Veles Water Weekly Report

July 17th 2025

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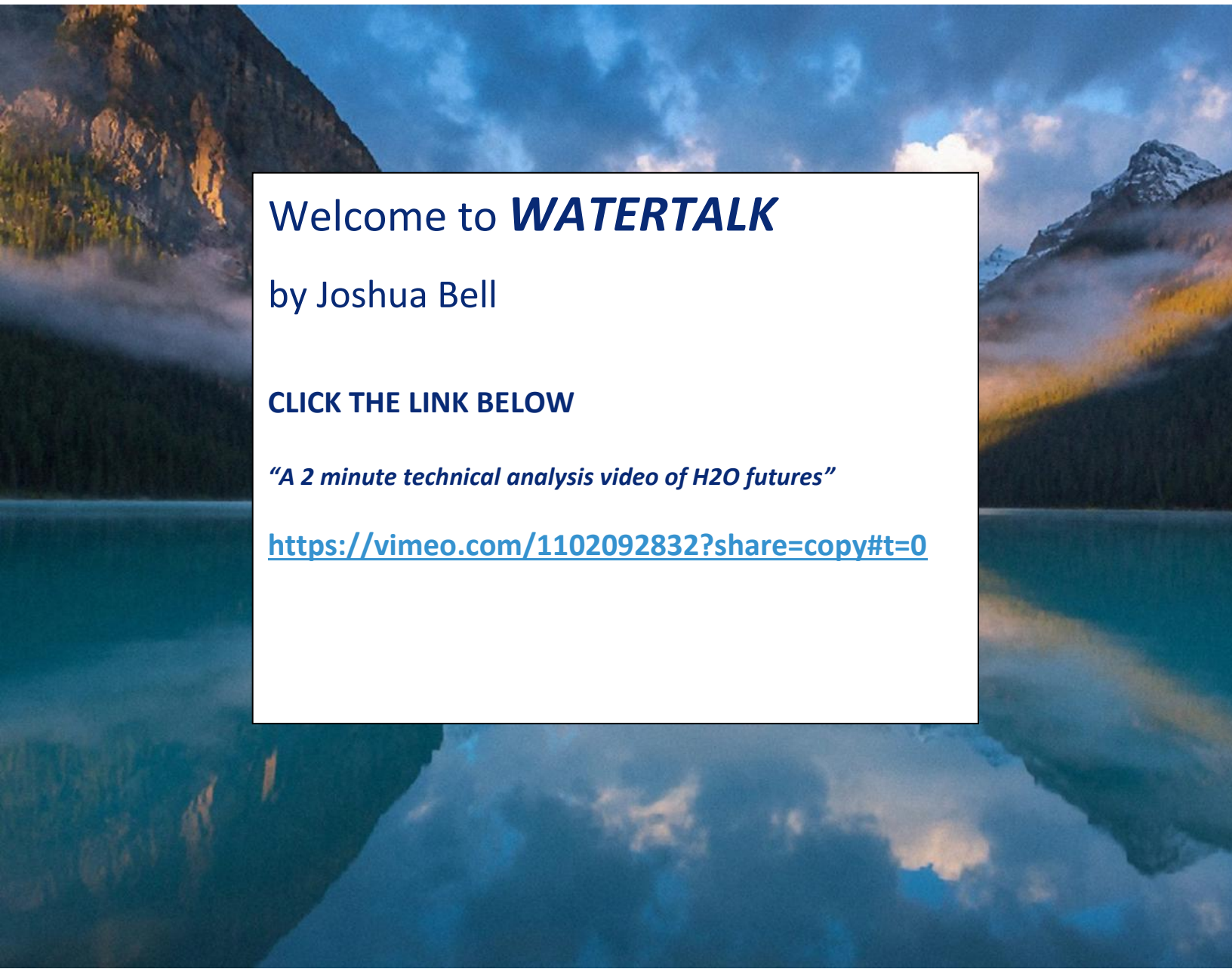
Veles Water

WATER FUTURES MARKET ANALYSIS



Welcome to ***WATERTALK***

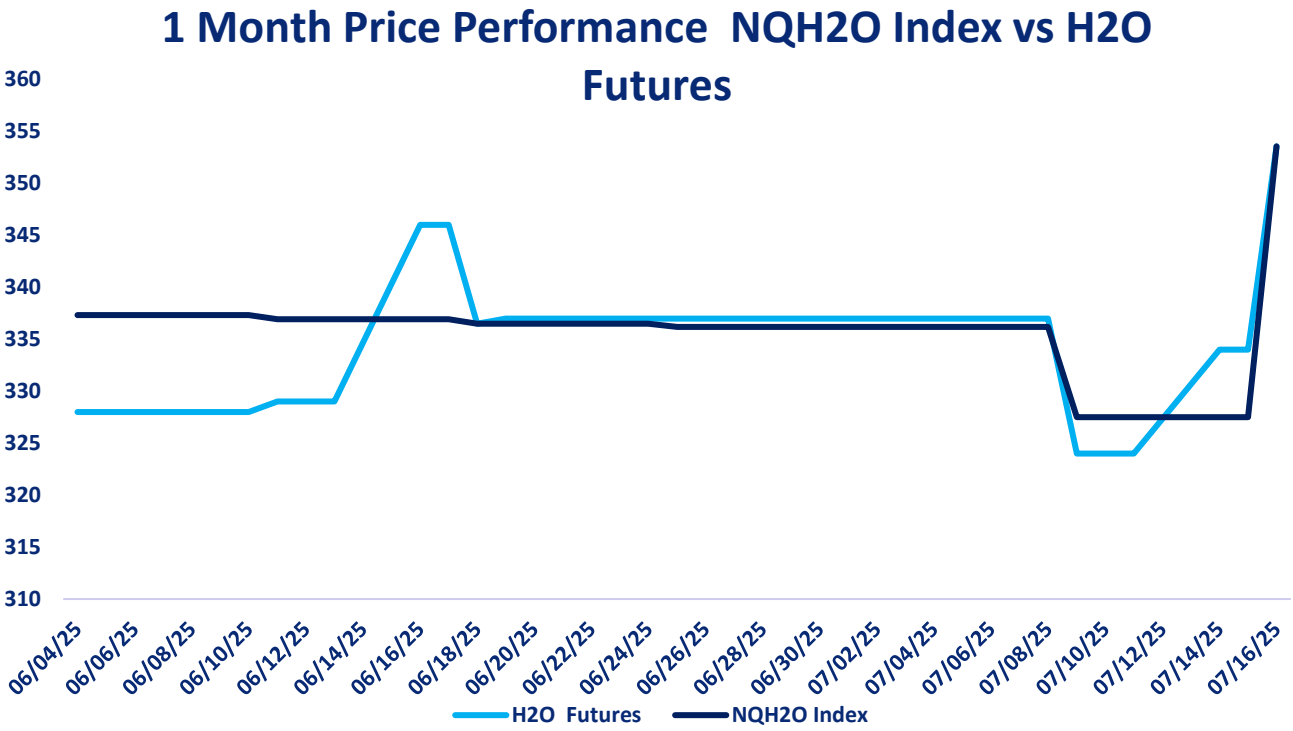
by Joshua Bell

CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

https://vimeo.com/1102092832?share=copy#t=0

NQH2O INDEX PRICE vs H2O FUTURES PRICE



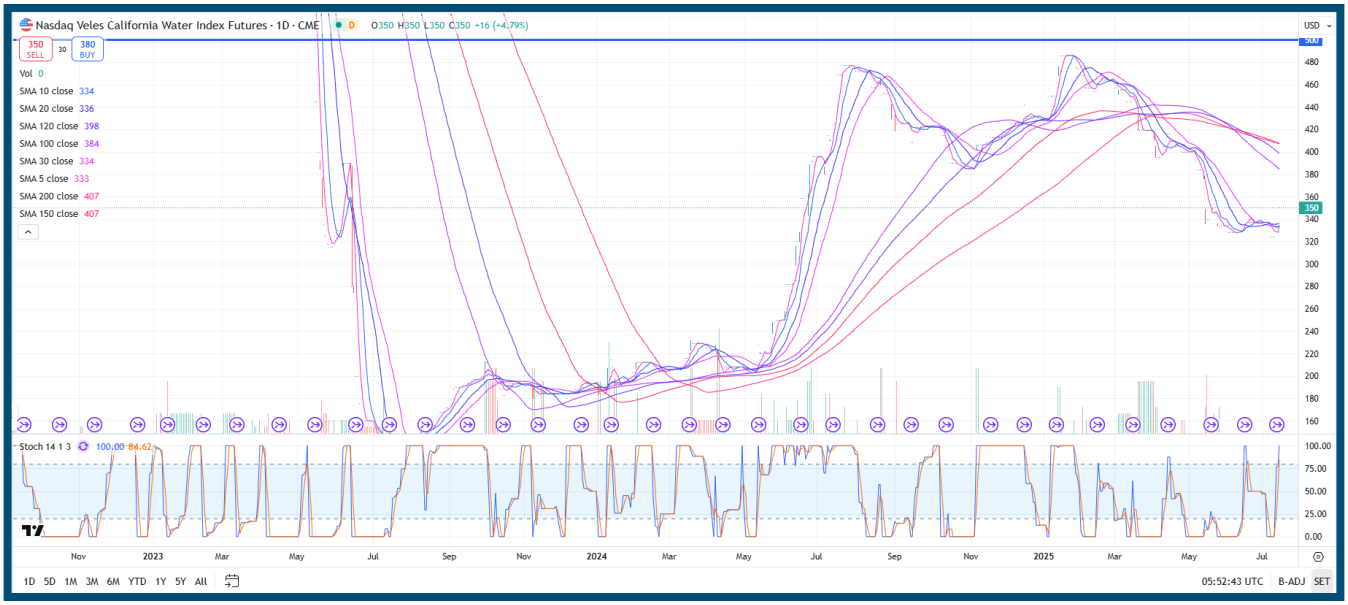
Price Chart Based upon Daily Close

The new NQH2O index level of $353.56 was published on July 16th, up $26.06 or 7.96% from the previous week. The July contract settled at the new index level and the August contract is considered the front month. The futures prices closed at a discount of $3.50 to a premium of $6.50 versus the index over the past week.

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

Aug 25	350@380
Sept 25	350@390
Dec 25	355@410
June 26	400@500

H2O FUTURES TECHNICAL REPORT



Price Action

- **Current Price**: $350
- **Daily Performance**: Up +$16 (+4.79%)
- **Close**: At the high of the day - strong bullish sentiment and potential short-term reversal confirmation.

Moving Averages Overview

Short-Term (Testing Breakout)

- **5-day SMA**: 333
- **10-day SMA**: 334
- **20-day SMA**: 336
- **30-day SMA**: 334
  - ◇ **All short-term SMAs** have now been decisively broken to the upside. This indicates momentum shift in favour of bulls.

Medium to Long-Term (Still Bearish)

- **100-day SMA**: 384
- **120-day SMA**: 398
- **150/200-day SMA**: Both at 407
  - ▽ Price is still **well below** long-term SMAs, which are **downward sloping**. The long-term trend remains bearish.

Stochastic Oscillator (14, 1, 3)

- **K%**: 100.00
- **D%**: 84.62
  Extremely strong momentum. Entering **overbought territory**, but no bearish crossover yet - short-term strength remains.

