Veles Water Weekly Report:

La Niña Is Coming Within Weeks, Less Rain and Snow in the Western US

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September 18th 2025

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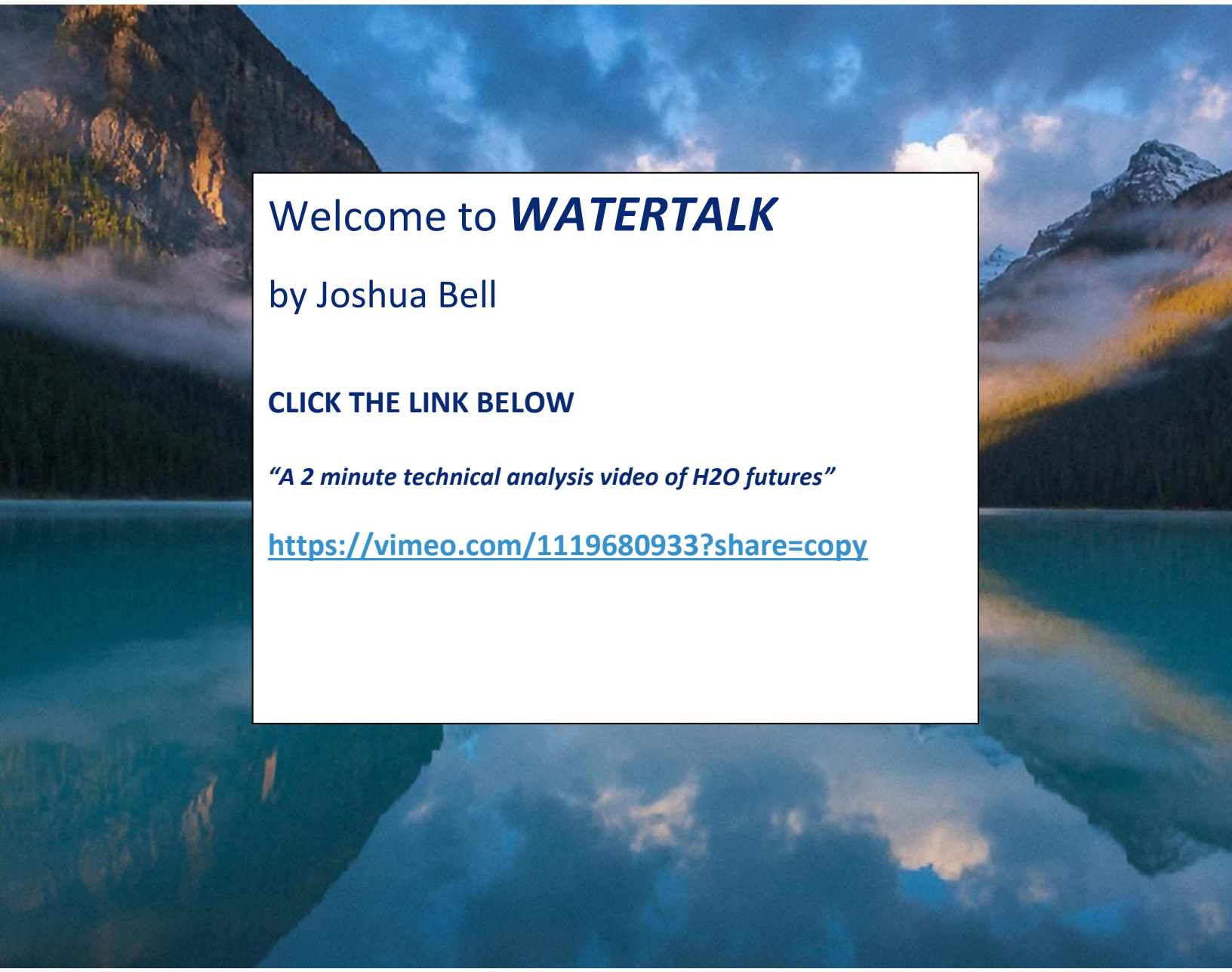
Veles Water

WATER FUTURES MARKET ANALYSIS



Welcome to ***WATERTALK***

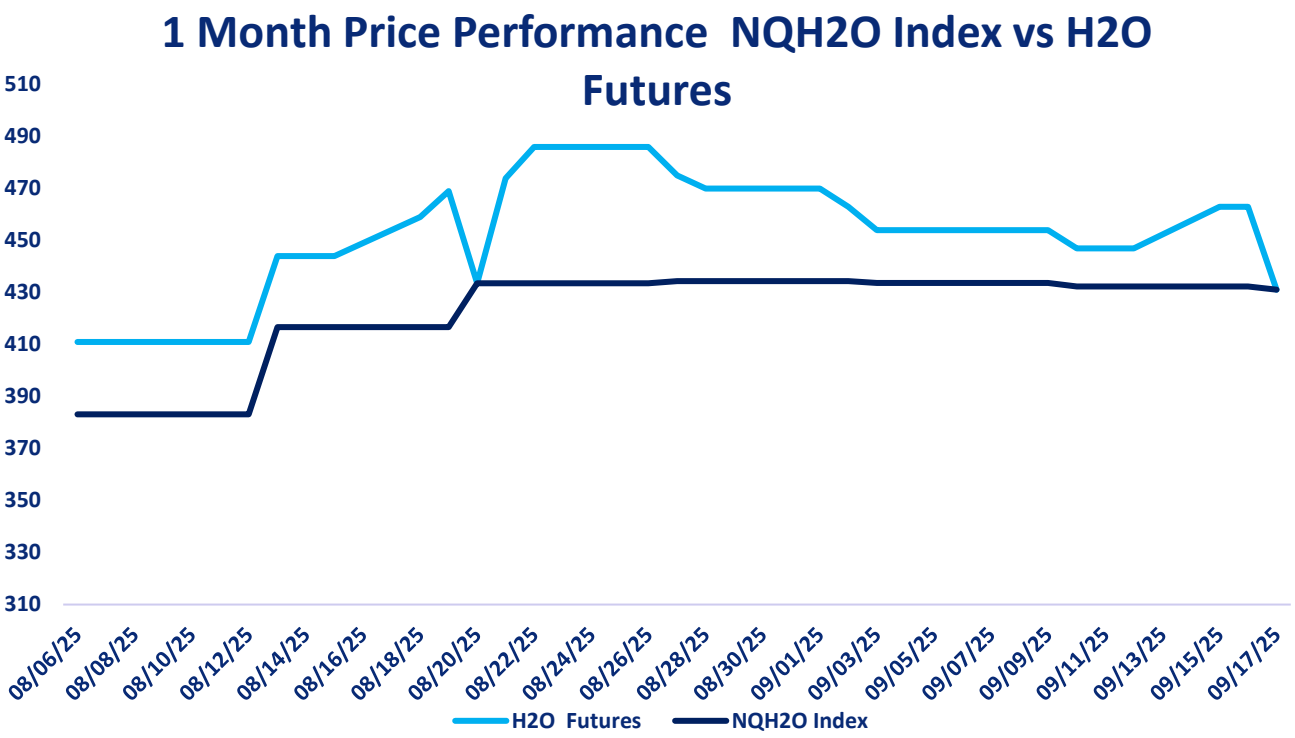
by Joshua Bell

CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

https://vimeo.com/1119680933?share=copy

NQH2O INDEX PRICE vs H2O FUTURES PRICE



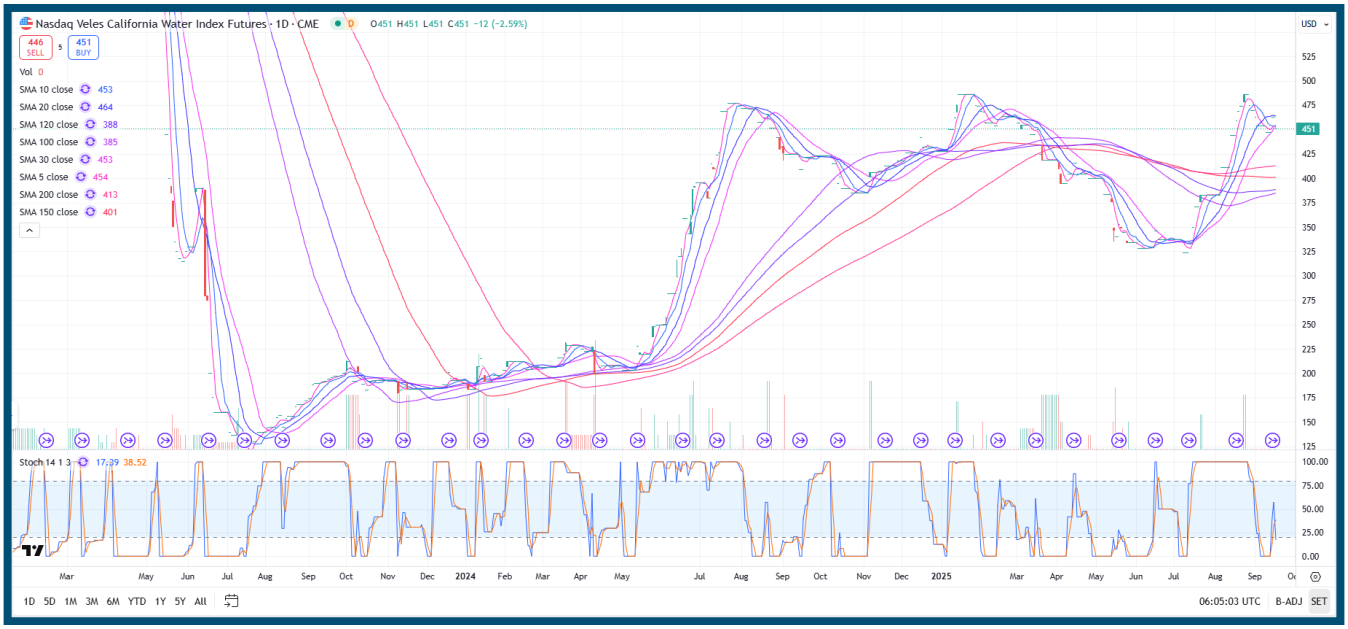
Price Chart Based upon Daily Close

The new NQH2O index level of $432.31 was published on September 17th, down $1.34 or 0.31% from the previous week. The September contract settled at the new index level and the October contract is considered the front month. The futures prices closed at a premium of $14.69 to $30.69 versus the index over the past week.

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

Oct 25	446@451
Nov 25	455@480
Dec 25	452@482
June 26	530@560

H2O FUTURES TECHNICAL REPORT



Trend Overview

- **Current Price**: 451 (▼ -2.59%)
- **Momentum**: The uptrend is pausing. The last few sessions show weakening bullish momentum, with small-bodied candles and today's clear rejection at higher levels.

Moving Averages

Short-Term (SMA 5–30):

- The **5-day SMA (454)** has started to **flatten**, signalling a cooling of short-term momentum.
- The **10-day SMA (453)** is **flat to slightly down-sloping**, no longer offering strong bullish confirmation.
- The **20-day (464)** and **30-day (453)** SMAs remain **above** price and are starting to **curl over**, acting as short-term resistance now.
- Price is **below all short-term SMAs**, which suggests a pullback or short-term consolidation is underway.

Long-Term (SMA 100–200):

- **SMA 100 (385)**, **SMA 120 (388)**, and **SMA 150 (401)** are still **sloping upward**, indicating the **longer-term trend remains intact**.

- **SMA 200 (413)** is also gently rising, further supporting the medium-to-long-term bullish structure.
- The current price is still comfortably **above** these long-term SMAs, which continue to act as foundational support.

Stochastic Oscillator

- **%K = 17.39, %D = 38.52**
- The stochastic has **fallen out of overbought territory** and is now in the **lower-mid range**.
    - **%K < %D**: This suggests **bearish crossover momentum**.
    - **Implication**: Continued cooling, but with room to the downside before oversold conditions are reached.
    - Watch for potential reversal signals near the **20 level** on %K.

Resistance & Support Levels

Immediate Resistance:

- **464–475**: Cluster of SMAs and recent highs - heavy overhead supply and likely resistance.
- **500**: Round number and historic high; remains the **major upside target** for bulls.

Support Zones:

- **451–441**: The current price is near the 5/10/30-day SMA cluster. If this zone breaks, it may trigger deeper retracement.
- **413–401**: The 200-day and 150-day SMAs form the **key structural support zone**.
- **385–388**: 100/120-day SMAs would be **critical to maintain bullish structure** on a deeper correction.

