Veles Water Weekly Report

August 21st 2025

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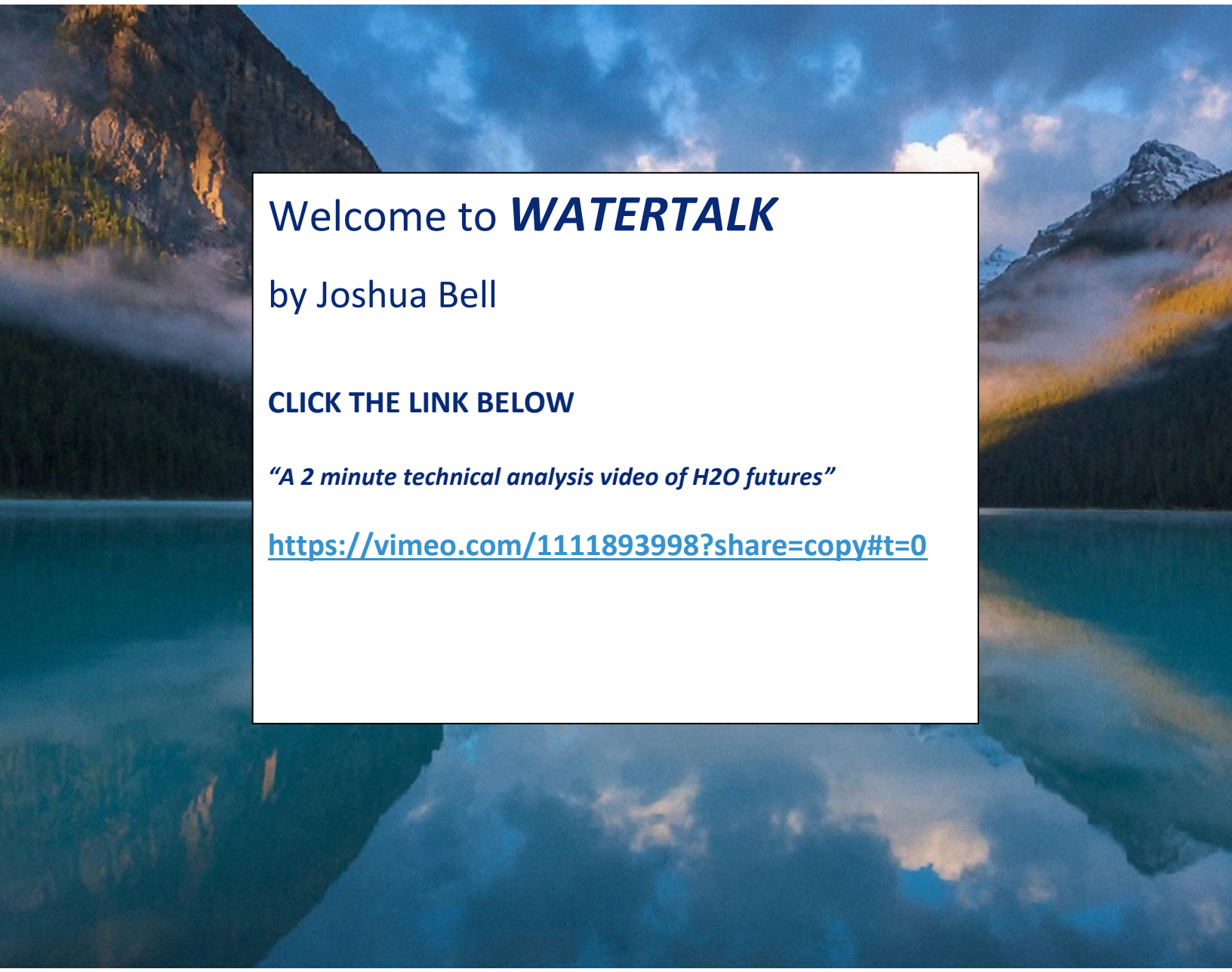
Veles Water

WATER FUTURES MARKET ANALYSIS



Welcome to ***WATERTALK***

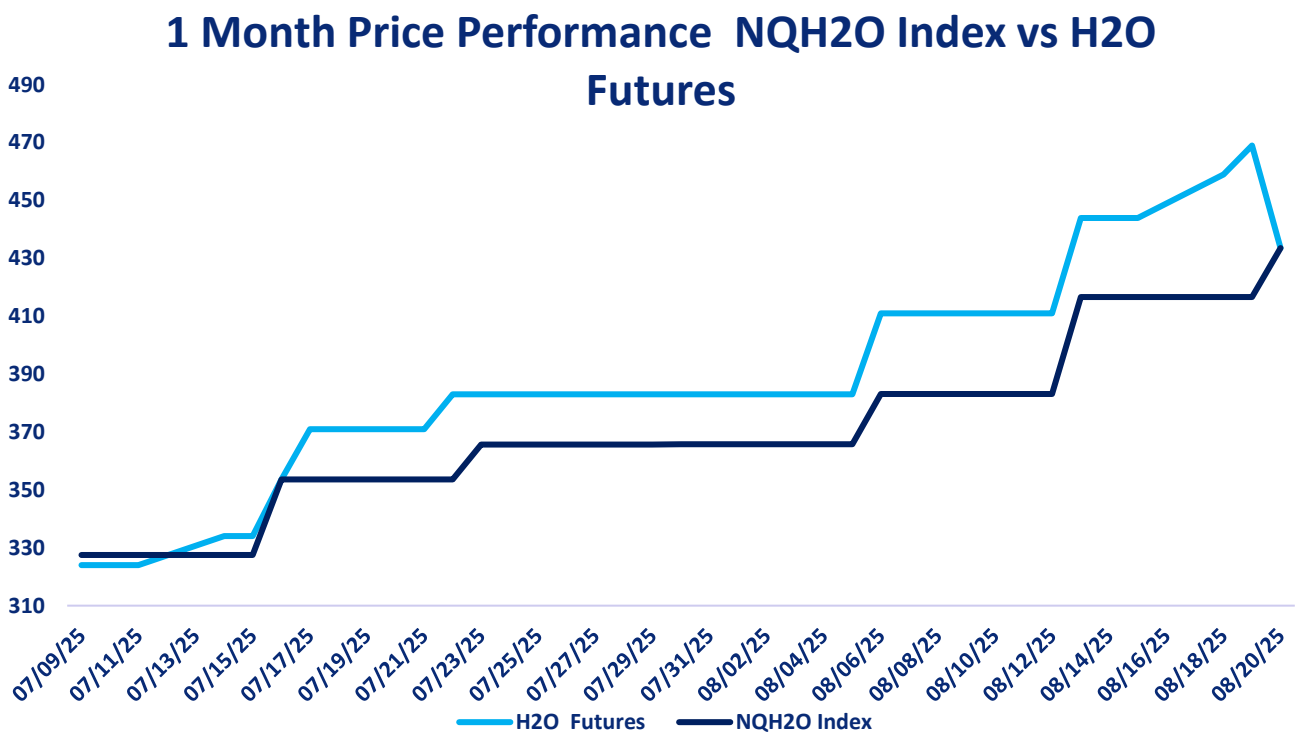
by Joshua Bell

CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

https://vimeo.com/1111893998?share=copy#t=0

NQH2O INDEX PRICE vs H2O FUTURES PRICE



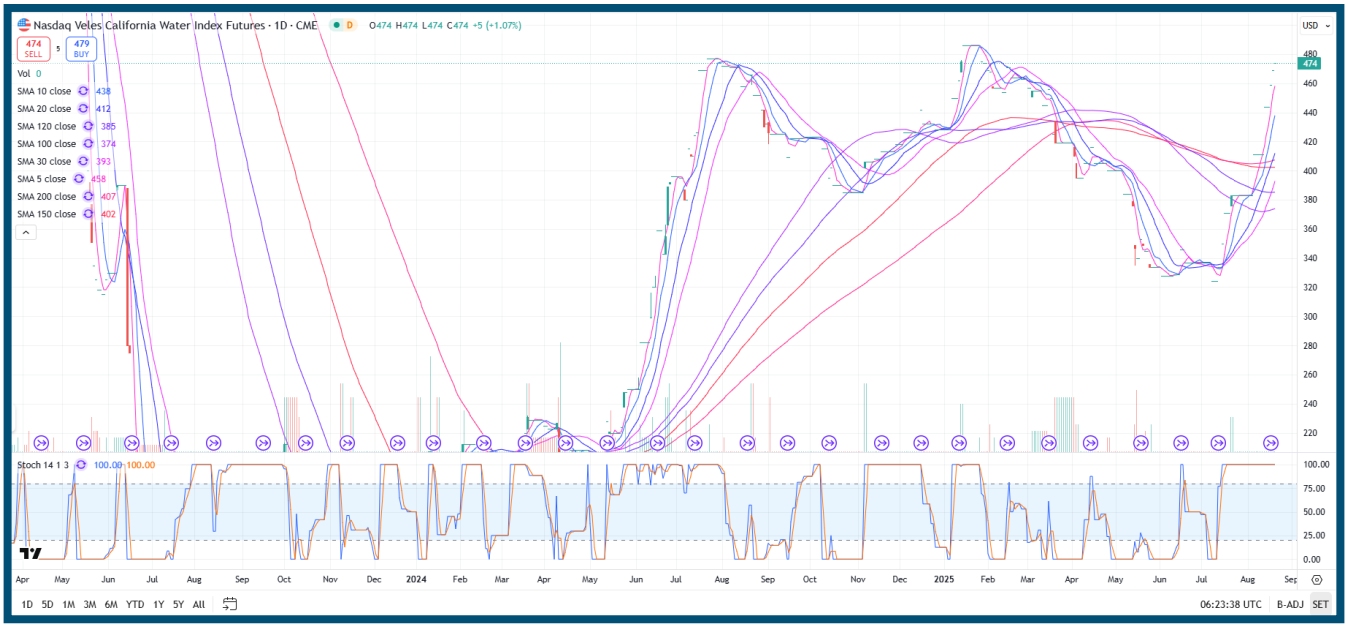
Price Chart Based upon Daily Close

The new NQH2O index level of $433.56 was published on August 20th, up $16.89 or 4.05% from the previous week. The August contract settled at the new index level and the September contract is considered the front month. The futures prices closed at a premium of $27.33 to $52.33 versus the index over the past week.

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

Sept 25	474@479
Oct 25	479@509
Dec 25	489@519
June 26	520@560

H2O FUTURES TECHNICAL REPORT



Trend Overview

- **Current Price:** 474 (+1.07%)
- **Recent Rally:** The index has surged from 320 to 474, a 48% gain, breaking decisively through all key moving averages.
- **Momentum:** Strong bullish momentum persists, evidenced by back-to-back green candles and clear separation between short- and long-term SMAs.

Moving Averages

- **Short-Term (SMA 5–30):**
  All short-term SMAs (5, 10, 20, 30) have turned upward sharply and are stacked in bullish order. The 5-day SMA (458) is leading, with shorter-term averages accelerating faster than longer-term ones.
- **Long-Term (SMA 100–200):**
  SMA 100 (374) and SMA 200 (407) are both flattening and beginning to curl upward. The price breaking and holding above both signals a confirmed bullish trend reversal.

