

Veles Water Weekly Report

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August 4th 2022

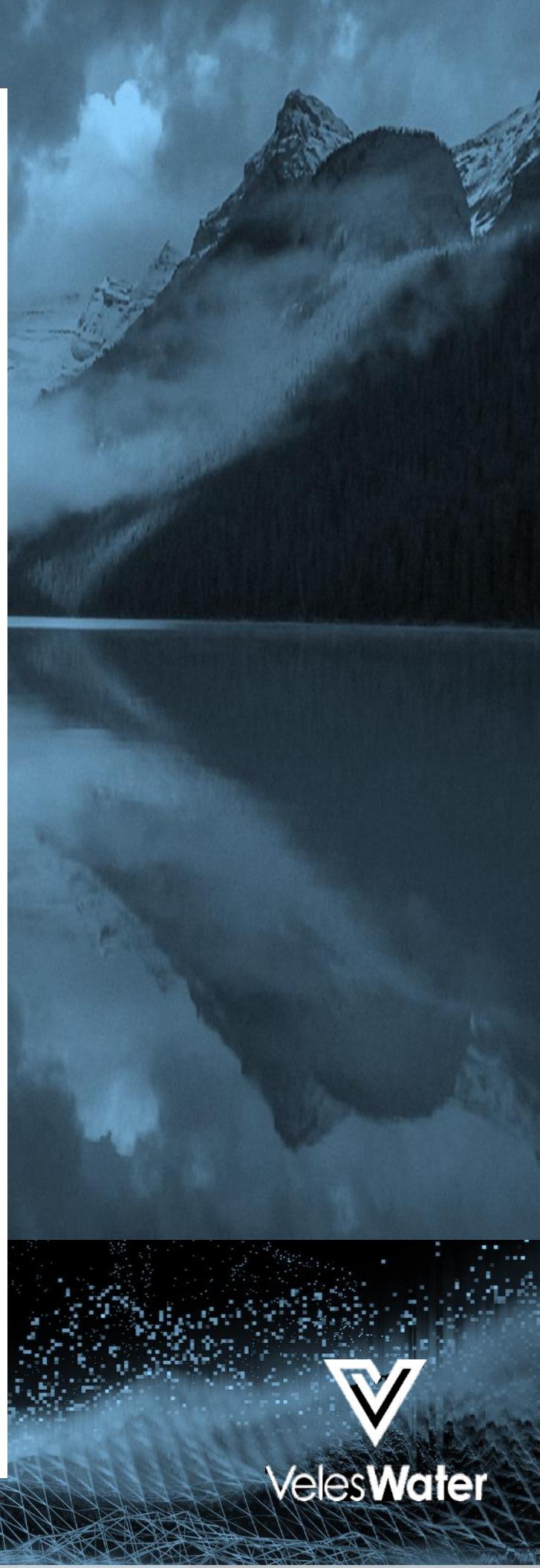
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VelesWater



WATER FUTURES MARKET ANALYSIS

Welcome to **WATERTALK**

by Joshua Bell

CLICK THE LINK BELOW

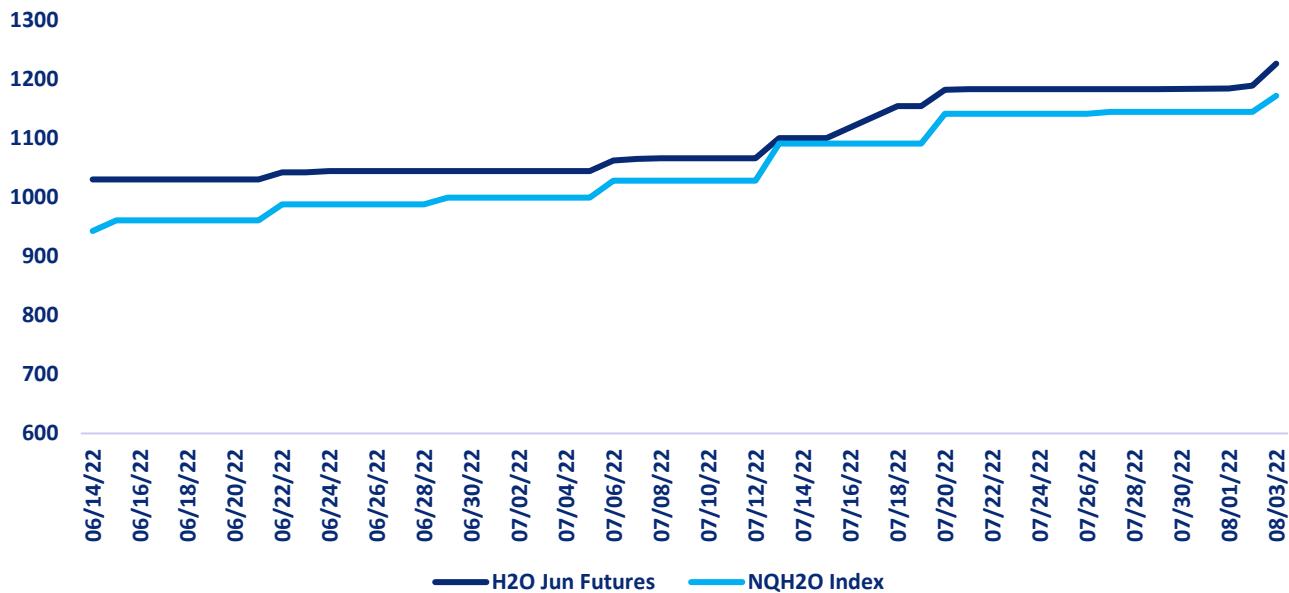
"A 2 minute technical analysis video of H2O futures"

<https://vimeo.com/736427063>



NQH2O INDEX PRICE vs H2O FUTURES PRICE

1 Month Price Performance NQH2O Index vs H2O Futures



Price Chart Based upon Daily Close

Daily Range

The new NQH2O index level of \$1171.60 was published on the 3rd of August, up \$27.46 or 2.40%, which sets another new all-time high for ninth week in a row. The August contract has been at premium of \$38.86 -\$54.40 over the past week.

NQH2O is up 65.86% Year to Date.

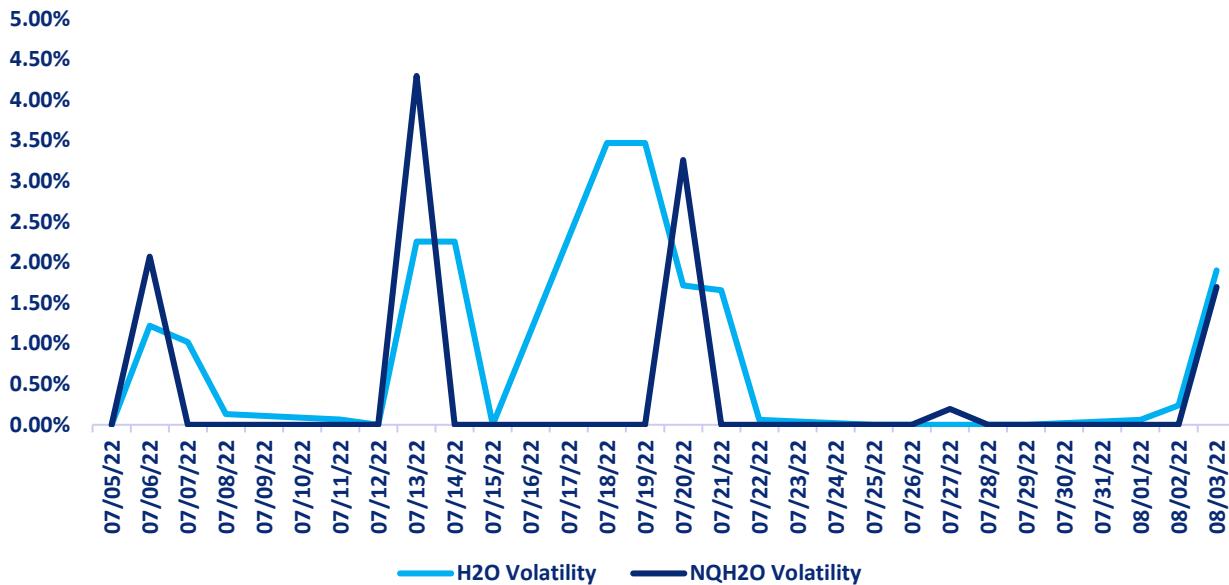
Below are the bid offer prices on different expiries being quoted in the market.