Summary

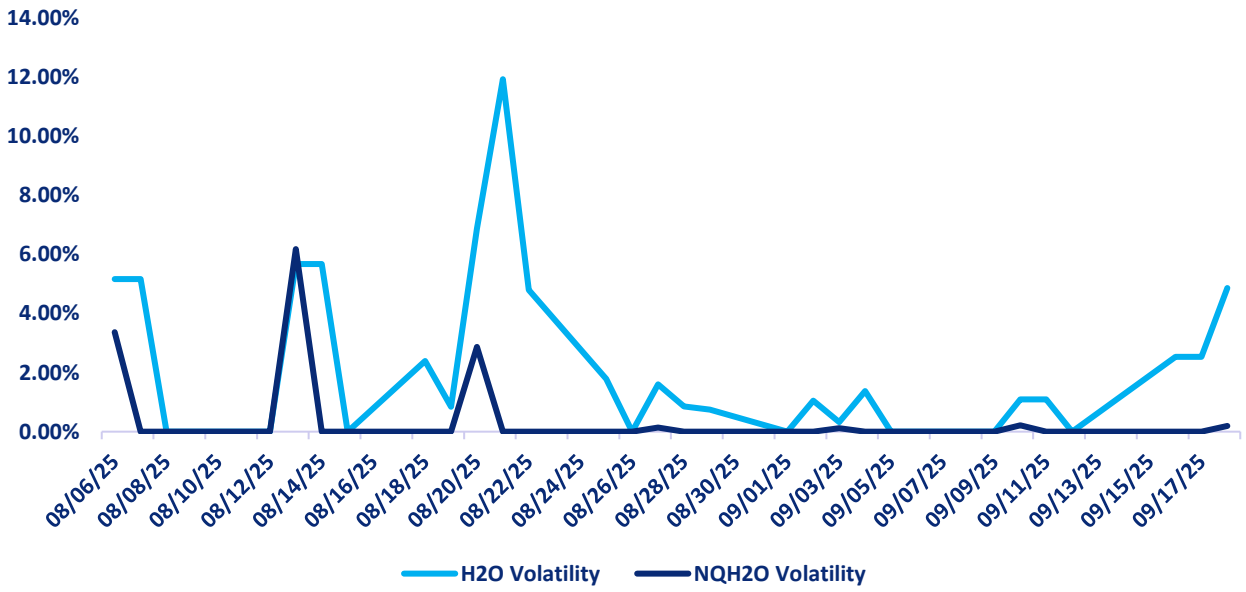
The Nasdaq Veles California Water Index Futures surged strongly but has entered a **correction phase** after peaking near 475. The price is currently **trading below short-term moving averages**, suggesting a **pause or pullback** in the uptrend.

The **stochastic oscillator** confirms this, having fallen from overbought levels. However, **long-term moving averages remain bullish**, so the bigger picture still favours buyers - unless deeper supports around 401-413 break.

Key to watch: Whether price can reclaim the 20-day SMA (464) and build a new base - or if sellers push the index down toward the 200-day SMA before renewed upside attempts.

H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the September contract daily future volatility has been 4.86%.

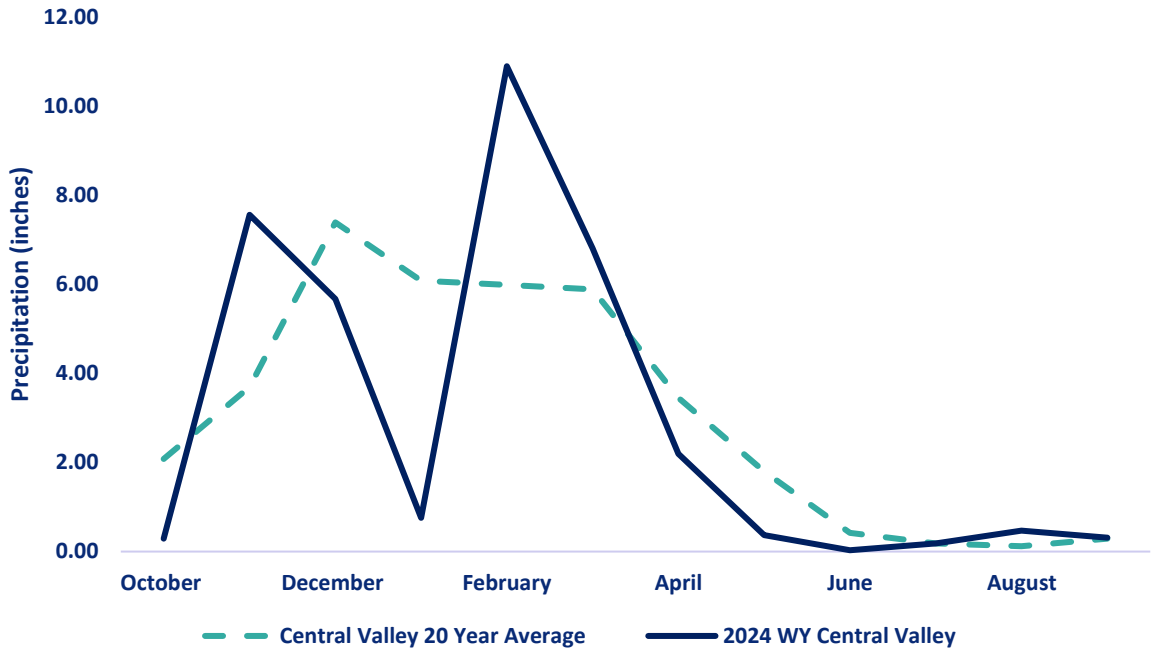
ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	**19.53%**	**9.90%**	**0.14%**	**0.04%**
H2O FUTURES	N/A	**14.07%**	**13.81%**	**1.54%**

For the week ending on September 17th, the two-month futures volatility is at a premium of 3.32% to the index, up 0.85% from the previous week. The one-month futures volatility is at a premium of 13.29% to the index, up 0.38%. The one-week futures volatility is at a premium of 1.50% 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 17/09/2025

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)	0.11	0.02	43.67%	83	80
TULARE 6 STATION (6SI)	0.16	0.16	145.45%	80	83
NORTHERN SIERRA 8 STATION (8SI)	0.66	0.27	132.00%	91	107
CENTRAL VALLEY AVERAGE	0.31	0.15	107.90%	85	90

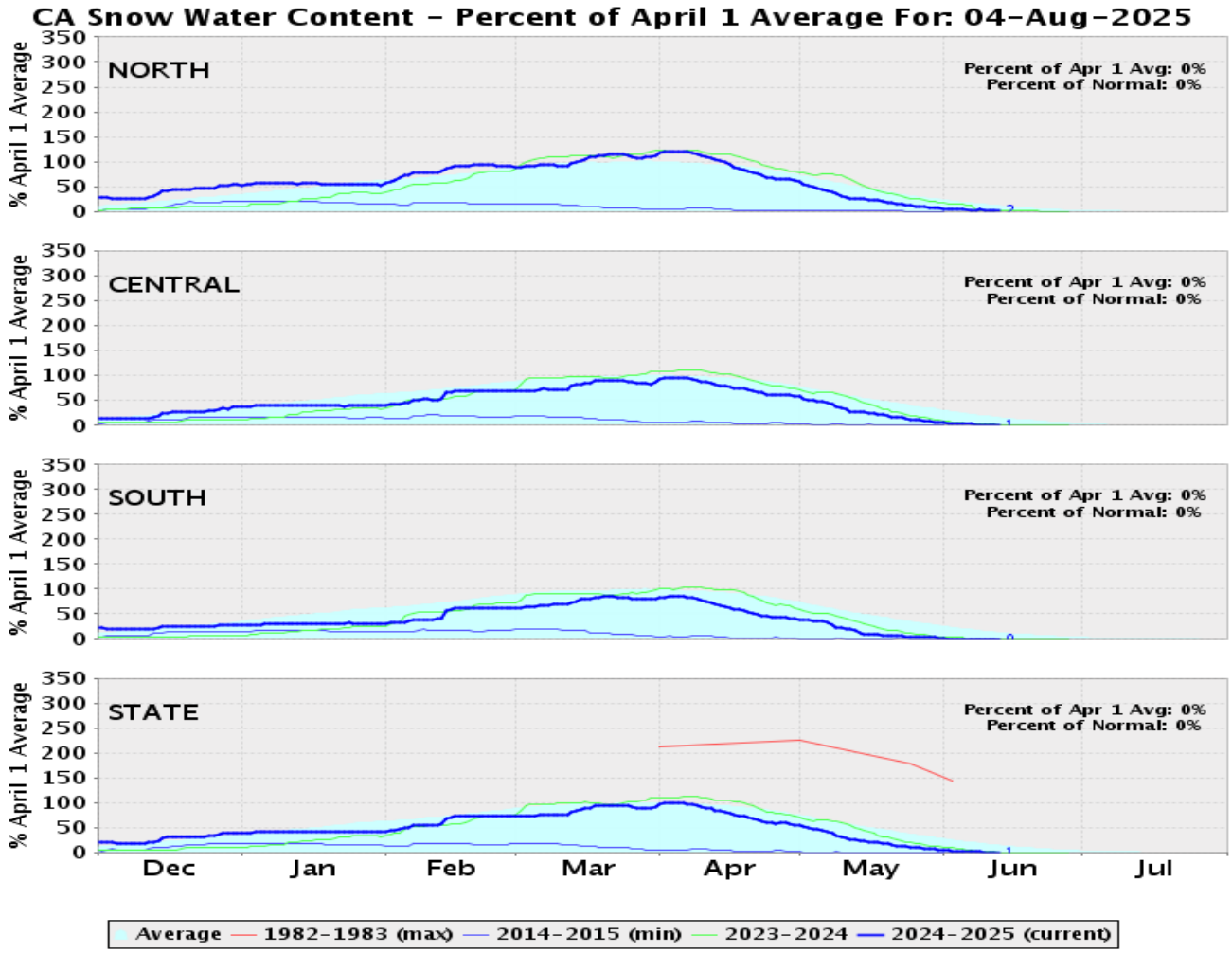
RESERVOIR STORAGE

RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	1,883,566	77	72	121
SHASTA LAKE	2,753,717	60	63	104
LAKE OROVILLE	2,199,659	64	61	111
SAN LUIS RES	947,095	46	49	115

*% 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	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

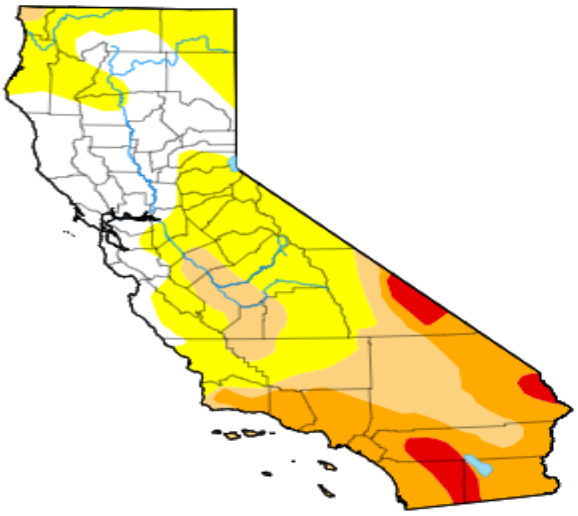
Snow Water Equivalent*, **or SWE**, is a commonly used measurement used by hydrologists and water managers to gauge the amount of liquid water contained within the snowpack. In other words, it is the amount of water that will be released from the snowpack when it melts. SWE has regional variance.**

**** 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. September 11, 2025
Data valid: September 9, 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

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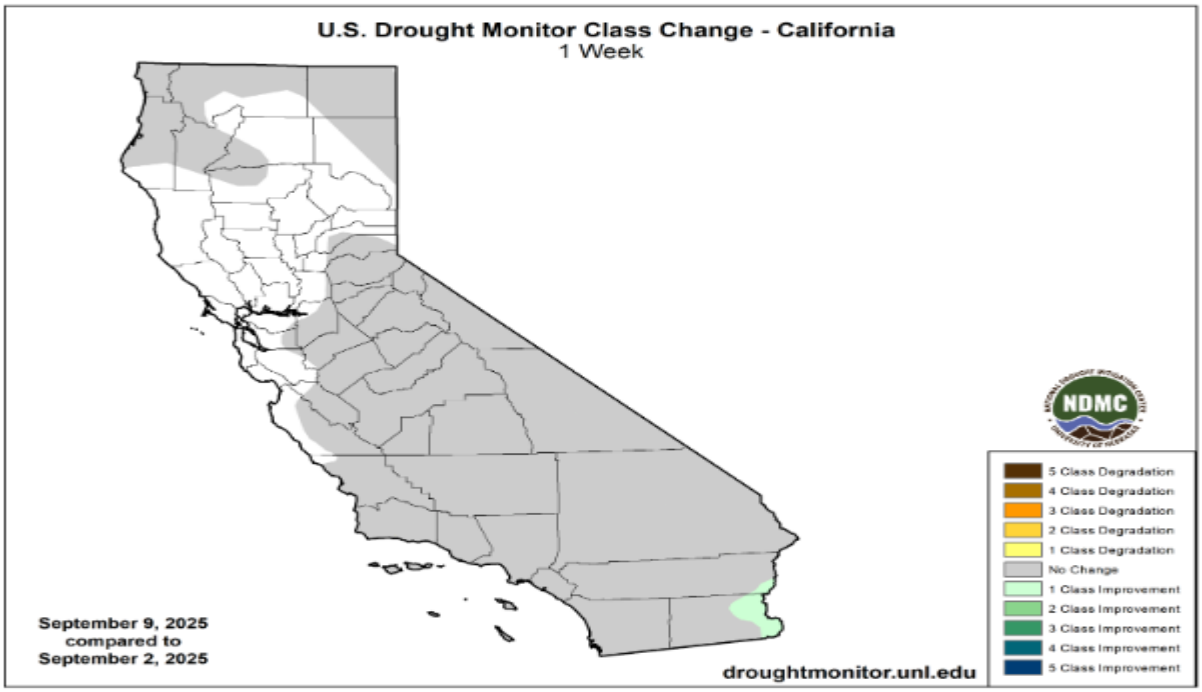
Pacific Islands and Virgin Islands Author(s):
Brad Rippey, U.S. Department of Agriculture