Stochastic Oscillator (Bottom Panel)

- Both **%K and %D are pinned at 100**, deep in overbought territory:
  - Indicates **very strong short-term momentum**
  - Also implies a likely **pullback or sideways consolidation** in the near term

Resistance & Support

- **Immediate Resistance:**
  - **500**, a major psychological and historical ceiling
- **Support Zones:**
  - **SMA cluster zone:** 400-420
  - **Psychological level:** 400
  - **Major moving average support:** 407 (SMA 200)

Volume

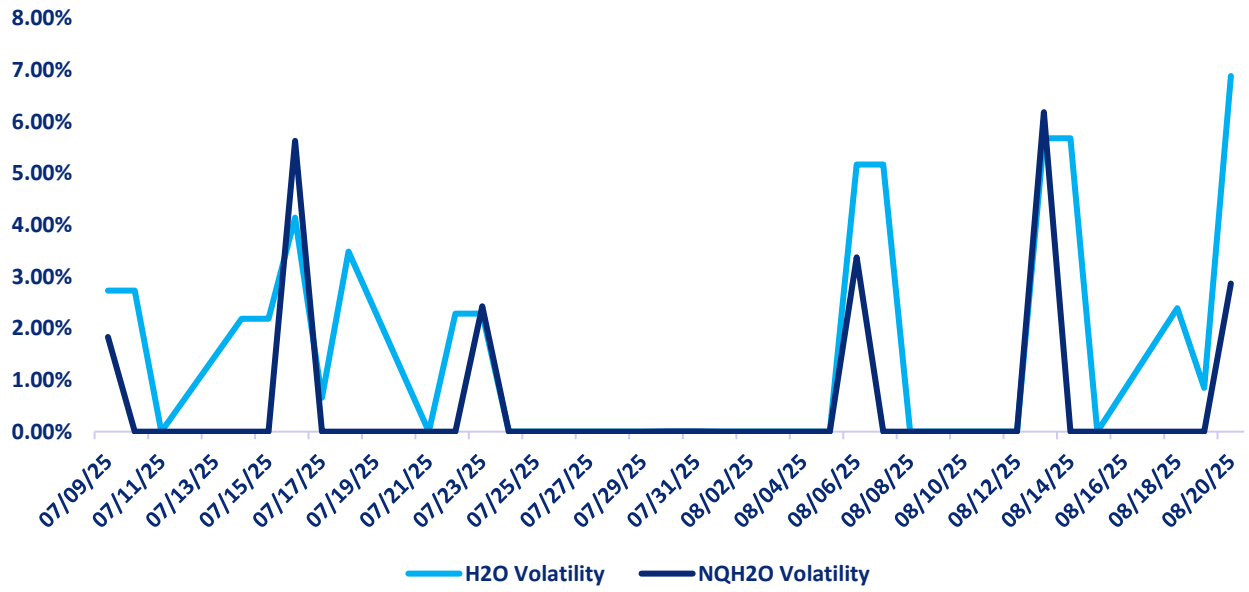
- Volume remains **muted**, suggesting the current rally is **price-led** rather than driven by strong participation. A volume spike would help confirm breakout strength.

Summary

The water futures index has mounted a strong recovery, rallying from 320 to 474 and now trading above all key moving averages. Technical indicators are solidly bullish, but with the Stochastic maxed out, the rally may be due for a short-term breather. That said, the broader trend has shifted decisively to the upside, and the next major hurdle lies at 500.

H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the August contract daily future volatility has been 0%.

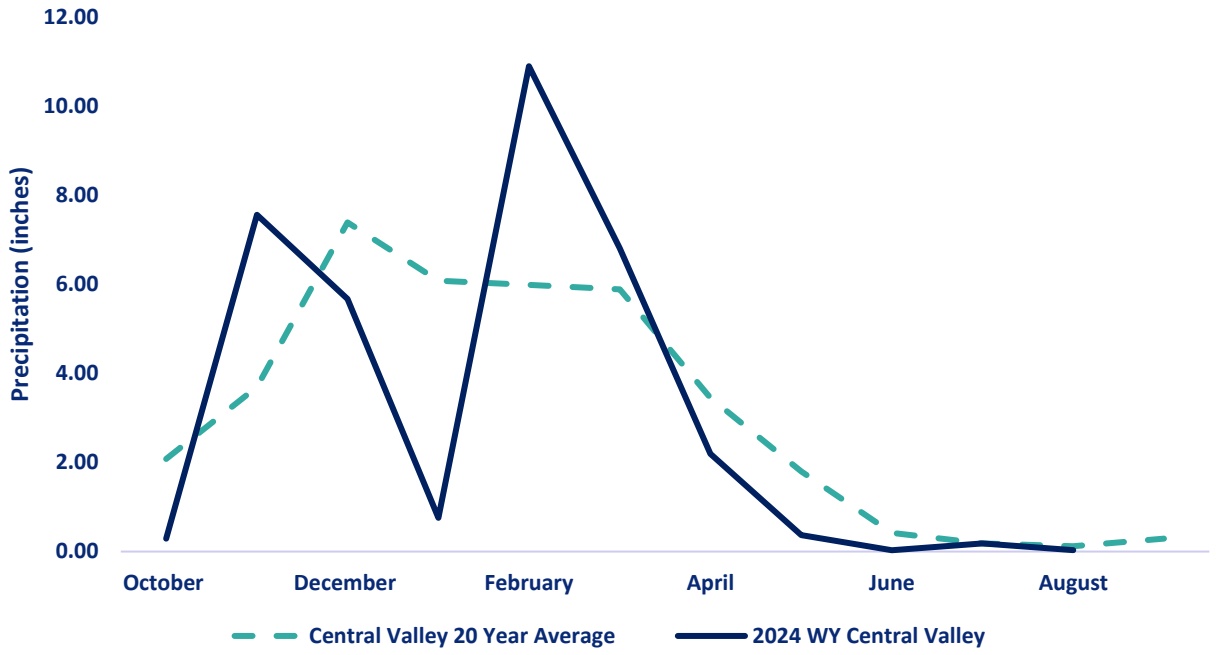
ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	19.64%	10.71%	5.06%	4.69%
H2O FUTURES	N/A	14.07%	13.85%	9.52%

For the week ending on August 20th, 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 20/08/2025

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	0	0.00	83	78
TULARE 6 STATION (6SI)	0	0	0.00	81	81
NORTHERN SIERRA 8 STATION (8SI)	0.1	0.06	73.43	90	105
CENTRAL VALLEY AVERAGE	0.03	0.02	27.70	85	88

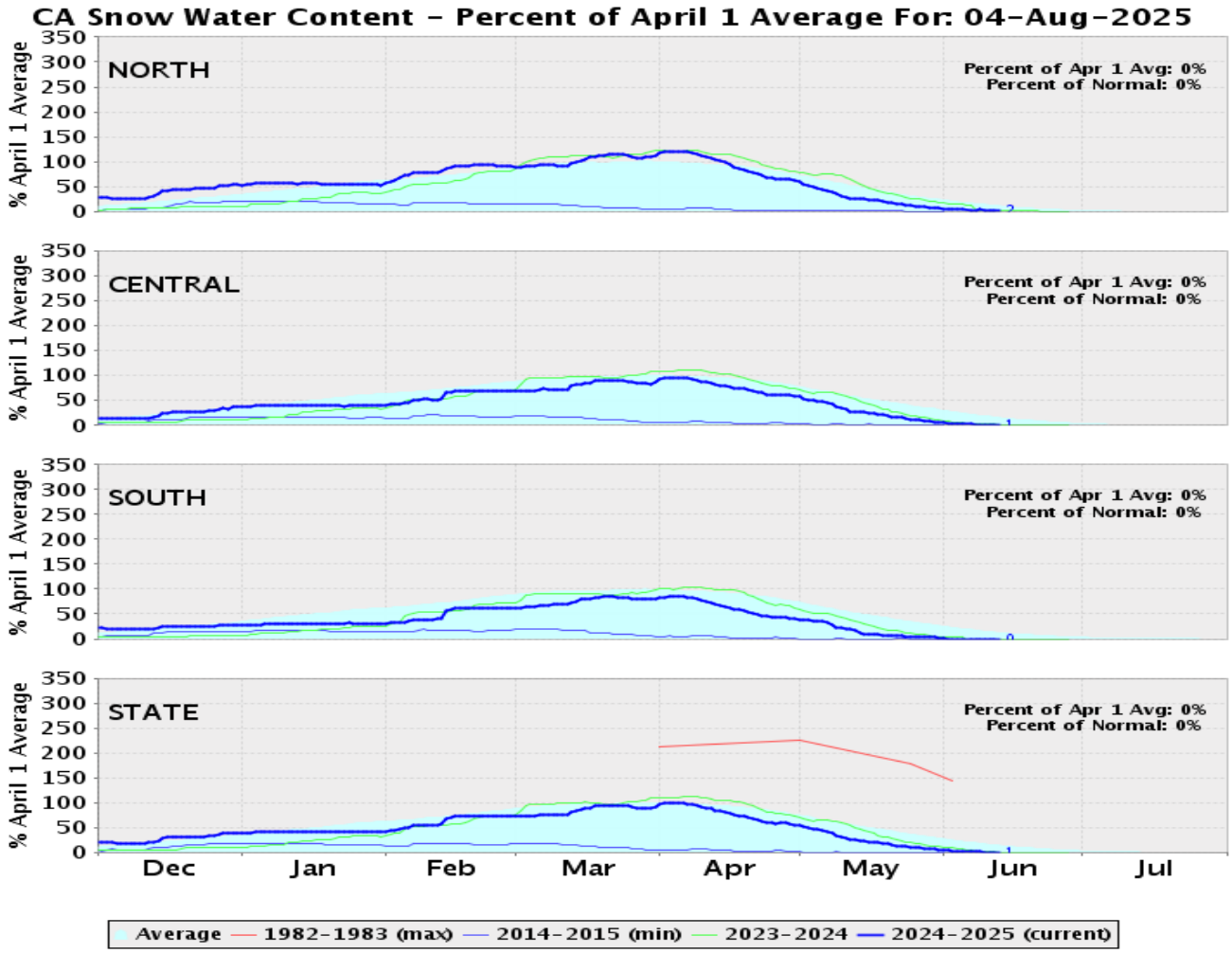
RESERVOIR STORAGE

RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	2,006,261	82	76	120
SHASTA LAKE	2,974,323	65	70	103
LAKE OROVILLE	2,481,760	72	72	114
SAN LUIS RES	809,094	40	44	98

*% 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	0.5	0	18	18	2
CENTRAL SIERRA	0.2	0	6	6	1
SOUTHERN SIERRA	0	0	0	0	0
STATEWIDE	0.2	0	7	7	1

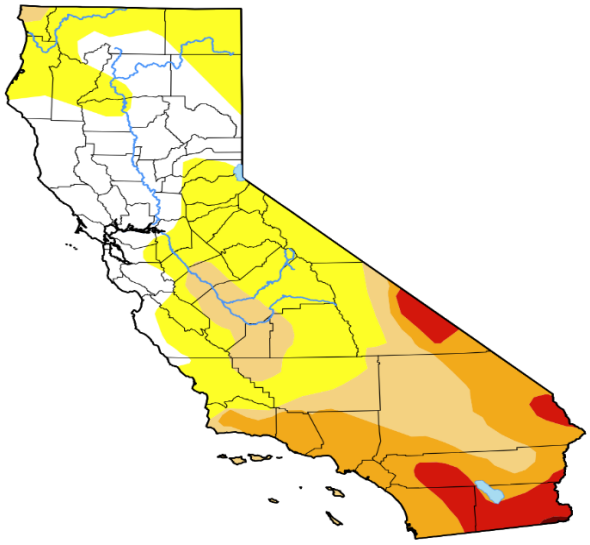
Snow Water Equivalent*, **or SWE**, is a commonly used measurement used by hydrologists and water managers to gauge the amount of liquid water contained within the snowpack. In other words, it is the amount of water that will be released from the snowpack when it melts. SWE has regional variance.**

