

Veles Water Weekly Report

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VelesWater



WATER FUTURES MARKET ANALYSIS

Welcome to ***WATERTALK***

by Joshua Bell

CLICK THE LINK BELOW

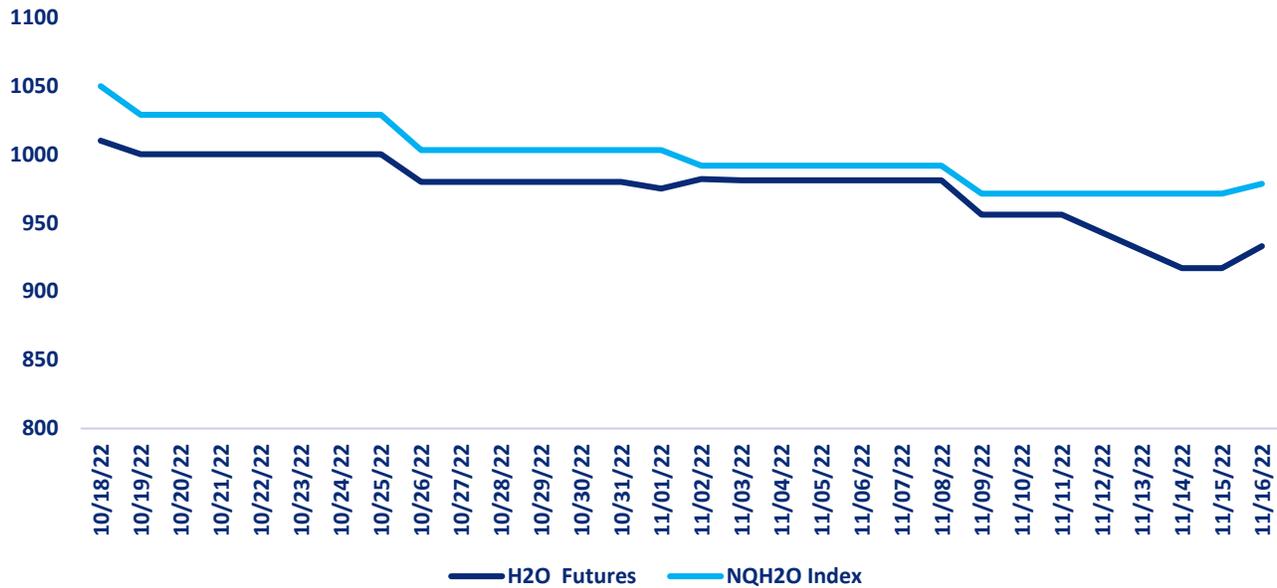
"A 2 minute technical analysis video of H2O futures"

<https://vimeo.com/771913350>



NQH2O INDEX PRICE vs H2O FUTURES PRICE

1 Month Price Performance NQH2O Index vs H2O Futures



Price Chart Based upon Daily Close

The new NQH2O index level of \$978.54 was published on the 16th November, up \$7.18 or 0.74%. The November contract settled at the new index level and the December contract is considered the front month contract. The futures have been closing at a discount of \$15.36 to \$54.36 to the index.

NQH2O is up 33.33% Year to Date.

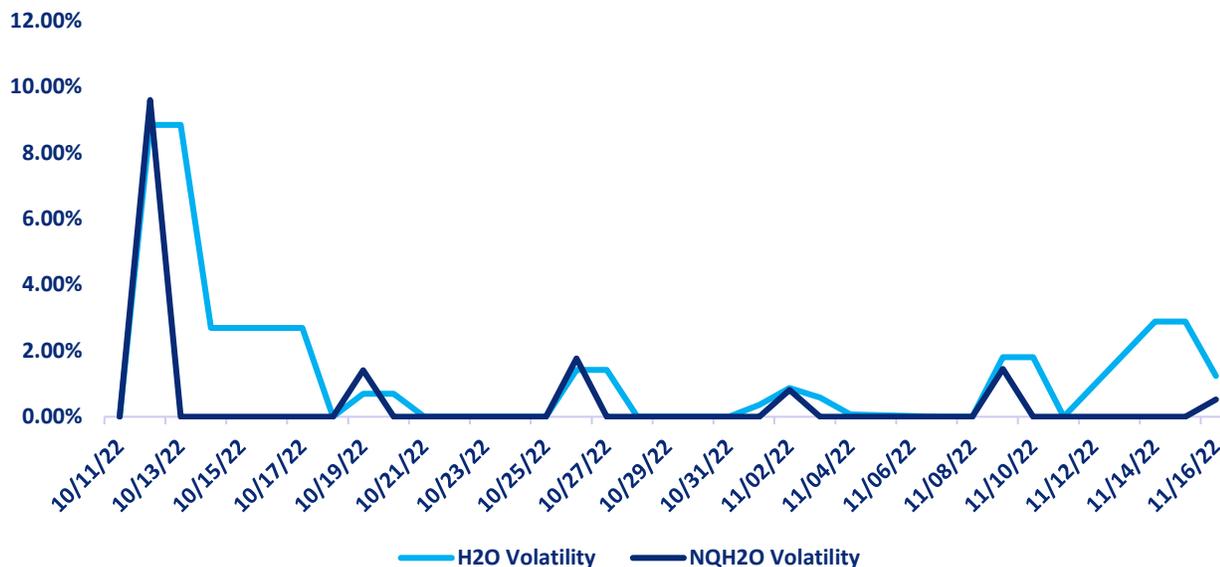
Below are the bid offer prices on different expiries being quoted in the market.

Dec 22	933@941
Jan 23	896@909
Mar 23	953@975
Jun 23	1223@1260
Jun 24	1270@1490



H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the November contract daily future volatility high was on the November 15th 2.88% and a low of 0% on the 11th.

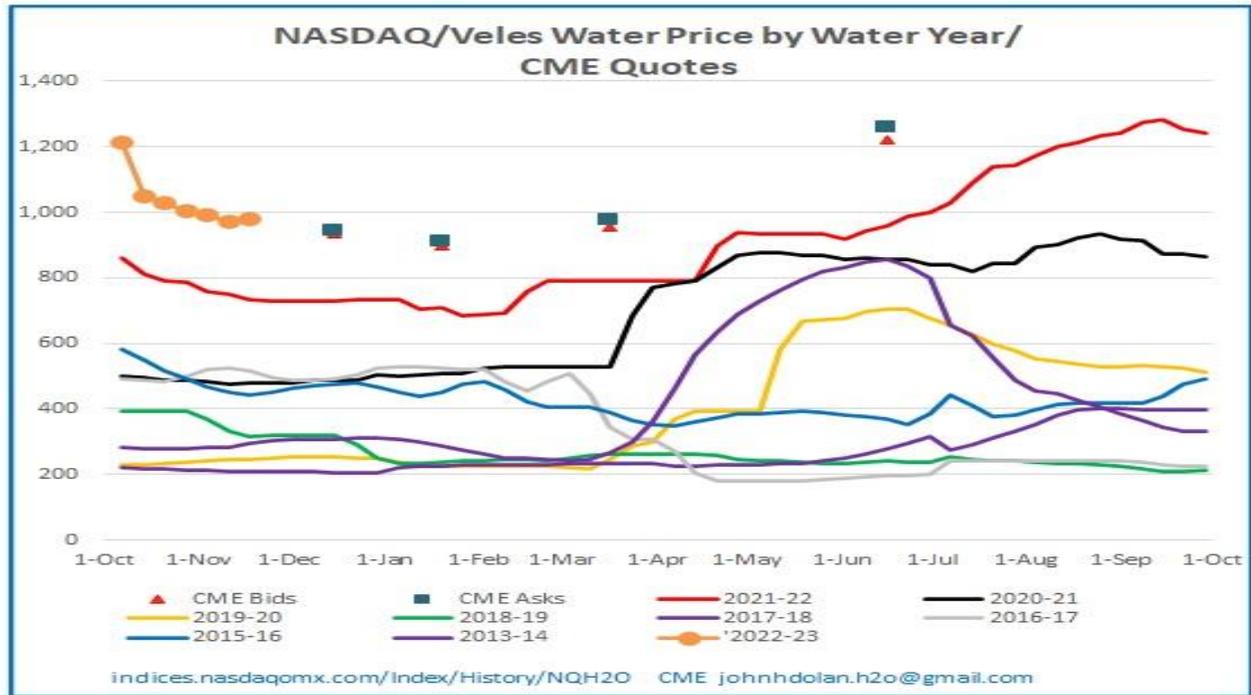
ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	25.39%	11.48%	2.85%	2.79%
H2O FUTURES	N/A	13.92%	5.49%	4.82%

For the week ending on November 16th, the two-month futures volatility is at a premium of 2.44% to the index, up 0.72% from the previous week. The one-month futures volatility is at a premium of 2.64% to the index, down 0.85% from last week. The one-week futures volatility is at a premium of 2.03% to the index, up 0.41% 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.*



NQH2O INDEX HISTORY



The graph above lays out the Nasdaq Veles water index by year, showing 2013- 2022. In very dry years, prices clearly rise through the spring, peaking in May to July (with the exception of 2015) as demand for water from farmers peaks. Prices then taper off heading into the winter on reduced demand, and the possibility of rain/snow.

The restricted ability to “carry” water, much like one can do with financial contracts, gives this index the same type of seasonal pattern that one sees on some other commodities.

The graph for 2021-2022 is highlighted in red. It shows the same seasonal climb, but at record-high values above each of the last eight years since February.

Current bids and offers in the market are still higher than historic prices showing that expectations are that this is an exceptionally dry year and prices may not fall seasonally as much as they have in prior dry years.

