

Veles Water Weekly Report

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VelesWater



WATER FUTURES MARKET ANALYSIS

Welcome to ***WATERTALK***

by Joshua Bell

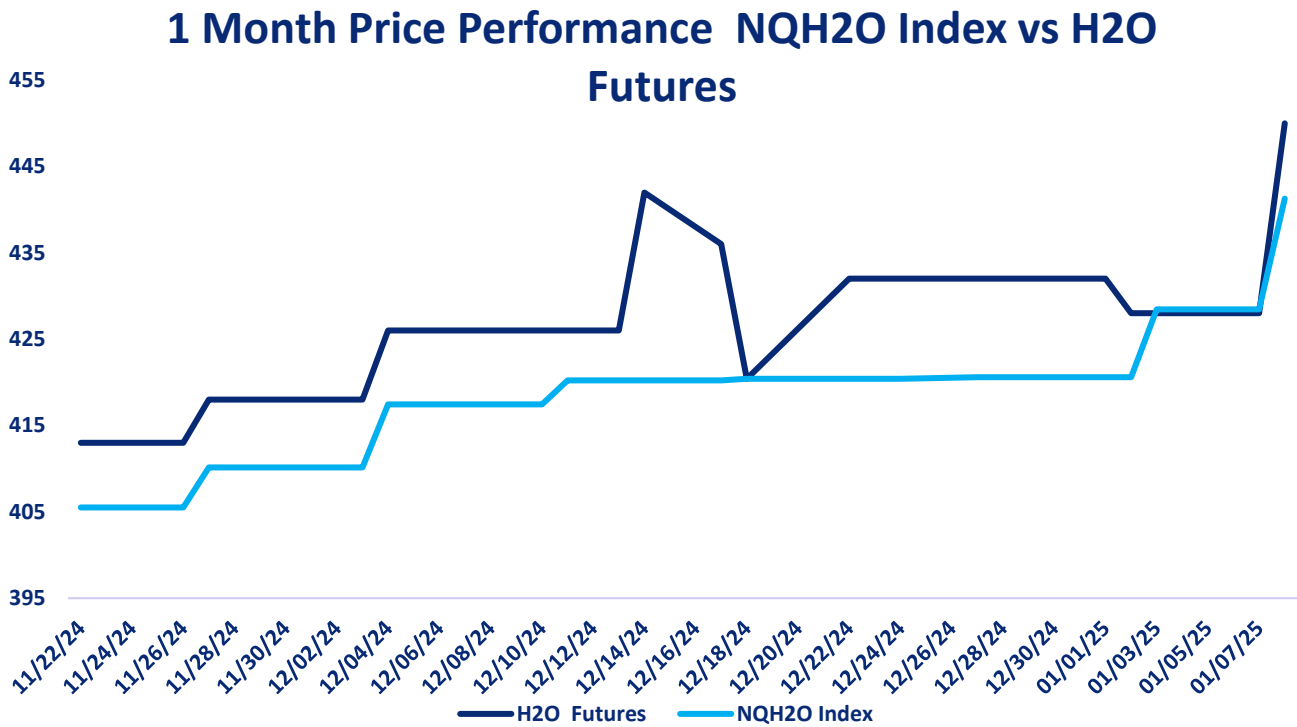
CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

<https://vimeo.com/1045295567?share=copy#t=0>



NQH2O INDEX PRICE vs H2O FUTURES PRICE



Price Chart Based upon Daily Close

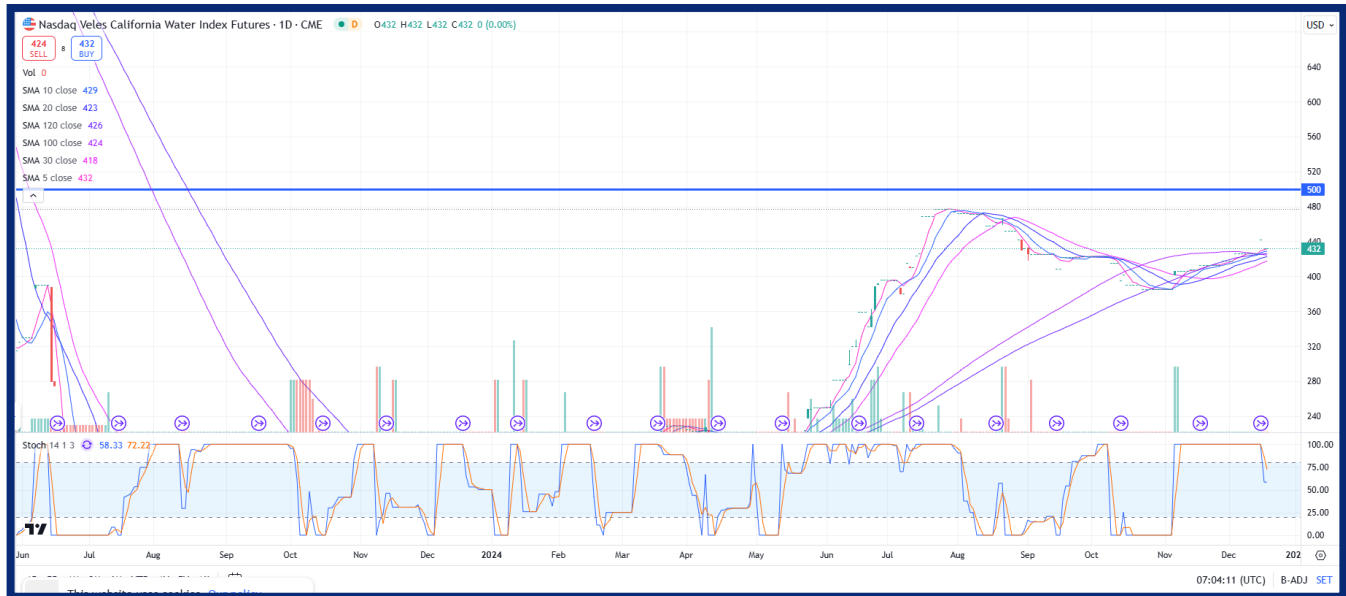
The new NQH2O index level of \$441.28 was published on January 8th, up \$12.83 or 2.99% from the previous week. The January contract is considered the front month. The futures prices have closed at a discount of \$0.45 to premium of \$8.72 versus the index over the past week.

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

Jan 25	450@458
Feb 25	442@465
Mar 25	447@505
June 25	500@530
June 26	570@640



H2O FUTURES TECHNICAL REPORT



Price Action

- **Current Price:** 450
- **Movement:** The price has increased by 5.14% in this trading session, showing strong bullish momentum.

Moving Averages (MA) Analysis

- MA 5 (5-day Moving Average): 432**
 - The current price is above the MA 5, indicating short-term bullish momentum.
- MA 10 (10-day Moving Average): 431**
 - The price is above the MA 10, reinforcing continued short-term bullish momentum.
- MA 20 (20-day Moving Average): 431**
 - The price is above the MA 20, showing strength in the short-term trend.
- MA 30 (30-day Moving Average): 418**
 - The price is above the MA 30, confirming medium-term bullish momentum.
- MA 100 (100-day Moving Average): 424**
 - The price is above the MA 100, signaling a strengthening long-term trend.
- MA 120 (120-day Moving Average): 428**
 - The price is also above the MA 120, suggesting a continuation of long-term bullish momentum.



Support and Resistance

- **Immediate Resistance: 500**
 - This level is a key resistance point and has been tested multiple times. A breakout above this level would confirm a strong upward trend.
- **Immediate Support: 450 (current price level)**
 - The current price may act as support. If the price falls below this level, the next significant support would be around the MA 100 at 424.