**** 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 14, 2025

Data valid: August 12, 2025 at 8 a.m. EDT

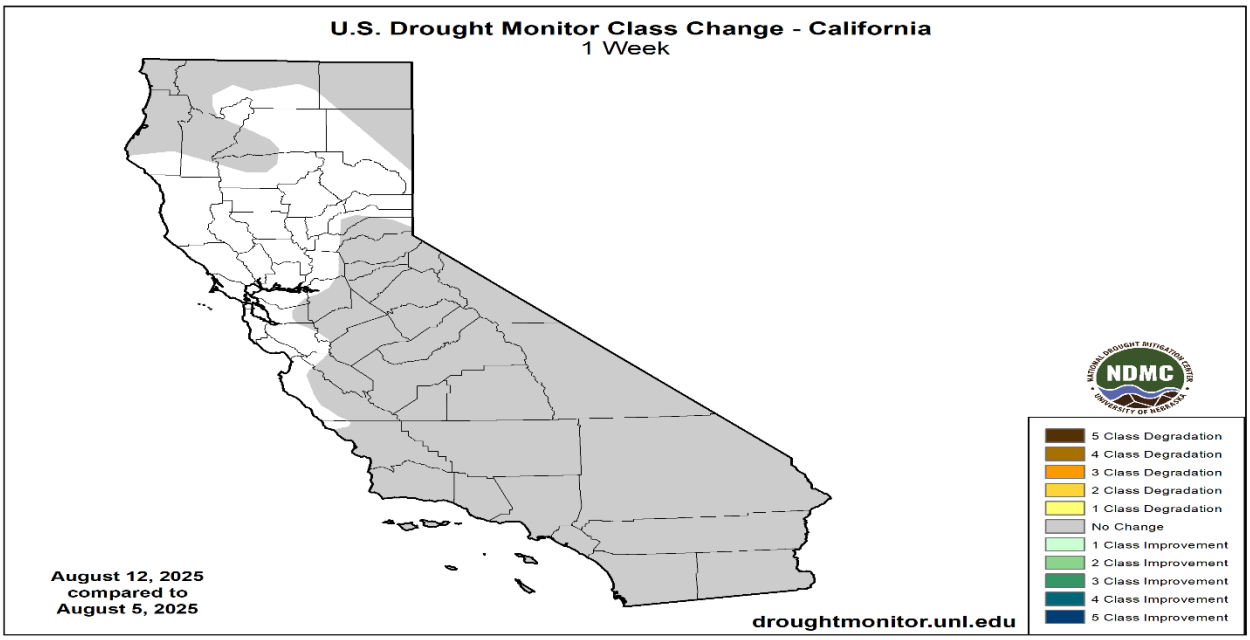
Intensity

- 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):
Richard Tinker, NOAA/NWS/NCEP/CPC

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

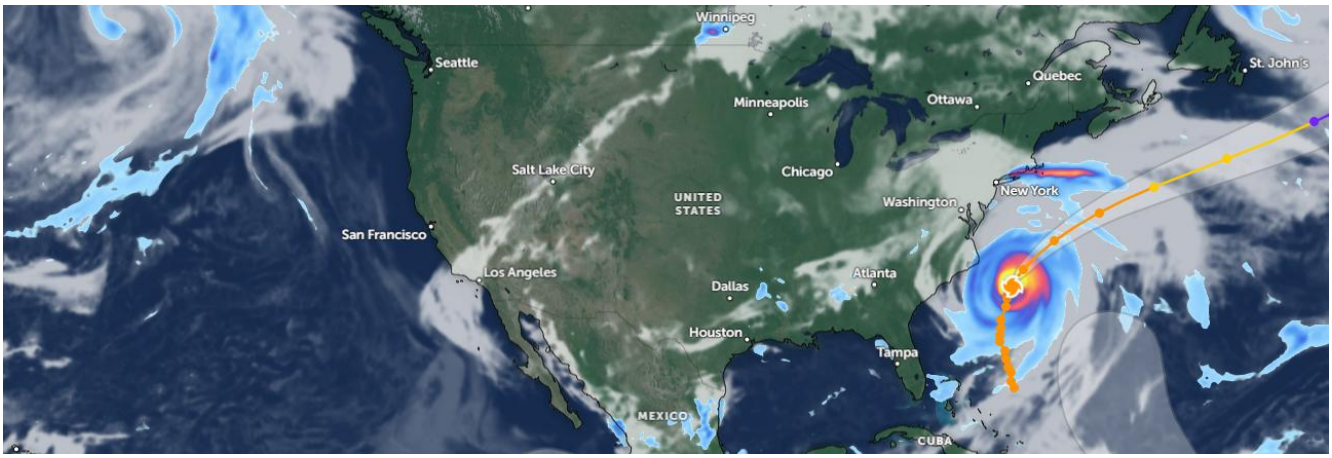


Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2025-08-12	23.98	76.02	39.56	23.01	5.90	0.10	145
Last Week to Current	2025-08-05	23.98	76.02	39.56	23.01	5.90	0.10	145
3 Months Ago to Current	2025-05-13	41.86	58.14	39.81	24.73	7.11	0.10	130
Start of Calendar Year to Current	2024-12-31	40.90	59.10	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	2024-08-13	77.29	22.71	5.32	0.00	0.00	0.00	28

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.

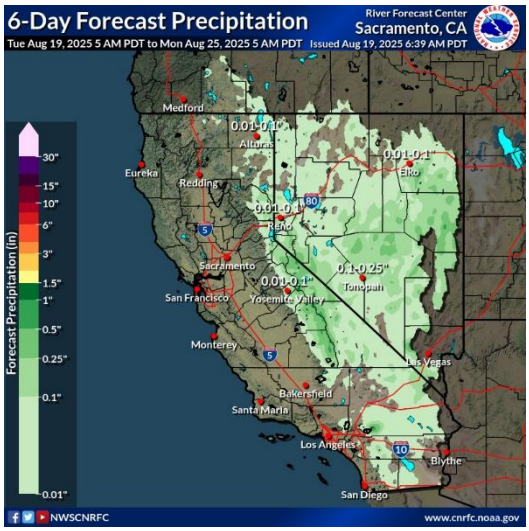
CURRENT SATELLITE IMAGERY

The satellite picture shows a relatively clear continental US with some slight Monsoon related moisture inflow in the San Diego area.
The main feature is the large hurricane Erin which is to the east of North Carolina but will not be expected to strike land but is affecting rainfall and wave patterns along the eastern seaboard.



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.

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

WESTERN WEATHER DISCUSSION

Heavy precipitation (one to locally multiple inches in most areas) prompted significant areas of improvement across northern and part of western Montana as well as portions of northern Idaho. Farther south, a few weeks of deficient monsoonal rainfall and above-normal temperatures prompted deterioration in D1 to D3 conditions across southwestern Montana, several swaths across Utah, and a few areas in Arizona and eastern Nebraska. In addition, conditions deteriorated from moderate to severe drought (D1 to D2) in part of northwestern Washington. In other parts of the West Region, dryness and drought was unchanged compared to last week. Outside the northern tier of the Region, very little precipitation was reported outside several tenths to about an inch in southeastern Arizona. The proportion of rangelands in poor or very poor condition increased in the last 5 weeks from 32 to 49 percent in Utah, from 22 to 44 percent in Washington, and from 10 to 34 percent in Idaho. Over half of the Washington spring wheat crop is in poor or very poor condition compared to just 17 percent in early July. During this period, the proportion of Montana spring wheat in poor or very poor condition increased from 37 to 47 percent. USDA also indicated that 53 percent of the Washington barley crop is in poor or very poor condition, compared to just 14 percent in early July.

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

WATER NEWS

CALIFORNIA WATER NEWS

Central Valley groundwater pumping, land-sinking stressing Aqueduct. Is there a fix?

Years of collapsing areas of land in the San Joaquin Valley — caused primarily by the over-pumping of groundwater for farming — has taken a toll on California's largest water delivery system that relies on stable land to work well. A state report released this year determined its 2023 annual water delivery capability had fallen 3% compared to original-design deliveries. If no action is taken, it could fall up to 87% by 2043. If that happens, 21 million Californians would feel the impacts, according to the California Department of Water Resources (DWR). "There are no quick solutions," DWR engineer Jesse Dillon told The Fresno Bee. "Everybody's going to need to realize that this is as big a problem as it is." Dillon is a manager for a program created to address subsidence impacting the California Aqueduct, a 444-mile canal system that uses gravity and pumping to move water across California from north to south. It's part of the State Water Project, a system more than 700 miles long that delivers surface water to contractors with member agencies that serve farms, businesses and 27 million Californians. In the Valley, the state shares the aqueduct with the U.S. Bureau of Reclamation's Central Valley Project, a federal program serving more than 250 contractors that also provide water for agriculture, industry and residents. In the Valley, the aqueduct travels through agricultural lands that have suffered the state's most extreme subsidence, the term for when the ground sinks or collapses, as farmers have historically pumped too much groundwater to use for their crops. The pumping and sinking have accelerated during drought years, when farmers' surface water allotments shrink. The sinking has created "choke points" along the aqueduct in the Valley that keep water from flowing efficiently to the Los Angeles area. Immediate repairs costing $32 million are necessary, but the state is still waiting on the U.S. Bureau of Reclamation to put up its 45% share of the cost, Dillon said. A long-term solution is also necessary, and the state is searching for an alternative to a reconstruction of the aqueduct that would cost its contractors an estimated $3 billion. Its largest contractor, the Metropolitan Water District of Southern California, would be responsible for 50% of that cost. It's too early to tell what the true cost or cost-sharing will look like, but some Metropolitan board members have questioned why Southern California should pay such a large share to fix a problem caused by farmers in the Valley. Others from that district are hoping for collaboration that could include finding groundwater pumpers in the Valley who are liable, as well as seeking other state and federal dollars to pay for the aqueduct's fix. But they also say some Valley water agencies are not doing enough to protect the aqueduct

from continued ground-sinking as they seek to achieve groundwater sustainability goals mandated by state law. Valley water groups hardly agree. “I absolutely disagree with that,” said Allison Febbo, general manager of the Westlands Water District in west Fresno County, which has historically been a hot spot for the ground sinking, which is harming the aqueduct. Aqueduct needs repairs, waiting on feds Completed in 1967, parts of the aqueduct were originally “overbuilt,” Dillon said, as engineers expected the subsidence already happening at that time to continue. That original design, along with increased operating levels and longer water pumping times, has helped minimize delivery impacts to just a 3% reduction from its original capability. Dillon said the state tries to constrain its pumping to a time of day when solar energy costs are low. “As these reductions in capacity continue to ramp up with increased subsidence, we’ll be moving less water,” he said. “The problem is we’ll be moving it at times that are outside the optimum window, which will put more stress on the grid.” Higher energy costs for the state will trickle down to the state’s contractors and the farmers and homeowners they serve as increased costs per unit of water, Dillon added. The $32 million in needed repairs would raise the concrete liner on the San Luis Canal, which is the stretch of aqueduct the state shares with the federal government in the Valley. Dillon called it “the worst subsided area where we have the most severe constrictions to the system.” The state is hoping to begin construction on those repairs in 2027, and Dillon said there are “backup strategies on how we could possibly fund that work.” The U.S. Bureau of Reclamation did not respond to The Bee’s request for comment about its progress on attaining its 45% share of the cost. The state’s water department has already spent more than $80 million since 2017 to address subsidence along the aqueduct. Dillon said subsidence rates have been low over the past two years in the “choke points” on the San Luis Canal, “but we’re still seeing a decline.” He said its difficult to quantify how much the aqueduct’s condition could worsen if repairs don’t begin on time. It could depend on how wet the coming years are: Drought conditions, such as those seen in California from 2012-2016, mean more groundwater pumping for farming because there is less surface water to go around. “But if those projects in the San Luis Canal are delayed,” Dillon said, “there will be diminished capacity to deliver water to Southern California.”