(John H Dolan, CME Market Maker)



CENTRAL VALLEY PRECIPITATION REPORT

Central Valley Precipitation Index



Central Valley average is calculated using data from 19 weather stations in the Central Valley, California.
Data as of 16/11/2022

STATION	MTD (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF 20 YEAR AVERAGE MTD	2023 WYTD VS 2022 WYTD %	2023 WY VS 20 YEAR AVERAGE TO DATE %
SAN JOAQUIN 5 STATION (5SI)	4.35	2.00	126.24	199	107
TULARE 6 STATION (6SI)	3.46	1.88	140.24	177	144
NORTHERN SIERRA 8 STATION (8SI)	4.26	1.56	82.40	294	80
CENTRAL VALLEY AVERAGE	4.02	1.81	108.91	223	110

RESERVOIR STORAGE

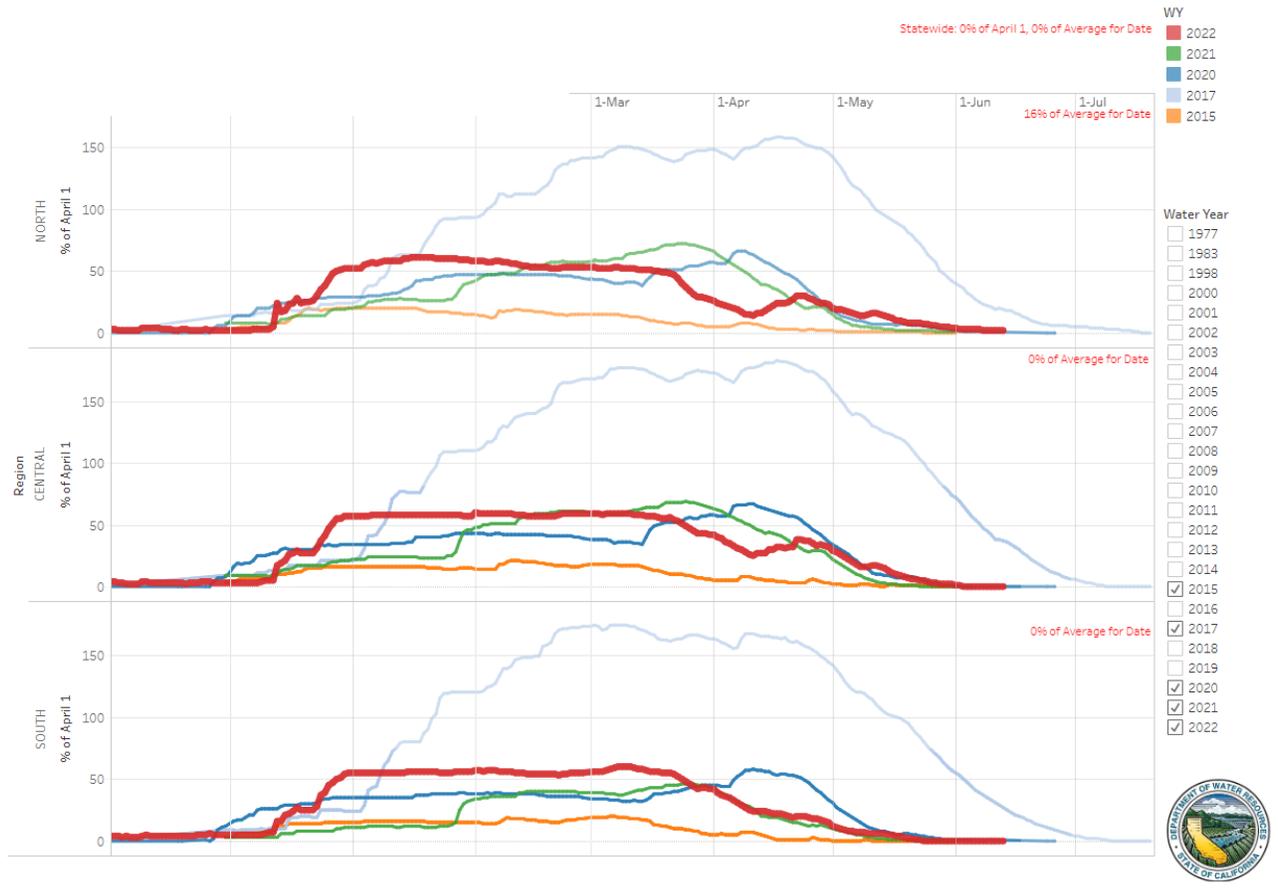
RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	HISTORIC ANNUAL AVERAGE CAPACITY %
TRINITY LAKE	532,050	22	29	38
SHASTA LAKE	1,396,515	31	24	57
LAKE OROVILLE	1,021,653	29	29	57
SAN LUIS RES	508,982	25	22	52

Reference: [California Water Data Exchange](https://www.waterdataexchange.com/)



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.

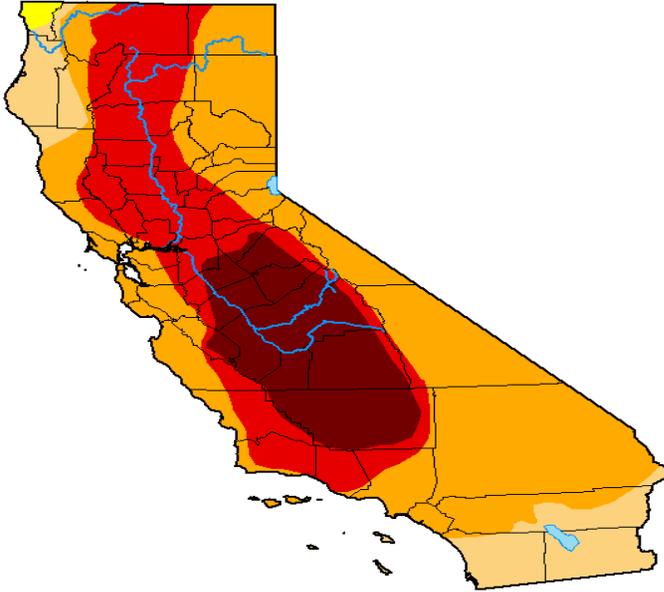
** April 1st is used as the benchmark as it when the snowpack in California is generally deepest. It has been used the benchmark date since 1941 by DWR and can be used to predict spring river flow.



DROUGHT MONITOR

U.S. Drought Monitor
California

November 8, 2022
(Released Thursday, Nov. 10, 2022)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.51	88.09	41.39	16.57
Last Week 11-01-2022	0.00	100.00	99.77	91.83	43.06	16.57
3 Months Ago 08-09-2022	0.00	100.00	99.77	97.52	45.81	16.53
Start of Calendar Year 01-04-2022	0.00	100.00	99.30	67.62	16.60	0.84
Start of Water Year 09-27-2022	0.00	100.00	99.76	94.01	40.91	16.57
One Year Ago 11-09-2021	0.00	100.00	100.00	92.43	80.28	37.62

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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>

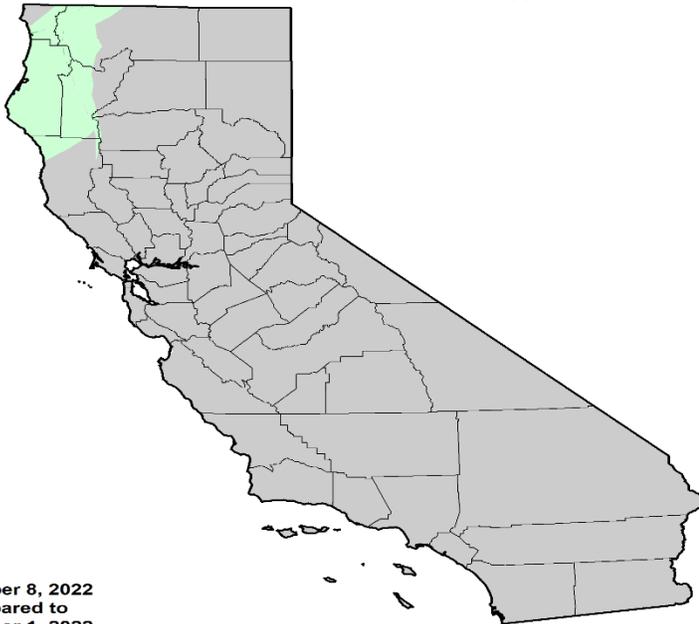
Author:

Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu

U.S. Drought Monitor Class Change - California
1 Week



November 8, 2022
compared to
November 1, 2022



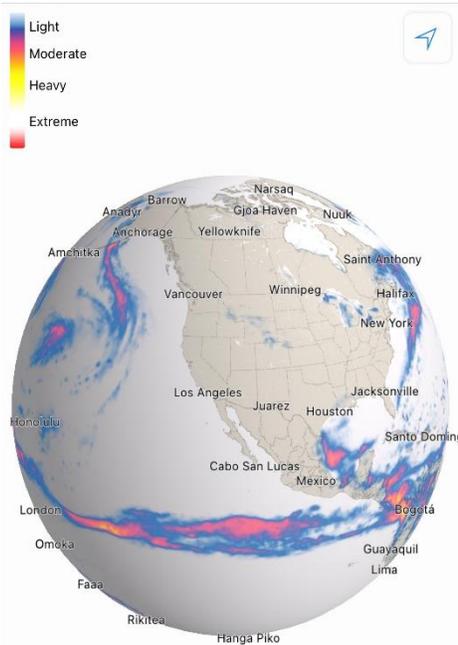
droughtmonitor.unl.edu

The US Drought Monitor release their statistics with a 1-week lag to this report. Over the past week the has been 0.26% class 1 improvement in D1 drought conditions. A 3.74% class 1 improvement in D2 and 1.67 in D3.

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 dry Continental US with some patchy cloud cover over the Great Lakes region.

There is a frontal system developing over the Northwest Pacific, most likely to hit the Northwest US coastline within the next day but only bringing some rain to Northern California.

There is a further frontal system developing behind this frontal which may merge or partly merge with the first frontal system. This may bring greater precipitation to the West during this week.

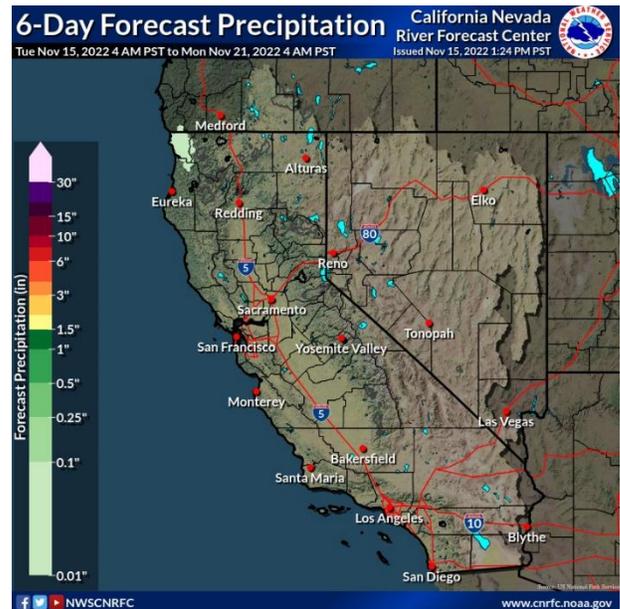
The Hurricane season appears to have abated as there are no current threatening systems.