Stochastic Oscillator

- **K%: 100, D%: 33.33**
 - The stochastic indicator shows that the market is at the maximum. While this indicates strong bullish momentum, it also suggests the possibility of short-term consolidation or a pullback.

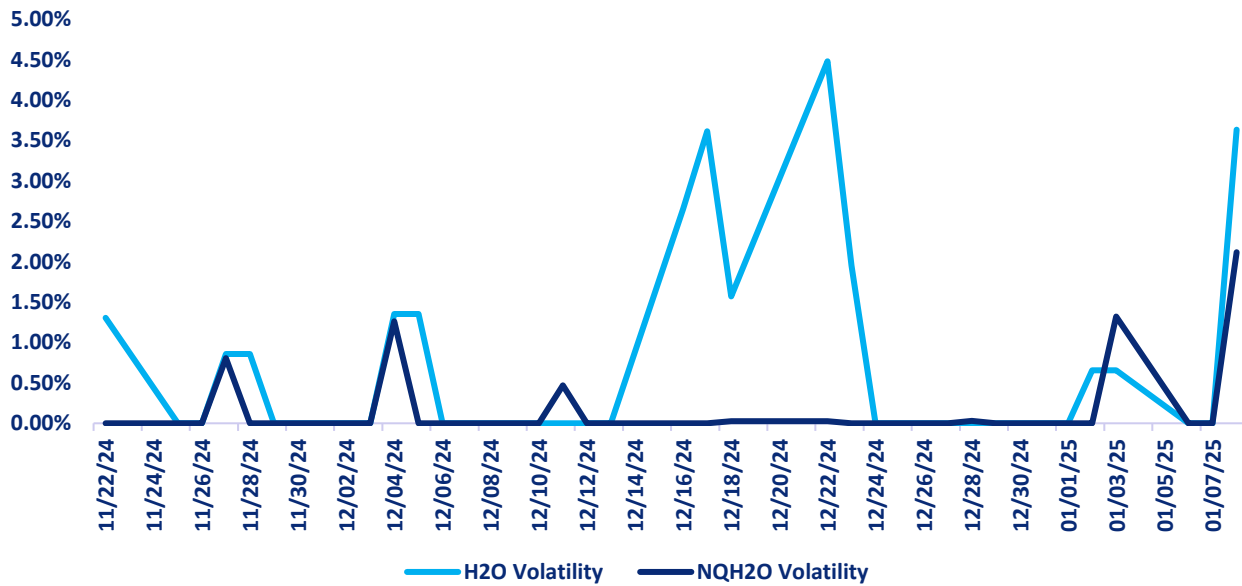
Summary

- The price is currently experiencing short-term, medium-term, and long-term bullish momentum as it is above all significant moving averages (MA 5, MA 10, MA 20, MA 30, MA 100, and MA 120).
- The stochastic indicator highlights that the market is at the maximum, signalling the potential for a short-term pullback or consolidation.
- **Key Levels to Watch:**
 - Immediate support at 450.
 - Resistance at 500.
 - If the price breaks above 500, it could signify a major bullish breakout. Conversely, if the price drops, support around the MA 100 at 424 should be monitored closely.



H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

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

ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	28.98%	2.59%	2.98%	1.12%
H2O FUTURES	N/A	8.73%	8.08%	5.45%

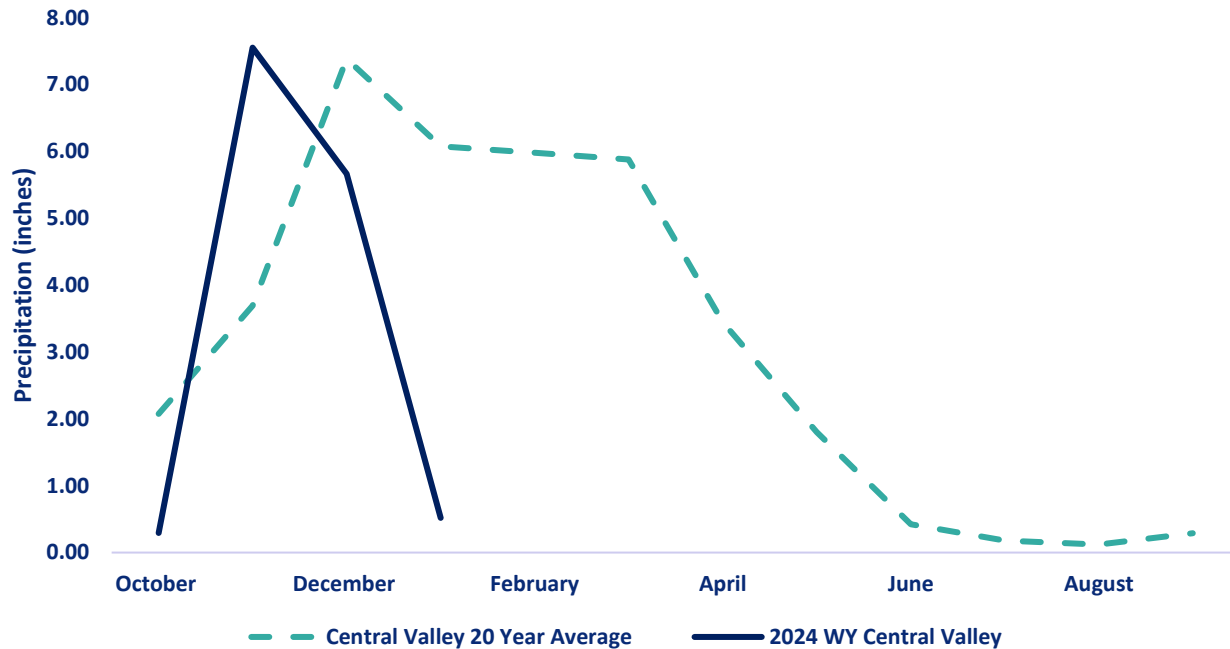
For the week ending on January 8th, the two-month futures volatility is at a premium of 6.14% to the index, up 3.22% from the previous week. The one-month futures volatility is at a premium of 5.10% to the index, up 0.66%. The one-week futures volatility is at a premium of 4.32% to the index, volatility.

*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 08/01/2025

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)	0.45	0.45	7.20	40	69
TULARE 6 STATION (6SI)	0.05	0.05	1.08	35	69
NORTHERN SIERRA 8 STATION (8SI)	1.06	1.06	14.42	60	133
CENTRAL VALLEY AVERAGE	0.52	0.52	8.56	45	90