Aug 22	1226@1275
Dec 22	980@1080
Jun 23	1175@1300



H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the June daily future volatility high has been 1.90% on August 3rd and a low of 0 % on July 29th.

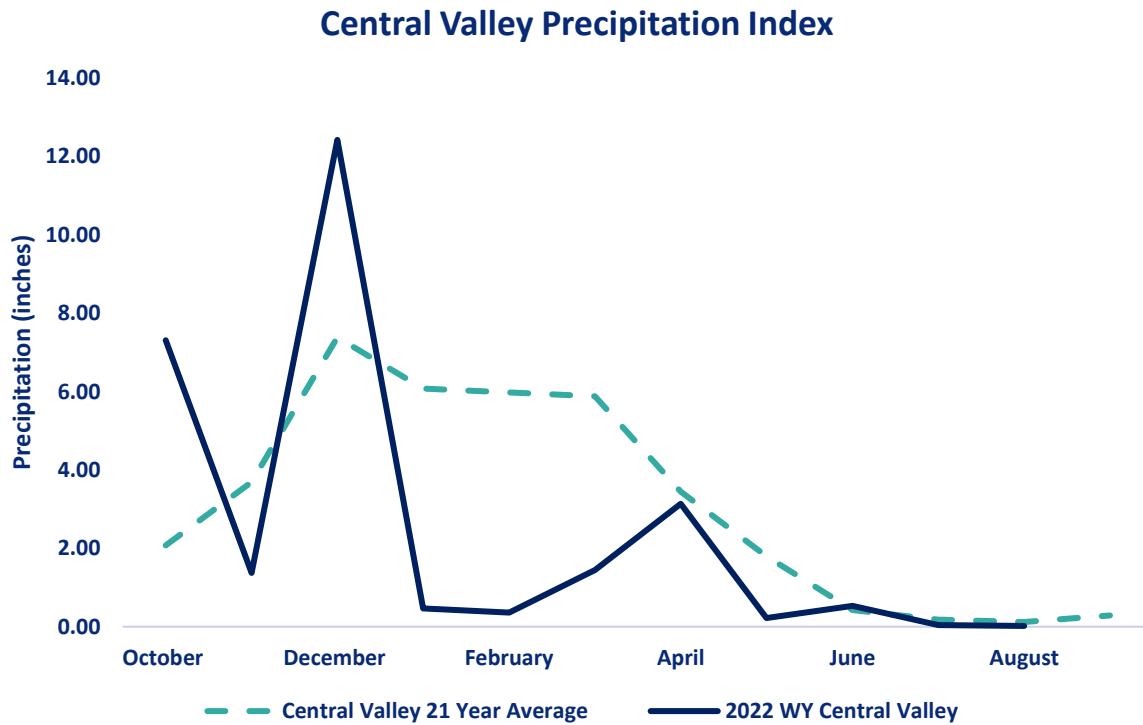
ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	22.86%	6.28%	5.08%	2.124%
H2O FUTURES	N/A	8.83%	6.47%	3.01%

For the week ending on the August 3rd, , the two-month futures volatility is at a premium of 2.56% to the index, down 0.24% from the previous week. The one-month futures volatility is at a premium of 1.39% to the index, up 0.29% from last week. The one-week futures volatility is at a premium of 0.89% to the index, a reversal of 5.14% from the previous week.

*Above prices are all **HISTORIC VOLATILITIES** and **IMPLIED VOLATILITIES** will be introduced once an options market has been established. All readings refer to closing prices as quoted by CME.*



CENTRAL VALLEY PRECIPITATION REPORT



Central Valley average is calculated using data from 19 weather stations in the Central Valley, California.

Data as of 03/08/2022

STATION	MTD (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF 20 YEAR AVERAGE MTD	2022 WYTD VS 2021 WYTD %	2022 WY VS 20 YEAR AVERAGE TO DATE %
SAN JOAQUIN 5 STATION (5SI)	0.04	0.04	8.11	47	62
TULARE 6 STATION (6SI)	0.05	0.05	49.30	35	58
NORTHERN SIERRA 8 STATION (8SI)	0	0.00	0.00	44	79
CENTRAL VALLEY AVERAGE	0.03	0.03	19.13	42	66

RESERVOIR STORAGE

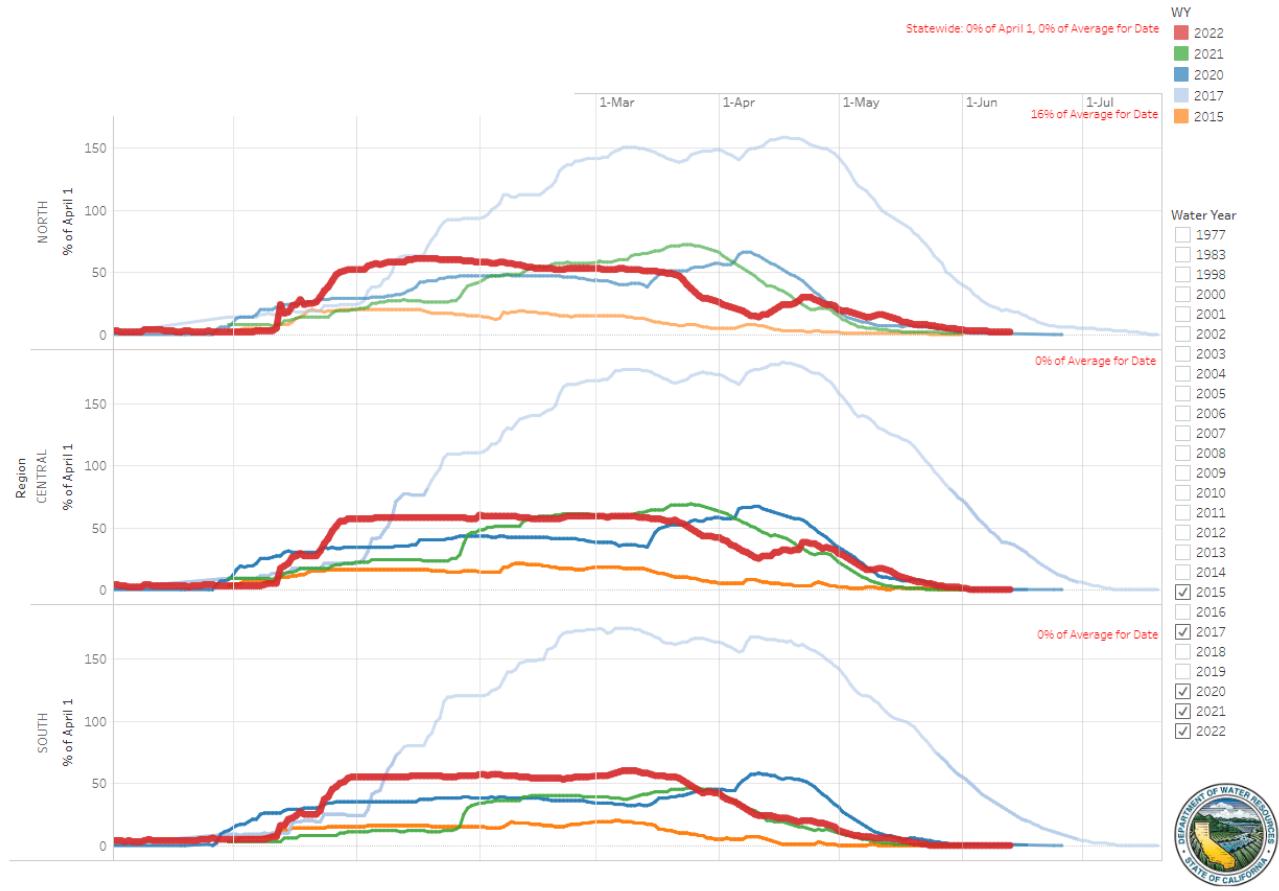
RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	HISTORIC ANNUAL AVERAGE CAPACITY %
TRINITY LAKE	661,929	27	41	38
SHASTA LAKE	1,681,053	37	32	54
LAKE OROVILLE	1,452,965	41	25	62
SAN LUIS RES	643,275	32	20	74

