

# Veles Water Weekly Report

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June 10<sup>th</sup> 2021

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## WATER FUTURES MARKET ANALYSIS

Welcome to ***WATERTALK***

by Robin Bieber

**CLICK THE LINK BELOW**

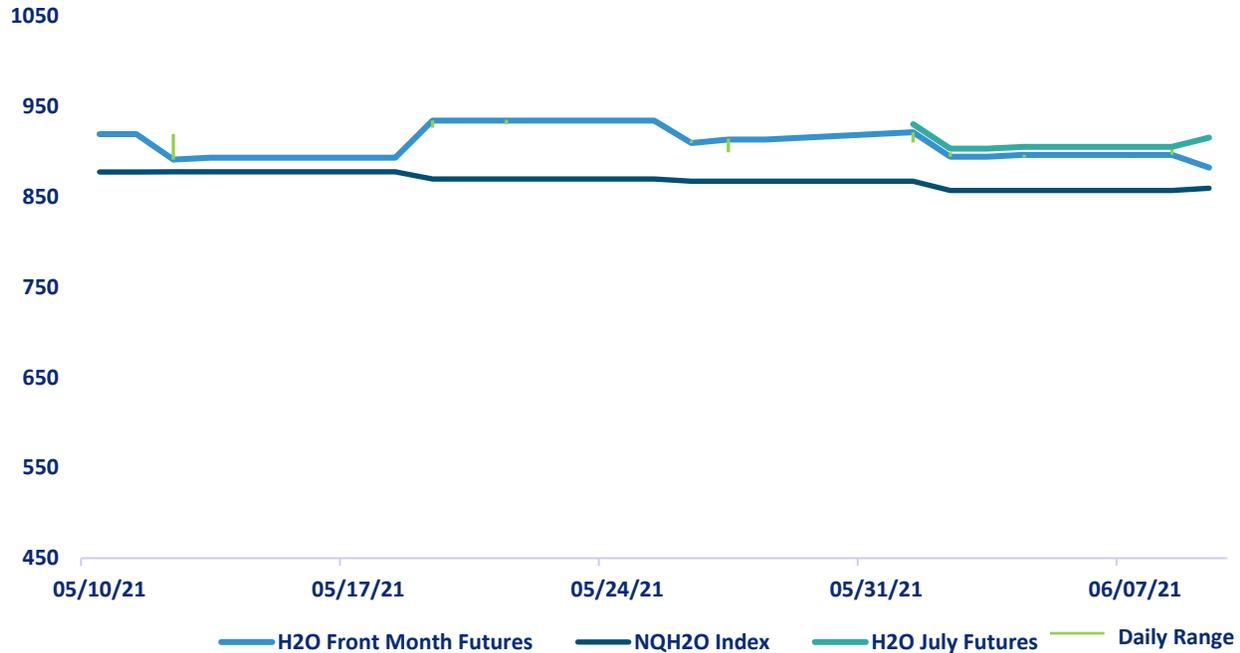
*"A 2 minute technical analysis video of H2O futures by Robin Bieber."*

<https://vimeo.com/561212371/7a73aeb11b>



## NQH2O INDEX PRICE vs H2O FUTURES PRICE

1 Month Price Performance NQH2O Index vs H2O Futures



Price Chart Based upon Daily Close

On June 9<sup>th</sup> the new index level was published at \$859.31 up \$2.6 or 0.30% from the previous week. The front month (June) Futures Contract has been trading at a premium of \$37.29-\$39.29 for the past week. The June H2O Futures high for the week was \$902 on June 8<sup>th</sup>. The low for the week was yesterday, June 9<sup>th</sup> at \$882.

The July H2O Futures contract started trading last week at a high of \$930 and has been running tracking parallel to the June contract. However yesterday with the new index level being published there was a slight divergence in price closing at \$915 a premium of \$55.87 indicating the market believes the price could still move higher.