Support & Resistance

Resistance Levels:

- **350–354 zone**: Current breakout level and former consolidation band
- **380–384**: Psychological level + 100-day SMA
- **407–410**: Heavy resistance cluster from long-term SMAs

Support Levels:

- **336–338**: Cluster of short-term SMAs
- **325**: Recent base before bounce
- **300**: Major psychological floor

Summary & Outlook

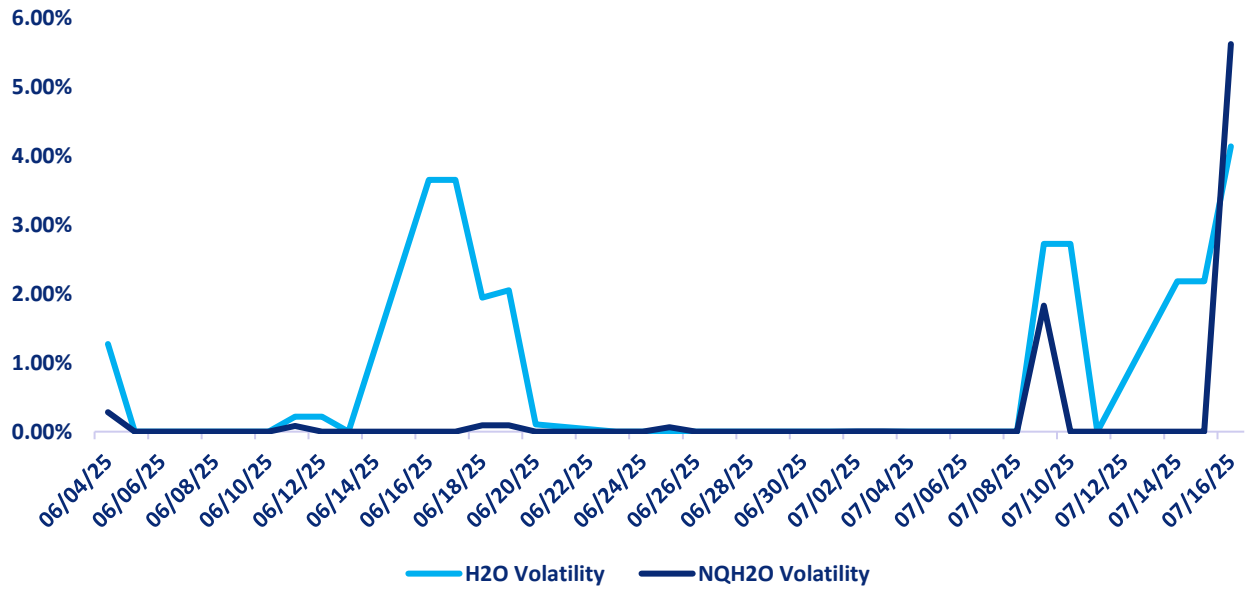
Horizon	Trend	Comment
Short-Term	Bullish	Strong breakout above resistance; momentum favours bulls
Medium-Term	Neutral-to-bearish	Needs to clear 384+ to break trend
Long-Term	Bearish	Long-term SMAs still far above price and sloping down

Key Takeaway

Bulls have staged a powerful rebound, but the move must sustain above $354 and challenge the 100-day SMA at $384 to transition into a new uptrend. Caution warranted near overbought levels unless follow-through buying continues.

H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the July contract daily future volatility high has been 4.14%.

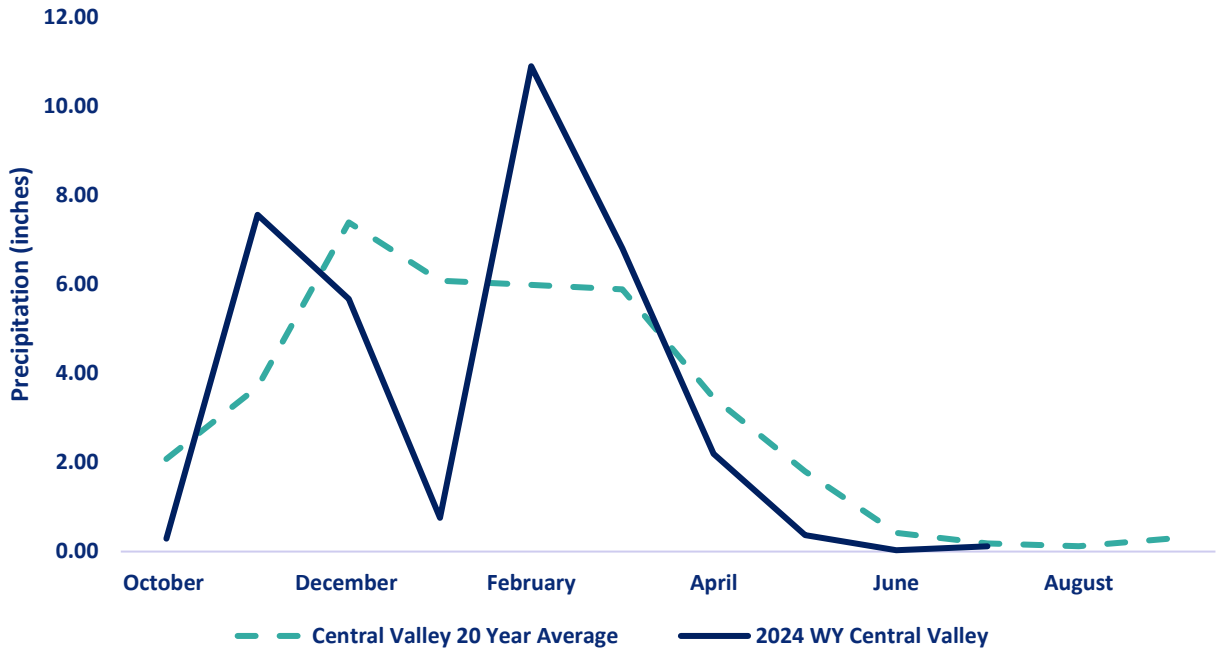
ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	17.90%	11.52%	10.99%	10.54%
H2O FUTURES	N/A	14.07%	7.77%	5.90%

For the week ending on July 16th, the two-month futures volatility is at a premium of 2.55% to the index, down 3.31 from the previous week. The one-month futures volatility is at a discount of 3.22% to the index, a reversal of 9.06%. The one-week futures volatility is at a discount of 4.65% to the index volatility.

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

CENTRAL VALLEY PRECIPITATION REPORT

Central Valley Precipitation Index



Central Valley average is calculated using data from 19 weather stations in Central Valley, California.
Data as of 16/07/2025

STATION	MTD (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF 20 YEAR AVERAGE MTD	2025 WYTD VS 2024 WYTD %	2025 WY VS 20 YEAR AVERAGE TO DATE %
SAN JOAQUIN 5 STATION (5SI)	0	0	0.00%	83	67
TULARE 6 STATION (6SI)	0.1	0.1	43.66%	81	82
NORTHERN SIERRA 8 STATION (8SI)	0.25	0	215.16%	90	105
CENTRAL VALLEY AVERAGE	0.12	0.03	64.64%	85	85

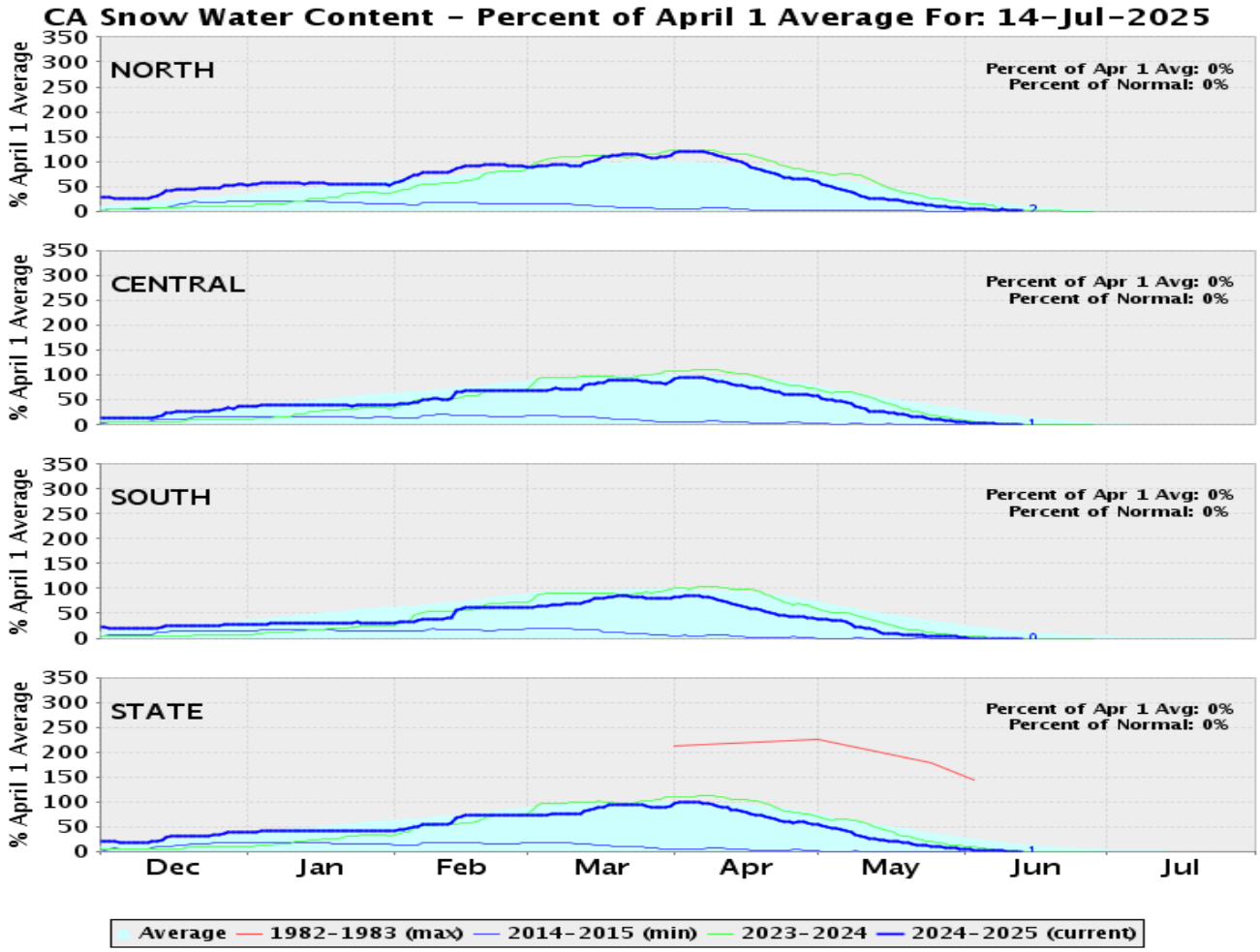
RESERVOIR STORAGE

RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	2,157,899	88	82	118
SHASTA LAKE	3,546,908	78	82	106
LAKE OROVILLE	2,981,903	87	89	118
SAN LUIS RES	878,086	43	46	88

*% Historical Average is based on a daily average that is interpolated from historical monthly averages. The monthly averages are computed using monthly data from water year 1991 to 2024. The monthly averages are updated every 5 years using a sliding 30 year period.

Reference: California Water Data Exchange

SNOWPACK WATER CONTENT



REGION	*SNOWPACK WATER EQUIVALENT (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF AVERAGE LAST YEAR	% OF 20 YEAR HISTORICAL AVERAGE	% OF HISTORICAL **APRIL 1ST BENCHMARK
NORTHERN SIERRA	0.5	0	18	18	2
CENTRAL SIERRA	0.2	0	6	6	1
SOUTHERN SIERRA	0	0	0	0	0
STATEWIDE	0.2	0	7	7	1

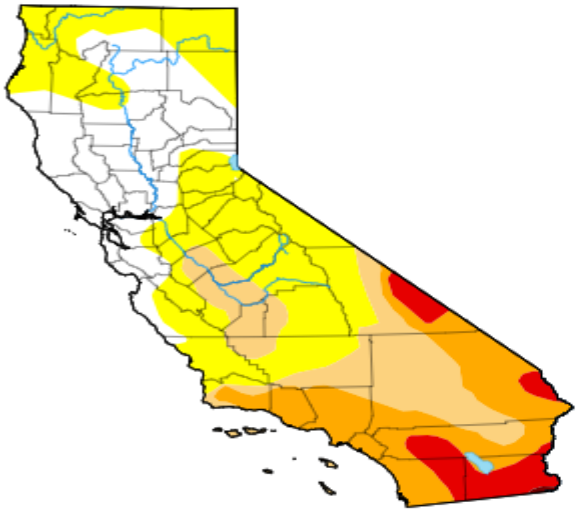
Snow Water Equivalent*, **or SWE**, is a commonly used measurement used by hydrologists and water managers to gauge the amount of liquid water contained within the snowpack. In other words, it is the amount of water that will be released from the snowpack when it melts. SWE has regional variance.**

