Veles Water Weekly Report

January 30th 2025

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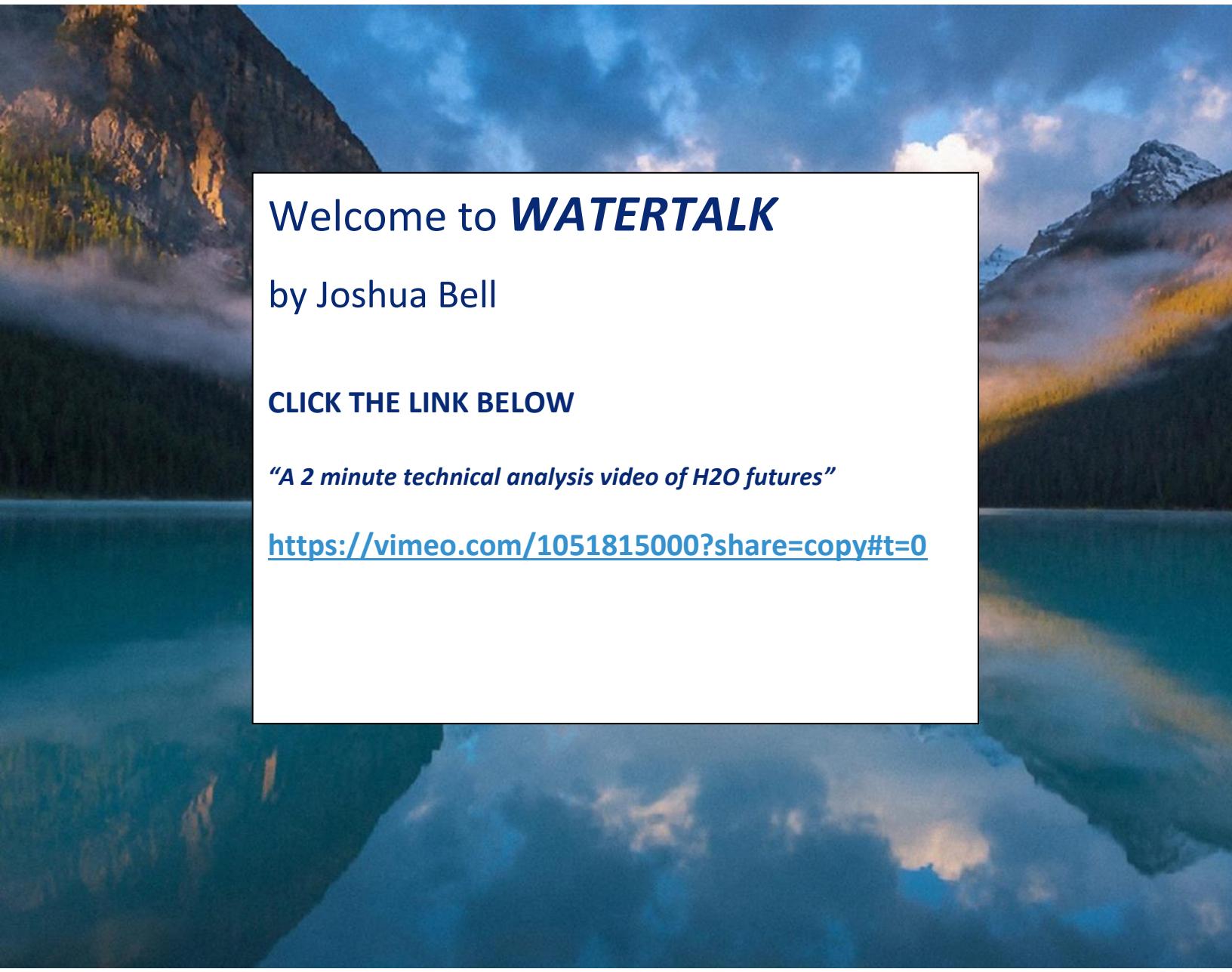
Veles Water

WATER FUTURES MARKET ANALYSIS



Welcome to ***WATERTALK***

by Joshua Bell

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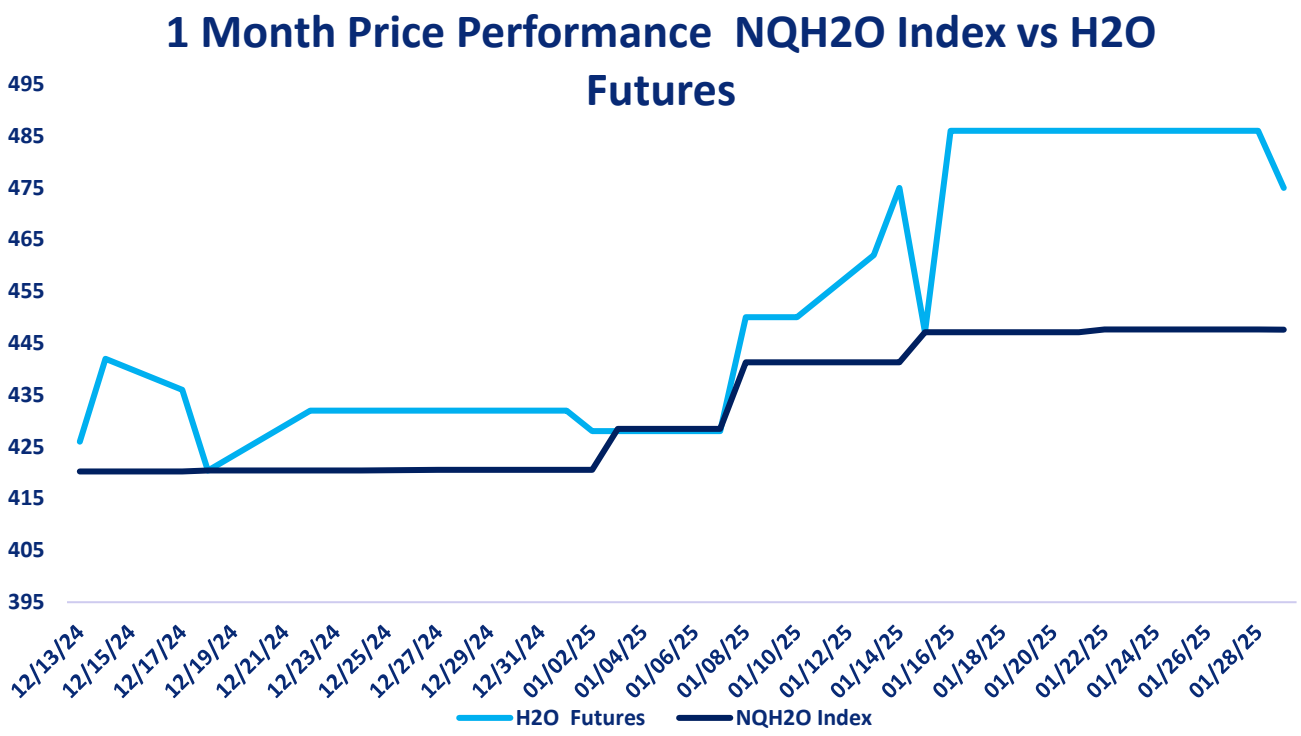
"A 2 minute technical analysis video of H2O futures"