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

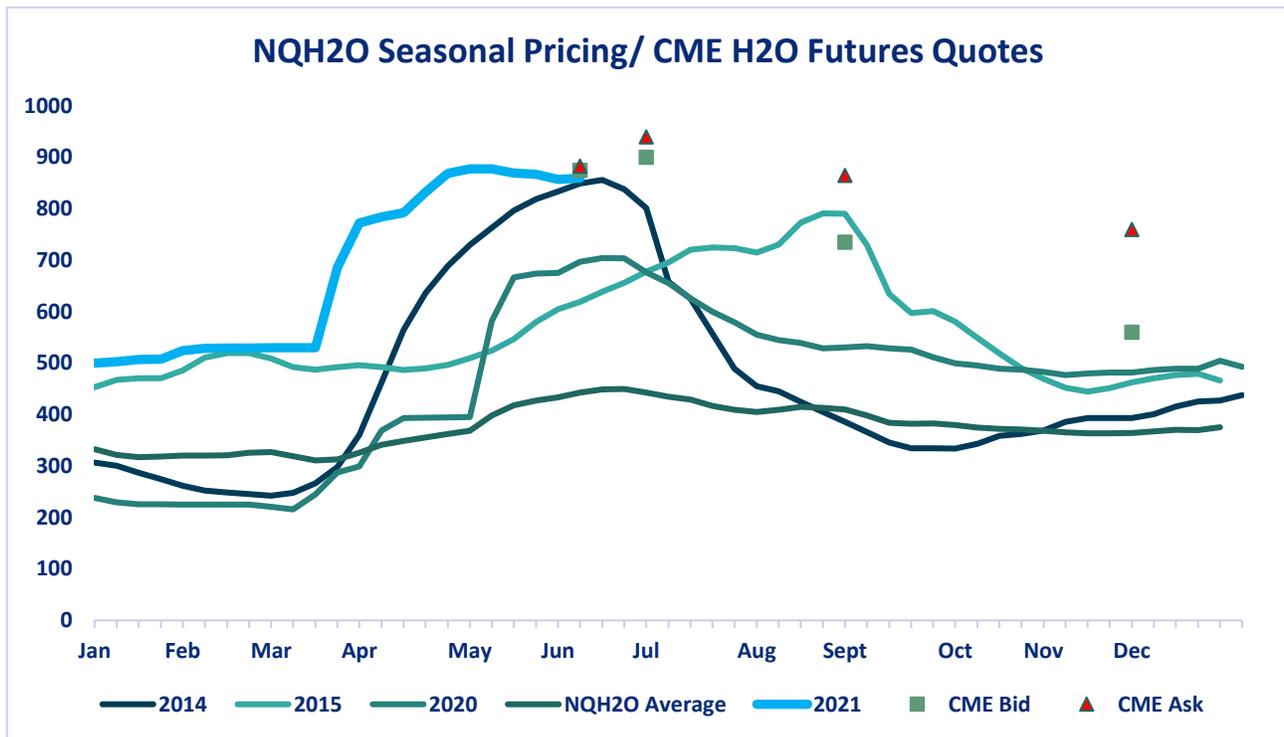
July is 900@940

September 735@865

With the September offer being cheaper than the July bid by \$35, this is indicating an implied seasonality in the trading of water, with prices peaking in summer and tapering off in winter.



## NQH2O INDEX HISTORY



The graph above lays out the NASDAQ/Veles water index by year, showing 2014, 2015, 2020, 2021 plus an average price of the last eight years. 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 many other commodities.

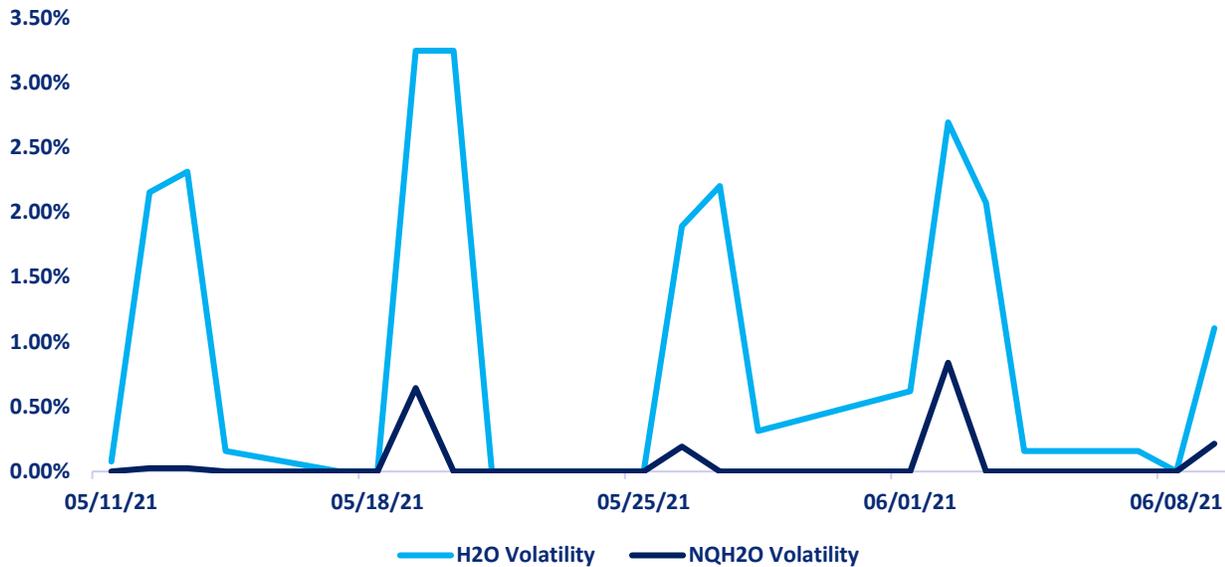
The graph for 2021 is highlighted in light blue. It shows the same seasonal climb, but at record-high values above each of the last eight years since February.

The bid and offer prices for July and August are expecting further upside while Septembers offer price is showing the seasonal weakness expectations.

( Ref: **John H Dolan, Market Maker CME**)



### Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	34.92%	5.94%	1.34%	1.49%
H2O FUTURES	N/A	13.3%	7.17%	2.84%

For the week ending on the 9<sup>th</sup> June the two-month futures volatility is at a premium of 7.41% to the index up 1.84% from the previous week. The one-month futures volatility is at a premium of 5.84% to the index, down 0.10% for the week. The one-week futures volatility is at a premium of 1.35% to the index up 2.99% on the week.

With futures volatility outstripping index volatilities, it is implying sentiment of some larger moves to come in the market.

