O FUTURES	N/A	14.07%	6.88%	2.15%

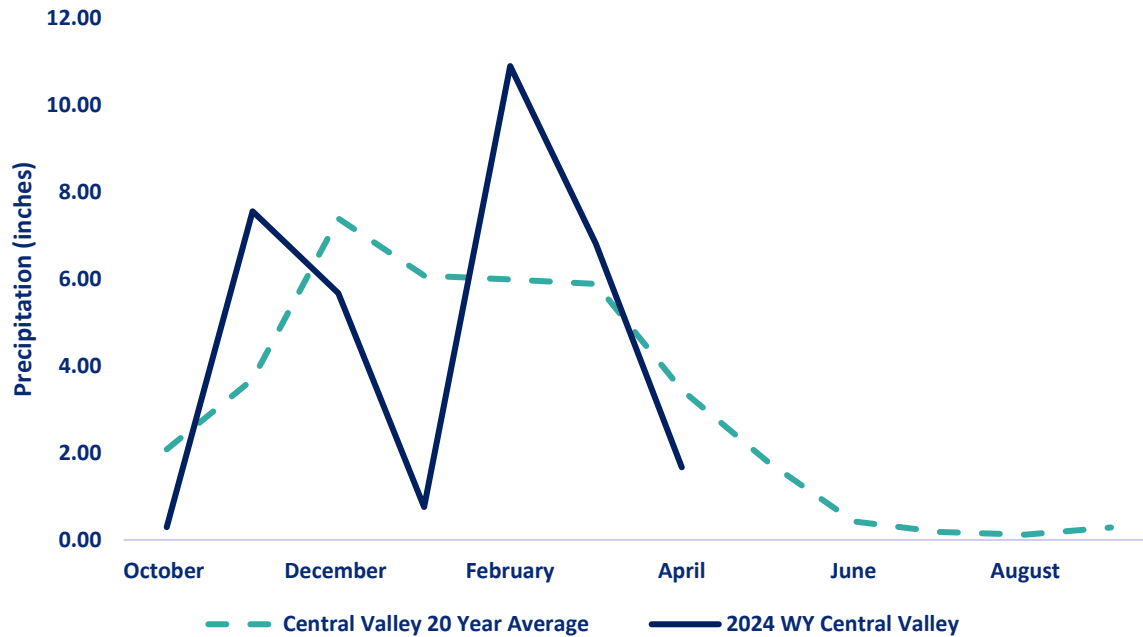
For the week ending on April 2nd, the two-month futures volatility is at a premium of 11.14% to the index, up 0.07% from the previous week. The one-month futures volatility is at a premium of 5.03% to the index, down 0.07%. The one-week futures volatility is at a discount of 0.24% to the index volatility.

*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 Central Valley, California.
Data as of 09/04/2025

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)	1.63	0.84	45.74	90	75
TULARE 6 STATION (6SI)	1.31	0.44	50.98	86	92
NORTHERN SIERRA 8 STATION (8SI)	2.06	1.25	48.91	96	118
CENTRAL VALLEY AVERAGE	1.67	0.84	48.33	91	95

RESERVOIR STORAGE

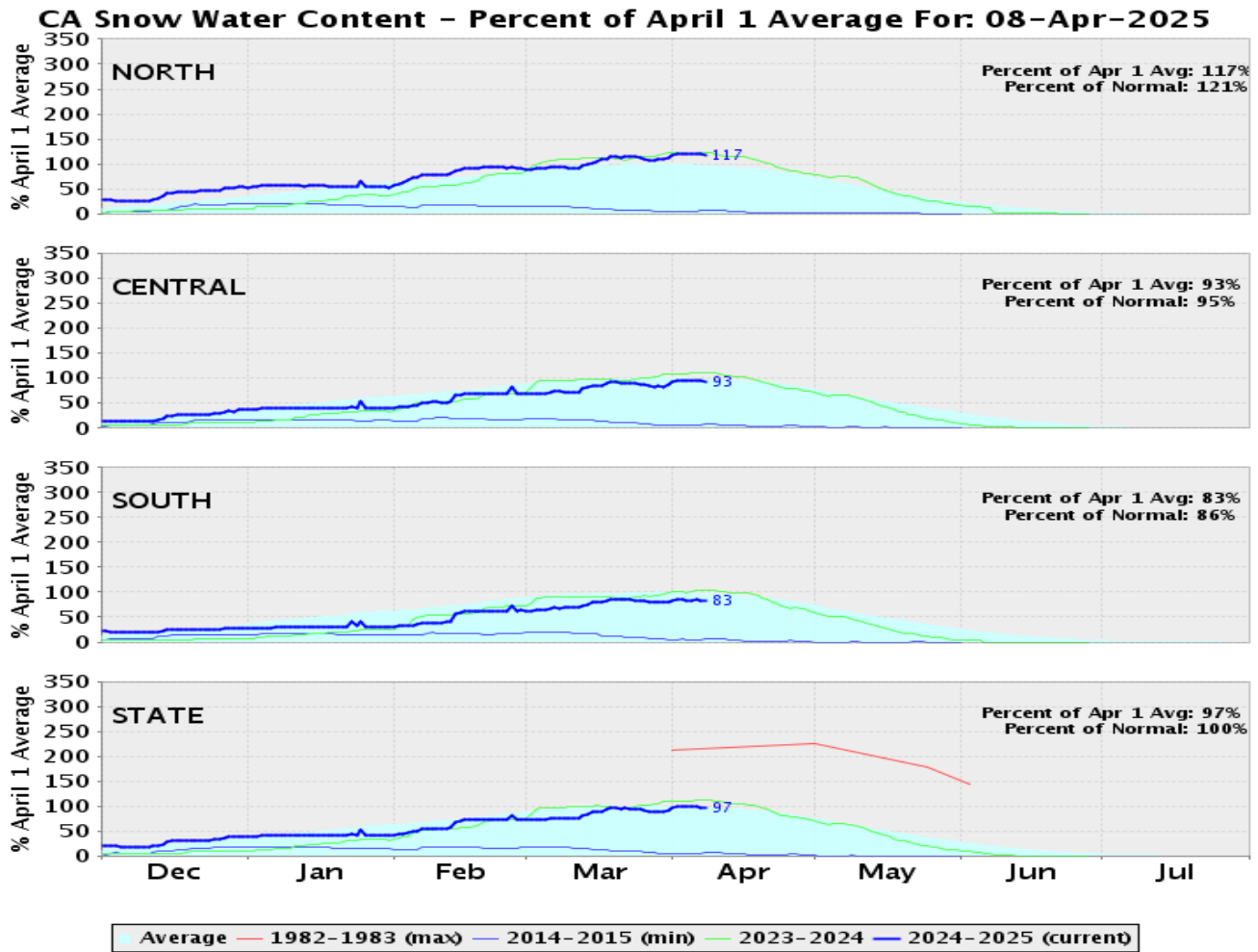
RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	2,149,276	88	82	118
SHASTA LAKE	4,226,850	93	95	116
LAKE OROVILLE	3,077,249	90	92	120
SAN LUIS RES	1,841,361	90	74	105

*% 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	30.3	-0.3	126	121	117
CENTRAL SIERRA	25.9	0.6	114	95	93
SOUTHERN SIERRA	18.7	-0.2	108	86	83
STATEWIDE	25.2	0.1	116	100	97

*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. April 3, 2025**

Data valid: April 1, 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

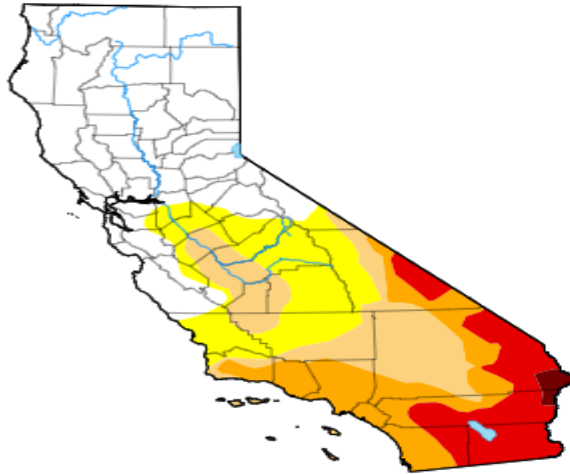
Authors

United States and Puerto Rico Author(s):