Original Article: The Fresno Bee by Erik Galcia

California approves an unprecedented plan to protect Joshua trees from climate change threats

California has approved an unprecedented plan to protect the iconic Joshua tree from climate change and development.

The western Joshua tree conservation plan is a broad blueprint that compiles scientific research and traditional ecological knowledge to identify areas where the plant may

thrive in a warmer future and plot out how to best protect that land. It recommends limiting development, taking steps to reduce wildfire risk like culling invasive grasses and introducing Joshua trees with genetic variations that make them more resilient to warming temperatures.

The plan was required by a state law enacted in 2023 and received final approval Wednesday at a Fish and Game Commission meeting. Proponents say the effort is groundbreaking because it seeks to conserve a species that's abundant now but is projected to lose much of its habitat to climate change.

"This is the first time I've ever seen the Legislature and governor take this step to protect a species that may be imperiled in future," said Isabel Baer, acting manager of the California Department of Fish and Wildlife habitat conservation planning branch. The department is tasked with carrying out and enforcing regulations set by the Fish and Game Commission and providing information to inform its decisions.

The forward-looking nature of the plan and underlying law has fueled controversy, with some local residents and politicians pointing out that the tree is currently ubiquitous in some high desert communities and questioning why it needs protecting. The law also requires property owners to obtain permits and pay fees to kill, damage or remove Joshua trees, which some fear will stifle growth and drive up the cost of living in some of the last affordable regions in Southern California.

San Bernardino County Supervisor Dawn Rowe, whose district includes communities surrounding Joshua Tree National Park, said the law has already stalled housing and infrastructure projects and driven away desperately-needed jobs and investments.

"The Western Joshua Tree Conservation Act is a blunt instrument that threatens the future of the Morongo Basin and other desert communities by imposing costly, inflexible regulations," Rowe said in a statement. "It was written and passed by legislators with no ties to our community, who have never seen how the Joshua tree thrives and is intricately interwoven into our developed areas."

The conservation plan has drawn criticism from a coalition of local water agencies, a residents' organization and trade groups representing realtors and farmers, who last month sent a letter to the state that called the plan "untried, and in numerous respects very confusing." The letter demanded changes in the implementation of the plan, including exemptions or expedited permitting for projects like water distribution system repairs and maintenance.

"Doing so would help reduce the disproportionate and harmful impacts on affected communities and public agencies during this experimental effort to conserve a species based solely on climate change projections," the letter states.

There are two distinct species of Joshua trees — referred to as "eastern" and "western" — that grow in California, Arizona, Nevada, Utah and Mexico. The spiky succulents are revered for their cultural import, having inspired both a namesake national park and a

U2 album. They have served as a guide for Indigenous people in both a physical and spiritual sense, with some tribes using their roots for basketry, their fibers for cordage and their petals and fruits for food, said Robert Przeklasa, executive director of the Native American Land Conservancy. The nonprofit was a partner in the creation of the plan, buoyed by a grant from the Wildlife Conservation Board that enabled tribal members to be compensated for their time and travel.

The trees are also a linchpin of the Mojave Desert ecosystem. Dozens of animals rely on them to survive, from ladder-backed woodpeckers who nest in their trunks to desert night lizards who sleep and forage beneath their fallen boughs.

Yet more than a third of the western species' range in California is private land and includes some of the fastest-growing communities in the region, according to state scientists. On top of that, climate models clearly show there won't be much suitable habitat left by the end of the century, scientists say.

"This plan is a major milestone in efforts to protect one of California's most ecologically important and iconic species that's facing a very, very difficult future," said Brendan Cummings, conservation director of the Center for Biological Diversity. The nonprofit petitioned to list the western Joshua tree as threatened under the state Endangered Species Act in 2019. The Western Joshua Tree Conservation Act was enacted after the Fish and Game Commission deadlocked on whether to do so.

That law requires people who perform work that kills all or part of a Joshua tree to receive a permit and to pay mitigation fees for each tree harmed. Exactly how close a person can dig to a Joshua tree before the work triggers the fee and permitting requirements is determined by CDFW staff on a case-by-case basis depending on the project, Baer said.

Those fees can add up quickly for even small projects.

Alec Mackie owns three lots in Yucca Valley and wants to build his retirement home on one of them. But now he may not be able to, because there are 88 Joshua trees on the property — and his plan would require removing eight of them.

The state reviewed his proposed construction project, said he must pay mitigation fees for 63 trees, and sent him a bill for $32,961.75. Mackie was also required to pay about $4,000 for the tree census, which covered two lots. And he must commission arborist reports and pay for contractor training, which he's estimating will cost another $4,000.

Original Article: The LA Times by Alex Wigglesworth

California water board joins opposition to high-risk-AI bill

The California State Water Resources Control Board is lending its voice to mounting opposition to a bill in California that would regulate high-risk use cases of artificial intelligence. The board said last week that the bill is "vague, ambiguous, and could encompass many current tools used, like excel workbooks."

Known as the Automated Decisions Safety Act, or AB 1018, the legislation would set new rules for how artificial intelligence and other automated-decision systems are used in situations that significantly affect people's lives, such as in the domains of housing, jobs, health care, credit, education and law.

The California Senate Appropriations Committee released a report Friday estimating state and local agencies could pay hundreds of millions of dollars annually in compliance costs, with major expenses tied to audits, staffing, training, notices, appeals and legal enforcement.

"These tools are used broadly across Water Boards programs, and many are used to inform actions that could be considered consequential actions under the bill," the report read. "To meet the bill's AB 1018 provision, the State Water Board estimates significant cost pressures, likely in the millions of dollars per year."

The State Controller's Office projects that the bill would require more than $1 million annually in new staffing costs.

The University of California Health, the health care system for the state college system, would face more than $40 million in one-time costs and $24 million annually for "mandated audits, administrative processes, staff training, and system modifications," according to the appropriations report. Agencies like the State Water Board, CalHHS, and the courts could also face ongoing expenses totaling the millions of dollars.

Other opponents of the legislation, including the Business Star Alliance, a global trade association that represents large technology companies like Microsoft, Oracle and Salesforce, the Software Information Industry Association, and the state's Chamber of Commerce, have argued the bill's broad scope would overwhelm organizations and stifle innovation.

The bill's author, Rep. Rebecca Bauer-Kahan, said during a July hearing that the legislation is "critically important" to protect against AI bias and the harms it could cause to the public.

Original Article: Statescoop by Sophia Fox-Sowell

'Most significant heat wave of the summer' moves into Southern California this week

The most significant heat wave of the summer is moving into Southern California this week, forecasters say, along with heightened wildfire dangers in some areas.

Original Article: Los Angeles Daily News by Beau Yarbrough

How Orange County's GWRS revolutionized water reuse

More than **461 billion—and counting**. This striking figure, prominently displayed on the Orange County Water District's (OCWD) website, represents the **gallons of potable water produced by the Groundwater Replenishment System (GWRS) since it became**

operational in 2008. As the world's largest advanced water purification system for indirect potable reuse, the GWRS stands out as a visionary project that takes a once-wasted resource, wastewater, and purifies it into high-quality drinking water—a remarkable feat that reflects innovation, leadership and sustainability.

OCWD's visionary leadership in water recycling dates back to the 1970s, when it built and operated one of the region's first advanced wastewater reclamation facilities, Water Factory 21. Building on this legacy, OCWD expanded upon the partnership with its neighbours at the Orange County Sanitation District (OC San) to develop a solution that would prioritise water reuse and redefine regional water reliability.

A joint initiative of the two agencies, GWRS began producing purified wastewater at an initial capacity of 70 million gallons of water per day (MGD). A 2015 expansion increased that figure to 100 MGD. With its final phase completed in 2023, **the system now recycles 100 per cent of OC San's reclaimable wastewater flows, producing up to 130 MGD**—enough to serve one million people. It's an impressive milestone that sets a new standard in the industry for large-scale potable reuse.

The system now recycles 100% of OC San's reclaimable wastewater flows, setting a new standard in the industry for large-scale potable reuse

The purified water is then injected into wells located near the Pacific Ocean coastline to protect seawater intrusion into the Orange County Groundwater Basin, directly injected into the basin, and sent to recharge basins to allow for percolation into the basin. Managed by OCWD, the groundwater basin is the primary drinking source for 2.5 million people in north and central Orange County.

Getting to this final phase didn't happen overnight. It took strategic planning, technical expertise and community outreach – all necessary ingredients to a successful project. **For the final expansion, innovation and new technologies also played a crucial role**, whether it was testing and developing new membranes to optimize performance, reducing energy usage and maximizing water output, building new pipelines and infrastructure to get more wastewater to the facility or evaluating the quality of the new source water that was coming into the plant.

When OCWD and OC San launched the GWRS, it marked a bold step toward investing in and securing a resilient water supply. Today, that vision has paid off many times over. Not only is **GWRS less expensive and less energy-intensive than importing water from northern California or the Colorado River**, but it also offers local reliability and reduced dependency on increasingly strained external sources. It's a solution that continues to benefit both partners and the communities they serve.

The final completion of GWRS comes at a critical time. As many parts of the world face the impacts of extreme weather cycles, the need for sustainable water solutions is more urgent than ever. Recently finalised regulations in California supporting direct potable reuse provide an opportune time for other water agencies to explore advanced water

recycling strategies, and, for those agencies pursuing indirect potable reuse or direct potable reuse projects, they can look to the GWRS as a model.

Water reuse has proven to be a successful investment for OCWD and its communities and reflects our commitment to explore all possible water supply solutions. Even with the success of GWRS, OCWD continues to innovate and test new technologies to identify more opportunities to enhance operations and support our diversified water supply portfolio. We are always looking ahead as we remain committed to our mission to bring reliable, high-quality water to our communities.

Original Article: Smart Water Magazine by Mehul Patel

Regulators side with Cal Am on Monterey Peninsula water supply

State regulators on Thursday ruled unanimously that the Monterey Peninsula will need more water by 2050 than all current available sources can supply, including the new expansion of Pure Water Monterey that will be coming online this year. As a result, commissioners believe that water deficit will need to be filled with California American Water Co.'s desalination project.