https://vimeo.com/1051815000?share=copy#t=0

NQH2O INDEX PRICE vs H2O FUTURES PRICE



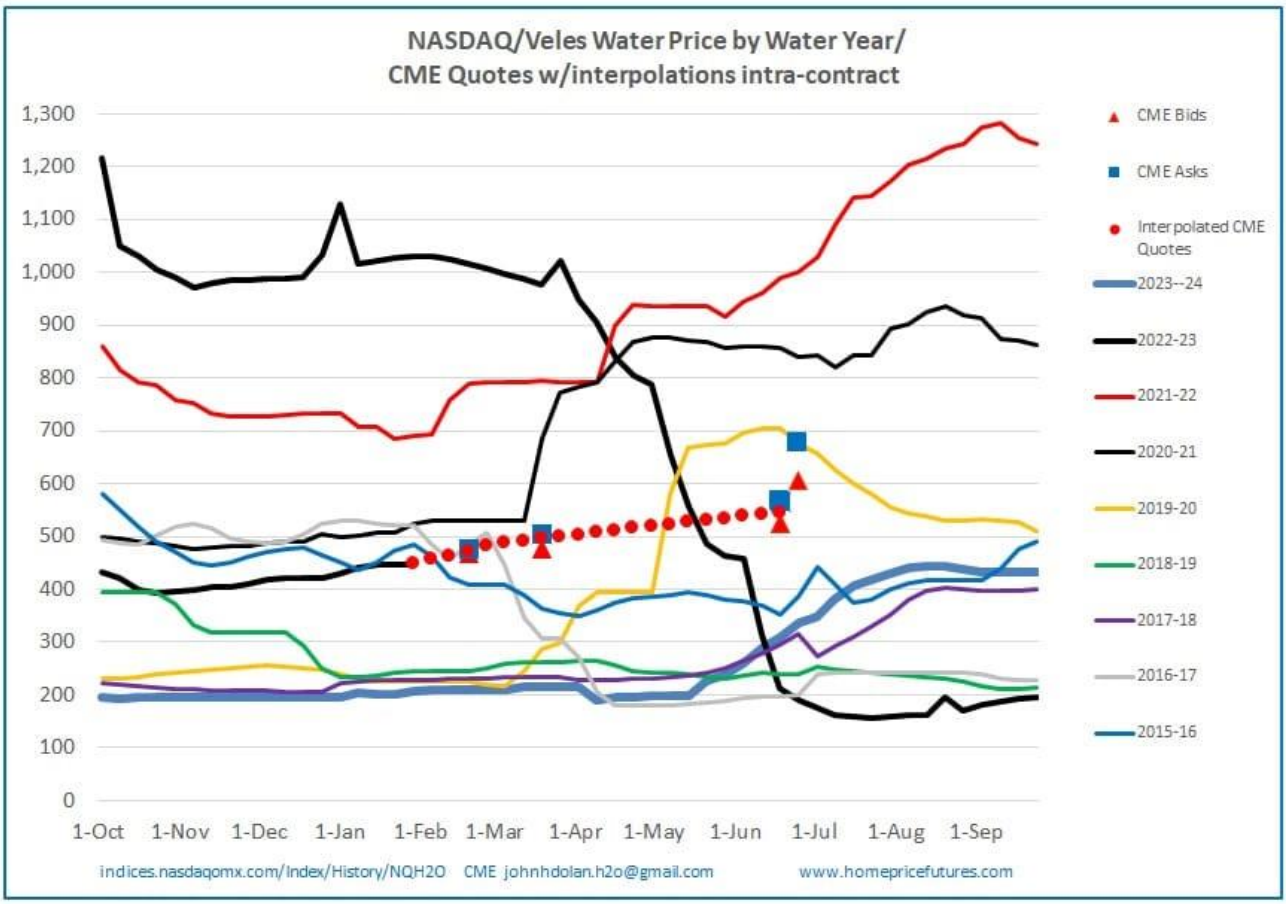
Price Chart Based upon Daily Close

The new NQH2O index level of $447.58 was published on January 29th, down $0.07 or 0.02% from the previous week. The February contract is considered the front month. The futures prices have closed at a premium of $27.42 to $38.35 versus the index over the past week.

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

Feb 25	467@475
Mar 25	477@505
June 25	525@565
June 26	605@675

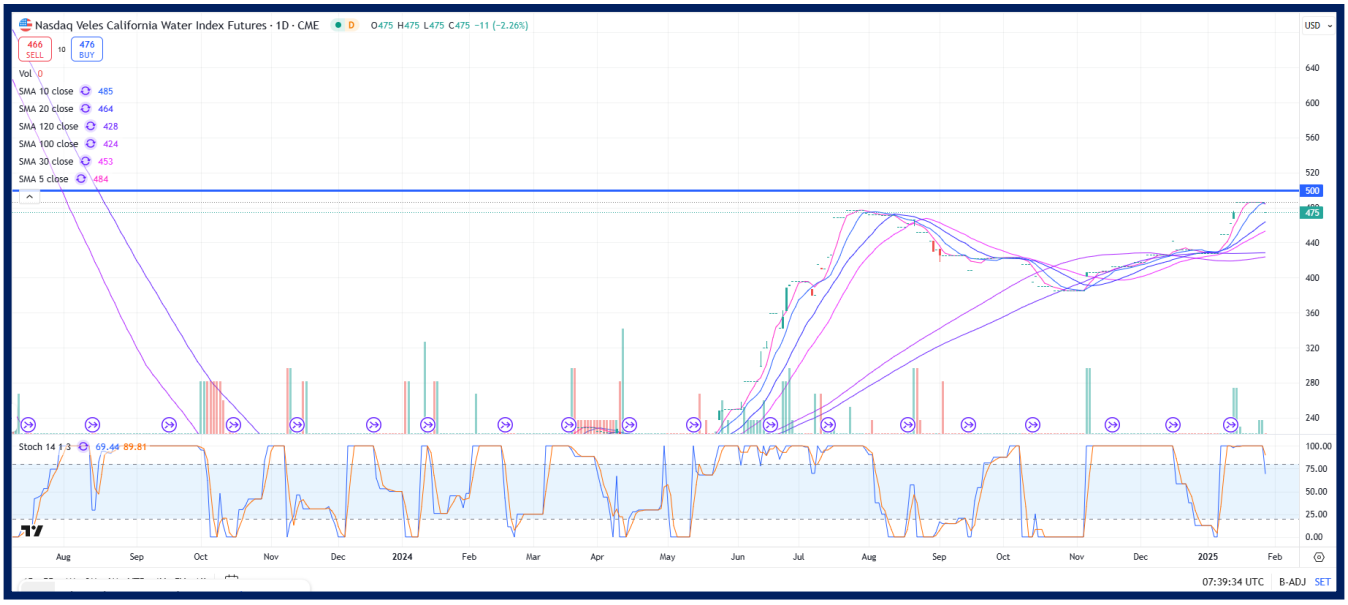
NQH2O INDEX HISTORY



The graph above shows the CME water contracts for February 2025, March 2025, June 2025 and June 2026 superimposed over historical NASDAQ Veles water indices The interpolated curves for 2024-25 and 2025-26 (to include June 2026 contract) are shown in red dots.

(John H Dolan, CME Market Maker)

H2O FUTURES TECHNICAL REPORT



Price Action

- **Current Price:** 475
- The price has decreased by 2.26% in today's trading session, indicating bearish momentum after a recent strong rally.

Moving Averages (MA) Analysis

- **MA 5 (5-day Moving Average):** 484
  - The current price is below the MA 5, suggesting short-term bearish momentum.
- **MA 10 (10-day Moving Average):** 485
  - The price is below the MA 10, reinforcing continued short-term weakness.
- **MA 20 (20-day Moving Average):** 464
  - The price is above the MA 20, indicating some strength in the broader short-term trend.
- **MA 30 (30-day Moving Average):** 453
  - The price is also above the MA 30, indicating that medium-term bullish momentum is intact.
- **MA 100 (100-day Moving Average):** 424
  - The price remains above the MA 100, confirming that the long-term trend is still bullish.
- **MA 120 (120-day Moving Average):** 428
  - The price is above the MA 120, reinforcing the long-term uptrend.

Support and Resistance

- **Immediate Resistance:** 500
  - This remains a key level, having been tested multiple times. A breakout above 500 would indicate continued strong bullish momentum.
- **Immediate Support:** 475 (current price level)
  - The current price may act as a support level, but if it breaks below this, the next significant support zone is around MA 20 at 464.

Stochastic Oscillator

- **Stochastic (K%: 69.44, D%: 89.81)**
  - The stochastic indicator shows that the market is approaching overbought conditions. While not fully overbought, the D% value at 89.81 suggests that further upside may be limited in the short term.
  - A potential cool-off or pullback could occur before another move higher.

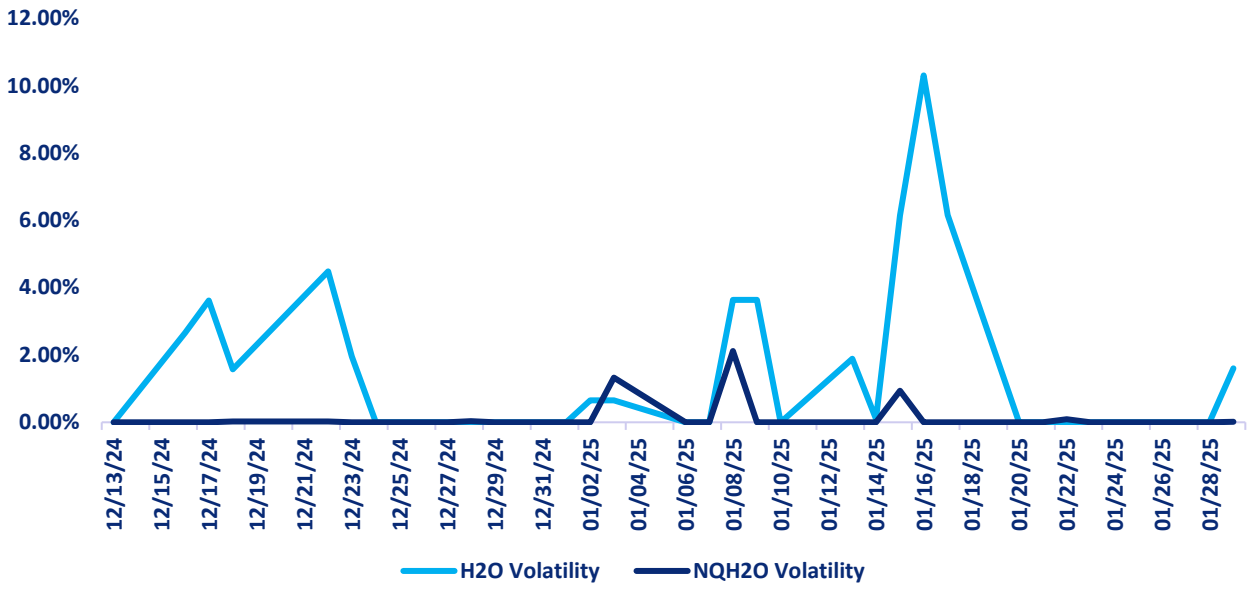
Summary

- The price is currently experiencing short-term bearish momentum, trading below the MA 5 and MA 10, but remains above the MA 20 and MA 30, indicating medium-term bullishness.
- The long-term trend remains strong, as the price is still above the MA 100 and MA 120.
- The stochastic oscillator suggests that the market is approaching overbought conditions, which may lead to short-term consolidation or a pullback.