[David Simeral](#), Western Regional Climate Center

Pacific Islands and Virgin Islands Author(s):

[Anthony Artusa](#), NOAA/NWS/NCEP/CPC



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



April 1, 2025
compared to
March 25, 2025



- 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	2025-04-01	43.71	56.29	39.81	24.73	11.77	0.73	133
Last Week to Current	2025-03-25	43.71	56.29	39.81	24.73	11.76	0.73	133
3 Months Ago to Current	2024-12-31	40.90	59.10	31.52	5.70	1.06	0.00	97
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	2024-04-02	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

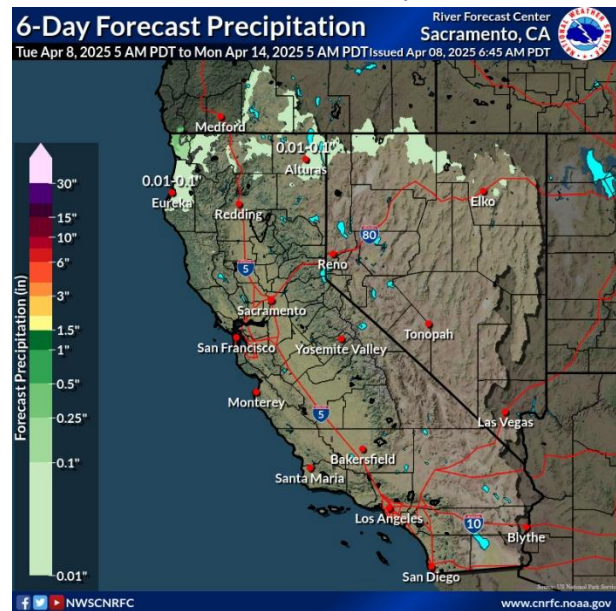
A Pacific storm is hitting the coastline of the Northwestern US bringing associated precipitation with it. It is unlikely to stretch as far south as Los Angeles. There is another relatively small storm system between Chicago and Washington moving eastwards. The rest of the US is relatively clear.



10 Day Outlook

An upr ridge will be displaced downstream of the region...mainly aligned across the Rocky Mountain states...while upstream an elongated upr trof will approach the west coast. This feature is expected to split as it reaches the coastal waters with the southern portion forming a close upr low that will drift toward northern Baja or the CA coast next week...while the northern piece drags a s/wv trof across the Pacific Northwest with models indicating some differences in the depth of this disturbance. The 08/00Z EC is the weakest and farthest north...while the CMC is the deepest and the GFS somewhere in between. Overall...just expecting some light precip to impact the CA/OR border area and far northern NV for Friday into Saturday before the system pushing inland. An upr ridge will move overhead early next week...bringing dry conditions to the region for Sunday into Monday. Freezing levels will range from 4000- to 7000-feet for far northern areas during periods of precip from Friday into Saturday.

Map Ref: Zoom Earth



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



WESTERN WEATHER DISCUSSION

Out West, a series of Pacific storms delivered heavy rain to the lower elevations and snow to the higher elevations of the Pacific Northwest and Northern California. In the Lake Tahoe area, 7-day snowfall totals ranged from 1 to 2+ feet, while areas of the Klamath Mountains of northwestern California received totals up to 3 feet. Other mountain regions, including the Cascades of Oregon, the Wasatch and Uintas of Utah, and the northern Rockies, received accumulations ranging from 6 to 24 inches. Looking at the regional snowpack, the NRCS SNOTEL network is reporting (April 1) the following region-level (2-digit HUC) SWE levels: Pacific Northwest 104%, Missouri 98%, Upper Colorado 89%, Great Basin 103%, Lower Colorado 49%, and Rio Grande 49%. In the Desert Southwest, areas of Extreme Drought (D3) expanded in northeastern and southeastern Arizona in response to very low streamflows and below-normal precipitation since the beginning of the Water Year (Oct 1). In areas of southwestern and south-central Colorado, degradations were made on the map where snowpack conditions at numerous NRCS SNOTEL stations are reporting well below-normal SWE levels. Likewise, poor snowpack conditions have been observed in the mountain ranges of southern Utah, northern Arizona, and northern New Mexico.

Reference:

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



WATER NEWS

CALIFORNIA WATER NEWS

California Senate scales back bill to Trump-proof water protections

Sen. Ben Allen accepted amendments Wednesday to narrow the scope of his bill meant to protect state waters from Trump administration rollbacks.

What happened: The Senate Environmental Quality Committee said it would approve [SB 601](#)— which would create the term “nexus waters” to encompass all waters of the state that were under federal jurisdiction before the Supreme Court’s 2023 decision in *Sackett v. EPA* — after Allen agreed to amend it to clarify that it doesn’t apply to agricultural runoff or drinking water.

“We are taking amendments to be very clear that we’re only talking about point sources, not non-point source,” said Sean Bothwell, executive director at California Coastkeeper Alliance and author of the bill.

Allen also accepted the committee’s suggested amendments to further clarify the definition of “nexus” waters to ensure that they are only giving Clean Water Act protections to waters that had them prior to the *Sackett* decision.

Original Article: [E&E News by Nicola Norman](#)

What Next for California's Salton Sea After \$540Bn 'White Gold' Discovery

A massive lithium discovery beneath California's Salton Sea has set off a high-stakes push for what some have implied could be America's best shot at lithium self-sufficiency.

The U.S. Department of Energy confirmed in late 2023 that an estimated 18 million metric tons of lithium—often called “white gold” on account of its silvery-white appearance and economic importance—valued at roughly \$540 billion is trapped in the geothermal brine beneath the Salton Sea, a shrinking lake in Southern California's Imperial Valley.

The find is one of the largest known lithium brine deposits in the world and could supply enough material for 375 million electric vehicle batteries, potentially making the U.S. self-sufficient in the critical mineral used in batteries, smartphones and renewable energy storage.

“The current geothermal power plants in the field have the capacity to produce 115,000 metric tons per year of [lithium carbonate equivalent], enough to make almost 4 million EVs annually Michael McKibben, of the [University of California](#), Riverside's Department of Earth and Planetary Sciences, told *Newsweek*.

“The combination of lithium production from the Salton Sea geothermal field, the Nevada claystones of McDermitt Caldera, and the oil field brines of Arkansas' Smackover



Formation could eventually enable the U.S. to become completely self-sufficient in its Li needs for the growing EV and battery electrical storage system (BESS) markets." The Daily Galaxy cited McKibben as having said: "This is one of the largest lithium brine deposits in the world. This could make the United States completely self-sufficient in lithium and stop importing it through China."

The 120-year-old Salton Sea, accidentally created in 1905 when the Colorado River breached an irrigation canal, has long struggled with environmental degradation. Today, the lake's rapid evaporation and rising salinity threaten ecosystems and human health through dust pollution. The lithium discovery now promises a dual-edged transformation—economic revival and environmental risk.

"Local community members have been enthusiastic about potential jobs and economic development, especially in an area with disproportionately high unemployment and poverty. However, it is important to acknowledge that many of these promises of jobs and other rhetoric about economic development, often used during project hearings and media outlets, are often not enforceable by local communities," said Luis Olmedo, Executive Director of Comite Civico del Valle (CCV), a community nonprofit based in Brawley, California.

"Additionally, community members have raised concerns about potential cumulative impacts of this ambitious development project related to water consumption, air quality, hazardous waste, tribal cultural resources, and seismic activity, especially in an arid desert that already has high rates of asthma stemming from air pollution and water allocation cutbacks from the Colorado River."

California Governor [Gavin Newsom](#) has described the region as the Saudi Arabia of lithium mining, with the surrounding area being branded as "Lithium Valley." If harnessed successfully, it could cement California's leadership in clean energy technology. Local officials are pushing for up to 80 percent of revenues from lithium extraction to be invested back into one of the state's poorest regions to improve infrastructure and create jobs, according to the Investing News Network.

Original Article: [Newsweek by Joe Edwards](#)

Sen. Padilla's Tijuana River bill clears committees

Recently, two critical policy committees passed Senate Bills 10 and 594, authored by Senator Steve Padilla (D-San Diego). SB 10 would expressly authorize funds from the new toll road to be used for water treatment, environmental mitigation, and restoration of the Tijuana River Valley, and SB 594 would give communities across the state with existing environmental pollution burdens the opportunity to voice their concerns in a publicly noticed hearing when a new landfill development is proposed, as is the case in the River Valley.



