Veles Water Weekly Report

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

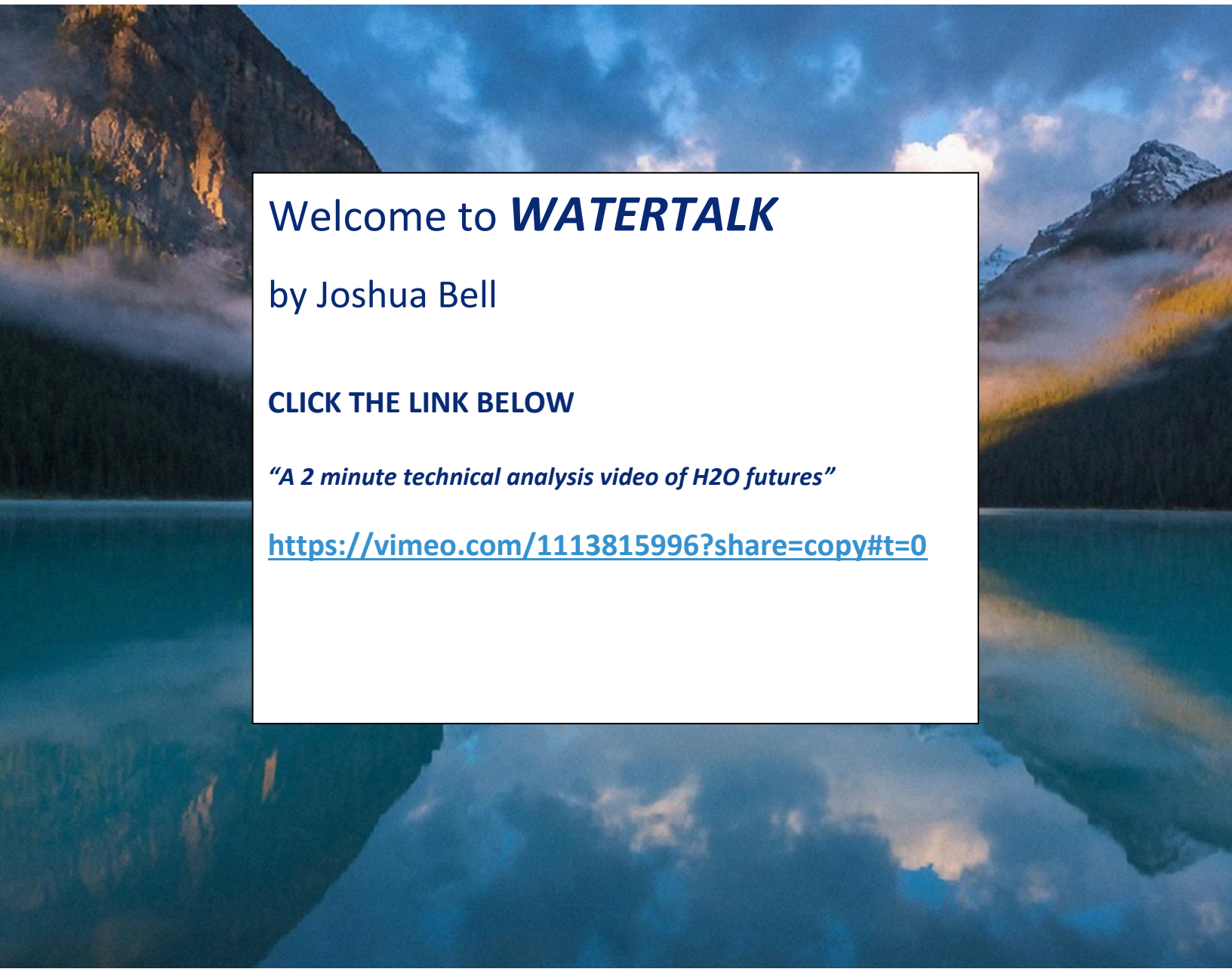
August 28th 2025

Authors:
Lance Coogan - *CEO*
Joshua Bell - *Research Analyst*

research@veleswater.com
+44 20 7754 0342

Veles Water

WATER FUTURES MARKET ANALYSIS



Welcome to ***WATERTALK***

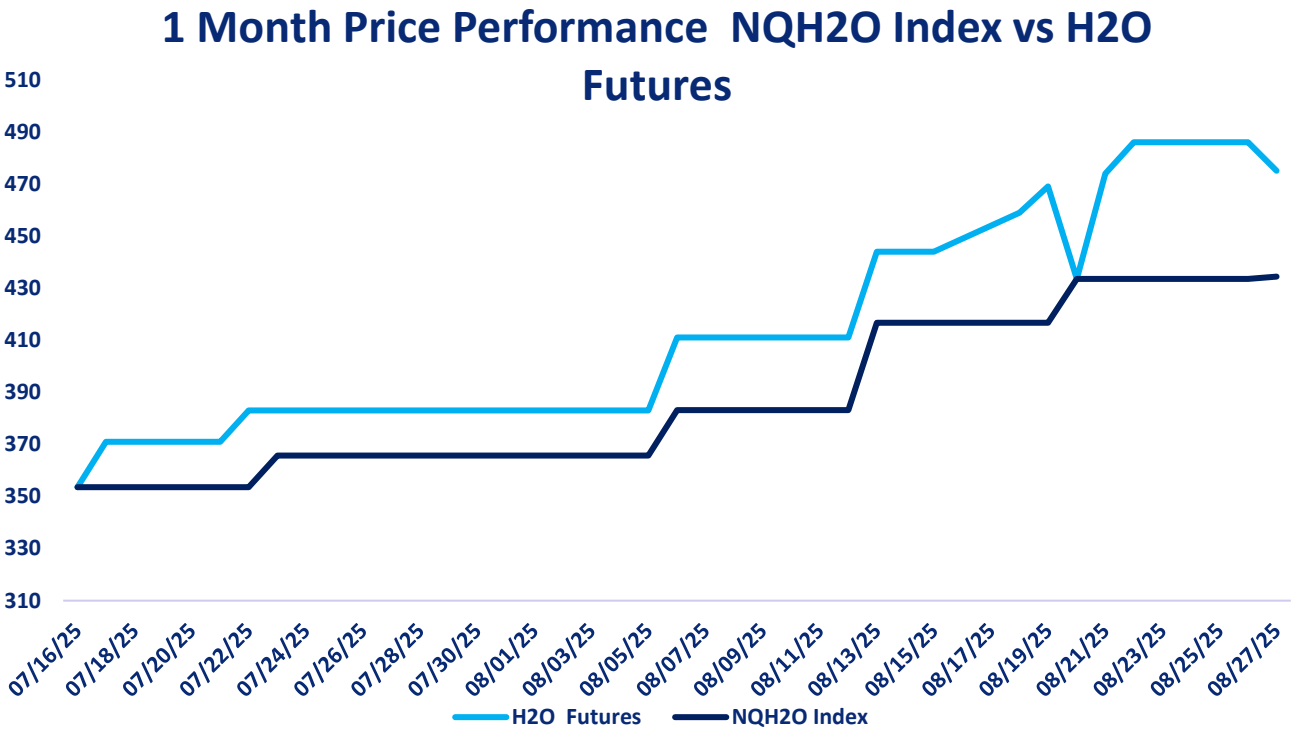
by Joshua Bell

CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

https://vimeo.com/1113815996?share=copy#t=0

NQH2O INDEX PRICE vs H2O FUTURES PRICE



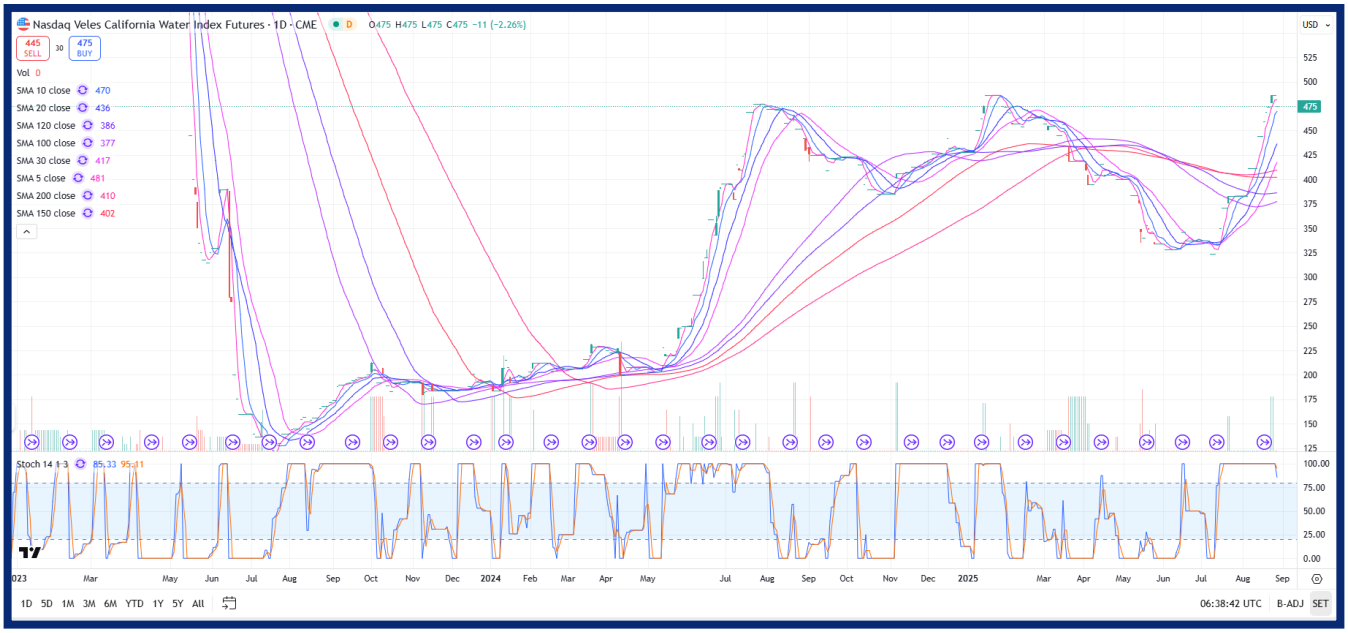
Price Chart Based upon Daily Close

The new NQH2O index level of $434.40 was published on August 27th, up $0.84 or 0.19% from the previous week. September contract is considered the front month. The futures prices closed at a premium of $40.44 to $52.44 versus the index over the past week.

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

Sept 25	445@475
Oct 25	455@499
Dec 25	475@515
June 26	520@560

H2O FUTURES TECHNICAL REPORT



Trend Overview

- **Current Price:** 475 (–2.26%)
- **Recent Rally:** The index has surged from the lows around 320 to a recent high of ~475 - a gain of nearly 48%. Today marks a small pullback, but price action remains firmly above all major moving averages.
- **Momentum:** The trend remains bullish despite today's red candle. There is continued upward separation between short- and long-term SMAs, signalling sustained upside momentum.

Moving Averages

- **Short-Term (SMA 5–30):**
  All short-term SMAs (5, 10, 20, 30) are stacked in bullish order and rising steeply. The 5-day SMA (481) leads, with the 10-day (470), 20-day (436), and 30-day (417) following in succession - a classic bullish setup.
- **Long-Term (SMA 100–200):**
  The 100-day SMA (377) and 200-day SMA (410) are beginning to flatten and tilt upwards. Price has clearly broken above both, confirming a mid- to long-term trend reversal.

Stochastic Oscillator

- **%K: ~85, %D: ~95**

- Both lines are still in the **overbought zone** (above 80), although slightly retreating from 100.
    - This signals **strong momentum** but also increases the **likelihood of short-term consolidation** or a mild correction.
    - The small drop in today's price may be the beginning of that pause.