It was not a surprise for many, since administrative law judges Jack Chang and Robert Haga at the California Public Utilities Commission in May issued a proposed decision that adopted most of Cal Am's estimates on water supply and demand by the year 2050. Cal Am's estimated demand outstrips its estimated supply, setting the stage for the need for a desalination plant.

The ruling on what's dubbed the Phase 2 decision, went against several Peninsula water agencies and advocacy groups, including the CPUC's own Public Advocates Office, which was established to represent the best interests of utility ratepayers in California.

Cal Am's estimates are supported by business interests, including the Monterey County Farm Bureau, the Monterey County Real Estate Association and the Monterey County Hospitality Association.

"Our estimates reflect responsible future supply and demand estimates to help ensure we can reliably provide water to meet our customers' needs, whether it is a time of water abundance or more critically in time of drought," said Kevin Tilden, president of Cal Am in a press release issued immediately after the ruling. "Today's decision confirms the Monterey Peninsula needs additional water supply to meet customer demands today, tomorrow and well into the future to provide water security."

But others, including long-time Cal Am foe Public Water Now, a community-based organization, argued the CPUC didn't have a firm grasp of facts.

"Cal Am is desperate to force its desal on the Peninsula, but today's CPUC decision shows only another 2,618 acre-feet of water will be needed by 2050," said Melodie Chrislock, managing director of Public Water Now. "How does that justify a half billion-dollar desal plant now? There is no water scarcity as Cal Am recently claimed. As of October, there

will be 2,000 to 3,000 acre-feet a year of surplus water for growth. The catch is we can't use it unless the (cease and desist order) is lifted. Of course, Cal Am opposes lifting the (order), once again holding this community's water hostage."

An acre-foot is enough water to cover a football field to a depth of one foot.

Far more people called into the CPUC proceeding regarding the Monterey Peninsula Phase 2 decision than all the other statewide issues combined. About 28 callers opposed Cal Am's estimates and a dozen supported those estimates.

Several callers said the only reason Cal Am is inflating the demand numbers is to justify inflating profits.

"Your (CPUC) role is to protect the public," Peninsula ratepayer Barbara Moore told commissioners. "Cal Am has a vested financial interest in the desal project."

David Prina, a board member of LandWatch Monterey County told commissioners to "protect the public's interest, not Cal Am's bottom line."

Those who called in in support of Cal Am's estimates cited the need for affordable housing that is now restricted because of a state cease-and-desist order on pumping any more water from the Carmel River. Other supporters cast shadows across the availability of source water for the Pure Water Monterey expansion project.

Jeff Davi with the Monterey County Hospitality Association supports Cal Am's numbers, saying the Peninsula needs a permanent water supply, and that Pure Water Monterey, which recycles water, is in danger of losing its source water.

Source water for Pure Water Monterey includes wastewater, wash water from produce companies and runoff from agricultural irrigation. Cal Am opponents argued that there is no water scarcity along the Monterey Peninsula with Pure Water Monterey and it's expansion coming online this year.

One caller cited a recent Monterey County Farm Bureau letter questioning source water supplies for Pure Water Monterey, as well as raising the issue that growers may in the future want to recycle that wash water and runoff for irrigation.

"Salinas Valley water users continue to cast doubt on the ability of the Monterey Peninsula to rely on a single source for the major portion of their potable water supply – the Pure Water Monterey project of reclaimed water operated by Monterey One Water," wrote Norm Groot, the executive director of the local farm bureau, in a July 8 letter to commissioners.

Groot continued by saying, "we express serious concerns that the source waters for the Pure Water Monterey project are heavily dependent on effluent and surface water flows that originate in the Salinas Valley basin area, and that these source waters are not fully understood or quantified in terms of availability, rights, and moreover, reliability."

By the numbers, Cal Am wanted to have the CPUC record a 2050 Peninsula water demand of 14,480 acre-feet. But Chang and Haga, the CPUC administrative law judges,

said that was excessive and reduced to 13,732 acre-feet. Even the reduced number is an extreme exaggeration, Cal Am opponents say.

Depending on which opponent you ask, the correct 2050 demand number is closer to 11,200 acre feet, significantly below Cal Am's estimate. The Monterey Peninsula Water Management District puts demand at 10,599, while Marina Coast Water Water District sets demand at 11,203. The CPUC's own Public Advocates Office splits the distance at 11,073 acre feet.

Kate Mulligan, a resident of Seaside, asked commissioners to table the issue for five years in order to get up-to-date data.

"The facts you (CPUC) are ignoring will haunt you in the end," Mulligan said. "Please take Cal Am's knees off our backs."

Original Article: Montery Herald by Dennis L. Taylor

US WATER NEWS

Southwest in a 'mega-drying' zone due to groundwater loss, study finds

Nevada, the driest state in the nation, is only getting drier as the region's supply of groundwater quickly disappears.

The American Southwest – including Arizona, New Mexico, and portions of Nevada, Colorado, Utah and California – is linked to one of four continental-scale "mega-drying" regions worldwide that have undergone unprecedented rates of drying, according to a recent study in Science Advances.

The loss of freshwater from the regions is the result of two key factors: severe droughts and groundwater overuse.

Two decades of satellite observations revealed that as the dry areas of the world become drier and surface water in rivers and lakes declines, communities are becoming more reliant on groundwater, leading to rapid depletion of freshwater.

The lower Colorado River Basin – which supplies water for Nevada, Arizona, and California – has lost groundwater equivalent to Lake Mead's full storage capacity in the last 20 years, or about 28 million acre-feet of water. An acre-foot of water is enough to supply roughly two urban households with indoor and outdoor water needs for a year.

"All the drying is happening in the Southwest. Three quarters of the country is getting a little bit wetter, but the southwestern quadrant of the country is getting a lot drier," said Jay Fagmiglietti, the study co-author and Global Futures Professor at Arizona State's School of Sustainability.

Even areas in the U.S. that are experiencing more precipitation are not keeping pace with the rate of rapid drying, leading to a net loss of freshwater, according to the study. The areas experiencing drying have increased, while the areas experiencing wetting have decreased.

Globally, drying land is expanding by about two times the size of California every year, according to the study.

The four “mega drying” regions globally are Alaska and Northern Canada, Northern Russia, Middle East/North Africa/PanEurasia, and Southwestern North America and Central America.

The research is especially noteworthy for Nevada, where about half the state’s counties rely on groundwater for more than 80% of their water supply, according to the U.S. Geological Survey. In 2015 Esmeralda, Eureka, Lincoln, Mineral and Nye counties received more than 95% of their water from groundwater.

Throughout several parts of Nevada, significantly more groundwater is extracted than is returned to aquifers each year, leading to declining water levels. About 20% of Nevada’s groundwater basins are currently over-pumped, according to the Nevada Division of Water Resources.

Despite the state’s dependence on groundwater, Nevada lacks detailed data on available groundwater. Water managers in Nevada currently rely on water budget estimates developed 50 to 70 years ago, raising major concerns about the accuracy of groundwater availability, according to the Nevada state agency.

The consequences of groundwater depletion in the Southwest include reduced irrigation water supply and threats to agricultural productivity, reduced capacity for climate adaptation, and damage to groundwater dependent ecosystems.

Most of Nevada’s rivers, streams, and lakes are groundwater dependent. Groundwater also plays a crucial role in supporting the state’s unique ecosystems. There are 242 wetland-dependent species recorded by Nevada Division of Natural Heritage – 143 of which can only be found in Nevada.

A growing awareness of ground water as a critical natural resource has raised several research questions: How much ground water do we have? Are we running out? Where are ground-water resources most stressed by human development?

Fagmiglietti said the study was conceived to answer some of those questions and prepare water managers for a drier future.

About 75% of the world’s population lives in the 101 countries that make up the four mega-drying regions, according to the study.

Researchers used satellites to measure changes in gravity to detect weight loss or gain in regions, indicating groundwater depletion or prolonged drought.

The research team said global drying is not slowing down. Their data indicates groundwater was lost three times faster over the last decade than in the prior one.

The loss of groundwater is also contributing more to global sea level rise than melting glaciers and ice caps, according to the study. Increased runoff from groundwater pumping and glacier melting contributes to the ocean’s water levels, exacerbating sea level rise.

"Drying continents themselves are now contributing, they're the largest contributor to sea level rise, ahead of either the Greenland or the Antarctic ice sheet," Fagmiglietti said.

"We pump groundwater for irrigation. And a lot of that, you know, doesn't make it back into the ground. It evaporates, or it runs off, and ultimately ends up in the ocean," he said.

The study also points to a tipping point during the "mega El-Niño" years around 2014 to 2015 when equatorial waters in the Pacific were 1.5 to 2 degrees Celsius above average. During that period climate extremes began to accelerate, leading to more groundwater usage to cover the lack of rainfall.

Fagmiglietti emphasized the critical importance of groundwater in drying regions and the need for better management and protection. Groundwater is often unprotected and unmonitored, Fagmiglietti said, making it at risk in many regions around the world. States need to recognize the importance of groundwater and enforce effective management policies.

"Communities that depend on groundwater entirely, again, need to understand that that groundwater is disappearing rapidly. They need to understand what their supply looks like and need to prioritize how they're going to use it and try to sustain it," he said.

Last week, federal officials announced they would continue water allocation cuts on the Colorado River for the fifth consecutive year following a persistent drought that has shrunken Lake Mead, the river's largest reservoir. Persistent drought like the one impacting the reservoir will only put more pressure on groundwater, said Fagmiglietti.

"No one ever talks about the groundwater, especially when it comes to the Colorado River. Discussion is always about the reservoirs and the river itself, but really thinking holistically about how much water you have in the region is really, really important, and in particular with the increased stress that will happen on groundwater," Fagmiglietti said.

Original Article: Nevada Current by Jeniffer Solis

Officials predict Lake Mead will hit its lowest water levels ever in 2 years

Amid severe drought and ongoing, tense negotiations over the future of the Colorado River, federal officials are predicting that Lake Mead will see its lowest water levels ever within the next two years.

Last week, the Bureau of Reclamation released a report that estimates water levels for reservoirs in the Colorado River Basin, including Lake Powell and Lake Mead, over the next two years. Lake Mead and Lake Powell are currently 31% full. For both reservoirs, the outlook over the next two years isn't good.

By the end of 2025, the bureau estimates that Lake Powell's water levels will be 34 feet lower than the previous year, hitting 3,538 feet in elevation by Jan. 1. That's 162 feet

below Lake Powell's full operating capacity and 48 feet above the water level needed for Glen Canyon Dam to continue producing hydropower.

By next spring, the bureau's projections put water levels for Lake Powell at elevation 3,519 feet, which is approaching the "danger zones for electricity generation," said Kyle Roerink, executive director of the watchdog organization Great Basin Water Network, in a phone interview Monday with SFGATE.

The outlook for Lake Mead is even more stark. By the end of the year, Lake Mead's water levels are expected to drop to elevation 1,056 feet, which is 7 feet lower than last year, and the decline continues over the next two years. By July 2027, the farthest month out on the bureau's timeline, federal officials predict the water will be at elevation 1,037 feet, Lake Mead's lowest ever, eclipsing the record set in 2022, when Lake Mead's water levels dipped to elevation 1,041 feet.

The report led the bureau to cut Arizona and Nevada's shares of water from the Colorado River by 18% and 7%, respectively. Mexico will also lose 5% of its water allotment.