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

DROUGHT MONITOR

California

Home / California



Map released: Thurs. July 10, 2025

Data valid: July 8, 2025 at 8 a.m. EDT

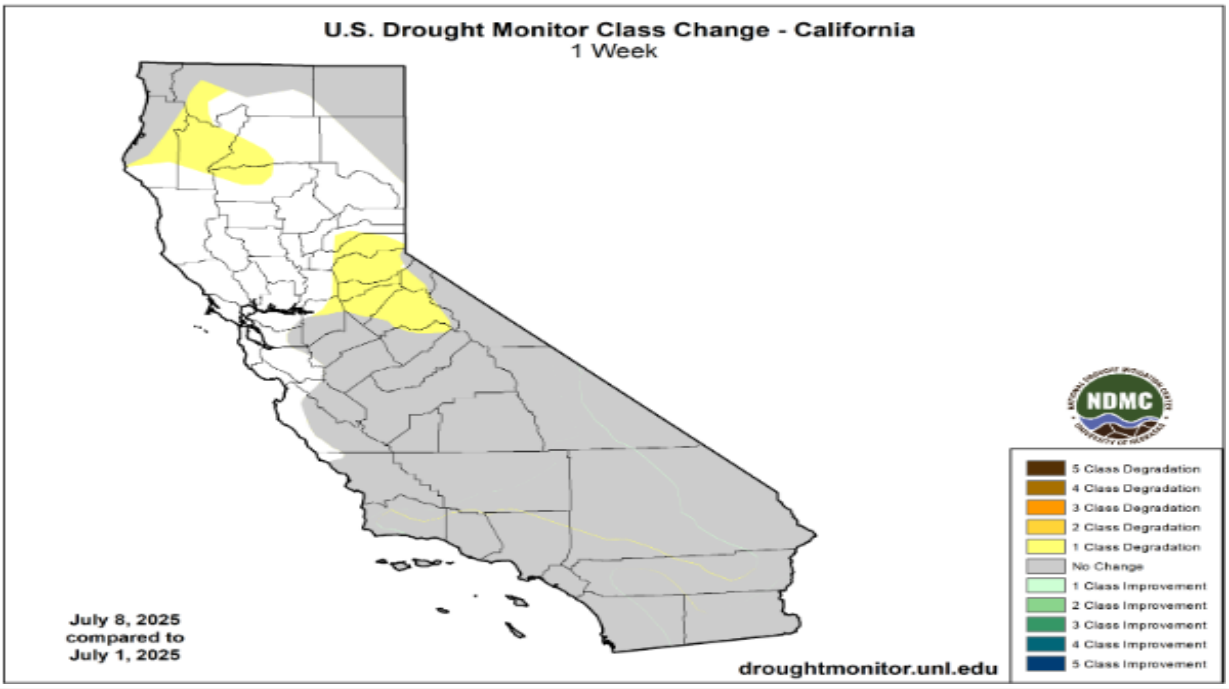
Intensity

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

Authors

United States and Puerto Rico Author(s):
Brad Pugh, NOAA/CPC

Pacific Islands and Virgin Islands Author(s):
Daniel Whitesel, National Drought Mitigation Center

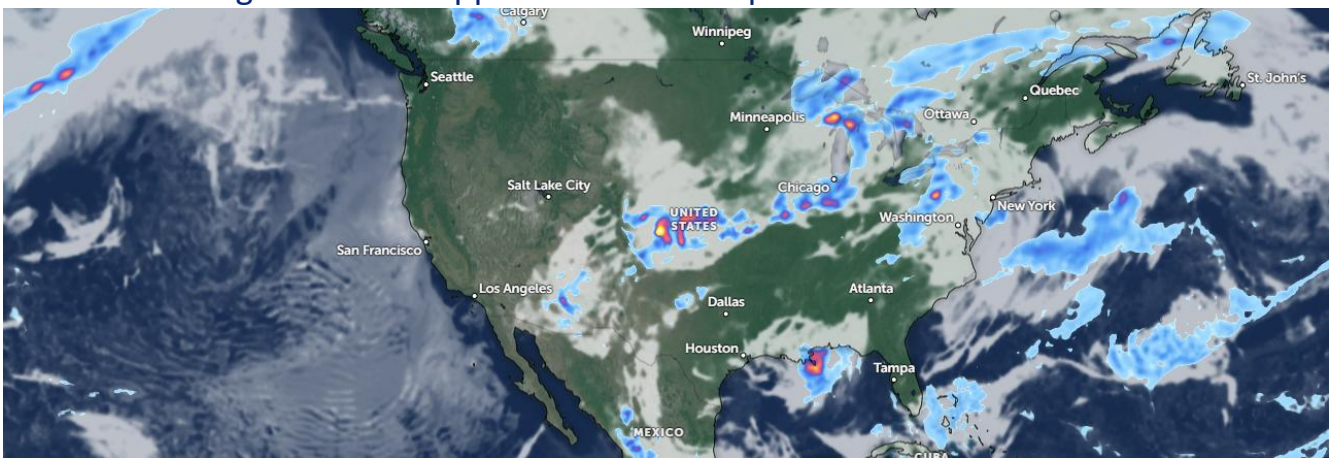


Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2025-07-08	23.99	76.01	39.27	23.01	5.90	0.10	144
Last Week to Current	2025-07-01	32.19	67.81	39.29	22.98	5.91	0.10	136
3 Months Ago to Current	2025-04-08	43.71	56.29	39.81	24.73	8.30	0.73	130
Start of Calendar Year to Current	2024-12-31	40.90	59.10	31.52	5.70	1.06	0.00	97
Start of Water Year to Current	2024-10-01	28.40	71.60	10.67	0.08	0.00	0.00	82
One Year Ago to Current	2024-07-09	80.72	19.28	0.77	0.00	0.00	0.00	20

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.

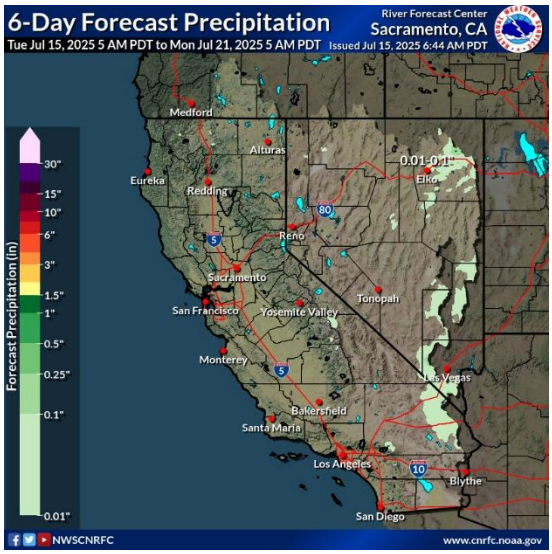
CURRENT SATELLITE IMAGERY

The satellite picture shows scattered storms stretching in a thick band from southern Arizona in a north easterly direction to as far as Quebec and having effects as far south as Georgia in the east. There is also summer storm activity over the Gulf southeast of Houston moving over Mississippi and the Florida panhandle.



Map Ref: Zoom Earth

10 Day Outlook



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

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

WESTERN WEATHER DISCUSSION

Based on rapidly declining soil moisture and low 28-day average streamflows, additional degradations were warranted this week for the Pacific Northwest with an expanding coverage of moderate (D1) to severe (D2) drought across Oregon and Washington. Farther to the east, extreme drought (D3) was expanded to include more of northern Idaho. Parts of Utah also had a few areas with degradations based on 28-day streamflow, soil moisture, and high evaporative demand recently. A drier end to the wet season, 60 to 90-day SPI, and low soil moisture supported an expansion of abnormal dryness (D0) across northern to central California. Following recent beneficial precipitation along with timely wetness back to the late spring, improvements were warranted for parts of north-central and eastern Montana. Drought intensity remained nearly steady for the Desert Southwest although locally heavier Monsoon showers led to a small reduction in extreme drought (D3) for eastern and southern Arizona.

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

WATER NEWS

CALIFORNIA WATER NEWS

California's Quest to Turn a Winter Menace Into a Water Supply Bonus is Gaining Favor Across the West

In December 2012, dam operators at Northern California's Lake Mendocino watched as a series of intense winter storms bore down on them. The dam there is run by the U.S. Army Corps of Engineers' San Francisco District, whose primary responsibility in the Russian River watershed is flood control. To make room in the reservoir for the expected deluge, the Army Corps released some 25,000 acre-feet of water downstream — enough to supply nearly 90,000 families for a year.

In doing so, the Army Corps averted the possibility of a catastrophic flood. But almost as soon as the water headed downstream, the pendulum swung in the other direction. The weather turned dry, and the months that followed proved to be the driest on record in California up to that point. A year later, the reservoir became a drought-cracked mudflat. The local water supplier, Sonoma County Water Agency, was forced to reduce releases by 60 percent during the dry summer, impacting urban and agricultural water users downstream.

State officials were frustrated. Members of a drought task force created by then-Gov. Jerry Brown traveled to Lake Mendocino, tucked into the coastal wine country near Ukiah, to hold a press conference. An exasperated John Laird, the state resources secretary at the time, asked some of the Army Corps' top brass what they'd been thinking when they sent so much water downstream.

"I just blurted it out," says Laird, now a state senator. "It was one of those emperor-has-no-clothes moments, because somehow nobody was speaking up about this."

"I just blurted it out. It was one of those emperor-has-no-clothes moments, because somehow nobody was speaking up about this." – California state Sen. John Laird, the former state resources secretary.

It made for an uncomfortable moment. But the incident catalyzed a wide-reaching effort to manage dams more nimbly in the face of wildly variable weather, and particularly to meet the challenge of atmospheric rivers — intense winter storms that pummel California and other parts of the West with huge amounts of rain.

In the wake of the controversy at Lake Mendocino, the quest to harness the power of atmospheric rivers birthed a new water-management approach: Forecast-Informed Reservoir Operations, or FIRO. The concept has been tested on three dams in California since 2019, with programs in development for several other dams across the West.

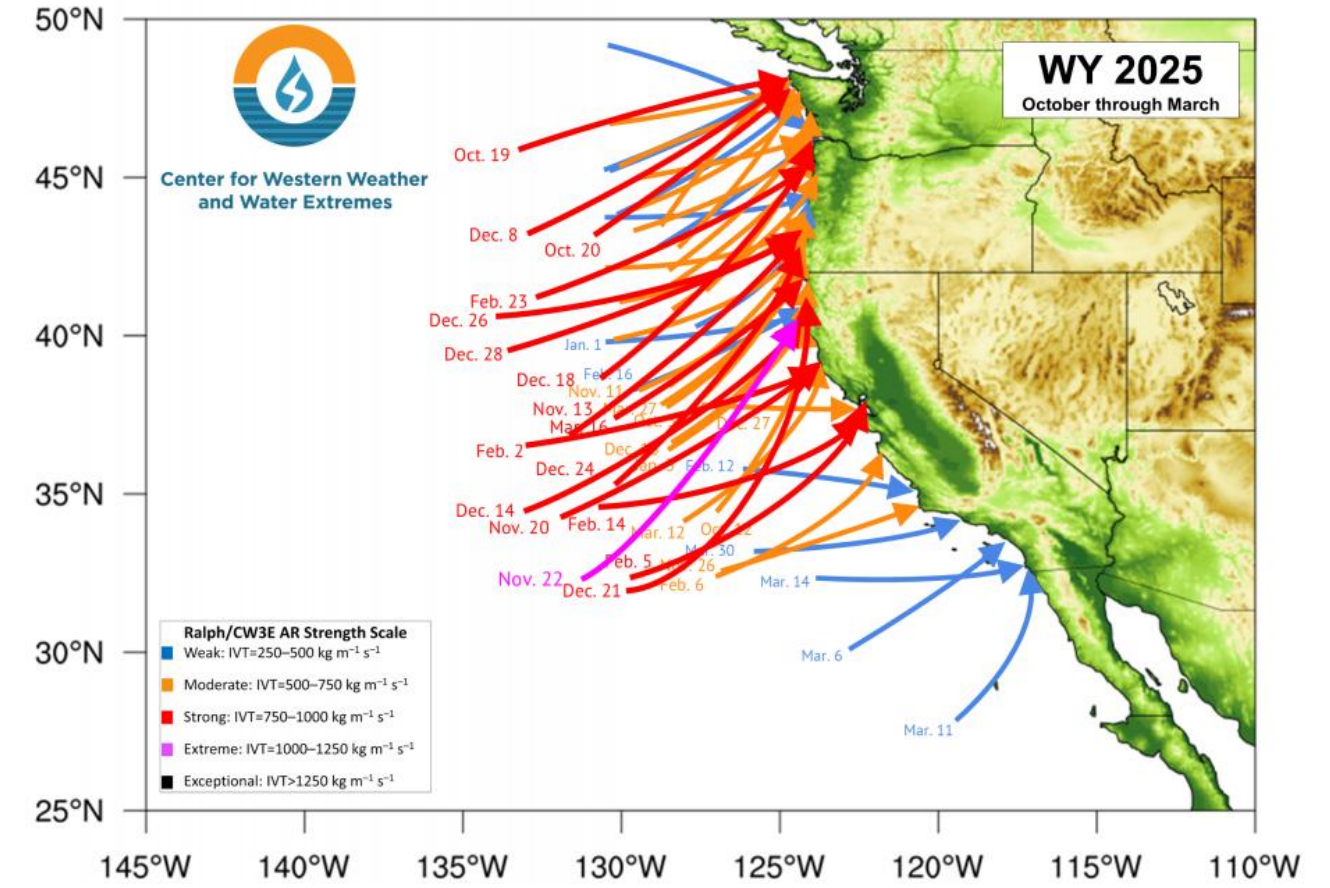
By pairing FIRO with accurate forecasts of where those storms will hit and how much rain they'll bring, dam operators can work in real time to not only reduce the risk of

dangerous floods, but also capitalize on atmospheric rivers' potential as a source of additional water for protection from drought.