[Reference: California Water Data Exchange](#)



SNOWPACK WATER CONTENT

Snow Water Equivalent Dashboard



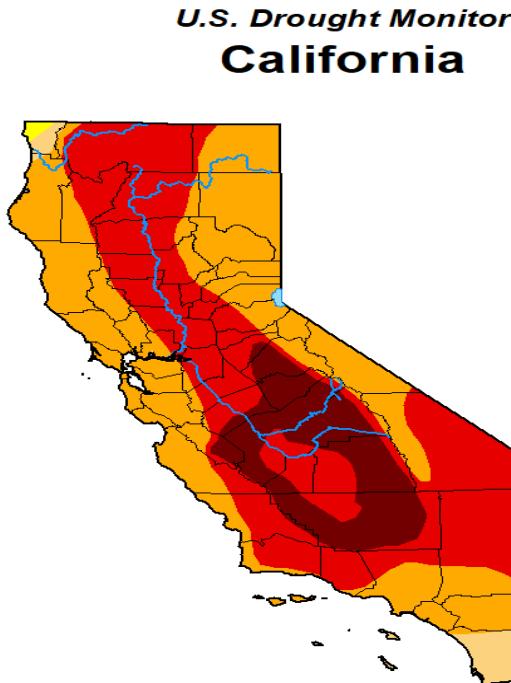
REGION	*SNOWPACK WATER EQUIVALENT (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF AVERAGE LAST YEAR	% OF 20 YEAR HISTORICAL AVERAGE	% OF HISTORICAL **APRIL 1ST BENCHMARK
NORTHERN SIERRA	0.4	0.00	0	16	2
CENTRAL SIERRA	0	0.00	0	0	0
SOUTHERN SIERRA	0	0.00	0	0	0
STATEWIDE	0.1	0.00	0	0	0

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

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



DROUGHT MONITOR



July 26, 2022
(Released Thursday, Jul. 28, 2022)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.78	97.47	59.81	12.74
Last Week 07-19-2022	0.00	100.00	99.78	97.47	59.81	12.74
3 Months Ago 04-26-2022	0.00	100.00	100.00	95.18	40.56	0.00
Start of Calendar Year 01-04-2022	0.00	100.00	99.30	67.62	16.60	0.84
Start of Water Year 09-28-2021	0.00	100.00	100.00	93.93	87.88	45.66
One Year Ago 07-27-2021	0.00	100.00	100.00	95.09	88.59	46.49

Intensity:

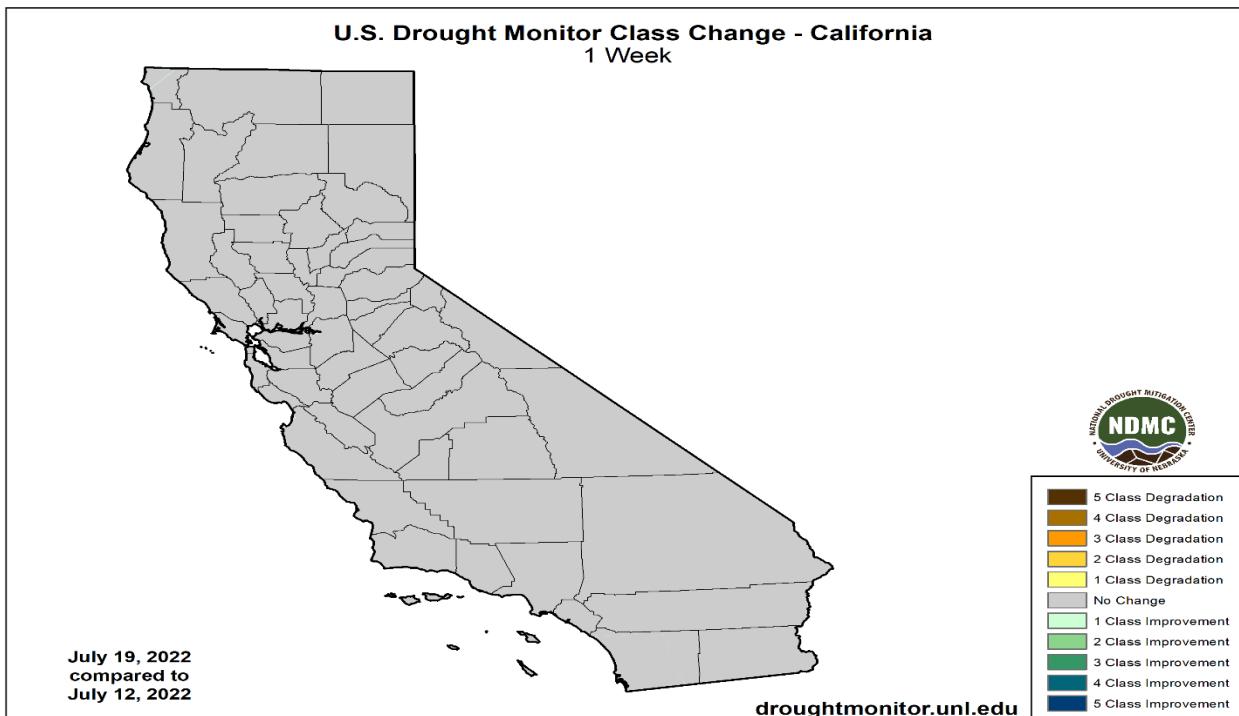
	None		D2 Severe Drought
	D0 Abnormally Dry		D3 Extreme Drought
	D1 Moderate Drought		D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:
Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu

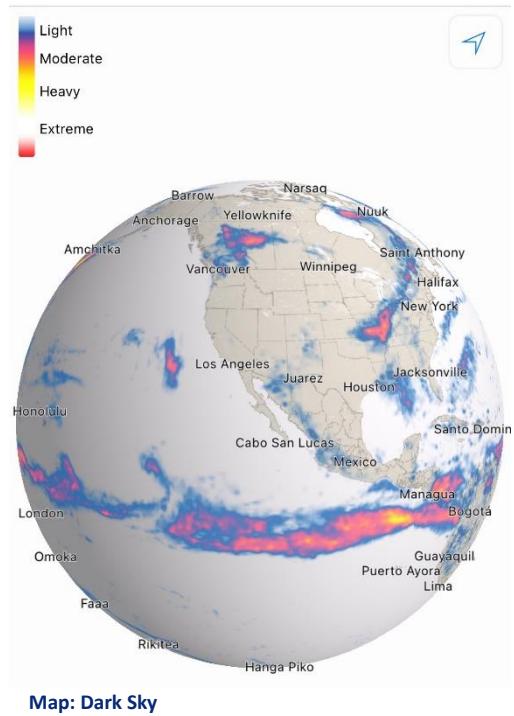


The US Drought Monitor release their statistics with a 1-week lag to this report. Over the past week the has been 0% change in drought conditions in California.

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 current satellite picture shows a Southwestern US. There is some precipitation over the Northwest of Canada but will have very little effect over the US. There is some storm activity to the West of the Carolina's moving Eastwards and extending Northwards in an arc into Eastern Canada.

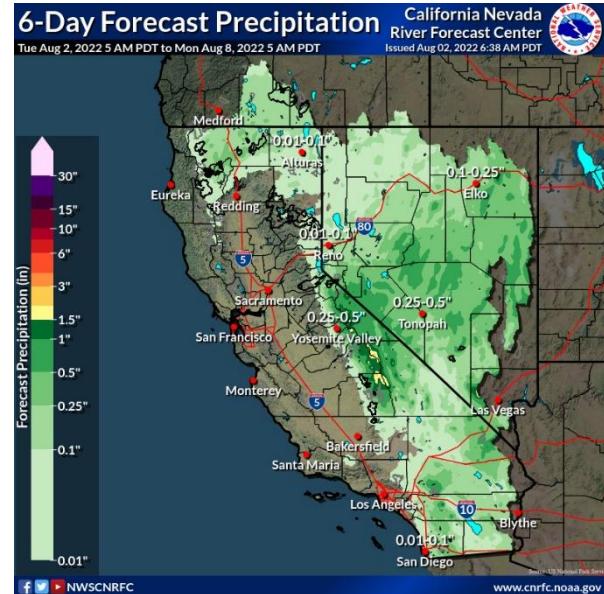
There is still some very significant Monsoonal activity bringing moisture Northwards from Mexico into Arizona, eastern California, and New Mexico.