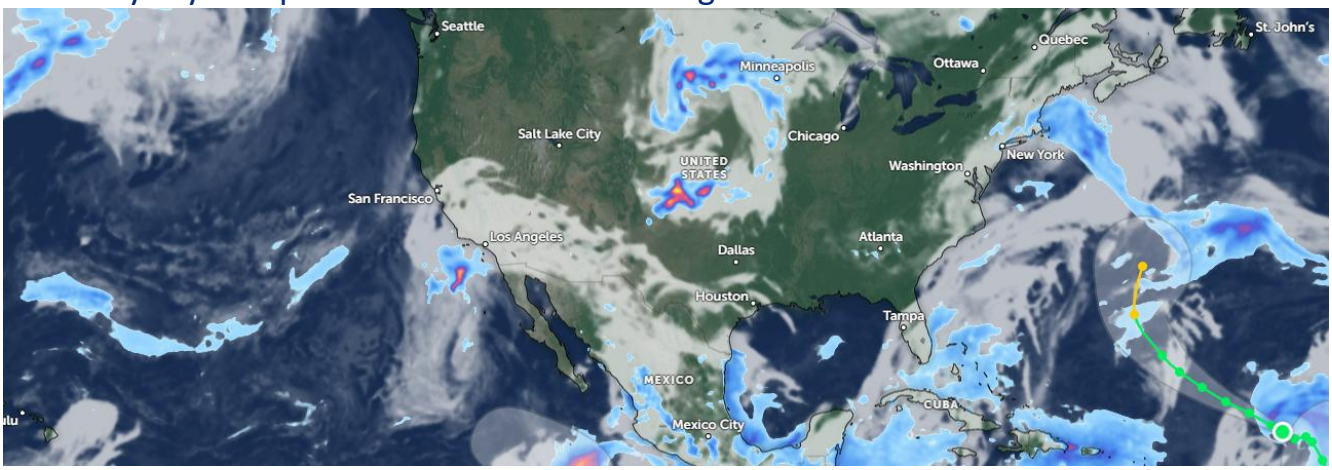


Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2025-09-09	23.99	76.01	39.56	23.00	3.88	0.00	142
Last Week to Current	2025-09-02	23.99	76.01	39.56	23.01	4.70	0.00	143
3 Months Ago to Current	2025-06-10	39.01	60.99	39.29	22.98	5.91	0.10	129
Start of Calendar Year to Current	2024-12-31	40.90	59.10	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	2024-09-10	28.59	71.41	10.68	0.08	0.00	0.00	82

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.

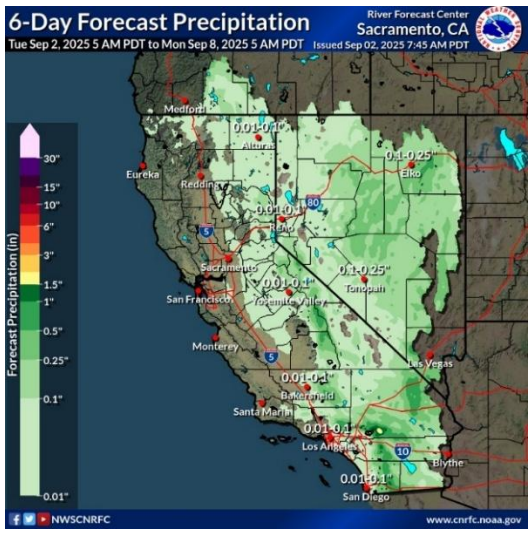
CURRENT SATELLITE IMAGERY

The satellite picture shows cold air moving south over the northwestern coastal regions and in the San Francisco region this is meeting warm subtropical air moving in a northeasterly direction. The warm air is pushing moisture into the southern Californian region and surrounding areas. The Midwest has a storm system over it, starting just north of Dallas and stretching up past Minneapolis into Canada. The eastern US is relatively dry except for coastal areas including Florida.



Map Ref: Zoom Earth

10 Day Outlook



In between these lows offshore, high pressure will build and shift towards the coast the rest of the work week as the southwest low hovers near Baja. By Friday afternoon, the ridge will be firmly overhead with 500 mb heights exceeding 590 dm. This will keep dry conditions over the region and bring well above normal (+10 to +20 deg F) afternoon temperatures. Overnight lows will also be well above normal by similar amounts through Saturday. Many locations across CA are already under heat related products (please see local WFO pages for heat risk/alert information). Into Sunday, a trough will move through the PacNW as the ridge shifts further inland. Troughing will dig into nrn CA/NV as well while the low offshore of Baja finally begins to move inland. This will provide some relief across the region with coastal areas back to near/below normal and afternoon temperature anomalies inland down to about +5 to +15 deg F.Next week, models have a trough digging into the PacnW from western Canada and closing off into an upper low before potentially heading into CA/NV into Tuesday

.

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

WESTERN WEATHER DISCUSSION

Heavy precipitation (1 to 2.5 inches) supported a decrease in severe (D2) to extreme (D3) drought around the Albuquerque, Santa Fe, and Las Cruces areas of New Mexico. In addition, NDMC's long-term drought blend was used as guidance. Locally heavy precipitation led to improvements across portions of southeastern Nevada, southwestern Utah, and western to southern Arizona. Conversely, the continued drier-than-normal Monsoon (60-day precipitation averaged 50 percent below normal) supported an expansion of extreme drought (D3) for eastern Arizona. A favorable response to heavy precipitation (2 to 2.5 inches) two weeks ago led to the removal of extreme drought (D3) in southwestern Montana. Farther to the north, a 1-category degradation was made in northwestern Montana after a reassessment of longer term metrics including the NDMC blend. A small increase in extreme drought (D3) in eastern Washington was made to match up better with 6-month SPI. An unusually wet start to September resulted in small areas of improvement to Oregon. Elsewhere across the Pacific Northwest and California, no changes were needed.

Reference:

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

WATER NEWS

CALIFORNIA WATER NEWS

La Niña Winter Is Coming. Will That Mean Less Rain in Valley and Snowpack in Sierra?

National Oceanic and Atmospheric Administration forecasters are predicting a La Niña winter for California, increasing the potential for warmer and drier weather.

The forecast is based on data collected from tropical Pacific Ocean surface temperatures, ocean currents, and atmospheric winds to calculate the El Niño-Southern Oscillation, which is used to predict whether the upcoming fall and winter will be El Niño, La Niña, or neutral.

In La Niña events, "it's one of those things where you can go one way or the other, but typically it tilts drier," said Stephen McCoy, a meteorologist with the National Weather Service in Hanford.

But a La Niña forecast is no guarantee that the winter will be a dry one, he said.

In the winter of 2022-23, "we were actually in a strong La Niña event, which brought heavy, heavy rainfall to the area," McCoy said. "Typically, we do see drier, warmer conditions with La Niña, but it's not always the case."

Drought in the U.S., Valley

According to the latest U.S. Drought Monitor map, there are now only a few pockets of "exceptional" drought (D-4) in the western U.S., and the Valley is divided between "moderate" drought (D-1) on the west side and "abnormally dry" (D-0) on the east side.

It was only three years ago in November 2022 that the entire San Joaquin Valley was mired in the exceptional drought category, which eased with the arrival of record-setting rains that flooded coastal areas and laid a thick, record-setting snowpack atop the Sierra.

Why is the snowpack important? Much of California's water supply for homes, businesses, and agriculture comes from Sierra snow runoff, which is stored in dams and then released through the state's extensive canal and piping system.

The winter of 2022-23 brought a series of "freight train" storms with significant precipitation that fortunately took aim at different parts of the state, said Ryan Jacobsen, CEO of the Fresno County Farm Bureau.

What Happens in La Niña

In La Niña winters. the jet stream typically moves to the north, bringing colder and wetter weather to the Pacific Northwest, Jacobsen said.

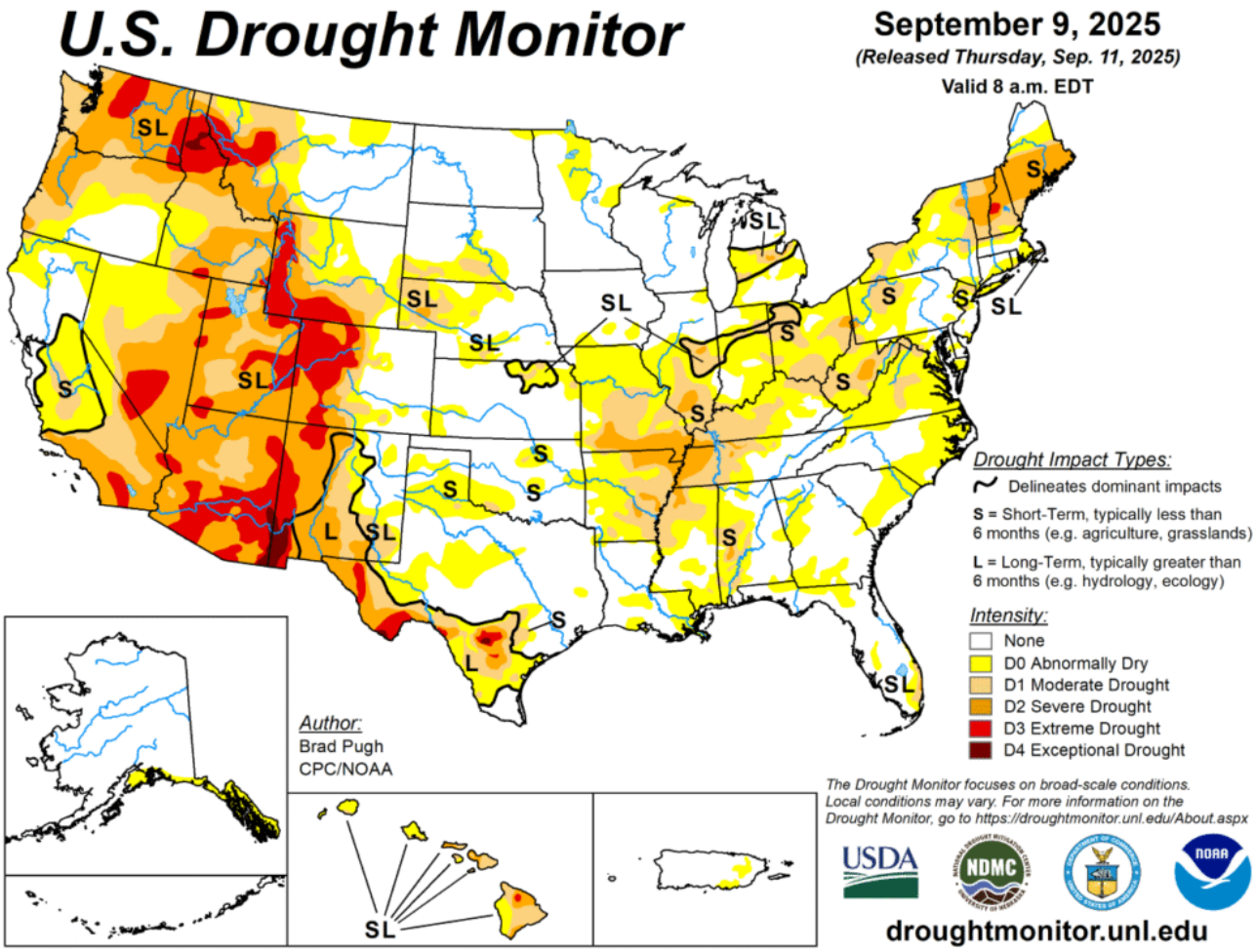
But, he said, "all it takes is for that jet stream to move a few hundred miles to the south and the outlook completely changes."