Resistance & Support

- **Immediate Resistance:**
    - **500** remains a key psychological and historical ceiling — the next major test for bulls.
- **Support Zones:**
    - **SMA cluster zone (400–420):** Dense with short- and medium-term moving averages.
    - **SMA 200 (410):** A key structural support in case of a deeper pullback.
    - **Psychological support:** 400

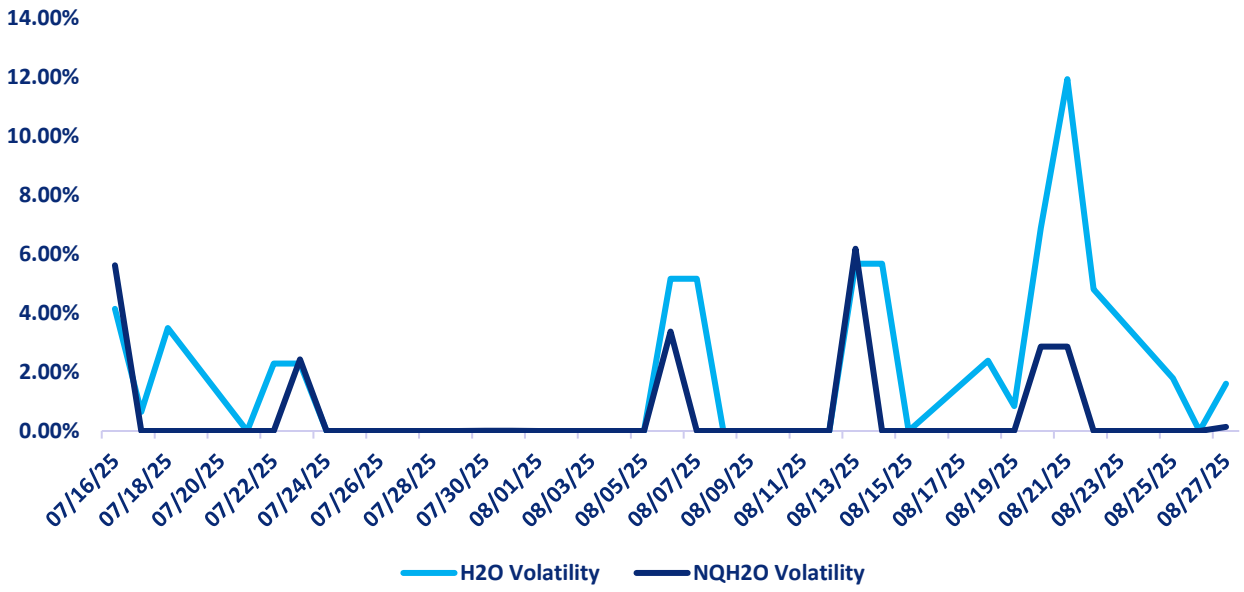
Summary

The Nasdaq Veles California Water Index Futures have experienced a robust climb from ~320 to 475, decisively clearing all major resistance levels and placing price action above every key moving average. The short-term trend is undeniably bullish, supported by momentum indicators and SMA structure.

However, with the Stochastic Oscillator showing signs of cooling in overbought territory and a minor pullback today, a short-term pause or sideways consolidation could be likely. Still, the broader trend is intact, and attention now turns to the critical 500 resistance level.

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 1.75%.

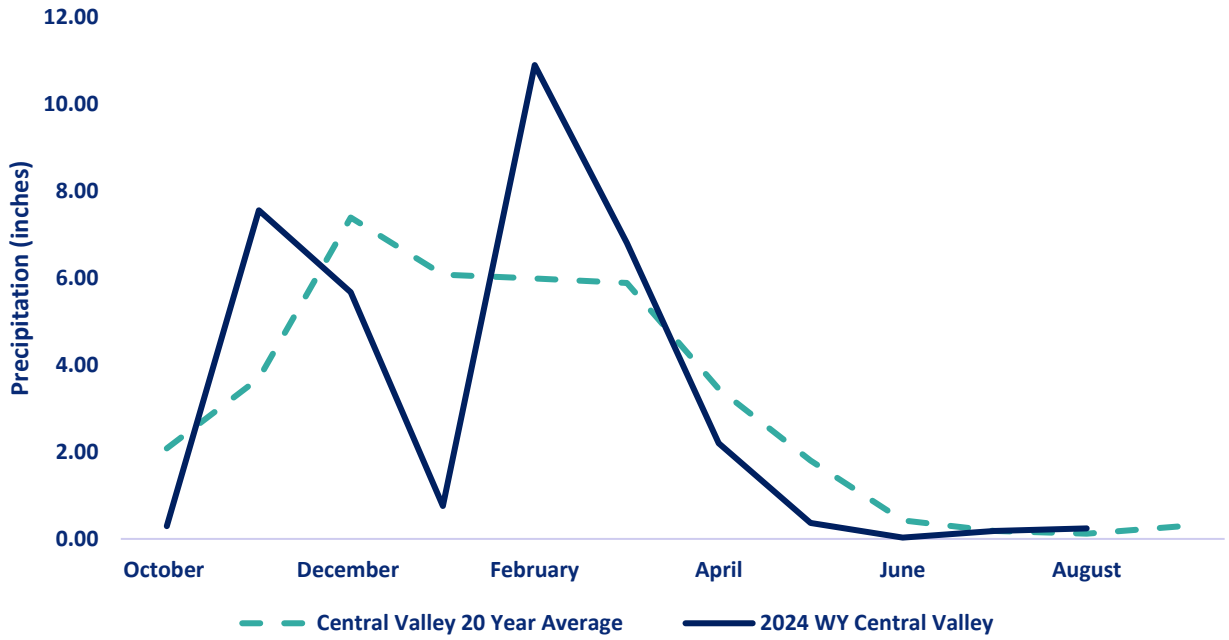
ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	19.64%	10.71%	5.06%	4.69%
H2O FUTURES	N/A	14.07%	13.85%	9.52%

For the week ending on August 27th, the two-month futures volatility is at a premium of 3.36% to the index, up 0.15 from the previous week. The one-month futures volatility is at a premium of 8.08% to the index, down 5.36%. The one-week futures volatility is at a premium of 4.83% 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 27/08/2025

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)	0.26	0.26	210.81	83	78
TULARE 6 STATION (6SI)	0.15	0.15	147.89	80	82
NORTHERN SIERRA 8 STATION (8SI)	0.31	0.21	227.62	91	105
CENTRAL VALLEY AVERAGE	0.24	0.21	199.47	85	88

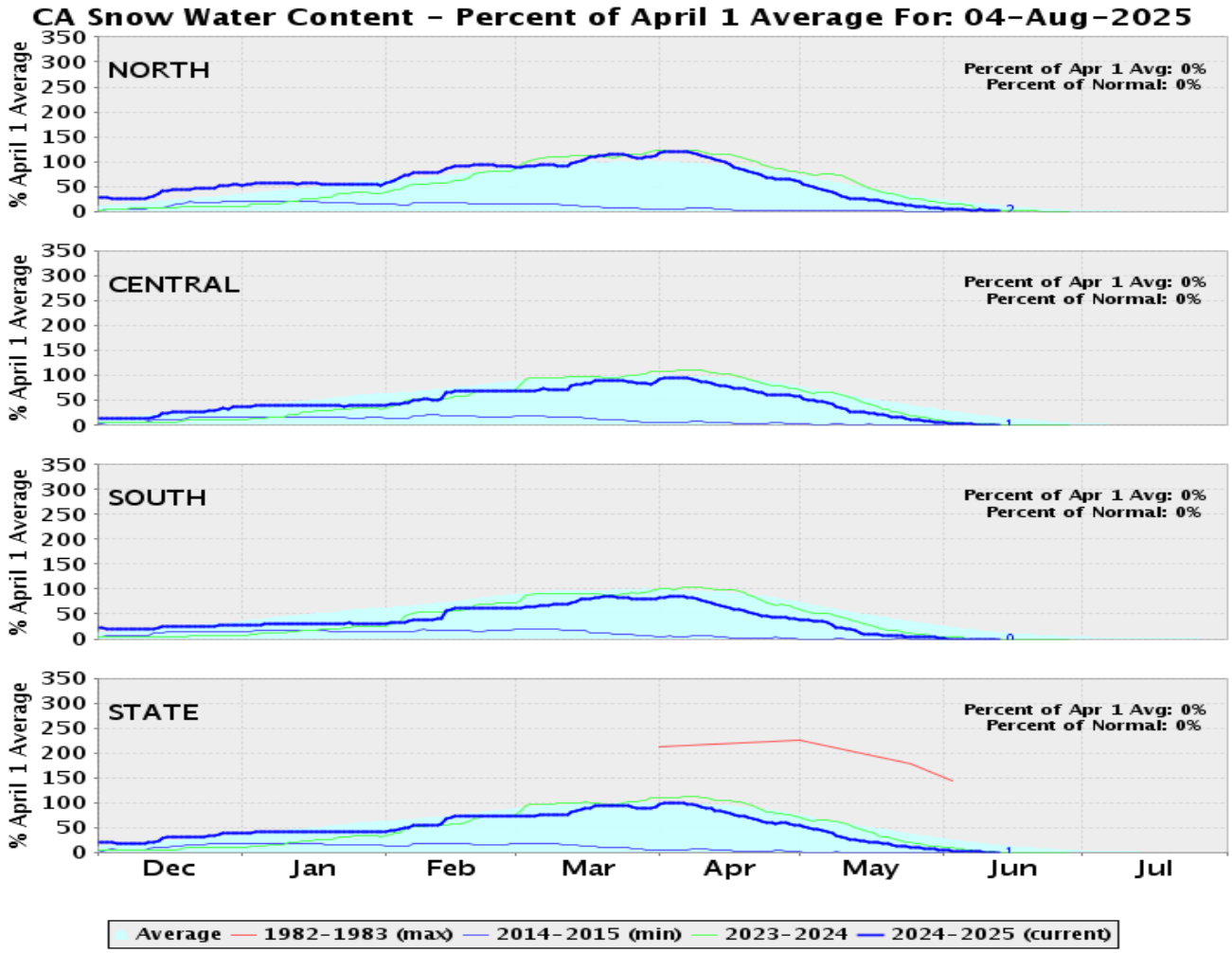
RESERVOIR STORAGE

RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	1,977,314	81	75	1221
SHASTA LAKE	2,905,561	64	68	103
LAKE OROVILLE	2,400,283	70	69	113
SAN LUIS RES	821,895	40	44	103

*% 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

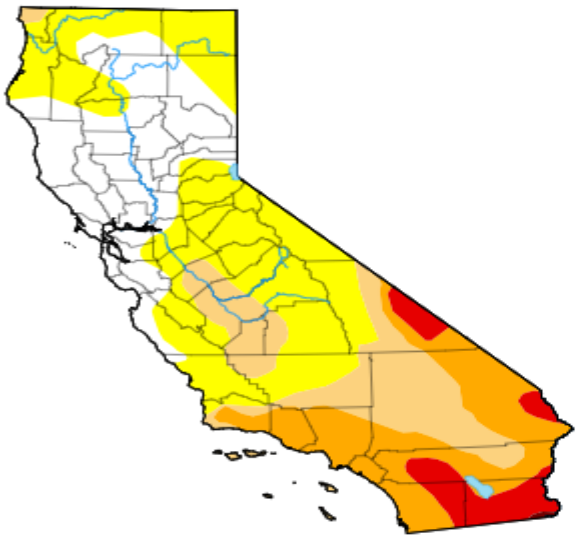
Snow Water Equivalent*, **or SWE**, is a commonly used measurement used by hydrologists and water managers to gauge the amount of liquid water contained within the snowpack. In other words, it is the amount of water that will be released from the snowpack when it melts. SWE has regional variance.**

**** 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. August 21, 2025
Data valid: August 19, 2025 at 8 a.m. EDT

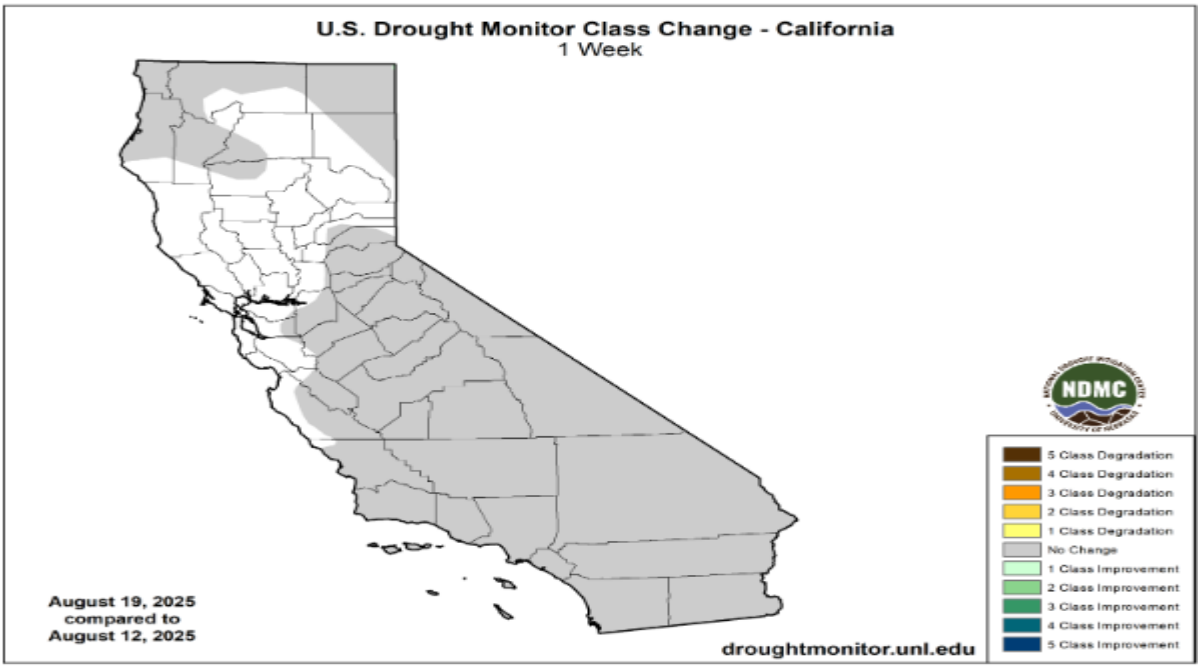
Intensity

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

Authors

United States and Puerto Rico Author(s):
Lindsay Johnson, National Drought Mitigation Center