Now, the concept is poised to improve operations at 39 more dams across the arid Southwest and another 71 throughout the rest of the country. That will vastly increase FIRO's potential and help dam operators stand ready for the wilder weather that the future will likely bring: storms intensified — and made more erratic — by climate change.

Atmospheric Rivers Enter the Lexicon

For decades, the "Pineapple Express," a type of storm that feeds off warm tropical moisture, figured prominently in local weather lore. By the early 1990s, researchers realized that it was just one kind of a broader category of unique storms that take shape far out in the Pacific. In a 1994 research paper, Yong Zhu, now at North Carolina State University, and MIT's late Reginald Newell, christened them atmospheric rivers.



Some 50 atmospheric rivers hit the West Coast of the U.S. during the 2024-25 season. (Source: Center for Western Weather and Water Extremes)According to a 2019 study, atmospheric rivers caused $5.2 billion in damage in Sonoma County over the preceding two decades and were responsible for 99.8 percent of all insured flood losses there. A single 1995 storm — the most damaging event in 40 years of record keeping in the West — inundated the town of Guerneville on the Russian River and caused $50 million in insured losses countywide. The study determined that atmospheric rivers are the primary driver of flood damage in the West.

These powerful plumes of water vapor — which, on average, carry 25 times the flow of the Mississippi River — deliver 30 to 50 percent of total annual precipitation in California.

“Atmospheric rivers are the hurricanes for the West Coast,” says Cary Talbot, the FIRO National Lead with the Army Corps’ Engineer Research and Development Center.

But when they fail to arrive, that can also have a big impact, leaving the state parched and reeling. Their influence isn’t limited to just California, either: In 2021, researchers Mu Xiao, now at the Scripps Institution of Oceanography at UC San Diego, and Dennis Lettenmaier, now at University of California, Los Angeles found that almost one third of snowpack in the Upper Colorado River Basin comes from snowfall brought by atmospheric rivers.

These rivers in the sky present a particular challenge for water-management agencies, including the Army Corps, which owns 515 flood-control dams and has operational oversight over another 78 nationwide.

“Atmospheric rivers are the hurricanes for the West Coast.” – Cary Talbot, U.S. Army Corps of Engineers.

The Army Corps’ primary responsibility is the high-stakes task of controlling floods, or as the agency puts it, “flood risk management.” As a result, the Army Corps tends to be extremely risk averse, and it literally runs its dams by the book: Each of its dams has an individually formulated water control manual with flood control curves, more commonly known as “rule curves,” that are practically chiseled in stone.

“When those things are written, they go through a really rigorous (vetting) process because it’s what we are going to be graded on in the courts,” says Talbot. “When somebody sues us for how we operated, they’re going to look at the water control manual and say: ‘Did the operators follow the rules?’ So, water managers don’t really want to stray too far from what it says.”

Rule curves typically force operators to keep reservoir levels low during wet seasons so they can catch and hold back the rainfall from anticipated storms and reduce the impacts of flooding downstream. But if those storms veer off their predicted course, or dissipate before they arrive, operators can’t get back the water they’ve already released — exactly what happened at Lake Mendocino in 2012.

The public outcry over that incident, which would be followed by the driest three-year period on record until then, helped nudge the Army Corps toward a more flexible approach.

“The disaster of a really bad drought in California focused congressional attention,” says Talbot. In 2015, Congress added a line in the Army Corps’ budget for a research-led Water Operations Technical Support program. “It wasn’t much money — it was really just $2 million to get it started — but the direction from Congress was to see if we can’t

find a better balance between flood risk management and water supply, especially with respect to atmospheric rivers."

The following year, the Army Corps modified its regulations to allow for the use of forecasts in operations planning. Actually incorporating that change into each dam's water control manual, many of which are decades old, still required an administrative process that typically takes several years. But the announcement was a significant first step in the shift away from the hidebound rule curves that governed dam operations.

To make it all work, though, dam operators had to have weather forecasts that they could trust.

Original Article: Water Education Foundation by Matt Jenkins

Court backs FERC decision allowing state review of hydroelectric projects

A federal appeals court on Thursday found California could still review whether a pair of hydroelectric projects in the state comply with its water quality standards during license renewal proceedings.

The U.S. Court of Appeals for the District of Columbia Circuit determined the Federal Energy Regulatory Commission was right when it found the California State Water Resources Control Board had not waived its authority under the Clean Water Act to review re-authorizations for the Yuba-Bear and Drum-Spaulding hydroelectric projects.

The Nevada Irrigation District, which had applied with FERC to renew its licenses for the two projects, said in its lawsuit that the board had waived certification authority by engaging in a "coordinated" effort to go beyond the one-year statutory deadline to review the projects.

But the three-judge panel agreed with FERC that state officials had not coordinated with the project developer to delay the review process for the projects.

In an unsigned judgment, the court wrote that the fact that the water resources control board eventually denied the certification requests "undercuts the District's assertions of motive." That "reality," the court said, supports FERC's determination that the board was "prepared" to act on the certification requests had the District not withdrawn them.

Original Article: E&E News by Nina H. Farah

A new invader threatens California water supplies. Can the state stop its spread?

One of the state's best investigators was on the hunt for golden mussels — a dangerous new invader in California's waters, with a reputation for destruction.

Wearing a collar and a tongue-lolling grin, Allee, a Belgian Malinois, sniffed along the glittering hull of a bass boat at an inspection station in Butte County.

The dog's handler, California Department of Fish and Wildlife Warden Mark Rose, pointed at the outboard motor and the dog delicately nosed the propellers. She

stretched up on her hind legs to get a good whiff of the port side before Rose led her away. She yawned. Nothing here.

The dog was searching for any hint of the thimble-sized mussels hidden in the nooks and crannies of boats headed to Lake Oroville, the state's second-largest reservoir, or two smaller reservoirs nearby. Her human counterparts at the Department of Water Resources' inspection station combed the boat's interior for standing water that could harbor larvae.

Mandatory boat inspections are among the few weapons in California's arsenal for protecting its thousands of lakes and reservoirs from the invasion. The mussels' prolific growth and voracious appetites can upend entire ecosystems, encrust underwater surfaces, choke off water supplies and damage dams and power plants.

"We have been on high alert," said Tanya Veldhuizen, special projects section manager in the California Department of Water Resources' environmental assessment branch, which operates the state's water delivery system. "It's not just on our doorstep, it's in our house."

State water managers made the alarming discovery last October that golden mussels, which are native to China and Southeast Asia, had invaded the Sacramento-San Joaquin River Delta — the core of California's massive water delivery systems. It marked the first detection in North America.

"To everyone's horror, it was in many, many more places than we expected. The further they looked, the further they found them."

The mussels, first discovered encrusting a float near the Port of Stockton, have already infiltrated California's two major state and federal water systems, which export water from the Delta to supply 30 million people and millions of acres of farmland. Their larvae are spreading through the network of pumps, pipes and canals.

"To everyone's horror, it was in many, many more places than we expected," said Ted Grosholz, a professor emeritus with the UC Davis Coastal and Marine Sciences Institute. "The further they looked, the further they found them."

Now the mussels are here to stay. They cannot be eradicated. Water suppliers bracing for the onslaught have instead turned their efforts to shoring up pipes, pumps and treatment plants against the infestation.

Golden mussels have been confirmed in over 50 locations across California

Golden mussels, a destructive species from Asia, are concentrated in the Sacramento-San Jaoquin River Delta, according to California Department of Fish and Wildlife surveys.

The state's most immediate priority is protecting the small pipes at upstream pumping facilities that keep water deliveries flowing, then they'll move their efforts downstream, Veldhuizen said.

"It is a huge undertaking," Veldhuizen said. "We're not looking at removing mussels from all the water, because it's just not feasible."

The race is on to keep the mussels and their microscopic larvae from infesting untainted lakes by stowing away on hulls or inside damp, internal cavities of boats.
But resources are stretched precariously thin. There is no funding dedicated to fighting invasive golden mussels in the state's budget. And each new infestation means one more place from which they can spread.
Boaters statewide are warned to "clean, drain and dry" anything that touches water before moving it to another lake or river. Microscopic larvae can survive in tiny amounts of trapped water. Adult mussels may survive for around a week or longer with no water at all.
Water managers in some lakes and reservoirs now require inspections, quarantine periods and decontamination with hot water before boats can enter. Others have closed or limited access to boating. But a patchwork of oversight leaves many lakes with no protection at all.
'Oh, look what we found' — the hunt for mussels
Allee, with her sensitive snout and devotion to Rose, is one of the state's more finely-honed weapons against this invasion.

But she is one of only 14 dogs with the wildlife agency trained to detect invasive mussels, Rose said. And she is also tasked with sniffing out the guns, ammunition and kills of wildlife poachers farther north in Tehama County, where Rose is the only game warden for nearly 3,000 square miles.

A state and federal mussels task force released recommendations in April, including mandatory decontamination of boats in infested areas for longer than five days and prevention programs at all accessible, uninfested waters.

But these are monumental tasks, especially amid federal staff cuts and the state's $12 billion budget deficit. California's fish and wildlife agency, for instance, is severely understaffed, with only 33% of the resources needed to fulfill its law enforcement duties and 26% needed for habitat and species conservation, according to a 2021 analysis mandated by the Legislature.

Even so, Gov. Gavin Newsom proposed cutting 164 vacant positions at the department this year, including wardens and other enforcement positions, according to HD Palmer with the Department of Finance. Lawmakers rejected the cuts for now, but the finance department said the budget does not provide funding to fight golden mussels.

"Everybody's under fire," UC Davis' Grosholz said. "It's not a great time for resource agencies to suddenly have a brand new threat."

"They're actually doing some good to keep the mussels out of the (Oroville) water. Don't know what they're doing with all the other thousands of lakes around that they're not monitoring, though."
DEAN DYRR, BOATER AT LAKE OROVILLE
At the Department of Water Resources' Oroville inspection station last month, trucks hauling expensive fishing boats and beat-up skiffs rolled over the dusty parking lot at the Thermalito Forebay, a smaller, downstream reservoir.

The boats that passed Allee's smell test and neon-vested inspectors were recorded and tagged, then sent to the open ramps. Boats that failed because they were still wet — even wet cupholders and life jackets can trigger a failure — were sent to a decontamination station, where they were sprayed and flushed with steaming water.

Inspection stations set up by multiple agencies have already intercepted boats contaminated with golden mussels bound for lakes Tahoe, Folsom, Berryessa and Oroville.

Leaning against his sailboat at an Oroville boat ramp, boater Dean Dyrr said inspectors spotted mussels on the boat right next to his when his sailboat was checked at the Thermalito Forebay in May.
"They were like, 'Oh, look what we found!' and it was a handful of mussels," Dyrr said as his wife loaded up their boat with supplies and water. Lake Oroville glinted against the dry, oak-studded foothills, and dozens of boats bobbed on its surface.
When mussels are found, the boat is pressure-washed and flushed with hot water, then confirmed free of mussels before it can be launched at the lake.
"The program's actually working. They're actually doing some good to keep the mussels out of the water" at Oroville, Dyrr said. "Don't know what they're doing with all the other thousands of lakes around that they're not monitoring, though."
Original Article: Cal Matters by Rachel Becker

State officials say federal cuts threaten California's environment

Budget cuts, staff reductions and other sweeping changes from the federal government are posing real threats to California's environment and progress against climate change, state officials said Thursday.
At a gathering of the state's top leaders in wildfire response, water resources, natural lands and clean energy, they underscored the ways the Golden State has long worked together with federal agencies—and how actions by the Trump administration are putting that cooperative work in jeopardy.