The bureau did not call on California to reduce its water usage, however. California has already committed to decreasing its water use from the Colorado River.

States located in the Colorado River's upper basin — Colorado, Wyoming, Utah and New Mexico — also avoided cuts to their water supply.

The outlook comes during an "unprecedented" drought, the bureau states in a news release issued Friday, and a critical time for negotiations over the future of water usage in the West.

This round of cuts "underscores the importance of immediate action to secure the future of the Colorado River," said Bureau of Reclamation Acting Commissioner David Palumbo in the news release.

The Colorado River's 1,450 miles provide water to 40 million people. Several agreements that guide how water rights are distributed among seven states and Mexico expire at the end of 2026. What happens next has been the focus of tense, ongoing negotiations between federal agencies and the seven states. Last week's outlook underscored the pressing need for resolution. Scott Cameron, the Department of Interior acting assistant secretary for water and science, said in Friday's news release that "we cannot afford to delay" a consensus agreement between all seven states in the Colorado River Basin.

"This comes at a time when there's a lot of uncertainty about how California and the other Colorado River Basin states will be managing their water in the future," Roerink said. "Key management agreements expire in 2026 and there's ongoing infighting that has been well documented between the Colorado River Basin states about who is going to cut and when."

In the meantime, lower basin states — California, Arizona and Nevada — are already making big cuts to their water usage. The bureau's latest study shows that "2026 will mark the third consecutive year the Lower Basin and Mexico receive less than 7.5 million acre-feet from Lake Powell — a rare occurrence seen only five times since the reservoir first filled, four of them in just the past five years," said JB Hamby, chairman of the Colorado River Board of California, in a statement emailed to SFGATE. The board represents California in Colorado River negotiations.

Even though it wasn't called on to make cuts, California is a year ahead of schedule to meet its commitment to conserve 3 million acre feet of water, Hamby said. He also put pressure on the upper basin states. Hamby said all seven states — including those in the upper basin — need to shoulder some of the responsibility.

Original Article: SF Gate by Julie Brown Davis

Arizona will see another year of Colorado River water cuts

Federal officials announced Aug. 15 they would continue water allocation cuts on the Colorado River for the fifth consecutive year following a persistent drought that's shrunken the river's largest reservoir.

The Bureau of Reclamation announced that Tier 1 water cuts — the least severe shortage condition — would continue next year to preserve water levels at Lake Mead, which supplies about 40% of Phoenix's water.

Federal water managers decide shortage levels each year in August, based on projected water levels at Lake Mead and Lake Powell for the start of the following year.

Lake Mead's elevation is currently at about 1,054 feet above sea level – 175 feet below what's considered full. Based on water storage, the reservoir is at 31% of capacity. Friday, Reclamation projected that, by the end of this year, water elevation will be only a foot higher.

The water cuts are aimed at Arizona and Nevada, which will lose 18% and 7% of their annual allotment of Colorado River water once again. Mexico, which also receives water from the river, will see its annual allotment reduced by 5%, federal officials said.

The continued cuts underscore "the importance of immediate action to secure the future of the Colorado River," said David Palumbo, the Bureau of Reclamation's acting commissioner in a statement, adding that "we must develop new, sustainable operating guidelines that are robust enough to withstand ongoing drought and poor runoff conditions."

Arizona's cut amounts to a loss of 512,000 acre-feet of water for another year.

The cuts announced Aug. 15 are in the same Tier 1 category declared last year and in 2021, when the first federal cutback on the Colorado River water took effect. A "Tier 2" water shortage for 2023 resulted in even steeper cuts.

Based on Reclamation's most recent hydraulic models, Lake Mead water level will likely fall below 1,050 feet by July 2026, triggering another Tier 2 shortage that would reduce annual available water for Nevada by another 4,000 acre-feet.

The lackluster reservoir forecast follows a winter of below-average snowpack across the Upper Colorado River Basin, a major source of snowmelt for Lake Mead and Lake Powell. Hydraulic studies by the federal government show the river's flow will likely decrease by 3 million acre-feet of water in the next decade, making conservation efforts more urgent.

The Colorado River Basin supplies drinking water to 40 million people across the lower basin — Arizona, California, Nevada and Mexico — and the upper basin — Colorado, New Mexico, Utah and Wyoming.

The water cuts come as the seven states that share the Colorado River's water are in deadlocked negotiations over how the river and its reservoirs should be managed after current guidelines expire at the end of 2026.

Negotiations have continued behind closed doors for months as water officials try to reach an agreement. Upper and Lower Basin states have remained split on which half of the river should decrease their water use, and by how much.

The federal government has given the states until mid-November to come up with a draft for a new plan. If they can't reach a deal ahead of a 2026 deadline, the federal government can step in and make those decisions itself.

"As the basin prepares for the transition to post-2026 operating guidelines, the urgency for the seven Colorado River Basin states to reach a consensus agreement has never been clearer. We cannot afford to delay," said Department of the Interior's Acting Assistant Secretary for Water and Science Scott Cameron. "The health of the Colorado River system and the livelihoods that depend on it are relying on our ability to collaborate effectively and craft forward-thinking solutions that prioritize conservation, efficiency, and resilience."

Original Article: AZ Mirror by Jeniffer Solis

VVater Awarded Multi-Million Dollar Water Reuse Project for a $1.5B Multi-Use Real Estate Development in South Austin

Enervate, the world's premier innovator in advanced water treatment solutions, has been awarded the Direct Potable Reuse (DPR) & Water Reuse project for the highly anticipated multi-use development in South Austin. This milestone positions VVater at the forefront of sustainable water innovation for one of the region's most significant master-planned communities. With award-winning technologies recognized by both the CES Best of Innovation Award and the World Future Award, VVater has built a global reputation for redefining water purity, safety, and resilience. Its selection for this development reflects a commitment to ensuring the development's residents and

businesses have access to safe, sustainable, and exceptional quality drinking water, recycled and repurposed through advanced treatment to meet or exceed all potable standards. "This project is a powerful example of where forward-thinking developers and city leadership meets proven water innovation. This new multi-use development is being built to last for generations, and we are proud to deliver water solutions that set it apart as a model for sustainable growth in Texas and beyond. As we see more Direct Potable Reuse and Indirect Potable Reuse projects come to life throughout Texas & California, it provides additional capacity with extremely high-quality water for water-restricted areas." said Kevin Gast, Chairman & CEO of VVater. Located in South Austin, this development is designed as a vibrant, multi-use destination blending residential living, recreation, and community amenities. The developer has committed to integrating water infrastructure that supports long-term sustainability, with VVater's DPR system playing a central role in achieving that vision. As water becomes more scarce, more developers are looking to utilize DPR & IPR solutions to offset costs and ensure future capacity, with VVater seen as one of the leading entities in the US providing such solutions. More details will follow as this highly anticipated multi-use real estate development is officially announced in the next few months. VVater is also positioned to receive additional orders for the development, including providing all aquatic water treatment for a large aquatic facility, managing wastewater treatment facilities, and supporting other advanced water infrastructure projects within this development.
Original Article: The Olympian

Colorado sports betting tax revenue sets new record, surging money for water projects

Funding for water in Colorado is seeing a surge, despite the state budget crisis, with cash from sports betting hitting a new high this year.
The gaming initiative brought in $37 million for the fiscal year that ended June 30, according to the Colorado Division of Gaming. That represents a nearly 21% increase from last year, when tax revenue came in at $30.4 million. But water projects statewide still are at risk as the legislature gears up for a special session next week to close a new $1 billion gap in Colorado's budget.
Approved by voters in 2019, the sports betting tax is used to fund Colorado's Water Plan. This Fresh Water News story is a collaboration between The Colorado Sun and Water Education Colorado. It also appears at wateredco.org.
Back then, early legislative forecasts for revenues that might flow from the program topped out at $29 million.

But the program has grown in popularity and lawmakers have, in recent years, expanded the amount of revenue from the gaming tax that can flow to water programs and also removed a tax break for gaming companies that offer free bets.
The Colorado Water Plan is run by the Colorado Water Conservation Board, the state's lead water planning agency.
In addition to sports betting cash, the CWCB is financed using income derived from severance taxes, the state's general fund and other sources.
The agency sends millions of dollars across the state each year to help pay for water-saving programs for cities and farms, habitat restoration programs, storage projects, land use planning, irrigation system repairs and the purchase of environmental water supplies for water-short streams.
On Aug. 21, Gov. Jared Polis will convene a special session during which lawmakers will look for ways to fill a roughly $1 billion budget shortfall triggered by new federal tax cuts, which have an impact on Colorado's tax collections as well.
The sports betting tax program by law can't be tapped by lawmakers next week to fill budget holes. But how the CWCB and water programs financed using other unprotected funds will fare as budgets are trimmed isn't clear.
Millions of dollars for water projects has already been committed this year, including $20 million in cash the CWCB set aside to help pay for the purchase of the historic Shoshone water rights on the Colorado River.
The CWCB did not respond to an interview request to discuss potential impacts on water projects due to the budget crisis. It said via email that it did not anticipate any impacts to its fiscal year 2026 budget. The fiscal year began July 1.
House Speaker Julie McCluskie, a Democrat from Dillon, said the financial outlook is bleak for all state agencies, including the CWCB.
"We are still too early in the process to determine exactly what water-related funding is at risk. However, this GOP-caused $1 billion hole in our budget will require some tough decisions, and nearly everything is on the table," McCluskie said in an email.
Original Article: The Colorado Sun by Jerd Smith

World's largest data center campus could be coming to central Utah

The world's largest data center campus may be coming to Utah, with a pair of companies planning to construct artificial intelligence-ready hubs in Millard County.
The first domino fell when Orem-based Fibernet MercuryDelta LLC in May filed a request to rezone nearly 1,200 acres of property — located southeast of Delta — from agricultural land to heavy industrial land for its potential 20-million-square-foot data center campus called Delta Gigasite.

Its size would easily position it as the world's largest data center campus, coming in well ahead of Hohhot, China's Telecom Inner Mongolia Information Park, which covers over 10 million square feet.

The Millard County Commission voted in favor of the rezoning request, following the planning commission's May recommendation.

The developments

The effort to build what's being billed as the "world's most powerful data center campus" took another step forward in early August when Creekstone Energy LLC signed an agreement with Murray-based BluSky AI to provide the company 25 acres of land and up to 50 megawatts of energy for modular data centers on the campus.

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A release from Creekstone Energy said that over the coming decade, the company plans to manage 10 gigawatts of capacity at the site from three primary sources, drawing 1.8 gigawatts from the Intermountain Power Project, 6 gigawatts from solar and 2 gigawatts from natural gas while also considering geothermal, wind and nuclear as potential future additions.

Additionally, Creekstone said the 50 megawatt agreement with BluSky AI only represents half the capacity of one planned data hall out of 26 at the campus' full build-out.

Creekstone Energy is headed by Buford Ray Conley, who serves as the company's founder and CEO. Conley also co-founded Fibernet MercuryDelta alongside Lane Livingston.

Conley is also the owner and CEO of Creekstone Capital. Creekstone Capital's website states the company is involved in the AI and energy industries, though a spokesman for Creekstone Energy said the two companies have no affiliation.

"This isn't just a land deal; it's a sign that Utah is ready to lead," Conley said in a statement. "BluSky's technology fits perfectly with our vision: fast, flexible, and energy-smart. We're building something big here, and it starts now."