- **Key levels to watch:**
  - Support: 475 (current price), 464 (MA 20), and 453 (MA 30).
  - Resistance: 500. A breakout above this level would confirm further bullish continuation.

H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the February contract daily future volatility high has been 3.63%.

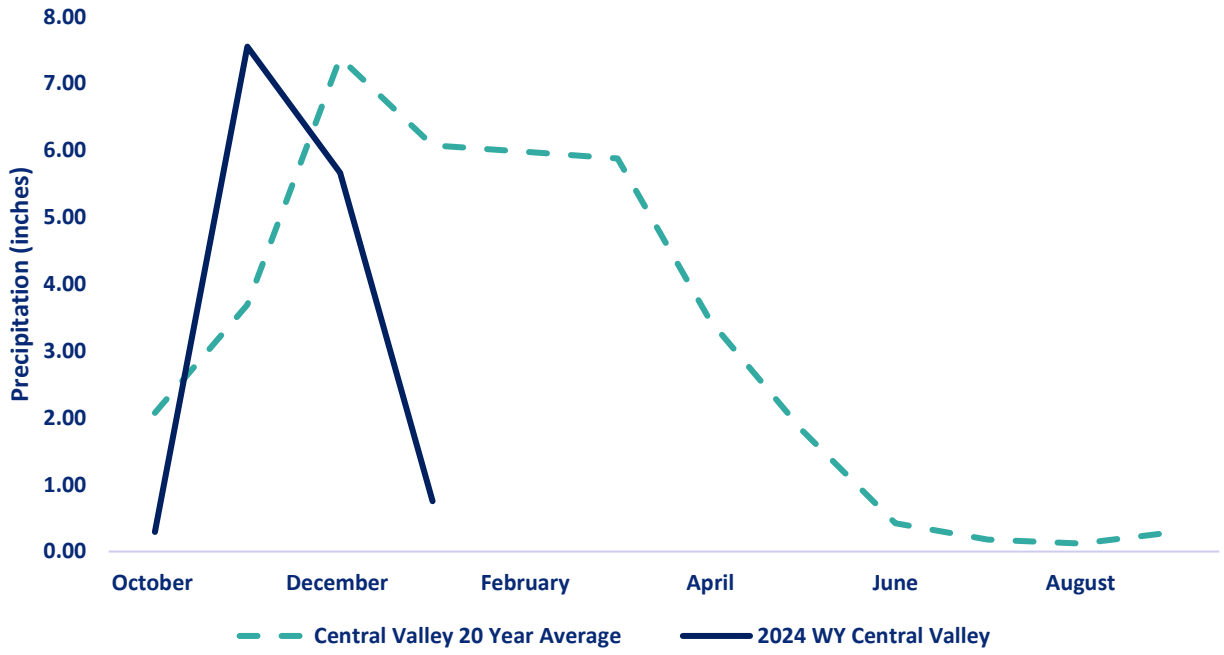
ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	28.80%	2.86%	1.47%	0.14%
H2O FUTURES	N/A	14.07%	12.66%	2.26%

For the week ending on January 29th, the two-month futures volatility is at a premium of 11.20% to the index, up 0.09% from the previous week. The one-month futures volatility is at a premium of 11.20% to the index, up 1.74% The one-week futures volatility is at a premium of 2.12% to the index, volatility.

*Above prices are all **HISTORIC VOLATILITIES**. All readings refer to closing prices as quoted by CME.*

CENTRAL VALLEY PRECIPITATION REPORT

Central Valley Precipitation Index



Central Valley average is calculated using data from 19 weather stations in the Central Valley, California.
Data as of 29/01/2025

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)	0.65	0.20	10.39	53	51
TULARE 6 STATION (6SI)	0.5	0.45	10.81	45	53
NORTHERN SIERRA 8 STATION (8SI)	1.11	0.05	15.10	79	101
CENTRAL VALLEY AVERAGE	0.75	0.23	12.40	59	68

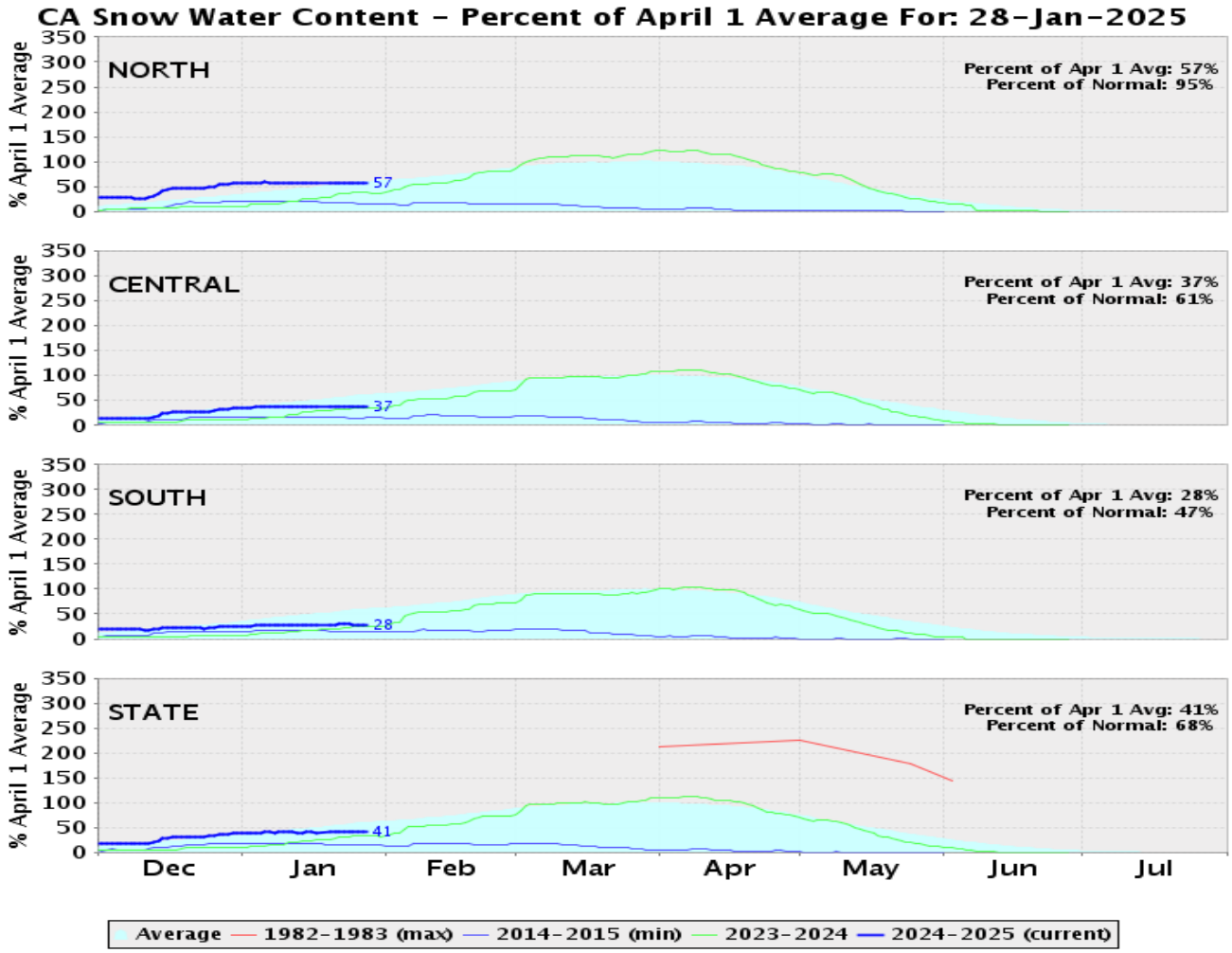
RESERVOIR STORAGE

RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	1,907,192	78	59	94
SHASTA LAKE	3,489,948	77	79	122
LAKE OROVILLE	2,571,214	73	76	132
SAN LUIS RES	1,525,153	75	60	82

*% Historical Average is based on a daily average that is interpolated from historical monthly averages. The monthly averages are computed using monthly data from water year 1991 to 2020. The monthly averages are updated every 5 years using a sliding 30 year period.