Map: Dark Sky

There are no Monsoonal effects at present and these may only appear again at beginning of summer next year.

10 Day Outlook

A broad troughing pattern will engulf much of the U.S. early Friday while a ridge sits just offshore of the west coast. The ridge will shift and expand over the west coast on Saturday. The 12z runs of the GFS and ECMWF show some differences in regard to an approaching upper trough/low compared to earlier runs. The GFS still shows an upper trough moving towards the PacNW on Sunday with a line of showers reaching the north coast sometime on Monday. The ECMWF showed something similar in the 00z run but now no longer has this feature. Instead it shows a larger surface and upper low in the Gulf of Alaska headed towards BC Sunday into Monday bringing in more moderate showers after the end of the current forecast period. The ensembles also generally support a lack of precipitation through 12z Monday though a few do still show there is





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potential for some light precipitation. Either way, dry conditions are forecast for the region through at least Sunday. WPC's latest update has pulled back on precip keeping the forecast dry through day 6.

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

WESTERN WEATHER DISCUSSION

A wet week for much of the West helped to put a boost into the start of the current water year after a slow start. Continued wetness over the Pacific Northwest and into portions of the northern Rocky Mountains helped with long-term drought issues. Temperatures were cooler than normal for most of the region with some areas of Oregon and California 8-10 degrees below normal for the week. Improvements were made this week along the coastal regions of Oregon, Washington and northern California where moderate and severe drought were reduced. Areas of western Montana and northern Idaho also had drought intensities reduced with the recent wet pattern. Portions of western Wyoming saw expansion of moderate and severe drought while severe drought was improved in portions of western Colorado and northeast Utah.

Reference:

Brian Fuchs, National Drought Mitigation Center
Brad Rippey, U.S. Department of Agriculture



WATER NEWS

CALIFORNIA WATER NEWS

The Monterey area may get a huge desalination plant. Is this the future of California's water supply?

With California butting up against 840 miles of ocean, desalination seems an obvious solution to the state's water woes. However, the cost, energy demands and environmental impacts have made the technology largely unworkable.

Three years of drought may be changing the calculus.

The latest push for desalination is on the Monterey Peninsula, where a plan for a plant, which has faced more than a decade of hurdles, is poised to win approval this week from the California Coastal Commission.

The \$300 million-plus proposal calls for pumping seawater from wells beneath Monterey Bay, near the city of Marina, and piping it ashore to the popular tourist region to help relieve a longtime water shortage, made worse by escalating drought and climate change.

While a handful of desal operations are already putting a small dent in Monterey County's thirst, the venture proposed by investor-owned California American Water is much bigger and more comprehensive. It would provide up to 40% of the supply for the city of Monterey, the wealthy enclaves of Carmel-by-the-Sea and Pebble Beach and several other communities. Water bills, under the plan, would rise by up to \$50 a month. The project would be the second major desal plant approved this fall by the Coastal Commission, the first being in Southern California. The powerful regulatory agency, which governs coastal development, has long been critical of desalination given its environmental, energy and financial downsides. But commission staff has recommended that the agency's governing board approve Cal Am's plan, noting that water scarcity must play an increasing role in the commission's decision-making.

"As this historic drought continues to worsen and drought becomes the new normal, we are going to need to diversify California's water portfolio," Coastal Commission Executive Director Jack Ainsworth told The Chronicle in an email. "Desalination projects will be a part of that where it's appropriate, complies with the law and in a way that protects coastal resources."

The advance of desalination in California is aided by millions of dollars of state funding for new facilities this year as well as an endorsement from Gov. Gavin Newsom. The governor made desal a central tenet of his recently released Water Supply Strategy.

While few oceanfront proposals like Cal Am's are in the works, more communities are looking at the technology. Less expensive facilities in brackish water, where less salt needs to be removed because the water is not from the ocean, are also being pursued.



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The city of Antioch broke ground last year on a plant in the Sacramento-San Joaquin River Delta, and several of the Bay Area's biggest water agencies, including the San Francisco Public Utilities Commission, are jointly studying the idea, also in the Delta.

Still, desalination remains steeped in controversy, and Cal Am's project is no exception. The Coastal Commission even calls some of the Monterey Bay plan's sticking points the most significant environmental justice issues the agency has faced since adopting an environmental justice policy three years ago.

The chief concern is that the new plant would raise water rates for many who can't afford it.

"I'm serious: It's either eat or pay the water bill," said Monterey resident Tammy Jennings, who has a disability that requires a wheelchair and lives off a fixed income that will make it hard to handle even a partial rate increase for less advantaged customers. "I don't know what I'm going to do. I'm not watering. I'm not taking excessive baths. I just don't know how they expect us to pay this."

While desalination remains expensive relative to other water sources, often prohibitively so, the rising cost of water in general and the difficulty finding it have diminished the price gap.

Desalinated water from the ocean averages about \$2,500 per acre foot, though it can run considerably higher depending on the project, according to the Public Policy Institute of California. An acre foot of water, which is 325,851 gallons, typically supports two households for a year.

By contrast, recycled water, which is often generated from treated wastewater and is another increasingly popular alternative, averages about \$1,500 per acre foot. Traditional sources, such as river water, are usually much less expensive. These supplies can run well below \$1,000 per acre foot, though this water may not be available during droughts.

"Are we going to see desal plants proliferating up and down the whole coast? I don't see that coming anytime soon," said Ellen Hanak, director of the Water Policy Center at the Public Policy Institute of California. "But can it be a useful thing in some of our coastal communities where they don't have a lot of options. Yes. Definitely."

Original Article: [SF Chronicle by Kurtis Alexander](#)

California tries to harness megastorm floods to ease crippling droughts

The land along the Arroyo Pasajero Creek, halfway between Sacramento and Los Angeles, is too dry to farm some years and dangerously flooded in others.

Amid the cycles of wet and dry — both phenomena exacerbated by climate change — a coalition of local farmers and the nearby city of Huron are trying to turn former hemp and tomato fields into massive receptacles that can hold water as it percolates into the ground during wet years.



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This project and others like it across California's Central Valley breadbasket aim to capture floodwaters that would otherwise rush out to the sea, or damage towns, cities and crops.

Traditional water storage in the form of damming rivers to create reservoirs damages the environment.

With parts of California suffering a historic drought, water was so scarce in the Central Valley this year that Huron was allocated only a quarter of the water it was contracted to receive from the U.S. Bureau of Reclamation.

The city, one of California's poorest, had to buy water on the open market, raising residents' bills, said engineering consultant Alfonso Manrique.

The new project, known as a recharge system, turns unused fields into large ponds to hold water so that it can percolate into the porous rock and earth below, creating or restoring an aquifer rather than rushing to the sea. The city is building a new well to be fed from the aquifer, Manrique said.

Capturing runoff will also help protect the city of less than 7,000 people from catastrophic floods.

The project near Huron is one of about 340 recharge systems that have been proposed by water agencies in California - enough to store 2.2 million acre-feet by 2030 if they all are built, the state Department of Water Resources said. That's enough for 4.4 million households for a year.

"I'm hoping we can make water more affordable for our residents," said Huron Mayor Rey Leon.

Outside the United States, countries including India are also beginning to increase the use of recharge ponds to store water in natural or human-made aquifers. Water use and resilience is among the topics being discussed by world leaders at the United Nations COP27 climate summit in Egypt this month.

While the idea of storing water underground is not new, a recent California law regulating groundwater use has spurred a spate of projects that the state is helping to fund.

In the small community of Okieville about 40 miles (65 km) east of Huron, the Tulare Irrigation District is building a new recharge pond on land purchased from a local farmer, said Aaron Fukuda, who is the district's general manager.

A number of Okieville residents ran out of potable water during the state's last big drought, which lasted from 2012 through 2016. The new pond, on about 20 acres of former farmland, will help to guide water underground to store it for residents as well as agriculture.

The project costs about \$2 million, including about \$1.8 million in state grants.

In addition to the comparatively small projects being built by rural water districts and farmers, the massive Metropolitan Water District, a regional water wholesaler that



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serves Southern and parts of Central California, is building a 1,500-acre recharge pond in the high desert near Palmdale, in partnership with local water authorities.

Original Article: [Reuters by Sharon Bernstein](#)

Southern California braces for strongest Santa Ana winds of the year

Southern California is bracing this week for what could be the strongest Santa Ana winds of the year, raising concerns around both fire dangers and cold temperatures, according to experts.

“Today is the calm before the gusty winds are expected,” David Sweet, a meteorologist with the National Weather Service in Oxnard, said Monday.

“This is going to be the biggest event this season,” Sweet added.

Moderate Santa Ana winds are expected to develop Tuesday morning and continue throughout the day, with gusts ranging from 35 mph to 45 mph, according to the National Weather Service. High winds will continue through Wednesday. Paired with low humidity, the high winds prompted the National Weather Service to issue a red flag warning for fire danger most of the day Wednesday for much of Ventura County and western areas of Los Angeles County, including Malibu.

A red flag warning is issued when extreme fire behavior could occur because of high winds and low humidity.

Gusts will peak Wednesday morning, with “damaging northeast winds” expected at 75 mph, Sweet said. Temperatures are forecast to be in the low 70s, and relative humidity will be down between 10% to 20%, Sweet added.

With conditions ripe for rapid fire growth, weather experts initially issued a fire weather watch but, by Monday afternoon, warned that low humidity raised the danger of brush fires spreading quickly. The red flag warning for western L.A. County and the majority of Ventura County was issued for 7 a.m. to 7 p.m. on Wednesday.

A watch means critical fire weather conditions are possible but not imminent or occurring, weather experts said.

“If fire ignition occurs, there could be rapid spread of wildfire that would lead to a threat to life and property,” the National Weather Service warned in an alert.

Weather experts have warned of downed power lines and trees, and advise securing any outdoor furniture, including trampolines.

The conditions this week have also led to concerns about cold weather expected for parts of L.A. County.

“With very dry air in place, the temperature tends to drop like a rock overnight,” said Sweet, adding the week did not look “terribly cold.” But the wind could drop off in places including Ojai in Ventura County and the Antelope Valley, where temperatures might sink to the mid-30s any night this week, Sweet said.

Muntu Davis, the Los Angeles County public health officer, issued a cold weather alert on Sunday for several areas, including in the Santa Clarita Valley, in effect through



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Tuesday; the Mt. Wilson area, in effect through Wednesday; and Lancaster, in effect through Friday.