Following Creekstone Energy and BluSky AI's announcements, the Millard County Commission last week approved another data center land rezoning request, converting an approximately 4,000-acre land parcel currently belonging to Triple C Farms — located at 11000 N. McCornick Road — from agricultural use to heavy industrial use.

While this zoning approval — which is not related to the Creekstone campus — was approved, a conditional use permit will also be required for Joule Capital Partners to commence construction.

Mark McDougal, a partner of Joule Capital Partners and part owner of Triple C Farms, said the project will begin construction and house tenants as early as 2026.

"This project is actually on the farm that my family and I have been farming for the last two decades. Our hope is that we can … integrate with the local populations. We want to be neighbors," McDougal said during the commission's Aug. 5 meeting.

Joule Capital Partners' website says that it will "soon be unveiling the High Performance Compute Data Center Campus of the future in Utah," but it wasn't specified which facility this refers to.

The website also says that it "is laying the foundation to bring multiple gigawatts of capacity to Utah, with critical elements" such as access to six major long-haul fiber routes and water cooling capabilities.

As for Conley and Creekstone, the company believes the Delta site offers a "rare combination" of energy resources needed to power a multiple-gigawatt-scale campus along with world-class fiber connectivity.

"We're building a future where intelligence is manufactured with unprecedented speed and scale — by uniting a power plant and a supercomputer into one," Conley said in a statement. "This is the base layer of AI — the foundational infrastructure that will determine who wins the AI race. This isn't just business — it's national security."

Legislative skepticism?

But some of Utah's political players are less enthusiastic about the idea of a data center campus of Delta Gigasite's magnitude making its home in the Beehive State.

Utah Sen. Nate Blouin, D-Salt Lake City, told KSL.com he remembered hearing about Fibernet MercuryDelta's initial pitch to construct the campus during a May 2024 Public Utilities, Energy, and Technology Interim Committee meeting.

"It sounded very snake oily," Blouin said. "It sounded like there was a desire to get state incentives and that sort of thing. It was kind of frustrating to hear them come and think that the state would just step in and do something along those lines. If I remember correctly, it was received with a healthy dose of skepticism by the committee."

As for the Intermountain Power Project, California's mandate to not burn coal led to a huge shift in the operation of the plant in Utah, moving to natural gas and a blend of hydrogen.

Not wanting to let a political subdivision of Utah that is occupying land using Utah water to abandon coal-fired power units that can generate an installed capacity of up to 1,900 megawatts of power, Utah lawmakers earlier this year passed last-minute legislation to allow IPP's two coal units to continue operating if a buyer can be found.

Though Creekstone says it's open to solar, geothermal, wind and nuclear to supply the campus with energy, it's also hoping to harness the IPP's coal-fired units.

"While the future of IPP has yet to be determined, Creekstone continues to focus on utilizing the IPP coal-fired units to support the Delta Gigasite's expansion and has regular discussions with relevant state authorities," the company told KSL.com

Blouin sees continuing to use the coal-fired units as a mistake.

"Many members of the Legislature have stepped in and tried to push this narrative that we can't close that plant because it impacts reliability, and that's just a lie," Blouin said. "That plan has nothing to do with the reliability of Utah's energy grid, and to hear it proposed as a source of energy for data centers just reaffirms that, because if we're putting in new data centers and the power is all going to be dedicated to those data centers, it does not have a positive or negative impact on reliability in Utah."

What about economic impact?

With Creekstone's zoning proposal and conditional use permit receiving unanimous approval from the Millard County Commission, the energy company is touting strong local backing for what it says is a project expected to bring substantial tax revenue to the area, along with preserving existing jobs and creating new employment opportunities in Delta.

At the commission's Aug. 5 meeting that saw 4,000 acres of land rezoned to make way for Joule's data center campus, the development was presented as a multibillion-dollar project that is expected to bring in billions more in revenue, barring the result of the conditional use permit.

Speaking at that same meeting, Millard County resident Ron Larson said he's in support of data centers coming to the county.

"I think it's going to provide a profound positive impact ... to Millard County. It's going to help us maintain and manage our resources more appropriately, with better avenues to help us do that. The area is going to grow. There's just no ands, ifs or buts about it," Larson said.

Conversely, local rancher J.B. Lovell said he's concerned that major data center developments could impact his way of life.

"My favorite thing about ranch life is the simplicity it brings. Living out here in the country, away from the noise and the rush, gives me a sense of peace and grounding that's hard to find anywhere else. I've been there all my life, and I've enjoyed it the way it is. I'd hate to see it change," Lovell said.

Blouin said he sees the projects as a "pitch for a whole lot of economic development in a way that I don't think has gotten a whole lot of oversight."

Water and energy

With Creekstone billing its data center campus as the world's most powerful (and biggest) AI-ready campus, energy is an area of focus for the company, given that data centers — the driving force behind AI — require a substantial amount of both energy and water to operate efficiently.

Creekstone says it's planning to leverage over 30,000 acres of solar-ready land for gigawatt-scale renewable potential directly connected to the campus load.

Additionally, the company says the campus will be engineered from the ground up for AI and high-performance computing through direct-to-chip and advanced heat

exchangers to support thousands of graphics processing units in tight proximity and on-site generation and adaptive cooling that respond "within seconds" to fluctuating AI training loads.

"Many operators have designed closed-loop cooling systems that use various fluids instead of water. When powered with natural gas, this system is net water-positive — it can actually generate about 100 acre feet of new water per 100 megawatts annually. It's more efficient, more sustainable, and better for the community," reads a release from Creekstone.

Even given Utah's high-desert ecosystem, Blouin said he's more concerned with the energy aspect of data centers than the water aspect.

"I think there are ways to figure out the water picture. I think it's the energy. There's no substitute for just using and consuming energy. And as we hear ... discussions all over the place about the need to build new energy, I think that's where I run into some problems as to how this is being approached," Blouin said.

Regardless of what happens regarding Joule's data center campus, it appears — at least for now — that Millard County is positioned to become Utah's new data center hub.

Original Article: KSL by Logan Stefanich

Settlement reached in messy Nevada lithium mine water dispute

The developer of what could be the world's largest lithium mine and a private landowner have reached a settlement following a flurry of lawsuits and appeals over water rights the company says are critical to the construction of the mine.

As part of the settlement, Lithium Americas has purchased water rights from Northern Nevada rancher Edward Bartell, a vocal opponent of the mine who had claimed its construction, and the water it would require, would harm his ranching operation.

The years of legal wrangling between Bartell and Lithium Americas culminated this spring, when a lower court agreed with Bartell that the Nevada state engineer did not fully determine the effects of the company's pumping on the rancher's operations. The court's ruling forced the state to reexamine its decision, but the company continued pumping water while the state was doing so, prompting the state to issue a cease-and-desist letter.

Bartell and Lithium Americas reached a settlement July 31, although neither has provided any details. Limited information on the settlement is included in an Aug. 5 motion by Bartell seeking a dismissal of his prior cases against Lithium Americas.

Bartell told The Nevada Independent that "we're still finalizing things."

But the settlement ensures the company can move forward with production and awards the rancher "other promises and consideration" in exchange for agreeing to the settlement.

"These mutual promises resolve the need for this litigation," according to the Aug. 5 motion.

The State Supreme Court has agreed to dismiss the appeal and cross-appeal filed by Bartell and Lithium Americas. Now it awaits for the Sixth Judicial District Court to give its approval, which is expected shortly, according to a spokesperson for the company.

"The Company has resolved or secured judicial dismissal of all legal and regulatory actions and proceedings," Lithium Americas stated Thursday in its second quarter report. It added that the resolution did not affect the company's financial position or construction schedule. Phase one of the project is expected to be completed in late 2027.

No more lawsuits to come

The battle between Bartell and Lithium Americas over water rights and the mine heated up in 2020 when the company sought state approval to move permitted water rights it had obtained in the Quinn River Valley, which sits at a lower elevation than the mine site, closer to Thacker Pass.

Ultimately, the state engineer granted the company's request to relocate its water rights if the company agreed to keep them in the valley. The company adapted to that limitation by transferring the rights to a property closer to the mine site, then constructing an 8-mile-long pipeline to move the water uphill from the valley to the construction site.

Thacker Pass is the largest known lithium resource and reserve in the world. The company needs about 200 acre-feet of water per year during construction, which will continue through 2027. An acre-foot of water is enough to cover roughly a football field with water 1 foot deep or to supply roughly two urban households with indoor and outdoor water needs for a year.

Once in production, the company will require about 2,600 acre-feet of water per year.

The company's request drew objections from Bartell, who protested that the change application would conflict with his water rights. Bartell filed a petition for judicial review in 2023, but the matter didn't receive an oral hearing until February of this year. Following the hearing, the Sixth Judicial District Court of Nevada reversed a previous decision by the state engineer and returned two of the disputed five water rights to application status.

In a flurry of ensuing activity, the state found that Lithium Americas was still pumping water while the issue was being examined, and the state ultimately issued a cease-and-desist letter to the company ordering it to stop pumping. The state engineer, however, also issued extensions allowing Lithium Americas to keep pumping.

"We've been operating normally, status quo," Tim Crowley, vice president of government and external affairs at Lithium Americas, told The Nevada Independent.

As outlined in the Aug. 5 motion, with the settlement, Bartell can no longer protest the company's pumping or claim that effects from the pumping west of the Quinn River would harm his ranch. He also agreed that the company's pumping does not affect his water rights on the east side of the river and he would not dispute any future transfer applications from the company unless Lithium Americas seeks to drill a new well in a certain area east of the river.
As of June, there were approximately 300 workers employed in construction of the mine and that number is expected to grow to 1,000. At peak construction, slated for summer 2026, around 1,800 workers are expected to be on site.
Original Article: AP News by Amy Alonzo/ The Nevada Independent

Judge tells AZ farmers they can't join Saudis side in fight against Mayes

A judge has told ranchers and cities they have no right to intervene in a lawsuit between Attorney General Kris Mayes and a Saudi-owned alfalfa farm in western Arizona.
Judge John Blanchard rejected arguments by the Arizona Farm and Ranch Group Coalition that what he decided about whether Fondomonte LLC is violating state nuisance laws with its pumping of groundwater ultimately affect them. Instead, the judge said this is a fight about one company and the effects of its pumping on a single area of the state.
The ruling is a setback for the would-be intervenors who say that they are in the identical situation as Fondomonte: operating in rural areas of Arizona which are not governed by state laws limiting their use of groundwater.
They contend that if Blanchard buys Mayes' legal theories, she could be coming after them next. And they point to the fact that Mayes herself has said that the lawsuit against Fondomonte could be just the first of others to come where she is hoping to use nuisance laws to curb pumping.
That didn't convince the judge.
"This case concerns a single defendant's alleged conduct in the Ranegras Plain Basin and its impact on the surrounding community," he wrote. Blanchard said coalition members "do not operate in the Ranegrs basin and have not shown that the outcome of this case will have a direct legal effect on their rights."
There was no immediate response from lawyers for the coalition.
The new ruling paves the way for Mayes to try to use a unique -- and untested in Arizona -- legal theory that water users can be forced to curtail their pumping even if what they are doing violates no other state laws.
And despite Blanchard's refusal to allow coalition members to intervene, this case actually could set new legal precedent statewide if it ultimately goes to the Arizona Supreme Court.