RESERVOIR STORAGE

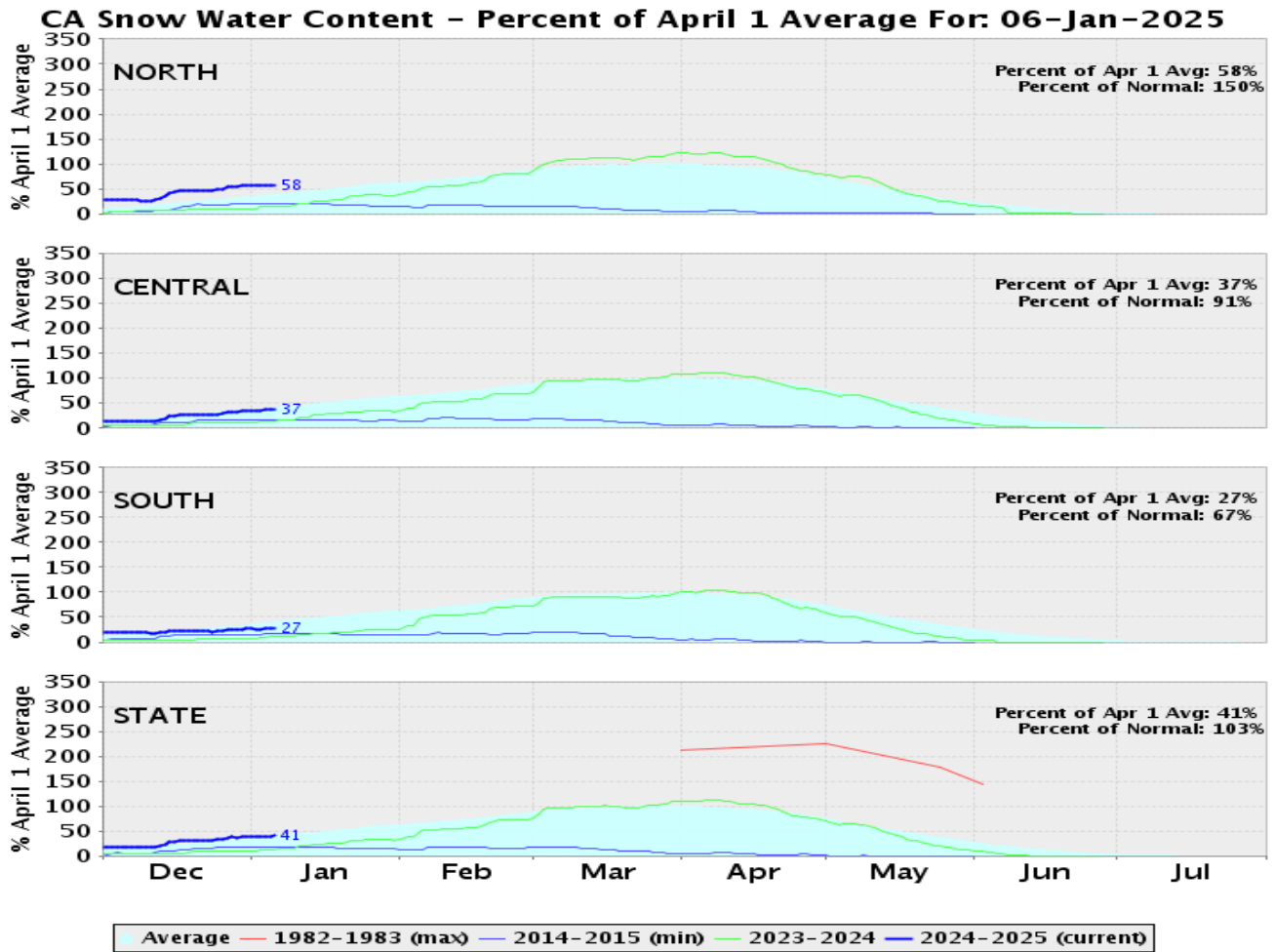
RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	1,879,257	77	88	127
SHASTA LAKE	3,549,442	78	115	130
LAKE OROVILLE	2,425,728	69	129	128
SAN LUIS RES	1,437,012	70	88	108

*% 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	15.9	7.6	31	161	57
CENTRAL SIERRA	10	5.5	30	94	35
SOUTHERN SIERRA	6.2	1.7	17	75	27
STATEWIDE	10.7	5.1	28	108	39

*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.

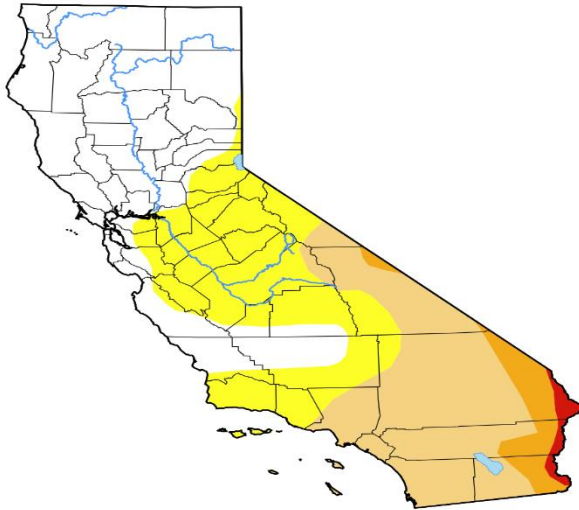
** April 1st is used as the benchmark as it when the snowpack in California is generally deepest. It has been used the benchmark date since 1941 by DWR and can be used to predict spring river flow.



DROUGHT MONITOR

California

[Home](#) / California



Map released: Weds. January 1, 2025

Data valid: December 31, 2024 at 7 a.m. EST

Intensity

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

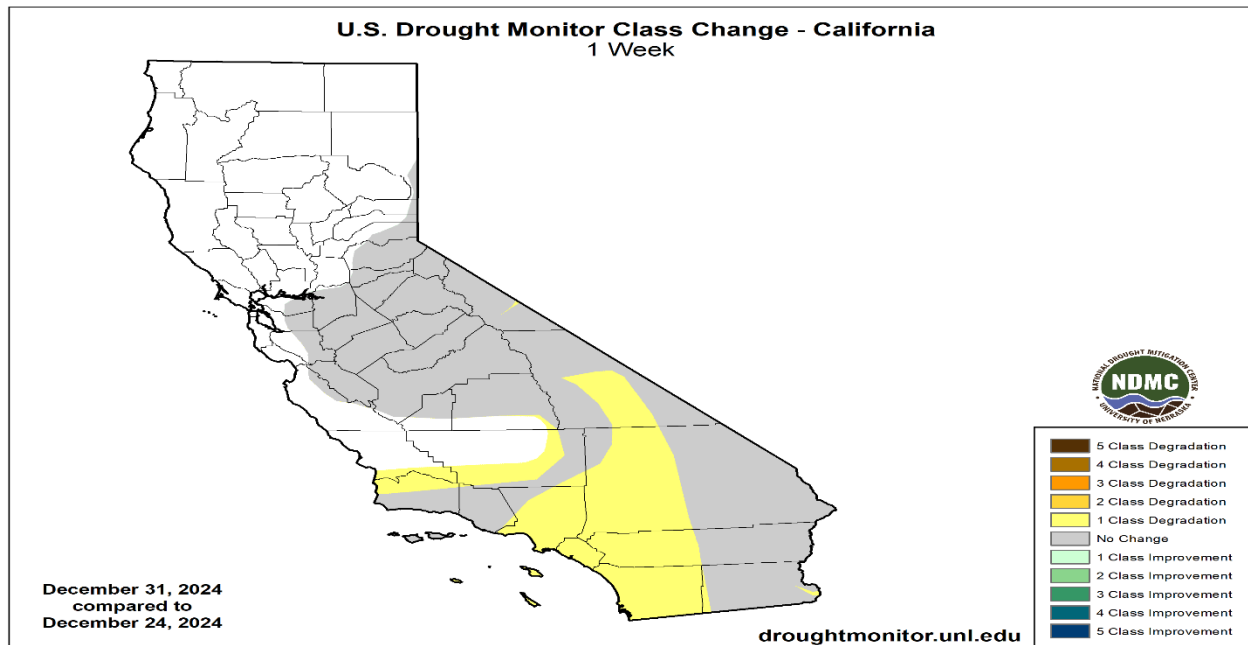
Authors

United States and Puerto Rico Author(s):

[Rocky Bilotta](#), NOAA/NCEI

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	2024-12-31	40.90	59.10	31.52	5.70	1.06	0.00	97
Last Week to Current	2024-12-24	43.49	56.51	16.72	5.70	1.03	0.00	80
3 Months Ago to Current	2024-10-01	28.40	71.60	10.67	0.08	0.00	0.00	82
Start of Calendar Year to Current	2023-12-26	96.65	3.35	0.00	0.00	0.00	0.00	3
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	2024-01-02	96.65	3.35	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