Pacific Islands and Virgin Islands Author(s):
Tsegaye Tadesse, National Drought Mitigation Center

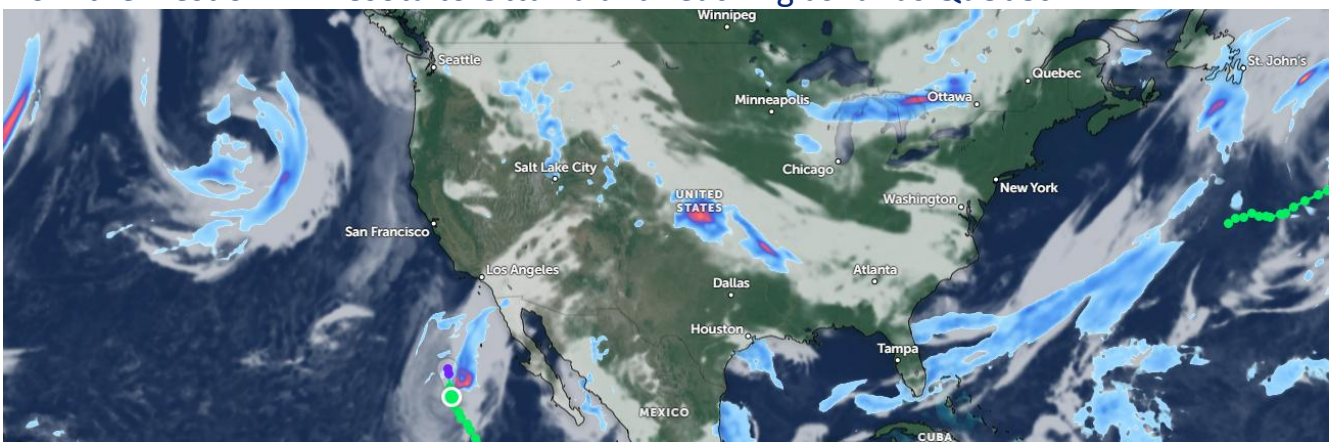


Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2025-08-19	23.99	76.01	39.56	23.01	5.90	0.10	145
Last Week to Current	2025-08-12	23.98	76.02	39.56	23.01	5.90	0.10	145
3 Months Ago to Current	2025-05-20	41.86	58.14	39.81	24.73	7.11	0.10	130
Start of Calendar Year to Current	2024-12-31	40.90	59.10	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	2024-08-20	66.59	33.41	6.91	0.10	0.00	0.00	40

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.

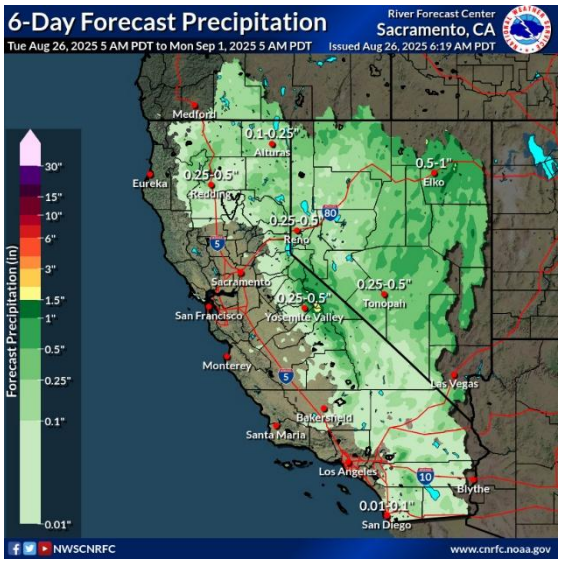
CURRENT SATELLITE IMAGERY

The satellite picture shows an unusual number of weather systems affecting the US. Firstly, a Pacific storm heading towards the west coast which should strike land just north of San Francisco. Secondly further south there is Tropical storm Juliette which is causing Monsoon like effects with moisture inflow over the LA and San Diego area. Thirdly line of storms with an epicentre in the centre of the Midwest stretching down south-eastwards to Atlanta. Further north there is a further storm system stretching from the west of Minnesota to Ottawa and reaching as far as Quebec.



10 Day Outlook

Map Ref: Zoom Earth



CA sits between two upper lows this morning, one over the Pacific southwest of soCal and a larger low traversing the Gulf of Alaska.

The gulf low also drags a large frontal system with 1" PW of moisture across the eastern Pacific. This system will lift northward as it approaches the west coast likely entirely missing CA in favor of the PacNW and BC later today into tomorrow. The smaller low to the southwest will head towards Baja arriving some time Thursday. The combination of these systems will keep some troughing overhead for today along with instability. This means the slight chance of thunderstorms over parts of the Sierra and the Shasta Drainage.

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.

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

WESTERN WEATHER DISCUSSION

Hot, dry weather dominated much of the West, fueling widespread drought expansion. Arizona and New Mexico saw severe to extreme drought spread north and east as monsoon rains largely missed these areas. In Utah, drought expanded in the south and along the borders of Colorado and Wyoming. Idaho worsened, with severe (D2) and extreme (D3) drought spreading in the southeast and north. Montana was mixed: heavy rains in the northeast allowed drought to ease, but hot, dry weather in the southwest caused drought to intensify. Oregon and Washington saw smaller changes, with some localized improvement in southeast Oregon but worsening conditions in northern Oregon and southern Washington. California remained locked in extreme (D3) to exceptional (D4) drought in the southern regions with no major change. The dry conditions have fed several large wildfires: Arizona's Dragon Bravo Fire has burned over 145,000 acres and California's Gifford Fire about 130,000 acres. A record-breaking heat wave, with temperatures above 110°F in desert areas and red-flag warnings across California, has heightened fire danger.

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

WATER NEWS

CALIFORNIA WATER NEWS

California Gets $219M Boost for Sites Reservoir Water Storage Project

Gov. Gavin Newsom has announced that California's Sites Reservoir project has received nearly $219 million in additional state funding to accelerate construction of what will become the nation's second-largest off-stream reservoir.

The California Water Commission approved the funding increase to cover rising costs from project delays, including inflation and expected construction cost increases. The reservoir is designed to hold up to 1.5 million acre-feet of water — enough to supply more than 4.5 million homes for a year.

"We can't wait to protect our state from water shortages — there are 40 million Californians depending on us," Newsom said in a statement. "Each day that we delay these projects costs our state more money."

The additional funding brings Sites Reservoir's total eligibility for Proposition 1 funding to $1.094 billion. The project's total estimated cost is up to $6.8 billion, with roughly $780 million expected to come from federal financing.

Sites Reservoir represents a cornerstone of California's strategy to prepare for increasingly volatile weather patterns driven by climate change. The facility will capture water from the Sacramento River during wet seasons and store it for use during drier periods.

California's climate has warmed significantly over recent decades, leading to greater variability in precipitation with dramatic swings between drought and flood conditions. A recently released State Water Project Adaptation Strategy details more than a dozen state actions designed to protect water supplies through the State Water Project system.

The reservoir project previously overcame a legal challenge under the California Environmental Quality Act after Newsom streamlined the approval process. The governor has emphasized the urgency of completing water infrastructure projects quickly to avoid further cost escalations.

"The Legislature has an opportunity to make history by fast-tracking critical water infrastructure that will ensure we are resilient against droughts and can continue delivering necessary water — a basic human right — to all Californians," Newsom said.

Once completed, Sites Reservoir will be the second-largest off-stream reservoir in the United States, trailing only the San Luis Reservoir. Off-stream reservoirs store water diverted from rivers and streams rather than blocking waterways with dams.

The project is part of a broader water infrastructure push by the Newsom administration. The governor has also announced a legislative package to expedite the

Delta Conveyance Project, another major water infrastructure initiative designed to improve the state's ability to capture and move water during intense storm events.
During last year's atmospheric river storms, the Delta Conveyance Project could have captured enough water to supply 9.8 million people for a full year, according to state estimates. The project would expand California's water supply reliability while maintaining environmental and water quality protections.
Both projects address California's need for improved conveyance infrastructure to transport water from areas where it falls to regions where it's needed most. The state's 40 million residents face increasing water supply challenges as climate change intensifies weather extremes.
The Sites Reservoir project's advancement comes as western states grapple with ongoing water shortages and prepare for what scientists predict will be a hotter, drier future. California has already experienced marked increases in precipitation variability, creating challenges for water managers trying to balance supply and demand.
Additional information about the Sites Reservoir project is available at build.ca.gov.
The funding announcement reflects California's commitment to building resilient water infrastructure capable of withstanding climate change impacts while serving the state's growing population and economy.
The Sites Reservoir funding comes as other California water infrastructure projects highlight the critical importance of maintaining operational water storage facilities. In June, the Santa Ynez Reservoir in Pacific Palisades returned to service after more than a year of repairs, ending a prolonged outage that left the critical water storage facility empty during January's devastating firestorm.
The Los Angeles Department of Water and Power announced June 26 that the 117-million-gallon reservoir is operational again following extensive work on its synthetic rubber floating cover, which had suffered significant damage since early 2024. The reservoir's absence during the Palisades Fire sparked questions about the city's water infrastructure preparedness, as firefighters encountered hydrants that lost pressure or ran dry during the emergency.
"While I'm glad it's now back in service, the reservoir has been offline since early 2024, including on the one day in history it was needed most," said Los Angeles City Councilmember Traci Park, who represents Pacific Palisades. "Our water infrastructure must be emergency-ready, every day. Anything less puts everything we hold dear at risk."
Original Article: SMDP by Maaz Alin

Governor Newsom accelerates Sites Reservoir to tackle California's future water shortages

Governor Gavin Newsom is advancing the Sites Reservoir project to expand California's water storage capabilities, as the state braces for water shortages impacting western states and the looming threat of a hotter and drier future. The California Water Commission has approved a nearly $219 million funding increase for the project to ensure it progresses swiftly.

The additional funding is necessary due to increased costs from delays, including inflation and anticipated construction cost hikes. "It's unfortunate it's taken this long because inflation now has affected it quite a bit and I think what we really need happen is to have a quick approval from the water board to get the water rights permits," said Congressman Doug Lamalfa. "I spoke to the governor back in February... asked him can we move that along."The Sites Reservoir is designed to capture water from the Sacramento River during wet seasons and store it for use during drier periods, with a capacity of up to 1.5 million acre-feet of water—enough to supply over 4.5 million homes annually. With the new funding, the project is eligible for over $1 billion in Proposition 1 funding.

Governor Newsom previously streamlined the project by overcoming a CEQA legal challenge. A public negotiation session for the Sites project is scheduled for September 8th and 9th from 10 a.m. to 4:30 p.m. in Sacramento. The project plans to break ground in December of next year.

Original Article: KRCTV by Sophia Bruinsma

Unseasonable heat causing severe conditions in SoCal, new wildfires starting to burn

California’s weather conditions are intensifying after a week of extreme temperatures, prompting fire evacuations in Napa County and sparking a handful of blazes that began burning Saturday morning in the Angeles National Forest.

The Pickett fire broke out Thursday near a remote area in Napa County as weather officials warned about elevated fire threats across the region. The fire quickly spread to 2,133 acres with no containment by Friday morning, forcing hundreds of residents in the small city of Calistoga — known for its wine — to evacuate.

Fire Chief Ryan Isham said crews worked throughout Thursday night, forming a second line of defense along Rattlesnake Ridge to curb the Pickett fire from progressing into Pope Valley. As temperatures warm up, “you will expect to see increased fire activity throughout the perimeter of the fire,” Isham said in a video update to Facebook.