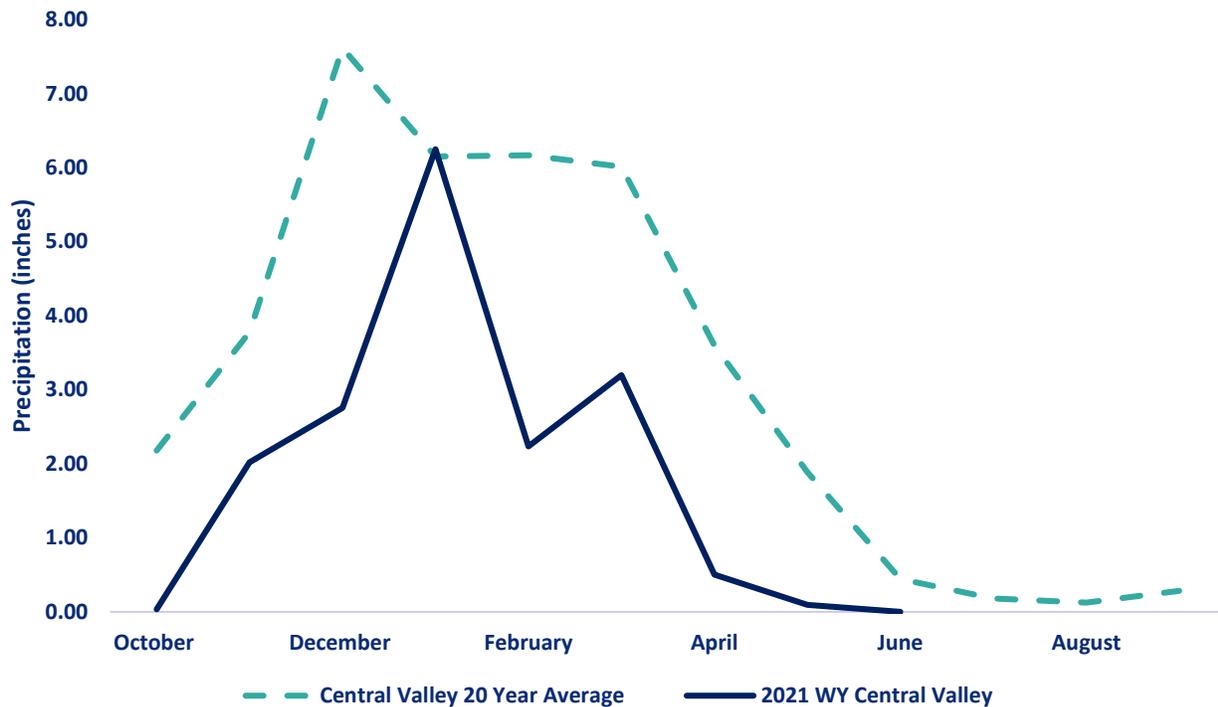
#### DAILY VOLATILITY

Over the last week the June future volatility high has been 2.70% on June 3<sup>rd</sup> and the low has been 0% on June 8<sup>th</sup>.

*Above prices are all **HISTORIC VOLATILITIES** and **IMPLIED VOLATILITIES** will be introduced once an options market has been established.*



Central Valley Precipitation Index



Central Valley average is calculated using data from 19 weather stations in the Central Valley, California.  
Data as of 06/09/2021

STATION	MTD (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF 20 YEAR AVERAGE MTD	2021 WYTD VS 2020 WYTD %	2021 WY VS 20 YEAR AVERAGE TO DATE %
SAN JOAQUIN 5 STATION (5SI)	0.00	0.00	0.00%	64	48
TULARE 6 STATION (6SI)	0.00	0.00	0.00%	67	35
NORTHERN SIERRA 8 STATION (8SI)	0.00	0.00	0.00%	63	47
CENTRAL VALLEY TOTAL	0.00	0.00	0.00%	65	43.33

RESERVOIR STORAGE

RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	HISTORIC ANNUAL AVERAGE CAPACITY %
TRINITY LAKE	1,237,691	51	75	59
SHASTA LAKE	1,922,016	42	76	50
LAKE OROVILLE	1,304,757	37	67	44
SAN LUIS RES	838,818	41	61	54

# VELES WATER WEEKLY REPORT

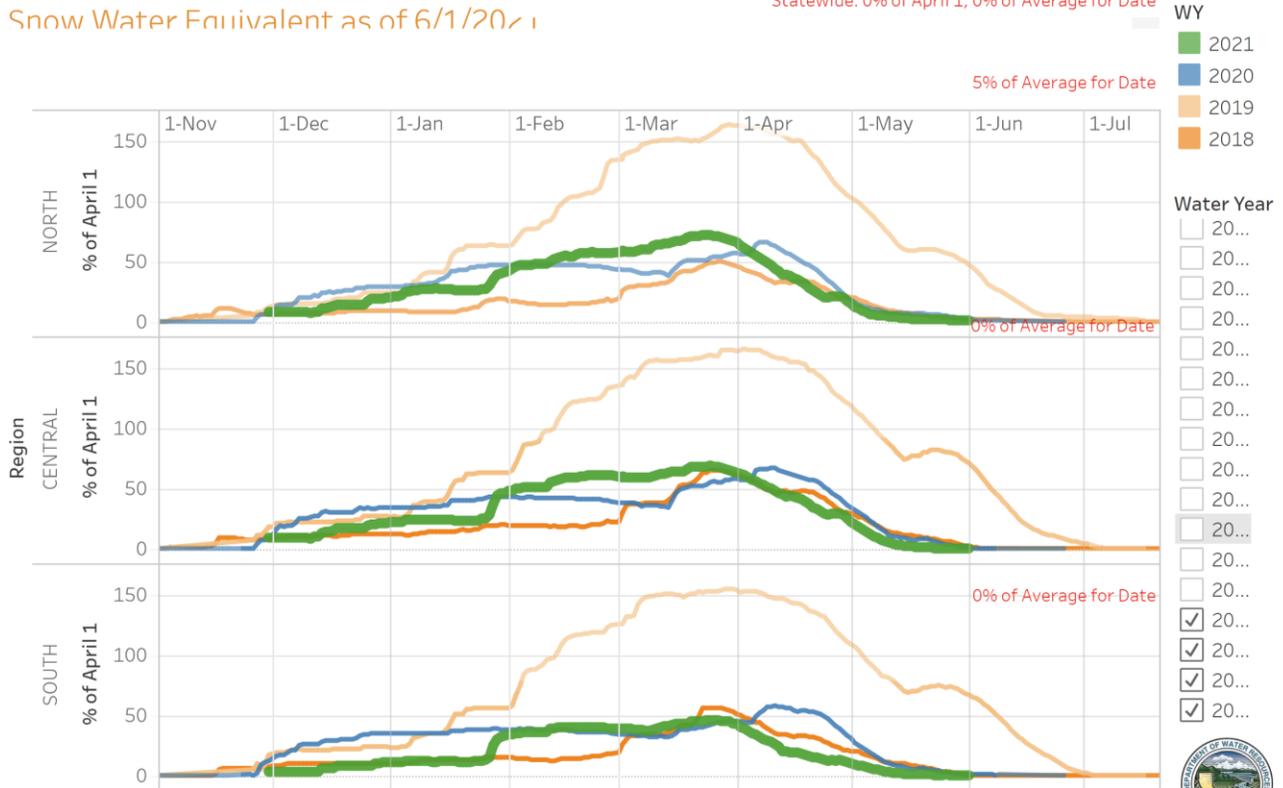
## SNOWPACK WATER CONTENT



### Snow Water Equivalent Dashboard

Snow Water Equivalent as of 6/1/2021

Statewide: 0% of April 1, 0% of Average for Date



Last Updated: 6/9/2021 5:15:37 AM



REGION	*SNOWPACK WATER EQUIVALENT (INCHES)	WEEK ON WEEK CHANGE %	% OF AVERAGE LAST YEAR	% OF 20 YEAR HISTORICAL AVERAGE	% OF HISTORICAL **APRIL 1ST BENCHMARK
NORTHERN SIERRA	0.2	0.00%	9	5	1
CENTRAL SIERRA	0	0.00%	3	0	0
SOUTHERN SIERRA	0	0.00%	3	0	0
STATEWIDE	0.1	0.00%	3	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.