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In 2024, the Tijuana River was named one of the 10 most endangered rivers in America, a list managed by the environmental organization American Rivers. The designation comes from an analysis of the hazardous industrial waste and raw sewage present in the river.

However, this is not the only source of pollution that the South Bay faces. Over 15 years ago, private developers put a misleading measure on the ballot in San Diego County and secured the approval of a second landfill in the county's general plan — cutting out local elected officials and creating a truncated CEQA process that silenced local input and review. The landfill would be built less than 2 miles from the Tijuana River, squarely in the River's already severely environmentally distressed watershed.

“Communities in and around the Tijuana River Valley have suffered enough,” said Senator Padilla. “The last thing we need is for a billionaire to jam an unnecessary landfill into one of the most polluted watersheds in the country with literally no public input.” SB 10 would expressly authorize funds from the new toll road to be used to assist in the maintenance of the South Bay International Boundary and Water Commission sewage treatment facility and the development of additional sanitation infrastructure projects related to the Tijuana River pursuant to an agreement with the federal government. By providing a portion of the proceeds made from this border crossing to help rectify the worsening crisis in the Tijuana River Valley, we can ensure that there is an ongoing revenue stream available to finally begin overdue environmental mitigation of cross-border trade and manufacturing.

SB 594 would require local enforcement agencies to hold a publicly noticed hearing when a new Class III landfill is proposed to be built in an area with a pollution burden score in the 90th percentile as determined by the California Communities Environmental Screening. The will would also require that a state agency not issue a waste discharge permit for such a landfill until a local enforcement agency has certified that the landfill will not disproportionately impact or harm the environmentally sensitive community.

SB 10 passed the Senate Transportation Committee last week by a vote of 11 to 3, and SB 594 passed the Senate Environmental Quality Committee today by a vote of 5 to 0. Both bills now head to the Senate Appropriations Committee.

Original Article: [IV Press Online](#)

Reclamation announces additional funding to create new water storage in California

The Bureau of Reclamation today announced a \$134 million award for the proposed Sites Reservoir Project. This new water storage project would be the second largest off-stream reservoir in the nation and would increase Northern California's water storage capacity by up to 15 percent.



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The award, funded by the Water Infrastructure Improvements for the Nation Act, previously received \$389.65 million and was also authorized \$256.5 million from the Infrastructure Investment and Jobs Act, for a total of \$780.15 million in federal contributions to date.

Located 81 miles northwest of Sacramento, Sites Reservoir would store water diverted from the Sacramento River via the existing Red Bluff Pumping Plant and Hamilton City Pump Station after all other water rights and regulatory requirements are met. Water would be released to beneficiaries throughout the state primarily during drier periods when it is needed. The majority of precipitation in California falls north of the Sacramento-San Joaquin Delta, making this project location strategic for capturing and storing stormwater.

“Partnering with the Sites Project Authority on this exciting new water storage project will create a much-needed increase in water storage in California,” said **Acting Regional Director Adam Nickels**. “The many benefits of this off-stream reservoir include providing water supply, increased operational flexibility, plus environmental and recreation benefits for generations to come.”

Reclamation and the Sites Authority intend to start negotiating a Partnership Agreement in 2025 that will formalize Reclamation’s participation in the project. Further information about the Sites Reservoir Project can be found at [Sites Reservoir Project](#).

Original Article: [USBR](#)

New report: Farmers, communities still pumping too much water from Paso basin

Pumping from the Paso Robles groundwater sub-basin continued at unsustainable levels last year — with agriculture extracting more water than domestic well owners and municipal water systems combined, according to a new report. The sub-basin, which pools underground from the area east of Highway 101 to north of Highway 58, was designated as “critically overdrafted” by the California Department of Water Resources.

Original Article: [The Tribune by Stephanie Zappelli](#)

Newsom in fight to advance plans for \$20-billion water tunnel in the Sacramento Delta

The battle over whether California should build a \$20-billion water tunnel in the Sacramento-San Joaquin River Delta is escalating, with Gov. Gavin Newsom pushing to lay the groundwork for the project before his term expires and state water regulators considering whether to grant a key authorization.

The State Water Resources Control Board has begun holding a series of hearings on a petition by the Newsom administration to amend water rights permits so that flows



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could be diverted from new points on the Sacramento River where the intakes of the 45-mile tunnel would be built.

The process has grown tense in recent weeks, as the Newsom administration and water agencies have pushed back against how the board's officials are handling parts of the process, and as opponents have urged the board not to bend to political pressure.

Speaking at a virtual hearing Thursday, state Department of Water Resources general counsel Ann Carroll presented the Newsom administration's case for the tunnel, calling it one of California's "most important climate adaptation projects."

"Changing precipitation patterns are leading to more rain, less snow and a limited ability to capture and move water," Carroll said. "The ability to capture high flows when available is critical to adapting to a changing climate."

Supporters of the plan, called the [Delta Conveyance Project](#), say the state urgently needs to build new infrastructure in the Delta to protect the water supply in the face of climate change and earthquake risks. Large Southern California water agencies are supporting the project by providing initial funding for planning work.

Opponents, including Northern California agencies, environmental advocates and Native tribes, argue the project is an expensive boondoggle that would harm the environment, fish species and communities, and that the state should pursue other alternatives. They have argued that the main beneficiaries would be development interests in Southern California and agricultural landowners in the southern San Joaquin Valley.

The tunnel would create a second route to transport water to the state's pumping facilities on the south side of the Delta, where supplies enter the aqueducts of the State Water Project and are delivered to 27 million people and 750,000 acres of farmland.

Newsom made his pitch for the project in a Feb. 18 [letter](#) to the state water board, saying "California's prosperity depends upon it." He noted that the last two California governors, Jerry Brown and Arnold Schwarzenegger, also supported earlier iterations of the concept to modernize the state's water system.

Six years ago, Newsom announced he was [downsizing Brown's proposal for a twin tunnel](#) and instead called for a redesigned single tunnel. Now, he said, the current proposal "has been thoughtfully refined to protect the environment, fisheries, ecosystems, water quality and water supply."

During a state Senate subcommittee hearing Thursday, Department of Water Resources Director Karla Nemeth responded to critical questions from legislators about the costs and environmental effects of the project.

Nemeth described the existing system as an asset that is "starting to really underperform," and said the tunnel, if it existed now, could have captured more water during storms over the last three years. State officials have estimated that climate change could reduce average supplies available from the State Water Project by [up to](#)



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[23%](#) over the next 20 years, and Nemeth said building the tunnel would ameliorate the decline and restore about 16% of that lost supply.

The Newsom administration's package of petitions is being considered by Nicole Kuenzi, who leads the state water board's independent Administrative Hearings Office. State officials have argued against some of Kuenzi's [initial rulings](#), which have included requesting historical data on how much water was previously diverted under the rights, and considering questions such as whether approving the project would be in the public interest.

Nemeth issued a [statement](#) directed to Kuenzi on March 24, saying the question of whether the use of water is in the public interest does not apply, and would only apply if the petition were for a new water right.

"Importantly, the Legislature already has determined that the State Water Project is in the public interest, and Governor Newsom has made clear that this project is of the utmost importance to current and future Californians," Nemeth wrote. "Unfortunately, the Administrative Hearings Office has conflated the petitions and fundamentally enlarged the scope of this hearing."

Saying that could lead to costly delays, Nemeth urged Kuenzi to "structure a hearing process that results in a final decision by the full State Water Board before late 2026" — shortly before the end of Newsom's second term.

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

US WATER NEWS

New law gives Utah's water agent power to negotiate with other Mountain West states

Utah lawmakers have given the state more voice in negotiations over the Colorado and Bear rivers. The move, however, has some environmentalists concerned about the sensitive multi-state agreements that govern the rivers.

Utah water agent Joel Ferry's job is to help secure his state's future water needs. Ferry, whose position was [created](#) during the 2024 legislative session, said he's looking at everything from conservation to new sources.

Previous legislation prevented him from negotiating with other states tied to interstate water compacts. Now, a [new Utah law](#) gives Ferry the power to collaborate on water issues with states in the Colorado and Bear river basins.