Advertisement

The Pickett fire remained at 3,993 acres with 7% containment until Friday night. By Saturday, the fire spread to 4,690 acres, according to the California Department of

Forestry and Fire Protection. About 1,200 fire personnel are currently assigned to the Picket fire, according to Cal Fire.

No structural damages nor injuries were reported, according to Battalion Chief Bob Todeschini. “We’d like to remind everyone to be vigilant and have a plan as we continue with suppression efforts,” he said Thursday in a video statement to X.

New fires emerged this week amid the region’s intense heatwave.

The Little fire in Kern County broke out Friday afternoon, about five miles west of Borel Road. The Little fire burned 300 acres. In Alameda County, the Parks fire burned 113 acres with 75% containment as of Saturday. Smoke plumes were seen spread across the east bay as flames scorched up dry grass.

Advertisement

No evacuation orders were issued for either incident.

A lightning bolt struck a tree and ignited two fires southwest of the Little Rock community, according to a post by the Angeles National Forest on X. A third fire began Saturday morning near Table Mountain, west of Wrightwood. No injuries have been reported.

The National Weather Service has issued a red flag warning for portions of Los Angeles, Ventura, Santa Barbara and San Luis Obispo counties for “an unseasonably hot and unstable air mass capable of producing extreme fire behavior from vertical plume growth [and] low relative humidity.”

The red flag issue will continue until Sunday at 9 p.m. as temperatures are expected to range between 98 and 110 degrees, according to the National Weather Service. Santa Clarita Valley, the San Gabriel Mountains and the Antelope Valley foothills will remain under critical fire warning until Saturday at 9 p.m.

Original Article: LA Times by Jasmine Mendez

Is Southern California prepared to avoid a ‘Day Zero’ water crisis?

Over the last century, Southern California has grown and thrived by accessing water from faraway sources including the Colorado River, the Eastern Sierra’s streams and the Sacramento-San Joaquin River Delta. Massive aqueducts transport water through deserts, farmlands and mountains to sustain 19 million people across six counties.

But these traditional sources of water are projected to become less reliable as global warming shrinks the West’s mountain snowpack and unleashes more intense droughts. With supplies at risk, Southern California’s cities and suburbs face major challenges in planning for the future. Decades from now, how might we get our water supply? And what ideas are leaders and managers of water agencies considering to ease risks of shortages — or even a scenario of a “Day Zero” crisis, in which we approach a point of running out?

California naturally undergoes dramatic cycles between wet and dry conditions.
But research indicates that supplies from major water sources such as the Colorado River have been shrinking and are likely to decrease further on average as temperatures rise.
According to state projections, the average amount of water delivered from the Delta to Southern California could decrease by between 13% and 23% within two decades unless measures are taken to ameliorate those declines.
The overarching goal, as managers of water agencies describe it, is to plan for a warming climate with longer droughts and more extreme storm runoff patterns. Those who lead the region's large water agencies say they are seeking to line up a diversified mix of sources by recycling wastewater, capturing stormwater, restoring watersheds, possibly building new water-transport infrastructure, and even tapping the Pacific Ocean. They want to be well-prepared for a crisis, and to invest in projects that, although costly, somehow won't make water too expensive for the public.
"We need to find a way to be sustainable at the same time that water remains affordable," said Adán Ortega Jr., board chair of the Metropolitan Water District of Southern California.
Ortega said the various investments the district is now considering should lay the foundation for a "new and endless river.''
The water district, for example, is embarking on plans to build a giant state-of-the-art facility in Carson to recycle wastewater. Pure Water Southern California is projected to cost $8 billion and produce up to 150 million gallons of drinking water daily by purifying treated effluent that is now discharged into the ocean. That's enough to supply the needs of about half a million homes.
It would be a major step in shifting the metropolitan area toward a greater reliance on local water supplies intended to better withstand hotter, drier times. The cities of Los Angeles and San Diego are planning other recycling projects.
MWD's plans for the Carson facility call for initially using the recycled water for outdoor irrigation and to recharge groundwater basins, where it would be stored and then pumped out for use. Under state rules adopted in 2023, the purified water that's generated could eventually be pumped directly into pipes to supply drinking water.
"You can see that coming," Ortega said. "It's going to take a lot of science and verification to make sure that that water is safe and that the public trusts it at the scale that we're talking about. But if we check all those boxes and give ourselves the time to do it, a hundred years from now, people will take it for granted as a source of water."
The need to innovate is evidenced by the recent history of the L.A. area and other cities around the world, including Sao Paulo, Tehran, Barcelona, Chennai, Mexico City and Cape Town, South Africa.

In 2018, the government in Cape Town warned the city of more than 4 million people that "Day Zero" was approaching. An extreme drought worsened by climate change had sent reservoirs dropping to perilously low levels, prompting severe water restrictions.

The Southwest is another region where something like a Day Zero scenario could occur in the future.

Southern California's most severe crisis to date arose during the state's 2020-22 drought. A severe shortage of supplies from Northern California in 2022 prompted the Metropolitan Water District to order emergency water restrictions for nearly 7 million people in areas that rely heavily on deliveries from the State Water Project.

One of the hard-hit areas was Ventura County, where strict rules barred residents from watering their yards more than one day a week.

"People were understandably very upset in terms of the impact on their gardens and landscaping," said Kristine McCaffrey, general manager of Calleguas Municipal Water District, which delivers water for about 650,000 people in Ventura County. "That's why we're working very hard to make sure that we don't ever encounter this kind of situation again."

The water restrictions were lifted in 2023 when a series of atmospheric river storms brought relief to the state.

Seeking to prevent a recurrence of those shortages, the MWD is re-engineering pipelines and adding new pump stations to better move water where needed during a drought. The district also plans to expand a facility near Lancaster where water is banked underground in the aquifer and can be pumped and delivered in dry times.

McCaffrey's agency is one of several that are also considering seawater desalination. It is awaiting studies of a company's proposal to anchor a "farm" of 40-foot-long devices to the ocean floor several miles off the coast of Malibu, which would pump purified freshwater to shore in a pipeline.

The Ira J. Chrisman Wind Gap Pumping Plant, part of the State Water Project, helps lift water up the Tehachapi Mountains. (Robert Gauthier / Los Angeles Times)

In the next several years, managers of water agencies will study the costs of this and other projects to determine which mix of options will deliver greater reliability while keeping costs in check and preventing steep rate hikes. These decisions involve not only weighing the costs of a project on its own, but also analyzing how it will fare under different scenarios, and in combination with the region's existing supplies.

One key goal is having plenty of backup supplies, Ortega said.

Lessons from Cape Town

Cape Town was particularly vulnerable to the region's worst drought in centuries because of its heavy reliance on rainwater stored in reservoirs for 98% of its supply,

according to Michael Webster, who was the city's executive director for water and sanitation from 2018 to 2023, and who now works for the World Bank.

Ultimately, the city managed to avert disaster. Residents were ordered to cut water usage, and an aggressive conservation campaign enabled the city to stretch its scarce supply until the return of rainfall finally brought relief.

"I think the city did well in using the crisis to invest in a more resilient future," Webster said. "The key strategy in overcoming it is to build in some diversification of supply — to groundwater, desalinated water and reused wastewater — in addition to reducing demand."

Cape Town's leaders have since invested in developing infrastructure to pump groundwater, and in cutting down invasive water-sapping trees to boost reservoirs. While keeping water consumption in check, Webster said, the city also plans to build a desalination plant and a wastewater recycling facility.

Original Article: LA Times by Ian James

US WATER NEWS

Water authority entertains six proposals for new water sources in Arizona

Three years after an obscure Arizona agency was tasked with finding new water supplies for the state, it has received six proposals from groups hoping to tap more than $375 million in state money to develop new water sources.

The proposals include three to create desalination plants using ocean water — likely from the Sea of Cortez in Mexico.

But exactly what is being proposed — and how much it will cost — remains confidential. And the Water Infrastructure Finance Authority says state law will keep it that way until its board members award one or more contracts to move ahead with more detailed plans.

The board of the agency known as WIFA heard only the names of the companies or teams of companies making the proposals at their meeting last week. Ted Cooke, a board member who chairs the agency's Long Term Water Augmentation committee, said he and other board members won't learn more until they prepare to award contracts, which could happen as soon as October.

Instead, agency staff will review each submission confidentially to determine if they meet the requirements laid out by the board in its solicitation.

"Even the board members will not be involved in that evaluation," Cooke told the board.

The three teams that made proposals either declined to provide details of what they want to build or did not respond to requests for comment.

The developments come while Arizona, which lost part of its Colorado River water supply in recent years, navigates more possible cuts as river flows continue to remain low. In addition, demand for groundwater in metro Phoenix prompted state water officials to halt many new housing developments as groundwater depletion remains an issue statewide.

“WIFA is the next stop for new water supplies as the existing water supplies that we have as a state are impaired, reduced or more, go away in some other, some other means,” Cooke said. “And that’s why this is so important.”

Cooke is a former general manager of the Central Arizona Project, which runs the canal bringing Colorado River water into Phoenix and then south to Tucson. He’s been nominated by President Donald Trump to run the U.S. Bureau of Reclamation, which has the ultimate authority over Colorado River supplies, but will remain on the WIFA board until the Senate confirms him.

The initial contracts will not actually produce any water. Instead, they will task the companies with further developing their plans using some of the money the Legislature has given WIFA since 2022. And once they are awarded, all six proposals will become public.

The expanded role of obtaining new water supplies was originally to be funded with $1 billion over three years. However after the initial $333 million deposit in the augmentation fund in 2022, state budget woes and political decisions limited additional investments.

That means WIFA will need to use some creative financing or other means to help support the huge private investments water suppliers will need to make to build massive new plants and pipelines to move the water into central Arizona.

WIFA solicitation documents show the state needs to obtain from 100,000 to 500,000 acre feet of new water in the next 5-15 years and could need as much as 1.5 million acre feet of new supplies by 2060. An acre foot equals about 325,000 gallons, enough water for three families for a year, according to the Arizona Department of Water Resources.

For now, WIFA wants up to 500,000 acre feet of new water to be available within 10 years. The 2022 law envisions at least 75% of that water to come from out of state.

Four of the six proposals come from a Canadian company, EPCOR, a firm that currently supplies many Arizona municipalities with water and wastewater treatment.

It proposes a desalination plant and aims to develop three other sources. EPCOR contemplates treating wastewater, tapping surface water and using a third, unidentified source to provide new supplies. The board’s public announcement contains no information about that source.

The company has a broad reach but no experience building desalination plants.

Its sole shareholder is the city of Edmonton in the province of Alberta. EPCOR builds, owns and operates electrical and natural gas networks, water transmission and

distribution networks and treatment facilities, and sewer and floodwater systems in Canada and the United States.

Another desalination proposal comes from a company called ZARETAW, LLC, led by an Israeli attorney. That lawyer, Erez Hoter-Ishay, pushed WIFA to approve an unsolicited desalination proposal for a plant on the Sea of Cortez to be built by an Israeli company, IDE Technologies, in 2022.

That proposal came shortly after the then-Gov. Doug Ducey and the Legislature approved the 2022 law expanding the mission of the once-obscure state agency to include finding new supplies to import into Arizona.

The unsolicited proposal was never acted on after it prompted questions from some lawmakers about backroom dealings.

Ducey had visited Israel numerous times during his eight years as governor with an eye on new water technologies. He called for Arizona to build a desalination plant in his 2022 state of the state address, his last as the state's chief executive.

The cost of the proposed new plant would have been more than $5 billion and be privately financed, Hoter-Ishay told the WIFA board at the time. However, the development group needed Arizona to commit to buying all the water produced — whether or not the state needed it.

Hoter-Ishay was at the time working for IDE, an Israeli firm that has developed desalination plants since the 1960s in Israel, China, the U.S. and other countries. It runs plants in several countries.

Original Article: AZ Capitol Times by Bob Christie

Global groundwater vanishing at alarming rate, new Arizona State University study finds

Groundwater worldwide is disappearing at an alarming rate, according to a new study from Arizona State University that analyzed 20 years of NASA satellite data.

The study reveals that groundwater loss has doubled compared to rates from just 10 years ago, contributing to what researchers describe as "faster continental drying" across the globe.

"A lot of that water that leaves the continents ends up in the ocean and is driving up sea levels and is now a bigger contributor to sea level rise than either the Greenland or Antarctic ice sheets," said a researcher involved in the study.

See more Impact Earth coverage on Arizona's water crisis, extreme heat, and more here.

The study found that one of the reasons for the accelerated groundwater depletion is human-caused climate change, followed by the overuse of groundwater resources by cities and states.