Reference: California Water Data Exchange

SNOWPACK WATER CONTENT



REGION	*SNOWPACK WATER EQUIVALENT (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF AVERAGE LAST YEAR	% OF 20 YEAR HISTORICAL AVERAGE	% OF HISTORICAL **APRIL 1ST BENCHMARK
NORTHERN SIERRA	15.2	0	38	139	58
CENTRAL SIERRA	10.4	0	39	85	37
SOUTHERN SIERRA	6.5	0	28	64	28
STATEWIDE	10.7	0	37	93	40

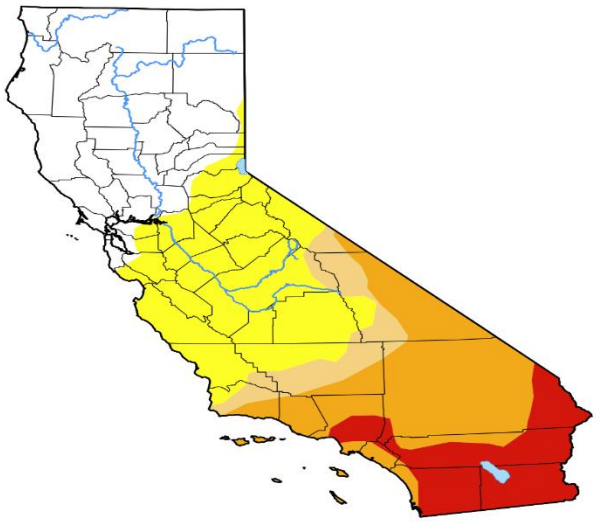
Snow Water Equivalent*, **or SWE**, is a commonly used measurement used by hydrologists and water managers to guage the amount of liquid water contained within the snowpack. In other words, it is the amount of water that will be released from the snowpack when it melts. SWE has regional variance.**

**** 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. January 23, 2025

Data valid: January 21, 2025 at 7 a.m. EST

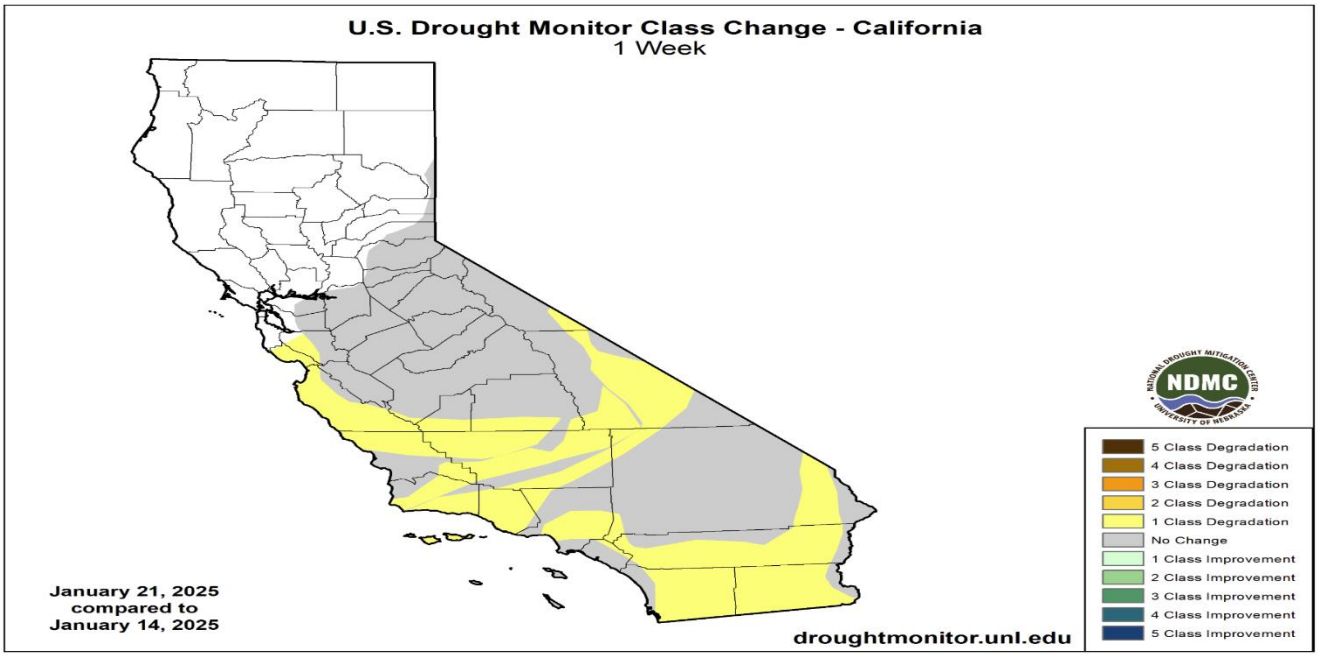
Intensity

- 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):
Brian Fuchs, National Drought Mitigation Center

Pacific Islands and Virgin Islands Author(s):
Curtis Riganti, National Drought Mitigation Center



Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2025-01-21	33.22	66.78	39.39	32.86	11.90	0.00	151
Last Week to Current	2025-01-14	39.11	60.89	35.93	26.95	1.06	0.00	125
3 Months Ago to Current	2024-10-22	24.68	75.32	14.05	4.30	0.00	0.00	94
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	2024-01-23	96.55	3.45	0.00	0.00	0.00	0.00	3

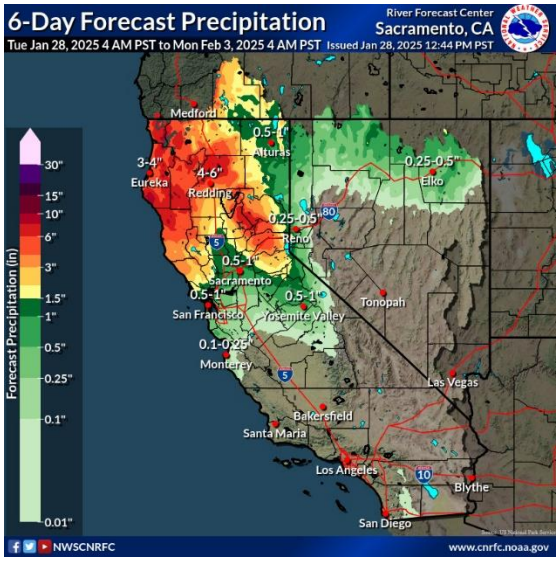
The U.S Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC.

CURRENT SATELLITE IMAGERY

The satellite map shows a relatively clear western US with some frontal inflow on the northwestern area but mostly affecting western Canada. Some small storms are forming in the Houston area moving in a northeasterly direction. A blast of cold air from Canada is affecting the eastern US bringing very cold conditions with it.

Map Ref: Zoom Earth

10 Day Outlook



A frontal system and upper trough are still set to drag a tropical moisture plume into nrn CA Friday and through the weekend. The front and trough will sweep across nrn CA on Friday spreading precip inland across nrn CA. 12z det models now have a bit more of a gap between this system and a secondary surge of moisture into the coast that is set to arrive. The front looks to carry about 1-1.25" PW into the nrn CA coast Friday while the second pulse after the trough gets absorbed into the broader flow is showing 1.25-1.50" PW. The main difference from this morning in terms of the moisture plume is that the northern edge of the plume has shifted south a bit compared to the 00z/06z runs. The ECMWF and the CMC are also quite a bit wetter in QPF, particularly on Saturday along the nrn CA coast. The 12z ECMWF is now twice as wet for Saturday over the Kings Range than it was earlier and 3-5" over the northern Sierra compared to 0.50-0.75" in the 06z run. The det ECMWF is way on the high end along the north coast amongst the ensemble members, and so was not really mixed in with the official forecast beyond whatever went into the NBM/WPC guidance. Either way, the ensembles have trended wetter as well leading to higher QPF out of the NBM in the extended in general. Ensembles and det models are divided in similar ways as this morning with the GFS/ECMWF further north with the moisture plume and the CMC more spread out with higher QPF values all the way

to Marin County and through the central Sierra. The main change has been overall higher totals. Individual ensemble members continue to show a wide range of possibilities along the nrn CA coast as far as where the moisture will make landfall and park itself for the weekend. 24 hr QPF values are still showing a few hundredths to 5 or 6" at Arcata. There is also disagreement on what degree if any north/south tilt will happen into Monday, which also impacts the QPF.

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

WESTERN WEATHER DISCUSSION

It was a dry week for most of the region outside of the accumulated snow in the Rocky Mountains and into northern New Mexico. Temperatures were mainly cooler than normal over the region, with portions of the Rocky Mountains 12-15 degrees below normal for the week. Portions of northern and central California were near normal to slightly above normal for temperatures this week. The abysmal start to the water year continues over much of southern California, southern Nevada and Utah, and into Arizona and New Mexico. Most of the managed water systems are fine in the region after two consecutive wet winters, but the short-term drought indicators for the current water year are highlighting the significant short-term drought in the Southwest into southern California. Degradation to drought status continued this week with drought expanding and intensifying over much of southern California. Abnormally dry conditions expanded over much of western New Mexico and northeastern Arizona, with extreme drought expanding over western Arizona and severe drought expanding over southwest Utah. The recent wet pattern was enough to remove the remaining abnormally dry conditions out of central Oregon while the recent snows in the Rocky Mountains allowed for some drought intensity reductions in northern Colorado and with western and north central Wyoming. Colorado had moderate drought expand in the south, with a new pocket of abnormally dry conditions added in the Southwest.

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

WATER NEWS

CALIFORNIA WATER NEWS

California farms fail as land values plunge amid groundwater crisis

There was a time when the water under Nick Sahota's Terra Bella farm was free and abundant, supporting tidy rows of pistachio trees and table grapes to supply Bay Area groceries like Costco, Food 4 Less and SaveMart.

Now water costs on his Tulare County farm have soared to about $1,500 an acre due to pumping restrictions created by California's historic Sustainable Groundwater Management Act. A decade after the law was adopted after great controversy, implementation is ramping up — and farmers' anxieties are mounting, fearing bankruptcies are on the horizon.

With outstanding loans of over $15 million, Sahota's family lives in fear that it could lose the farm that took decades to build and was once proudly profitable. The value of his orchards has plummeted to one-quarter of what they were worth only four years ago.