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But Kyle Roerink, executive director of the Great Basin Water Network, a water policy nonprofit, is concerned Ferry could be a wild card in sensitive talks over the rivers' futures.

“It opens the door to greater possibilities that Utah is going to be appropriating more water, cutting those deals behind closed doors,” Roerink said. “In this era of aridity, scarcity, the public needs to know early and often about negotiations pertaining to their water resources. These are the waters of the people.”

In a statement to the Mountain West News Bureau, Ferry said he “does not have the authority to enter into any contract with another state or entity.” The Utah water agent added he can recommend a potential project to Utah’s Board of Water Resources for their input and approval.

Original Article: [NPR/ KUNR Public Radio by Kaleb Roedel](#)

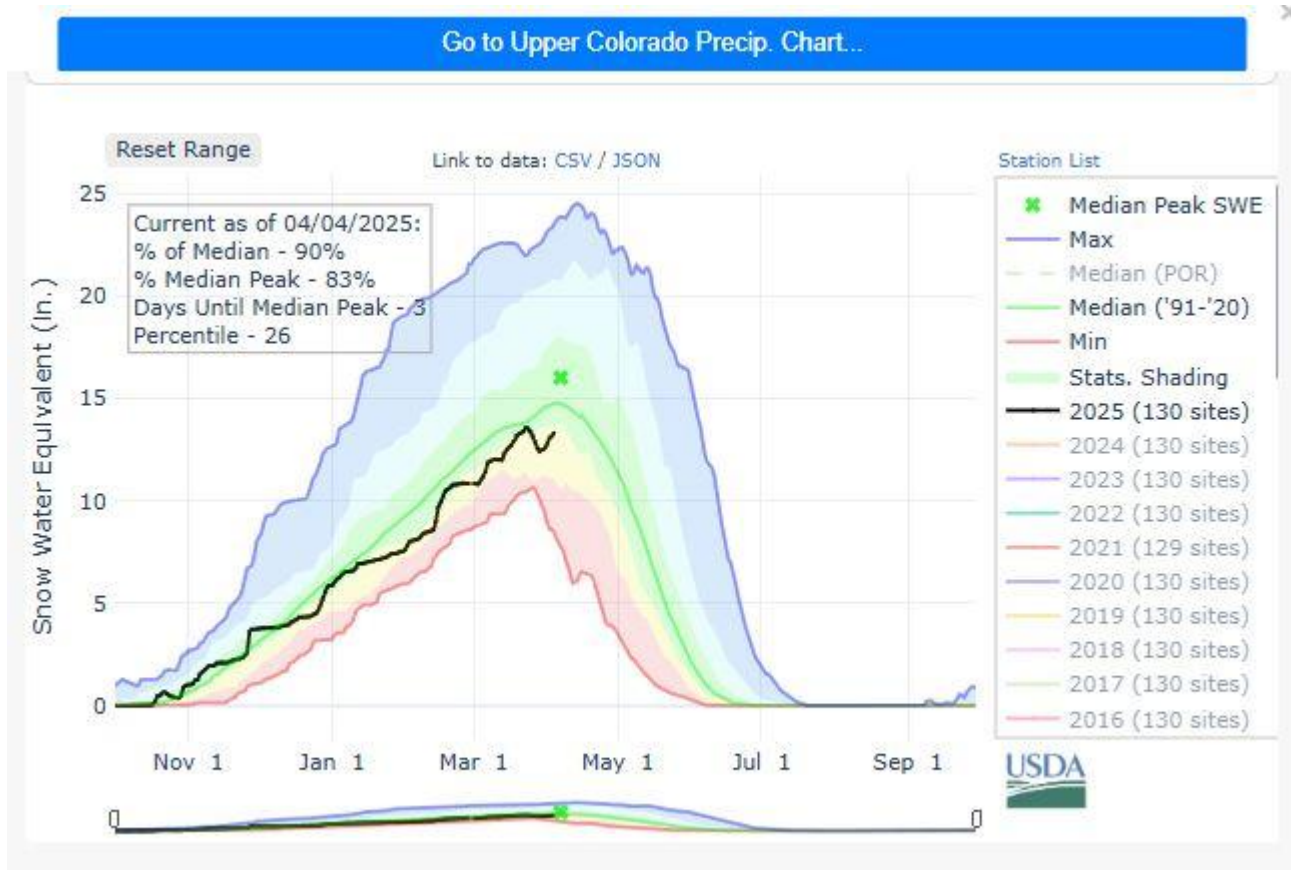
Snowpack at 90% of normal as ‘lean’ year projected for Southern Nevada

A 50% chance of snow Friday night in the Colorado Rockies might be the last hurrah for a winter that has fallen short this year.

Current snowpack levels in the Upper Colorado River Basin hit 90% of normal on Friday. The region includes parts of Colorado, New Mexico, Utah and Wyoming, providing the runoff that collects in reservoirs along the river and eventually reaches Lake Powell and Lake Mead.

And 90% is better than where snowpack stood on Monday, when it had declined to 86%. It’s been a volatile end to winter, with big swings rather than a steady increase to peak levels. Snowpack measurements — SWE, or snow water equivalent — generally peak the first week of April, when temperatures warm and more snow melts than new accumulation from snowfall.

The black line on the graph below shows 2025 SWE measurements collected at SNOTEL stations across the basin:



“Southern Nevada should expect a lean water year with less than normal streamflow predicted for the Virgin River and the Colorado River inflow to Lake Powell,” according to the U.S. Department of Agriculture’s Nevada Water Supply Outlook Report, dated April 1 but distributed Friday afternoon. The Nevada report provides detail on the eastern Sierras and Northern Nevada, but none of that water reaches Las Vegas, which relies on the Colorado River for 90% of its water. The remaining 10% comes from wells. Streamflow into Lake Powell for April through June is projected at 74% of normal. The Virgin River is projected to flow at 61% of normal at Littlefield, Arizona.

Water shortage levels based on end-of-year measurements at Lake Mead currently have Southern Nevada in [a Tier 1 water shortage](#), unchanged from last year. In 2023, snowpack levels ended the winter at 160% of normal, providing a short-term rescue along the Colorado River in the 23rd year of a “megadrought.” The extra water that year built levels at Lake Mead, which had fallen to 25% of capacity. The nation’s largest reservoir is currently at 33% capacity.

Over the past two years, water conservation agreements have helped preserve levels at Lake Mead. That effort has helped stabilize Lake Mead and Lake Powell, but a below-average snowpack could bring problems seen over the past few years, particularly in the summer of 2022. That’s when Lake Mead hit its lowest point — [1,041.71 feet above sea level](#) — since the reservoir was initially filled in the 1930s.



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The U.S. Bureau of Reclamation — which runs Hoover Dam, Glen Canyon Dam and others that manage the water flow upstream from Lake Powell — faces a deadline at the end of 2026 to implement updated guidelines for river operations.

The path to a final decision on that plan is already seeing obstacles, with [Nevada, Arizona and California challenging the choices selected by Reclamation](#) as the Biden administration ended. Those states, known as the Lower Colorado Basin states, have asked the Trump administration to include a choice that addresses problems at Glen Canyon Dam.

Original Article: [8 News Now by Greg Haas](#)

Hoopa Valley, Yurok Tribes sign agreement over use of Trinity water

Wednesday, leadership of the Hoopa Valley and Yurok tribes signed an agreement to share 50,000 acre feet of water from the Trinity Reservoir. It's the latest push for water rights specified in 1950's-era federal policy but have yet to materialize on the ground, despite a supportive 2014 U.S. Department of the Interior legal opinion. "This agreement is a victory, but there is much more work to be done. We will continue to advocate for the protection and restoration of our natural resources, ensuring future generations of our people have what they need to prosper," said Joe James, chairman of the Yurok Tribe in a statement in the release.

Original Article: [Times Standard by Sage Alexander](#)

USBR awards \$115.9 million contract for Hyrum Dam spillway replacement

The US Bureau of Reclamation (USBR) has awarded a \$115.9 million construction contract to AMES Federal Contracting Group of Burnsville, Minnesota, for the replacement of the spillway at Hyrum Dam in northern Utah.