Davis said seniors, children and those with disabilities or medical needs are especially vulnerable, and reminded the public not to heat their homes with stoves, ovens or barbecues because of the risk of carbon monoxide poisoning. The Los Angeles Homeless Services Authority has a program for those who need warm shelter, Davis said.

Areas below the Cajon Pass and through the Inland Empire, including Ontario and Corona, and extending to the Santa Ana mountains and foothills, including in Tustin and Orange, could have gusts up to 70 mph. Winds will reach about 50 mph in most urban locations, said Dan Gregoria, a meteorologist with the National Weather Service in San Diego.

Winds are expected to subside Wednesday evening. A weaker wind event is forecast for later this week, Gregoria said.

Original Article: [The LA Times by Alexandra E. Petri and Salvador Hernandez](#)

San Francisco cuts deal with California water regulators to avoid severe restrictions

Three of California's biggest water suppliers, including the city of San Francisco, have reached a deal with the state that calls for reducing their immense consumption of river water but not as much as the state had initially demanded.

The compromise, announced Thursday, is the latest breakthrough in a yearslong effort by state regulators to protect flows in California's once grand but increasingly overdrawn rivers. The toll on the waterways, where as much as 90% of the water is pumped to cities and farms, has been exacerbated by drought, leaving fabled runs of salmon and other plants and animals at risk of perishing.

Under the new agreement, the San Francisco Public Utilities Commission joins two Central Valley water agencies, the Turlock and Modesto irrigation districts, in committing to scale back draws and restore wildlife habitat in the Tuolumne River, one of the state's most depleted rivers.

The SFPUC, which provides water for the city and about two dozen other Bay Area communities, gets as much as 85% of its supply piped in from the Tuolumne watershed. The river is born of snowmelt from in and around Yosemite National Park, where the city captures the cold, clear river water at Hetch Hetchy Reservoir.

"We've always been willing to do our part to further protect natural habitats, including in times of drought," said Dennis Herrera, general manager of the SFPUC, in a statement.

"Now we have a framework agreement that strikes the right balance."

But whether Thursday's deal, known as "voluntary agreements," will meaningfully increase river flows — and protect fish and wildlife — remains uncertain.

Environmental and fishing groups have long said that any loosening of water regulation rolled out by the State Water Resources Control Board in 2018 to maintain the health of



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the vast Sacramento and San Joaquin river watersheds will be detrimental and leave rivers more akin to trickling streams. The groups have been opposed to giving water agencies much slack in avoiding the restraints.

“The water board and tons of scientists have indicated that we need much more flow in the rivers than what’s contained in these agreements,” said Jon Rosenfield, senior scientist at the environmental advocacy organization San Francisco Baykeeper.

Thursday’s deal is also officially a memorandum of understanding and not binding.

For nearly a decade, state officials have been working with water agencies across California to reduce draws in the watersheds that feed the Sacramento-San Joaquin River Delta, which is not only crucial for flora and fauna but also to water supplies for much of the state.

The negotiations, under what’s called the Bay-Delta Plan, have been particularly tense along the Tuolumne and neighboring rivers, which drain into the San Joaquin.

Unable to win concessions, the state water board mandated four years ago that 40% of the natural flow of the Tuolumne, Merced and Stanislaus rivers would have to remain in the waterways during peak times — not drawn out for human use. Currently, water suppliers sometimes leave just 10% of the water.

San Francisco officials have said that the water board’s regulation would force Bay Area residents to cut their water use up to 40% during extreme drought years. The city subsequently joined the largely agricultural water agencies in suing to stop the state’s plan. The restrictions have yet to be implemented as the parties had been hopeful of reaching a compromise.

The amount of water that the water agencies would have to leave in the river under the new voluntary agreements varies, depending on how wet or dry the year is, but it’s far less than what the agencies would have had to concede under the 2018 regulation — sometimes more than a third less.

San Francisco officials have said before that while they haven’t been willing to give up much water, they would adjust the timing of their draws and put money into restoration to ensure the health of the river.

Critics of the deal have been wary of the private negotiations taking place between the state and the water suppliers to resolve the dispute, particularly since Gov. Gavin Newsom has been in office.

Some believe that state regulators, under appointees of the current administration, have been more eager to settle with the suppliers and end the conflict than to protect the watersheds.

Original Article: [The SF Chronicle by Kurtis Alexander](#)



Efforts To Protect Groundwater Are Tested By Drought, California Farm Bureau Reports

Balancing the state's groundwater supplies for a sustainable future may not be easy due to severe drought and ongoing economic challenges facing farmers.

"We've got the lowest prices and highest production costs and the least-reliable water supply that we've had since I've been farming," said Bill Diedrich of Firebaugh, who farms row crops and permanent crops on the west side in Madera and Fresno counties. "We've had one or the other but not all three at the same time."

Diedrich, who relies on groundwater for irrigating farmland in Madera County and surface water for ground in Fresno County, said farming at this time "is very difficult." He said the 2014 Sustainable Groundwater Management Act, which tasks local agencies to balance groundwater supplies in affected basins by 2040 and 2042, means farmland must come out of production.

For his Madera County farmland, which is entirely groundwater dependent, he estimates that he will need to fallow 150 acres.

"What we're looking at in SGMA is we're just going to be taking land out of production; there's just no other way around it," Diedrich said. "Those of us in ag are concerned about the domestic food supply. We don't want to see a bunch of government money coming in to shut down farms. We would rather see that money put towards water-supply infrastructure, changing some of the regulatory issues harming our water supply and bringing in more water."

The 20-year effort to balance groundwater supplies and develop groundwater sustainability plans is a regulatory process managed by the California Department of Water Resources. The department oversees SGMA implementation and provides oversight through evaluation and assessment of local groundwater sustainability plans, providing guidance and technical and financial assistance.

Paul Gosselin, deputy director of the state department of water resources SGMA management office, told the California State Board of Food and Agriculture last week that 65 plans for 63 medium- and high-priority groundwater basins were submitted in January 2022 and are being evaluated. For 21 of the most critically overdrafted basins, DWR evaluated 46 plans submitted in January 2020. Of these, Gosselin said, the department approved plans for eight basins.

Plans for 12 basins were found to be incomplete. The department deemed the plans for the Tulare Lake subbasin inadequate.

For incomplete plans, Gosselin said agencies have six months from the date of the determination to resubmit and address inconsistencies or methodologies, such as issues related to subsidence, water quality, drinking water impacts, depletion of interconnected surface water and lack of coordination among plans.



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“We are in the process of unpacking those (plans resubmitted in late July) and evaluating whether they met the deficiencies or not,” Gosselin said. “There is no statutory deadline for us to complete the review, but we’re intending to do the lion’s share of it by the end of the calendar year. Some of the multiplan basins are probably not going to get a determination done until the first quarter of 2023.”

The Tulare Lake subbasin, which covers most of Kings County, was dropped to inadequate status because the two submitted plans did not have a required coordination agreement, Gosselin said. Plans found to be inadequate fall under the authority of the California State Water Resources Control Board.

Gosselin said the state water board “asked us to complete our evaluation and to notify them whether the basin addressed all the deficiencies or not. In the meantime, the board notified us they would sit tight and not hold hearings and wait until they received notification on that plan.”

Dusty Ference, executive director of the Kings County Farm Bureau, said the inadequate determination by DWR comes as no surprise.

“The GSAs in the Tulare Lake subbasin had agreed on an updated plan after they were all essentially deemed incomplete back in January. When the GSAs needed to adopt their updated plan to address those deficiencies, one GSA accepted everything with one addition,” Ference said, adding that the addition means that the basin no longer had a coordinated plan.

“We thought we had a plan that made sense to most growers; it was going to hurt a little bit, but everybody could live with it, and then boom—everything comes to a screeching halt,” he said.

As SGMA plays out, Ference said, “Farmers are frustrated, they are worried, and they don’t know what to do.” He said with agriculture driving 25% of the county’s workforce, those in agriculture remain concerned about rural communities.

Gosselin said DWR has awarded \$400 million during the past two years to help local groundwater agencies comply with SGMA requirements.

Last May, each of the critically overdrafted basins received \$7.6 million to implement SGMA. The state is also advancing actions and projects, such as groundwater recharge projects.

“We have a vested interest in ensuring that with the rains that are hopefully starting outside the window now and through the winter, that those projects that come in, we’ll be able to capture that water and start recharging basins,” Gosselin said.

For projects that bolster the state’s water supply and related infrastructure, Diedrich said, many farmers are concerned that there may be only a few wet years between now and the 2040s, when groundwater agencies must achieve sustainability.

Diedrich said the state must be ready to capture excess flood water. He said agencies “are trying to develop projects locally, but these will be a very small amount compared to the amount of water that we need.



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“We’re talking about new canals and conveyance on top of new water rights,” he said. “It’s a very long-range project, longer than the amount of time we have to comply.”

Original Article: [Sierra Sun Times by Christine Souza](#)

US WATER NEWS

Making the world’s case for water and biodiversity

Monica Medina, the first U.S. special envoy for biodiversity and water resources, thinks there has never been a more important time for diplomats to champion protecting and restoring nature.

“I am really honored to have this role and this title,” she told ShareAmerica. “We’re in a world where the loss of nature is overwhelming and a real potential threat to the health of the planet and the health of people.”

With her appointment at the end of September, Medina became a top leader in the U.S. government for environmental conservation and addressing the climate crisis. Medina also serves as the assistant secretary for the Bureau of Oceans and International Environmental and Scientific Affairs at the State Department.

Protecting biodiversity

Medina’s new role allows her to be a champion for protecting many plant and animal species worldwide.

Environmental threats she will be addressing with leaders around the world include nature crimes such as:

- Illegal logging.
- Illegal mining.
- Illegal land conversion for farming.
- Wildlife trafficking.
- Crimes associated with fishing.

“These have deep and detrimental and lasting impacts on biodiversity, and on the availability of resources like clean and safe water,” she says. “We are committed as we can be to try to address all of these crises at the same time.”

Increasing water security

Making clean and safe water available to all people is among Medina’s top priorities. State Department metrics suggest two-thirds of the world’s population will experience water scarcity by 2025. Those people will not be able to meet their basic living needs. This is largely because of extreme weather — drought and flooding — created around the world by the climate crisis.



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Medina explains that water scarcity and poor water quality harm people's health and livelihoods. Water scarcity can increase disease, limit agriculture and stymie economic growth.