"We want federal agencies to succeed, and in fact we need them to succeed," said Wade Crowfoot, California's natural resources secretary, noting that 48% of the state's land is owned and managed by the federal government. "Because if they fail, it impacts the prosperity and safety of Californians."

State agencies such as the Wildfire and Forest Resilience Task Force, the Department of Water Resources and the Energy Commission are among those struggling to keep up with the rapid pace of federal cutbacks, officials said. The Trump administration has said its changes are geared toward reducing federal waste, saving taxpayers money and increasing American energy independence.

Yet state officials are increasingly worried about shifting national priorities, including a 10% staffing cut at the U.S. Forest Service— the largest federal firefighting entity that often works hand in hand with the California Department of Forestry and Fire Protection to manage forests and combat blazes.

Many of the Forest Service's eliminated employees were in support roles, such as logistics and transportation, that are crucial to ensuring firefighters can do their job, according to Patrick Wright, director of the California Wildfire and Forest Resilience Task Force.

"All that knowledge is going to be lost, which is so critical when we're both fighting fires and trying to prevent fires, so the whole system is going to suffer," he said.

Wright noted that the president's proposed 2026 budget would also eliminate many of the Forest Service's top scientists, which he said would negatively affect data systems, analyses and other crucial tools. And although California has made progress in its efforts to improve forest health and reduce wildfire risk through forest thinning, prescribed burns and fuel breaks, Wright said he is concerned about the impacts of the president's order to open up millions of acres of national forestland for timber production, including all 18 of California's national forests.

"Not that timber isn't important, but we can't keep our eye off of the need for fire and forest resilience in California," he said. There is "serious concern by Forest Service people on the ground that if we solely focus on timber, we're going to lose our focus on protecting communities, preventing wildfire, protecting habitat and other key measures of success."

It's not only wildfires that officials are worried about, however. Karla Nemeth, director of the California Department of Water Resources, said the agency is reeling from several changes to key components of its water supply system.

Among them are staff reductions at the federal U.S. Bureau of Reclamation, which oversees the Central Valley Project—a vast network of dams, reservoirs and canals that delivers water supplies across the state. The Central Valley Project is the federal companion to the State Water Project, which performs a similar function.

This year, the Bureau of Reclamation has lost about 1,400 staff members— or more than a quarter of its workforce—and is facing a potential budget cut of 33%, Nemeth said.

"Because a lot of our infrastructure is operated in a cooperative way, it does have an expanded effect on how our whole system is put together," Nemeth said.

The state also works closely with the Bureau of Reclamation to manage flood protection in California, where several levee and dam safety projects are now in jeopardy, Nemeth said. They include projects to enhance the system along the American River in Sacramento—one of the most flood-prone urban areas in the U.S.—and to address the devastating 2023 levee breach that flooded the community of Pajaro.

Other state leaders, including Armando Quintero, director of California State Parks, shared similar fears. He said the National Park Service is facing a potential $1-billion budget cut and has lost 24% of permanent staff since January. More than 100 superintendent positions are vacant. It's resulted in canceled tours, closed campgrounds, reduced hours and other effects in California's nine national parks.

Meanwhile, all 18 of California's national forests are losing staff, and its regional office is likely to be eliminated, he said. The state's roadless areas and national monuments are similarly facing the threat of lost protections and closures.

Original Article: Phys.org by Hayley Smith

US WATER NEWS

$4 million in federal funds released for Upper Colorado River Basin watershed restoration

Millions of dollars in federal funding have been released to continue restoring lands and streams in the fire-scarred Upper Colorado River Basin watershed in and around Grand Lake and Rocky Mountain National Park.

The roughly $4million was frozen in February and was released in April, according to Northern Water, a major Colorado water provider and one of the agencies that

coordinate with the federal government and agencies such as the U.S. Forest Service to conduct the work.

Esther Vincent, Northern Water's director of environmental services, said the federal government gave no reason for the freeze and release of funds.

U.S. Congressman Joe Neguse, who represents Grand County, did not respond to a request for comment regarding the funds.

The news comes as tens of millions of dollars in federal grants and budget allocations are being cut in Colorado and across the country as part of the Trump administration's reorganization of federal agencies and associated budget cuts.

In June, Gov. Jared Polis' office released an accounting of federal money that has flowed to state agencies. That analysis showed the agencies were able to retain $282 million in funding, but that $76 million had been lost, and another $56 million is at risk.

It's unclear how much funding that flows through federal agencies to other Colorado entities and nonprofits such as those in the Upper Colorado River Basin, has been lost.

The U.S. Forest Service did not respond to a request for comment. The U.S. Bureau of Reclamation declined to comment on the funding actions.

In Grand County, $761,000 has been released to help move forward on a broad-based effort by the Kawuneeche Valley Restoration Collaborative, according to Northern Water. The valley has been damaged by drought, failing irrigation systems and overgrazing by wildlife and is a critical piece of the Colorado River's upper watershed. The collaborative, established in 2020, is a major partnership of seven entities, including Northern Water, Grand County, the Nature Conservancy and Rocky Mountain National Park.

The $3.3 million in East Troublesome fire funding that has been released through the U.S. Forest Service will help restore the watershed around Grand Lake and land in Rocky Mountain National Park. The fire began in October 2020 and burned nearly 200,000 acres, making it the second largest fire in Colorado history.

The fire burned land that constitutes a sprawling water collection area for Northern Water, a major water provider that pipes Colorado River water from Grand County, under the Continental Divide and east to the Front Range, where it serves roughly 1 million residents of northern Colorado and hundreds of farms.

Steve Kudron, former mayor of Grand Lake who now serves as its town manager, said restoration work in both projects is critical to the economy and health of the scenic tourist town, which lies at the western edge of Rocky Mountain National Park.

"The biggest concerns that we had were closing parts of the forest because there hasn't been sufficient cleanup. Some mountain sides are unstable," he said. "It's the funding that makes it safe for the public to go into those areas. That's why it was important to get the funding back."

Original Article: The Colorado Sun by Jerd Smith

The deepening water shortage row between the US and Mexico

After the thirtieth consecutive month without rain, the townsfolk of San Francisco de Conchos in the northern Mexican state of Chihuahua gather to plead for divine intervention.

On the shores of Lake Toronto, the reservoir behind the state's most important dam – called La Boquilla, a priest leads local farmers on horseback and their families in prayer, the stony ground beneath their feet once part of the lakebed before the waters receded to today's critically low levels.

Among those with their heads bowed is Rafael Betance, who has voluntarily monitored La Boquilla for the state water authority for 35 years.

"This should all be underwater," he says, motioning towards the parched expanse of exposed white rocks.

"The last time the dam was full and caused a tiny overflow was 2017," Mr Betance recalls. "Since then, it's decreased year on year.

"We're currently at 26.52 metres below the high-water mark, less than 14% of its capacity."

Rafael Betance says that water levels in the reservoir have fallen for the past eight years

Little wonder the local community is beseeching the heavens for rain. Still, few expect any let up from the crippling drought and sweltering 42C (107.6F) heat.

Now, a long-running dispute with Texas over the scarce resource is threatening to turn ugly.

Under the terms of a 1944 water-sharing agreement, Mexico must send 430 million cubic metres of water per year from the Rio Grande to the US.

The water is sent via a system of tributary channels into shared dams owned and operated by the International Boundary and Water Commission (IBWC), which oversees and regulates water-sharing between the two neighbours.

In return, the US sends its own much larger allocation (nearly 1.85 billion cubic metres a year) from the Colorado River to supply the Mexican border cities of Tijuana and Mexicali.

Mexico is in arrears and has failed to keep up with its water deliveries for much of the 21st Century.

Following pressure from Republican lawmakers in Texas, the Trump administration warned Mexico that water could be withheld from the Colorado River unless it fulfils its obligations under the 81-year-old treaty.

In April, on his Truth Social account, US President Donald Trump accused Mexico of "stealing" the water and threatened to keep escalating to "TARIFFS, and maybe even SANCTIONS" until Mexico sends Texas what it owes. Still, he gave no firm deadline by when such retaliation might happen.

For her part, the Mexican President, Claudia Sheinbaum, acknowledged Mexico's shortfall but struck a more conciliatory tone.
Since then, Mexico has transferred an initial 75 million cubic metres of water to the US via their shared dam, Amistad, located along the border, but that is just a fraction of the roughly 1.5 billion cubic metres of Mexico's outstanding debt.
Feelings on cross-border water sharing can run dangerously high: in September 2020, two Mexican people were killed in clashes with the National Guard at La Boquilla's sluice gates as farmers tried to stop the water from being redirected.
Amid the acute drought, the prevailing view in Chihuahua is that "you can't take from what isn't there", says local expert Rafael Betance.
Original Article: BBC by Will Grant

Inside the 'revolutionary' new Colorado River proposal

In the contentious talks over how states will split the shrinking Colorado River, negotiators are reaching consensus on one point: Just go with the "natural flow."
The concept is a somewhat simple one. Instead of negotiating future cuts across the entire seven-state region, the process would rely on recent water records — the amount of water flowing from the Colorado River headwaters in the Upper Basin to a point in Arizona marking the boundary of the Lower Basin states.
Negotiators recently heralded the move as a potential breakthrough in the long-stalled talks: It could help end a stalemate over how to share the pain of future water reductions and at the same time respond to the impacts of climate change. But that belies a set of lingering questions.
For one, just determining the water in the river will require complex calculations relying on evolving research. Even more critically, there's no indication negotiators are close on the particularly difficult issue of deciding how big a share of water each group of states can claim.
Still, observers say it could mark an important change.
"There's the philosophical idea of a natural flow regime guiding the management of the river, and then there's the technical detail of what that actually entails," said Eric Balken, executive director of the Glen Canyon Institute. "It's a logical but revolutionary concept."
At a meeting last month where a key Trump administration official gave some Colorado River negotiators a November deadline to reach a deal, state officials explained they were coalescing around the concept known as supply-driven planning, or just "natural flow."
The theory — the premise of sharing the river based on how much water would travel downstream without dams or diversions or other human interventions — is actually a complex mathematical problem, rife with potential pitfalls and technical issues.

The 1,450-mile Colorado River is divided among seven states under a 1922 compact, but the river system's annual operations are guided by a series of term-limited deals among the states, as well as agreements with Mexico.

Under the 1922 compact — which serves as the cornerstone of the "law of the river," or all the laws and regulations that govern the region's water supply — Arizona, California and Nevada in the Lower Basin and Colorado, Utah, New Mexico and Wyoming in the Upper Basin each get 7.5 million acre-feet of flows.

But the temporary agreements that govern reductions and attempt to respond to changing conditions are set to expire next year, and a new long-term operating plan must be in place by Oct. 1, 2026, which marks the start of the 2027 water year.

Negotiations among the seven states for a new deal have gridlocked while the two basins failed to reach agreements on how to share the pain of future water cuts, as well as how to account for all the water in the sprawling river system.

Researchers have found that over the past two decades, flows in the Colorado River have shrunk by about 20 percent — there's no longer enough water for seven states to split 15 million acre-feet. A top water researcher in the region predicts the river could even become as small as 10 million acre-feet in response to climate change.

"No matter what natural flow regime you decide on, it doesn't change the net bottom line: We don't have enough water," Balken said.

Under a natural flow system, the states would rely on a supply-driven calculation of how much water would be in the Colorado River were it not diverted to farms, stored in massive reservoirs or otherwise used by humans. The river in its current state is engineered to channel water into reservoirs across both basins and into canals to far-away farms in Arizona and California, while also generating electricity through dams at Lake Powell and Lake Mead.

"The Basin States have been exploring an explicit supply-driven operational framework based on the natural flow of the river," said Becky Mitchell, who serves as both Colorado's Colorado River commissioner and acting chair of the Upper Colorado River Commission. "The concept under discussion is that Powell would release a certain percentage or volume of the average of the last few years of natural flow, as measured at Lee Ferry."