Some nodes of moisture spin off the equatorial low pressure areas and can move Northwards with the potential to bring precipitation to LA and surrounding regions. So far these have dissipated before reaching the Californian coastline.

We expect Monsoon activity to continue over the next few months.

10 Day Outlook

Through the rest of the week...the up ridge will stay entrenched near the 4-Corners region while the offshore upper low slowly wobbles to the southeast reaching 35N/140W. Also...an up trof over the Gulf of Alaska will make its way toward BC and the Pacific Northwest. Precipitation will continue mainly with late morning through early evening convection over the southern Sierra and points east across southern and eastern NV as well as southeast CA. It does look like moisture may erode a bit on the northern end of the region near the CA/OR border toward the end of the period. 6-Day QPF amounts are greatest over the southern Sierra and points east over NV...generally south of I-80...and then southeast CA.



**WESTERN WEATHER DISCUSSION**

Rainfall from the North American Monsoon over the last few weeks led to some improvements in the drought situation across Arizona and New Mexico, where precipitation deficits lessened. Rain also fell in parts of Nevada, Utah, and eastern California this week. Temperatures were mostly 2-6 degrees above normal in the West region, though scattered areas were within a couple degrees of normal. Precipitation deficit amounts lessened enough for some improvement to ongoing short- and long-term drought in central Montana. Elsewhere, widespread drought continued this week across a large portion of the region.

Reference:

Curtis Riganti, National Drought Mitigation Center
Ahira Sanchez-Lugo, NOAA/NCEI



WATER NEWS

CALIFORNIA WATER NEWS

Worsening Drought Drives California Water Prices to All-Time High

California water prices are at all-time high as a severe drought chokes off supplies to cities and farms across the Golden State.

The price of water on the Nasdaq Veles California Water Index touched \$1,144.14 an acre-foot on June 27 — up 56% since the start of the year. The index tracks the average price of water-rights transactions in five markets in the state.

In some pockets of California, water is even more costly -- hovering around \$2,000 an acre-foot in the Westlands region, according to Sarah Woolf, president of Water Wise, a water brokerage and consultancy based in Fresno. Comprising more than 1,000 square miles of farmland in Central Valley, the Westlands is the largest agricultural water district in the US.

The soaring prices are a reflection of how quickly California's water crisis is escalating, with dire implications for food crops that are almost entirely reliant on irrigation. Historic drought has cut off surface water to even those with the most seniority under California's complex water-rights system, and California Governor Gavin Newsom has declared a state of emergency, ordering water-use restrictions and some curtailments for irrigation districts and farmers.

Prices have never before been so consistently high, Woolf said in an phone interview. "From the agriculture front it's just not sustainable," she said. "I don't know of a crop that can carry water prices like that."

Original Article: [Bloomberg by Mark Chediak and Kim Chipman](#)

Desert groundwater agency to pay \$8,500 per acre foot for valley water rights

The Indian Wells Valley Groundwater Authority in eastern Kern County has signed a "letter of intent" to buy the rights to 750 acre feet of state water for \$6,396,000 from a State Water Project contractor in Kings County.

The purchase is part of the authority's plan to bring that overdrafted groundwater basin into balance.

The seller is Utica J.L.J. LLC, which purchased the Jackson Ranch and is developing a truck stop and industrial center on 400 acres at Utica Avenue and Interstate 5, just south of Kettleman City.

If approved by the groundwater authority, Dudley Ridge Water District and the Department of Water Resources, this would be a permanent water sale – not a one-time purchase.

VELES WATER WEEKLY REPORT



Cost per acre foot would be \$8,528.

That's a 55% increase in price since the last time state water out of Dudley Ridge was permanently sold in 2009. Back then, John Vidovich sold 14,000 acre feet of his State Water Project contract water to the Mojave Water District in Apple Valley for \$5,500 per acre foot, or \$77 million.

The Indian Wells Valley Groundwater Authority isn't a State Water Project Contractor but it could work out a deal for an existing contractor to take and store the Dudley Ridge Water on its behalf.

The authority has been in discussions with the Antelope Valley-East Kern Water Agency to make such a deal. Though nothing has been settled, the agencies are starting a feasibility study to look at extending an existing AVEK pipeline from California City 50 miles north to the Indian Wells Valley using a \$7.6 million grant from DWR.

Assuming the Dudley Ridge water purchase goes through, this would be just the beginning for the desert basin, said the authority's attorney Keith Lemieux.

Given environmental and other constraints on the State Water Project's ability to deliver contractors' full allotments, the reliability of the 750 acre feet of water brings it closer to 400 acre feet a year on average, Lemieux said.

That's a drop in the bucket of what the authority needs. The valley only has 7,600 acre feet of natural flow every year while nearly 28,000 acre feet is pumped out, prompting some to deem it "the most upside down" basin in the state.

Those numbers are why the authority imposed a hefty "replenishment fee" of \$2,130 per acre foot charged to all groundwater pumpers in the basin over the next five years. It's anticipated the fee will raise \$50 million, which the authority will use to buy and import more water.

It also imposed strict groundwater allocations that will take agriculture from its current 62% of the area's total groundwater use down to 0% by 2040. That's when the Sustainable Groundwater Management Act, which prompted these actions, is fully implemented.

Meanwhile, the City of Ridgecrest received \$2.5 million from the State Water Resources Control Board toward a wastewater recycling facility that is hoped will provide 2,000 acre feet a year that can be injected back into the aquifer.

Though DWR gave the authority's groundwater sustainability plan its seal of approval back in January, the basin is still mired in legal uncertainty.

Two groundwater users filed lawsuits against the plan based on the replenishment fee. Mojave Pistachios and Searles Valley Mineral, both sued to stop the fee but in late May an Orange County judge denied their request for injunction. Neither entity has paid into the replenishment fee, Lemieux said.

The Indian Wells Valley Water District also filed a suit seeking a "comprehensive adjudication" of water rights in basin, which could reconfigure who has rights to how



much groundwater, a fundamental underpinning of the groundwater sustainability plan. The water district has consistently paid the replenishment fee. Original Article: [SJV Water by Lois Henry](#)

State can seek environmental safeguards for Oroville Dam beyond federal regulations, California Supreme Court rules'

The state Supreme Court allowed local governments and conservation groups Monday to ask the state for further safety measures and environmental safeguards at the Oroville Dam despite federal authority to license the facility, where a breach and spill forced 188,000 people to evacuate their homes in 2017.

The ruling will not interrupt operations at the nation's tallest dam, a 770-foot structure on the Feather River in Butte County. But the 5-2 decision enables California water officials to conduct additional review, under state environmental laws, of the dam and other federally regulated water projects.

"This has far-reaching consequences," said E. Robert Wright, a Sierra Club attorney whose clients in the case also included the Center for Biological Diversity and Friends of the River. He said the court allowed the state Department of Water Resources to use California law to evaluate impacts on public safety, "as well as other environmental effects such as loss of endangered and threatened fish species, when DWR applies (to the federal government) for dam licensing or re-licensing."

The majority opinion by Justice Goodwin Liu said licensing of dams by the Federal Energy Regulatory Commission does not prevent a state from assessing a project under its own environmental laws. The dissent by Chief Justice Tani Cantil-Sakauye said any such evaluation under state law is "a clear obstacle to the congressional objective of vesting exclusive control over hydropower licensing and regulation to FERC."

Oroville Dam, which stores water for millions of Californians, is operated by the state under a federal license whose 50-year term expired in 2007, but it has remained open under annual licensing agreements since then. The state Department of Water Resources negotiated new operating conditions with some local agencies and advocacy groups in 2008, but officials in Butte and Plumas counties said more restrictions were needed and were joined by environmental groups in the current court challenge.