"We see water scarcity as a growing threat to peace and security in so many parts of the world, so we made it a priority," Medina said. "The State Department is working with partners and allies around the world to build water cooperation and to engage on issues of water management."

In her role as the U.S. special envoy for biodiversity and water resources, Medina is attending the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27) and the U.N. Convention on Biological Diversity over the next month. There, she'll work to develop climate solutions in partnership with other countries.

"We are working to advance our climate ambition, to strengthen resilience to climate change and to really get as strong an outcome as possible from COP27," she says. "We, as the U.S., are bringing an awful lot to the table there."

Original Article: [Share America by Noelani Kirschner](#)

Could the SNWA's multi-billion dollar 'water grab' still happen?

Whatever happened to the multi-billion dollar plan to siphon groundwater from rural Nevada? Officially, it is off the table, but the coalition of citizens who fought against it said they expect what they call the "water grab" to rise from the grave.

The Coalition

The coalition, gathered in Baker, is an amalgam of urban liberals and rural conservatives. Ranchers and environmentalists. Figurative "cowboys and Indians." Traditional adversaries who set aside their differences to oppose a plan that would siphon billions of gallons of groundwater from eastern Nevada aquifers and send it via a 300-mile-long pipeline to thirsty Las Vegas.

The Southern Nevada Water Authority was willing to spend \$15 billion — perhaps more — to build the pipeline system. The plan is backed by Nevada's most powerful forces: casinos and developers. Opponents were told resistance was futile.

The Pipeline

The Great Basin National Park is the crown jewel of Nevada's public lands. It is also one of the places that could have been jeopardized by the SNWA's ambitious groundwater plan, and so, it seems, is an appropriate backdrop for what was called a "victory party." "We were not just fighting the project," explained Abby Johnson, an opponent of the SNWA's plan. "We were fighting inevitability. People would say, 'You can't fight the Southern Nevada Water Authority.' But of course, we did."

The Money

The SNWA has spent in excess of \$100 million in public funds on the project. Records show the public is still paying for a long list of high-priced law firms, public relations



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companies and lobbyists who were hired, in part, to overcome opposition to the “water grab”, but scientific studies showed that sucking an ocean of groundwater from the rural counties could, in effect, create a vast dead zone in Nevada.

The Case

A lone attorney, Simeon Herskovits, prevailed again and again in state and federal courts.

“Their entire case was built on misdirection and misrepresentation of fundamental questions of fact, law, and policy,” Herskovits said. “You could see that this is not permitted to take water that doesn’t exist.”

After multiple defeats in court, the SNWA formally pulled the pipeline plan off the table and withdrew its claim to rural water. Despite the win, no one in the opposition thinks the fight is over. They point to one glaring fact — the SNWA still owns and operates a vast ranching empire in the targeted area.

The Fight

Water agencies paid nearly \$80 million to buy those seven large ranches. The ranches even have their own lawyer and lobbyist, paid with public dollars.

“They’re running cattle, and they’re running sheep, and you know they have close to one million acres of grazing allotments up there,” said Kyle Roerink with the Great Basin Water Network. “I don’t think that the Southern Nevada Water Authority remains on ag operations 300 miles north of here because they like the hay business.”

The SNWA declined to speak on camera about why it is spending public dollars to raise sheep and grow hay hundreds of miles away from its customers. In its formal documents, the SNWA explains its “northern resources” are a way to demonstrate “improved agricultural practices and livestock genetics and husbandry” and also to demonstrate financial efficiency.

Those lessons seem lost on the much smaller private ranchers who say they are being ground to dust being forced to compete against a government agency with deep pockets. The SNWA has gone after the grazing rights of ranchers Hank Vogler and Kena Gloeckner, among others, forcing them into costly legal fights that have dragged on for years.

Gary Perea, White Pine County Commissioner, fought the project while crisscrossing the state with his stepfather, late rancher Dean Baker. Perea predicts agencies will try to revive the “water grab” in the Nevada legislature by crafting legislation that might bypass water laws.

“The amount of money they’re putting into those ranches and running them is not ... economically feasible,” Perea explained.

The Future

In the past, The SNWA has used what many call scare tactics to justify the “water grab.” There were numerous predictions of disaster and economic collapse unless Las Vegas



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could get the rural water by 2013. That deadline came and went nearly a decade ago, and Las Vegas is still thriving.

Opponents say the extended drought is likely to be the new excuse. Headlines about climate change and images of the drop in water levels at Lake Mead have already generated statements about how the SNWA needs to leave all options on the table.

When asked whether the rural pipeline is dead or alive, the SNWA told said it has been “deferred.”

“They deferred that project from their water resource plan,” said Kyle Roerink. “But they never said that we will never do this ever.”

Original Article: [8 News Now by George Knapp](#)

Is drought in Arizona and the Southwest the new normal?

Two decades of the Southwest megadrought have marked Arizona’s driest period in 1,200 years.

With climate change in full swing, greenhouse emissions well above pledged targets and the state facing cutbacks to its share of dwindling Colorado River water, many wonder: Is drought the new normal?

In an ideal world, drought would be as simple as the settings on a hair dryer: more heat, more evaporation.

But it’s not an ideal world, and less so every day, thanks to climate change, rising water demand — and changing land use.

“There’s this big connection between what’s on the land surface — is it a forest? Is it a shrubland? Is it an agricultural area? — and the water that it produces,” said hydrologist Enrique Vivoni of Arizona State University.

Drought involves more than inches of rainfall or acre-feet of streamflow; it’s about systems: Different plants and soils cause water to soak in, evaporate or run off; different large-scale patterns like sea surface temperatures or the jet stream can mean a dry winter or a wet one.

“Getting missed by the jet stream has big implications on the Colorado River,” said Vivoni.

Arizona draws a third of its surface water from the Colorado.

Half of the state’s rainfall is fed by the erratic southwestern monsoon, much of which evaporates or runs off.

The one-fifth of state water from in-state rivers also depends on regional patterns: vast moisture belts called atmospheric rivers.

“The big floods on the major rivers — the Salt, the Verde, the Gila, the Little Colorado — a number of those are from atmospheric river storms in the winter,” said Marty Ralph, director of the Center for Western Weather and Water Extremes at Scripps Institution of Oceanography at UC San Diego.



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Floods epitomize how more water alone doesn't solve drought; it can even make matters worse.

Floods erode soil, degrade water quality and stress aging infrastructure like dams and levees.

“So this resulting imbalance in the way that our infrastructure works with the natural environment is something that we have to adapt our infrastructure to,” said Dave White, director of the ASU's Global Institute of Sustainability and Innovation, who leads the southwest portion of the U.S. National Climate Assessment.

Going with the flow

In the Colorado River system, nature is part of that infrastructure: Winter snowpack in the Colorado and Wyoming mountains stores water, which melts in springtime and flows to reservoirs, where it provides water and power to meet summer's high demand.

Throwing off that timing amounts to chucking a wrench into the meticulously managed waterworks, upsetting water rights, interrupting power generation and potentially choking the farms that consume up to 80% of Arizona's water.

“When does the snow have to fall? Does it fall as snow or rain? How does that snowpack evolve? Does it melt earlier or later?” said Vivoni.

Timing also affects the coordination of water releases from upstream dams to downstream reservoirs.

“The changes of the last 20 years have been pretty substantial in terms of the amount of runoff coming into Lake Powell,” said Ralph.

Last spring, to keep hydropower running, the federal government for the first time kept water in Lake Powell and did not release it to Lake Mead.

As their famous “bathtub rings” reveal, the two reservoirs now stand at one-quarter capacity, approaching “dead pool” — a point at which the water drops so low it can no longer flow downstream.

And that's not all.

“We run the risk of reservoir levels reaching below where the intake is where we draw the water out,” said White.

Testing the domino theory

Further upstream, nearer the Colorado's origins, the news isn't much better.

“There's some evidence that Southwest Colorado in particular is maybe aridifying at a faster rate, or more intensely,” said Kathryn Sorensen, director of research at the Kyl Center for Water Policy at ASU's Morrison Institute for Public Policy.

Experts define several types of drought. They fall like dominoes: from precipitation drought to soil moisture drought to agricultural drought and, most seriously, Arizona's current hydrological drought.

Baking out so much moisture takes time; recovering — even with decades of perfectly timed, above-average rain and snow — could take longer.



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“And coming out of a drought isn't necessarily the same pathway as going into a drought,” said Vivoni.

Research published in the journal Science suggests the average annual Colorado River discharge has diminished about 9% per degree Celsius of warming.

“You do see this consistent decline in water availability with the increase in temperature,” said White.

Original Article: [KJZZ by Nicholas Gerbis](#)

GLOBAL WATER NEWS

Water firms may owe UK customers £163m for spillages, say experts

Water companies could be forced to pay their customers hundreds of millions in fines due to sewage pollution, a leading firm specialising in corporate wrongdoing has said.

Fideres LLP, which has conducted investigations into issues ranging from Covid test prices to cryptocurrency scams, is now setting its sights on England's water companies. Economists at the firm believe that, under UK competition laws, consumers are entitled to compensation for the raw sewage spillages that have blighted the country's waterways and beaches.

They say households have been “exploited” by the “dominant monopoly” of water companies, which are the only such service providers in their area, and do not dispose of sewage correctly.

“We argue that these discharges constitute exploitative abuses of their dominant position,” the firm said. “This type of abuse reflects not the setting of excessive prices, but the provision (as a result of underinvestment) of an excessively low quality of service.”

They say they have calculated the damages which could be required to be paid back to consumers.

“We estimate that households purchasing UK wastewater services have since 2016 incurred damages of approximately £163m as a result of the water companies abusing their dominant position,” the economists said.

However, there could be an even larger payout required, they added: “We also estimate the same companies have charged households more than £1.1bn for sewage removal services, when in fact they have not safely removed that sewage, instead they have simply discharged that sewage into the country's rivers and on to its beaches.”



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They are calling for the Competition and Markets Authority (CMA) to open both competition and consumer protection investigations into the England's water companies.

The economists also said consumers could be entitled to launch a class action against the companies, as they could be in breach of competition law.

Because water companies operate as a monopoly, in that consumers have no choice but to use the company in their area and cannot switch to a better or cheaper service, there is a price cap set by Ofwat, the regulator. Some businesses are able to choose their supplier, however.

Each year, the companies certify that the price charged allows them to meet their commitments, including those on the environment, and they have to notify Ofwat if they cannot. One of these obligations is not to release raw sewage except in exceptional weather circumstances, but the Environment Agency in England has found that there could have been widespread non-compliance with these guidelines.