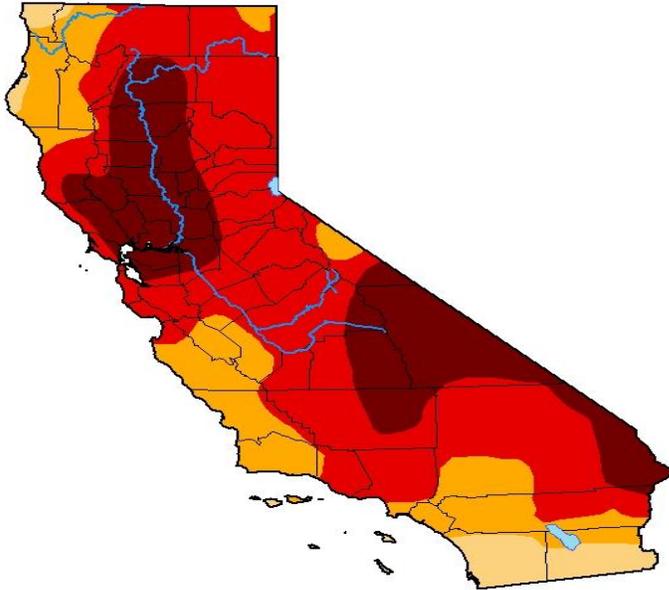
\*\* April 1<sup>st</sup> is used as the benchmark as it when the snow pack in California is generally deepest. It has been used the benchmark date since 1941 by DWR and can be used to predict spring river flow.



# DROUGHT MONITOR

## U.S. Drought Monitor California

**June 1, 2021**  
(Released Thursday, Jun. 3, 2021)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	100.00	94.61	74.46	26.04
<b>Last Week</b> 05-25-2021	0.00	100.00	100.00	94.61	74.46	26.04
<b>3 Months Ago</b> 03-02-2021	0.75	99.25	90.89	56.98	29.54	3.75
<b>Start of Calendar Year</b> 12-29-2020	0.00	100.00	95.17	74.34	33.75	1.19
<b>Start of Water Year</b> 09-29-2020	15.35	84.65	67.65	35.62	12.74	0.00
<b>One Year Ago</b> 06-02-2020	41.80	58.20	46.67	20.84	2.97	0.00

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](http://droughtmonitor.unl.edu)

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



June 1, 2021  
compared to  
May 25, 2021



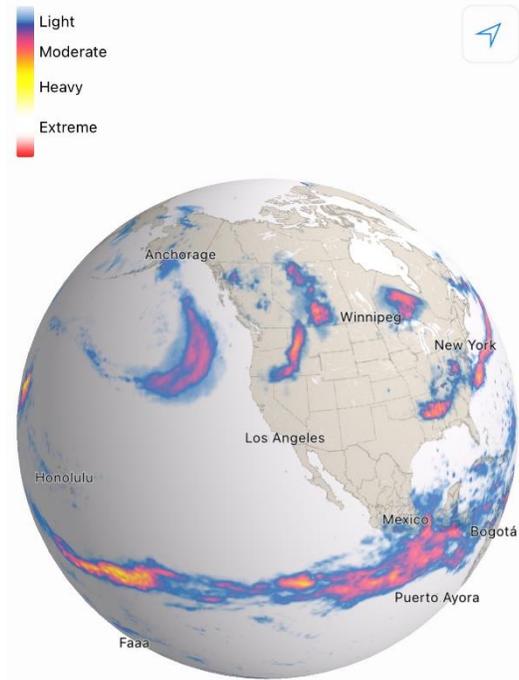
- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)



## CURRENT SATELLITE IMAGERY

California has seen small pockets of precipitation effect the southern Sierra ranging from 0-0.2 inches, the rest of the state has stayed dry.



There has been a cooling off in temperature over the past week. There is potential precipitation from a frontal system which may affect Northern California. However, with increased windspeeds red warnings have been issued.

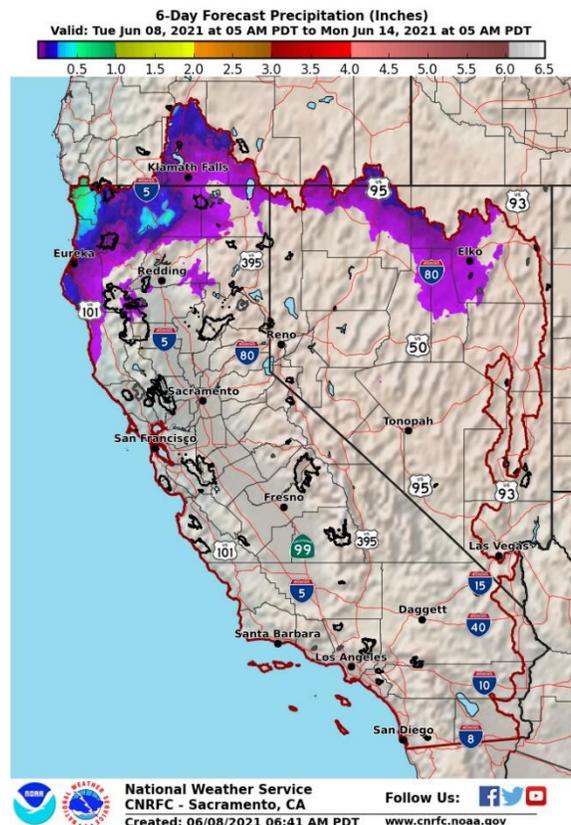
The US Drought Monitor release their statistics with a 1-week lag to this report. As can be seen from the “Drought Change Map” on the previous page there has been no change in drought conditions over the past week. Drought conditions remain severe.