The unpredictability of long-range forecasts was evidenced just in this summer's forecast for the Valley, McCoy said. After a cool spring, forecasters were preparing for

blazing summer temperatures, which in the Valley have been steadily intensifying in recent years.

But the summer turned out to be one of the coolest in decades. It was “almost winter in that we were getting trough after trough after trough” of low-pressure systems rolling in from the ocean, bringing cooler temperatures, McCoy said.

The low-pressure systems helped push eastward the dreaded high-pressure heat dome, which typically parks overhead and brings scorching summer temperatures to the Valley, he said.



What Does This Mean for Farmers?

Are farmers gearing up for shorter water supplies if La Niña means a drier winter? Jacobsen said it’s still too early to make those preparations, but farmers will definitely be watching the skies and hoping for an average or even above-average year for rain and snowfall.

“With the exception of 2024, we came really close, but there is no such thing as average. California, generally speaking, we have enough water, we don’t have enough water. Very rarely do we fall within that middle ground there,” he said.

Westlands Water District, which is the nation's largest agricultural water district and which supplies water for farmers on the Valley's westside, said the potential for a dry winter "only underscores the urgent need to ensure our farmers have a guaranteed and reliable water supply year over year so they can continue to feed the nation," said Elizabeth Jonasson Rosas, deputy general manager of external affairs in an emailed statement. "We cannot depend on Mother Nature alone."

Westlands farmers have worked hard to be good stewards of their water supplies, preparing for dry years by recharging groundwater sources, she said.

But the aquifer would be best protected if farmers could minimize the need for groundwater pumping, "for which a dependable surface water supply is key," Jonasson Rosas said. "State and federal leaders must invest in storage, recharge, conveyance, and data-driven management practices that ensure sufficient water is available in both wet and dry years."

Original Article: GV Wire by Nancy Price

Klamath water bill awaits Newsom's signature

A bill aimed at preserving flows for fish on two Klamath tributaries passed through both chambers of the state legislature last week and awaits signature by Governor Gavin Newsom. Assembly Bill 263, authored by North Coast Assemblymember Chris Rogers (D-Santa Rosa), would maintain existing minimum flows for the Shasta and Scott rivers.

The flow regulations were established as part of an emergency drought declaration four years ago. If enacted, the regulations would be kept until 2031 or whenever the State Water Board sets permanent rules that are currently in the works.

"The Shasta and Scott rivers are currently under emergency regulations that took tribal voices and our state's fisheries into consideration when they were developed," said Rogers in a press release.

The rivers are major tributaries to the Klamath River and host spawning grounds for fish, including threatened populations of salmonids.

"Maintaining minimum flows on these tributaries will help the critical salmon restoration projects in the Klamath watershed continue to flourish. The temporary flow requirements maintained by AB 263 will provide certainty to farmers, fishermen and tribal communities alike," Rogers said.

Farming and water lobbyists, along with Siskiyou County, spoke in opposition to the bill. It's passage comes amid years of conflict between Siskiyou County ranchers and farmers who have pushed back against state water board emergency drought rules, which are aimed at stopping fish-killing low flows potentially caused by crop irrigation.

Those rules were put in place following a drought that spanned from 2020 to 2023. The State Water Board estimates populations of Coho salmon in the Klamath River have declined between 52% and 95%, fall-run Chinook salmon populations have declined

between 92% and 96%, spring-run Chinook salmon populations have declined 98% and steelhead populations have declined 61%.

The bill passed through the Assembly and Senate along party lines, with one Democrat joining all Republicans in opposition in the assembly. It follows the removal of the dams on the Klamath river.

"Klamath dam removal was just the first step in rebuilding our salmon fisheries," said Karuk Chairman Russell 'Buster' Attebery in a prepared statement. "We must protect flows in key salmon nurseries like the Scott and Shasta Rivers. We urge the Governor to continue his legacy as a Klamath champion and sign this bill into law as soon as possible."

Tribal, fish and environmental groups and Humboldt County spoke in support. The bill was introduced with partnership from the Karuk Tribe, California Coastkeeper Alliance and the Pacific Coast Federation of Fishermen's Association, a Rogers press release said.

An amendment in the Senate requires annual public updates, including opportunities for public comment, on the State Water Board's progress toward developing permanent flow rules for the rivers while in effect. Since the bill was introduced, the sunset year of 2031 was also added. Permanent regulations are expected to take years, while the temporary emergency regulations would expire Jan. 27, 2026, unless renewed.

Original Article: Times Standard by Sage Alexander

Antioch's $160 million desalination plant begins operation in bid to boost city water supply

Antioch has finally turned on the taps of its long-awaited brackish water desalination plant, which is expected to help the city safeguard its water supply for decades to come. The $160 million facility, hailed by city leaders as a milestone in California's water sustainability efforts, will meet up to 40% of Antioch's water needs.

Residents and businesses use up to 11 million gallons of water daily in the winter and 23 million in the summer. With the plant in service, the city can treat and convert into drinking water about 6 million gallons a day of brackish water pumped from the Sacramento-San Joaquin River Delta.

The city has already been pumping as much water as possible from the river; however, because of an increase in saltwater levels over the years, it has been unable to do so during the summer and fall. To fill the gap, Antioch purchases more expensive water from the Contra Costa Water District to fulfill the needs of some of its 110,000 residents.

"This project not only provides critical supplies for Antioch's health and safety needs during severe drought, but also improves drought supplies for our neighboring communities and members of the Contra Costa Water District," Mayor Ron Bernal said at a ribbon-cutting ceremony on Monday.

He hailed the completed project as the largest infrastructure investment in the city's history. "This vast undertaking represents nine years and over $100 million of state

financing, complete extensive environmental studies, and federal and state permits to protect endangered and threatened species," Bernal said.

The desalination plant project broke ground in 2022 with Gov. Gavin Newsom in attendance. The governor said the plant was part of his plan to help California overcome worsening droughts and water shortages because of climate change through an array of new desalination plants, reservoirs and recycled water projects.

State officials have estimated California's water supply could be reduced by up to 10% by 2040 due to hotter and drier weather.

State Water Resources Control Board Chairman E. Joaquin Esquivel said that with drought a constant threat, California cities need to be prepared for the future.

"We have 19th-century laws with 20th-century infrastructure challenges," Esquivel said. "This is an example of the 21st-century infrastructure that we are going to need to help secure this community's access to water for decades to come."

Located south of Highway 4, the desalination facility is within the current water treatment plant area. It includes a 4.3-mile pipeline from the plant to the Delta Diablo Wastewater Treatment plant, where the remaining brine from the desalination – a process of removing minerals and salts from water to produce purified water by pushing water at a high pressure through a reverse osmosis membrane – is sent and discharged to the river.

Among those joining city councilmembers for Monday's ceremony were State Sen. Tim Grayson; Assemblymember Anamarie Avila Farias; Contra Costa County Supervisor Diane Burgis; and Brentwood Mayor Susannah Meyer.

Grayson also praised city officials for having the foresight to collaborate with local, regional, and state agencies.

"You were able to bring resources, you were able to bring technology, you were able to bring the partnerships together to eventually get something done for Californians, California, and this part of the Bay Area, so thank you very much for your tenacity," Grayson said.

After being conceived in the 2010s, the desalination plant got a huge boost in 2018 when California water officials awarded the project $10 million from Proposition 1, the state water bond passed in 2014. Other funding included a $60 million low-interest loan from the State Water Resources Control Board's Drinking Water State Revolving Fund, $27 million from a state Department of Water Resources settlement agreement regarding water rights and from Antioch's Water Enterprise Fund.

Original Article: East Bay Times by Hema Sivanandam

70% chance La Niña arrives in SF Bay Area within weeks

New data shows that a La Niña weather pattern is likely to develop in a few weeks, potentially impacting the Bay Area and California just at the start of the rainy season.

The National Weather Service says there is now a 71% chance of a La Niña weather event in the Pacific Ocean starting in October.

A La Niña weather pattern occurs when there are colder-than-average surface temperatures in central and eastern regions of the Pacific Ocean. It can have major effects on weather patterns across the globe and significantly impact rain trends along the entire West Coast.

“Typically, in a La Niña year, the Pacific Northwest tends to get wetter and cooler, while the Southwest tends to get dryer and warmer,” Dial Hong, a meteorologist with the National Weather Service, told SFGATE.

San Francisco sits at the inflection point for the weather phenomenon’s effects, which means the region could see either more rain or drier weather during the fall months if La Niña arrives as predicted.

Got a tip? Send us the scoop.

Michelle L’Heureux, the El Niño/Southern Oscillation team lead at the National Oceanic and Atmospheric Administration’s Climate Prediction Center, said current data points to a weaker La Niña this fall, but that doesn’t necessarily mean fewer big storms.

“Keep in mind that when we talk about the strength of El Nino and La Nina we are referring to sea surface temperatures in the equatorial Pacific Ocean. We cannot say ‘weaker temperature departures will lead to weaker impacts,’” L’Heureux told SFGATE in an emailed statement. “In any one location, you can get strong impacts even with a weaker event.”

This is the second year in a row a La Niña weather pattern is developing in the Pacific. It developed in December 2024 and lasted through the spring. The average La Niña lasts about 15 months, and NOAA estimates there is a 54% chance there will be La Niña conditions December to February.

Original Article: SF Gate by Gillian Mohney

Who manages your water in Southern California? Why it matters

Community water systems are the fundamental building blocks of California’s water supply. They provide drinking water to millions of households, businesses and institutions across the state. But who governs these systems — and how they are managed — has a direct impact on whether communities have access to safe, affordable and reliable water and if they can adapt to drought and climate change.

The 2025 Southern California Community Water Systems Atlas, produced by the UCLA Luskin Center for Innovation and UC Division of Agriculture and Natural Resources, shows how fragmented governance affects communities differently. The atlas expands the scope of earlier UCLA studies to cover not just Los Angeles County, but 663 systems across six counties: Los Angeles, Kern, Orange, Riverside, San Bernardino and Ventura. Together, these utilities serve 40 percent of California’s population. The report and

companion mapping tool provide the most comprehensive public resource on water systems, shedding light on disparities in water quality, affordability, governance and climate resilience.

Fragmented governance

Water systems in Southern California operate under at least seven different governance structures, ranging from tiny mutual associations to large city-run utilities. This fragmentation complicates oversight, resulting in uneven capacity and disparities in service. It also makes it harder to fix water quality violations, which happen when drinking water has more harmful contamination than regulations allow.

"Governance determines whether a water system has the resources and oversight it needs to succeed," said Edith B. de Guzman, water and adaptation policy cooperative extension specialist with the Luskin Center for Innovation and UC Division of Agriculture and Natural Resources. "This atlas makes clear that the small and under-resourced systems that millions of Californians rely upon and which are often fragmented, face persistent barriers to meeting water quality, affordability and equity goals."

In recent years, Los Angeles County has made modest progress with slightly declining water quality violations, in part because some small systems have been consolidated into larger providers. A 2021 Luskin Center for Innovation study led by the center's senior director, Gregory Pierce, and Kyra Gmoser-Daskalakis found that systems with less consolidated governance or infrastructure have more water quality and affordability problems.

These governance gaps show up most clearly in water quality data, where some counties consistently perform better than others.

Water quality varies from county to county

Kern County recorded more than 1,500 drinking water quality violations in the past decade — far more than any other county. (The top contaminants causing violations in Kern County are arsenic, coliform, 1,2,3-Trichilorpropane and nitrate.) In contrast, Orange County's more consolidated governance consistently ranks among the best performers. Los Angeles County shows modest but meaningful improvement, with larger utilities investing in upgrades that have greatly reduced violations. The top contaminants causing violations in the county are arsenic and coliform, with nitrate and manganese a distant third and fourth place.

However, many smaller systems in all counties lack the technical, managerial and financial capacity to make similar improvements, perpetuating inequities to safe and affordable water access.

Original Article: UCLA Newsroom by Mara Elanan Burstein

Fresno, California, growers appeal to Supreme Court

The city of Fresno, California, is asking the Supreme Court to weigh in on its long-running battle with the Bureau of Reclamation over the agency's decision to halt water deliveries during a multiyear drought, as local leaders and other plaintiffs seek $350 million to repay the fair market value of the lost water.

The city, along with more than a dozen irrigation districts and private landowners, is asking the Supreme Court to accept a writ of certiorari and review its case, which centers on the the federal government's decision to curtail water deliveries in 2014.

"The Bureau of Reclamation decided to leave 15,000 California growers in the dust," attorney Lawrence Ebner, who is representing Fresno and other plaintiffs, said in a statement.

The U.S. Court of Federal Claims has twice rejected Fresno's lawsuit, first dismissing arguments in 2020 that Reclamation violated the plaintiff's constitutional property rights — a "taking" without compensation — and then by rejecting claims in 2022 the federal government breached its contracts when it did not deliver flows.