Fideres argues that instead of raising prices to an unreasonable degree, which is illegal for monopolies to do under competition law, they have instead reduced investment to an unreasonable degree, meaning they are not providing the service being paid for.

For example, the Financial Times recently found that investment by water companies fell by 15% between 2020 and 2021. Since privatisation in 1991, the companies have borrowed £53bn, an equivalent of £2,000 a household, but did not invest all of it, instead paying £72bn in dividends.

This has led the firm to conclude that while payments have not increased to an unreasonable level, the quality-adjusted price has, as quality regulations have been repeatedly breached, and they say a lack of investment could be blamed.

Non-price exploitative abuse is illegal under competition law, in article 102 (a) TFEU which prohibits an "unfair purchase or selling price or unfair trading conditions". A 2022 report by academics at the University of Oxford noted that "although in the past exploitative cases have tended to relate to pricing practices, there is nothing in article 102 that suggests that should be the case, quite the contrary, it explicitly refers to 'other' trading terms".

The law currently applies in the UK, but all EU derived laws are under threat from the retained EU law bill brought by the former business secretary, Jacob Rees-Mogg, under which they would be abolished at the end of 2023.

This claim has recently been used against Facebook, which was accused by Germany of exploiting a dominant position by not giving consumers a choice as to whether Facebook could collect unlimited personal data from non-Facebook accounts.

A Water UK spokesperson said: "Water companies are currently putting in place the largest ever infrastructure programme the industry has ever seen to improve overflows and tackle spills, at a cost of £56bn. The next decade is critical if we are to bring about the transformation to our rivers we all want to see. Water companies are getting on with



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these important improvements and interventions such as this are a distraction from that vital work.”

Original Article: [The Guardian by Helena Horton](#)

Jordan under acute water stress as global warming, the refugee crisis and mismanagement take their toll

Jordanian farmer Ali Brizat lost his vegetable crop in Wadi Al Hidan, Madaba province last year after the water supply was cut off when the Wala Dam dried up in September 2021: "I sowed, but never reaped – all my effort was wasted," is how he puts it. Aside from his vegetable crop, his lemon, guava and olive groves were also badly damaged by the drought.

He planted them ten years ago, he says, stressing that September and October are crucial months for those trees, during which they need plenty of water to maximise how much healthy fruit they produce. Ali's farm wasn't the only one affected by the Wala dam drying up.

The Ministry of Agriculture sent a committee to document the damages. It listed 109 farmers as having suffered damaged crops over an area of 2,670 dunums.

Farmers along the entire length of Wadi Al Hidan had warned of a disaster during August and early September in light of the dam's dropping water level: they all used wells fed by the dam.

Adnan Khadam, head of the Jordan Valley Farmers' Union stated that the situation of the Wadi Al Hidan farms was just one part of the crisis Jordan had suffered between last September and November: "Six out of 17 dams dried up, the most important of which were Wala, Mujib and Tannur, due to the delay in rainfall and the rise in temperature."

A former official in Jordan's water sector (who preferred to remain anonymous) said that repeated neglect and mis-administration were to blame for the Wala, Mujib and Tannur dams drying up in late 2021, and the resulting death of millions of fish, as well as the damage to the farms.

He says the Wala and Mujib dams were both drained of four million cubic metres (mcm) of water in anticipation of the autumn rains which were then not only late but were less than average.

This process is usually done so that dams won't be filled beyond their capacity, however, in this case, a huge volume of water was lost and wasn't replenished, according to the official.

Jordan is among 17 countries that suffer from "extremely high" levels of water stress, according to the World Resources Institute. Thirst has become a looming threat, and the World Bank estimates economic losses from climate-related water scarcity in Jordan at 6-14 percent of GDP by 2050.

Jordan is the second poorest country worldwide in terms of drinking water sources, according to Omar Salameh, spokesman for the Ministry of Water and Irrigation. He says



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climate change has exacerbated the situation by depleting the country's natural water sources, which are divided into traditional and non-traditional sources. Traditional sources include surface waters like the King Abdullah Canal, Yarmouk River, Zara and Ma'in hot springs, groundwater aquifers like al-Dissi and the dam waters. Non-traditional sources include desalinated groundwater, which can be used for agriculture and as drinking water, as well as treated wastewater from sewage plants, used for irrigating forest trees, and non-edible plants and growing animal fodder. A study by the Germany-based Federal Institute for Geosciences and Natural Resources and the Jordanian Ministry of Water and Irrigation published in 2019 highlighted the impact climate change was having on the rate of spring discharge (water which leaves groundwater basins in the form of springs) – which had declined to under 50 percent of what it was before 1970. Water levels in the groundwater basins themselves had also dropped by around 8 metres per year due to excessive pumping, declining rainfall, and increased evaporation rates.

The Middle East is one of the regions most affected by global warming and is characterised by fragile ecosystems, on which the impact of climate change is clear, says Dr Muheeb Awawdeh, lecturer in the department of Earth and Environmental Sciences at Yarmouk University.

Climate change is having negative impacts across the world, a result of damage to the atmosphere due to CO2 emissions from combustion processes, resulting in a warming planet. One impact of this is increased evaporation of rainfall.

In Jordan and other arid climates, the volume of rainfall lost through evaporation is estimated at 90 percent, with the remainder filtering into the soil. Once that is saturated, it penetrates deeper to replenish groundwater basins, or transforms into surface runoff such as torrents, which can run into valleys and surface water bodies like dams, helping to replenish them.

Original Article: [The New Arab by Tala Ayoub](#)

Southern Europe drought sparks grain price spike

Ingredients experts, Eurostar Commodities warns that the severe drought in southern Spain and Portugal is having a drastic effect on the price of long grain rice and resulting in forecasted tighter supplies and a price increase of almost one third (29%).

The volume of the next Spanish long grain rice crop will drop significantly by -70% as a consequence of the severe drought.

In Portugal on the ground conditions are different but the production decrease is expected to be between -10-20% down on usual production of long grain rice

The availability of water in some of these areas was not sufficient enough to allow the growing of rice at all Prices in the Far East continue to rise with the growing demand for large quantities of long grain rice from Europe.



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With this severe lack of availability, prices will increase by 29%.

Ingredients expert, Jason Bull, director, Eurostar Commodities, said: “Food price inflation is still going strong and increasing due to drought and raw material availability issues.

“If we then add in currency exchange rates, transportation and fuel costs, and finance interest then the market is in a situation where price will rise sharply from early December of this year.

Retailers, restaurants and the food service industry will either have to absorb these additional costs or pass them on to customers. The market is now increasing prices to reflect a substantial decrease in raw product and huge hikes. Food inflation still has a way to go.”

According to analysis by Refinitiv Agriculture Research, corn and wheat production losses, as evidenced by record low vegetation density across the region – known as NDVIs, reached 13 and 7 million tons, respectively.

The UK imports the majority (40-50%) of corn and wheat from France, Romania, and other European countries.

As the key input materials for human food and livestock feed industries, shortages of grain supplies will inevitably result in higher prices in stores.

Thomas Walsh, director of agriculture and weather research at Refinitiv, said: “With a cost-of-living crisis and rising inflation, this unusually hot summer has added additional pressure to the agricultural sector.

“According to Refinitiv’s weather projections, relief is likely to continue in the form of high rainfall.”

Original Article: [Talking Retail by Tony Corbin](#)

Drought in England and fires in France mark persistent heat wave

Firefighters from across Europe came to the rescue of France on Friday to battle a massive bushfire and parts of England were facing severe drought as successive heatwaves in the continent renewed attention on the risks of climate change.

Much of Europe has faced weeks of scorching temperatures that have sparked massive wildfires, are depleting water levels in Germany’s Rhine River and have seen the headwaters of the UK’s River Thames dry lower than in years. previous.

In central Portugal, a massive forest fire was raging into its seventh day, with 1,600 firefighters supported by 13 water-jets, including one sent from Spain, battling the blaze that has destroyed around 15% of the Serra da Estrela national park.

After starting on Saturday in the Covilha area, the fire has spread to several neighboring councils, burning a total of some 15,000 hectares.

Meanwhile, the water level in Germany’s Rhine River has dropped again, and some ships are no longer able to navigate, shipping operators and brokers have reported.



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High temperatures and a worsening drought have caused a high risk of new fires in the Gironde, in southwestern France, local authorities said, even after a fire that has been burning for days, scorching thousands of hectares and displacing 10,000, was brought under control. people.

Firefighters from Germany, Romania, Greece and other countries rushed to the scene to help France fight the fire in the region, the birthplace of Bordeaux wine, as well as on other fronts, such as Brittany in the northwest.

France's European counterparts also sent two more water-dropper planes, in addition to the four they had already lent to the country's firefighting efforts. The risk of new fires is "very serious" taking into account the weather conditions, the Gironde prefecture said.

"The day will probably be difficult, since the temperatures continue to rise and the humidity continues to drop, so obviously we remain vigilant and mobilized," said senior local official Ronan Leautic at a press conference.

Temperatures of up to 40 degrees were expected in the southwest, and very high in much of France as well, the official Meteo France weather forecast said. The heat wave – officially the third this summer in France – was set to ease on Saturday and end Sunday with thunderstorms, he said.

Further north in the UK, the heatwave was also hitting hard, with the government formally declaring parts of southern, central and eastern England a drought after a prolonged period of hot, dry weather.

England suffered its driest July since 1935, with just 35% of the month's average rainfall, and parts of England and Wales are now in the midst of a four-day "extreme heat" warning.

"All the water companies have assured us that essential supplies remain secure, and we have made it clear that it is their duty to maintain those supplies," British Secretary of State for Water Steve Double said after a meeting of the National Drought Panel. .

Water companies will begin implementing agreed drought plans to help protect supplies, and the government has urged citizens and businesses in drought-affected areas to use water wisely.

On Friday, Yorkshire Water announced that the use of hoses to water gardens, wash cars or fill swimming pools would be banned on August 26.

Original Article: [Market Research Telecast](#)

Protecting the priceless: Using groundwater

An overview of India's groundwater situation has recently been made public by the Ministry of Water Resources. On the



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surface, there is good news: the country's total annual groundwater recharge, which is defined as the groundwater stored, is 437.60 billion cubic metres (bcm), of which 239.16 bcm was taken. According to a comparable study conducted in 2020, 245 bcm of groundwater was extracted annually while 436 bcm was recharged. Recharge in 2017 was 432 bcm, while extraction was 249 bcm. According to the 2022 assessment, groundwater extraction is at its lowest level since 2004, when it reached 231 bcm. The National Compilation on Dynamic Ground Water Resources of India report, however, states that the improvement is only "marginal" and may be explained by natural conditions and changes in methodology that the Central Ground Water Board and States, who conduct the survey, adopt.