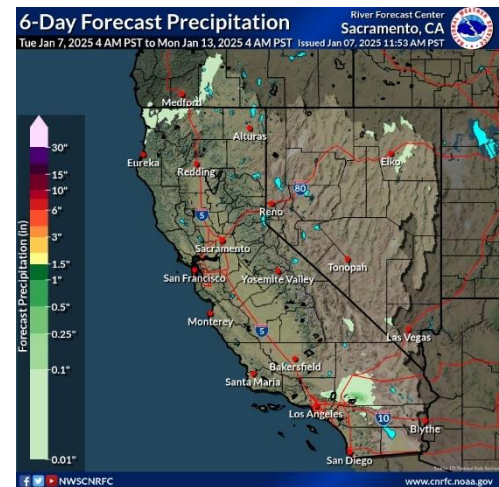
The satellite picture shows a long thin line frontal line out in the Pacific. This will bring some weather to northern California over the next week. The west coast is relatively clear after the high winds that were blowing in the LA region. The storm system associated with this has moved east of the Rockies and will bring precipitation to the Midwest. Some warmer wet air pushing northwards from Mexico to southern Arizona and west Texas. High wind storms are exiting the east coast over the Atlantic.



10 Day Outlook

No significant changes to the afternoon forecast. Dry conditions are forecast to continue into the long term window with ridging dominating the overall flow regime through early Monday next week. Shortwave activity off the Pacific Northwest coast late Friday may bring shower activity to the far northwestern portions of the forecast area (Smith Basin), though accumulations are currently forecast to be minimal (less than a tenth of an inch). Freezing levels drop to around 3500 feet over the southern Oregon Cascades on Saturday (4500 to 5500 over northern Nevada).

Map Ref: Zoom Earth



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



WESTERN WEATHER DISCUSSION

Average temperatures were above normal across nearly the entire region this week, while small pockets of below-normal temperatures were observed in northern California and along the southern coast of California, where temperatures were between 1 to 3 degrees F below normal. Conversely, Montana observed temperatures ranging between 6 to 15 degrees F above normal this week. Precipitation varied across the region this week, with heavy amounts falling in northern portions, while some areas in the southern portions of the region observed no precipitation. In the north, precipitation amounts of 1 inch or greater fell across much of the Pacific Northwest and northern California, with some areas receiving up to 8 inches above normal for the week. Moderate to severe drought were improved in western Montana and eastern Idaho, while moderate drought was removed in southeast Oregon and trimmed in the northeastern part of the state. Abnormal dryness was improved in northeast Oregon and in small parts of eastern Washington and southern Idaho. In the southern part of the region, above-normal temperatures and below-normal precipitation resulted in expansion of drought in Arizona, California and Nevada. Extreme drought was expanded in southern Arizona, while severe drought was expanded in southern and northwestern parts of the state. Moderate drought was expanded in western and eastern Nevada, southern California and across parts of Arizona, while abnormal dryness was expanded in parts of California, Arizona, Utah, Colorado and New Mexico this week.

Reference:

Lindsay Johnson, National Drought Mitigation Center

Richard Tinker, NOAA/NWS/NCEP/CPC



WATER NEWS

CALIFORNIA WATER NEWS

First Snow Survey of the Season Shows Snowpack Near Average for California

The Department of Water Resources (DWR) today conducted the first snow survey of the season at Phillips Station. The manual survey recorded 24 inches of snow depth and a snow water equivalent of 9 inches, which is 91 percent of average for this location. The snow water equivalent measures the amount of water contained in the snowpack and is a key component of DWR's water supply forecast. Statewide, the snowpack is 108 percent of average for this date.

Recent years in California have been marked by extremely hot and dry conditions broken up by periods of intense rain and snow. So far, this water year has been no different. A record-breaking hot and dry summer continued well into the fall, but a powerful atmospheric river in November broke several rainfall records in Northern California. A series of storms in late December provided another boost.

"While our snowpack looks good now, we have a long way until April when our water supply picture will be more complete," said DWR Director Karla Nemeth. "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."

DWR's electronic readings from 130 stations placed throughout the Sierra Nevada indicate that the statewide snowpack's snow water equivalent is 10.7 inches, or 108 percent of average for this date, compared to 28 percent on this date last year.

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.

"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."

Major reservoirs statewide are currently 121 percent of average thanks to [two consecutive years of above average snowpack conditions](#), which occurred after the driest three-year period on record in California. DWR is [preparing for these swings between extreme conditions](#) by investing in climate resilience, including the use of



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Forecast Informed Reservoir Operations, floodplain and flood infrastructure improvements and groundwater recharge efforts that will ensure California is able to capture and use as much water during flood conditions as possible.

On average, the Sierra snowpack supplies about 30 percent of California's water needs. Its natural ability to store water is why the Sierra snowpack is often referred to as California's "frozen reservoir." Data from these snow surveys and forecasts produced by DWR's Snow Surveys and Water Supply Forecasting Unit are important factors in determining how DWR manages the state's water resources.

DWR conducts four media-oriented snow surveys at Phillips Station each winter near the first of each month, January through April and, if necessary, May. The next survey is tentatively scheduled for **February 3**.

Original Article: [CA DWR](#)

State predicts increased allocations to water agencies

Following a series of storms that moved through Northern California in recent weeks, the California Department of Water Resources announced it has increased its water allocations to the 29 public water agencies that are served by the State Water Project, which includes the Tri-Valley's Zone 7 Water Agency.

Zone 7 supplies treated drinking water to retailers serving over a quarter million people in the Tri-Valley, including the cities of Pleasanton, Livermore, Dublin and — through special agreement with the Dublin San Ramon Services District — to the Dougherty Valley area of San Ramon.

The State Water Project is a 700-mile network of canals and dams that spans from the Sacramento-San Joaquin Delta to Southern California. The allocation has increased to 15% of requested supplies, up from the initial allocation forecast of 5% announced in early December.

"While we typically wait to provide an update until January, we felt it important to let our State Water Contractors know of the increase as soon as possible to allow them to better plan their water supply for the year ahead," DWR Director Karla Nemeth said in a statement last week.

The two largest agencies that contract water through the State Water Project serve rural and urban needs. The Kern County Water Agency serves 882,200 residents over 8,163 square miles and the Metropolitan Water District serves 19 million residents over 5,200 square miles in greater Los Angeles.

The requested supplies are based on the contracts that the water agencies have with the State Water Project and 100% of those contracts set a maximum amount of water that they can receive, according to DWR spokesperson Ryan Endean. The allocation is a percentage of that maximum.



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Allocations are updated monthly as snowpack, rainfall, and runoff information is assessed, with a final allocation typically determined in May or June. New percentages are announced throughout the year, with the last 100% allocation happening in April 2023, according to state records. The 2024 water year, which began Dec. 2023 saw allocations of no more than 40%.

“California is still in the early months of our wet season and as recent history has shown, conditions can change quickly,” said Dr. Michael Anderson, State Climatologist. “While Northern California has benefitted from early season storms, dry conditions in the new year can leave us with below average totals when warmer weather arrives.”

Original Article: [Pleasanton Weekly by Ruth Dusseault of Bay City News](#)

Unusual ‘life-threatening and destructive’ winds bring risk of winter fires, power outages to Southern California

By January, Southern California usually has experienced enough rain that a major winter wind event does not bring fears of a major fire.

But [not this year](#).

More than eight months without any measurable rainfall, Southland officials are gearing up for what is expected to be a “[life-threatening and destructive](#)” windstorm. Beginning Tuesday, the winds are forecast to last several days and hit areas well beyond the region’s typical wind corridors — with the potential to stretch an already-active fire season into January.