Original Article: Politico Green Wire by Jennifer Yachnin

California's next big energy experiment is working

California's water system is considered to be one of the most complex in the world. Thousands of miles of canals snake through Central California's agricultural fields, transporting water from the state's intricate network of dams and reservoirs to feed the thirsty almonds, strawberries and grapes (among other crops) that cover sprawling fields. Most Californians only glance at this system from a passing highway, remarking at its many miles of efficient uniformity. But soon, these waterways may start to look a little different.

Near Hickman, California, just outside Modesto, a 110-foot-wide grid of solar panels now tops a section of canal, arching over the gently flowing water. Solar projects have long been a crucial piece of the state's movement to clean energy, and these panels are part of a new project that's hoping to do far more than just generate electricity. Dubbed Project Nexus, the $20 million state-funded initiative hopes to better understand whether these installations can be an even more efficient approach to solar energy.

The waterways already irrigate much of the state's crops, but now they will also cool the solar panels, just by nature of being underneath them, increasing the panels' efficiency. Meanwhile, the panels will shade the canals, reducing evaporation and suppressing aquatic weeds. Between this installation and a 20-foot-wide section that was completed on another part of the canal in March, the project could generate a total energy output of 1.6 megawatts while producing a host of other benefits.

A decade in the making

Jordan Harris was driving along Interstate 5 one day about a decade ago, looking at the canals traversing California's agricultural fields. Having spent much of his life in France, he wondered why California's waterways were left to bake in the inland heat, while France's canals were often tree-lined and shaded. It seemed like a natural problem to try to solve, he said, an attempt at better protecting the canals from sun and wind, especially amid drought.

As part of a new environmental project in Gujarat, India, Harris had seen canals topped with solar panels before. In 2017, he founded Solar AquaGrid and commissioned a study from UC Merced to analyze the viability of a similar initiative in California. The university projected possible outcomes if the roughly 4,000 miles of canals throughout the state were covered in solar panels. Its findings, published in the academic journal Nature Sustainability in 2021, showed that it could result in around 63 billion gallons of water savings annually. That's the equivalent of the residential water needs of more than 2 million people. Moreover, when taking into account both the power output and the benefits to the canal itself, the over-canal panels are 20% to 50% more beneficial than typical solar panels mounted on a roof or the ground.

A solar-covered canal in Ceres, Calif.

Courtesy of the Turlock Irrigation District

The findings were compelling, and soon Solar AquaGrid and UC Merced teamed up with the California Department of Water Resources and the Turlock Irrigation District for the pilot. The latter is a uniquely well-positioned utility, since it both manages a section of canals and operates as the local power provider.

Facing new state mandates on clean energy production, Turlock Irrigation District spokesperson Brandon McMillan said the utility was eager to take part in the project, especially since it's cost-prohibitive to place solar arrays on local land. He said it'll take a full year before the utility can fully understand the cost benefits of placing solar panels over canals, especially when it comes to maintenance costs, but so far, the reduction in aquatic growth could be a "huge time and cost savings."

It likely would never make sense to put the panels on the entirety of the 250 miles of canals the district manages, McMillan says, but if the project is successful, it could make sense to add them in more sections of the waterways.

The first in California

The country's first solar-over-canal project began producing power in 2024 near Phoenix, Arizona. The 2,700 feet of panels blanketing part of the Casa Blanca Canal benefit the Gila River Indian Community and were funded as part of President Joe Biden's Inflation Reduction Act. The next phase of the project, which adds even more panels, is already in the works.

Building on this success, as well as the strides made in India in the past 15 years, Project Nexus is also experimenting with different types of solar installation. Another section of

canal, estimated for a November installation, will use a retractable system that sits much closer to the surface of the canal itself, allowing for less steel and concrete since the panels won't need to be elevated.

A solar-covered, 20-foot-wide canal in Ceres, Calif. The installation is part of Project Nexus, a state-funded initiative that debuted in 2025 to better understand the viability of solar-topped canals.

Courtesy of the Turlock Irrigation District

Harris said with each iteration, they're better understanding the costs and benefits of what the future of solar-topped canals could look like. Various factors, like which way the panels are facing or the conditions around them, could impact which technology is most effective. So far, project scientist Brandi McKuin said early estimates show that results are in line with their projections. They want to have a full year's worth of data before releasing anything official, Harris said, but "it gives us confidence that we have a good working model."

Original Article: SF Gate by Tessa McLean

California State Water Board provides $2 billion for strengthen water infrastructure, increase water supplies

The State Water Resources Control Board has allocated $2 billion in the past fiscal year to enhance water infrastructure across California. Officials say the funding aims to increase water supplies, protect the environment, and support the state's economic progress.

The projects, when completed, are set to benefit over 18 million Californians by adding 5,000 acre-feet to the state's water supplies. They align with Gov. Gavin Newsom's Water Supply Strategy to expedite infrastructure upgrades statewide.

The board's financial assistance comes from a mix of state and federal sources. Last year, federal programs like the Drinking Water and Clean Water State Revolving Funds contributed $1.4 billion, or 70%, of the assistance distributed.

This includes more than $730 million from the 2021 Infrastructure Investment and Jobs Act. E. Joaquin Esquivel, chair of the board, emphasized the importance of this funding. "Thanks to strong commitment and partnership at the state and federal levels in recent years, we have been able to distribute an extraordinary amount of financial assistance that is now delivering results," said Esquivel. He highlighted the regular opening of new treatment plants and pipelines that connect communities to safe drinking water.

Nearly $960 million of the board's assistance was provided as grants and loan forgiveness, while over $1 billion came as loans with interest rates lower than the state's general obligation bond rate.

The Safe and Affordable Funding for Equity and Resilience (SAFER) drinking water program, now in its sixth year, has expanded access to safe drinking water for

Californians. The program distributed over $1.6 billion in grants since its inception, helping 320 water systems serving more than 3.3 million people comply with drinking water standards.

The city of Wasco, a small rural community in Kern County, received $38 million in federal grants through the SAFER program to address groundwater contamination.

Scott Hurlbert, Wasco City Manager, expressed gratitude for the support. "In small, rural communities like ours, projects of this scale are cost prohibitive for ratepayers and therefore impossible without the state and federal funding the State Water Board provides," said Hurlbert.

The board also focuses on projects that build water resilience by diversifying and expanding water supplies. This past fiscal year, $1.2 billion was allocated for projects to recycle, capture, and store more water.

California State Water Resources Control Board

The San Francisco Public Utilities Commission received a $100 million loan and $15 million in state loans and grants to construct a new wastewater treatment facility on Treasure Island. The facility will produce recycled water for irrigation and toilet flushing by 2026 and supports major redevelopment plans on the island.

"Advances in wastewater treatment and water recycling now make it possible to create a new source of supply when upgrading infrastructure, as with the new Treasure Island facility," said SFPUC General Manager Dennis Herrera. He noted that the financing options provided by the State Water Board make these projects more affordable for cities and ratepayers.

Despite these investments, the financial need for drinking water infrastructure still exceeds available assistance. The 2024 Drinking Water Needs Assessment projected a five-year funding gap of $5.5 billion for communities with failing or at-risk infrastructure.

Original Article: Actions News Now by Will Anderson

US WATER NEWS

The Colorado River Basin has operated in the red for most of the 21st century. Experts call for broad water cuts, now

eople are still using more water than the Colorado River Basin can supply, and it’s shrinking the water savings account for 40 million people, according to a new analysis from basin water experts.

The basin states, including Colorado, need to cut their uses now, the experts said

Water stored in Lake Mead and Lake Powell, the basin’s two largest reservoirs, could fall to less than 4 million acre-feet of available water if the river’s flows and water demands

are repeated next year, according to a report released Thursday by a team of Colorado River water experts.

The two reservoirs have a combined capacity of 58.48 million acre-feet, about 92% of the reservoir storage capacity for the entire Colorado River Basin.

“If no immediate action is taken to reduce water use, our already-thin buffer of storage in Lake Powell and Lake Mead could drop to just 9% of the levels with which we started the 21st century,” the authors said in a joint statement Thursday.

The Colorado River Basin includes seven states, 30 tribal nations and two states in Mexico. It includes the western half of Colorado, but tunnels and diversions carry river’s water to farms, ranches, cities, environments and industries around the entire state.

The basin has experienced prolonged drought since 2000, one of its driest periods in a 1,200 year record. The U.S. Bureau of Reclamation, which manages federal water projects in the West, states and other water managers tried to adapt to the shrinking supply by forging new reservoir rules and agreements over the past two decades.

Still, the basin’s water storage dwindled. In 2021 and 2022, the water levels in Lake Powell, on the Utah-Arizona border, and Lake Mead, near Las Vegas, fell to historic lows.

The basin’s reservoirs act like savings accounts that help pace the flow of water from mountain snowpack to the Pacific Ocean so that water reaches homes and businesses when they are needed.

But the basin has been operating in the red for years: Water users consistently take more water than nature provides, according to the new report coauthored by Jack Schmidt, Anne Castle, John Fleck, Eric Kuhn, Kathryn Sorensen and Katherine Tara.

The basin currently has about 6.3 million acre-feet in accessible storage in Lakes Powell and Mead, the experts said. “Accessible storage” is the amount of water above 3,500 feet in elevation at Lake Powell and 1,000 feet at Lake Mead. Those water levels are critical to make sure the dams can operate reliably and safely, according to Reclamation.

“If we continue business as usual, we will deplete nearly half that amount,” the experts’ report said. They calculated basinwide overuse would be about 3.6 million acre-feet over the next 12 months if the river’s flows and water demands are the same as this year.

The results are grim, the experts said in the report.

“How close to the edge of the cliff are we?” they asked.

In this scenario, the basin won’t have very much flexibility in how it manages its water supply once new reservoir management rules go into effect in August 2026.

These rules, which will replace the current system established in 2007, are still being negotiated among states, tribes and the federal government. Who cuts back on water in dry years, and by how much, is one of the fundamental sticking points in the negotiations among the seven basin states.

Some water cuts are already happening. Under the current rules, Reclamation will cut the amount of water going to Arizona and Nevada by 533,000 acre-feet. It will also cut the water delivery to Mexico by 80,000 acre-feet. That's the same reduction as in 2025.

One acre-foot of water, about 325,850 gallons, roughly equals the annual water use of two to three households.

On top of that, the federal bureau estimated that the Lower Basin will conserve an additional 800,000 acre-feet in 2026. Mexico will conserve an additional 67,000 acre-feet.

The experts are calling for more. The challenge, in part, is nature. There are more years, more frequently, with less water in the basin, but officials need to plan for that, the experts said.

"The entire basin is in agreement that we must balance our water use with the natural supply," the report said. "Despite laudable efforts, we are currently not doing so."

Original Article: The Colorado Sun by Shannon Mullane

'No One Comes Out of This Unscathed': Experts Warn That Colorado River Use Needs Cutting Immediately

Consumption of Colorado River water is outpacing nature's ability to replenish it, with the basin's reservoirs on the verge of being depleted to the point of exhaustion without urgent federal action to cut use, according to a new analysis from leading experts of the river.

The analysis, published Thursday, found that if the river's water continues to be used at the same rate and the Southwest sees another winter as dry as the last one, Lakes Mead and Powell—the nation's two largest reservoirs—would collectively hold 9 percent of the water they can store by the end of next summer. After enduring decades of overconsumption of the river's water, the lakes would have just under 4 million acre feet of water in storage for emergencies and drier years when demand can't be met. Every year, roughly 13 million acre feet is taken from the river for drinking water and human development across the region, with conservative forecasts estimating roughly 9.3 million acre feet of inflow next year.

The report is stark in its assessment of the situation: Current Colorado River levels require "immediate and substantial reductions in consumptive use across the Basin" or Lake Powell by 2027 would have no storage left and "would have to be operated as a 'run of river" facility" in which only the inflow from the river could be released downstream.

"The River recognizes no human laws or governance structures and follows only physical ones," the report's authors wrote. "There is a declining amount of water available in the Colorado River system, primarily caused by the effects of a warming climate—longer

growing seasons, drier soils, and less efficient conversion of the winter snowpack into stream flow. Although American society has developed infrastructure to store the spring snowmelt and make that water available in other seasons to more completely utilize the variable runoff, the Colorado River watershed produces only a finite volume of water, regardless of how many dams exist."

The lifeblood of the American Southwest, the Colorado River's water flows from Wyoming to Mexico, enabling the region's population and economies to develop. The damming of the river has diverted water to booming metropolises like Los Angeles and Phoenix while also supporting the U.S.'s most productive agricultural areas and powering some of the its largest hydroelectric dams. In total, the river supplies seven states, 30 tribes and 40 million people with water.