"How are we going to pay the loans? It's impossible," said Sahota, 50, who farms with his 83-year-old father on the flat sandy soils of eastern Tulare County, where summer temperatures rise well into triple digits.

Sahota is among a growing number of farmers who face ruin as the groundwater law is implemented across the San Joaquin Valley, the Central Valley's enormous southern half. Agriculture is the single largest employer in this region, so fallowed fields mean fewer jobs to support the local economy.

Last year, the value of orchards that are solely reliant on groundwater fell between 30% to 40% in an analysis of land between Sacramento and Chowchilla, according to veteran appraiser Janie Gatzman of the American Society of Farm Managers and Rural Appraisers, who tracks San Joaquin Valley properties.

The video player is currently playing an ad. You can skip the ad in 5 sec with a mouse or keyboard

"That's a huge loss in equity for growers, who have been farming at a loss for the last three to four years," due to climbing water costs and reduced demand for nuts, she said.

That could transform parts of the San Joaquin Valley if farms fail and acreage goes fallow. The valley is the backbone of California's $59 billion-a-year agricultural industry, which provides over a third of the nation's vegetables and two-thirds of its fruits and nuts.

Hardest hit are farms on the far eastern stretch of the valley in so-called "white areas," reliant exclusively on groundwater. Ironically, water was once so plentiful here that access to imported state or federal water was thought unnecessary; now it's a lifeline.

In addition to eastern Tulare County, the counties of Madera, Fresno, Kern and Merced have large patches of "white areas."

Historically, the value of California's agricultural land has always been based on its access to water. "You don't buy land by the acre. You buy it by the acre-foot" of water, said Daniel Sumner, a professor of agricultural economics at UC Davis.

By tapping into groundwater, rough rangelands could be turned into vast, lucrative and manicured orchards of almonds, pistachios and other tree nuts. According to Gatzman, grazing land is only worth $500 to $2,500 per acre; orchards, until recently, could command $20,000 an acre.

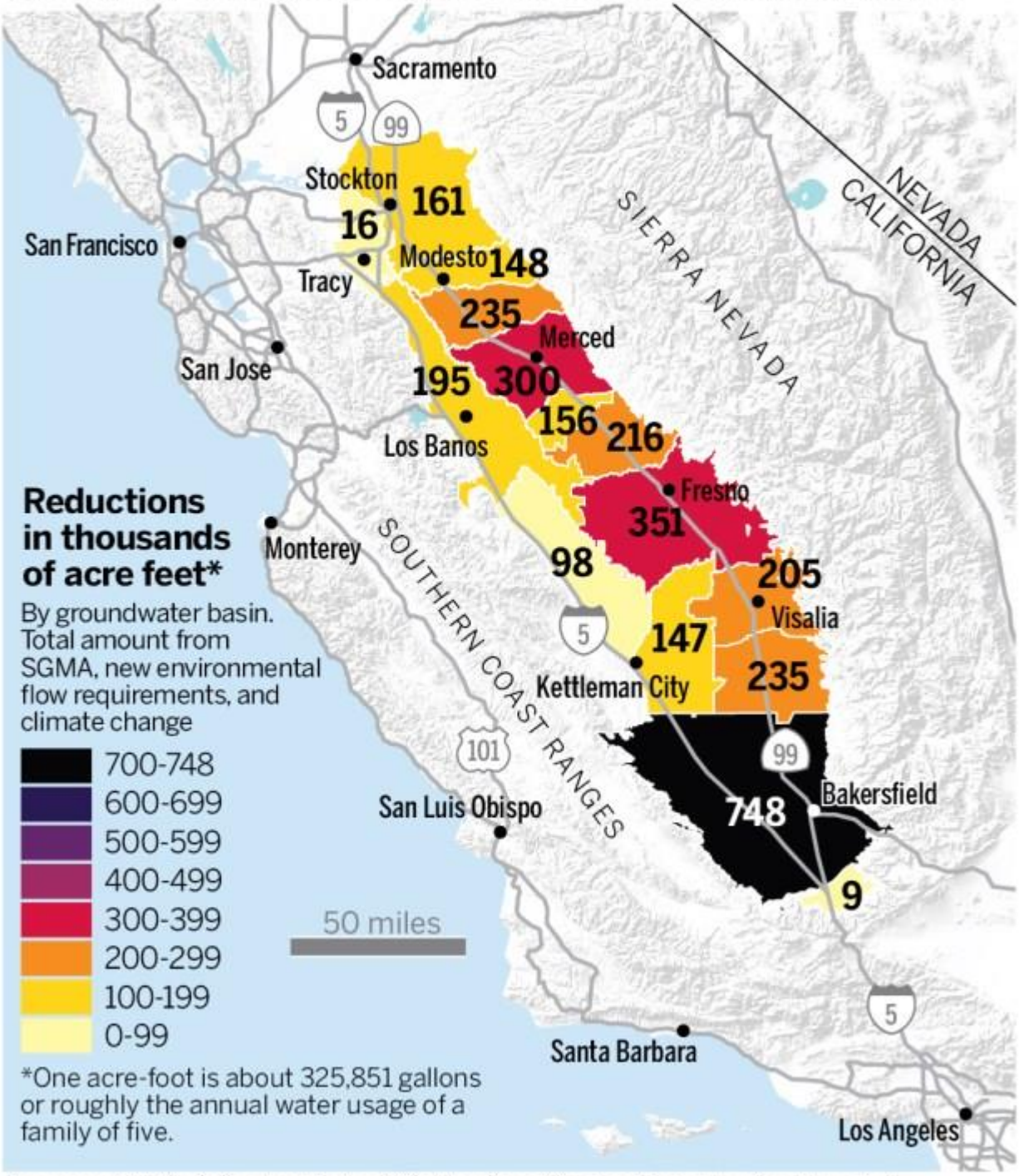
But the Sustainable Groundwater Management Act is triggering a profound change, said Sumner.

"If you previously had access to water, and now you don't, you don't own what you thought you did," said Sumner.

Over time, rather than orchards, the land may support solar panels, beef cattle or wheat. But these non-irrigated uses are far less profitable.

REDUCING GROUNDWATER USAGE

To prevent overpumping water from already low aquifers, San Joaquin Valley farmers are required to reduce pumping under the Sustainable Groundwater Management Act, new environmental flow requirements, and as a response to climate change. Farmers who rely on wells are seeing a sharp decline in property values.



Sources: Public Policy Institute of California estimates from Escriva-Bou et al., California Department of Water Resources

PAI/BAY AREA NEWS GROUP

groundwater act, passed in 2014, aims to ensure a more sustainable use of groundwater after years of over-pumping, which depleted basins and eroded water quality in some rural areas.

Studies show that the state's agricultural valley is consuming twice as much groundwater as nature is returning through rain and snow. According to the Department of Water Resources, it is sinking in on itself as the aquifer beneath it is siphoned off, causing roads to crack and buried pipelines to rise to the surface. Parts of the California Aqueduct have been raised to preserve flow.

Accelerated land subsidence — or sinking — was observed after the drought of 2020-2022. Groundwater levels began to partially rebound in 2023. But it will likely require several more wet years, along with a boost of groundwater recharge and reduction in pumping, to recover from decades of over-pumping, according to the state.

Local water agencies are responsible for deciding how the landowners in their jurisdictions will reach sustainability. They must set a limit or "cap" on the overall amount of groundwater that is removed.

Original Article: The Mercury News by Lisa M. Krirger

Trump reenters California's water wars. It's unclear who will win

President Trump has signed an order directing federal agencies to "maximize" water deliveries in California and "override" state policies if necessary.

Trump's executive order outlines steps intended to increase the amount of water pumped from the Sacramento-San Joaquin River Delta.

The directive was praised by agencies that supply water to farmlands in the San Joaquin Valley, which could receive more water under the changes ordered by Trump.

Westlands Water District, the largest agricultural water supplier in the Central Valley, welcomed the executive order.

"It's clear that what we've been doing for the past few decades has not been working; not for the people, for agriculture, or for the fish," the district said in a written statement. Westlands General Manager Allison Febbo said the district intends to work with government agencies "to bring common sense back" to water management in the valley, one of the nation's major food-producing regions.

Environmental groups said the measures Trump is seeking, if fully carried out, would be disastrous for populations of threatened and endangered fish, as well as the state's commercial and recreational fisheries and the deteriorating ecosystem of the Delta.

"It would mean the loss of California's most important wild salmon runs, devastating impacts on salmon fishing jobs, enormous degradation in Delta water quality," said Barry Nelson, a policy representative for the fishing group Golden State Salmon Assn. He also flagged the issue of states' rights: "This is a very clear statement that the Trump

administration believes that California should not have the right to control its water resources."

The order, posted on the White House website Sunday, directs the Interior and Commerce secretaries to "immediately take actions to override existing activities that unduly burden efforts to maximize water deliveries."

It calls for delivering more water via the federally managed Central Valley Project, one of the two main systems of aqueducts, dams and pumping facilities in California that transport supplies from the Delta southward. The president also directed the federal Bureau of Reclamation to ensure state agencies "do not interfere."