Hyrum Dam, constructed in 1935 on the Little Bear River, stores water in Hyrum Reservoir for irrigation and municipal use. The 90-year-old [concrete spillway](#) is approximately 1,100ft long and includes a stilling basin at its base, with walls ranging between 11 and 19ft high.

"The spillway at Hyrum Dam is used every year to release excess water downstream, and though continuous maintenance has occurred on the spillway since its construction, the 90-year-old structure is in need of replacement," said Wayne Pullan, Upper Colorado Basin Regional Director for USBR.

Construction is scheduled to begin later this year. In preparation, USBR has started work to replace the dam's original 24-inch outlet works piping with 36-inch piping. The upgrade will increase the outlet's discharge capacity from 50 to 200 cubic feet per second.

"Working with our project partners, Reclamation will continue to take every precaution at Hyrum Dam," said Rick Baxter, Provo Area Office Manager. "That includes our current



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work to expand the size of the dam’s outlet works so more water can be conveyed through the outlet and alleviate additional stress on the existing spillway until a new one is built.”

Over the years, USBR has conducted regular maintenance and limited releases through the aging spillway. During high-flow events, agency staff have performed around-the-clock monitoring and staged equipment nearby in case emergency repairs were needed. The South Cache Water Users Association is responsible for operating and maintaining the dam. The construction contract follows years of coordination between USBR and its partners. A [Finding of No Significant Impact for the project’s environmental assessment](#) was issued in January 2024.

Original Article: [Water Power Magazine](#)

Arizona recycles more water than most Colorado River states, study finds

Arizona is growing fast, but its water supplies are not, so to stretch every drop, cities capture and use water even after it runs down sink and shower drains.

The result: Arizonans reuse about half of all their wastewater, the second-highest rate of any Colorado River basin state, [according to a new study](#) from the University of California, Los Angeles.

And if all seven basin states reused as much of their wastewater as Arizona does, the researchers found that the states could recycle a combined 1.3 million acre-feet of water each year, roughly 10% of the Colorado River’s average annual flow. The number doesn’t account for any potential losses from reusing water that would otherwise flow back to the river, though the authors expect that number to be small.

Across the seven states, 27% of wastewater is recycled, according to researchers at UCLA’s Institute of the Environment and Sustainability and the Natural Resources Defense Council.

“Even recycling 40% of our wastewater could make a dramatic difference, and we have two states already above 50% showing this is an entirely feasible solution,” said author Noah Garrison, a water researcher at the institute.

Recycled wastewater in Arizona irrigates golf courses and lawns, recharges aquifers and supplies the cooling systems at the Palo Verde Generating Station, the nuclear power plant that provides 27% of the power generated in the state. In total, reuse adds about 264,000 acre-feet of water to the state’s supplies each year, based on 2022 data.

Reclaimed water represents around 5% of the state’s overall water budget, according to a statement by the Arizona Department of Water Resources.

“Arizona has a strong history of water management and conservation success. Water reuse is becoming an increasingly important part of the state’s overall water portfolio,” a spokesperson for the Arizona Department of Water Reuse said in a statement.

Original Article: [AZ Central by Austin Corona](#)



Other states must follow Nevada's lead on water re-use

The seven Colorado River states have only a few weeks left to submit a comprehensive plan for water management going forward. A new study by UCLA researchers should further inform the negotiations as they enter the late stages.

The states continue to discuss a framework for cooperation over the river's precious water supply when the current deal expires at the end of 2026. Conflicts between the upper basin states — Colorado, Wyoming, Utah and New Mexico — and those in the lower basin — Nevada, California and Arizona — have slowed progress. There has also been intra-basin squabbling, particularly involving California, the largest user of the Colorado, and its water-intensive agricultural interests.

An agreement among the states would provide a guideline for federal officials as they seek to replace the Colorado River Compact, first signed in 1922, with a new arrangement. If the states don't produce a deal by May, the federal government may impose its own standards that could lead to states, including Nevada, experiencing cuts in their annual allocations from the river.

The discussion would be best served by considering who is doing what to make the most of a scarce resource. Most states have enacted aggressive water conservation programs to some effect. But the UCLA analysis notes that Nevada has accomplished far more than the other six states when it comes to recycling the water it draws from the Colorado.

Nevada reuses 85 percent of the water it takes out of the river each year. Arizona, the second-largest recycler, reuses 52 percent. California comes in at just 22 percent. The report notes that the Golden State could save nearly 1 million acre-feet of water a year — more than three times Nevada's allocation — by increasing its recycling rate to 30 percent. Continuing to demand more efficient and prudent use of Colorado River water from the state's agricultural community would make an even bigger dent.

"Wastewater reuse is one of a suite of practices that we absolutely need to invest in if we're going to meet these challenges," Noah Garrison, a UCLA water researcher, told the Review-Journal.

Nevada water officials, dating back years, deserve commendation for creating an essentially closed system that helps Las Vegas and environs stretch its meager Colorado River allocation to accommodate a growing population base. The vast majority of water consumed here is returned to the river to be drawn again and again. The six other Colorado River states have a long way to go to match Nevada's progress. That should count for something when federal officials debate cuts to lower-basin states.

Original Article: [Las Vegas Review Journal](#)

A group of Colorado communities were awarded \$25.6M for water projects. Then Trump took office.



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Water and environmental groups in southwestern Colorado have not heard a peep from the federal government since their \$25.6 million grant got caught up in a widespread funding freeze, officials say.

Southwestern Water Conservation District pulled together a unique collection of partners in 2024 to tap into an immense stack of federal cash for environmental projects in the Colorado River Basin. The partners were “ecstatic” Jan. 17 when they found out their application to fund 17 projects was accepted, Steve Wolff, district manager, said. Three days later, President Donald Trump paused spending, and the district’s partnership has been in limbo ever since. Other Colorado groups are in the same boat with millions of dollars of awarded grant funding on the line.

“Everybody had heard that they were going to be looking at the funding ... so it was no big surprise,” Wolff said March 26. “The confusion was nobody knew what was in or out of all these freezes, or pulled back, at all. We still have not heard officially anything.”

The Bureau of Reclamation, which awarded the grant, declined to comment and referred questions to its parent agency, the Department of the Interior. Interior did not respond to questions from The Colorado Sun about the funding’s status.

“Under President Donald J. Trump’s leadership, the Department is working to cut bureaucratic waste and ensure taxpayer dollars are spent efficiently,” an unnamed Interior spokesperson said in an emailed response from the Bureau of Reclamation. “Projects are being individually assessed by period of performance, criticality and other criteria.”

The uncertainty has impacted a slew of environmental projects across the Upper Colorado River Basin — Colorado, New Mexico, Utah and Wyoming.

Under the Biden administration, the Bureau of Reclamation [awarded \\$388.5 million](#) for water and drought-related projects across the Upper Basin on Jan. 17. Of that, Coloradans [secured \\$177 million](#).

Coloradans wanted to use that money to help fish find shelter when the state’s rivers are at their lowest. They wanted to help farmers and ranchers have a more reliable water supply by fixing decades-old irrigation ditches. Some projects planned to remove dams or turn wastewater lagoons into wetlands.

One award for \$40 million to help a Western Slope water district buy an old and powerful Colorado River water right [tied to the Shoshone Power Plant](#).

In southwestern Colorado, the organizations that were awarded funding were wondering if they should try to wait it out to see what happens or seek funding elsewhere.

“It’s incredibly stressful,” said Danyelle Leentjes with the Upper San Juan Watershed Enhancement Partnership. “It’s really hard to move forward in this landscape. It’s super, super hard.”