The compact that divvied up the river's water a century ago overestimated how much actually flowed through it, and climate change has diminished the supply even further. The melting snowpack that runs off mountains in the spring to feed the river has declined, shrinking the river and its storage reservoirs during decades of drought. The seven states that take Colorado River water are divided into two factions engaged in tense conversations about its future and how cutbacks should be distributed. Current guidelines for managing the river in times of drought are set to expire at the end of next year, and new ones are legally required to take their place, but negotiations between states, tribes and other stakeholders over the sharing of the necessary cuts in water usage are at an impasse.

But if current conditions persist, further cutbacks on the river won't be able to wait until those negotiations are finished, the report's authors find, and they urged the Department of the Interior "to take immediate action."

"Let's hope that we are all wrong and that it snows like hell all winter and runoff is wonderful and we buy ourselves some time and additional buffer," said Kathryn Sorensen, director of research for Arizona State University's Kyl Center for Water Policy and one of the report's co-authors. "But of course, it never makes sense to plan as if it's going to snow, and we have to deal with what is a realistic but not worst-case scenario and take responsible actions."

Adding to the issue is the status of the infrastructure that enables the river to be diverted and stored for use. For example, the researchers write, it was thought that anything above what's known as "dead pool"—a water level below the reservoirs' lowest outlets that can pass water through the dams—was "active storage." But testing last year from the Bureau of Reclamation, the federal agency overseeing the river and its dams, found that those outlets can only be safely used at water levels higher than previously thought and cannot be used for long durations.

Original Article: Inside Climate News by Wyatt Myskow

How serious is Arizona's drought? San Carlos Reservoir is nearly dry

Water for the San Carlos Irrigation and Drainage District is expected to run out this month, a stark marker of how drought continues to grip Arizona. The dry-up could leave farmers in central Arizona increasingly reliant on wells and put their crops at risk heading into next year.

As of Sept. 10, the San Carlos Reservoir held just 8,627 acre-feet of irrigation water, according to Brandi Ogle, business manager for the reservoir. By comparison, storage reached about 500,000 acre-feet in 2023. The reservoir can hold about 900,000 acre-feet.

The district, which stretches between Florence and Casa Grande, depends on the Gila River. Water is stored behind Coolidge Dam near Globe in the San Carlos Reservoir, serving both the Gila River Indian Community and non-tribal farmers.

“The reservoir is extremely low,” Ogle said. “The farmers need that water to finish out crops for this season. Unfortunately, if we don’t get decent weather in the right locations where it’s filling that reservoir back up, it will potentially go dry.”

Farmers already received a sharply reduced allotment of 0.68 acre-feet per acre in January 2025.

Ogle said predicting an exact timeline for the water to run out is difficult as withdrawal requests vary day-by-day. She hopes it will last through the end of September.

But the district’s cotton, alfalfa and grain farmers will soon be left solely with groundwater, or nothing at all.

“There’s a lot of farmland that doesn’t have access to well groundwater,” Ogle said. “Until we have surface water back, there will be several locations where growers are not able to plant a crop.”

Widespread drought: Colorado River can't keep up with demand, a new study says, and needs immediate help

Low levels signal a wide drought

The crisis at San Carlos reflects a broader picture. A weak winter snowpack and a sporadic monsoon, paired with a 30-year drought, has severely depleted Arizona water supplies.

For Pinal County, the loss compounds earlier cuts. Farmers here lost their allocation of Colorado River water in 2021 when the first-ever shortage was declared on the river. A recent study has shown that the current drought and increased demand on the Colorado have pushed the system to the brink of collapse, with less water in its reservoirs.

Original Article: Oak Ridger by Hayleigh Evans

Study looks at ‘realistically available’ water in Lake Mead, Lake Powell a year from now

“Immediate and substantial reductions” in Colorado River water use could be needed much sooner than anyone predicted, according to a study published last week.
The problem: People are using more water than the amount that has been coming down the river, and it could reach a tipping point by the end of next summer. That’s the conclusion of a study involving research and collaboration among four universities — the University of New Mexico, Utah State University, Arizona State University, and the University of Colorado.
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That means hard choices are ahead unless a very wet winter rescues 40 million water users along the river.
A repeat of conditions this year — near-average snowpack (91% of normal), but streamflow levels projected at 52% of average — could put new pressure on the river.
“If next year is a repeat of this year and uses of water remain the same, we estimate that consumptive use will exceed the natural flow in the Colorado River Basin by at least 3.6 million acre feet,” the study said. An acre foot is the amount of water needed to cover an acre of land in water a foot deep — 325,851 gallons.
That 3.6 million acre feet, the study said, equates to about half of the realistically available water stored in the nation’s two largest reservoirs, Lake Mead and Lake Powell.
“Lake Mead and Lake Powell would absorb the bulk of that imbalance, causing drawdown of a great deal of the storage remaining in those reservoirs,” the report said.
That’s a big concern for states in the Lower Colorado River Basin — Nevada, Arizona and California.
“The clear assumption in this report is that all states have to do more to cut use,” Kyle Roerink, executive director of the conservation-minded Great Basin Water Network, said.
“But right now, the only certainty we have comes from the Lower Basin States. Unfortunately, the Upper Basin states have no steadfast, reliable plans that we can point to for cutting use when reservoir levels get to low levels. Without curtailment plans across the region, we will be living much too dangerously. True conservation requires conservative thinking from water managers basinwide. Are Utah, Colorado, New Mexico, and Wyoming up to the task? Time will tell,” Roerink said.
The study aimed to show the current situation with the Colorado River. It’s an important snapshot of real conditions as the Colorado Basin states formulate a new agreement on how to manage the river. The current agreements expire at the end of 2026.
Original Article: Yahoo News/ KLAS by Greg Haas

Barton Springs aquifer declares 'exceptional drought' for second time in history. What it means for Austin area

The aquifer that feeds Barton Springs and provides water to about 100,000 South Austin residents is looking a little dry.

The Barton Springs-Edwards Aquifer Conservation District declared an "Exceptional Drought" — the third level of severity on a four-level scale — on Thursday, which will go into effect effective Oct. 1. Starting that date, groundwater pumping at the aquifer will be reduced by 30 to 100% affecting individual well owners, water utility companies, and cities such as Buda and Kyle.

“Every gallon saved helps preserve our shared water supply, as well as the iconic springs, creeks, and rivers of the area,” said Shay Hlavaty, communications and outreach manager for the district. “We all have a role to play in protecting this precious resource as we face one of the region’s most intense droughts in recorded history.”

The Barton Springs-Edwards Aquifer Conservation District drought classification chart.
Courtesy of The Barton Springs-Edwards Aquifer Conservation District

A historic three-year drought

The aquifer has now been in a drought for 39 continuous months, according to the district, but this is only the second time in its 38-year history that it has declared an "exceptional" drought. The first was back in December 2023.

Officials declared the drought after a sharp drop at the Lovelady monitor well in South Austin, near South First Street and Stassney Lane. As of Sept. 11, the well’s 10-day average stood at 457 feet above mean sea level, below the "exceptional" level trigger and more than 30 feet under the long-term average of 490.9 feet recorded since 1949. The Lovelady well is one of two key drought gauges, along with Barton Springs, and similar declines are showing up in Edwards and Trinity aquifer wells across the district.

A graph showing Lovelady monitor well levels as of Sept. 12, 2025.
Courtesy of The Barton Springs-Edwards Aquifer Conservation District

From March through September, the area typically gets about 22.2 inches of rain, the district said. This year it saw just 17.1, about five inches below normal. Since January 2022, the region has fallen behind by about 31.2 inches in cumulative rainfall. Officials say closing that gap and letting aquifers recover will take sustained, widespread soaking rains.

Original Article: Austin American Statesman by Dante Motley

How to Take an Intelligence-Driven Approach to Managing Water Operations

The U.S. loses 6 billion gallons of treated water every single day. That’s 2.1 trillion gallons a year — enough to fill more than 9,000 Olympic-sized swimming pools — lost primarily to leaky pipes and aging infrastructure. Traditional methods of managing water loss can no longer keep pace with today’s growing operational complexities.

This article explores how utilities can take an intelligence-driven approach to managing water operations using real-time data, advanced analytics and unified data ecosystems to minimize water loss, extend asset life and improve service reliability.

A Growing Challenge and a Greater Need for Insight

Water utilities sit at the crossroads of aging infrastructure, increasing demand and intensifying climate pressures. Many of the pipes running beneath our cities were installed decades ago — some more than a century — and are well beyond their intended life. According to the America Society of Civil Engineers' 2025 Infrastructure Report Card, in the U.S. and Canada alone, it is estimated that more than 450,000 miles of water mains have exceeded their expected lifespan, contributing to frequent leaks, pressure inconsistencies and pipe failures. The same report shows that utilities contend with roughly 240,000 water main breaks per year, resulting in approximately $2.6 billion in repair and maintenance costs.

One of the biggest challenges that utilities face is data fragmentation. Over the years, utilities have adopted a mix of legacy systems, proprietary technologies and newer digital solutions — each producing valuable data but usually unable to communicate with one another. This lack of interoperability results in siloed information, forcing operators to make critical decisions with only a partial view of their network.

For example, a utility might know that pressure fluctuations are causing frequent bursts in one zone, but without data from asset management systems, they can't determine whether aging pipes or pump settings are to blame. Similarly, customer operations teams can't correlate data from field complaints about low pressure or high bills to usage patterns or sensor alerts, leaving them guessing at root causes.

This disconnection makes it harder to gain visibility into system performance, detect and prevent issues early or respond quickly when problems arise. Without a complete view of their network, utilities often operate reactively, addressing problems after damage is done rather than preventing them altogether.

Original Article: Water FM by Ronald Kirjner

Nevada would lose millions under Trump's proposed budget cuts to EPA, EDF report says

Nevada would lose millions of dollars in funding for water infrastructure and clean air programs under President Donald Trump's proposal to cut the Environmental Protection Agency's budget by more than half.

Trump and his administration plan to cut the EPA's budget next year by $4.9 billion, a nearly 55% decrease that would reduce the agency's budget to levels not seen since the Reagan administration. About half that amount would be stripped from state revolving loan programs that fund drinking water and wastewater projects.

In Nevada the proposed cuts could result in the loss of more than $16 million for state revolving loan programs, according to a report from EDF Action, the advocacy arm of the Environmental Defense Fund.

Nevada's Drinking Water State Revolving Fund, which provides low-interest loans and financial assistance to public water projects, would be all but erased, seeing funding reductions of more than 86%, according to the EDF Action analysis.

Nevada's Clean Water State Revolving Fund, which funds upgrades to wastewater infrastructure, would similarly be devastated by cuts of more than 90% under the Trump administration proposal.

Last year, the Nevada Division of Environmental Protection allocated more than $55 million in state drinking water and clean water revolving funds to 19 communities for infrastructure projects.

Nevada also saw a surge in demand last year and was set to finalize another $266 million in state drinking water and clean water revolving loan agreements in 2025, according to the agency.

Large water infrastructure projects in Nevada are heavily reliant on federal funding to ensure safe drinking water. The Truckee Meadows Water Authority in Washoe County, for example, was awarded $125 million in state drinking water and clean water revolving funds to build a water purifying facility that would increase water quality and provide a clean water source even in years of severe drought.

The Trump administration said cuts to the state revolving loan programs were made to return the responsibility of water infrastructure funding to states.

But projects like Reno's water purifying facility would not be possible without significant federal funding, said former Administrator for EPA's Region 9, Martha Guzman Aceves, who helped launch the project.

"These infrastructure projects are so incredibly expensive that states – especially states that have a smaller population, like Nevada – don't have the economies of scale to do these projects without the federal government," Guzman Aceves said.

Without federal funding water utilities would likely be forced to raise rates to cover vital water infrastructure, said Guzman Aceves.

"Responsible governments in Nevada, the municipalities and the water districts, they're going to make sure that the citizens of Nevada have safe water, but it's going to come at a much bigger cost. These costs are going to have to be recovered from the rate base" charged to homes and businesses, she continued.

Smaller water utilities that serve rural communities are especially reliant on state revolving loan programs to finance water projects because they can't afford costly treatment systems or upgrades without significantly raising rates to unaffordable levels.

Original Article: This is Reno/ Nevada Current by Jeniffer Solis

GLOBAL WATER NEWS

Beneath the surface: Water stress in data centers

To address growing AI demand, many companies are building or leasing data centers around the globe. DCs that use water-based cooling consume significant amounts of water, and in this research, we have analyzed DC exposure to water stress globally. We examined the current decade and the 2050s decade under both moderate and moderate-to-high emissions scenarios, using projections from the S&P Global Sustainable1 Physical Risk dataset. We found that exposure is already high in some regions, and we expect the industry's exposure to water stress will slightly increase by the 2050s. We also comment on the business implications of water risks for DC operators and owners (lessors), as well as approaches DCs are taking to mitigate water stress exposure.