“This upcoming event is extreme,” said Capt. Erik Scott, a spokesperson for the Los Angeles Fire Department. “Many people think that when the winter months come they might be out of fire danger and that’s simply not true, especially in Southern California.” Gusty, dry winds — some that could reach up to 100 mph — are forecast across much of Los Angeles and Ventura counties beginning Tuesday, and are expected to elevate the threat for fast-moving wildfires and also cause major damage to trees, power lines and even high-profile vehicles.

A rare, late-season red flag warning [describing](#) “widespread, damaging ... and long-duration” fire weather conditions has been issued for the region through at least Thursday, with a possibility that it could be extended to Friday. This is the first January since 2021 that the National Weather Service’s Los Angeles office has issued such an alert.

“It’s not a common occurrence,” Rich Thompson, a weather service meteorologist, said of the January red flag warning. But he said it does happen, particularly “at times in our drier winters.”

And so far, Southern California is experiencing one of its [driest starts](#) in years to what is supposed to be the rainy season. Downtown Los Angeles hasn’t recorded over a tenth of an inch of rain since May 5.



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“We can’t let our guard down in Southern California,” said Brent Pascua, a battalion chief for the California Department of Forestry and Fire Protection. “This year, we haven’t seen as much moisture ... so the fuel is primed.”

Parched vegetation on its own isn’t a major concern during cooler months, typically, but when a strong Santa Ana winds pick up and humidity drops, a single spark can rapidly become dangerous, Pascua said.

“That is the perfect recipe for a large wildfire,” he said.

The upcoming windstorm’s red flag warning was elevated Monday afternoon to an even more unusual “particularly dangerous situation,” the most extreme fire weather alert. Such a warning had been issued before both the [Mountain fire in November](#) in Ventura County and the [Franklin fire in December](#) in Malibu erupted. The alert is in effect for most of Tuesday and Wednesday across the majority of L.A. and Ventura counties. On Wednesday morning, it has been issued for much of inland Orange County, the Inland Empire and the San Bernardino County foothills.

“If fire ignition occurs, conditions are favorable for very rapid fire spread and extreme fire behavior, including long range spotting, which would threaten life and property,” this week’s red flag warning said. “Use extreme caution with anything that can spark a wildfire. Residents near wildland interfaces should be prepared to evacuate if a wildfire breaks out.”

While large wildfires in January remain rare for California — since 2016, there have only been a handful of January fires and most of them have been small, according to [the Cal Fire database](#) — they are not unheard of. In 2014, the [Colby fire broke out](#) in Glendora and Azusa in mid-January, destroying several homes and structures in the area.

Extra concerning is this wind event’s broad scope. Dangerously strong winds are expected in the mountains and along typical windy corridors, but also in regions that don’t typically see these strong Santa Anas: including the Hollywood Hills, Beverly Hills and the Sepulveda Pass, and even into the Palos Verdes Peninsula and onto Catalina Island. Those areas are under a fire weather watch as of Monday.

Original Article: [The LA Times by Grace Toohey](#)

CSPA sues California over operations of the State Water Project

On November 26, 2024, the California Sportfishing Protection Alliance sued the California Department of Water Resources (DWR) and the California Department of Fish and Wildlife (DFW) over the “[Incidental Take Permit](#)” (ITP) for the operation of the [State Water Project](#). CSPA’s *Verified Petition for Writ of Mandate and Complaint for Declarative and Injunctive Relief* alleges violations of the law under the [California Environmental Quality Act](#) (“CEQA”), Public Resources Code (“PRC”) section 21000 *et seq.*; the Delta Reform Act (“DRA”), Water Code section 85000, *et seq.*; the



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California Endangered Species Act (“CESA”), Fish and Game Code (“F&GC”) section 2050, et al.; and the [Public Trust Doctrine](#).

In simple terms, CSPA sued DWR over the Final Environmental Impact Report (FEIR) for its inadequate analysis in support of the ITP. CSPA sued DFW over the failure of the ITP itself to protect threatened and endangered fish, as well as for other failures of law. An ITP is the state equivalent under the California Endangered Species Act (CESA) and has a function similar to a “[biological opinion](#)” under the federal Endangered Species Act. The [Petition and Complaint](#) sets forth in 69 very readable pages what is wrong with the FEIR and the ITP.

One of the most easily understandable defects of the FEIR and the ITP is that they rely on the grossly inadequate flows of the proposed “Voluntary Agreement” in place of the State Water Board’s proposed update of the Bay-Delta Plan. DWR and DFW treat the Voluntary Agreement as a done deal and build the ITP structure on top of its flimsy foundation. (For further discussion, see CSPA’s January 2024 [comments](#) on the Bay-Delta Plan and the Voluntary Agreement.)

A second clear defect is the failure of the FEIR and ITP to analyze and place conditions on the operation of Oroville Reservoir, the State Water Project’s largest water storage facility and the second largest reservoir in California. DWR and DFW trot out the rusty refrain that DWR has no plans to change the operation of Oroville, so there’s nothing to analyze. However, there are no explicit regulatory rules that constrain Oroville’s water supply operations for the protection of CESA-listed fish, in any venue. DWR could change its operating rules for Oroville, with no environmental review, at any time.

CSPA is joined in the lawsuit by the North Coast Rivers Alliance, the San Francisco Crab Boat Owners Association, and the Winnemem Wintu Tribe. The Law Offices of Stephan C. Volker filed the suit on behalf of CSPA and fellow plaintiffs.

Original Article: [Mavens notebook/ CA Sportfishing Protection Alliance](#)

Drought Conditions Return To Southern California Following Several Wet Years

According to [new data released by the U.S. Drought Monitor this week](#), California has officially returned to drought conditions in some parts of the state.

Between the late 2010’s and early 2020’s, California had megadrought conditions across the state resulting in [water restrictions in both urban and agricultural areas](#), as well as record lows in reservoir levels across the state. In 2022, many predicted an even drier 2023, with even more restrictions coming to help preserve water.

However, atmospheric rivers formed above California for two winters in a row, dropping down record rainfall across the state. Snowpack levels in some areas eclipsed [250% of the normal levels](#), and some reservoirs had to have emergency releases thanks to some



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being filled to the brim. Dry conditions were averted, and, in November 2023, the [state officially became drought free](#).

But things changed once again. Last year, the California Department of Water Resources (DWR) predicted a [dry 2025 thank to multiple factors including the return of La Nina conditions](#). While there was good news earlier this week in that snowpack levels were [still above 100% for this year](#), that only pertained to Northern California. Rain failed to form, by and large, in Southern California in the past few months leading to the return of a moderate drought.

According to the data, only the [extreme Southeast of the state is experiencing heavy drought conditions](#). Moderate drought is more widespread, extending from the Mexican border, up to Ventura County, and then curving up to the East reaching as far as southern Mono County. Northern California remains drought-free thanks to a number of winter storms that have brought precipitation to the area in the past several months.

The return of drought conditions in California will likely help spur the advancement of water projects in California this year. [Multiple proposed reservoirs in the state have been held up](#) partly because of wetter conditions masking the need for them in the state. And President-elect Trump's promises of more agricultural water and [wanting the state to renege on water usage rules](#) could be easier to fulfil with the backdrop of yet another major drought showing the need for it.

"The return of a drought isn't great, but you mentioned the political implications," said Jack Wesley, a water systems consultant for farms and multi-family homes, to the Globe on Friday. "A drought being the elephant in the room during all these water discussions later this year will be big. Trump's people needed that extra cherry on top to challenge California this year on all the water usage laws, and this drought can help illustrate that. Same goes for reservoirs, water recycling programs, desalination plants, and anything else coming up. The need is going to be shown, and it's something that the state really can't deny.