'Accuracy and timeliness'

The Bureau of Reclamation already studies the natural flow of the Colorado River, providing annual estimates drawn from data at 29 points on the waterway and its tributaries, combined with consumptive uses and loss, such as water used in growing crops or lost to evaporation.

"Natural flow is an estimated value of what would flow in the river in the absence of human development," explained Jack Schmidt, program director of the Center for Colorado River Studies at Utah State University.

Essentially, Reclamation examines the flow of water in the Upper Basin's river system while also adding back in any water diverted for use in cities and farms. That data is used to calculate how much water would be found in a hypothetically free-flowing river at Lees Ferry, Arizona, a point south of the Glen Canyon Dam that is the dividing line between the Upper and Lower basins.

But these calculations get tricky.

While it is relatively simple for Reclamation to add up how much water the Upper Basin uses for cities like Denver — the water is piped across the Front Range in tunnels and pumps — it is significantly more complex to determine how much is used for irrigated agriculture.

In the Upper Basin states that includes how much water is lost to "evapotranspiration," or the evaporation of water into the atmosphere from the soil or from soil to the air via plants, Schmidt said. Water used for agriculture can account for 70 percent of the water used in the four Upper Basin states, and how much of that is consumed, rather than returned to the river system, is an important data point.

While methods for measuring that water usage have advanced dramatically — from standard formulas based on local temperatures to new calculations that combine satellite data with water vapor measurements and other climate information drawn from monitors near the fields — Schmidt said that a standard would need to be codified.

"Accuracy and timeliness are going to have to be incorporated into these agreements," Schmidt said, noting that another significant challenge with adopting an agreement based on natural flow is the fact that current calculations can take years to finalize.

According to Reclamation, its calculations typically lag at least 1.5 years behind the water year, as data on consumptive uses and losses is collected.

"We have this evolving change leading to more accurate estimates of natural flow but, of course, all that takes time to process that data," Schmidt said, noting that Reclamation has yet to finalize data as far back as 2021, instead publishing provisional estimates. The states are weighing an agreement that would rely on the average of the three most recent years of flows.

There would also need to be agreement on how to determine evaporation from reservoirs, including Lake Powell, the major federal site that is home to the Glen Canyon Dam that sits above Lees Ferry.

Cuts to Reclamation staffing could further slow that process, Schmidt warned. POLITICO'S E&E News reported in June that Reclamation has shed 1,180 of its 5,700 employees through early retirement and buyout offers, according to a Freedom of Information Act request.

"Reclamation absolutely is going to have to be appropriately staffed so that they can generate these numbers in a timely way," Schmidt said.

Schmidt also advised state negotiators to continue to look at the water levels of both Lake Powell and Lake Mead. Current operating plans include a series of reductions in the amount of water going to Arizona and Nevada when water levels in Lake Mead drop below specific elevations.

“The amount of water in the reservoirs — which is the bank account — we know it precisely and accurately, and we know it in a timely fashion,” Schmidt said. “We still don’t know what the natural flow of the Colorado River in 2025 is, but I can tell you the duration of time that Lake Powell and Lake Mead, collectively, increased in storage only lasted for two weeks this year.”

Original Article: E&E News by Jennifer Yachnin

Idaho Department of Water Resources signs order predicting water shortfall

The Idaho Department of Water Resources has issued a new order finding that the Twin Falls Canal Co. may experience a water shortfall during this summer’s irrigation season.

The Idaho Department of Water Resources announced Friday that Director Mathew Weaver signed a methodology order forecasting the Twin Falls Canal Co. may face a shortage of 75,300 acre-feet of water during the 2025 irrigation season.

Acre-feet is a unit of volume expressing the amount of water needed to cover one acre of land in water one foot deep. For comparison, a football field without the end zones is a little bit bigger than one acre.

Water issues in Idaho are extremely important to farmers who depend on water to irrigate their crops.

Under Idaho law, surface water users with senior – or older – water rights like the Twin Falls Canal Co. have priority over water users with junior water rights who are pumping water from the Eastern Snake Plain Aquifer.

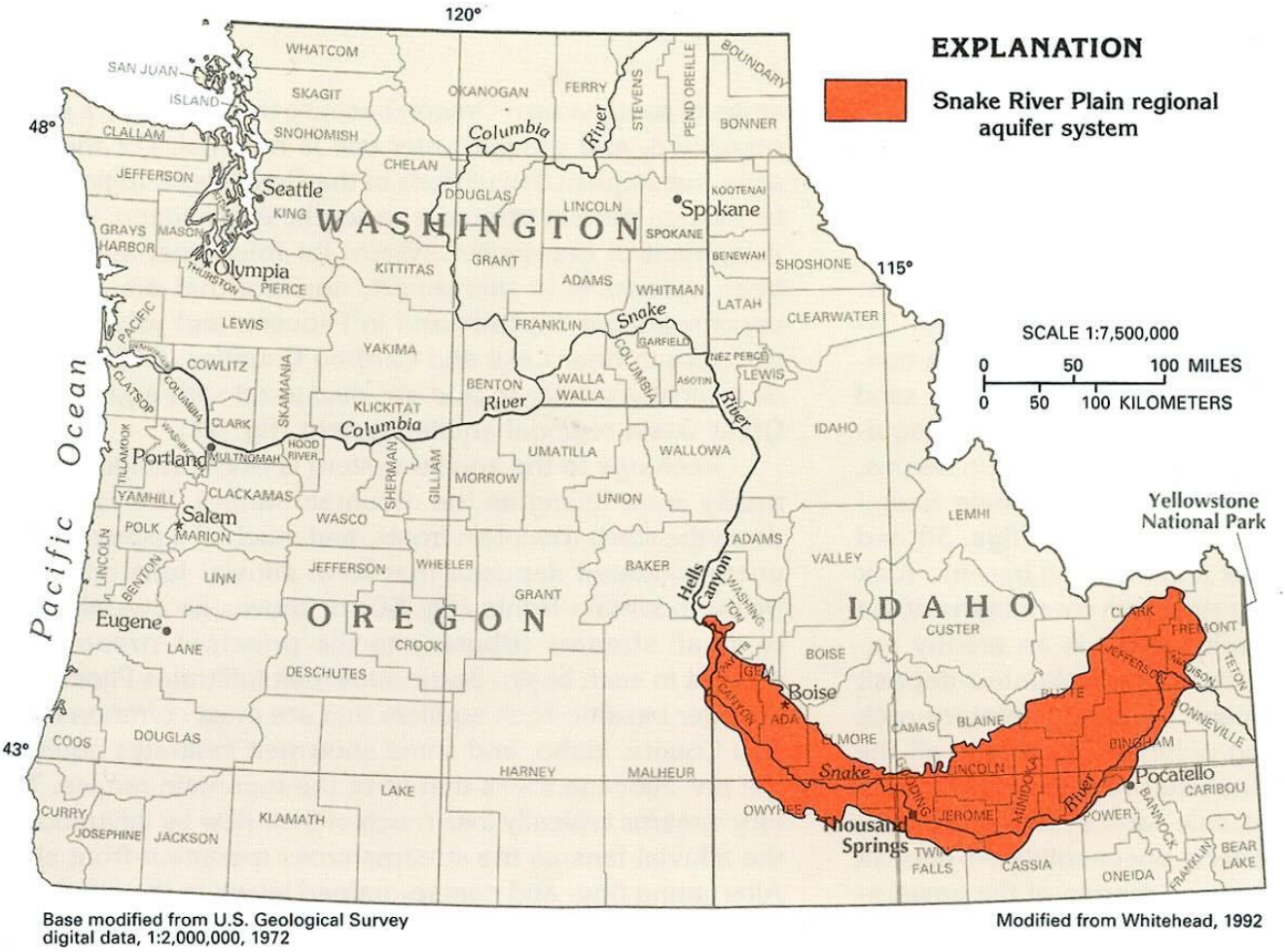


Figure 52. *The Snake River Plain regional aquifer system underlies a large, crescent-shaped lowland in southern Idaho and a small part of east-central Oregon.*

The Snake River Plain aquifer underlies the Snake River Plain, which extends from near the western boundary of Yellowstone National Park in eastern Idaho to the Idaho-Oregon border where the Snake River enters Hells Canyon. | Courtesy Idaho State University and the U.S. Geological Survey

Southern Idaho water users participating in 2024 settlement agreement should be spared from curtailment

However, Idaho water users who are participating and in compliance with the 2024 settlement agreement will avoid having their water curtailed, which means shut off, state officials said.

"Idaho law and the constitution remain clear about first in time, first in right," Brian Patton, Idaho Department of Water Resources deputy director, said in a written statement. "However, regardless of these facts, most water users will not face curtailment thanks to the hard work farmers put in last summer to create the 2024 water settlement. Compromises like this, and investments in our water supply, will benefit Idaho water users into the future and I applaud their foresight."

Water users have until July 25 to demonstrate to the Idaho Department of Water Resources that they are participating in an approved mitigation plan, such as the 2024 settlement agreement, to avoid having their water curtailed to cover the shortfall.
Department officials encouraged any junior water users who are not part of an approved plan to join one to avoid curtailment.
Last year, farmers negotiated through the growing and harvest season to reach the 2024 water settlement agreement after the Idaho Department of Water Resources issued an order requiring the holders of 6,400 junior water rights holders to shut off their water to cover a forecasted shortfall.
Original Article: East Idaho News by Clark Corbin

Report: Everglades generates $31.5B a year, worth $1T over 50 years

Amid daily headlines about the controversial Alligator Alcatraz detention center that opened this month, the nonprofit Everglades Foundation has released a report highlighting the Everglades' $31.5 billion annual economic impact — the largest of any subtropical wetland system in the continental U.S.
The report, done in collaboration with Tacoma, Washington-based nonprofit Earth Economics, estimates the value of ecosystem services provided by the Everglades at more than $1 trillion over the next 50 years.
Unveiled in June at the America's Everglades Summit in Washington, D.C., the report — titled Thriving Everglades, Thriving Economy: Nature's Value in the Everglades — breaks down the Everglades' $31.5 billion annual economic impact into seven key ecosystem services: $9.2 billion from real estate enhancement, $8.5 billion from recreation, $8.4 billion from protection against extreme weather, $3.3 billion from biodiversity and habitat, $781 million from carbon sequestration, $26.7 million from commercial fishing and critical water supply for millions of people.
Ecosystem services, the report says, "are the direct and indirect benefits people receive from functional natural systems, providing fresh water, food and clean air, while also supporting quality of life, cultural identity, recreational opportunities and more."
The introduction to the report describes what the two organizations call Florida's Clean Water Economy, an amalgam of industry sectors within the 16-county Everglades watershed "whose very existence depends upon clean water, pristine beaches and healthy fisheries."
Counties in the Everglades watershed are Broward, Charlotte, Collier, Glades, Hendry, Highlands, Lee, Martin, Miami-Dade, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Polk and St. Lucie.
Maya Kocian, executive director of Earth Economics, said in announcing the report that the Everglades is an invaluable natural asset, improving the quality of life for residents and visitors to South Florida.

"This report lays a foundation for articulating the Everglades' importance to the region's economy and the continued need for [Everglades] restoration for resilience," she said. "An investment in nature is an investment in Floridians and Florida's economy."
A bipartisan effort to restore the Everglades has seen billions of state and federal taxpayers' dollars spent under the Comprehensive Everglades Restoration plan that was approved by Congress in 2000.

Everglades' health tied to economic health

The report states that the most substantial Everglades ecosystem benefits are "deeply interlinked with South Florida's largest economic sectors: tourism and real estate."
Paul Hindsley, chief economist at the Miami-Dade County-based Everglades Foundation and co-author of the study, said the report provides evidence on how the health of the Everglades is directly tied to the economic well-being of Florida.
He said restoring the Everglades "secures economic prosperity today and safeguards its benefits for generations to come," and noted that climate and natural amenities are big factors in attracting visitors and new residents to the state, especially over the last five years — with big economic implications.
"As we see in this report, this plays out in a number of different ways: It plays out in tourism and all the industries connected to tourism; in outdoor recreation industries; and in real estate," Hindsley said. "But it also plays a major role in other important factors that we connect to the goods we receive, the water we depend on, as well as what we call this critical natural infrastructure: The way that the system [Everglades] regulates the world around us and our water and reduces the impacts of natural hazards.
"So, it's critical for our life in South Florida and it plays out in the economic activity that occurs in South Florida."