A decrease in groundwater extraction may indicate better water management. In fact, more groundwater blocks or wells than in prior years were employed for estimation, and it turned out that the proportion of blocks with 'critically' low groundwater levels was around 14%, or nearly equivalent to that in earlier years. The majority of the groundwater blocks with critical levels are found in Punjab, Haryana, Delhi, and western Uttar Pradesh, where unregulated groundwater withdrawal has lowered the water table despite replenishable systems. Other blocks that are in risk are those in Rajasthan and Gujarat, where arid climates limit groundwater recharge, and lastly, areas of Karnataka, Tamil Nadu, Telangana, and Andhra Pradesh, where crystalline water-storing aquifers naturally limit groundwater supply. It is obvious that much more work has to be done to conserve groundwater. There is no overarching law that governs the use of groundwater, and each State has its own laws governing its extraction that are only sporadically enforced. A draught National Water Policy has suggested switching from water-intensive crops and giving recycled water precedence over freshwater for industrial uses. Water shouldn't be viewed as a free, private resource; instead, its expenses should be calculated and shared fairly. While the politics of water are still divisive in India, the climate crisis should spur agreement on disincentives for wasteful consumption of this valuable resource.

Original Article: [The Northlines](#)

US President meets Egyptian counterpart, expresses support for Egypt's water rights

US President Biden met with Egypt's President Abdel Fattah Al-Sisi on the margins of the 27th United Nations Climate Change Conference (COP 27) in Sharm El Sheikh, Egypt. President Biden expressed support for Egypt's water rights.



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He also expressed United States' solidarity with Egypt in the face of the global economic and food security challenges caused by the Russia-Ukraine war.

US President raised the importance of human rights and respect for fundamental freedoms. Al-Sisi said that Egypt has taken several steps to improve human rights conditions, launching a national strategy for human rights and the Egyptian national dialogue as well as the Presidential Pardon Committee.

President Biden congratulated President Al-Sisi on hosting COP 27, and the two leaders reaffirmed their commitment to accelerating global efforts to tackle the climate crisis.

President Biden and President Al-Sisi also emphasized their mutual commitment to the multifaceted US-Egypt strategic partnership.

President Biden expressed the United States' solidarity with Egypt in the face of the global economic and food security challenges caused by the Russia-Ukraine war, as well as his support for Egypt's water rights.

The two leaders also consulted on regional security challenges, opportunities to de-escalate conflicts, and the decades-long US-Egypt defence partnership.

Original Article: [Zawya by Mohamed Samir](#)

How Droughts in Mexico Could Shape the Future of the Beer Industry

As northern Mexico this year endured one of its worst droughts in decades, brewers dotting the parched landscape guzzled vast quantities of water, pumping out national favorites like Corona and Tecate that helped make the country the world's largest exporter of beer.

At the imposing brick Heineken plant in the city of Monterrey, the pipes never stopped flowing, even as fights broke out at lines for government water trucks and as parasites spread among children who missed regular baths.

The water in Blanca Guzmán's neighborhood had been out for days when she decided to protest, joining a group of activists in July to block the entrance to Heineken's office. "You'd open the tap and there wouldn't be a drop of water," she said. The brewing factories, though, "they produced and produced and produced."

As droughts become more frequent and severe around the world, brewers and other heavy industrial water users have landed at the center of the climate fight in Mexico, with activists leading a movement to reclaim resources from corporations that has gained recognition at the highest levels of government.

Even the promise of jobs and economic development is wearing thin as extreme weather events put the disparity in access to water between private industry and households on clear display, forcing some of the biggest global brands onto unsure footing.

Brewers in particular have become a target for activists, given the industry's presence in the drought-prone north.

Heineken, Anheuser-Busch InBev and Constellation Brands all operate large plants in northern states that capitalize on proximity to consumers in the United States, where



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the most popular imported beers by far are Mexican. Overall, Mexican brewers sold more than \$5 billion worth of beer abroad last year, making Mexico the top global exporter of the beverage, according to the World Bank.

Yet in July, eight of Mexico's 32 states experienced moderate to extreme drought, resulting in more than half of its 2,463 municipalities [confronting water shortages](#), according to the National Water Commission.

In response, President Andrés Manuel López Obrador of Mexico said in August that he would end beer production in the north, where the majority of the industry operates, and send it to the more water-rich south.

“This is not to say we’re not going to produce any more beer,” he said during a news conference. “It’s to say we’re not going to produce beer in the north. That’s over.”

Mr. López Obrador has yet to follow through on the threat, and industry insiders say that so far, beer production in the north has been unaffected by his comments. But the president's position reflects a broad challenge to the billion-dollar business, which uses extraordinary amounts of water at a moment when the effects of climate change are being felt most acutely.

To make beer — about two and a half liters of water are needed to produce one liter in Mexico — brewers here buy rights to gain access to water from the federal government in deals that can last for decades.

Original Article: [The New York Times by David Shortell and Lorena Rios](#)

Water buybacks remain on agenda to protect Murray-Darling Basin:

Plibersek

Buybacks and infrastructure to improve farming efficiency will be central to the federal government's plans to provide more water to the environment across the Murray-Darling Basin, Environment and Water Minister Tanya Plibersek has confirmed.

Plibersek, speaking to Sky News on Sunday, said even though much of south-east Australia was enduring floods at present, there would be future droughts that would strain basin communities, which would require access to environmental water flows.

An independent review, commissioned by the federal government and released in August, found a \$1.8 billion fund to restore the health of the Murray-Darling system is failing due to rule changes championed by the Nationals in 2018 to block farmers from selling their irrigation rights.

The \$1.8 billion was aimed at recovering 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. But Plibersek said the previous government was never really committed to the fund, with just two gigalitres of water saved.

She said water buybacks had to be on the agenda, especially as some farmers were voluntarily approaching the government to sell their water.



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“It’s really important that buybacks are on the table, we’ll continue to look at other infrastructure projects to reduce demand on water across the Murray-Darling Basin,” she said.

“If there are unproductive areas of irrigation networks that irrigators want to close down or retire, we’ll look at proposals like that.”

Plibersek said the National Party appeared opposed to allowing farmers to sell to the government but happy for them to sell rights to anyone else.

In 2019, Public Sector Pension Investment Board (PSP Investments), one of Canada’s largest fund managers, bought a huge parcel of Australian permanent water rights for \$490 million to irrigate almond trees in Victoria’s Sunraysia district.

“I always think that it’s extraordinary that the National Party think it’s fine for farmers to sell their water to big state-owned enterprises from overseas, to the Canadian teachers’ pension fund ... anybody overseas, but their own farmers aren’t allowed to sell their water back to the Australian government to be used for the environment to benefit all Australians,” she said.

Opponents of water buybacks argue that in some cases, regional communities built around irrigation will be left without a vital industry.

Plibersek said environmental water was also important to regional communities that will face drought in the future, arguing they helped the economy and lifted “the mood” of rural towns.

“We know we need to do this right now because implementing these changes will take years and we know Australia will have another drought cycle in the future,” she said.

“We know that the environmental water that was released during the end of the last drought actually literally saved towns.

“If we are going to be able to do that in the future when there are droughts then we need to achieve the targets set out in the Murray-Darling Basin Plan.”

Original Article: [WA Today by Shane Wright](#)

ADB announces mobilising \$200m for water resilience programme in Asia, Pacific

The Asian Development Bank (ADB) recently joined with partners at COP27 to announce the ambition to mobilise more than \$200 million from 2021 until 2025 to create water and sanitation resilience and security in Asia and the Pacific.

The Asia and the Pacific Water Resilience Initiative, also known as RUWR: ARE yoU Water Resilient?, is a wide-ranging programme aiming to build capacity and resources for innovative solutions to mainstream resilience by addressing gaps, needs, and opportunities at the local level.

It is part of ADB’s commitment to scale up financing for climate change adaptation, according to an ADB statement.



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Building on the mobilisation of more than \$80 million in 2021–2022, ADB recently welcomed new support to take effect in 2023.

The Netherlands is supporting the initiative with a \$20 million contribution to the newly established Water Resilience Trust Fund, which falls under the banner of RUWR and will focus on adaptation, innovation, and inclusivity to accelerate water resilience.

The Bill & Melinda Gates Foundation is providing \$10 million to the Sanitation Financing Partnership Trust Fund under the initiative, which will help expand inclusive urban sanitation services, pilot and upscale sanitation technology and innovations, and support policies and capacities to deliver inclusive, resilient, and sustainable sanitation systems. ADB plans to allocate more than \$120 million in grants between 2023 and 2025 for water and sanitation security and resilience to support the initiative.

It has also established a technical assistance (TA) cluster of \$8.0 million, called Mainstreaming Water Resilience in Asia and the Pacific, which will manage the RUWR. The TA cluster is funded by ADB resources, the e-Asia and Knowledge Partnership Fund, and the Japan Fund for a Prosperous and Resilient Asia and the Pacific.

The contributions from the Netherlands and the Bill & Melinda Gates Foundation will add to the \$115.9 million in grant financing received from partners under the Water Financing Partnership Facility (WFPF), which has supported 113 ADB investment projects in 20 countries since 2006. The governments of Spain and Austria are also WFPF funding partners.

"Water is one of the world's most critical natural resources and one increasingly threatened by the impacts of climate change in Asia and the Pacific. It is the primary medium through which we will feel the effects of climate change," said ADB's Chief of Water Sector Group Neeta Pokhrel. "Small transformational steps toward water and sanitation resilience today will mean we can make great strides in climate adaptation at the local level."

"Climate change threatens millions of people in Asia and the Pacific. Women and children are the most affected," said head of the water unit at the Ministry of Foreign Affairs of the Netherlands Karin Roelofs. "We have to join hands to make the water sector more resilient."

"In the face of more frequent and severe flooding, as well as in drought-affected areas, lack of resilient sanitation systems is a major public health hazard. The spread of disease from poor sanitation has the greatest impact on the poorest families in vulnerable, disaster-prone areas," said Bill & Melinda Gates Foundation President Rodger Voorhies.