A new collaboration

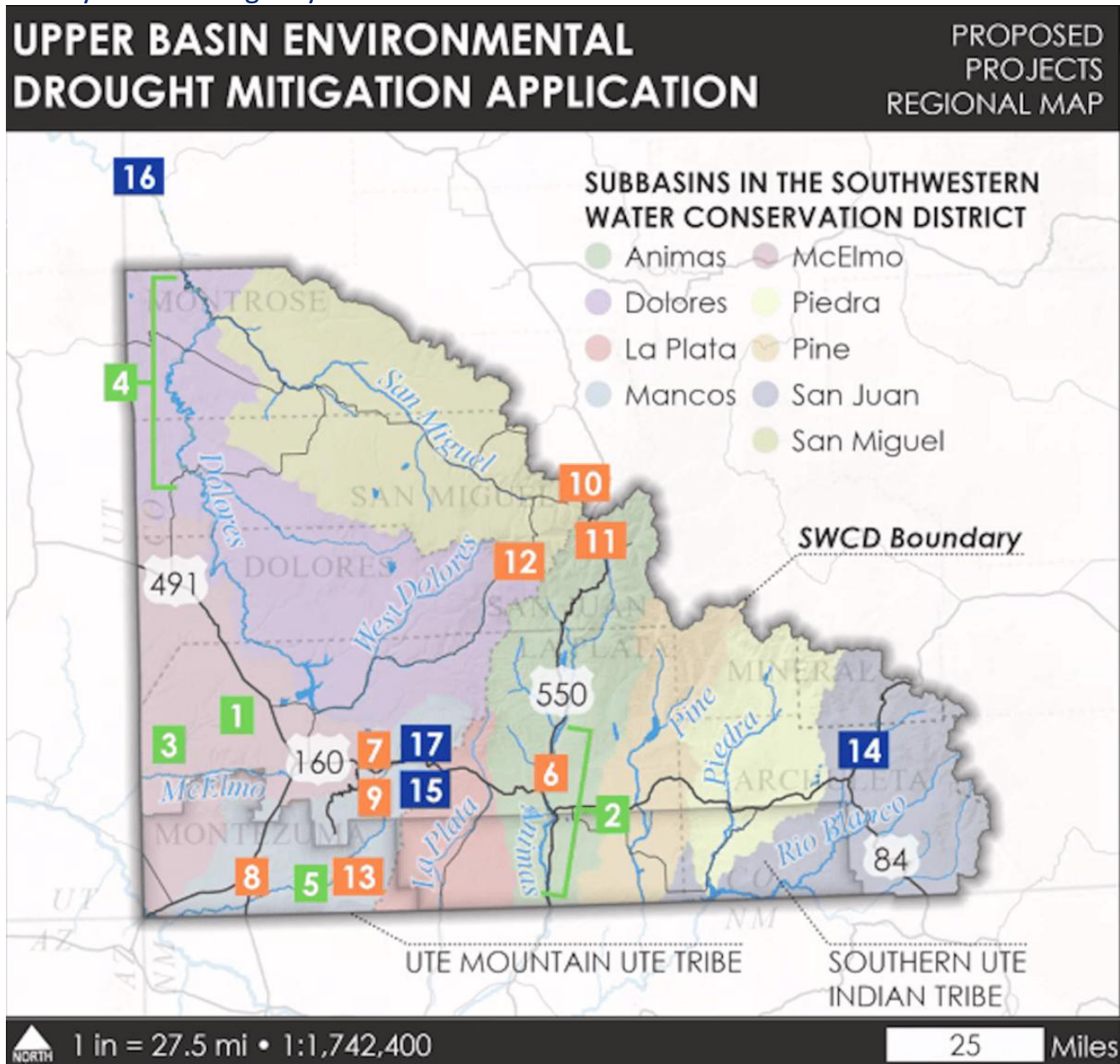


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Southwestern Water Conservation District started pulling together partners in 2023. Staff knew a load of federal funding was coming down the pike, and they wanted to build collaborations so local groups could access it, Wolff said.

“I don’t think the district’s ever been involved in anything like this before,” he said.

Water districts, ditch companies, environmental organizations and others often have small staffs in the rural district, which spans nine counties. The groups have little extra time to take on the application or little experience with federal grants. They might not have extra funding to hire a grant writer. Some, like nonprofits, weren’t eligible to apply for the funding without a governmental agency — like Southwestern — to manage the money as a fiscal agency.



Southwestern Water Conservation District and its partners identified 17 projects in their federal funding application in fall 2024. The projects aimed to remove blockages from



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rivers and irrigation ditches to help fish and farmers; stabilize river banks; turn waste lagoons into wetlands and more. (Southwestern Water Conservation District, Contributed)

“We’d repeatedly seen places where individuals or small groups didn’t have the capacity to work on federal funding or even state funding,” Wolff said.

So the conservation district stepped in: It asked organizations to add ready-to-go water projects to a centralized list, dubbed the “pipeline.” About 30 entities joined the effort. The district got grants from the state of Colorado and the Theodore Roosevelt Conservation Partnership to hire people to organize the process and write the grant application.

Without the grants, the application never would have gotten off the ground, Wolff said. “There’s two of us here. Our plates are full,” he said, referring to the district’s full-time staff. “We could’ve never done it.”

And when the federal funding application finally opened in fall 2024, the partnership could whip together a successful 17-project application for \$25.6 million in weeks.

Original Article: [Colorado Sun by Shannon Mullane](#)

GLOBAL WATER NEWS

Catalonia ends drought crisis

Here some good news for residents of Catalonia — the regional government has officially declared the end of the [drought crisis](#).

Following a period of severe water restrictions, especially in the Barcelona province, nearly all limitations have now been lifted.

Territory, Housing and Ecological Transition Minister Sílvia Paneque delivered the news from the Sau reservoir — a location that became symbolic of the drought after its submerged church became visible as water levels dropped dramatically. Thanks to abundant spring rainfall, Sau now stands at over 70 per cent capacity, prompting the government to act. The Catalan Executive Council is expected to formally approve the decision within days, and once it’s published in the official gazette, the changes will come into effect.

Barcelona’s reservoirs refill, emergency status downgraded

Water levels across the Ter-Llobregat system — which supplies over six million people — have more than doubled over the past month, now sitting at 64 per cent capacity. That’s above the 60 per cent threshold needed to declare the drought officially over. As a result, the affected municipalities are moving from ‘alert’ to ‘pre-alert’ status.

Across Catalonia, 14 of the 18 internal water basins will now operate without any restrictions. Nine areas will return to complete normality, five will remain in pre-alert,



and only four zones will still be under alert conditions. Restrictions on agricultural irrigation and environmental flow rates will be lifted, and urban water use will also return to normal.

Still, the government is moving with caution. The drought response plan activated in 2021 will remain in pre-alert mode for now. Paneque emphasised that this gradual easing of restrictions is designed to ensure long-term stability, rather than rushing to lift measures too soon. Authorities expect the current situation to remain secure for the next five to six months at least.

Catalonia pushes ahead with desalination and water security upgrades

While the reservoirs are recovering, desalination plants across Catalonia will continue operating at 90 per cent capacity. This will help recharge aquifers like the one beneath the Llobregat delta, a vital source during the drought, and maintain commitments under the Ter water transfer agreement. In 2024 alone, 91 cubic hectometres were redirected to the Barcelona area — slightly less than last year.

Looking ahead, the government is sticking to its long-term water resilience strategy. New projects aim to increase water security by another 31 cubic hectometres in 2025. This includes recycled water transfers from Figueres to the Muga River and the addition of five new wells near Peralada. Barcelona's metropolitan area will also see improvements, including upgrades to treatment plants and expanded purification facilities.

By 2030, the region hopes to add a total of 280 cubic hectometres of alternative water sources, effectively reducing its dependency on rainfall. According to Paneque, this strategy is about preparing for the future — and ensuring Catalonia is never caught off guard by another severe drought.

Original Article: [EuroWeekly by Farah Mokrani](#)

Thar desert is greening, thanks to higher rainfall, excessive groundwater pumping

The Thar Desert in India saw a striking 38 per cent rise in greening annually over the last two decades, driven by a significant increase in monsoon rainfall and agricultural expansion, a new study showed. It has shed light on how the landscape of the Great Indian Desert has changed, impacted by both climate change and anthropogenic pressures.

Groundwater resources have also contributed significantly to vegetation growth, the report *Greening of the Thar Desert driven by climate change and human interventions* highlighted. At the annual scale, groundwater accounted for 55 per cent contribution and precipitation for 45 per cent, it indicated.

In fact, Thar was the only desert in the world with the highest concurrent increase in population, precipitation and vegetation during the last few decades, scientists from IIT



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Gandhinagar and Bay Area Environmental Research Institute, NASA Research Park in the US established.

Thar region, which hosts the world's highest population density for a desert, spans 200,000 square kilometres across northwestern India (Rajasthan, Gujarat, Punjab and Haryana) and southeastern Pakistan. The scientists analysed all the 14 major deserts across the globe during 2000–2020 and found that the region experienced the highest population growth.