The federal agency has approved the annual licenses but has not yet issued a new long-term license.

During heavy rains in February 2017, a large hole opened in the dam's main spillway, which was being used to release water, and an emergency spillway was also breached, forcing hurried evacuations of downstream communities. No major flooding occurred. An independent investigation ordered by the state found that the dam had weak concrete, poor drainage and a history of shoddy maintenance.



California considers 72km tunnel to protect water supplies

A preferred route has been identified for a 72km tunnel to transfer water across the California Delta.

The US state's Department of Water Resources published a draft environmental impact report detailing its proposals for the new pipeline in the region inland from San Francisco.

Under the plans, intake points would be built on the Sacramento River in the north of the Delta area then linked by 12m-diameter tunnel to Bethany Reservoir further south. Californian officials said the project was necessary to increase resilience to seismic risk, sea level rise and "other foreseeable consequences of climate change and extreme weather events".

More than 97% of the state is currently listed by a national monitor as being in "severe drought", with over half its land suffering from "extreme drought" whereby fires start all year round and water is inadequate for livestock and wildlife.

The delta tunnel project, which would reportedly cost in excess of £12bn, is not without its controversy.

According to the latest impact assessment, it would require removal of 71 structures including 15 homes, as well as converting almost 950ha of "important farmland" to incompatible use.

Works would also impact 13 archaeological resources and have "potentially significant impacts" on certain species of fish.

Construction noise could exceed daytime thresholds at more than 150 homes, and sound insulation would be offered to residents.

However, officials found that the chosen Bethany Reservoir Alignment was the most appropriate route for the tunnel for reasons including that it would have the least impact on agricultural land, cultural resources, wetlands and waters.

They said the proposed north Delta intake locations were not vulnerable to salinity intrusion from sea-level rise and had been designed to withstand 200-year flood flows on top of a 3m sea-level rise.

A consultation period is now underway before any final decisions are taken on the project.

Metropolitan Water District of Southern California chair Gloria Gray said the publication on the report marked "an important step" towards safeguarding "a vital source of water" for residents.

"As we move forward, it will be important to connect with tribes, environmental groups, business and labour organisations, as well as other stakeholders, to get the critical feedback we need to address our water supply challenges," she added.



“It will require all of us working together to not only modernise the conveyance of supplies from Northern California, but also develop more local supplies, storage and conservation to ensure we are successful in preparing for future droughts and climate change.”

Original Article: [GEPlus by Greg Pitcher](#)

Can Newsom finally win long Delta water conflict?

Will the fifth time be the charm for California’s decades-long effort to replumb the Sacramento-San Joaquin Delta so that more Northern California water can be transported to Southern California?

Don’t count on it.

Last week, the state Department of Water Resources released a draft environmental impact report on the latest iteration of the 57-year-long effort to change the Delta’s role in water supply, a 45-mile-long tunnel officially named the “Delta Conveyance.”

The 3,000-page document immediately drew the responses that have accompanied past versions — big municipal and agricultural water agencies were in favor of it because it would, they hope, increase water deliveries south of the Delta, and environmentalists were against it, saying it would further damage the Delta’s already bruised ecosystem. That fundamental conflict has tied up the project in its various forms ever since it was first proposed in 1965 as a “peripheral canal” to complete the California Water Project (CWP).

The CWP is primarily a massive dam on the Feather River whose reservoir feeds water into the Sacramento River and the California Aqueduct, which pulls water out of the southern edge of the Delta for shipment southward. They were still under construction when the peripheral canal was proposed and without it, water managers said, the CWP could not deliver on its promises to downstate water agencies.

The canal would have diverted water out of the Sacramento River south of Sacramento and carried it 43 miles around the Delta to the head of the California Aqueduct near Tracy. Pat Brown, the CWP’s political champion, was still governor when the canal was first proposed and his son, Jerry, took up the cause upon becoming governor a decade later.

The younger Brown pushed hard for legislative approval of the project, arguing that it would improve the Delta habitat by avoiding the negative effects on flows caused by the California Aqueduct’s massive pumps.

Twisting arms and promising public works projects for holdout legislators, Brown finally won approval of a peripheral canal bill, only to see it repealed in a 1982 referendum.

Environmental groups formed a strange bedfellows alliance with big agribusiness interests, which believed the canal would not deliver enough water, on the successful campaign to reject the project.

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The two Republican governors who followed, George Deukmejian and Pete Wilson, made fitful efforts on alternatives, such as a “through-Delta” canal or agreements that would deliver more water while improving the Delta’s habitat. Those efforts failed and the Democrat who succeeded Wilson, Gray Davis, clearly didn’t want to touch the issue — having witnessed the conflict up close as Jerry Brown’s chief of staff.

However, after Davis was recalled in 2003, Republican successor Arnold Schwarzenegger gave it a new try, working out a scheme to replace the peripheral canal with twin tunnels that, at least on paper, could be built without legislative or voter approval.

Jerry Brown inherited the twin tunnel plan when he returned for another stint as governor in 2011 but couldn’t get it done before departing. Immediately upon becoming governor in 2019, Newsom tossed out the twin tunnels in favor of a single one, thereby setting the stage for last week’s action.

“The governor is committed to getting this project essentially in a place where it’s getting built by the end of this administration,” Wade Crowfoot, Newsom’s resources secretary, said.

Fat chance.

The project still has a lot of blanks to be filled, including a cost estimate, a list of water agencies willing to commit to repaying bonds to build it and a potentially infinite number of legal challenges from opponents.

It also has 57 years of history to overcome.

Original Article: [Cal Matters by Dan Walters](#)

AVEK approves transfer of water to Waterworks

The Antelope Valley Watermaster, on Wednesday, approved transferring some of the Antelope Valley-East Kern Water Agency’s 2022 groundwater allocation to Los Angeles County Waterworks District 40 to supply its customers in the Valley.

The Watermaster is the body tasked with overseeing the 2015 court settlement that set limits on groundwater pumping for users across the Valley. As such, it governs transfers of the rights to pump water between parties.

The adjudicated area governed by the court judgment covers approximately 1,390 square miles of the underlying groundwater basin encompassing the bulk of the Antelope Valley. AVEK and Los Angeles County Waterworks District 40 are represented on its Board of Directors.

AVEK is a supplemental water supplier for water providers across the Valley, such as District 40, which serves more than 57,000 connections Valleywide.

AVEK and Waterworks District 40 entered into a lease agreement to transfer annual groundwater production rights, in February 2015, before the adjudication of the basin was finalized, 10 months later, according to the staff report by Katherine White, of the Watermaster Engineer firm, Todd Groundwater.

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The Agency has transferred water to District 40, each year, beginning in 2016, in amounts of approximately 2,600 acre-feet, each year, according to the staff report. As of June 2020, this amounted to a total of 13,058 acre-feet.

An acre-foot of water is equal to 326,000 gallons; a family of four uses an average of 190,000 gallons of water, each year.

For 2022, the Watermaster approved transferring just under 2,622 acre-feet of groundwater from AVEK to District 40, the same amount approved, in 2021.

The transfer means that the District 40 wells in the Antelope Valley will pump the water, rather than AVEK's wells.

At the start of the year, AVEK had 3,550 acre-feet worth of groundwater pumping rights for the year, enough to cover the transfer to District 40. The agency also has additional groundwater pumping rights in carryover from the previous year and in credits for imported water used. These additional rights amount to about 6,112 acre-feet, according to the staff report.

District 40 has more than 60,000 acre-feet of groundwater for use, in 2022, and has typically pumped between 16,000 and 20,000 acre-feet groundwater, each year, since 2011, according to the staff report.

Although the wells District 40 plans to use to extract the water are in the central Antelope Valley, where there is an area where the ground has sunk as a result of pumping out water from the aquifer beneath, the Watermaster Engineer's analysis found that the issue can be managed and mitigated by pumping from across the large area of the District's wells, White said.