"Our support to the Sanitation Financing Partnership Trust Fund is a pledge to our continued partnership with the Asian Development Bank in building systems, knowledge, and capacity for urban water resilience in the region and ensuring that sanitation is central to this effort," Voorhies said.

Original Article: [The Financial Express](#)



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Drought in Portugal is “a negative risk” for growth

“Growth rates are directly related to energy prices and commodity prices in general and so [drought] is one of the negative risks we have in specific countries,” said European Economy Commissioner Paolo Gentiloni.

Responding to a question from Lusa after the presentation of the autumn macroeconomic forecasts in Brussels, the official added: “We have experience, both in Portugal and in Spain, of the impact on hydroelectric energy and the energy mix”.

In the chapter on Portugal, the European Commission notes that “risks to growth prospects remain significantly on the negative side in light of the uncertain global environment and country-specific risks related to the severe drought in the Iberian Peninsula, which could have prolonged repercussions in the domestic food supply”.

According to Brussels, “after a strong recovery, the Portuguese economy is expected to slow down substantially in the short term, limited by weak external demand and high energy prices”.

Original Article: [The Portugal News](#)

England Needs Even More Rain to Escape Long Drought

People in the UK could be forgiven for thinking that after recent downpours, the country’s reservoirs must have recovered from the record-breaking hot, dry summer.

That is not the case, however, with some utility companies keeping strict limits on use while requesting permission from the government to extract water from rivers.

Official documents, seen by Bloomberg News, say that parts of England still need above-average rainfall in the coming months to avoid staying in a drought through to next summer. Otherwise the country could be lumbered with ongoing hosepipe bans and intensifying political pressure on the private companies that impose restrictions while allowing vast amounts of water to leak out of the system.

The documents reveal stress tests conducted by the Environment Agency into the country’s water resources. The analysis, from last month, said that “above average rainfall falling steadily over winter is required to return all water supplies to normal conditions by spring next year.”

Merely average levels of rain would leave some areas in the south west of England in a drought, including in Cornwall and parts of Devon, it added, while other regions could be at risk “depending on when the rain falls.”

Climate Emergency

Water companies struggled to cope with extreme weather over the summer, when dry spells drained out their reservoirs only for heavy rains to overwhelm sewer systems. Water charities and activists warn that this could become the norm as climate change takes hold.

“This is a climate emergency happening in front of us,” the Environment Agency wrote in the document.



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Water companies are increasingly seeking permission to extract more from rivers, or to keep taking water even when levels drop below certain thresholds, or impose limits on commercial water usage. By the middle of October, six companies -- South West Water, Yorkshire Water, Thames Water, Severn Trent Water, South East Water and Southern Water -- had applied to be granted special permits.

The Environment Agency expects more requests over the winter as companies try to future-proof their supplies.

That's in addition to prolonged hosepipe bans, which stop households from watering their gardens or washing their cars. The current bans were put in place during the summer when temperatures in England exceeded 40 degrees celsius (104 degrees fahrenheit) for the first time on record.

Southern Water lifted its hosepipe ban on Friday, yet Thames Water and South West Water are keeping theirs to manage demand as reservoir levels remain critically low, despite generous rainfall over the recent days, the companies said.

This summer's drought depleted reservoirs and dried out groundwater levels to such an extent that the wet autumn has not been enough to recharge resources, according to the water companies.

Original Article: [Bloomberg by Irina Anghel](#)

\$31.6M for major federal water market reform

The Federal Government is investing \$31.6 million in "once-in-a-generation" water market reform, prioritising trust and transparency for farmers and industry.

The reform will update and improve how buyers and sellers trade and sell water licences. The funding will implement the Water Market Reform: Final Roadmap Report – which will improve the functioning and governance of water markets and improve overall confidence.

The Reform Roadmap recommendations are split into four sections: Integrity and transparency, Data and systems, Market architecture and Governance.

The funding includes:

\$12 million over four years to the Australian Competition and Consumer Commission (ACCC) to regulate water market conduct

This will ensure the ACCC can enforce the new mandatory code of conduct for water market intermediaries and enforce new market misconduct prohibitions

\$9.1 million over four years for the Inspector-General of Water Compliance to regulate market data

This will ensure enforcement of new water markets data requirements, which are critical to the success of the new integrity safeguards. The ACCC found that lack of information was a major barrier for transparency and compliance with existing laws

\$9.4 million over four years for the Department to implement the roadmap recommendations



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This includes drafting necessary legislative amendments and preparing new legislation for the whole suite of water market reform measures

In addition, the Bureau of Meteorology will receive funding of \$1 million to scope the development of a National Water Data Hub which will improve national water information to provide industry with quality, timely and consistent data.

Water markets have become increasingly important as irrigation increases, water reliability falls, and the differences between high and low flows across the Basin become more extreme.

This investment will strengthen the Murray-Darling Basin water market and will enable greater checks and balances. This will also aid delivery of the Basin Plan.

The Australian Government will prioritise working collaboratively and cooperatively with Basin jurisdictions to achieve these commitments.

Federal Minister for the Environment and Water, Tanya Plibersek said the reforms will deliver trust and certainty to irrigators and industry.

“Water markets reform will crack down on the cowboys of the system, and make sure it’s a level playing field for those doing the right thing,” Ms Plibersek said.

“Our investment of \$31.6 million to deliver water market reform will go a long way to improve integrity, prohibit market manipulation and provides us with avenues to deal with instances of insider trading.

“As an example, the integrity reforms will include: prohibiting market misconduct, introducing a mandatory code for water market intermediaries, introducing mandatory rules and processes for water announcements and broadening and strengthening price reporting obligations.

“I look forward to working in collaboration with state and territory Basin Ministers to deliver this reform.”

The Australian Water Brokers Association (AWBA) said they have actively supported and advocated for positive and proactive change in the regulation of all Australian Water Markets for several years.

“Increased transparency and increased market confidence for the benefit of all water market participants has been at the core of the AWBA goals,” a spokesperson for the AWBA said.

“The current funding announcements by the Federal Government are welcomed by the AWBA as a timely and critical step after over three years of water market inquiries, commencing the actual regulatory and system changes necessary to meet those goals.”

Original Article: [Utility Magazine by Holly Tancredi](#)

Work on US\$600mn Mexican aqueduct could start this year

Mexico's Querétaro state has set in motion a plan to begin works on a 12bn-peso (US\$614mn) third aqueduct to serve the state capital and offset fears of future water shortages.



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“This is a project that is planned to take 3m³/s of water to the Querétaro metropolitan area. This is the future,” the CEO of Mexican engineering firm Cipro, Manuel Salas, told BNamericas.

Cipro announced on November 6 that it was assigned the contract to carry out the executive designs of the project. In a statement, the firm said it was tasked with designing “the construction of an intake, pumping plant, pipelines, special structures and the water treatment plant.”

Although Salas said he could not reveal further details of the initiative, he said, “we will finish the executive project at the end of this year and [the state government] plans to launch the tenders at the beginning of next year.”

Unlike other major water projects in the country that are led by national water authority Conagua, this one is being managed by Querétaro state water authority CEA, which awarded the contract to Cipro.

However, construction of the aqueduct is supported by the federal administration, which will provide 700mn pesos (US\$36mn) in funding, state governor Mauricio Kuri said in June.

The project comes on the heels of a drought across much of northern Mexico that has hit cities such as Monterrey in Nuevo León state and Guadalajara in Jalisco state and the works are expected to help Querétaro, in central Mexico, from facing the same problems, Salas said.

“They are looking to prepare themselves for the growth that the city is experiencing, that industries are experiencing ... since water is a pillar of development,” he said, adding that the aqueduct will guarantee water in the city for the next 30-50 years.

Cipro’s portfolio also includes other design and supervision contracts for water works, such as the third aqueduct of Mexico City’s Cutzamala system and the water treatment plant for the Agua Saludable para la Laguna program in Durango and Coahuila states.

It has also won a water and sanitation system contract in the Dominican Republic for the US\$3bn Pedernales tourism hub project, and in Colombia, where it is supervising the control project for the Bogotá aqueduct.

Original Article: [BN Americas](#)

NASA mission will measure all of the Earth's water

With a multi-year drought bearing down on California and the West, there's an intense focus on nearly every drop of water. But in a few weeks, we may begin to get a history making look at where that water is and where it's going. Not just here, but around the entire planet.

"It is the first mission where we can really see a complete survey of the surface water here on Earth, and allows us to do a bunch of different things, it allows us to connect what's happening in the ocean to what's happening on land," says Ben Hamlington, Ph.D., of the NASA Jet Propulsion Lab in Pasadena.



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Hamlington is describing a new mission known as SWOT, for Surface Water and Ocean Topography. It's being powered by a cutting edge research satellite, that's scheduled to be launched aboard a Space-X rocket from Vandenberg Space Force base in December. Using technology, including a sophisticated form of radar, the satellite will survey and measure nearly all the water on the Earth's surface, including lakes, rivers, reservoirs and the ocean itself. NASA researchers say those ocean measurements could deliver new and precise data on changes like temperatures, the impact of melting glaciers and sea level rise. And perhaps provide a look into the future for our coastline and San Francisco Bay.

"What happens really close to the shore and how the currents move and how sea level changes on these much finer scales as you get closer to coastlines, the Bay Area, there's a lot of complexity there as you get into the bay, swats going to start to help us understand exactly what's happening closer to the shore," explains Hamlington.

The SWOT satellite will not only measure the world's lakes, rivers and reservoirs, it will help track changes in the movement and volume of water. Professor Tamlin Pavelsky, Ph.D., of the University of North Carolina at Chapel Hill is working as the hydrology science lead for the mission. He says that three dimensional understanding could be critical for drought ravaged areas.

"So if you think about all the lakes and reservoirs, like up in the Sierras, for example, but also in China and Africa everywhere, we're going to be able to see how the amount of water that's stored in them changes over time. So during droughts, we'll see how much less water we have, and during really wet periods, will we'll be able to actually track, quantitatively how much more water we have," says prof. Pavelsky.

Experts believe understanding flood patterns could help us recover and store valuable water that's currently being lost. Perhaps diverting it into underground aquifers or reservoirs.

"It would be amazing if we can see the entire water cycle from space. And that would help us manage our water resources better, it would help us avoid hazards, and it would help us as scientists just better understand where we're going," Pavelsky adds.

And where we're going, could depend greatly on the water we have available, and how we're able to better understand and manage it. The mission is also expected to generate data on factors like ocean temperature that could be contributing to climate change as well according to researchers.

Original Article: [ABC 7 News by Dan Ashley](#)



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