Ref. Dark Sky

## 10 Day Outlook

A broad upper low off the Pacific NW coast which should reach NW CA in the next day or two and a shortwave low is forecast to move across northern CA/NV on Thursday/Friday. This should contribute to light showers across far northern CA and later move across northern NV later in the week.

This low is expected to weaken as it reaches NW CA and will spread light precipitation across the north coast of CA. Our models show potential precipitation could continue to Sunday evening and potentially Monday.





## CALIFORNIA WEATHER DISCUSSION

Whilst California is no stranger to drought conditions, 2021 is shaping up to hotter and drier than previously forecasted. Evaporation from major reservoirs is happening quicker than expected and high levels soil absorption means that California's 1,500 reservoirs sit at 50% below their average for this time of year.

There has been no week on week change in drought conditions at the time of writing this report, however the stats are still worrying as nearly 75% of California is in extreme drought (D3). Santa Clara county has issued mandatory water conditions for the first time since the 2012-2016 drought. By doing so the county is looking to reduce consumption by 15% from levels observed in 2019.

There has been pressure from environmentalists in the Klamath basin to allocate water before the river dries up. Pressure has also come from agricultural users on both sides of the California/ Oregon Border. Questions are being asked, when is Gov. Newsom going to declare a Statewide drought emergency.

Further upstream, Lake Mead is expected to reach its lowest levels since construction began on the Hoover Dam. A spokesperson from the Bureau of Reclamation, Patricia Aaron has commented that they expect the levels to keep decreasing until November 2021.

## REGULATORY NEWS

### **State releases its first reviews of local SGMA plans**

Against the backdrop of what's shaping up as a devastating drought year, the California Department of Water Resources has released its first assessments of groundwater sustainability plans developed by local agencies to meet the requirements of the Sustainable Groundwater Management Act.

The department released reviews of four local plans, approving two but sending the other two back to local groundwater sustainability agencies, saying the plans need more work.



## VELES WATER WEEKLY REPORT

Under SGMA, the local groundwater sustainability agencies must develop plans to guide management of groundwater in basins and subbasins statewide. This first round of assessments pertains to agencies overseeing critically overdrafted basins and that were required to submit plans by Jan. 31.

DWR reported that more than 260 groundwater sustainability agencies have formed. Almost 50 plans have been developed and are being implemented for the critically overdrafted basins.

Local agencies of medium- and high-priority basins are working on another 70 to 90 plans, due to the agency for review by Jan. 1.

The law aims to achieve groundwater sustainability within 20 years.

"We've got years of work ahead of us in basins across the state that have varying states of sustainability, so we look forward to getting sustainable groundwater management in place across California in a way that is the most successful and has the least impactful outcome to California agriculture," California Farm Bureau Senior Counsel Chris Scheuring said.

Steven Springhorn, DWR acting deputy director of statewide groundwater management, said the first four assessments were released ahead of schedule. He called the release of the initial assessments by DWR "a major milestone in our collective work implementing SGMA."

Original Article: [\*Aq Alert by Christine Souza\*](#)

### **Drought: Mandatory water restrictions coming to Santa Clara County**

In a major sign of California's worsening drought, Santa Clara County's largest water provider announced Monday that it is moving forward with plans to declare a water shortage emergency and to urge cities and water companies that serve 2 million residents in and around San Jose to impose mandatory water restrictions.

The move will be the first time since the historic drought of 2012 to 2016 that Santa Clara County residents will face mandatory restrictions as the county becomes the most populous area in California to impose such severe measures.

The Santa Clara Valley Water District, a public agency and water wholesaler based in San Jose, is seeking a 15% reduction in countywide water use from 2019 levels. That amounts to a 33% reduction from 2013 levels. By comparison, during the height of California's last drought, the county cut water use 28% from 2013 levels.

"This is an emergency," said Rick Callender, the district's CEO. "Our water supplies are in serious jeopardy."



## **VELES WATER WEEKLY REPORT**

Santa Clara County will become the second Bay Area county to impose widespread mandatory water restrictions. The Marin Municipal Water District on April 20 approved a plan to cut water use 40%. But other large Bay Area water agencies, including East Bay Municipal Utility District, Contra Costa Water District and the San Francisco Public Utilities Commission, have requested voluntary conservation from their residents so far, saying that they have adequate water supplies in their reservoirs. But if next winter is dry, mandatory restrictions are likely there too.

Original Article: [Mercury News/ Bay Area News Group by Paul Rogers and Kate Selig](#)

### **Water shortage emergency declaration, mandatory restrictions coming in Santa Clara County**

The Bay Area's most populous county likely will soon face mandatory water use restrictions, as officials from its main provider announced Monday they would declare a water shortage emergency this week.

With drought conditions worsening in California, the Santa Clara Valley Water District said it planned to make the declaration and urge water companies and city and county officials to impose mandatory water use rules at a meeting Wednesday.

The district — a public agency and water provider that sells to private companies and other agencies — cannot impose restrictions, only recommend them.

But its largest retailer, the San Jose Water Co., which serves more than 1 million people, said last month that it would follow the agency's guidance, which would make it the Bay Area's largest retailer to impose restrictions.

"This is an emergency," Valley Water CEO Rick Callender said in a statement Monday.

Original Article: [San Francisco Chronicle by Jessica Flores](#)

### **Amid Dire Colorado River Outlook, States Plan to Tap Their Lake Mead Savings Accounts**

A complex and arcane water banking program in the lower Colorado River basin, adopted in 2007 and later amended, was designed to incentivize water conservation, prevent waste, and boost storage in a waning Lake Mead.

The program has already proved its worth, lifting Lake Mead dozens of feet higher than it otherwise would have been and nurturing collaboration among states that will need to work together to surmount daunting challenges of water availability. In the next two years, the program will be tested in another way, becoming a small but important source



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of water for Arizona and California even as the lake continues to fall to levels that haven't been witnessed in several generations.