"Groundwater is probably the most precious natural resource we have in Arizona and in the Southwest," the researcher said. "Yet it's the one that is probably the most poorly understood and least protected, certainly around the world."

While Arizona has implemented conservation measures for groundwater, the implications of this global trend remain significant for the state's water future.

"It means very challenging times ahead. We knew that already. This paper helps to put Arizona into a regional and global context," the researcher said.

The study's findings underscore the urgent need for continued water conservation efforts as Arizona faces an increasingly uncertain water supply future.

Original Article: abc15 by Ashlee DeMartino

Las Vegas team develops tech to harvest water from desert air

It might sound like science fiction, but for one startup in the valley, atmospheric water harvesting is reality.

In the desert valley of Las Vegas, where water is as precious as gold, a team of researchers at WAVR is working to turn the air we breathe into the water we drink.

"After three years, we successfully developed the fundamental demonstration of our technology," explained WAVR's Chief Technology Officer Yiwei Gao, PhD.

The company was officially launched in 2024 from inside the walls of UNLV laboratory, and a year later, prototypes are made possible with a specialized 3D printer.

"This kind of squishy-like substance here is our hydrogel membrane," said Emilie Luong, WAVR technician.

Luong explained that the hydrogel membrane is highly water absorbent, naturally attracting water from the atmosphere. The researchers took inspiration from tree frogs that absorb water from the air.

"Think of like a contact lens or like any rice," Luong said.

Today, these researchers are testing and tweaking their technology to scale their work and develop it for the real world.

They're one step closer to bringing that goal to fruition, thanks to some new funding.

"It works in the lab. Now they want to scale and show that they can do it with bigger units and bigger volumes of water," said Len Jessup, former UNLV president and new founder of Desert Forge Ventures.

Jessup is working to secure seed funding — $4 million so far and growing from private donors, but also through a partnership with Nevada's State-Sponsored Venture Capital Program, Battle Born Venture, which is overseen by the Nevada Governor's Office of Economic Development.

In a statement, WAVR's CEO Rich Sloan said the team plans to put this money to work right away.

"WAVR intends to use the new funding to A) grow its R&D team, B) to advance its pilot projects that are of a larger scale (pilots capable of generating 100s and eventually thousands of gallons/day), C) create production-ready final designs, and D) to build up its patent portfolio in the US and internationally."

Sloan said the company also plans to develop uses for the tech to produce drinking water within the next decade, and that the assembly line will remain in Las Vegas.

According to Len Jessup, Desert Forge Ventures plans to continue to push for new business development in the valley.

"The startup ecosystem in Las Vegas, believe it or not, has been ranked in the top 5 in the country recently. It's a hot startup ecosystem," Jessup said.

Jessup said his goal is to diversify Las Vegas's economy, while the WAVR team looks to answer the question: Could Southern Nevada diversify its water supply?

"There's not enough coming out of the river. There's not enough in the aquifers underneath Las Vegas to sustain the growth that's happening here," Jessup said.

The team claims this hydrogel membrane could one day source water from the skies on a large scale.

"The water scarcity is always a big problem to everyone living in this town. So, we will say like, as the scientist, as the engineer, what can we do to make some contribution to solve the issue?" Gao said.

Similar technology has also been developed by other research universities and has been called an "inevitable path of the future" in research papers.

"WAVR figured out a way to tap into that potential," Jessup said.

Original Article: KTNV by Geneva Zoltek

Colorado River needs a snowy winter or more cuts coming

Imperial Irrigation District (IID) Water Manager Tina Shields began her report to the IID board Tuesday, Aug. 19, saying, "Hydrology never has good news, lately."

She said the Bureau of Reclamation released its August 2025 24-month study, announcing 2026 Colorado River water allocations for the Lower Basin states — Arizona, California and Nevada — will continue under the Tier 1 shortage condition.

The decision, according to Shields, is based on projections of Lake Mead's elevation levels, which trigger specific water allocation reductions under existing agreements.

Arizona will face an 18% reduction in its Colorado River water supply, equating to approximately 512,000 acre-feet of cuts. This primarily affects agricultural water users in Maricopa, Pinal and Pima counties, with minimal impacts on potable water providers for residents and businesses, according to the Bureau.

Nevada will also experience reductions; the cuts are proportional to its smaller annual allocation of 300,000 acre-feet under the Boulder Canyon Project Act.

California, therefore the Imperial Valley, is spared from mandatory cuts in 2026 under the Tier 1 shortage, maintaining its full allocation of 4.4 million acre-feet, due to its senior water rights.

Mexico faces a reduction of 80,000 acre-feet in its Colorado River allocation, as part of agreements aligned with U.S. Lower Basin shortage conditions.

The Tier 1 shortage is part of the 2007 Interim Guidelines and the 2019 Drought Contingency Plan, which govern Colorado River operations and are set to expire at the end of 2026. These guidelines dictate reductions based on Lake Mead's elevation, with 2026 projections indicating a level below 1,075 feet but above 1,050 feet.

In 2023, the Lower Basin states agreed to voluntarily conserve 3 million acre-feet of water through 2026, supported by $1.2 billion in federal funding from the Inflation Reduction Act. This temporary measure, including payments to agricultural users, cities, and tribes, aimed to stabilize reservoir levels and avoid deeper mandatory cuts.

If conditions worsen, further reductions could be triggered, potentially affecting all Lower Basin states and requiring consultation with the Bureau of Reclamation. A worst-case scenario could involve deeper cuts, with Arizona facing up to a 27% reduction and Nevada 17%, depending on reservoir levels dropping below critical thresholds, such as 58% or 38% capacity across seven major reservoirs.

Shields said the Bureau issued three reports: worst-case scenario, best-case scenario and one in the middle. She said the media often reports the worst case as headlines, such as "Lake Powell at dead pool," which sells more papers. "With Lake Powell and Lake Mead at only 31% capacity, we are back in 2022 where warning bells were clanging," she said.

She said this year was the sixth-worst year in a 64-year recording. "We had a decent snow pack, but the dry soil and fire damage circumvented the runoff entering the reservoirs."

As the Lower Basin has learned in the recent past, the real threat is Lake Powell dropping below 3,490-foot elevation. At that point, the pipes for the hydro power plant cannot move water from Lake Powell to Lake Mead, denying the lower basin any way to receive water.

"There is an alternative," Shields said. "There are emergency bypass tubes, but they were not designed for long-term use to deliver water, and they have cavitation issues."

"The good news is that we are all stakeholders still talking and cooperating. It's not six states against California as in the past," Shields said, finding a positive ending to her report.

The Bureau of Reclamation is developing new operating guidelines for post-2026, with an Environmental Impact Statement (EIS) expected by the end of 2025 and a final Record of Decision by December 2026

The Lower Basin states have proposed a Lower Basin Alternative for post-2026, which ties water use reductions to the combined storage of seven major reservoirs, providing more stability and predictability. This plan includes up to 1.5 million acre-feet annual cuts when reservoir levels drop below 69% capacity, with additional shared cuts up to 3.9 million acre-feet if levels fall below 38%.

The Upper Basin states — Colorado, New Mexico, Utah and Wyoming — have submitted a competing Upper Division States' Alternative, which avoids mandatory cuts for the Upper Basin and focuses on actual water supply conditions rather than forecasts.

Tribes, holding rights to 3.2 million acre-feet annually, and environmental groups have also submitted proposals, emphasizing inclusive management and ecosystem protection.

The states have until mid-November 2025 to reach a preliminary agreement, or the federal government may intervene with its own plan, potentially overriding state preferences.

The Colorado River is overallocated, with demand exceeding supply by about 1 million acre-feet annually, exacerbated by a 20% flow reduction since 2000 due to drought, according to the Bureau.

Original Article: The Desert Review by Betty Miller

La Niña could make a comeback. Here's what that means for winter in the US

As a **taste of fall** gives much of the United States a break from a hot, **humid summer**, some forecasters are already skipping ahead to winter, and a possible homecoming for an important atmospheric player: **La Niña**.

La Niña has about coin-flip odds of emerging this fall, with a 53% chance from September through November, according to the latest National Oceanic and Atmospheric Administration **forecasts**. It has a slightly better chance – 58% – of emerging by the end of the year. The odds are good enough to have triggered a La Niña watch from NOAA.

Once it arrives, it's likely to stick around for much of the winter and make its mark on the country's temperature and precipitation patterns before it diminishes in early spring.

As a refresher: La Niña is a natural climate pattern marked by cooler than average water temperatures in the equatorial Pacific that also leads to changes in upper atmosphere patterns — together, these influence weather globally.

Forecasters closely monitor La Niña and its counterpart El Niño because they influence weather in a way that's largely consistent and predictable well in advance, especially when the patterns are strong. They exert the most influence during winter in the Northern Hemisphere, but that sway fades during other seasons, allowing other atmospheric influences to seep in.

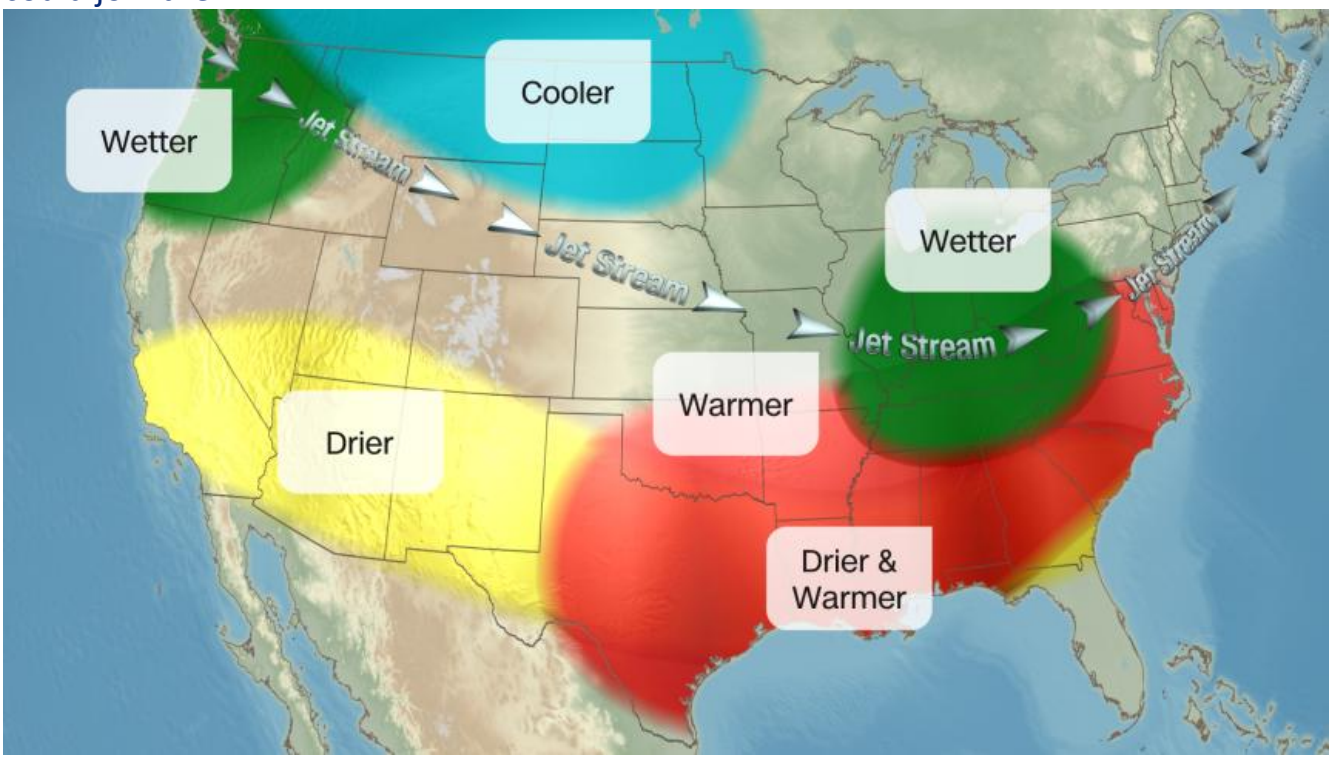
The upcoming La Nina looks to be on the weaker end of the spectrum, which could also affect how clear-cut its influence becomes. Here's what that means for weather in the months ahead.

What to expect when you're expecting La Niña

La Niña conditions should build gradually throughout the fall and NOAA could declare La Niña's official arrival either at the tail-end of the season or around the start of winter.

This La Niña should show up on time for winter and hang out for much of the season, unlike last winter, when La Niña conditions were **really late to the party** and didn't stick around for cake.

Knowing La Niña is coming provides a forecasting blueprint for what winter could look like in terms of temperature and precipitation trends, but La Niña doesn't always stick to the plan — especially when it's expected to be weak, meaning other phenomena could join the mix.