Original Article: [Antelope Valley Press by Allison Gatlin](#)

AVEK develops another water bank

As the ongoing drought has shown, storing water during wet, rainy years is crucial to ensure supplies during the inevitable dry years.

To that end, the Antelope Valley-East Kern Water Agency is developing another water bank, in which surplus water imported from Northern California, through the State Water Project, is stored underground, to be retrieved as needed, through wells.

The High Desert Water Bank is on a 1,500-acre site on the Valley's western side, roughly between 280th Street West and 300th Street West and between the California Aqueduct and Avenue A. Water to be stored in the bank will be collected from the adjacent aqueduct and the aqueduct can be used to distribute stored water that has been recovered.

Water to be stored will be spread in recharge basins and allowed to percolate to the aquifer bellow.

It will be capable of storing a total 280,000 acre-feet of water and can take in and produce 70,000 acre-feet annually, Paul Chau of consultants Kennedy Jenks said, on

VELES WATER WEEKLY REPORT



Wednesday, during a presentation before the Antelope Valley Watermaster Board of Directors.

An acre-foot of water is equal to 326,000 gallons and a family of four uses an average of 190,000 gallons of water, each year.

Once operational, up to 90% of the total water stored can be removed for use, with the remainder staying behind to support the aquifer.

AVEK, which will operate the water bank, is partnered with the Metropolitan Water District. MWD is providing capital funding and will be providing water to the bank, Chau said. AVEK will have second priority for storing water in the bank, behind MWD.

Construction has begun on about 632 acres of recharge basins, he said.

"We're in the middle of a pretty heavy construction period here," he said, with the first 200 acres of recharge basins expected to be completed, in May.

The entire recharge basin area is scheduled to be completed by the end of 2024.

"Hopefully we'll have a nice wet year coming up here to start recharge activities," Chau said.

Construction on the system of wells to pull stored water from the bank is underway and is expected to be completed in December 2025, he said.

Construction is also underway on the turnout connection to the California Aqueduct.

The site will have environmental set-asides for wildlife and berms to convey heavy runoffs in case of storms.

Later this month, AVEK will submit a storage agreement for approval to the Watermaster, the body tasked with overseeing the 2015 court settlement that set limits on groundwater pumping for users across the Valley and monitoring the health of the underground aquifer.

Original Article: [Antelope Valley Press by Allison Gatlin](#)

California Department of Water Resources (DWR) Releases Draft Environmental Impact Report for Delta Conveyance Project

The California Department of Water Resources (DWR) on Wednesday released the Draft Environment Impact Report (Draft EIR) for the Delta Conveyance Project, marking an important step in evaluating a key strategy to adapt to a changing climate and provide clean, reliable water for future generations.

The release of the Draft EIR gives the public an opportunity to formally weigh in on a proposed infrastructure modernization project that has been significantly changed in response to public comment. The proposal follows Governor Newsom's direction in 2019 to downsize previous concepts for improving Delta conveyance.

"Two out of three Californians rely on the State Water Project for all or part of their water supply," said DWR Director Karla Nemeth. "Modernizing this infrastructure is essential to adapting to a future that includes more frequent extremes of drought and flood, and greater water instability."



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If the project had been operational during the big storms in October and December of 2021, DWR could have captured and moved about 236,000 acre-feet of water. That is enough for about 2.5 million people for a year. If approved after completion of the environmental review process, the project will also help California manage through periods of severe drought like the one the state is experiencing now. Nemeth noted that the proposed project has been refined, redesigned and rerouted as a result of public input and the Governor's 2019 direction.

"We took a fresh look at everything. Changing from two tunnels to one opened the door to many creative design and engineering innovations," she said.

California faces a hotter and drier future with more frequent and extreme droughts and floods. Water captured from the Sierra Nevada snowpack will need to be managed and used more efficiently, requiring investments in water recycling, water storage and clean and sustainable groundwater basins.

The Delta Conveyance Project is intended to help ensure the State Water Project can capture, move, and store water by making the most of extreme storm events that are becoming more frequent with California's changing climate.

The preliminary design of the proposed project and alternatives outlined in the Draft EIR reflect the work of the Delta Conveyance Design and Construction Authority (DCA), a joint powers authority of local public water agencies participating in the project.

"We brought world class engineering and design creativity to the effort," said DCA's Executive Director Graham Bradner. "We sought input from the community to understand local effects and focused on ways to avoid or minimize issues related to noise, traffic, power, aesthetics, boating and waterways, land disturbance and the overall project footprint."

The Draft EIR was prepared by DWR as the lead agency to comply with the requirements of the California Environmental Quality Act by evaluating a range of alternatives to the proposed project and disclosing potential environmental effects of the proposed project and alternatives, and associated mitigation measures for potentially significant impacts. No decisions will be made on whether to approve the project until the conclusion of the environmental review process, after consideration of public comments submitted on the Draft EIR and issuance of a Final EIR. At that time, DWR will determine whether to approve the proposed project an alternative or no project.

Original Article: [Sierra Sun Times](#)

**As West burns, House passes major drought and wildfire resilience package**

The Western U.S. saw wildfire season kick into high gear last week. As firefighting crews made progress toward containing a blaze in Yosemite National Park in California, another fire erupted near the Oregon border and quickly became the largest California wildfire of the year. Flames also tore through tens of thousands of acres in northern Montana and eastern Idaho.

On the other side of the country, in swampy but fire-free Washington, D.C., Democratic lawmakers were feeling the heat. The U.S. House of Representatives passed a sweeping package of bills to bolster wildfire response and drought resilience on Friday. The 49-bill package was sponsored by Joe Neguse, a Democratic representative from Colorado who has devoted his short career in Washington to wildfire prevention policy, and passed largely along party lines.

One of the bill's headline provisions would increase the minimum wage for wildland firefighters employed by the U.S. Forest Service to \$20 per hour and allow them paid mental health leave. Federal firefighters are paid significantly less than their state-employed counterparts, and the agency has struggled with low retention rates. NPR reported in May that Forest Service vacancies were highest in the Pacific Northwest and California. The bipartisan infrastructure law that Congress passed last year temporarily raised the minimum wage for federal firefighters; this bill would make the pay hike permanent.

In addition to bolstering the government's capacity to fight fires when they happen, the package contains a slew of measures that would address prevention and recovery. It would authorize \$500 million for initiatives to remove dead trees and vegetation that have accumulated in forests due to a long history of fire suppression. It would also fund intentional, controlled fire projects that clear out overgrowth, which are known as prescribed burns. The package aims to train more people to manage prescribed burns with the creation of new "prescribed fire centers." To restore ecosystems that have been impacted by past fires, the legislation would also establish a new "burned area recovery account" authorized at \$100 million per year. The funds would be prioritized for projects that enhance public safety and protect water resources.

Protecting and shoring up water resources are major themes across the board in the package. It would boost funding for water recycling and reuse programs. There's funding for desalination research and project development, which would help cities and states that are looking to suck up seawater, strip it of salty minerals, and use it to replenish groundwater supplies. It would authorize the Interior Department to spend \$500 million on efforts to preserve water levels in Lake Mead and Lake Powell, two major reservoirs with hydroelectric dams that store water and generate power for much of the West. It would also include a competitive grant program for clean water access projects that benefit Native American tribes. And it would create a new grant program at the

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Environmental Protection Agency to pay for states to establish incentives that help homes and businesses install more water-efficient appliances.

Only one House Republican voted for the bill, and other Republicans attacked it for authorizing new spending and for not reforming environmental review processes that inhibit forest thinning projects.

The White House was also somewhat lukewarm on the package. In a statement that asserted the Biden administration's support for the bills, the Office of Management and Budget also suggested that some of the policies advanced were redundant. "The Administration appreciates the interest of Congress in the Administration's efforts to address climate change and its effects on wildfires and drought," it said, but it "would like to work with the Congress to ensure the many provisions in the Act avoid duplication with existing authorities and Administration efforts."

The legislation faces an uncertain future in the Senate, which has recently turned its attention to a different climate-related package — a spending bill called the Inflation Reduction Act. Alongside a cornucopia of clean energy tax credits that experts say will help the country achieve its emission goals, that package would appropriate \$1.8 billion over the next decade for removing hazardous fuels from federal forests.