Water stress, consumption, and risk defined

Water stress measures the ratio of total water demand to available renewable surface and groundwater supplies. Water demand includes domestic, industrial, irrigation and livestock uses. Available renewable water supplies include the impact of upstream water consumption and large dams on downstream water availability. Higher values indicate greater competition among users.

The water stress metric is reported using a 1-100 range, and it describes the state of water availability (calculated based on a decadal average) for the local water basin. We define high water stress as a value of 40 or higher, consistent with our previous published research (see Related Research), and the Aqueduct Water Risk Atlas and World Resources Institute (WRI).

Water consumption refers to the amount of water withdrawn from either surface or groundwater sources that is not returned to those sources. Evaporative cooling is the primary form of water consumption for existing DCs.

Water risk refers to potential negative financial or stakeholder impacts from DC's water consumption. It encompasses the DCs' exposure to water stress as well as its water usage effectiveness (WUE). For the purposes of this report, regulations include laws, policies, agreements, and guidelines around water supply and consumption.

The S&P Global Sustainable1 Physical Risk dataset uses the locations of 9,055 DCs (asset location available via S&P 451 Data Center Knowledge Base [DCKB]) and their water stress exposure in the 2020s and 2050s. We use exposure data from two climate scenarios from the Intergovernmental Panel on Climate Change (IPCC) Shared Socioeconomic Pathways (SSPs) — SSP2-4.5 and SSP3-7.0.

DC exposure to water stress is already high in many regions

Our analysis, based on S&P Global Sustainable1 Physical Risk and S&P 451 DCKB datasets, shows that 43% of DCs globally are operating in areas of high water stress in the current decade. The exposure varies greatly by country. As shown in the interactive map (chart 1), we project all DCs in Middle Eastern countries, along with some countries in Europe (Belgium, Greece and Spain) and certain Latin American countries (Chile, Peru and Mexico) are in areas with high water stress in the 2020s. Areas of high water stress are characterized by high competition for water resources but low availability. In our database, we quantify the state of water stress using a scale of 1 to 100 . We define high water stress areas as those with a value of 40 or higher, consistent with our previously published research.

The DCs in the aforementioned countries have an average water stress index between 80 and 100 in the 2020s, significantly exceeding the threshold for high water stress used in this research. Meanwhile, the US and China, global leaders in DC operational capacity, exhibit divergent levels of water stress exposure. Specifically, approximately 60% of China's assets are exposed to high water stress in the 2020s, with an average water stress index of 59, while the US has 38% of its assets exposed, with an average water stress index of 43 in the 2020s.

Some regions with substantial DC growth prospects are already experiencing high water stress. In India and Australia, for example, 60% to 80% of their operating DCs are projected to face high water stress this decade. The average DC water stress index for such countries is 62 and 66, respectively. Despite having installed capacity similar to Italy (up to 500 MW, according to S&P Global's 451 Research), Brazilian assets have lower exposure to water stress, with only 8% of DCs in the country in areas of high water stress or an average DC water stress index of 26 in the 2020s. That is because most of Brazil's DCs are in areas with low water competition and reasonable availability. We note that country-level data often obscures significant in-country variations in matching DC location and water availability, which could be important as water supplies are largely local.

DCs' water stress exposure is currently not a material credit risk. However, it could be compounded by stakeholder pushback and an eventual loss of license to build or operate, thus impairing the industry's long-term growth. We consider water stress to be an emerging long-term business consideration, especially as attention to water use in water-stressed regions increases under evolving water management policies. For example, in the US, DCs that use more than 200,000 gallons (757 cubic meters) of water per day may be subject to large water user policies. These policies require facilities to have water conservation plans, among other requirements, and impose extra charges if they fail to comply. Adopting water management best practices that consider other stakeholders' dependence on the same water basin may yield both operational and financial efficiencies in the interim. This approach can also help avoid permitting process

disruptions, as seen with Google in Santiago, Chile (and according to a 451 Research report on Chile's leased DC market).

DC industry exposure to high water stress to remain similar from the 2020s to the 2050s
By the 2050s, about 45% of DCs in our sample are projected to have high exposure to water stress, up from 43% in the 2020s. To conduct this analysis, we layered the location of 9,055 DCs over projections for water stress in these locations, based on S&P Global Sustainable1 Physical Risk dataset. We used a slow transition scenario (SSP3-7.0).
As shown in chart 3, out of the 9,055 DCs analyzed, we estimate that 285, or 2%, will experience a decrease in ecosystem capacity to restore water availability at the same rate as increasing consumption trends, moving from areas classified as low water stress in the 2020s to high water stress in the 2050s. Water stress may decrease in some regions due to changing precipitation patterns, which is the case for a minimal share (less than 1%) of DCs in the sample.
Water stress exposure is location dependent
Adaptation and resilience measures can be incorporated into DC designs for areas in which operators cannot avoid water stress. Adaptation and resilience measures include sourcing water from lower-impact supplies such as recycled water or treated wastewater, which can shift demand away from potable water. For example, Google built a DC adjacent to a wastewater treatment plant in Douglas County, Georgia, in the US, which uses treated wastewater for cooling. Meta did the same in Gallatin, Tennessee, in the US, using 100% reclaimed wastewater through investment in the city's wastewater treatment capacity. That said, in the US, alternative water sources contribute less than 5% of water used by the industry according to the 2024 United States Data Center Energy Usage Report, Lawrence Berkeley National Laboratory (US Department of Energy). Seawater can also be used instead of freshwater, as in Google's DC in Hamina, Finland — although special materials need to be introduced given seawater's corrosive properties. Additionally, DC design increasingly focuses on controlling water consumption and treating cooling water. These controls include monitoring systems, back-up water supplies and recycling processes, all to ensure operations can withstand fluctuations in water availability.
Existing DCs have various options to adapt and build resilience to high water stress. Retrofitting a DC with entirely new cooling systems can be cost prohibitive and operationally disruptive. Operators can introduce alternative water supplies such as municipal greywater, adopt recycled water loops, run DCs at higher ambient temperatures to reduce cooling demand or leverage optimization software to decrease water use.

AI-driven optimization can improve the effectiveness of water usage

For new and existing facilities, AI-driven optimization and real-time analytics offer means to reduce water usage. Methods include systems that dynamically adjust cooling system parameters based on temperature, humidity and server load, thus minimizing unnecessary water and energy usage. Systems simulate operating conditions at various loads, enabling predictive maintenance and more efficient use of cooling resources. These technologies enhance responsiveness and reduce the risk of overheating or overcooling.

Independent of AI optimization, strategic site selection is crucial for avoiding exposure to water stress. Siting allows operators to leverage existing infrastructure, such as water and wastewater treatment plants or solar power plants, and natural resources, such as lakes or cooler climates, to meet their cooling and energy needs. That said, water is typically not the primary consideration for operators when building new DCs. Instead, land and power availability, connectivity and latency are the main priorities. Location decisions may also benefit from considering the type of renewable energy sources available locally, which can help reduce overall water demand.

There is limited information on the costs of installing or converting cooling technologies. However, some water municipalities in water-stressed regions such as southern Nevada in the US are offering rebates on the replacement or upgrade of existing evaporative cooling systems. These rebates are credits or discounts on the water bill based on the expenditure for conversion or upgrade and can reach up to $1,500 per ton of conversion of a water-cooled system to an air-cooled system.

Original Article: S&P Global by Victor Laudisio | Global Nature Specialist, Sustainability Research & Methodology, S&P Global Ratings Henrik Cotran | Sustainable Finance Associate Director, S&P Global Ratings Natalie Wu | Sustainable Finance Analyst, S&P Global Ratings Francesca Pisaroni | Sustainable Finance Analyst, S&P Global Ratings

In Australia, a data center boom is built on vague water plans

Authorities in Sydney have approved the construction of data centers without requiring measurable plans to cut water use, raising concerns the sector's rapid growth will leave residents competing for the resource.

The New South Wales state government, which presides over Australia's biggest city, green-lit all 10 data center applications it has ruled on since expanding its planning powers in 2021, from owners such as Microsoft, Amazon and Blackstone's AirTrunk, documents reviewed for this story show.

The centers would bring in a total 6.6 billion Australian dollars ($4.35 billion) of construction spending, but would ultimately use up to 9.6 gigaliters of clean water a year, or nearly 2% of Sydney's maximum supply, the documents show.

Fewer than half of the approved applications gave projections of how much water they would save using alternative sources. State planning law says data center developers must "demonstrate how the development minimises ... consumption of energy, water ... and material resources" but does not require projections on water usage or savings. Developers need to disclose what alternative water supply they will use but not how much.

The findings show authorities are approving projects with major expected impact on public water demand based on developers' general and non-measurable assurances as they seek a slice of the $200 billion global data center boom.

The state planning department confirmed the 10 approved data centers collectively projected annual water consumption of 9.6 gigaliters but noted five of those outlined how they expect to cut demand over time. The department did not identify the projects or comment on whether their water reduction plans were measurable.

"In all cases, Sydney Water provided advice to the Department that it was capable of supplying the data center with the required water," a department spokesperson said in an email.

Data centers could account for up to a quarter of Sydney's available water by 2035, or 135 gigaliters, according to Sydney Water projections. Those projections assume centers achieve goals of using less water to cool the servers, but did not specify what those targets were.

Sydney's drinking water is limited to one dam and a desalination plant, making supply increasingly tight as the population and temperatures rise. In 2019, its 5.3 million residents were banned from watering gardens or washing cars with a hose as drought and bushfires ravaged the country.

"There is already a shortfall between supply and demand," said Ian Wright, a former scientist for Sydney Water who is now an associate professor of environmental science at Western Sydney University.

As more data centers are built, "their growing thirst in drought times will be very problematic," he added.

The number of data centers, which store computing infrastructure, is growing exponentially as the world increasingly uses artificial intelligence and cloud computing. But their vast water needs for cooling have prompted the U.S., Europe and others to introduce new rules on water usage.

New South Wales enforces no water usage rules for data centers other than the government being "satisfied that the development contains measures designed to minimise the consumption of potable water," according to the documents.

Original Article: The Japan Times by Byron Kaye

Veolia consortium wins Saudi Arabia industrial water project contract

A consortium headed by Veolia has secured a contract from SATORP, a joint venture between Saudi Aramco and TotalEnergies Refining and Petrochemical Company, to implement a major project for recycling water from complex industrial effluents in Jubail Industrial City, in Saudi Arabia.

Also part of the consortium are Marafiq and Lamar.

The project includes a 500 million dollar water from complex industrial effluents plant whose construction has been entrusted to Veolia and Orascom for the civil works and an operation and maintenance (O&M) contract with a duration of 30 years that is set to begin in 2028.

With an annual capacity of nearly 8.8 million cubic meters, the water reuse plant will be the biggest in the Middle East.

Beyond serving SATORP, it will have the potential to provide advanced treatment solutions for future industrial players across the region, establishing a regional hub for complex.

Original Article: Borsa Italina

The Investment Potential of Water Utilities in a Climate-Driven Era

The global water crisis is no longer a distant threat but a present reality. Climate change, population growth, and industrial expansion are straining water systems to breaking points, creating a perfect storm of demand and vulnerability. In this context, water utilities are emerging not just as essential service providers but as strategic assets with unparalleled resilience and long-term value. As companies like prepare to outline their visions at conferences such as Janney's 5th Annual Virtual Water Utilities Conference, the sector's investment potential is becoming impossible to ignore.

Strategic Positioning: A Sector Built for the Future

Water utilities occupy a unique niche in the investment landscape. Unlike cyclical industries, their demand is inelastic—communities will always need clean water and reliable sanitation. What has changed, however, is the scale and urgency of the challenges they face. According to a report by the World Economic Forum, the global water crisis could cost $2.7 trillion in GDP by 2030 if left unaddressedInvesting in water resilience is crucial – and a major opportunity, [https://www.weforum.org/stories/2024/12/investing-in-water-resilience-untapped-opportunity/][3]. This creates a compelling case for infrastructure investment, particularly in regions where aging systems and climate risks intersect.

Ask Aime: What's the outlook for water utilities as demand for clean water grows and infrastructure faces climate-driven challenges?

Japan's approach offers a blueprint. The country is overhauling its water infrastructure through initiatives like the Water Supply Performance Report and Environmental Five-

Year Plan, prioritizing decarbonization and seismic resilienceJapan's water infrastructure is being renewed. Here's how, [https://www.weforum.org/stories/2025/07/japan-water-infrastructure-resilience-and-sustainability/][2]. These efforts highlight how forward-thinking utilities can align with national priorities to secure funding and regulatory support. For investors, this signals a sector where strategic alignment with climate goals and public policy can drive both financial returns and societal impact.