In the order, Trump criticizes "disastrous" policies and water "mismanagement" by California, and directs federal agencies to scrap a plan that the Biden administration adopted last month, establishing new rules for operating the Central Valley Project and the State Water Project — California's other main water delivery system in the Central Valley. Instead, Trump has told federal agencies to more or less follow a plan adopted during his first presidency, which California and environmental groups challenged in court arguing it failed to provide adequate protections for endangered fish.

The order also attempts to link local water supply problems during the deadly Los Angeles County firestorms, such as fire hydrants that ran dry, with changes in how water is managed in Northern California. It says the Trump administration is setting a new policy to "provide Southern California with necessary water resources."

Original Article: The LA Times by Ian James

Ag leaders react to President Trump's executive orders on California water policy

An executive order issued by President Donald Trump would assert more federal government control over California's water policy to bolster fire protection efforts.

The President told federal agencies to "immediately take action" to deliver more Central Valley water and eliminate rules standing in the way. The order also calls for the Secretary of the Interior to take over California's Central Valley Project, which delivers water primarily to local farmers.

Those in the Valley ag industry applaud the move, but a legal battle could be looming, the latest chapter in the state's long-running water war.

Farmers in the Westlands Water District rely on irrigation water pumped out of the Sacramento-San Joaquin Delta and then delivered south to San Luis Reservoir. This year, they received a 50% water allocation, higher than their 10-year average of about 30%.

President Trump's executive order would override activities that "unduly burden efforts to maximize water deliveries."

"For us in the Central Valley who have seen volatile and unreliable water supplies for a long time now, this is definitely a breath of fresh air and exciting to see," said Allison

Fembo, the general manager of the Westlands Water District. She added, "What it doesn't do is it's not changing any current laws, and it's not rolling back any environmental protections or protections for endangered species."

On Friday, Republican Congressman Vince Fong, whose district includes Clovis and parts of Visalia and Bakersfield, thanked President Trump for focusing efforts on the Valley's water supply.

"Moving more water, maximizing flows throughout the state of California, building more water storage, conveyance, coordinating," said Fong.

In response, Trump said the order "Would have a great impact." Adding, "I know your area very well. It would have an unbelievable impact on your area."

The San Luis and Mendota Water Authority also applauded the President's moves.

But Democratic Congressman Jared Huffman of San Rafael said in a statement to Action News, "Do not be fooled by Trump's lies: none of the policies in this executive order will move even a single drop of extra water to communities devastated by these wildfires. This administration is presenting us with a false choice."

Original Article: abc 30 Action News by Dale Yurong

Farmers, homeowners could be charged to pump water from Paso Robles basin. How much?

From farmers irrigating their crops to families washing their dishes — everyone pumping directly from the Paso Robles Groundwater Basin may soon need to pay for their water. The Paso Basin Cooperative Committee got a first look at potential water rates for groundwater users at its meeting on Wednesday. If approved, these fees will be the first time ever that farmers are directly charged to pump water from the Paso Robles Groundwater Basin.

Original Article: The Tribune by Stephanie Zappelli

CA's Snowpack Falls Below Normal: What To Expect From Weak La Niña Winter

The winter of 2024-2025 has been abnormal because snow has fallen in every state in the nation, and it has snowed — a lot — in areas that rarely need their shovels.

In this upside-down winter, southern Gulf states saw once-in-a-lifetime snowfall this past week. Some areas of the Florida Panhandle received 8 inches of snow, which, once confirmed by NOAA's State Climate Extremes Committee, will shatter a record of 4 inches recorded in Milton that has stood since March 6, 1954, The Weather Channel reported.

The Golden State has received more than 41 inches of snow so far this winter. Our state in general has received less than average snow this winter, according to the California Cooperative Snow Surveys Program. However, the bulk of the snow has fallen in the

northern part of the state, which was hit with a bomb cyclone and a series of atmospheric river storms late last year.

Southern California's rain and snow season has been at record lows all winter, with the first significant snowfall of the season happening Sunday. Southern California's mountains are under a winter weather watch, with as much as 14 inches of snow expected through Monday.

Though extreme, the pattern is typical of La Niña, which is linked to wetter winters in Northern California and drier conditions in the south. This year's La Niña has been a little atypical. According to the National Oceanic and Atmospheric Administration, this La Niña was slow to develop, arriving later than expected. Compared to historic standards, this La Niña has been weak. La Niña is likely to stick around through the spring.

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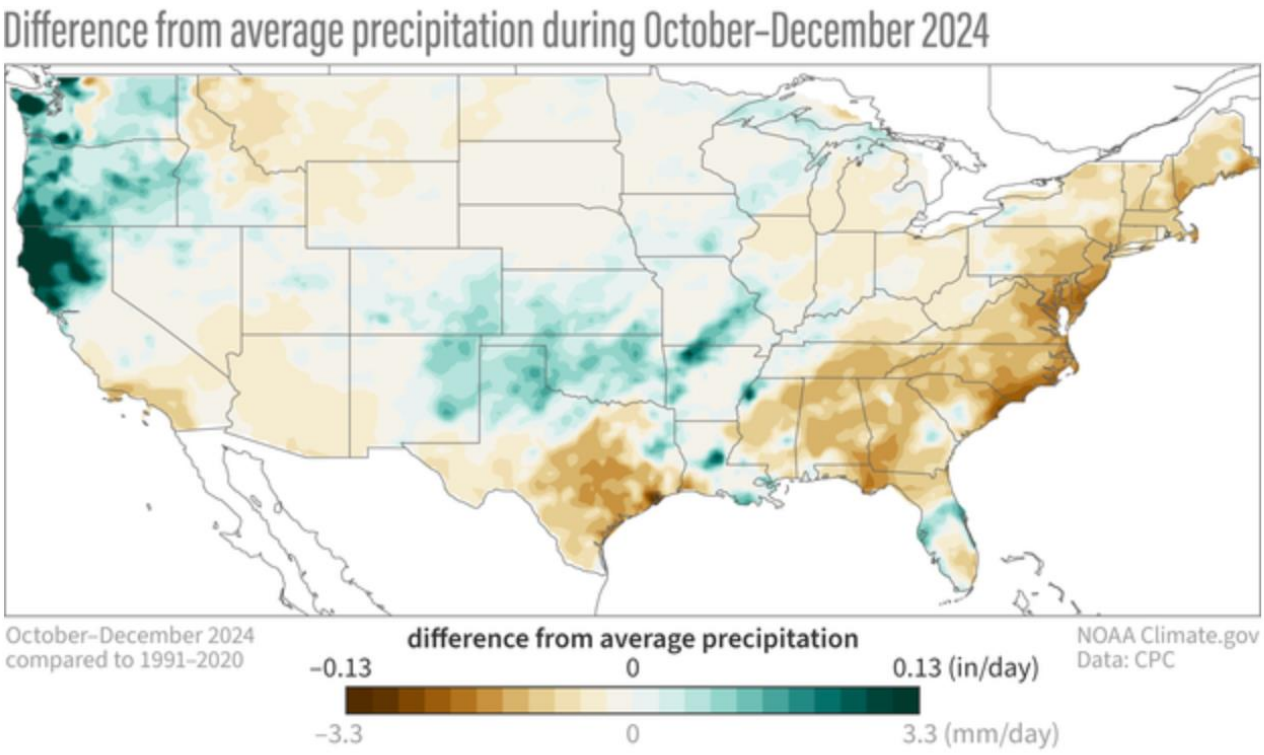
"La Niña conditions are present and are expected to persist through February-April 2025 (59% chance)," the National Weather Service's Climate Prediction Center noted.



NOAA ENSO Blog

The Department of Water Resources' electronic Jan. 2 readings from 130 stations placed throughout the Sierra Nevada indicate that the statewide snowpack’s snow water equivalent was 10.7 inches, or 108 percent of the average compared to 28 percent at the same time last year.

“While our snowpack looks good now, we have a long way until April when our water supply picture will be more complete,” said Department of Water Resources Director Karla Nemeth said at the time. “Extreme shifts between dry and wet conditions are continuing this winter and if the past several years are any indication, anything could happen between now and April and we need to be prepared.”

California has seen this pattern before. In both 2013 and 2022, the January snowpack was well above average thanks to December storm activity, only for dry conditions to take over the rest of the winter, quickly erasing early season snow totals and continuing existing drought conditions across the state, the Department of Water Resources warned.

Already that appears to be happening. As of Friday, the state's snowpack had fallen to 72 percent of average — 101 percent in the Northern part of the state and 57 percent in the South, according to the California Cooperative Snow Surveys Program.

“We are fortunate to have had several solid snow-producing atmospheric river systems so far this season,” said DWR’s Snow Surveys and Water Supply Forecasting Unit Manager Andy Reising. “The fall was extremely dry, so our healthy snow totals are thanks to a handful of big storm systems in November and late December. But to finish the year where we need to be, we will still need additional snow building at a regular pace throughout the winter.”

It remains unclear if California will keep pace. The next significant storm to hit Southern California is expected in mid-February, according to long-term weather models.

While the southern part of the Golden State sinks deeper into drought status, Gulf states were slammed with icy and snowy weather, some farther north areas typically buried in snow have received only a dusting this winter.

In fact, the storm totals in Lafayette and New Orleans, Louisiana; Mobile, Alabama; and Pensacola, Florida, are greater than the snowfall recorded since last fall in New York City, Philadelphia, Salt Lake City; Omaha, Nebraska; and Sioux Falls, South Dakota.