Everglades Foundation position on Alligator Alcatraz

Asked about concerns over the potential environmental impact of the Alligator Alcatraz immigrant detention center located near the sensitive Big Cypress National Preserve, Hindsley referenced the Everglades Foundation's official statement posted on its website, which notes the organization's opposition to the construction of the temporary facility at the Dade-Collier Training and Transition Airport, formerly known as the Everglades Jetport.
The statement points out that the Everglades Foundation's founding director, Nathaniel Reed, was involved in both defeating the original plans for the proposed jetport and in establishing Big Cypress National Preserve.
"We are communicating with the state on an impact strategy to protect the natural areas from new pollutants introduced because of increased human activities on or around the site," the statement says.

Asked for specifics on the recommended impact strategy, Everglades Foundation CEO Eric Eikenberg said the organization has called for new types of environmental monitoring at the site, including tracking the amount of wastewater, solid waste and stormwater runoff it will generate.

"There's a variety of water quality issues that need to be monitored," Eikenberg said. "We don't know how many thousands of people are going to be in this somewhat compact space, let alone impacts on wildlife. There's a variety of wildlife that are in the Western Everglades, in the Big Cypress National Preserve area, with the Florida panther being one."

Eikenberg said that he would like to see an environmental component added to the detention center's emergency management team to provide monitoring in real time, "to be transparent about it, and if there are any issues that may arise to then work toward mitigating any environmental impacts."

"So, that's what we've encouraged," Eikenberg said. "We've had dialogue, we continue that dialogue and it's our hope that as this process continues, that there is some environmental monitoring that takes place."

Original Article: Gulfshore Business by Therese McDevitt

Trump administration says it won't publish major climate change reports on NASA website as promised

The Trump administration on Monday took another step to make it harder to find major, legally mandated scientific assessments of how climate change is endangering the nation and its people.

Earlier this month, the official government websites that hosted the authoritative, peer-reviewed national climate assessments went dark. Such sites tell state and local governments and the public what to expect in their backyards from a warming world and how best to adapt to it. At the time, the White House said NASA would house the reports to comply with a 1990 law that requires the reports, which the space agency said it planned to do.

But on Monday, NASA announced that it aborted those plans.

"The USGCRP (the government agency that oversees and used to host the report) met its statutory requirements by presenting its reports to Congress. NASA has no legal obligations to host globalchange.gov's data," NASA Press Secretary Bethany Stevens said in an email. That means no data from the assessment or the government science office that coordinated the work will be on NASA, she said.

On July 3, NASA put out a statement that said, "All preexisting reports will be hosted on the NASA website, ensuring continuity of reporting."

"This document was written for the American people, paid for by the taxpayers, and it contains vital information we need to keep ourselves safe in a changing climate, as the

disasters that continue to mount demonstrate so tragically and clearly," said Texas Tech climate scientist Katharine Hayhoe. She is chief scientist at The Nature Conservancy and co-author of several past national climate assessments.

Copies of past reports are still squirreled away in the National Oceanic and Atmospheric Administration's library and the latest report and its interactive atlas can be seen here.

Former Obama White House science adviser and climate scientist John Holdren accused the administration of outright lying and long intended to censor or bury the reports.

"The new stance is classic Trump administration misdirection," Holdren said. "In this instance, the administration offers a modest consolation to quell initial outrage over the closure of the globalchange.gov site and the disappearance of the National Climate Assessments. Then, two weeks later, they snatch away the consolation with no apology."

"They simply don't want the public to see the meticulously assembled and scientifically validated information about what climate change is already doing to our farms, forests, and fisheries, as well as to storms, floods, wildfires, and coast property — and about how all those damages will grow in the absence of concerted remedial action," Holdren said in an email.

That's why it's important that state and local governments and every day people see these reports, Holdren said. He said they are written in a way that is "useful to people who need to understand what climate change is doing and will do to THEM, their loved ones, their property and their environment."

"Trump doesn't want people to know," Holdren wrote.

The most recent report, issued in 2023, found that climate change is affecting people's security, health and livelihoods in every corner of the country in different ways, with minority communities, particularly Native Americans, often disproportionately at risk.

Original Article: AP News by Seth Borenstein

GLOBAL WATER NEWS

Many top data center locations could be at risk of climate change

New research from Maplecroft has confirmed the common suspicion – data centers are tied closely to global warming, with their high energy and natural resource demand compounding effects, while simultaneously being at risk of climate change.

More than half of the world's top 100 data center hubs are already at high or very high risk from rising temperature, with cooling demands set to increase significantly, ultimately leading to higher energy and water usage.

This comes as demand for artificial intelligence, cloud computing and data storage continues to grow, showing no signs of slowing down.

Data centers are their own worst climate enemy

With 56% of the surveyed data centers at high or very high risk today, Maplecroft predicts that two in three (68%) could be at risk by 2040, and a staggering four in five (80%) by 2080.

This is more apparent in some regions than others, with 100% of Asia-Pacific and Middle East data center hubs expected to be at high or very high risk by as soon as 2040, highlighting the importance of strategic planning when it comes to location.

In the short and medium terms, Maplecroft believes shutdowns due to overheating, such as the ones seen across the UK and US in 2022, could become more frequent.

The report also explains how increased water demands could spark social and political conflict in certain communities, with more than half (52%) of data center hubs expected to be in high and very high water stress areas by 2030.

Regions like Abu Dhabi and Dubai in the Middle East, Lagos and Johannesburg in Africa, Los Angeles and San Diego in North America, and Channai and New Delhi in Asia, are all considered high-risk areas.

"The onus is on operators, customers and investors alike to assess rising climate threats, alongside social and political risk factors – not only for their own resilience, but because of a growing regulatory focus on third-party risk management," noted Sustainable Procurement and Human Rights Consultant Capucine May and Risk Insight Senior Asia Analyst Laura Schwartz.

New GWI Data Reveals Global Water Reuse Market Poised for Major Expansion

Research from Global Water Intelligence published on GWI DesalData on 4*th* July 2025 reveals how decision makers are adopting wastewater reuse at record levels, as part of long-term water security strategies, with the market reaching an inflection point with regards to potable and high-value industrial applications.

Global reuse capacity has doubled in the last eight years, but there is still a major gap to be filled to meet the water scarcity challenge posed by climate change.

The gap is particularly pronounced in potable applications, which currently represent just 0.6% of globally installed reuse capacity. The future of potable reuse is at an inflection point however: GWI is tracking the progress of more than 30 individual potable reuse schemes across the globe that are set to double potable reuse capacity in the next five years, with more to come.

By 2030, this unprecedented boom is expected to make potable reuse one of the most heavily invested applications for reused wastewater.

Additionally, unmet demand for high-quality water from industrial end-users is driving further growth of high-value water reuse, using similar treatment technologies to those employed in potable applications.

As the global climate crisis and resultant water scarcity continue to worsen, using the fresh water we extract more than once, and maximising the value of that reuse, will be fundamental to ensuring water security around the globe.
Original Article: Yahoo News/ Global Water Intelligence

Thames Water issues hosepipe ban for 1.1m people

A hosepipe ban affecting 1.1 million people has been announced by Thames Water.
The water firm said the measure would come into place across Gloucestershire, Oxfordshire, Berkshire and Wiltshire on 22 July due to a lack of rain and increasing demand, which had stretched supplies.
It bans the use of a hosepipe for activities such as watering the garden, washing the car or filling a paddling pool. People found to be using a hosepipe during a ban can be fined up to £1,000.
Thames Water said the temporary restriction would cover areas with postcodes beginning with OX, GL, SN, RG4, RG8 and RG9.
The ban does not affect businesses where hosepipe use is part of their purpose - for example, garden centres and car washes - but the company said everyone in the region should be "mindful" of water use.
It comes as the Environment Agency said it had declared a state of prolonged dry weather in large parts of Oxfordshire, Berkshire and Surrey.
Water stocks across the Thames Valley are low and are expected to continue falling, Thames Water said
Thames Water said prolonged hot weather meant there was less water available as well as a higher demand, with customers using up to 30% more water when temperatures were above 25C.
Hosepipe bans are already in force for customers of Yorkshire and South East Water as a result of the dry weather, affecting 5 million and 1.4 million people respectively.
Nevil Muncaster, strategic water resources director at Thames Water, said he did not "anticipate the situation will improve any time soon".
"We have to take action now," he said.
"This has been a challenging spring and summer with big spikes in customer demand during hot dry days and very little rainfall to replenish local supplies in the Thames Valley."
He encouraged customers both within and outside the ban area to reduce water use, by doing things like turning taps off while brushing teeth, taking shorter showers and not watering their lawns.

The GMB Union called the hosepipe ban "disgraceful" given Thames Water had leaked 200 billion litres of water in the last year.

"That's 570 million litres wasted every single day - the worst in the country," said national officer Gary Carter.
He said GMB members working there had "their hands tied" by "crumbling infrastructure and non-existent investment".
"For Thames Water to now impose a hosepipe [ban], while bills rocket, is disgraceful," he said.
Thames Water spokesperson said leakage across the network was at its "lowest ever level", but said it knew there was "more work to do".
They said technology such as acoustic loggers and smart meters were helping it fix leaks faster.
"We're fixing 650 leaks a week with our engineers targeting leaks with the greatest impact to local water supplies," they added.
Original Article: BBC by Daisy Stephens

Saudi Water Partnership Company advances sustainability with Shuaibah 3 Desalination Plant upgrade

As part of its mission to promote sustainability and ensure a secure water future for the Kingdom, the Saudi Water Partnership Company (SWPC) continues to lead in enabling private sector participation in water infrastructure development. One of the most significant milestones in this effort is the transformation of the Shuaibah 3 Desalination Plant, a project that exemplifies Saudi Arabia's commitment to innovation, efficiency, and environmental responsibility.
For years, Shuaibah 3 operated using Multi-Stage Flash (MSF) technology, which played a key role in meeting water demands but required intensive energy input and produced substantial carbon emissions. In response to the growing need for sustainable solutions, SWPC initiated the plant's conversion to the more efficient and environmentally friendly Reverse Osmosis (RO) technology.
The Shuaibah 3 Independent Water Project (IWP) involves the construction of a seawater desalination facility based on RO technology
The revamped project, now known as the Shuaibah 3 Independent Water Project (IWP), involves the construction of a seawater desalination facility based on RO technology. Located in the Shuaibah region of the Kingdom, the plant will produce 600,000 cubic metres of potable water per day. Seawater will be drawn via a seawater intake system using Seawater Supply Pumps (SSPs) and treated through Dual Media Pressure Filters and Cartridge Filters before reaching the RO membranes. The plant's power requirements will be met by the national grid SA and a 65 MWp captive solar PV system, adding a renewable energy component to further reduce environmental impact.
The plant's power requirements will be met by the national grid SA and a 65 MWp captive solar PV system, adding a renewable energy component

The plant's conversion is being delivered under a Build-Own-Operate (BOO) model with a 25-year contract term, involving a total investment of SAR 3.079 billion (USD 821 million). The project development company is the Shuaibah Three Water Desalination Company (STWD), a consortium led by ACWA Power, which holds a 48% stake, in partnership with the Public Investment Fund (PIF) and HAACO, which own the remaining 52%. The project achieved financial closure in October 2022, and commenced commercial operation on 07th May 2025.

This initiative has already demonstrated clear environmental and economic benefits, including fuel savings of up to 60,000 barrels of oil equivalent per day and an annual reduction of approximately 9.7 million tons of carbon emissions. These improvements not only enhance operational efficiency but also support national targets for emissions reduction and fuel optimisation. Additionally, the transition to RO technology has resulted in a significant reduction in water tariffs, with a 45% decrease in operating costs compared to the former MSF system. This transformation is poised to provide a reliable and cost-effective water supply while contributing to environmental sustainability.

Key technical and logistical challenges

Converting the Shuaibah 3 plant from MSF to RO technology posed several technical and logistical challenges. One of the primary concerns was maintaining a continuous water supply during the transition. Ensuring that the water demand was met without interruption required careful planning and coordination.