"Let's wait and see what La Nina really does in the next few months, but if I had to wager, those drought areas are really going to grow. Right now, the worst of the drought is only around Blythe. But by March or April, if the boundaries of a severe drought start encroaching on the Inland Empire, yeah, the state government is going to have a much harder time defending things like water usage policies."

As of this week, a moderate to extreme level drought is currently affecting 38% of the state.

Original Article: [California Globe by Evan Symon](#)



US WATER NEWS

Wyoming's Colorado River water rights in jeopardy without improved info, official warns

Wyoming's water chief wants emergency funds for hydrologists to measure flows in the state's portion of the troubled Colorado River Basin, documentation he said is vital to preserving irrigation and other uses.

State Engineer Brandon Gebhart asked for \$167,210 in supplemental budget funds, a piddling amount in the world of western water finances, but a critical sum necessary to launch the work this spring. He called parts of the proposed allocation an "emergency," a designation that would enable disbursements to begin this fiscal year.

Among other things, the money would employ three full-time hydrographers to measure flows in the Green and Little Snake river drainages. The total figure covers money specifically directed toward Colorado River issues as Wyoming girds to protect irrigators and other water users.

Climate change and drought have upset basin flows and could upend allotments agreed to in the seven-state 1922 Colorado River Compact. That, in turn, could threaten Wyoming's water rights.

"Mandatory reductions are pretty much a hard 'no' for me."

Brandon Gebhart

"What we're seeing is an increase [in] demand and a decrease in supply," Gebhart told members of the Legislature's Joint Appropriations Committee in December. "This likely means that our downstream states will have a greater interest in our water. Being a headwater state, it's somewhat concerning."

Upper basin states — Wyoming, Colorado, Utah and New Mexico — [don't agree](#) with lower-basin users in Arizona, California and Nevada on how or whether to reapportion dwindling runoff that supports some 40 million people. Lower basin states want equal "one-for-one" cuts shared between the two divisions, Gebhart told irrigators last summer.

"Mandatory reductions are pretty much a hard 'no' for me," a position shared across the upper division, Gebhart said.

Enhanced storage

"You're not going to hear me in the press," Gebhart told irrigators in Baggs last summer, but he's outlined Wyoming and upper basin states' position in several public meetings. "We have less water than was ever anticipated when the compact originated," Gebhart said. "The last 22 to 24 years are the driest, the least flow in that basin in over 1,000 years."

The 1922 Colorado River Compact requires upper division states to allow 75 million acre-feet to flow past Lees Ferry, a gauging station just below Lake Powell's Glen Canyon Dam,



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during a rolling 10-year span. Wyoming's responsible for about 14% of that and, conversely, can use a similar percentage of what doesn't run past the gauge.

Wyoming believes it hasn't fully tapped its 1922 share and is pursuing three significant water storage projects to fulfill its rights. Those are at [New Fork Lake](#), [Fontenelle Reservoir](#) and a proposed reservoir on the [West Fork of Battle Creek](#) above the Little Snake River.

Original Article: [Wyofile by Angus M. Thuermer Jr](#)

Cutting-edge wastewater treatment technology provides a more sustainable water supply in Colorado, USA

The development of sustainable water treatment is a critical challenge for the growing city of Lafayette, Colorado, situated at the edge of the Rocky Mountains in the USA. Since 2022, the city has been constructing a new high-performance plant to enhance the region's water supply using state-of-the-art wastewater treatment technologies. A central feature of this plant is the installation of 13 HYPERCLASSIC®-Mixing and Aeration Systems from INVENT, designed specifically for challenging wastewater treatment conditions.

Lafayette has long partnered in major water projects aimed at enhancing regional resilience against changing climatic conditions. Alongside developing new water reservoirs, wastewater treatment is becoming increasingly vital for sustaining prosperity and growth in the area.

Following the planning, delivery and installation of the first HYPERCLASSIC®-Mixing and Aeration System by INVENT in the sludge holding tank, twelve further systems were installed by 2023 after the successful operation of the first unit. These high-performance systems primarily focus on sludge stabilization in the sludge basin through mixing and aeration as well as efficient oxygen input to reduce the biological (BOD) and chemical (COD) oxygen demand in the aerated basins

Thanks to the fluid mechanically optimized technology, INVENT says the 13 HYPERCLASSIC®-Mixing and Aeration Systems have proven to be just as efficient and reliable in continuous operation as they are in intermittent operation by providing:

- Improved sludge quality: The unique hyperboloid-shaped mixer body creates an optimized near-bottom flow that stirs up deposits and ensures a more homogeneous distribution of the sludge.
- Efficient aeration: The mechanical aeration generates optimally sized air bubbles, which are evenly distributed in the basin by the rotation of the mixer body. This improves the oxygen input while reducing energy consumption. A significant reduction in operating costs is possible.



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- Decoupled Mixing and Aeration: The aeration basins have the ability to create anoxic or aerated zones within the plant by simply turning the air off while continuing to mix. This feature allows operators optimal flexibility in the process trains.
- Reduced maintenance: The construction and design of the mixer and aeration system is designed for continuous or intermittent operation. Overall maintenance has been minimized by a top-mounted dry drive, which reduces maintenance costs but not having to drain the basins and ensures long-term operational stability.

Developed for use in demanding wastewater applications, the HYPERCLASSIC®-Mixing and Aeration Systems form a central element of Lafayette's innovative and environmentally conscious water supply structure. With a daily volume of up to 6.4 million gallons of water (MGD), the city, in collaboration with INVENT, has demonstrated that modern, high-performance water treatment solutions can be successfully implemented, showcasing their effectiveness and reliability.

Original Article: [Water Magazine](#)

Drought Persists: Your January Water Supply Update

Here in Southern Nevada, we get our water from two sources.

The first and largest resource is the Colorado River, which makes up 90% of our water supply and collects in Lake Mead, traveling to our taps here in Las Vegas. The additional 10% comes from groundwater sources.

But many of us know we've been in a megadrought for several years now — so here at Channel 13, we're keeping tabs on the state of our water supply.

So, how do we get our water?

The video player is currently playing an ad.

Our region's water generally comes from snowpack in the Rocky Mountains designated by the Upper Colorado Basin which acts as a storage system for the water that eventually channels into Lake Mead every season.

Right now, some good news for this area. Snowpack levels sit right around average for this time of year at 91%.

Once that snow melts, it will drain into the Colorado River and two reservoirs for storage — Lake Mead and Lake Powell — the water is then utilized by seven states here in the Southwest. Low flows could mean cuts, [which officials are negotiating](#) if the drought is to continue.

Currently, those lake levels remain low.

Lake Mead is 33% full, and Lake Powell is 35% full.



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Unfortunately, we'll need several years of substantially above-normal snowpack to remedy this reservoir situation. Meanwhile, drought conditions have not improved in the Southwest.

Here's the thing, there's still time to get there as we push through the next few months, and there has been some decent accumulation in the Rockies over the last week, with more winter weather in the forecast for that area.

On top of critically low lake levels, we're looking at varying levels of intensified drought in Southern Nevada. Currently, areas surrounding Las Vegas and Laughlin are in the extreme category.

Overall, 2.2 million people are living in drought in Nevada, and we've had some exceptionally dry weather over the past few months. In fact, Las Vegas is in the midst of the 2nd longest dry stretch on record.

Original Article: [KTNV by Geneva Zoltek](#)

GLOBAL WATER NEWS

Climate crisis 'wreaking havoc' on Earth's water cycle, report finds

The climate crisis is "wreaking havoc" on the planet's water cycle, with ferocious floods and crippling droughts affecting billions of people, a report has found.

Water is people's most vital natural resource but global heating is changing the way water moves around the Earth. The analysis of water disasters in 2024, which was the [hottest year on record](#), found they had killed at least 8,700 people, driven 40 million from their homes and caused economic damage of more than \$550bn (£445bn).