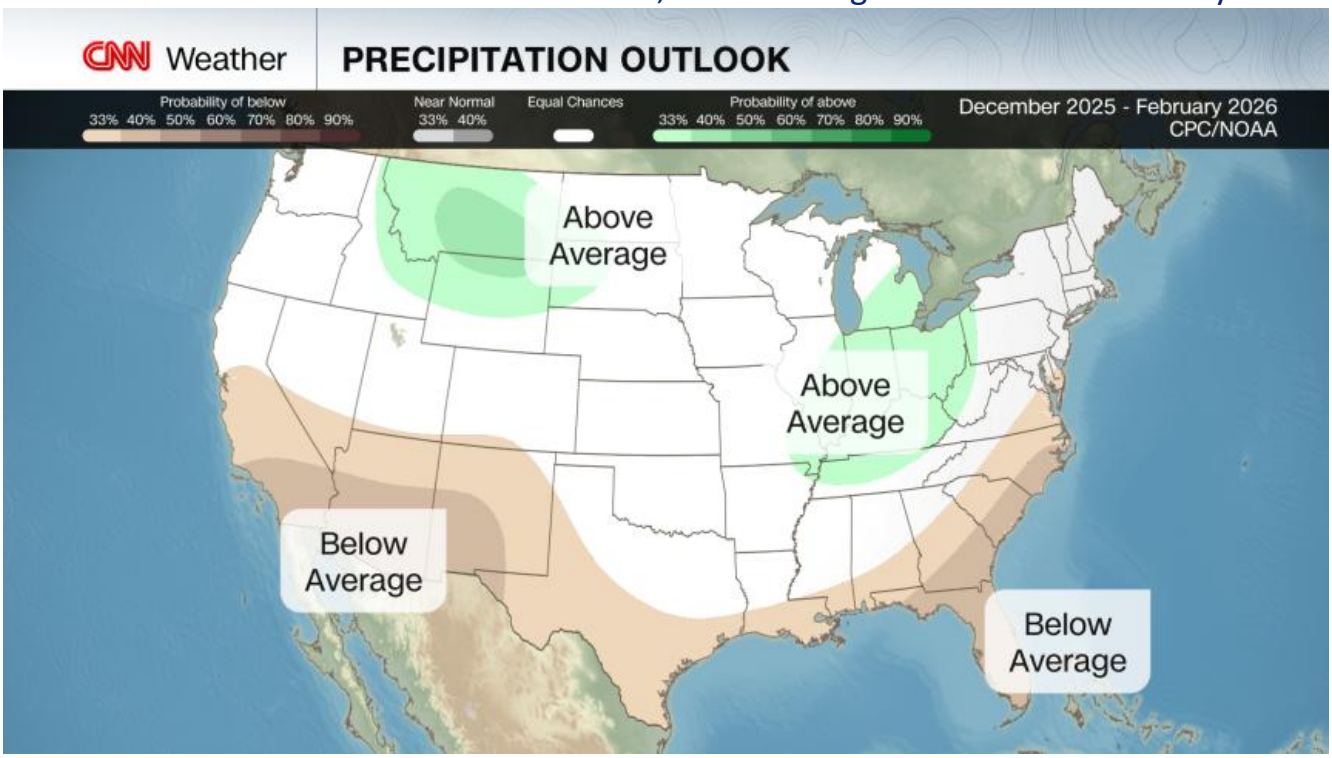


La Niña's typical influence on the winter in the Lower 48.
CNN Weather

La Niña's biggest influence is always on the jet stream – a river of air that storms flow through. The jet stream often shifts north during a La Niña winter, which pulls stormy weather out of the South and into more of the northern US.

The Climate Prediction Center's **forecast** for meteorological winter – December through February – definitely has La Niña's fingerprints: A drier than normal winter is likely in many of the southernmost states with a couple pockets of the northern US expecting more precipitation than normal.

Snow lovers can't celebrate just yet — more precipitation than normal doesn't guarantee it will come as snow. Temperatures still have to be chilly enough both above and at the surface for snow to fall and stick, and that might not be the case this year.

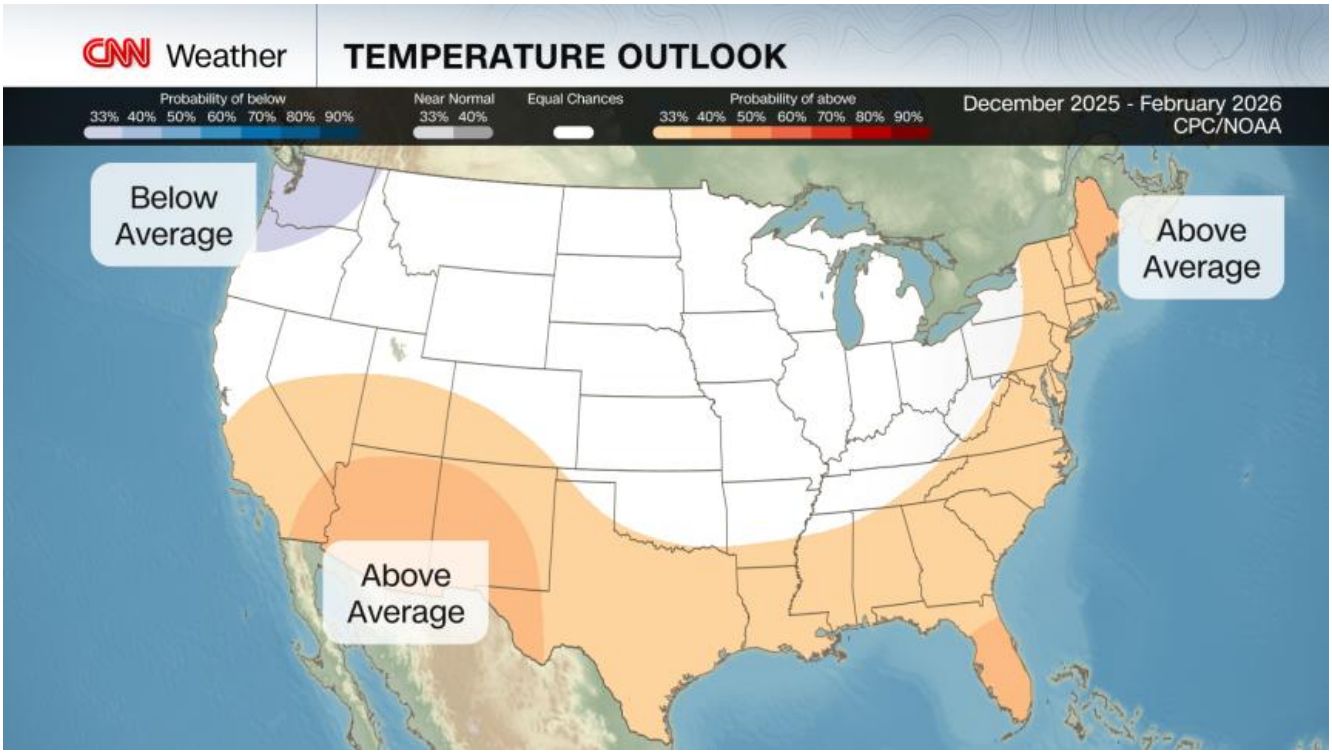


Winter precipitation forecast.
CNN Weather

La Niña winters typically favor warmer than normal conditions in the South with cooler conditions for some northwest and north-central states.

True to form, the South is expected to be warmer than normal this winter, but so too are the Southwest, parts of the Rockies and nearly the entire Eastern Seaboard. That just shows that La Niña isn't the only factor in play for the CPC's forecasts.

Weak La Niña events tend to allow for **more snow** in the Northeast, but that above-average temperature forecast could impede dreams of a winter wonderland. A small slice of the Pacific Northwest is the only portion of the Lower 48 expected to be cooler than normal this winter. For the rest of the country, it's a toss-up whether winter will end up warmer, cooler or close to normal.



Winter temperature forecast.
CNN Weather

Last winter wasn't a record-warm one, **like what the US experienced in 2023**, but it was still much warmer than normal. It ended up warmer than 80% of all winter seasons since the late 1800s.

The idea of a typical winter is distorting as the world warms due to fossil fuel pollution: Winter has become the **fastest-warming season** for nearly 75% of the US. **Snowfall is also declining** around the globe as the climate changes.

Original Article: CNN by Mary Gilbert

GLOBAL WATER NEWS

Water Crisis to Water Security: The Art of Living's Scalable Model for a Water Positive India

Water is India's lifeline - and its looming crisis. With 80% of the country's water needs met through fast-depleting groundwater, and erratic monsoons failing to replenish rivers and reservoirs, the threat of widespread water insecurity is real. But while the crisis is vast, so is the opportunity to reverse it.

Reviving India's Lifelines

Leading that reversal is The Art of Living Social Projects, under the guidance of spiritual leader and humanitarian Gurudev Sri Sri Ravi Shankar. Today, it stands as one of India's largest and most community-driven water conservation movements - scientific, replicable, and deeply rooted in the land.

Beyond Projects: A Nationwide Water Movement

Across eight states - including Maharashtra, Karnataka, Tamil Nadu, Uttar Pradesh, Punjab, Telangana, Haryana, and Madhya Pradesh - The Art of Living Social Projects has implemented water conservation work that's both massive and measurable.

As of August 2025:

- **72** Rivers, streams and their tributaries being rejuvenated across **8** States
- **1,74,52+** Crore litres of water conserved
- **3,45,00,000+** People impacted
- **20,000+** Villages benefitted
- **1,05,050**+ Recharge structures constructed
- **2,90,64,668+** Cubic metres desilted
- **59,000+** Sq km influenced
- **7,00,000+** Trees planted along river basins in River Rejuvenation Projects

These numbers aren't just data points - they tell stories of water replenished, farms revived, and communities empowered.

A Scalable Model, Rooted in Science

The organisation's water conservation project ideas begin with understanding the terrain - using GIS mapping, satellite data, and hydrogeological studies to design region-specific solutions. Each project adopts a ridge-to-valley strategy, ensuring rainwater is captured where it falls, slowed, and allowed to percolate into the earth.

Structures such as check dams, contour trenches, and recharge pits play a vital role in restoring groundwater levels. In the Vedavathi river basin of Karnataka, over 17,200 recharge structures have been built and more than 12,000 trees planted - benefitting over 91,98,300 citizens.

The impact of the water conservation project in Maharashtra is equally remarkable: more than 57,000 JalTara structures constructed, 3,01,14,668+ cubic metres of silt removed, and 7,28,900+ trees planted - empowering over 20,75,000 people.

Project JalTara: A Farm-Level Gamechanger

The JalTara initiative has emerged as a breakthrough model for rural water security and agricultural resilience. The concept is simple: dig a recharge pit at the lowest point of each farm plot, plant two trees nearby, and let nature do the rest. So far, large-scale implementation across Maharashtra, Karnataka and Telangana has included:

- **60,090+** recharge structures constructed
- **2,01,200+** acres of farmland covered
- **1,00,000+** trees planted

These efforts are laying a strong foundation for long-term groundwater recharge, improved soil moisture, and increased farm productivity - positioning JalTara as a truly transformative solution. This impact is already visible on the ground.

In Mauda, Maharashtra, where the initiative has been widely implemented, groundwater levels have risen by 3 metres, crop productivity has increased by 39%, and farmer incomes have grown by 68%.

Women, Youth, and Communities Lead the Way

Led by women, youth, and local communities, this is not a top-down initiative. From planning to execution and monitoring; ownership rests with the people. In Tamil Nadu, over 44,000 women led the revival of the Naganadhi river - the flow has been continuous for more than three years, after decades of seasonal drying.

Through the Youth Leadership Training Program (YLTP), young people are trained in water literacy, community mobilisation, and sustainable practices. In Uttar Pradesh alone over 16,962+ people have attended Water Literacy Programmes.

Tailored to Terrain, Adaptable Across India

From pond revitalisation in Punjab to groundwater recharge planning in Haryana, and scientific surveys of the Betwa basin in Madhya Pradesh; The Art of Living Social Projects ensures solutions are tailored to local needs - while remaining part of a larger, unified vision.

This blend of local ownership, technical expertise, and spiritual inspiration is what makes the model not just successful, but scalable.

A Blueprint for a Water-Positive Future

As India stares at the challenge of water scarcity, The Art of Living Social Projects offers a working model. One that combines the power of technology, ecology, and people's participation.

With more than 1,74,52 crore litres of water already conserved, and momentum gathering, this may be India's true watershed moment - not just in hydrology, but in human resolve.