Operational Resilience: Innovation and Collaboration as Cornerstones

Operational resilience is the second pillar of water utilities' investment appeal. Climate-driven disruptions—droughts, floods, and contamination risks—demand adaptive infrastructure and governance. Cross-sector partnerships, digital technologies, and nature-based solutions are now table stakes. The World Economic Forum's Water Futures community emphasizes that multi-stakeholder collaboration is critical to addressing challenges across industries, from agriculture to real estateWater Futures: Mobilizing Multi-Stakeholder Action for Resilience, [https://www.weforum.org/publications/water-futures-mobilizing-multi-stakeholder-action-for-resilience/][1].

Consider the role of data-driven policy frameworks. Governments that modernize regulations and incentivize innovation create fertile ground for utility growth. In Japan, public-private partnerships are accelerating seismic retrofitting and digital water management systemsJapan's water infrastructure is being renewed. Here's how, [https://www.weforum.org/stories/2025/07/japan-water-infrastructure-resilience-and-sustainability/][2]. These models demonstrate how utilities can leverage regulatory support to reduce capital costs and enhance operational efficiency. For companies like Middlesex, such strategies likely form the backbone of their presentations, underscoring how resilience is no longer optional but a competitive imperative.

The Investment Case: Aligning with Global Priorities

The numbers tell a compelling story. The World Bank estimates that coordinated nature-based solutions could boost global GDP by $150 billion annually by 2030Investing in water resilience is crucial – and a major opportunity, [https://www.weforum.org/stories/2024/12/investing-in-water-resilience-untapped-opportunity/][3]. Water utilities, as enablers of these solutions, stand to benefit from a surge in public and private capital. By 2025, the sector's infrastructure needs are expected to outpace traditional funding sources, creating opportunities for innovative financing mechanisms, such as green bonds and impact investingInvesting in water resilience is crucial – and a major opportunity, [https://www.weforum.org/stories/2024/12/investing-in-water-resilience-untapped-opportunity/][3].

Middlesex Water Company's participation in Janney's conference is emblematic of this shift. While specifics of its strategy remain under wraps, the broader industry trends suggest a focus on three areas: upgrading aging infrastructure, integrating digital tools for predictive maintenance, and forming alliances with regulators and environmental groups. These moves align with the sector's transition from cost centers to value creators.

Conclusion: A Sector Poised for Long-Term Growth

Water utilities are no longer overlooked cornerstones of the economy; they are now central to the climate-resilience agenda. Their strategic positioning—anchored by inelastic demand, regulatory tailwinds, and infrastructure urgency—makes them a compelling long-term investment. As Middlesex and peers articulate their visions, investors must recognize that the true value lies not just in today's operations but in tomorrow's capacity to adapt, innovate, and thrive in a world reshaped by climate realities.

Original Article: AInvest by Eli Grant

A $3 Billion Plan to Bring Water to Johannesburg Hits Snag

A long-delayed 53 billion rand ($3.1 billion) project that South Africa’s commercial hub is banking on to end a growing water crisis has hit fresh opposition.

Communities comprising 1,600 people have filed a formal complaint to the African Development Bank and demanded that the Lesotho Highlands Water Project II be temporarily halted. Among other issues, they say they’ve been displaced by the development and denied adequate compensation.

The AfDB, together with the New Development Bank and South African government, is financing the project, which will boost the supply of water from mountainous Lesotho to Johannesburg and its surrounds in neighboring South Africa. The AfDB lent $87 million to the Trans-Caledon Tunnel Authority, a South African state company that is responsible for raising funding for the project, which includes construction of a dam, a tunnel and other infrastructure. Construction is being undertaken by the Lesotho Highlands Development Agency.

“The physical destruction of homes, land, and health cannot be undone,” the communities said in a 32-page complaint backed by the San Francisco-based Accountability Counsel, a nonprofit that supports groups harmed by international finance. “We therefore request that a temporary suspension be imposed on the project.”

The AfDB, which is based in Abidjan, Ivory Coast, acknowledged receipt of questions but didn’t respond.

Gerard Mokone, an official at the LHDA, declined to comment.

"We cannot see any possible way for TCTA to halt the project as the project instruments do not provide for that," the company said in a response to queries, adding that it wasn't aware of the complaint made to the AfDB.

The Accountability Counsel has previously pursued cases from Mongolia to Nepal and Papua New Guinea. In Liberia, it successfully lobbied for an investigation into a $200 million US Overseas Private Investment Corp. finance deal for a biomass project. That led to a change in US legislation to make the organization accountable for harm caused by its investment decision.

Delays to the Lesotho project, originally due to be completed in 2019 and now set for completion in 2030, are exacerbating water outages in an area that includes Johannesburg and accounts for 60% of South Africa's economic output. Development costs have meanwhile ballooned, fueling political criticism.

Original Article: Yahoo News / Bloomberg by Antony Sguazzin

Tapping Into Opportunity: Why Africa's $30 Billion Water Crisis Demands Strategic Investments

Africa's population is growing at an unprecedented pace and is projected to reach 2.5 billion by 2050. Yet, much of the continent still lacks the water infrastructure needed to meet the demands of this rapid growth.

The scarcity of clean water—one of the most basic human rights—and access to it remains a growing challenge for Africa.

A $30 billion annual water investment gap, combined with rapid urbanization across sub-Saharan Africa (SSA), highlights the region's urgent need to address the lack of or even overhaul of its underperforming water infrastructure.

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"Africa faces two big challenges: water demand is rising fast, while many systems are ageing and poorly-maintained. In some countries, up to half of the water is lost before it even reaches consumers," says Tomás Frade, Head of Water & Food Security at Mitrelli, a Swiss-based organization, to FORBES AFRICA.

This call was echoed at the inaugural AU-AIP Water Investment Summit in Cape Town in August that saw the launch of the Global Outlook Council on Water Investments as a flagship G20 Presidential Legacy Initiative under South Africa's G20 Presidency.

At the launch, South African President Cyril Ramaphosa declared: "Water investment must no longer be an afterthought at climate and finance discussions… It must be financed, tracked, and championed."

The President's plea comes at a time when basic utilities and reliable water facilities still remain scarce and inaccessible across the region.

According to a UNICEF-World Health Organization (WHO) report, around 387 million people in SSA lacked basic drinking water services in 2020—an increase of 37 million rise

since 2000. Meanwhile, approximately 74% of the population had either limited or no access to basic hygiene services, showing an absymal 1% improvement over the last decade.

As Africa's population booms—projected by the OECD to grow by nearly a billion people by 2050—water demand is expected to rise in parallel.

"The solution is not just to build more infrastructure but to build it better-designed for long-term use, with proper maintenance, monitoring, and efficient management," Frade adds.

Establishing a vast network of efficient urban and rural water facilities is now a necessity, otherwise demand risks outgrowing capacity. The OECD report reveals that 80% of the region's growth will occur in Africa's urban cities.

Failing to act now risks allowing demand to outpace supply, creating humanitarian, economic, and environmental consequences. In many parts of the continent, water infrastructure is already in crisis.

A 2022 report by Nigeria's Federal Ministry of Water Resources revealed that much of its national water infrastructure is over 50 years old, with leakage rates nearing 60%—a dangerous reality in Africa's most populous nation, home to over 230 million people.

Meanwhile, Ethiopia, SSA's second-most populous country, has one of the region's widest accessibility divides. While 75% of urban residents have access to piped water, a staggering 95% of the rural population lacks such access, according to World Economic Forum data.

Yet, there is momentum for change.

Angola's 2025 Vision strategy aims to provide universal urban water access by the end of this year. Only 34% of the country's rural areas reportedly currently have access to clean drinking water. Leading this effort is PROÁGUA, Angola's national infrastructure program developed in collaboration with Swiss-based Mitrelli.

"Our focus is on rehabilitating and expanding networks, reducing losses, improving water quality, and building local skills. Importantly, investing in water infrastructure in rural and remote areas also reduces the pressure on cities, easing migration and helping balanced development," Frade explains.

He also emphasizes the untapped potential of wastewater treatment and reuse, particularly for agriculture. "By treating wastewater properly and reusing it for agriculture, competition between farming and drinking water can be reduced," he adds.

A similar mission is unfolding in Côte d'Ivoire, where Deutsche Bank is supporting the 'Eau pour Tous' (Water for All) program, inaugurated in 2017.

"We believe that infrastructure development in Africa, particularly improving access to clean water, is a cornerstone of sustainable growth… This initiative [Water for All] aims to enhance the availability of potable water in rural communities, thereby significantly improving the overall health of the population in these areas," says Ndeye Rivet,

Deutsche Bank's Vice President of Structured Trade & Export Finance in the Middle East and Africa, to FORBES AFRICA.

The financial backing is expected to aid the construction of 95 hydraulic systems, connecting more rural communities with clean water and boosting the West African nation's chances of delivering on its promise to provide safe drinking water to 97% of the population by the end of the year.

"This project exemplifies how effective collaboration between governments, banks, and export credit agencies can mobilize long-term financing solutions that deliver lasting benefits to the population," Rivet concludes.

Original Article: Forbes Africa by Freddie Hiney

Heatwaves and Droughts: Europe Braces for €126 Billion Losses after Summer 2025

Extreme weather events that swept across Europe in the summer of 2025 are projected to cost the European Union €43 billion in macroeconomic losses in 2025 and up to €126 billion by 2029, according to a study released on 15 September by the University of Mannheim in Germany.

The research, conducted with two economists from the European Central Bank, finds that heatwaves, droughts and floods this summer could reduce the EU's gross value added—the economic measure akin to gross domestic product—by 0.26 percent this year and by 0.78 percent within four years. The rising temperatures and resulting disasters have already cost France more than €10 billion this summer, underscoring a wider challenge for Europe's travel-dependent economies.

The study notes that the economic impact does not stop when the events end; rather, it intensifies in subsequent years. Researchers warn that repeated heatwaves, prolonged droughts and sudden flooding can erode infrastructure, suppress consumer spending and deter travel in affected regions.

Best vacation packages

"This would be a significant economic loss," said **Sehrish Usman**, a researcher at the University of Mannheim and lead author of the study, cautioning that the cumulative losses could reach €126 billion by 2029. The analysis concludes that the long-term burden will grow as climate change increases the frequency and severity of extreme events.

Impacts on Tourism and Travel

The summer of 2025 brought back-to-back heatwaves across southern and western Europe, with record-breaking temperatures prompting health alerts and disrupting travel schedules. Drought conditions strained water supplies in regions dependent on river cruises and hampered transport on major waterways.

Travel guide

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Flash floods and severe storms forced the closure of roads, rail lines and airports, leading to cancellations and delays at the height of the holiday season. These disruptions contributed to lower visitor numbers and higher operational costs for travel providers, adding to the estimated €43 billion in losses for 2025.

France, one of Europe's most visited countries, experienced heatwaves that researchers estimate cost more than €10 billion. Tourism operators reported fewer bookings in regions struck by drought, while coastal destinations contended with extreme heat that kept travellers indoors during peak hours. In addition to lost revenue, the hospitality sector incurred higher expenses for cooling, water management and repairs to weather-damaged facilities. These costs are not captured by insurance claims, meaning the actual economic toll is likely to be higher than initial estimates.

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The study highlights that travel and tourism are particularly sensitive to climate variability. Prolonged heatwaves can lead to infrastructure failures such as rail track buckling or power outages at airports, causing cascading delays across the network. Flood-related damage to cultural sites or natural attractions diminishes their appeal and can require lengthy closures for restoration. Researchers argue that without substantial adaptation measures, Europe's tourism industry will face increasing volatility, with extreme weather events eroding its competitiveness and threatening jobs dependent on travel.

Long-Term Outlook and Policy Responses

The projection of a €126 billion loss by 2029 reflects the cumulative nature of climate impacts. Beyond immediate disruptions, heat-induced productivity declines, damaged infrastructure and altered consumer behaviour can suppress economic growth for years. The University of Mannheim's researchers stress that preventive investments are more cost-effective than post-disaster rebuilding. They call on national governments and the EU to accelerate adaptation strategies, such as reinforcing transport networks against heat stress, improving flood defences and establishing early-warning systems to protect travellers and residents.

Best vacation packages

For the tourism sector, adaptation may mean rethinking marketing strategies and travel patterns. Destinations could promote shoulder-season visits to avoid peak-heat periods, diversify attractions to include indoor or climate-resilient activities, and invest in sustainable infrastructure that can withstand temperature extremes. Authorities are also urged to integrate climate risk assessments into tourism planning and to provide financial support for small businesses facing climate-related losses.

The report's findings arrive as Europe grapples with the broader economic consequences of climate change. The researchers emphasise that the EU's recovery and

growth plans must account for the costs of extreme weather, particularly in sectors like tourism that are exposed to environmental conditions. Without swift adaptation, they warn, the intensifying climate could continue to drain tens of billions of euros from the European economy and impede the region's ability to attract visitors. The warning underscores the need for resilience planning across the continent, ensuring that Europe's travel industry remains viable in a warming world.
Original Article: ftn news by Vedat Özgür Töre

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