The snowfall deficits in those five cities range from a few inches to 22 inches, as is the case in Salt Lake City, according to The Weather Channel. Omaha and Sioux Falls have deficits of 11.7 inches and 16.8inches, respectively.

Smaller deficits were reported in New York City, which is about 5 inches shy of its typical snowfall by this point in the winter, and Philadelphia, where totals are about 3 inches below normal.

Also noteworthy, with 9 inches of snow in Tuesday’s blizzard, Lafayette, Louisiana, had received almost as much snow in a single day as Chicago (9.2 inches) and Minneapolis (9.8 inches) have all winter. Both Chicago and Minneapolis are running snowfall deficits this winter.

Hawaii is a tropical state but receives snow every year at the 13,000-foot and higher elevations of The Big Island's Mauna Kea volcanic summit, which saw its first snow of the season in late October. Snow is common at nearby Mauna Loa as well.
It's not common for all 50 states to receive snow in a single season, but it does happen occasionally, notably in February 2010, according to NOAA.
Original Article: Patch.com by Miranda Ceja and Paige Austin

US WATER NEWS

Securing water from out of state will be a 'Herculean' effort, Utah's water agent says

Utah lawmakers created a new water agent and development council last year, aiming to secure future water needs as the state grows, including the possibility of negotiating for additional water outside of the state's boundaries.
Joel Ferry, director of the Utah Department of Natural Resources and the state's water agent, told lawmakers that efforts to "try to fulfill this mission" are underway but warns it will be easier said than done.
"I have — with others — traveled to other states, to other areas, and we're constantly working (and) trying to figure out what is the best solution and best pathway forward," he told members of Utah's Natural Resources, Agriculture and Environmental Quality Appropriations Subcommittee on Monday.
"I can tell you that this is one of those Herculean efforts," he added, explaining that Utah isn't alone in its challenges. "Every state, every area, every region, every neighboring country is suffering or struggling with these same types of questions."

Report ad

Some growth has occurred within the new water agent and water development council structure. Ferry's side has hired one full-time staff member, while the council hired a "small team of advisers" and a technical director to oversee future developments.

Alan Packard, general manager of the Jordan Valley Water Conservancy District, one of the districts included in a state water development council, said the different districts have approved interlocal agreements. He and Ferry spoke to the subcommittee not to make a funding request, but to offer an overview of likely future discussions almost a year after the office was established.

The Colorado River remains one of the biggest questions. While the river only accounts for about a quarter of the state's water supply, the state estimates that about 60% of residents rely on it for their water needs. About 40 million are befitted by the river throughout the basin.

Utah currently receives 23% of the Upper Basin's allocation through the Colorado River Compact signed in 1922.

However, Senate President Stuart Adams, R-Layton, suggested that a pipeline or renegotiations over the deal could be part of a new water agent program when he unveiled his bill to create the system last year. This could be done by potentially helping Lower Basin states like California build desalination plants in exchange for river water shares.

Adams told reporters Monday that there are "lots of things happening" with the agent and development council, but declined to give specifics because Utah is actively "talking with other states" about water. He added that many other Intermountain West states, including Idaho and Wyoming, are interested in water negotiations.

"We think we can solve our water problems if we come together. ... I think there's a lot of potential," he said, summing up those conversations.

Monday's update comes as the seven Colorado River Basin states continue to negotiate a new agreement over how Lake Powell and Lake Mead are handled beyond 2026. Adams also pointed to the Columbia River and water deals between Canada and Montana as possible outside water sources, though he acknowledged challenges with those.

Of course, other questions include future water availability if climate trends continue as they have the past two decades.

The Colorado River, for example, has struggled to meet demands because of the West's "megadrought." While a productive 2022-23 snowpack eased some impacts, about 40% of the West is back in moderate drought or worse, including nearly all of the Lower Basin region, according to the U.S. Drought Monitor.

Some long-term outlooks aren't promising, either. Ferry points to a report the Great Salt Lake Strike Team released earlier this month, which projects that evaporation will continue to increase within the Great Salt Lake Basin in the coming century.
"That just causes more and more demand on our limited resource," he said, noting major agriculture needs and a growing need from the municipal and industrial sectors. "We're looking at ways (to) augment Utah's water resources."
Original Article: KSL.com by Carter Williams

Pennsylvania invests $288.2 million in water infrastructure projects across 24 counties

The Government of Pennsylvania has announced a **$288.2 million investment to fund 39 drinking water, wastewater, and non-point source projects** across 24 counties in Pennsylvania. Through the Pennsylvania Infrastructure Investment Authority (PENNVEST), these projects aim to improve water quality, rehabilitate aging systems, replace lead service lines, and reduce environmental contaminants like PFAS.
“Today’s investment in our communities strengthens our clean water infrastructure while addressing legacy contaminants like lead and PFAS,” said PENNVEST Chairman Dr. Brian Regli. This marks a milestone in PENNVEST’s commitment to water quality, which has already allocated over $95 million to PFAS-related projects.
Funding for PENNVEST water improvement projects comes from a mix of state funds, Growing Greener and Marcellus Legacy funds, allocations from the Infrastructure Investment & Jobs Act, federal grants from the U.S. Environmental Protection Agency under the Clean Water Act and Safe Drinking Water Act Amendments, as well as repayments from prior PENNVEST loans.
Among the funded initiatives, some of the most significant investments include:

- **City of Philadelphia ($68.8 million loan)** – The largest project involves constructing a new pumping station and upgrading the East Park Booster Pumping Station, vital for interconnecting West and Central Philadelphia’s water systems. The upgrades will enhance reliability, improve safety, and increase resilience in emergencies.
- **Hazleton City Authority ($16.2 million grant)** – A complete upgrade and expansion of the Dreck Creek pump station will improve daily water availability and reduce losses, addressing growing demand in Carbon County.
- **Pittsburgh Water and Sewer Authority ($26 million grant and loan)** – This project will replace approximately 580 public and 1,100 private lead service lines, serving 3,500 homes across neighborhoods such as Homewood, Oakland, and Squirrel Hill. It will remove lead contamination, conserve water, and eliminate the need for daily line flushing.

- **Pennsylvania American Water Company ($15.2 million loan)** – Improvements to the Kinzua Road Wastewater Treatment Plant will resolve compliance issues, reduce overflow events, and enhance solids handling in McKean County.
- **Emmaus Borough ($11.8 million grant and loan)** – PFAS remediation in Lehigh County will improve water quality for this disadvantaged community, ensuring compliance with state and federal safety standards.
- **Northampton Bucks County Municipal Authority ($9.4 million loan)** – A cured-in-place pipe (CIPP) lining project will address inflow and infiltration issues, benefiting local waterways like Neshaminy Creek.

These projects reflect Pennsylvania's ongoing commitment to sustainable water infrastructure and public health, supported by state and federal funding, including the Bipartisan Infrastructure Law.
Original Article: Smart Water Magazine

Northeast Texas water board considers plan to sell Lake O' the Pines water to DFW area

Video via the link below
Original Article: KLTV.com

Arizona preparing for possible litigation over Colorado River water negotiations

Arizona is hoping for consensus but preparing for a possible legal battle as it negotiates a new multistate agreement over how Colorado River water is allocated in the event additional cuts are needed.

Why it matters: A new agreement could ease the burden on Arizona water users — particularly those in the central part of the state who are dependent on Central Arizona Project (CAP) water — when drought and depleted reservoirs force cuts.

- The CAP has what's known as junior priority water rights from the Colorado River, meaning it's at the top of the list for cuts amid shortages.
- Shortages and cuts have become regular occurrences due to a 24-year "megadrought" that ranks as the region's worst in 1,200 years.

The latest: In her budget plan for the upcoming fiscal year, Gov. Katie Hobbs proposed giving $3 million to the Arizona Department of Water Resources for future litigation over the agreement.

- Hobbs prefers a negotiated compromise, but the funds send a message that "we are prepared to fight for Arizona's fair share no matter what happens," the governor's spokesperson, Christian Slater, told reporters during a recent budget presentation.

- State Sen. T.J. Shope, R-Coolidge, who will play a leading role in negotiating the Arizona Senate's approval of any Colorado River agreement, told Axios it would be "foolish" to not have a litigation fund in place.

Catch up quick: The seven Colorado River basin states agreed to guidelines in 2007 that dictate how cuts are allocated during water shortages.

- Those directives were amended by a 2019 Drought Contingency Plan.
- The 2007 guidelines expire at the end of next year.

State of play: A 1922 compact dictates how much water each state is entitled to, but levels have consistently fallen short of the amount of water that agreement anticipated.

- If the basin states can't agree, they could end up with a resolution mandated by the federal government.
- The U.S. Bureau of Reclamation released a set of options in November that could impose as much as 4 million acre-feet in cuts on the lower basin states annually.

The intrigue: The primary schism in the ongoing negotiations is between the lower basin states of Arizona, California and Nevada and the upper basin states of Colorado, New Mexico, Utah and Wyoming, Sarah Porter, director of the Kyl Center for Water Policy at Arizona State University's Morrison Institute for Public Policy, tells Axios.

- Lower basin states want the upper basin to take a greater share of future cuts, and Arizona wants other states to help ensure that CAP water continues flowing, Porter said.
- Arizona also needs to ensure that adequate amounts of water remain in Lake Mead, a key reservoir that powers Hoover Dam.
- Upper basin states that don't use their full allocations want cuts to come from the lower basin.