Original Article: Yahoo Finance by PR Newswire

Data centres are popping up everywhere. Will they drink up all our water, too?

Cow sheds and data centres have a lot in common, and Texas has plenty of both. Squat, utilitarian structures, neither tend to win architectural prizes, much less the doting affection of their neighbours. They’re also capable of consuming vast amounts of water, either to quench the thirst of the herd or, much more commonly in the case of the data centre, to cool humming server racks as they crunch through the billions of data points that underpin our digital economy.

But where cow sheds have dotted the Texan landscape for centuries, the data centre has proven to be a more controversial innovation. Though water demands among livestock farmers have been historically high – one study concluded that livestock production accounts for almost a quarter of humanity's water usage – residents in bone-dry counties have found new data centre announcements altogether more unnerving. "I try my best to conserve water because I know we've been in a drought for years. I take quick showers, turn off the faucet when I brush my teeth and wash my hands and reuse water for my plants," said Sloan Rucker, a life sciences consultant protesting a new data centre development outside San Marcos. "None of these little efforts will mean anything if we let data centres into this area… data centres require tons of water that we don't have."

That protest, as it turned out, was successful. But more facilities are likely coming to Texas and a water-stressed region near you. In Spain's Aragon region, also in drought, Amazon plans to double a data centre footprint that already sucks up 755,720 cubic metres of water per year. The company has additionally requested permission to increase that water consumption in its current centres by 48%, while those new sites are predicted to consume more electricity as the entire region itself currently uses. Back in Texas, HARC estimates that, by the end of 2025, data centres could gulp down 49bn gallons of water, rising to 399bn gallons by 2030 to account for 6.6% of the state's total water usage.

Big Tech bosses like OpenAI's CEO Sam Altman have pushed back on the focus on AI's data centre water use ("I particularly love when the anti-AI crowd makes up shit about our water usage while eating a hamburger", he recently tweeted). That's easy to do when, like many LLM developers, OpenAI keeps its energy usage figures mostly private. The fact that these companies are enamoured with a business model underpinned by resource-guzzling scaling laws means that their water usage is only going to increase, argues Erin Kinney, a senior research scientist at the Houston Advanced Research Centre (HARC). "It's that increase when we already have a huge need," says Kinney, "that's really creating a problem."

Data centre water usage in the UK

Might the UK go the way of Texas? The number of data centres in the former is set to go up by a fifth, according to recent figures, with the incumbent Labour government encouraging further expansion as a means of boosting economic productivity. While the UK experiences drought conditions less regularly than Texas or Aragon, the prospect of more server barns popping up in the Cotswolds or Cumbria has begun to worry sections of the water industry, with the Environment Agency unable to determine how many litres the country may be short of by 2055 and the National Drought Group calling for the public to delete their old photos and emails to ensure servers don't dry up reservoirs.

These warnings are overblown, argues Luisa Cardani, the head of techUK's data centres program. While a recent series of heatwaves may have made Britons feel like they're suddenly living in the Texas Hill Country, the industry body's latest survey of UK data centres suggests that high water usage at most facilities is not occurring, with 51% of respondents using waterless cooling systems. 64% of sites, meanwhile, use less than 10,000m3 of water a year – similar to a Premier League Football Club.

For her part, Cardani believes the sector has been "misunderstood", modest as it is about its environmental credentials or, as it happens, about promoting any of its achievements in the media. As she explains it, there was a shift among data centres from air- to water-cooled systems in the 2010s to offset electrical emissions and avoid the high cost of energy in the UK. Since the effects of climate change have become clearer, however, many data centres have "proactively" reversed course, says Cardani, with the report showing that "most of them are moving towards waterless or hybrid systems."

The report has its limitations: it is a voluntary survey, opening the results up to self-selection bias, and is limited mostly to wholesale data centres rather than on-premises or enterprise sites. That includes some of the thirstiest sites, like the hyperscale sites that can consume from 4-19 million litres of water a day. Professor Adam Sobey, mission director for sustainability at the Alan Turing Institute, says that while he isn't aware of specific areas that have come under water pressure from data centres in the UK, the country's recent water shortages mean there is no room for complacency.

"As we go to build more data centres, then that's going to put more pressure [on the water network] – especially in areas near drought levels," says Sobey. He argues that even though the average AI user isn't causing huge amounts of additional water usage through data centres, sectoral demand will increase as AI grows more popular in the coming years.

"Lots of people doing it in small amounts in a system that is already under pressure over time creates more problems," says Sobey. "The model sizes are getting bigger and, as they do, you have to use more energy to train and use them. As you move forward even five years, that becomes more of a challenge."

Alternatives to water-cooled data centres

Taking on the AI age sustainably will mean data centres finding new and innovative ways to keep servers cool while using as little water as possible. For its part, Microsoft is championing waterless cooling methods in its newest data centres, a trend that Martina Raveni, a strategic intelligence analyst at Global Data, calls the "next frontier" for the industry. Data centres can phase out water cooling for immersion cooling, or submerge servers in dielectric fluid to prevent overheating. If they're feeling more sophisticated, direct-to-chip (DLC) cooling, which involves passing dielectric fluid through cold plates directly onto chips to absorb their heat, is another option. It is those liquid cooling

methods, in a hybrid mix with water and air cooling, that the "industry as a whole is transitioning towards," says Raveni.

Outside of data centre technology itself, the water sector itself could be more proactive about managing future demand, argues Cardani, who calls on the government to explore options to maximise water efficiency in the UK. Considering almost a trillion litres of water were lost to leaks in England and Wales in 2024, she thinks that "perhaps water has not been managed as efficiently as it could have."

And while Cardani pushes back on the idea that data centres have been avoiding releasing official figures of their water use, she argues that more transparency in measuring and publishing such data could benefit the sector. But it's going to take tough decisions from everybody to cut down on water usage, concludes Sobey. He calls for individuals to be cognisant of the water usage of their daily searches, such as the difference in water consumption in streaming a music video versus simply listening to a song's audio.

"If we want to use more AI, we have to reduce things elsewhere, and I just don't think that's happening," he says. "We are using more energy and water all the time on everything – and we can't really afford to do that."

Original Article: Tech Monitor by Shea Ferguson

India warns foe Pakistan of potential flooding as both battle torrential rains

India has shared a warning on possible cross-border flooding with neighbour Pakistan, Pakistani officials and a source in New Delhi said on Monday, as the arch enemies grapple with deadly floods and relentless monsoon rains.

The information-sharing has come as a surprise because New Delhi put a decades-old treaty with Islamabad on water access in "abeyance" in April after linking a deadly attack on Hindu tourists in Indian Kashmir to Pakistan. Islamabad denied any involvement. The tensions escalated in May to the worst military clash between the nuclear-armed rivals in decades.

India's high commission in Islamabad shared the warning on Sunday with Pakistan's foreign ministry on "humanitarian grounds" and not under the 1960 Indus Waters Treaty, the Indian source said, following heavy rains in the Jammu and Kashmir region bordering Pakistan.

The source, citing government rules, declined to be named. India's foreign ministry did not respond to a request for comment.

Pakistan's foreign ministry said the warning was issued through diplomatic channels "rather than through the Indus Waters Commission as required under the Indus Waters Treaty".

This month floods in India's northern territory of Jammu and Kashmir have killed at least 60 people and nearly 400 more in northwest Pakistan.
In total, the floods have killed 799 people in Pakistan since the monsoon started in late June, Pakistan's National Disaster Management Authority said, warning of more heavy rain until September 10.
Mazhar Hussain, a disaster management official in the Pakistani province of Punjab, said the information shared by India included a warning about a possible surge in the Tawi river, which becomes the Sutlej when it crosses into Pakistan.
"It has not indicated the scale of water but has warned about high flooding in the river," Hussain said.
"Moreover, heavy rains across the border have filled the Indian dams, which would force India to release water. Heavy rains in Pakistan and the water released by India would cause high floods in Sutlej, Ravi, and Chenab in Punjab."
WATER SUPPLY
Under the 1960 treaty, three rivers that flow westwards from India were awarded to Pakistan and three eastern-flowing rivers were granted to India.
On his 19,000 acre farm, Erasmus aims to rebuild biomass, restore overgrazed land, and capture soil carbon, eventually earning carbon credits.00:4503:00
Pakistan fears India could choke its main water supply, putting at risk most of its agriculture and hydro-power.
In its statement on Monday, Pakistan's foreign ministry reiterated its call on India to comply with all provisions of the Indus Waters Treaty.
"India’s unilateral declaration to hold the Treaty in abeyance constitutes a serious violation of international law and could have significant negative consequences for peace and stability in South Asia."
Original Article: Reuters

China’s new mega dam triggers fears of water war in India

India fears a planned Chinese mega-dam in Tibet will reduce water flows on a major river by up to 85 per cent during the dry season, according to four sources familiar with the matter and a government analysis seen by Reuters, prompting Delhi to fast-track plans for its own dam to mitigate the effects.
The Indian government has been considering projects since the early 2000s to control the flow of water from Tibet’s Angsi Glacier, which sustains more than 100 million people downstream in China, India and Bangladesh. But the plans have been hindered by fierce and occasionally violent resistance from residents of the border state of Arunachal Pradesh, who fear their villages will be submerged and way of life destroyed by any dam.

Then in December, China announced that it would build the world's largest hydropower dam in a border county just before the Yarlung Zangbo river crosses into India. That triggered fears in New Delhi that its longtime strategic rival - which has some territorial claims in Arunachal Pradesh - could weaponize its control of the river, which originates in the Angsi Glacier and is known as the Siang and Brahmaputra in India.

India's largest hydropower company in May moved survey materials under armed police protection near a prospective site of the Upper Siang Multipurpose Storage Dam, which would be the country's biggest dam, if completed. Senior Indian officials have also been holding meetings about accelerating construction this year, including one organized in July by Prime Minister Narendra Modi's office, according to two of the sources, who spoke on condition of anonymity to discuss sensitive government matters.

Delhi's concerns were described in the undated Indian government analysis of the Chinese dam's impact, the specifics of which Reuters corroborated with four sources and is reporting for the first time.

Beijing hasn't released detailed plans about the dam's construction, but the analysis drew on past work conducted by Indian government-affiliated institutions like the Central Water Commission and accounted for the expected size of the Chinese project, which broke ground in July and will cost nearly US$170 billion (RM715.2 billion).

Delhi estimates the Chinese dam will allow Beijing to divert as much as 40 billion cubic meters of water, or just over a third of what is received annually at a key border point, according to the sources and the document. The impact would be especially acute in the non-monsoon months, when temperatures rise and lands become barren across swathes of India. The Upper Siang project would alleviate that with its projected 14 BCM of storage capacity, allowing India to release water during the dry season. That could mean the major regional city of Guwahati, which is dependent on water-intensive industry and farming, would see a reduction in supply of 11 per cent, according to the sources and the document, as opposed to 25 per cent if the Indian dam isn't built.

The project could also mitigate any move by Beijing to release devastating torrents of water downstream, the sources said. If the dam is at its minimum drawdown level - where water is stored at less than 50 per cent of its height - it would be able to fully absorb any excess water released from a breach in Chinese infrastructure, according to the document and the sources. India is considering a proposal to keep 30% of its dam empty at any time in order to account for unexpected surges, two of the sources said.

A spokesperson for China's foreign ministry said in response to Reuters' questions that the hydropower projects "have undergone rigorous scientific research on safety and environmental protection, and will not adversely impact the water resources, ecology, or geology of downstream countries."

"China has always maintained a responsible attitude toward the development and utilization of transboundary rivers, and has maintained long-term communication and

cooperation with downstream countries such as India and Bangladesh," the spokesperson added.

Modi's office and the Indian ministries responsible for water and external affairs did not respond to Reuters' questions. State-owned hydropower major NHPC also did not return a request for comment.

India's foreign ministry has said that top diplomat S. Jaishankar raised concerns about the dam during a meeting with his Chinese counterpart on Aug. 18. A Jaishankar deputy also told lawmakers in August that the government was implementing measures to safeguard the lives and livelihoods of citizens in downstream areas, including building the dam.

India has itself been accused by Pakistan, a Chinese ally that it briefly clashed with in May, of weaponizing water. Delhi this year suspended its participation in a 1960 water-sharing treaty with Islamabad and is considering diverting flows from another crucial river away from its downstream neighbour.

An international tribunal has ruled that India must adhere to the agreement but Delhi says the panel lacks jurisdiction.

Development or destruction?

When NHPC workers moved surveying materials near the village of Parong in May, angry locals damaged their machinery, destroyed a nearby bridge and looted the tents of police sent to guard the operation.