Original Article: [Grist by Emily Pontecorvo](#)

Long standing water issues to be addressed with state authorities

The Mohave County Board of Supervisors is pushing forward on its efforts to protect the region's diminishing water supply, and now Arizona water authorities are paying attention.

And for some members of the county's governing board, that attention may sometimes have felt lacking. The county ratified and approved two letters on Monday to Arizona Department of Water Resources Director Thomas Buschatzke, addressing concerns as to the Hualapai Groundwater Sub-basin and possible future transfers of Colorado River water rights to Central Arizona.

Original Article: [Todays News Herald Havasu News by Brandon Messick](#)

Practical, Pure, Potable

Advanced purified water first flowed from Pure Water Oceanside on Dec. 30, 2021, making the site the first operational indirect potable reuse (IPR) facility in San Diego County, Calif. The project treats the City of Oceanside's wastewater flows and, after additional residence time in the ground and further treatment, will distribute the finished purified drinking water to city customers later this summer.

The \$71 million project took eight years of planning and two years of construction during the height of the coronavirus pandemic. The facility is able to produce anywhere from 3 to 4.5 million gallons daily (MGD). Through the implementation of Pure Water

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Oceanside, the city is able receive over 30 percent of its water supply from the local groundwater basin.

In 2009, the Oceanside City Council set a goal of a 50 percent local water supply by 2030. During the next several years, the city contemplated several locally-sourced water supply options, including ocean desalination and IPR. The ambitious 2009 goal would decrease the city's dependence on imported water at a time when this source accounted for 89 percent of Oceanside's water supply.

Before the project began, Oceanside's imported water traveled hundreds of miles away from the Colorado River and the Bay Delta located in Northern California. This imported water is subject to rising costs not under the city's control, requires an enormous amount of energy to transport, and is vulnerable to natural disasters like earthquakes — with so much reoccurring drought in California, importing would be unsustainable. Furthermore, diverting water from the Colorado River and Bay Delta affects the sensitive ecosystems on which fish and other wildlife depend, providing another reason to create a reliable source of water to the area.

The city is fortunate to have a naturally occurring underground aquifer, called the Mission Basin. Historically, this underground aquifer has supplied the city with between 10 and 15 percent of local potable water.

However, the amount of water stored within the aquifer and its quality began decreasing from years of use and drought. The water pulled from the aquifer is treated at the city's Mission Basin Groundwater Purification Facility through reverse osmosis (RO) to treat the brackish groundwater, reducing salt concentrations. Additional treatment removes iron and manganese.

In close proximity to the groundwater treatment plant is another city-operated facility, the San Luis Rey Water Reclamation Facility, which treats wastewater to the secondary level with conventional biological treatment followed by clarification. This plant sends treated wastewater through additional filtration and disinfection, which allows the water to be used to irrigate golf courses, parks, and street landscaping. Additional plant discharges are released to the Pacific Ocean.

The city also uses energy from a solar farm and a cogeneration facility located at the same wastewater treatment facility site. The energy helps to offset the daily energy demand needs for facility operations. A future planned project will also introduce food scraps into a wastewater digester to bolster biogas production and optimize cogeneration operations.

Original Article: [Water World](#)

Water monitoring trial programme for drought-stricken Texas cities

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Texan Cities and counties affected by Texas governor Greg Abbott's recent drought disaster declaration are being offered a risk-free 90-day trial of a water monitoring solution to help reduce water loss.

Olea Edge Analytics announced its smart water management platform is available for utilities facing exceptional drought conditions, including the Houston, Austin and San Antonio metro areas.

Imminent disaster

On 8 July, Abbott issued a drought disaster declaration because "exceptional drought conditions pose a threat of imminent disaster". The impacted areas include the cities of Houston, Austin, San Antonio, and Fort Worth and cover 164 of Texas' 254 counties.

Olea said it is asking municipal leaders to take immediate action as triple-digit temperatures dry up bodies of water and damage crops. With water levels dropping, utilities with at least 1,000 large meters (2 inches and larger), it claims, can benefit from greater visibility into the performance of these assets, ensuring every drop of water is accounted for.

Olea reports a pilot programme with the City of Irving identified performance issues with 70 per cent of meters tested.

"As a Texas company, we're seeing first-hand the effects of this brutal drought across the state," said Dave Mackie, CEO of Olea Edge Analytics.

"We want to issue this as a call to action so that cities and counties can quickly address declining water levels. In a matter of weeks, utilities can identify the most critical performance problems, prioritise repairs and prevent the loss of millions of gallons of water."

According to Olea, its platform focuses on the health of large commercial and industrial water meters, which can lose accuracy by more than 10 per cent per year under normal conditions. Cities have a responsibility to keep these meters working correctly as they can account for 40-60 per cent or more of a utility's annual revenue.

Through Olea's AI-based edge computing technology, utilities have "never-before-seen" insights into the health of their largest revenue generators, enabling utilities to achieve a new level of commercial meter performance and dramatically reduce water loss.

Original Article: [Smart Cities World](#)

**Vice President Kamala Harris to announce \$1 billion to states for floods, extreme heat**

The White House is making more than \$1 billion available to states to address flooding and extreme heat exacerbated by climate change.

Vice President Kamala Harris is set to announce the grant programs Monday at an event in Miami with the head of the Federal Emergency Management Agency and other officials. The competitive grants will help communities across the nation prepare for and respond to climate-related disasters.

“We know that the impacts of the climate crisis are here, and that we must invest in building resilience to protect our communities, infrastructure and economy,” the White House said in a statement.

The announcement comes as the death toll from massive flooding in Kentucky continued to climb on Sunday amid a renewed threat of more heavy rains. In the West, wildfires in California and Montana exploded in size amid windy, hot conditions, encroaching on neighborhoods and forcing evacuation orders.

Multiple Western states continued heat advisories amid a prolonged drought that has dried reservoirs and threatened communities across the region.

Harris will visit the National Hurricane Center for a briefing by the National Oceanic and Atmospheric Administration and FEMA. She also will visit Florida International University, where she is expected to address extreme weather events across the country, including the flooding in Kentucky and Missouri and the wildfires in California. President Joe Biden announced last month that the administration will spend \$2.3 billion to help communities cope with soaring temperatures through programs administered by FEMA, the Department of Health and Human Services and other agencies. The move doubles spending on the Building Resilient Infrastructure and Communities, or BRIC, program, which supports states, local communities, tribes and territories on projects to reduce climate-related hazards and prepare for natural disasters such as floods and wildfires.

“Communities across our nation are experiencing first-hand the devastating impacts of the climate change and the related extreme weather events that follow — more energized hurricanes with deadlier storm surges, increased flooding and a wildfire season that’s become a year-long threat,” FEMA head Deanne Criswell said.

The funding to be announced Monday will “help to ensure that our most vulnerable communities are not left behind, with hundreds of millions of dollars ultimately going directly to the communities that need it most,” Criswell said.

A total of \$1 billion will be made available through the BRIC program, with another \$160 million to be offered for flood mitigation assistance, officials said.

Jacksonville, Florida, was among cities that received money under the BRIC program last year. The city was awarded \$23 million for flood mitigation and stormwater infrastructure. Jacksonville, the largest city in Florida, sits in a humid, subtropical region

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along the St. Johns River and Atlantic Ocean, making it vulnerable to flooding when stormwater basins reach capacity. The city experiences frequent flooding and is at risk for increased major storms.

The South Florida Water Management District in Miami-Dade County received \$50 million for flood mitigation and pump station repairs. Real estate development along the city's fast-growing waterfront has created a high-risk flood zone for communities in the city and put pressure on existing systems, making repairs to existing structures an urgent need, officials said.

The Biden administration has launched a series of actions intended to reduce heat-related illness and protect public health, including a proposed workplace heat standard.

Original Article: [CNBC/ AP](#)

State of emergency declared for Las Vegas over threatened water supply

Governor Michelle Lujan Grisham signed executive orders Friday, declaring a state of emergency in Las Vegas, New Mexico. The orders were signed due to the area's drinking water being threatened by flash flooding at the Hermits Peak, Calf Canyon burn scar.