Rising temperatures, caused by continued burning of fossil fuels, disrupt the water cycle in multiple ways. Warmer air can hold more water vapour, leading to more intense downpours. Warmer seas provide more energy to hurricanes and typhoons, supercharging their destructive power. Global heating can also increase drought by causing more evaporation from soil, as well as shifting rainfall patterns.

Deadly flash floods hit [Nepal](#) and [Brazil](#) in 2024, while river flooding caused devastation in [central Europe](#), [China](#) and [Bangladesh](#). Super [Typhoon Yagi](#), which struck south-east Asia in September, was intensified by the climate crisis, as was [Storm Boris](#) which hit Europe the same month.

Droughts also caused major damage, with crop production in [southern Africa](#) halving, causing more than 30 million people to face food shortages. Farmers were also forced to cull livestock as their pastures dried up, and falling output from hydropower dams led to widespread blackouts.



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“In 2024, Earth experienced its hottest year on record and water systems across the globe bore the brunt, wreaking havoc on the water cycle,” said the report’s leader, Prof Albert van Dijk.

He said 2024 was a year of extremes but that was not an isolated occurrence. “It is part of a worsening trend of more intense floods, prolonged droughts, and record-breaking extremes.” The report warned of even greater dangers in 2025 as [carbon emissions continued to rise](#).

The [2024 Global Water Monitor Report](#) was produced by an international team of researchers from universities in Australia, Saudi Arabia, China, Germany and elsewhere. The team used data from thousands of ground stations and satellites orbiting the Earth to assess critical water variables such as rainfall, soil moisture, river flows, and flooding. They found rainfall records are being broken with increasing regularity. For example, record highs for monthly rainfall were set 27% more often in 2024 than in the year 2000 and daily rainfall records were set 52% more frequently. Record lows were set 38% more often. “So we are seeing worse extremes on both sides,” said Van Dijk.

In southern China from May to July, the Yangtze and Pearl rivers flooded cities and towns, displacing tens of thousands of people and causing hundreds of millions of dollars of damage to crops. The river floods in Bangladesh in August after heavy monsoon rains affected almost 6 million people and destroyed at least a million tonnes of rice.

Meanwhile, in [Spain](#) in October more than 500mm of rain fell in eight hours, causing deadly flash floods. The city of Porto Alegre, Brazil, was inundated with [two months’ worth of rain](#) in just three days in May, transforming roads into rivers.

Original Article: [The Guardian by Damian Carrington](#)

Transforming the UK water industry: Predictions for 2025

The UK water industry is in the midst of one the greatest periods of transformation that it has ever witnessed. As the industry sets its sights on driving urgent improvements across clean, waste and environmental operation and increased accountability, water companies are also faced with having to expertly navigate an evolving regulatory landscape. To help them set their direction for the coming year, here are three predictions that I think we will see to come to bear in 2025.

Data and Performance as the Critical Success Metrics

Over the next twelve months, meter read performance will be critical for meeting the regulatory targets set by Ofwat, and in turn, justifying further investment. Companies that successfully hit the required number of reads per day will avoid financial penalties and be able to invest more of their revenue into driving down leakage and consumption. To hit these targets, rollouts must be managed efficiently. Installing meters on a street-by-street basis should be the de facto method used by water companies. While it sounds



basic, being able to tackle a whole street at once, rather than installing one meter and changing location, will ensure greater efficiencies.

As we look ahead to the next few years, performance will become an increasingly critical measurement of success. Previously, the industry lacked clarity around the definition of how frequently and reliably meters had to connect. Now that the regulator has set out clear guidance around the parameters of smart meters and subsequent targets, water providers will be looking to deploy meters and solutions that deliver reliable and complete data.

Changes to Incentives and Penalties, and Bring a Call for Mandated Metering

In 2025, the conversation around penalties and incentives will heat up. Currently, smart metering has been identified as a contributor to two Operational Delivery Incentives (ODIs), both Leakage and Per Capita Consumption (PCC). Yet, each major investment comes with a Price Control Deliverable (PCD) engineered to ensure that specific projects deliver to the required standards. Water companies and providers will continue to debate the challenges around having two sets of penalties and incentives for an activity designed to reduce leakage and PCC. The guidance around the current PCD could mean that failure to deploy a working smart meter, despite incurring all of the costs, can result in a water company being forced to return the same amount of money back to its customer as the penalty. As water providers look to meet new regulatory targets in 2025, the conversation around revisiting PCDs and ODIs will continue.

Given the focus on data and tangible outcomes, the next AMP8 period will no doubt continue to showcase the benefits of smart metering. We may well see increased calls for a mandated approach – one that is already more straightforward in water-stressed areas in the South and East.

At Arqiva, we recognize that it is infinitely more efficient to deploy smart meters en masse. When scaled up, installation teams can focus on a geographic area and install meters in every property. If the communications solution needs to be built, it can align its investment in the areas that will have the meters installed. If this is not possible, water providers will need to find a solution that covers all the large territories that water companies are accountable for, even if they are only able to deploy a small number of meters because the water companies are not in control of where the meters need to be installed. This inequity needs to be removed – only solved by a mandated rollout.

Proactive, Real-Time Data Analysis

Typically, water companies get just two reads per year from a water meter. The future will see meters providing up to 24 reads per day. This data will be invaluable for spotting real-time leaks and assessing water usage habits, but it will also require significant interpretation.

In 2025, there will be a focus on proactively interpreting data. The industry must shift from relying on leak alarms to leveraging continuous flow data for efficiency and water



scarcity management. High-performance smart meters will provide real-time balance, reducing the need for complex calculations based on estimates.

Building customer engagement will be essential. Water companies must adapt their organizations to handle information efficiently, responsibly, and transparently. Successful companies will integrate data with their wider CTO and IT infrastructure to deliver tangible outcomes for customers and the environment.

The bar for success has been raised. Those that emerge as winners in the next regulatory phase will be those that focus on capturing complete and accurate data, leverage managed service providers to handle rollouts, and work to ensure that they are deriving valuable real-time insights from the influx of new data. Only then can we hope to drive tangible value for both customers and the environment.

Original Article: [Water Magazine by John Lillistone](#)

Drought-hit India's quest for water hampered by thirsty crops

Pleas by local officials for farmers to switch from rice to oilseeds and pulses and protect dangerously low water levels are falling on deaf ears, and may be further undermined by government policies encouraging cultivation of thirsty crops.

Back-to-back droughts for the first time in nearly 30 years mean some rural areas in the north are running out of water for human consumption and agriculture, prompting warnings of serious consequences if urgent action is not taken.

"It is unlikely that India will have another drought next year; three years in a row has never happened before," said Ashok Gulati, a farm economist who advised the last government.

"But with extreme events increasing due to climate change, you never know. If we don't wake up now then, God forbid, people will leave farming to become labourers at railways stations."

With more than two-thirds of the 1.25 billion population living off the land, water scarcity could affect the majority and hit long term food supplies.

As world leaders meet in Paris next week to agree a deal on cutting greenhouse gas emissions, India says climate change is already hurting the agriculture and water sectors, and the impact is amplified by poverty and a heavy reliance on farming.

Locally, officials are trying to change farming habits and enforce stricter rules on water usage.

"We are encouraging crop diversification; we are going for pulses," said Amit Kishore, chief development officer in Rampur, a farm belt city in Uttar Pradesh.

"We have been trying to convince farmers to shift to horticulture as well, but the uptake has not been satisfactory."



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Four out of Rampur's six administrative areas are so-called "dark zones", with 80 percent or more of groundwater exhausted. In those zones, the practice of boring wells has been banned this fiscal year.