Water managers in the basin view the program, called intentionally created surplus or ICS, as a flexible tool for adapting to a drying climate. It is a tool that they will soon call upon. Bill Hasencamp from the Metropolitan Water District of Southern California, a large regional wholesaler, told Circle of Blue that the district intends to draw between 100,000 and 150,000 acre-feet from its savings this year.

Arizona officials, meanwhile, plan to use 69,100 acre-feet of ICS credits to reduce mandatory cutbacks that will be required in 2022 if Mead declines as projected. The state already used this maneuver to deal with a cutback last year, albeit in a smaller amount. Instead of taking a big cut in one year, ICS allows Arizona to "smooth the reduction," as Chuck Cullom of the Central Arizona Project put it. CAP delivers the bulk of Arizona's Colorado River allocation and is first in line in the state when cutbacks are required.

These amounts are small but significant, especially in these times. An acre-foot is 325,851 gallons, or the amount of water that will flood an acre of land to a depth of one foot. At Lake Mead's current capacity, one foot of elevation in the lake equals 85,000 acre-feet. These ICS uses, at the high end, amount to two and a half feet of elevation in Lake Mead.

Original Article: [\*The Circle of Blue by Brett Walton\*](#)

### **With new law, Las Vegas water agency bets on 'aggressive municipal water conservation measure' to remove decorative turf, conserve Colorado River supply**

The backdrop for the legislation was set hundreds of miles away from Carson City, where the Colorado River meets Lake Mead and the Hoover Dam outside of Las Vegas.

Over the past two decades, Lake Mead, which holds nearly all of Las Vegas' water, has dropped more than 100 feet amid drought and overuse. In response, federal regulators expect to declare the first-ever shortage for the Colorado River next year, triggering cuts to Arizona and Nevada's allocations.

With Lake Mead approaching critically-low levels, the Southern Nevada Water Authority recently turned to the Legislature to double-down on its existing strategy for using less water: turf removal.

Earlier this year, Las Vegas water planners asked the Legislature to pass a new law that prohibits water-intensive decorative turf within medians, along roads and in business



## VELES WATER WEEKLY REPORT

parks. Lawmakers approved it with little opposition and Gov. Steve Sisolak signed the bill on Friday.

Now, the water authority, which serves the Las Vegas metro area, is tasked with implementing what its general manager, John Entsminger, described as probably “the most aggressive municipal water conservation measure that's been taken in the western United States.”

Original Article: [\*The Nevada Independent\* by Daniel Rothberg](#)

### **Environmental advocates call for Klamath Basin water allocations**

Tribes and environmental advocates fear flows along the Klamath River could be reduced to a trickle if the State Water Resources Control Board doesn't take action on water use upstream on the Scott and Shasta rivers.

Andy Marx, board president of Friends of the Shasta River, said the river “virtually dried up” over Memorial Day weekend as a result of excessive irrigation diversions.

“The problem with the Shasta is it was adjudicated well beyond capacity in 1932 before fish were a concern and nothing's really changed in terms of the drought,” Marx said. “Sprinklers are still on and alfalfa fields are green and pastures are green. I'm sure there have been some impacts on (ranchers and farmers) out there, but it doesn't look a lot different from our perspective. The only big difference is the river has gotten so low so early in the year.”

Although the Shasta River contributes less than 1% of the overall flow to the Klamath River, it produces about 50% of the wild Chinook salmon in the Klamath Basin, Marx said. Craig Tucker, natural resources consultant for the Karuk Tribe said the Shasta and Scott rivers “are the heartbeat of the Klamath fishery.”

Original Article: [\*Times Standard\* by Isabella Vanderheiden](#)

### **GSA's Shooting 50% on GSPs—DWR Releases First GSP Assessment Results for High Priority Basins**

The wait is over for some Groundwater Sustainability Agencies (GSAs). The California Department of Water Resources (DWR) released the first Groundwater Sustainability Plan (GSP) assessments for four basins yesterday, June 3, 2021.

DWR approved the 180/400 Foot Aquifer Subbasin in Salinas Valley and the Santa Cruz Mid-County Basin. DWR determined both GSPs “satisf[y] the objectives of the Sustainable Groundwater Management Act (SGMA) and substantially compl[y] with the GSP Regulations.”



## VELES WATER WEEKLY REPORT

By contrast, DWR issued “consultation initiation letters” to the Cuyama Valley Basin and the Paso Robles Area Subbasin, requiring certain deficiencies be corrected before the plan is approved. Both GSPs were deemed incomplete for deficiencies in their definitions of sustainable management criteria (SMC), including minimum thresholds and undesirable results, as required by SGMA and GSP regulations. Original Article: [Lexology by Stephanie Olser Hastings and Christopher R. Guillien](#)

### **Drought-stricken Southern Nevada enacts ban on 'non-functional' grass**

In Sin City, one thing that will soon become unforgivable is useless grass. A new Nevada law will outlaw about 31% of the grass in the Las Vegas area in an effort to conserve water amid a drought that's drying up the region's primary water source: the Colorado River. Other cities and states around the U.S. have enacted temporary bans on lawns that must be watered, but legislation signed Friday by Gov. Steve Sisolak makes Nevada the first in the nation to enact a permanent ban on certain categories of grass. Sisolak said last week that anyone flying into Las Vegas viewing the "bathtub rings" that delineate how high Lake Mead's water levels used to be can see that conservation is needed.

"It's incumbent upon us for the next generation to be more conscious of conservation and our natural resources — water being particularly important," he said. The ban targets what the Southern Nevada Water Authority calls "non-functional turf." It applies to grass that virtually no one uses at office parks, in street medians and at entrances to housing developments. It excludes single-family homes, parks and golf courses.

The measure will require the replacement of about 6 square miles of grass in the metro Las Vegas area. By ripping it out, water officials estimate the region can conserve 10% of its total available Colorado River water supply and save about 11 gallons per person per day in a region with a population of about 2.3 million. "Replacing non-functional turf from Southern Nevada will allow for more sustainable and efficient use of resources, build resiliency to climate change, and help ensure the community's current and future water needs continue to be met," said Southern Nevada Water Authority General Manager John Entsminger.