Many of them are members of Arunachal's Adi community, who live off paddy, orange and sweet lime farms in the mist-shrouded hills and valleys nourished by the Siang.

The villagers have set up makeshift watch posts on regional roads to deny access to NHPC workers. That has forced security personnel to trek miles, often under cover of night, to reach a prospective site of the dam.

At least 16 Adi villages are likely to be lost to the storage area of the dam, directly affecting an estimated 10,000 people, according to two of the sources. Community leaders say more than 100,000 people will be impacted overall.

"The cardamom, paddy, jackfruit and pear we grow on this land help educate our children and support our family," said Odoni Palo Pabin, an Adi grocer and mother of two. "We will fight the dam to death."

The dam has the support of Arunachal's chief minister, who is a member of Modi's party and has called the Chinese project an existential threat. The project will "ensure water security and provide flood moderation to counter any potential water surges," the state government said in a statement, adding that it decided in June to engage in detailed compensation discussions with families that could be affected by the dam.

Lawmaker Alo Libang, an Adi who represents an area that would be submerged by the Indian project, said he believed locals could be convinced to move if they received generous compensation.

NHPC has plans to spend more than US$3 million on education and emergency infrastructure to incentivise the villagers to move elsewhere, three of the sources said, citing instructions from Modi's office.
Original Article: Malay Mail

Protecting the Balance Sheet with Process-Level Monitoring

Cyber intrusions are now a mainstream business risk for water utilities.
A 2025 cross-Atlantic survey from Semperis found that nearly two-thirds of operators experienced at least one cyber-attack in the previous year, and more than half of those incidents caused lasting damage to data or control equipment. When an attack lands, the financial hit is tangible: Southern Water in the United Kingdom spent about $5.7 million (USD) cleaning up a February 2024 ransomware breach, according to reports.
With roughly 50 000 community water systems operating independently across the United States, exposure varies widely, and many cyber budgets remain tilted toward IT perimeter tools rather than operational safeguards. But the physical core of service (pumps, valves, and chemical dosing) often runs without an independent safety check.
This article explores a complementary, process-oriented approach to cyber defense.
Why is this relevant from a finance perspective?
By validating real-time physical signals such as flow, pressure and electrical load against expected ranges, process-layer monitoring can identify malicious commands before equipment is damaged, or water quality is compromised. The method does not eliminate cyber risk; rather, it mitigates a highly variable exposure and turns it into a threat that can be measured, managed and budgeted. An outcome that puts cybersecurity on a similar footing as other quantifiable operational risks.

Escalating Cyber Threats Outpacing Utility Defenses

The threat profile keeps expanding.
Nation-state groups now account for nearly 60% of documented attacks against water and electric utilities, often using "living-off-the-land" tactics that hijack valid accounts and blend into routine traffic.
At the same time, U.S. Environmental Protection Agency (EPA) inspectors reported that more than 70% of systems reviewed in 2024 failed basic cybersecurity benchmarks, citing weak passwords, outdated software and ad-hoc incident response. Most plants still rely on decades-old PLCs and remote-terminal units never designed for internet exposure, and a GAO assessment warns that such aging infrastructure amplifies risk across the distribution chain. Many utilities operate with only one or two IT generalists, leaving budgets and staff capacity stretched thin against rapidly evolving techniques and regulatory expectations. The result is a widening gap: attackers backed by professional resources and intelligence services versus operators juggling legacy equipment, limited

personnel and fragmentary guidance – conditions that make the next costly breach less a matter of *if* than *when*.

Financial Exposure: Revenue Interruption, Compliance Penalties, Insurance Pressure

Operational disruptions translate directly into unbudgeted costs. During American Water's October 2024 incident, the company took its customer portal offline for a week, paused payment collection and hired outside forensic specialists — expenditures booked entirely to operating expense.

Compliance risk adds another layer of liability. An EPA enforcement alert issued in May 2025 found that more than 70% of inspected community water systems were out of compliance with the Safe Drinking Water Act's cybersecurity provisions and noted that civil penalties can reach nearly $70,000 per day, per violation.

Insurance still plays a role, though its coverage is only one layer in a broader risk framework. EPA's 2024 guidance to water utilities notes that premiums are based on factors including demonstrable controls such as multi-factor authentication and independent Operational Technology safeguards. Gaps can lead to higher deductibles or exclusions.

Unplanned remediation, potential fines, rising insurance costs and interrupted cash flow together define a financial exposure with implications on both annual budgets and long-term capital plans.

Original Article: Water FM

Agriculture investors exposed to water scarcity risk

Almost two-thirds of livestock companies manage water risk poorly, finds research

Fewer than one-fifth of the 60 largest protein producers globally have set targets to reduce their exposure to water insecurity, shows research published by UK-based food investor network Fairr.

Just 10 of those 60 companies have set targets to reduce their water withdrawals.

Despite few setting targets, almost two-thirds (62 per cent) of the companies are at high risk of water scarcity, shows Fairr's assessment.

As climate change intensifies droughts and water shortages, investors with agricultural companies in their supply chains are exposed to greater risk, it warns.

Globally, around 70 per cent of all freshwater withdrawals are used by the agricultural sector. Other sectors account for 20 per cent, with domestic use at 12 per cent.

The most water-intensive crops are rice, corn and wheat, which are often used as livestock feed or in biofuels, the report adds.

Water insecurity is increasing, Fairr says, citing estimates from the OECD's Global Commission on the Economics of Water, which shows demand for freshwater will outstrip supply by 40 per cent by 2030.

Water shortages can lead to higher operating costs, supply chain disruptions and stranded assets for livestock companies, with around 60 per cent of global GDP — $58tn — highly dependent on access to water, adds the report.

Protein products with the highest level of water intensity are dairy products, which require an average of 2,714 litres of water per kilogramme across the entire supply chain. Lamb has the next highest water intensity (1,803 litres/kg) and then pork (1,796 litres/kg).

The report outlines a series of recommendations for investors to support businesses to address water security.

These include: pushing investee companies to improve supply chain disclosures on water use; advocating for agreed metrics to ensure water disclosures are comparable across companies; and setting water resilience targets that include reducing overall water use and using water more efficiently.

Original Article: Sustainable Views

In Armenia and Georgia, drought has affected about 97% of territory

In Armenia and Georgia, drought has affected about 97% of the territory, according to the European Drought Observatory (EDO). These countries are experiencing the most severe effects of drought in Europe and the Mediterranean basin, where more than half of the regions were affected in the first ten days of August.

The observatory uses satellite data to assess precipitation, soil moisture, and vegetation conditions. The results are classified into three levels: observation, warning, and alert, with the latter signaling abnormal vegetation development. At the beginning of August, 7.8% of Europe and the Mediterranean was at alert level, 38.7% at warning level, and 4.9% at observation level.

In the Caucasus and the northern Balkans, Bulgaria, Kosovo, Serbia, North Macedonia, Albania, Hungary, and Montenegro were also affected, with three-quarters of the territory at the warning or alert level.

In July and August, these regions experienced severe heat waves that caused numerous forest fires, resulting in fatalities: one person in Montenegro and one in Albania.

Spain, Portugal, and Italy are currently experiencing localized effects of drought. In the UK, 69.5% of the territory is affected by drought, and in France, 63%. Central Europe, including Germany, Switzerland, Austria, and the Czech Republic, has shown improvement: soil moisture and vegetation conditions have returned to normal.

According to AFP estimates, based on data from the European Forest Fire Information System (EFFIS), fires in 2025 have already destroyed more than one million hectares in the EU — a record high.

Original Article: News AM

Record Drought In Europe, Mediterranean In Early August: Monitor

More than half of Europe and the Mediterranean basin was affected by drought in the first ten days of August, according to an AFP analysis on Monday of European Drought Observatory (EDO) data.

The 51.3 percent figure is the highest level registered for the period of August 1-10 since data collection began in 2012.

Around half of the area has been affected by drought since mid-April 2025, a situation worse than the severe drought of the summer of 2022.

The Drought Observatory Indicator determined by the EU's Copernicus Climate Change Service uses satellite imagery to measure precipitation or rainfall, soil moisture and the state of vegetation.

Findings are then categorised into one of three levels of drought: watch, warning and alert -- the last level signalling that vegetation is developing abnormally.

In early August, 7.8 percent of Europe and the Mediterranean basin was on alert, the highest level, while 38.7 percent was on a warning level and 4.9 percent on watch.

The Caucasus and north Balkans regions were most affected by the drought, with Georgia and Armenia affected on 97 percent of their territory, followed by Bulgaria and Kosovo. Serbia, North Macedonia, Albania, Hungary and Montenegro all saw three quarters of their surface area put on warning or alert.

This area of Europe in July and August experienced heatwaves which led to numerous wildfires, which left one dead in Montenegro, and one in Albania.

Spain, Portugal and Italy, also battered by strong wildfires this month, are currently only affected at a local level. In Britain, however, 69.5 percent and France 63 percent of their territory are affected, according to the EDO.

Central Europe saw the only improvement, with soil humidity and the state of vegetation returning to normal in Germany, Switzerland, Austria, and the Czech Republic, which had been heavily affected over previous months.

According to an AFP count, based on estimates collected by the European Forest Fire Information System (EFFIS), fires have already ravaged more than one million hectares (2.5 million acres) in the European Union in 2025, a record amount.

Original Article: Barrons by AFP

Every dollar invested in water is an investment in people

Water and sanitation are central to Solomon Islands' development and vital for health, education, livelihoods, and climate resilience.

Prime Minister (PM) Jeremiah Manele, MP, has reiterated this on Monday when speaking at the opening of the 9th Pacific Water & Wastewater Ministers Forum.

During his official address, Prime Minister welcomed leaders, innovators, and water professionals from across the Pacific to Honiara, calling the gathering a chance to work together to secure safe and resilient water services for all.

"Water is not just a utility issue," he said. "Every dollar invested in water is an investment in people, in livelihoods, and in our shared future."

Prime Minister Manele highlighted the challenges facing Pacific communities, including rising seas, prolonged droughts, extreme weather events, pollution, and aging infrastructure.

He outlined the Solomon Islands Government's response, including strengthening institutions, climate-proofing infrastructure, and integrating resilience into planning from villages to Honiara.

He also called for regional collaboration, urging ministers, partners, and utilities to share practical solutions to improve water and wastewater services across the Pacific.

"Better planning and investment must be supported regionally so that no Pacific child grows up without safe water and sanitation," he said.

On financing, the Prime Minister stressed the importance of affordable, efficient, and accountable water services, guided by the principles of resilience, sustainability, and equity.

He encouraged innovation in governance, technology, and service delivery, and recognised the role of young water professionals as the next generation of Water Champions.

"Partnership is our strength. When we act together, our small islands are not small voices, we are a powerful chorus calling for sustainable water futures," he said.

PM Manele also made a call to action for commitment, collaboration, and leadership. "Let us be bold; let us be united. Water is life, water is dignity, water is resilience, water is our shared future," Prime Minister Manele said.

Original Article: Solomon Star

TAQA Bets Big On Water With $1.2 Billion GS Inima Deal

What's going on here?

Abu Dhabi's Taqa is going all-in on water, buying Spain's GS Inima for $1.2 billion to boost its status in the desalination and wastewater industry worldwide.

What does this mean?

Taqa – the Abu Dhabi National Energy Company – is making its biggest overseas move yet, snapping up GS Inima and instantly broadening its reach to eight new countries, including major growth hubs like Brazil and Mexico. With GS Inima's 50 projects mainly built on long-term public-private partnerships, Taqa is locking in stable, inflation-linked cash flows that utility firms crave. The deal hikes Taqa's desalination capacity by 171 million imperial gallons a day on top of its current 1,250 MIGD, and adds another 2.6

million cubic meters per day in wastewater treatment. The company's also leaning hard into reverse osmosis, aiming for two-thirds of its water output to come from this efficient tech by 2030 – up from 40% today.

Why should I care?

For markets: *Water security is the new growth story.*

Water scarcity is moving up the list of economic priorities, with sustainable water solutions attracting serious capital. Taqa's $20 billion pledge toward water projects by 2030 shows faith in the sector's resilient, inflation-buffered returns. With a foundation of stable public-private deals and new exposure to fast-growing markets, Taqa is emerging as a global heavyweight as demand trends upward.

The bigger picture: *Water is the new oil for infrastructure investors.*

This move highlights how utilities are adapting as climate change and population growth drive up demand for reliable water. Investing in efficient infrastructure – like reverse osmosis tech – equips companies to meet tightening regulations and fast-changing needs. Taqa's bold step points to a global shift, with infrastructure spending increasingly focused on making sure cities and industries have enough water for the future.

Original Article: Finimize

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