Abnormal increase in rainfall

Defying the trend of expansion of arid areas, the desert experienced a 64 per cent rise in precipitation between 2001 and 2023 — increasing at a rate of 4.4 millimetres / year after 2000, the report showed. The annual rainfall increased across the Thar region, particularly in the northwest and primarily during the summer monsoon.

The analysis was based on data from Climate Hazards Group InfraRed Precipitation with Station (CHIRPS), which combines in-situ and satellite-based precipitation observations. Among the 14 major deserts, only four (Thar, Arabian, Negev and Eastern Gobi) showed a significant increase in precipitation and one (Namib) experienced a substantial decline in precipitation during 2001–2023, the study found. The remaining nine major deserts did not experience a significant change in mean annual precipitation.

The researchers termed the increased precipitation as “opposing effects of climate change”. These changes contributed significantly in vegetation growth in the deserts — all four major deserts with a significant increase in precipitation also experienced a significant increase in vegetation during 2001–2023, according to the study.

Greening of desert

Thar's extensive greening was driven by large-scale monsoon changes coupled with groundwater pumping for irrigation purposes, government interventions in building irrigation infrastructure and power supply.

“For instance, climate change can limit water availability, while human interventions associated with irrigation and groundwater pumping can sustain crops in water-limiting environments,” the authors wrote.

During the summer monsoon season, precipitation accounted for 66 per cent of the greening, while groundwater contributed 34 per cent. However, in the non-monsoon season, groundwater was the major driver of vegetation growth (67 per cent). Annually, the contributions were more balanced, with groundwater accounting for 55 per cent and precipitation for 45 per cent.

The team of researchers — Vimal Mishra, Hiren Solanki and Ramakrishna Nemani — examined the spatial changes in annual vegetation greening calculated from the moderate resolution imaging spectroradiometer (MODIS) and precipitation from the CHIRPS dataset during 2001–2023.



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Comparing the seasonal cycle of mean monthly greening for the 2001–2010 and 2011–2020 periods, the team found that the region experienced a substantial increase in vegetation greenness during the summer monsoon (June–September) and non-monsoon (October–May) seasons.

Large-scale agri expansion drives groundwater depletion

The region experienced a significant agricultural expansion, with crop area increasing by a major 74 per cent and irrigated area by 24 per cent during 1980–2015. Similarly, there was a significant expansion in the gross (95 per cent) and net (58 per cent) irrigated areas during the same period.

The summer monsoon season overlaps with the Kharif season, the major crop-growing period for the region. “While Kharif season crops meet a large fraction of the total water requirement from the summer monsoon rainfall, crop growth during the Rabi season largely depends on irrigation from surface water and groundwater resources,” the authors wrote.

The scientists used in-situ observations of well levels from the Central Ground Water Board (CGWB) and satellite observations from Gravity Recovery and Climate Experiment (GRACE) for the 2002–2021 period to examine the potential impacts of groundwater pumping on its storage variability in the Thar region.

As agriculture activities expanded, the intensive use of groundwater has caused groundwater depletion in the Thar, reflecting an imbalance between water extraction and recharge rates.

Most groundwater wells showed a decline in water levels, especially in the north-central region, where vegetation greening had increased significantly during the monsoon and winter seasons.

Original Article: [Down to Earth by Shagun](#)

Toxic threat to Israel's water supply: Carcinogenic chemicals detected in strategic reservoir

Toxic threat to Israel's water supply: Carcinogenic chemicals detected in strategic reservoir

Israel’s Shikma reservoir, critical for drinking water and agriculture, faces existential threats from sewage mismanagement, industrial negligence and illegal dumping

An investigation by [Israeli watch group Shomrim](#), in collaboration with Ynet, has revealed serious contamination risks to the Shikma reservoir — one of Israel’s key groundwater reserves.

The crisis began months ago with the collapse of the Sderot-Sha’ar HaNegev sewage treatment plant (STP), which led to [cholera](#) bacteria being detected in wastewater flowing into a nearby stream, threatening the reservoir.



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The STP's director later admitted that abnormal industrial waste from local factories was preventing the plant from resuming normal operations, even though the repair deadline had long passed. "Every day that passes, we're polluting the stream, unfortunately," he said.

But recent findings show the situation is even worse. Water Authority tests conducted last month at a new monitoring well near the Shikma reservoir, close to Ashkelon, revealed the presence of fuel and other potentially toxic or carcinogenic chemicals in the groundwater. Experts suspect the contamination stems from illegal waste dumping and damage to fuel pipelines.

The contamination was detected at a new well, "Ashkelon South 6," which was drilled to monitor the southern Ashkelon industrial zone located next to the reservoir and to Mekorot's water wells. Samples showed traces of ethylbenzene, xylene and chlorinated organic compounds. As this was a new monitoring point, the Water Authority plans to repeat the tests.

A [Health Ministry](#) official said that the findings call for continuous monitoring by all relevant authorities. "This water will not be used for drinking under any circumstances," he stressed, noting that one well (Well 3) had already been shut down and others could be closed if needed.

Strategic reservoir under threat

The Shikma site functions as a natural infiltration system, collecting floodwater and desalination overflow and directing it into the coastal reservoir through sand-layered infiltration pools. Dozens of Mekorot wells surround the site and supply high-quality drinking water to Ashkelon and the national water system. In rainy years, the open land south of the industrial zone collects between 3 and 6 million cubic meters (793 million to 1.6 billion gallons) of water.

Original Article: [YNET News by Haim Rivlin](#)

England watchdog tells water firms to speed up building new reservoirs

Regulator Ofwat has written to water companies telling them to build new reservoirs and other major projects more quickly in the coming years.

In a letter to water company bosses, the water watchdog for England and Wales said they must find ways to "deliver [projects] more efficiently, effectively and achieve earlier completion".

Ofwat Chief Executive David Black wrote: "We are asking you to consider your major projects or programmes of projects and assess how you can accelerate work and/or gain benefits from optimising, development and construction."

Water firms have been the subject of growing outrage among MPs and campaign groups in recent years, amid rising consumer bills, vast quantities of sewage pollution. and bonus payouts to top executives.



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Ofwat recently approved a sharp increase in bills across most parts of the sector, which it said should help firms invest in their pipes and sewers and reduce pollution and outages.

Households in England and Wales will see their water bills rise by an average of GBP86 over the next year alone after the increase this month.

Ofwat allowed companies to raise average bills by 36%, or GBP157 in total, over the next five years, to GBP597 by 2030, to help finance a GBP104 billion upgrade for the sector. There are 30 major projects planned across England and Wales in next 15 years, including nine reservoirs. The last time a major reservoir was built was more than 30 years ago.

"We expect construction of a significant number of these major water sector projects to commence within the next five years, an unprecedented ambition for the sector," Black said.

Separately, a government-appointed Independent Water Commission is looking into how it can reform the sector, and has previously said it could even replace Ofwat.

The commission is looking into how to improve the regulatory system, water company ownership models, and boost the resilience of assets from pipes to reservoirs, as well as supply chains.

Original Article: [Morning Star by Alliance News](#)

Microsoft & FluxGen: Using AI to Conserve Water in India

With support from Microsoft, Bengaluru's FluxGen is using AI and IoT to tackle India's water crisis, cutting usage and boosting efficiency in hospitals

It is estimated that 70% of India's water supply is polluted and 600 million people in the country are facing water stress.

Bengaluru, [India's](#) third-largest city, is attempting to tackle the negative effects of urbanisation that are being accelerated by climate change.

The negative effects of urbanisation

- Loss of land for agriculture and biodiversity
- More air and water pollution, public health challenges and overcrowding
- The potential increase of slums, income inequality, crime rate, housing shortage, unemployment and cost of living

Based in Bengaluru (previously Bangalore), technology company FluxGen is helping people to make more efficient use of the water that is available.

With support from Microsoft, FluxGen's Internet of Things (IoT) and AI-based solutions are reducing water consumption.

India's water crisis

Bengaluru, known as the "city of a thousand [lakes](#)", was once renowned for its man-made lakes, irrigation wells and canals that provided a year-round water supply.



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built centuries ago, These innovative water storage systems effectively stored and distributed rainwater – sustaining domestic and agricultural needs in the southern Indian city.