Original Article: [The Nevada Appeal by Sam Metz](#)



## **Battle over Southern California water czar is clash between old vision and new, observers say**

The most important thing to understand: If you're reading this, you live in a desert. And you can live in this desert because politicians, scientists and engineers have moved mountains, almost literally, to bring you life-giving water.

The latest brawl in Water World plays out on this backdrop, and what comes out of your tap may well depend on the result. Will it come from recycled waste water? Desalination plants? A giant tunnel or two under the Delta? The answers will, in large part, depend on who's chosen to lead the gargantuan Metropolitan Water District of Southern California, which provides water to 19 million people from Ventura County to the Mexican border.

In a close vote some hope to undo, Met's board of directors chose Adel Hagekhalil to replace the retiring Jeff Kightlinger as general manager of the nation's largest water agency. Hagekhalil, a civil engineer, is praised as "a true leader and a visionary in the water industry" with 32 years of public service in water, environmental and infrastructure management. He was an executive with Los Angeles' sanitation department and now runs the city's street services department.

Met's board is slated to approve Hagekhalil's employment contract — including a \$400,000 annual salary and \$700 monthly car allowance — on Tuesday, June 8.

Original Article: [The LA Daily News by Teri Sforza](#)

## **After 'use it or lose it' water policy, HB 2056 allows farmers to keep water, still use it wisely**

Andrew and Sarah Ogilvie have been running the Ogilvie Cattle Company for five years in Benson, raising Angus cattle on more than 200 acres along the San Pedro River.

More than half of their land is irrigated, meaning lots of water to keep their grass green and livestock hydrated.

"It does take water to irrigate it but at the same time we've been making large leaps in terms of the efficiency in the amounts of water that we use," Andrew Ogilvie says.

In the past, the problem with trying to conserve water on farms and ranches in Arizona is that all of the surface water allotted to them needed to be used, or else they could lose access to that water through what is known as "forfeiture abandonment."

In other words, if they don't use it, they lose it.



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Haley Paul, a Policy Director with the National Audubon Society, says farmers wanted to conserve and do the right thing but had a disincentive to conserve for years.

That changed this year thanks to House Bill 2056, sponsored by Representative Gail Griffin.

Original Article: [ABC 15 by Jorge Torres](#)

## WATER NEWS

### **Drought emergency: Here's a list of water restrictions that may be coming to Santa Clara County**

The Santa Clara Valley Water District on Monday announced its board will vote Wednesday to declare a water shortage emergency, to ask cities and private water companies in Santa Clara County to cut water use 33% from 2013 levels, and to request they enforce water wasting rules.

- Restricting watering landscapes or lawns with potable water to a maximum of three days a week, and only before 9 a.m. or after 5 p.m. to reduce evaporation.
- Local enforcement of water wasting restrictions.
- Excessive use of water: when a utility has notified the customer in writing to repair a broken or defective plumbing, sprinkler, watering or irrigation system and the customer has failed to conduct repairs within five business days, the utility may install a flow restriction device on their meter.
- Prohibition against filling swimming pools.
- A ban on private washing of cars with a hose unless the hose has a shut-off nozzle.
- A prohibition against using potable water for washing buildings, structures, driveways, patios, parking lots or tennis courts, except in the cases where health and safety are at risk.
- Operation of commercial car washes without recycling at least 50% of the potable water used per cycle.
- Rules requiring restaurants to only serve water upon request of diners.

Original Article: [Mercury News/ Bay Area News Group by Paul Rogers](#)

### **From Shasta to Folsom, shriveled reservoirs show depths of California's drought disaster**



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Instead of being flush with newly melted snow, Folsom Lake is the driest it's been in springtime since the epic drought of 1977. Water levels are so low that temporary pumps probably will be installed to help move water out of the stricken reservoir.

Water levels at Lake Oroville have plunged to the point that its giant hydropower plant could be idled for the first time ever this summer, putting additional strain on California's troubled electric grid. At Shasta Lake, which feeds the Sacramento River watershed and much of the Central Valley, conditions are so bad that major cities are drawing up conservation plans, farmers have scaled back plantings and environmentalists are angrily warning of extensive fish kills.

California's reservoirs, normally the bulwark of the state's elaborate water system, have been left defenseless by a drought that seems to worsen by the day.

In a good year, the reservoirs can store enough water to supply California's human consumption needs — with billions of gallons extra, to cushion the state against drought. This year the major reservoirs are holding, on average, just half what they should for this time of year, and the drought cushion is eroding.

"We're starting to chew through the drought storage in our reservoirs," said Jay Lund, a watershed expert at UC Davis.

Original Article: [\*The Sacramento Bee\* by Dale Kasler, Ryan Sabalow and Philip Reese](#)

### **Putting farmland out to pasture not an easy task**

Not all farmland in the San Joaquin Valley will survive in a post-SGMA world.

Estimates are that the Sustainable Groundwater Management Act will force between 500,000 to one million acres of land that's currently farmed to be taken out of production to save groundwater.

Which lands and what will become of those lands are major question marks at this point. If Gov. Newsom's revised budget is approved as is, those questions could have an extra \$500 million to help find answers.

"Land doesn't have to be in agricultural production to be valuable," said David Shabazian, director of the California Department of Conservation.

Newsom's proposed funding for land repurposing would be spent under the California Department of Conservation and Department of Food and Agriculture to map out options for land retirement.

Simultaneously, Assembly Bill 252 by Assemblymembers Robert Rivas (D-Hollister) and Rudy Salas (D-Bakersfield) would create a land repurposing program under the



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Department of Conservation to provide grants for local groundwater agencies to incentivize farmers to take land out of production. The bill doesn't have a dedicated funding source, meaning it would have to go through the budget gauntlet each year to get grant monies. And groundwater agencies would have to pay half the incentive amounts to farmers. AB 252 passed the Assembly and is awaiting hearing in the Senate.