The orders make \$2.25 million in emergency funding available to prevent more damage, repair public infrastructure and anything that can help recovery time related to the wildfire and burn scar flooding. The emergency funds will also allow the city to set up a temporary pre-treatment system that will allow the city to treat water from Storrie Lake. Officials say the city still has about two-months supply of safe drinking water.

The burn scar from the wildfire left ash and debris along the Galinas River watershed, which is the city's primary water source. "The contaminated water flow from the Gallinas caused by the wildfire damage to our watershed has compromised the availability of water to the Las Vegas municipal water system. Rest assured that the city will be holding the federal government responsible for our current situation," Las Vegas Mayor Louie Trujillo said in a release.

Officials say the city's utility staff is closely monitoring water quality. The state and city are working together to find solution to keep drinking water safe from continued burn scar flooding.

Original Article: [KRQE News by Issac Cruz](#)



Water sector debt risks market crisis warns watchdog

Water utilities loaded with debt are at a growing risk of collapse as interest rates rise, argued David Black, chief executive of Ofwat.

The boss of the industry regulator revealed feared that utilities have piled on debt could go under, piling further pain on households at a time when bills are already soaring.

Black told The Sunday Times that Ofwat was keeping a close eye on the impact of rapid rate increases from the Bank of England, which could heap costs on highly leveraged water companies.

Commenting on the affects of interest rates, he said: “We tend to see the cost of poor investment grade debt, or poor-quality debt, go up faster than the cost of higher-rated debt. So, water companies that are in a poor financial position will experience escalating costs of debt faster than better-financed companies.”

Water companies have attracted widespread criticism for loading up on debt while paying large dividends to their shareholders — many of them based overseas — but failing to resolve leaks or sewage spills.

Ofwat has opened enforcement cases against six water companies in partnership with the Environmental Agency, amid concerns of unauthorised leaks into rivers.

Earlier this week, Ofwat revealed plans to clamp down on dividends, limiting pay-outs for companies with the lowest credit ratings.

It argues that its policy on curbing pay-outs to water company owners “will reinforce the link between performance and dividends.”

This follows Ofwat being granted new powers last year to clean-up the water sector.

The proposals will remain open for consultation until September 29.

Net debt in the water sector topped £56bn last year, and Black’s warnings raise the prospect of a Bulb Energy-style failure in the water industry.

The energy supplier collapsed last November, and fell into special administration, where it has been propped up by billions in taxpayer funds.

If a water company failed, it would also go through a comparable process.

One of the most indebted firms, Thames Water, took steps to secure its finances last month with a £1.5bn boost in equity from shareholders.

Earlier this month, the Environment Agency published a damning report, recommending that company directors should jailed if they fail to meet their responsibilities to clean up rivers.

Emma Boyd, the agency’s chairwoman, said performance on pollution had “hit a new low.”

She said: “Company directors let this happen. We plan to make it too painful for them to continue like this.”



The warning on rates comes as the Bank of England is expected to raise rates from 1.25 per cent by as much as 50 basis points, as it seeks to tame inflation that is running at 9.4 per cent.

Original Article: [City A.M by Nicholas Earl](#)

\$1.8 billion plan to help save Murray Darling river system set to fail

An independent report has found the \$1.8 billion fund to restore the health of Australia's biggest river system is failing due to rule changes championed by the Nationals in 2018 to block farmers from selling their irrigation rights.

Prime Minister Anthony Albanese pledged in the May election campaign to deliver the Murray Darling Basin Plan in full, but reversing the rule changes to recover the required volume of water for the environment will cause a clash between the federal government and the NSW and Victorian state governments, which backed the Nationals at the time. An acutely drier future looms for the inland river basin, the CSIRO has forecast water inflows to some major water courses will plummet up to 60 per cent by 2060 as global warming drives an overall drying trend in southeastern Australia.

The independent review, commissioned by the federal government, was released on Tuesday as environmental groups pump up pressure on Labor to complete the basin plan.

One element of the plan is a \$1.8 billion fund to recover 450 gigalitres of water, about the volume of Sydney Harbour, through voluntary water efficiency projects by private irrigators. It set a June 30, 2024 deadline for water recovery, which falls within this term of government.

Murray Darling drying dramatically but water reforms not flowing

But the report, prepared by an expert panel appointed by the former Morrison government, found reforms championed by the Nationals in 2018 made it impossible to recover all the 450 gigalitres – regardless of how much time and money is made available.

"It is not possible to reach the 450 gigalitres target through the current [program] even if the time and budget limits were removed," the report said.

It found up to 60 gigalitres could be recovered by the 2024 deadline under the current rules, and it would cost between \$3.4 billion and \$10.8 billion to recover the full 450 gigalitres under any timeframe.

Original Article: [The Sydney Morning Herald by Mike Foley](#)

It's poison, not water! Govt data shows toxic metals in groundwater

The government has accepted in Parliament that the quality of water in the country is deteriorating. The figures given by the government in the Rajya Sabha are not only shocking, but also intimidating. As per these figures, the water that we have been



drinking till now is 'poisonous'. Most of the districts, of almost all the states, of the country were found with excess amounts of toxic metals in the groundwater.

THE FIGURES

- In some parts of 209 districts of 25 states, the amount of arsenic in groundwater is more than 0.01 mg per liter.
- In some parts of 491 districts of 29 states, the amount of iron in groundwater is more than 1 mg per liter.
- In some parts of 29 districts of 11 states, the amount of cadmium in groundwater has been found to be more than 0.003 mg per liter.
- In some parts of 62 districts of 16 states, the amount of chromium in groundwater is more than 0.05 mg per liter.
- There are 152 districts in 18 states where more than 0.03 mg per liter of uranium has been found in the ground water.

According to a document of the Ministry of Jal Shakti , more than 80 per cent of the country's population gets water from the ground. Therefore, if the amount of hazardous metals in groundwater exceeds the prescribed standard, it means that the water is becoming 'poison'.

In the Rajya Sabha, the government has also given the number of residential areas where the sources of drinking water have become polluted. According to this, 671 areas are affected by fluoride, 814 areas with arsenic, 14,079 areas with iron, 9,930 areas with salinity, 517 areas with nitrate and 111 areas with heavy metals.

The problem is more serious in the villages than in the cities, as more than half of India's population lives in villages. The main sources of drinking water here are hand pumps, wells, rivers or ponds. Here, water comes directly from the ground. Apart from this, there is usually no way to clean this water in villages. Therefore, people living in rural areas are forced to drink poisonous water.

Original Article: [India Today](#)

National hosepipe ban urged to avoid bottled water crisis as Britain braces for drought

A national hosepipe ban should be implemented to avoid a bottled water crisis as the UK braces for a drought, industry leaders have said.

The National Infrastructure Committee (NIC) has said water needs to start being managed better across the UK, otherwise the country could face a future of queueing for emergency bottled supplies "from the back of lorries".

The government also needs to invest around £20 billion in the nation's water supply equipment, NIC chairman Sir John Armitt told The Observer.

"You have to pay for (water), one way or another," he said.

"That could be investing in new reservoirs or moving water around the country, as well as stopping leaks."

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The committee's warning – which has been backed by the Rivers Trust – comes as the first hosepipe ban of the year comes into force following the recent heatwave and one of the driest starts to the year on record.

Southern Water is to impose the temporary use ban on its customers in Hampshire and the Isle of Wight from Friday August 5.

This will mean hosepipes cannot be used to water gardens or clean cars, and ornamental ponds and swimming pools must not be filled.

The restriction is the first to be put in place in the region since 2012, with Southern Water saying river flows are down 25% as a result of one of the driest years on record.

A hosepipe ban was also introduced on Friday on the Isle of Man by Manx Utilities.

The Rivers Trust and the Angling Trust echoed the NIC's calls for more mindful water use across the country as the situation is predicted to become more dire in the years ahead.

Mark Lloyd, from the Rivers Trust, told The Observer: "There needs to be a nationally co-ordinated publicity campaign to reduce water use, and universal water metering.

"Low flows in rivers are disastrous for wildlife and, ultimately, we need to take much more care of this incredibly precious resource."

Original Article: [ITV News](#)

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