Without urgent action, the region risks going the way of Punjab and Haryana, two parched states where the groundwater has sunk even further.

Some farmers in those states now need to dig 300 feet (91 metres) for water, compared to five feet (1.5 metres) in the 1960s, according to research by a local government scientist.

"RICE SELLS"

Prime Minister Narendra Modi has urged farmers to use water wisely, advocating a "per drop, more crop" approach that includes water-saving methods like drip irrigation.

Yet his 18-month-old government has also boosted incentives to grow water-intensive rice, wheat and sugarcane that India exports, at the expense of crops like oilseeds or pulses that it has to import.

Little wonder some farmers in the northern farming belt are ignoring the advice of local officials.

"We grow rice because that is what sells," said Babu Ram Saini, standing by a pond in Jiwai Jadid village in Rampur. "Productivity for lentils is so low that we'll not be able to sustain ourselves without massive government support," he said.

Some experts are advocating tougher measures to force more efficient use of water. Wastage is encouraged by the supply of free or subsidized power which boosts politicians' popularity.

"We have been trying to tell farmers that if you continue growing rice, more places are going to become dark zones," said V.K. Mishra, a regional head of the Central Soil Salinity Research Institute in Uttar Pradesh's capital Lucknow.

"We should make a law that you can't grow rice in areas where the water table is very low."

Rice covers 62 percent of Punjab's area under cultivation, up from 10 percent in 1970. The expansion of rice has been similar in neighbouring Haryana.

Though the droughts have hit crops, India still produces more rice, wheat and sugar than it consumes, drawing accusations from the World Trade Organization that stockpiling to provide cheap grain to the poor unfairly distorts trade.

"It is quite natural for our farmers to go for rice and cane when both power and water are almost free," said economist Gulati, adding that selling such produce abroad is like exporting "precious water for free".

Additional reporting by Mayank Bhardwaj in NEW DELHI; Editing by Mike Collett-White

Original Article: [Reuters by Krishna N. Das and Mayank Bhardwaj](#)



China assures its world's biggest dam will not affect water flow to India

China on Monday reiterated its plan to build the world's biggest dam over the Brahmaputra River in Tibet near the Indian border, saying the planned project has gone through rigorous scientific verification and will not have any negative impact on downstream countries -- India and Bangladesh.

The project, estimated to cost around USD 137 billion, is located in the ecologically fragile Himalayan region along a tectonic plate boundary where earthquakes occur frequently.

China's construction of the hydropower project over in the Yarlung Tsangpo River (the Tibetan name for Brahmaputra River) downstream has gone through rigorous scientific verification and will not have any negative impact on the ecological environment, geology and water resources of the downstream countries, Chinese Foreign Ministry's new spokesman Guo Jiakun told a media briefing here.

On the contrary, it will be conducive to downstream disaster prevention and mitigation and response to climate change to a certain extent, he said, replying to a question that India has expressed its concerns over the dam and the issue figured in the Indian officials talks with the visiting and US National Security Advisor Sullivan.

Sullivan, currently visiting Delhi, held talks with External Affairs Minister S Jaishankar on Monday broadly reviewing the trajectory of the India-US global strategic partnership in the last four years under the Biden administration.

Sullivan is on a visit to India two weeks ahead of Donald Trump's inauguration as the 47th president of the US.

Last month, China approved plans to build a dam over the Brahmaputra River called Yarlung Zangbo in Tibet close to the Indian border.

As per the plan, the massive dam will be built at a huge gorge in the Himalayan reaches where the Brahmaputra makes a huge U-turn to flow into Arunachal Pradesh and then to Bangladesh.

In its first reaction to the proposed dam on Jan 3, India urged China to ensure that the interests of downstream states of the Brahmaputra are not harmed by activities in upstream areas.

"We will continue to monitor and take necessary measures to protect our interests," External Affairs Ministry spokesperson Randhir Jaiswal told media in Delhi.

Original Article: [Business Standard](#)

Saudi Arabia boosts desalinated water supply to 50% in Vision 2030 push

Saudi Arabia's water sector witnessed significant shifts in 2023, with a 31 percent increase in desalinated seawater production, now comprising 50 percent of the country's distributed water supply, up from 44 percent in 2022, official data showed.



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According to the General Authority for Statistics' latest Water Accounts report, non-renewable groundwater consumption by the agricultural sector dropped by 7 percent to 9,356 million cubic meters, compared to 10,044 million m³ in 2022.

This surge reflects the Kingdom's strategic efforts to bolster sustainable water resources as part of its Vision 2030 agenda, aimed at reducing dependency on non-renewable groundwater.

In 2023, renewable groundwater abstraction rose to 21 percent of total groundwater use, while non-renewable abstraction fell by 6 percent, aligning with the country's emphasis on resource preservation. Additionally, water reuse consumption increased by 12 percent to 555 million m³, signaling progress in recycling initiatives.

Agriculture remained the largest consumer of water, using 12,298 million m³, but its expenditure share accounted for only 0.5 percent of total water costs. Meanwhile, industry dominated water-related expenditures at 61.4 percent, reflecting its significant reliance on distributed water for operations.

The shift toward desalinated and renewable water sources is pivotal for Saudi Arabia, which faces acute water scarcity challenges. With groundwater resources depleting and the per capita household water consumption declining from 112.8 liters per day in 2022 to 102.1 liters in 2023, the Kingdom's investments in desalination and reuse technologies underscore its commitment to long-term water security.

Industrial sectors saw a notable increase in water consumption, with the share of distributed water used by industries rising to 30 percent in 2023 from 22 percent in 2022. This surge mirrors the Kingdom's push for industrial expansion under Vision 2030, which emphasizes economic diversification.

Despite these strides, non-renewable groundwater still constitutes 62 percent of the natural water supply, a decline from 68 percent in 2022 but still a dominant figure. The agriculture sector's significant water use highlights opportunities for adopting more efficient irrigation techniques and exploring crop diversification to enhance sustainability.

Saudi Arabia's water strategy is set to play a critical role in achieving its economic and environmental goals. As the Kingdom continues to expand its desalination infrastructure and promote water reuse, it positions itself as a regional leader in tackling water scarcity through innovation and sustainable practices.

Original Article: [Arab News by Migeul Hadchity](#)

Saudi NWC to implement \$426mIn water projects in Makkah

Saudi Arabia's National Water Company (NWC), represented by the Western Cluster, announced that it has started implementing water supply projects in Makkah at a cost of more than SAR1.6 billion (\$426 million).



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These projects are part of NWC's strategies to develop the infrastructure of the water and environment sectors and increase the coverage rates in cities and governorates.

According to NWC, these projects would serve about 3 million beneficiaries per annum. This would be done through the implementation of projects to replace the main transmission lines of drinking water in the third ring road for the first and second phases, it stated.

These include the implementation of main water lines running 29km long that will serve 16 districts in Makkah, namely Ajiad 1 and 2, Al-Hajj Street, Al-Hamra, Al-Andalus, Al-Aziziyah, Batha Quraysh, Al-Khaleej, Al-Kawashk, King Fahd Neighborhood, Al-Maghmas, Al-Nozha, Al-Nawariyah, Al-Rashidiyah, Al-Salama, and Al-Zaher, in addition to supplying the Masar Destination project.

NWC pointed out that these projects aim to keep pace with the water needs in Makkah, increase operational efficiency in light of the increase in the number of visitors and pilgrims, in addition to serving the pilgrims and Umrah visitors during the Ramadan and Hajj seasons.

These projects, it stated, are part of a broader initiative recently launched across various regions of the kingdom.

Once completed, these projects will enhance the infrastructure of the water and environmental sectors, ensuring continued operational efficiency and improving the quality of services provided to customers, it added.

Original Article: [Zawya](#)

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