In recent years, rapid urbanisation and frequent droughts have led to the disappearance of more than 800 of Bengaluru’s lakes, contributing to a growing water crisis.

Groundwater is being depleted at nearly twice the rate it can naturally replenish, leaving taps dry and wells empty.

Home to 14 million people, Bengaluru’s residents and businesses are forced to rely on expensive private water tankers for their daily water needs.

Climate experts warn that the situation will likely worsen as climate change continues to affect rainfall patterns, leading to more severe and frequent droughts in the region.

Meet FluxGen

Bengaluru-based FluxGen, a provider of AI and IoT-powered water management solutions, is working to reverse the national water crisis.

Ganesh Shankar grew up in Bengaluru and witnessed firsthand the city's deteriorating water situation, inspiring him to found FluxGen.

FluxGen is dedicated to addressing the water crisis through innovative water management and conservation solutions, with open arms to AI help.

“I still remember my early childhood when we had a well at home that dried out by the time I started going to school,” shared Ganesh Shankar, Founder of FluxGen.

“The water situation has been very bad in the city of Bengaluru, but we believe that it can be reversed if we work on water efficiency.”

FluxGen’s solutions are being used to solve water-related issues around the world, including in Ganesh’s hometown, Bengaluru.

Global tech giant Microsoft is partnering with FluxGen to help deploy its water management solutions at two charitable hospitals.

How is Microsoft supporting Bengaluru hospitals?

With funding from Microsoft, FluxGen is implementing its water management solutions at two hospitals in Bengaluru.

Located in the heart of the city, these two hospitals primarily serve underprivileged communities and face significant water challenges.

The collaboration with Microsoft, aims to increase the hospital's water efficiency and reduce its reliance on freshwater – supporting Microsoft’s goal to become water positive by 2030.

FluxGen’s solution works by deploying a combination of IoT sensors and AI technology to monitor and manage water resources effectively.

The sensors collect real-time data on water usage and conditions, including water flow, level and quality.



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The collected data is sent to the cloud, where it is analysed using [Microsoft Azure](#) cloud storage and data analysis capabilities.

One of the key components of FluxGen's solution is Aqua GPT, a generative AI-based tool powered by Microsoft technology.

Aqua GPT provides prescriptive alerts and actionable insights to help identify inefficiencies in the water network including leaks, wastage and excessive usage.

“While there's always a question about how AI uses a lot of water, we are using AI to actually solve for water,” explains Ganesh.

“It's a use case that makes so much sense in a world where there is water shortage.

Original Article: [Sustainability Magazine by Chloe Williment](#)

South Africa's water crisis and the reform agenda

South [Africa](#), one of the 30 driest countries globally, faces a deepening [water](#) crisis, driven by erratic rainfall, over-allocated [water resources](#) (98% already committed), and consumption far above the global average. Without major interventions, the country faces a projected 17% [water](#) shortfall by 2030. The crisis is worsened by failing [infrastructure](#), poor [infrastructure maintenance](#), and high non-revenue [water](#) losses (47%) — well above international norms — due to leaks, theft, and inadequate metering.

Government reports — the Blue Drop, Green Drop, and No Drop reports — highlight the severity: 52% of [water systems](#) fail or barely pass quality tests, 64% of wastewater treatment plants are high risk, and nearly half of municipal [water](#) is lost or unbilled.

Major investments in bulk [infrastructure](#) are proceeding, including the Lesotho Highlands [Water Project](#) and regional bulk schemes, but bottlenecks persist at the municipal level due to mismanagement and institutional failure.

[Water](#) provision follows a four-tier [system](#): the national department supplies bulk [water](#), seven [water](#) boards handle distribution, municipalities serve as [Water Services](#) Authorities (WSAs), and [Water Services](#) Providers (WSPs) — often the same municipalities — deliver [water](#) to end-users. Yet, [service](#) collapse at the municipal level, caused by a lack of skilled staff and chronic under [maintenance](#) of [infrastructure](#) (2% of budgets vs. the recommended 8%), remains the weakest link.

Reforms are underway. Amendments to the [Water Services](#) Act will require all [service](#) providers, including municipalities, to be licensed based on performance. The Treasury's Metro Trading [Services](#) Reform Programme links [financial](#) incentives to reform. Public-private partnerships (PPPs) are being expanded. A new National [Water](#) Resource [Infrastructure](#) Agency, merging three national entities, aims to professionalise and finance [infrastructure](#) more effectively.



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To enforce accountability, the government is withholding funds from defaulting municipalities, prosecuting polluters, and proposing laws empowering the Department of [Water](#) and [Sanitation](#) to take over failing [services](#). These efforts, echoing recent [energy](#) sector reforms, aim to stabilise [water](#) delivery through greater oversight, targeted funding, and strategic partnerships.

A scarce commodity often treated carelessly

South [Africa](#) is among the world's 30 driest countries, heavily reliant on irregular, unevenly distributed rainfall.

The nation depends on 22 strategic [water](#) sources across five provinces — including cross-border catchments in Lesotho and Eswatini — to fill dams that supply [water](#) to all nine provinces, including four with no natural sources.

With 98% of reliable [water](#) already allocated, any additional use risks shortages. Projections show a 17% shortfall in demand by 2030 unless [infrastructure](#) investments are made.

South Africans consume an average of 233 litres per person per day — far above the global average of 173, with Gauteng nearing 300. Consumer [water](#) awareness remains low, but the more urgent issue is non-revenue [water](#), which is excluded from these consumption figures.

Non-revenue [water](#) stands at an average of 47%, compared to a 30% global norm. In South [Africa](#), 25% is lost through leaks and bursts; the rest results from theft, illegal connections, faulty metering, or authorised but unbilled use (eg firefighting). Proper [infrastructure maintenance](#) and renewal are critical — the Director-General of [Water](#) Affairs has called this the single biggest challenge in South African [water](#) management.

What you measure, you can manage

The Blue Drop, Green Drop, and No Drop reports outline the scale of South [Africa's](#) [water](#) challenges. Introduced in 2008 but suspended under the Zuma administration in 2014, these reports were reinstated in 2022 by the Ramaphosa government.

Blue drop ([water](#) quality): In 2023, 52% of treatment [systems](#) failed or barely passed quality tests, though 48% were deemed low-risk — a tale of two halves.

No drop (non-revenue [water](#)): Revealed 47% losses — up from 35% in 2014. Middle-income peers average 30%: Brazil (38%), Mexico (40–50%), Nairobi (45%).

Green drop (wastewater treatment): Found 64% of plants at high or critical risk of discharging untreated or partially treated [water](#) into the [environment](#).

Tracing the route to end-users

[Water](#) provision in South [Africa](#) operates through a four-tiered [system](#) under the oversight of the Department of [Water](#) and [Sanitation](#) (DWS):

1. Bulk water is stored in public dams operated by DWS.



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2. 7 water boards distribute this to municipalities, industries, and mines.
3. Water Services Authorities (WSAs) — typically municipalities — are constitutionally responsible for ensuring access to water.
4. Water Services Providers (WSPs) are contracted to deliver water to households and businesses. Most municipalities act as WSAs and WSPs, making water a key revenue source.

Bulk [water](#) supply

Since 1994, numerous [water infrastructure projects](#) have been implemented. The Lesotho Highlands [Water Project](#) is a flagship initiative with the Katse and Mohale Dams completed in 1996 and 2003 respectively. Phase 2, delayed by corruption allegations, COVID-19, and resettlement issues, is now progressing. Other dams, reservoirs, and [pipelines](#) continue to be constructed. (See Appendix A).

The 2024 Budget allocated nearly R140-billion for 10 major [water projects](#), including R42,1-billion for Lesotho Highlands Phase 2. The problem lies not so much in bulk [water](#) supply but in what happens afterwards.

[Water](#) boards: [water](#) flows, money doesn't

South [Africa](#)'s seven [water](#) boards (rationalised from 15) operate across provincial boundaries, supplying bulk [water](#) to 144 WSAs. Like wholesalers, they depend on clients to pay their bills.

By June 2024, municipal debt to [water](#) boards had reached R22,36-billion — a 151% increase over five years. Although municipalities receive R62-billion annually from the Treasury for [water](#) and [sanitation](#), this funding isn't ring-fenced, leaving its use at the discretion of local councils.

Original Article: [Polity](#)

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