What they're saying: "They're absolutely at an impasse," Porter said of the upper and lower basins. "They seem to be so far apart and there doesn't seem to be any path to coming to agreement at this point."

- Porter said the likelihood of an agreement seems "extremely low."

What we're watching: The negotiations overlap with the change from the Biden to the Trump administration, and it's unclear how that transition may affect a final agreement.
Original Article: Axios Phoenix by Jeremy Duda

GLOBAL WATER NEWS

Groundwater eyed to help meet southern Alberta's water needs

The Government of Alberta is looking at groundwater to help meet growing demand for water in southern Alberta.

A three-year, $3.8-million Southern Alberta Groundwater Evaluation was announced by the Province on Jan. 28.

The study will map the quality, quantity and location of groundwater in the South Saskatchewan River and Milk River basins in southern Alberta, an area prone to drought and water shortages where demand for water is increasing, the Province said.

“With groundwater a critical source of water in the region, there is a need to fill in gaps and better understand how much is available to support communities and businesses in the years ahead,” the Province said.

The South Saskatchewan River basin includes the Bow River sub-basin, with the Sheep and Highwood rivers, plus the Oldman, South Saskatchewan and Red Deer River sub-basins.

The study will help effectively manage groundwater and will improve drought resilience for communities and the economy, said Rebecca Schulz, Alberta’s minister of environment and protected areas.

“With growing communities and a thriving economy driving increased demand for water in Alberta, it’s more important than ever that we ensure we have a good understanding of all our sources of water,” Schulz said.

The study will aid in regulatory decisions and improve clarity for those applying to use groundwater, and will also look at the effects of higher groundwater use on surface water availability and connected ecosystems, the Province said.

Vicki Lightbown, an executive director at Alberta Innovates, said groundwater has potential to help meet growing water demands.

“With a changing climate, growing population and economy, water availability is a critical issue,” Lightbown said.

Interactive data and groundwater maps will be published once the study is complete in 2027.

Original Article: Airdie City View Weekly

Data-Driven Insights into Climate Change Effects on Groundwater Levels Using Machine Learning

Climate change disrupts groundwater levels (GWL) by modifying precipitation patterns, reducing recharge rates, and limiting water availability. Rising temperatures and evolving weather patterns further degrade surface and groundwater quality. These changes exacerbate competition for water resources, heightening allocation challenges

and ecological disruptions. Groundwater fluctuations adversely affect ecosystems, causing habitat disturbances and biodiversity loss. This study explores the impacts of climate change on GWL using machine learning techniques to analyze 9,430 time series data points (1993–2021) from Northern China. Four distinct classes of top-performing machine learning models were evaluated. The CNN model demonstrated superior performance, achieving an R^2 value of 0.9924 and an RMSE of 0.1832, highlighting its efficacy in processing complex patterns. Pearson correlation analysis revealed that Average Annual Precipitation (AAP), Average Soil Moisture (ASM), and Evapotranspiration (EV) positively influence GWL, while Severe Wet Potential (SWP), Severe Drought Potential (SDP), and Temperature (T) exhibit negative correlations. Feature ranking identified AAP as the most critical factor for groundwater recharge, followed by ASM and EV, which also play significant roles in groundwater dynamics. These findings provide a robust understanding of the key drivers influencing groundwater recharge and storage, offering valuable insights to inform sustainable water resource management in the context of climate change.

Original Article: Water Resources Management by Xinyong Lu, Zimo Wang, Menghao Zhao, Songzhe Peng, Song Geng, Hamzeh Ghorbani

Water firm river pollution fines must be spent on rivers, MPs to say

Fines from water companies that pollute rivers must be ringfenced by law to be spent on restoring water quality in rivers, MPs will urge.

The Treasury is trying to take control of £11m in fines from water companies, which was intended for small charities to restore rivers, in a move criticised by river restoration campaigners as "appalling".

In an attempt to protect the water restoration fund, and ensure future fines collected from water companies are used to restore the river environment, the Liberal Democrat MP Tim Farron is seeking an amendment on Tuesday to the water special measures bill in parliament.

Mark Lloyd, the chief executive of the Rivers Trust, which supports the amendment, along with other environmental charities, said: "Rumours that the water restoration fund will be abandoned and the money swallowed up by the Treasury have troubled us deeply.

"This course of action would seriously – perhaps irreversibly – damage the chances of achieving our vision of wild, healthy, natural rivers, and would not be in accordance with one of the government's key manifesto pledges and Defra's top priority mission."

Farron's amendment is one of a number being debated on Tuesday. The Labour MP Clive Lewis is backing an amendment proposed by Farron to stop bill payers being forced to bail out failing water companies if they are taken into special administration.

The amendment comes as the government moves towards putting struggling Thames Water into special administration, as the biggest of the privatised water companies tries to face down bankruptcy.

As it stands, Labour's water special measures bill would leave customers at risk of paying the cost of Thames's debts to creditors in the form of higher bills if it goes into special administration. Thames Water, which provides water and sewerage services to 16 million customers in London and south-east England, has been on the brink of collapse for months as it struggles under a £15bn debt pile. Farron's amendment would allow up to 100% of debts to be cancelled in the event of special administration proceedings, protecting customers from any attempt to get them to pay off creditors via bill rises.

A petition signed by 34,000 people calling for Thames Water to move into public ownership has been handed to the environment secretary, Steve Reed, before a crucial high court hearing on the company's future next week.

Matthew Topham, a lead campaigner at We Own It, who organised the petition, said: "Thames Water is a masterclass in how not to run an essential public service. Steve Reed has the power to step in and end this chaos, stabilising not only the future of our water resources but also the wider UK investment landscape.

"If he fails, we face a consumer bailout at eye-watering interest rates that could set a dangerous precedent."

Original Article: The Guardian by Sandra Laville

Ofwat doubles funding to GBP400 million for innovative water schemes

Ofwat, the regulator of the privatised water and sewerage industry in England and Wales, is doubling funding to GBP400 million for a scheme to support innovative projects that improve water supplies and help the environment.

The Ofwat Innovation Fund has already awarded cash to 93 collaborative projects, from developing "pipebots" – robots that spot cracks in pipes to curb pollution in rising mains – to encouraging people to install specially designed water butts to reduce heavy rain overwhelming sewers.

Other projects funded by the original GBP200 million fund, established in 2020, include creating a blueprint for restoring seagrass habitats, harnessing citizen science nature recording to assess the state of rivers, and tackling sewage sludge to remove "forever chemicals".

Now, the regulator is extending and doubling the original fund to GBP400 million up to 2030, for water firms to work with other partners including companies, local authorities and conservation groups to develop and deploy solutions to the challenges faced by the sector.

The announcement comes amid intense scrutiny of the water sector – and regulators – over the degraded state of rivers, lakes and coasts, rising bills, shareholder dividends and executive bonuses.

Ofwat ruled in December that water companies could raise bills by 36% on average, before inflation, over the next five years to pay for a GBP104 billion upgrade to the sector, including new reservoirs and action to curb sewage pollution and protect the environment.

The settlement includes the GBP400 million for the innovation fund, which Ofwat says will cost each household in England and Wales about GBP2.13 a year between 2025 and 2030.

Chancellor Rachel Reeves has highlighted the fund as one of the promising ways regulators can help drive growth.

Helen Campbell, senior director for sector performance at Ofwat, said: "There's no question that the water sector faces many urgent challenges – reaching net zero emissions, ending the overuse of storm overflows, preventing leaks, and adapting to the impact of climate change – all while ensuring customers are properly served and enabling economic growth.

"Our GBP400 million commitment to continued investment in innovation will support highly collaborative projects to develop and deploy solutions to these enormous challenges.

"While the first five years championed nascent technologies and new approaches to demonstrate their future potential, the next five years must see them scale and deliver a lasting and beneficial impact for customers, society and the environment."

Natalie Wadley, chief executive of ChangeMaker 3D, which secured money for a project with partners developing 3D concrete printing of infrastructure and assets, said the funding was "game-changing" for the business and the development of "Printfrastructure" to help the water sector.

She added: "This project has truly delivered several UK firsts, pushed all of the technology boundaries and demonstrated how we can return tangible value to water customers."

The Ofwat Innovation Fund will be delivered by innovation prize experts Challenge Works in collaboration with design and engineering company Arup and innovation consultancy Isle Utilities.

Original Article: Morning Star by Emily Beament

Expert advisory group appointed by independent water commission

Leading voices from areas including the environment, public health and investment have been announced today (28 January) as the new advisory group to the independent water commission, chaired by Sir Jon Cunliffe.

Sir Chris Whitty (Chief Medical Officer), Richard Benwell (CEO, Wildlife & Countryside Link), Professor Isabelle Durance (Professor of Integrated Water Sciences at Cardiff University) and Peter Harrison (former CEO, Schroders) are among the nine members advising the commission in its major review of the water system.
A Call for Evidence will be published in February 2025 to bring in views from all interested parties on possible areas of reform.
Original Article: Gov.uk

Water and biodiversity credits should be integrated into voluntary carbon markets: Singapore president

A market for trading water credits is a viable way to conserve water, because the commodity can be easily measured, said Singapore president Tharman Shanmugaratnam.
Original Article: Eco Business by Ng Wai Mun

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