The plant's conversion is being delivered under a BOO model with a 25-year contract term, involving a total investment of USD 821 million

Another substantial hurdle was restructuring existing Independent Water and Power Project (IWPP) agreements. This required close collaboration with multiple stakeholders, including the Ministry of Environment, Water and Agriculture (MEWA), the Ministry of Finance, the National Center for Privatization (NCP), the Saudi Electricity Company (SEC), Water Transmission and Technologies Company (WTTCO), and the Saudi Water Authority (SWA). Managing the expectations and requirements of these stakeholders was critical for ensuring a smooth transition.

Original Article: Smart Water Magazine

Future increase in European compound events where droughts end in heavy precipitation

Compound events where droughts end with heavy precipitation can lead to damage to infrastructure, crops and ecosystems that exceed those of an isolated drought or heavy precipitation event due to increased flooding and runoff from the hardened dry ground. Based on regional climate models we show that the occurrence of these compound events (drought ending with one in 100-day precipitation event) during summer in Europe increases by around 35% (+/−22%) for both the mid-century and end-of-century

future projections with an intermediate emission scenario compared to present-day. This increase to 97% (+/−84%) for droughts ending in a more extreme precipitation event (occurring approximately once a year) and is greater than the increase in drought and heavy precipitation events separately. Central and Southern Europe are likely to experience the strongest absolute increase. Results highlight the need to prepare for and adapt to these rare but potentially devastating events.

Original Article: Steensen, B.M., Myhre, G., Hodnebrog, Ø. et al. Future increase in European compound events where droughts end in heavy precipitation. npj Clim Atmos Sci 8, 267 (2025). https://doi.org/10.1038/s41612-025-01139-0

£100 million water pipeline project in Southampton

Work is underway on a new 17km drinking water pipeline across Hampshire – to build resilience for supplies in the Southampton area.

The major project, known as the Southampton Link Main (SLM), will cost more than £100 million to complete over three years, and link our Otterbourne Water Supply Works with the city of Southampton.

It will give greater resilience for the area's water supplies, reducing the impact of any burst pipes, mechanical failures or leaps in demand in the future – by making it easier to move water around the network to where it is needed most.

The pipeline will run underground and will also link up with two underground reservoirs – in Yew Hill to the north where a new storage tank is being built too, and at a site on the outskirts of Southampton. This will allow us to build up our reserves, and in turn reduce the amount of water we take from precious chalk streams, the Test and Itchen.

The works will be delivered in partnership with MGjv, a joint venture between M Group Water and Galliford Try.

Simon Cook, Programme Manager at Southern Water, said:

"It's great to get this project under way. We've worked closely with landowners and local authorities to find the most viable and least disruptive route for the pipeline.

"We are doing this to improve the resilience of our water network for our customers in Hampshire. The project will also provide future resilience for the Test and Itchen rivers and their wildlife."

Most of the pipeline will be laid by digging trenches, installing the pipeline and then backfilling them with earth. However, in some areas, it will be installed by digging tunnels deeper underground to avoid disruption to major roads, railway lines or precious ecological sites.

The route was determined following engagement with local landowners and people who live and work nearby, as well as being informed by environmental and ecological information, surveys and assessment.

Original Article: Southern Water

Thames Water swings to £1.6bn loss as crisis deepens

Thames Water swung to a £1.6bn loss last year as a soaring debt burden and continued sewage failures fuelled the financial crisis facing the struggling utility giant.

In full-year results published on Tuesday, Britain's largest water company revealed its borrowings rose from £15.2bn to £16.8bn – as bosses said it would take at least a decade to turn the business around.

The huge losses came after Thames wrote off £1.3bn in loans to its parent company and booked hundreds of millions in fines and restructuring costs.

Thames also said that discharges of wastewater or sewage into rivers, streams, or groundwater had climbed to more than one a day.

Pollution events rose from 350 to 470 last year, with the company setting aside £123m for Ofwat fines. The company have calculated that it could be on the hook for more than £1bn in penalties for pollution and environmental failings.

Thames Water's revenue rose 8pc to £2.6bn in the year to March. However, heavy costs from fines and its ongoing financial troubles plunged the company into the red.

The £1.6bn loss compared to a £157m profit in the previous year, highlighting the company's precarious financial position as it scrambles to stave off nationalisation.

Chris Weston, the company's chief executive, said the utility had made "good progress in operational performance, despite the ongoing challenging financial situation".

He added that cash provided by its lenders "will see us return to a more stable financial foundation," saying: "This will come with a requirement to re-set the regulatory landscape and acknowledge it will take at least a decade to turn Thames around."

The company's annual report revealed that Mr Weston did not receive a bonus due to the rise in pollution events and the company being hit with a debt downgrade.

This marks another financial blow to Mr Weston, after the company recently paused plans for £13m in executive retention bonuses.

The results have been released less than 24 hours after the company announced a hosepipe ban for households in Gloucestershire, Oxfordshire, Berkshire and Wiltshire.

Increasing scrutiny

This has increased scrutiny on the company at a time when it teeters on the brink of collapse, with Steve Reed, the Environment Secretary, claiming last month that the Government was stepping up contingency plans.

Thames Water is at risk of special administration despite a proposed £17bn bailout by its most senior lenders, which are already providing billions of pounds in emergency funding.

Original Article: Yahoo Finance/ The Telegraph by James Titcomb

Overlooking nature is no longer an option for fiscal policy and debt sustainability analyses

Environmental degradation is a structural economic risk rather than a peripheral concern. Nicola Ranger, Carlo Pasqua and Christopher Adam explain why, as international financial institutions review the IMF-World Bank Debt Sustainability Framework, integrating nature must be a core priority.

Integrating nature into fiscal policy is a critical priority for economic stability and we have the data and tools needed to do this – as our new report from the Grantham Research Institute and University of Oxford shows. Across the globe, more than half of GDP depends in whole or in part on the ecosystem services delivered by our natural capital (or stock of productive natural assets). This dependency is particularly pronounced in low-income countries (LICs). Economic activity in these countries is closely tied to ecosystem services such as water availability, soil fertility, pollination and protection from natural hazards – but these services are increasingly under threat due to environmental degradation.

Despite this evidence, the primary international instrument used to assess debt risks and inform international finance and fiscal policies in LICs – the IMF-World Bank Debt Sustainability Framework for Low-Income Countries (LIC-DSF) – has yet to systematically integrate nature-related risks. We were commissioned to assess the implications for LICs and international finance and concluded that this omission risks producing unrealistic macroeconomic baselines, overlooking latent vulnerabilities and disincentivising investments that would otherwise enhance long-term economic resilience and growth.

Nature as a macro-critical factor

The adverse economic impacts of environmental degradation are increasingly evident. In Pakistan for instance, degraded natural systems contribute significantly to health burdens, with the costs of environment-related health impacts estimated at 6.5% of GDP in 2015. In Malawi, agriculture accounts for more than 20% of GDP and 80% of employment, yet research by the World Bank shows that approximately 80% of Malawi's land is degraded, resulting in declining agricultural productivity and threatening long-term economic output and fiscal stability. In Honduras deforestation has worsened landslide and flood risk, increasing reconstruction costs and trade disruptions.

These effects are not isolated events: rather, the degradation of natural capital represents a systemic threat that is already undermining growth, disrupting fiscal sustainability and impairing sovereign creditworthiness across many LICs. Empirical evidence indicates that environmental degradation materially affects economic fundamentals:

- **Disasters, aggravated by ecosystem degradation, cause significant GDP contractions**, reduce fiscal space, and impair recovery. For example, in many small

island developing states (SIDS) and fragile states these problems are causing GDP to decline by more than 10%.

- **Depletion of natural capital undermines productivity**, particularly in agriculture and raw materials, but also in related sectors such as manufacturing, which accounts for a large share of GDP and employment in LICs. It adds to volatility in global prices.
- **Nature-related stresses and shocks, such as water crises due to overextraction of groundwater, disease outbreaks, wildfires and land degradation, affect public spending, fiscal balances and sovereign debt trajectories**, especially when vulnerability to environmental disasters is high. There is clear evidence of existing shocks affecting large sectors such as energy, mining and agriculture linked to domestic environmental degradation, particularly through links to water provision, but also to vulnerabilities to international nature-related transition shocks (where economic actors are misaligned with the transition to a nature-positive economy) and physical shocks.

According to the IMF's own guidance, any factor that could undermine fiscal sustainability, impair financial system resilience or reduce market confidence qualifies as "macro-critical" and ought to be integrated into debt sustainability analysis. The degradation of natural capital is now demonstrably macro-critical. In many LICs, environmental shocks are occurring with increasing frequency, and their impacts are magnified by the long-term degradation of ecosystems.

World Bank research we cite in our report shows that a partial collapse in key ecosystem services (such as pollination, fisheries and forest regulation) could lead to GDP losses exceeding 10% in LICs by 2030. If realised, such nature-related shocks would pose as great a threat to debt sustainability in LICs as those routinely considered by the IMF and World Bank. Failure to account for these risks may therefore result in unsustainable borrowing, underestimation of associated fiscal stress, and increased debt distress.

Nature as an investment in stability and growth

Our report concludes that nature must be recognised not only as a source of risk but also as a strategic investment opportunity; the economic benefits from its sustainable management could be significant. For example, in the Democratic Republic of Congo, sustainable management of forests and landscapes could yield benefits 15 times greater than investment costs by 2050. Ecosystem restoration – such as reforestation, wetland rehabilitation and sustainable land management – can enhance agricultural productivity, protect infrastructure, reduce disaster vulnerability and support job creation.

When treated as public investment in productive capital, nature-based solutions can contribute to economic diversification and long-term stability. Yet under the current approach to debt sustainability analyses, such expenditure is often treated as a fiscal

liability, rather than investment that reduces risk and improves macroeconomic fundamentals.

Integrating nature into the LIC-DSF: feasible and necessary

Our report concludes that the integration of nature into the LIC-DSF is both technically feasible and policy-relevant. The concrete, near-term recommendations for fiscal and debt sustainability analyses we set out are:

- **Stress–test** for nature-related shocks
- **Incorporate** nature in baseline growth scenarios
- **Reclassify** nature-based investments as growth-enhancing
- **Leverage** existing tools and data
- **Strengthen** institutional capacity.

For policymakers, creditors and financial institutions operating in LICs, the message is clear: overlooking nature is no longer an option. Environmental degradation is a material and growing driver of macroeconomic instability. At the same time, nature represents one of the most cost-effective and under-utilised tools for fostering stability, resilience and long-term growth.

As international financial institutions review the Debt Sustainability Framework, integrating nature must be a core priority. Doing so is not only analytically sound: it is economically prudent and fiscally responsible.

Original Article: LSE

World risks up to US$39 trillion in economic losses from vanishing wetlands, report says

The global destruction of wetlands, which support fisheries, agriculture and flood control, may mean the loss of US$39 trillion in economic benefits by 2050, according to a report by the Convention on Wetlands released on Tuesday.

Some 22% of wetlands, both freshwater systems such as peat lands, rivers and lakes, and coastal marine systems including mangroves and coral reefs, have disappeared since 1970, according to the intergovernmental report, the fastest pace of loss of any ecosystem.

Pressures, including land-use change, pollution, agricultural expansion, invasive species, and the impacts of climate change - such as rising sea levels and drought - are driving the declines.

“The scale of loss and degradation is beyond what we can afford to ignore,” said Hugh Robertson, the lead author of the report.

The report called for annual investments of $275 billion to $550 billion to reverse the threats to the remaining wetlands, and said current spending was a “substantial under-investment” without giving figures.

The world has lost 411 million hectares of wetlands, the equivalent of half a billion football pitches, and a quarter of the remaining wetlands are now classified as in a state of degradation, according to the report.

Wetlands' economic benefits include flood regulation, water purification and carbon storage - key as water levels rise and tropical storms and hurricanes intensify due to climate change.

They also support the fishery and agriculture industries and offer cultural benefits.

The report launches a week before the Victoria Falls, Zimbabwe, meeting of the parties of the Convention on Wetlands, a global agreement of 172 countries signed in 1971 to spearhead preservation of the ecosystem.

The group, which includes China, Russia and the United States, meets every three years, but it is unclear if all nations will send delegates.

Wetland deterioration is particularly acute in Africa, Latin America, and the Caribbean, but is worsening in Europe and North America, the report said.

Rehabilitation projects are under way in countries including Zambia, Cambodia and China.

Original Article: BNN Bloomberg by Duncan Miriri

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