The heart of the case is Mayes' complaint that Fondomonte is pumping so much water for its alfalfa operation that it is having an effect on others, including drying up nearby wells and resulting in subsidence of the land. Attorneys for the company dispute it is responsible for any of that.

But the legal case is based on the contention that Fondomonte is taking advantage of the lack of state regulation of groundwater pumping in rural areas.

Generally speaking, landowners outside the state's Active Management Areas can pump as much as they say they "for reasonable and beneficial use.'' There is not even any requirement to monitor the amount pumped.

Mayes says that in 2023 alone, Fondomonte used about 31,196 acre-feet of groundwater within the basin. That is considered enough to serve about 93,000 single-family homes.

At a hearing earlier this week, coalition attorney Bradley Pew argued that Mayes is trying to make an end-run around the fact that existing water laws do not outlaw what Fondomonte is doing by using the novel claim that its activities constitute a nuisance. He said if she succeeds, that will affect not just the farmers, ranchers and cattle feeders he represents but also irrigation districts and cities like Holbook, Show Low and Winslow that pump -- and rely on -- groundwater.

Blanchard acknowledged the argument.

"The case has drawn attention because it is widely perceived as a 'test case' for broader groundwater regulation in Arizona,'' he said, particularly the rural areas outside the Active Management Areas where there are strict state laws governing pumping. But he said that still doesn't justify allowing coalition members the right to join the lawsuit to fight Mayes.

"Generalized concern about future litigation or policy implications is not a sufficient basis for intervention as a matter of right,'' he said.

Anyway, the judge said the legal arguments Pew is raising on behalf of his clients -- that Mayes is exceeding her authority -- are pretty much the same that Fondomonte's own lawyers already have raised. And Blanchard said there is no evidence that the legal representation of the company is inadequate.

Mayes has acknowledged she decided to use the nuisance statute to go after Fondomonte -- and possible others in the future -- because of what she said has been the failure of state lawmakers to enact meaningful regulation of groundwater pumping in rural areas. Anyway, she said, the law fits this situation.

"A public nuisance is anything that is injurious to health, indecent, offenses to the senses or an obstruction to the free use of property that interferes with the comfortable enjoyment of life or property by an entire community or neighborhood or by a considerable number of persons,'' Mayes is arguing.

Nor is she dissuaded by the fact that she has not identified any other water law or regulation that Fondomonte is breaking.
"A defendant can commit a public nuisance without violating any law or regulation," Mayes said, saying nuisance laws can fill the gap "when regulatory and legislative processes are perceived to have failed to address a public health or welfare issue with catastrophic effect.''
When the case eventually does go to trial, the issues will go beyond what is a nuisance.
Original Article: Herald Review by Howard Fischer Capitol Nedia Services

GLOBAL WATER NEWS

Does Water Rights Trading Improve Agricultural Water Use Efficiency?

Global water scarcity has emerged as a critical barrier to sustainable socio-economic development, stimulating water rights trading to serve as a policy instrument designed to enhance water use efficiency. This study systematically evaluates the impact of water rights trading (WRT) on agricultural water use efficiency (AWE) using panel data from 30 provinces (2011–2022) and a difference-in-difference (DID) model, while thoroughly investigating the underlying mechanisms and spatial spillover effects. The following are primary conclusions: (1) WRT significantly improves efficiency, reducing water consumption per unit of agricultural output by 4.5% in pilot regions, with robustness checks confirming reliability; (2) the policy's effects on agricultural water use efficiency vary across regions; (3) mechanism analysis suggests that efficiency improvements are primarily driven by optimized crop planting patterns, adoption of water-saving irrigation technologies, advancements in agricultural mechanization, and strengthened environmental regulations; and (4) the policy exhibits notable spatial spillover effects. These findings contribute to the evaluation of WRT policy and offer practical insights for market-based water allocation reforms, suggesting further expansion of WRT with an emphasis on regional coordination and cross-regional cooperation mechanisms.
Original Article: MDPI by Hengyi Liu,Bing He and Wei Chen

Management of groundwater abstraction and seawater intrusion in the Moghra aquifer, Egypt

Groundwater is being utilized as a major freshwater resource in numerous nations across the world, particularly in arid and semi-arid countries like Egypt. The main objective of this study is to simulate the impact of groundwater abstraction and saltwater intrusion in the Moghra aquifer using MODFLOW and SEAWAT. Various abstraction rate scenarios from wells were modeled for a 100-year cultivation project

period to study the impact of abstraction on aquifer drawdown. For 1000 wells, the maximum simulated drawdown equals 54, 66, 85, and 100 m for the abstraction rates of 1000, 1250, 1500, and 1750 m3/day/well, which represents about 18%, 22%, 28%, and 30% of the saturated Moghra aquifer thickness, respectively. The consequence of increasing the abstraction rate is substantial on seawater intrusion in the Moghra aquifer. The concentration line of 3500 mg/L intruded inland into the Moghra aquifer to a distance of 30.7, 52.7, and 57.1 km in the eastern, central, and western parts, respectively. Increasing the rate of abstraction from 1000 to 1750 m3/day/well led to the advance of the seawater (3500 mg/L) inland to the Moghra aquifer by a distance of 0.6, 5.6, and 4.4 km in the eastern, central, and western parts, respectively. Between the proposed controlling methods, artificial recharge, in conjunction with saline water abstraction, has a significant impact on attenuating the seawater back to the seaside compared with each method alone. The outcomes of this study can be used for developing groundwater resources in both arid and semi-arid areas in a sustainable manner.

Original Article: Armanuos, A.M., Zeleňáková, M., Shalby, A. et al. Management of groundwater abstraction and seawater intrusion in the Moghra aquifer, Egypt. Sci Rep 15, 30385 (2025). https://doi.org/10.1038/s41598-025-14432-y

Vulnerability of groundwater fluoride pollution based on machine learning and numerical simulation

Groundwater fluoride vulnerability assessment is a critical tool for identifying pollution risks, as it objectively reveals the mechanisms of fluoride enrichment and its spatial heterogeneity. To quantify fluoride contamination vulnerability in the semi-arid region of Fuxin, China, this study enhances the traditional DRASTIC framework by incorporating land use and the topographic wetness index, forming the DRASTIC-LT index system. Hydrogeological parameters calibrated using MODFLOW provide feedback for refining input factors, and machine learning algorithms—including Random Forest, eXtreme Gradient Boosting, and Support Vector Machine—are applied to predict the spatial distribution of groundwater vulnerability. The results indicate that the revised indicator system can accurately reflect the impact on fluoride vulnerability. The correlation coefficients of the indicators are all less than 0.7, demonstrating the validity of the indicator system. Among the models, XGBoost performed the best, with a Mean Absolute Error of 0.099. The cumulative contribution of net recharge and groundwater depth exceeds 70%, making them the primary influencing factors. The vulnerability in the northwest of the study area is significantly higher than in the southeast, showing a gradual distribution without abrupt changes. The areas of very high and high vulnerability are mainly distributed in patches around Minzhu Village and Hanjiadian. Due to the high permeability of the aquifer, weak groundwater flow conditions, large

net recharge, low vegetation cover, and significant water-rock interactions in these areas, they are identified as key areas for prevention and control. It is recommended to implement zonal management, enhance comprehensive monitoring and pollution control in high vulnerability areas, optimize water resource management in medium vulnerability areas, and maintain the ecosystems in low vulnerability areas to effectively reduce groundwater pollution risks and ensure sustainable use of water resources. The optimized groundwater fluoride vulnerability model proposed in this study can be effectively applied to semi-arid regions, providing a scientific basis for groundwater pollution risk management.
Original Article: Science Direct by Zihan Wang, Xinyi Wang, Yong Wang and Mengjie Shi

UAE and Senegal rally partners to finance Africa's water future

With water insecurity threatening economic stability and public health across Africa, leaders and partners are intensifying efforts to close the continent's water infrastructure funding gap. The urgency is clear: Africa mobilizes only $10–19 billion annually, short of the $30 billion needed.
At the Africa Water Investment Summit in Cape Town, the UAE and the Republic of Senegal—co-hosts of the 2026 UN Water Conference—joined AUDA-NEPAD, CIFF, GWP, and GCFC in convening a high-level session titled "Financing Africa's Water Future: Catalysing Investment and Partnerships on the Road to the 2026 UN Water Conference." Held under South Africa's G20 Presidency, the summit focused on accelerating climate-resilient water and sanitation investments to support sustainable development and economic growth. It followed the recent consensus adoption of the 2026 UN Water Conference themes, including "Investments for Water: Financing, Technology and Innovation, and Capacity Building."
"With all 193 Member States having just agreed last month, by consensus, on the themes for the 2026 UN Water Conference, the AU-AIP Africa Water Investment Summit comes at exactly the right moment," said Abdulla Balalaa, UAE Assistant Minister of Foreign Affairs. "It is a vital platform to advance… 'Investments for Water'."
"Affordable and reliable water access is the foundation upon which Africa's prosperity will be built," said Nardos Bekele-Thomas, CEO of AUDA-NEPAD.
CIFF's Richard Matikanya stressed: "To close the water financing gap in Africa, it is essential that we design investment mechanisms alongside African governments." "GCFC is honoured to be supporting the water finance track for the 2026 UN Water Conference," added CEO Mercedes Vela Monserrate.
The session explored financing models, de-risking strategies, and pipeline development. It also provided a platform for the UAE and Senegal to gather stakeholder input to help shape concrete deliverables for the 2026 Conference.
Original Article: Fast Company

Europe on Track for Worst Wildfire Season on Record Amid Deadly Heatwave

Prolonged heatwaves and drought conditions are turning many European regions into tinderboxes, with Spain and Portugal among the hardest-hit countries.

While not unusual, wildfires in Europe are being supercharged by extremely hot and dry weather, which creates the perfect conditions for fires to form and spread rapidly.

According to data published on August 13 by the European Forest Fire Information (EFFIS) System, 439,568 hectares have already burned in EU countries since the start of 2025 – an area larger than Luxembourg. It is much higher than the 188,643 hectares affected during the same 8-month period last year and more than double the average for this time over the past 19 years (2006-2024), which stood at 218,417 hectares.

This puts Europe on track for its worst wildfire season on record.

Spain, Portugal Hit Hard

Spain is currently battling 20 major wildfires as a heatwave affecting the country shows no signs of abating. Authorities deployed 1,900 soldiers to battle the fires, 12 of which are affecting the northwestern region of Galicia. Temperatures exceeded 44C in several parts of the country this weekend as authorities warned of a very high risk of fires across "practically the entire country."

"There are still some challenging days ahead, and unfortunately, the weather is not on our side," Prime Minister Pedro Sanchez said at a news conference on Sunday, Al Jazeera reported.

Neighboring Portugal deployed more than 5,000 firefighters as wildfires swept through northern and central regions. The burnt forest area in the country this year is already 17 times higher than in 2024.

Meanwhile, French authorities deployed over 2,100 firefighters to contain a devastating wildfire – the country's largest wildfire since 1949 – in the southern Aude region last week.

Wildfires are also affecting Greece, Italy, Turkey and the Balkans.

Between January and now, European wildfires generated 14.11 million tonnes of carbon dioxide emissions, compared to 9.59 million tonnes during the same period in 2024, according to EFFIS data.

Original Article: Earth.org by Martina Igini

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