Original Article: [SJV Water by Jesse Vad](#)

### Central Oregon farmers struggle in drought

Farmers in central Oregon are struggling with a water shortage amid a drought and some of the worst affected are more recent irrigators with junior water rights

Cate Havstad-Casad, co-owner of Havstad-Casad Family Farms in Jefferson County, didn't hold back last week while speaking on a Zoom call with state representatives about the drought conditions affecting farmers in Jefferson County.

Speaking during a meeting of the House Water Committee chaired by Rep. Ken Helm, D-Beaverton, Havstad-Casad told the legislators in stark terms that Jefferson County farms are starving for water while farms in other parts of the Deschutes Basin have more water than they need, The Bulletin reported.

"What is happening through the forced dry up of this district, because we are junior water rights holders, is a massive ecological and a social disaster that not many people truly understand is happening," said Havstad-Casad, a patron of the North Unit Irrigation District.

Original Article: [OPB by Michael Kohn](#)

### Severe drought grips western states

Almost three-fourths of the western U.S. is gripped by drought so severe that it's off the charts of anything recorded in the 20-year history of the U.S. Drought Monitor.

Mountains across the West have seen little precipitation, robbing reservoirs of dearly needed snowmelt and rain, said Brad Rippey, a meteorologist and Drought Monitor author with the U.S. Department of Agriculture. The parched conditions mean the wildfire threat is high and farmers are struggling to irrigate crops. Meanwhile, dropping water levels in Lake Oroville, one of California's largest reservoirs, forced authorities to remove more than 100 houseboats, according to the Weather Channel.



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“Water supply is the big story for the West, and we are getting in trouble with all the interests that try to compete for a slice of that water,” Rippey said by telephone. “There is not a lot to go around this year.”

Unlike the eastern U.S., in the West most water comes in winter months in the form of rain that gushes into reservoirs or snow that piles up on mountainsides. Last year, drought cost the nation \$4.5 billion, according to the U.S. National Centers for Environmental Information. This year, what little snow that fell soon melted away and seeped into dusty ground rather than rivers, streams and reservoirs.

Original Article: [\*Farm Progress by Brian K. Sullivan\*](#)

### **San Joaquin Valley needs to stop waiting to be rescued from droughts**

The Bureau of Reclamation recently issued its update of water allocations for the Central Valley Project for agricultural, municipal and industrial users. These cuts reduced agricultural water deliveries from 5% to 0% and municipal and industrial water deliveries from 55% to 25%, essentially forcing these water users to shift to groundwater or to severely curtail their use.

The last time we had 0% delivered to farmers and only 25% delivered to municipal and industrial users was in 2015. Unlike in 2015, we are faced today with a trifecta of bad conditions: decreased snowpack water content, reduced groundwater availability and possibly another year of drought ahead of us. Of the three, the reduced availability of groundwater will be the most devastating.

California is a conjunctive-use state, meaning that our water plan has always been to use surface water when available and use groundwater when necessary due to lack of surface water. Groundwater was traditionally our trump card. But the drought of 2012-16 resulted in a historic drop in the groundwater table that prompted the state to regulate groundwater with the enactment of the Sustainable Groundwater Management Act (SGMA). In short, the groundwater bank is almost empty for some and already empty for many, mostly private water well owners.

Original Article: [\*The Fresno Bee by Cordie Qualle\*](#)

### **Lake Oroville’s Water Woes Could Turn Into Power Problem**

California is now forecasting Lake Oroville could hit a record low level, not seen in nearly half a century. And if it does, the California Department of Water Resources will plan to



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shut down the reservoir's Edward Hyatt hydroelectric power plant because of its low water supply.

Lake Oroville is a picture of California's looming drought problem. Houseboats were sunken down, surrounded by Lake Oroville's steep banks.

Kim Gunter owns a houseboat on the reservoir and has watched the water level lower each day.

"It's sad," Gunter said. "They're projecting by the end of summer there will be no available ramps, no access, they may have to move marinas all over water."

John Yarbrough is deputy director of the California Department of Water Resources State Water Project and is prepared to shut down the Lake Oroville hydroelectric power plant if the water levels continue to drop.

"This would be the first time we would be stopping it because the lake level is so low," Yarbrough said.

At full capacity, it can generate enough power to serve 800,000 homes.

Original Article: [Good Day Sacramento](#)

### **Drought saps California reservoirs as hot, dry summer looms**

Each year Lake Oroville helps water a quarter of the nation's crops, sustain endangered salmon beneath its massive earthen dam and anchor the tourism economy of a Northern California county that must rebuild seemingly every year after unrelenting wildfires.

But the mighty lake — a linchpin in a system of aqueducts and reservoirs in the arid U.S. West that makes California possible — is shrinking with surprising speed amid a severe drought, with state officials predicting it will reach a record low later this summer.

While droughts are common in California, this year's is much hotter and drier than others, evaporating water more quickly from the reservoirs and the sparse Sierra Nevada snowpack that feeds them. The state's more than 1,500 reservoirs are 50% lower than they should be this time of year, according to Jay Lund, co-director of the Center for Watershed Sciences at the University of California-Davis.

Original Article: [The Modesto Bee by Adam Beem](#)

### **The Western Drought Is Bad. Here's What You Should Know About It.**

Much of the Western half of the United States is in the grip of a severe drought of historic proportions. Conditions are especially bad in California and the Southwest, but the drought extends into the Pacific Northwest, much of the Intermountain West, and even the Northern Plains.



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Drought emergencies have been declared. Farmers and ranchers are suffering. States are facing water cutbacks. Large wildfires are burning earlier than usual. And there appears to be little relief in sight.

What is a drought, exactly?

There are no precise parameters that define a drought, but it is generally understood to mean a period of abnormally dry weather that goes on for long enough to have an impact on water supplies, farming, livestock operations, energy production and other activities.

A drought usually starts with less-than-normal precipitation (and what is normal varies from region to region). If the dryness persists, river flows and reservoir and groundwater levels start to decline. Warm temperatures have an impact, too, causing winter snowpack to melt faster, which can affect the availability of water throughout the year. Excessive heat also causes more evaporation from soils and vegetation, which can lead to crop failures and increases the risk of severe wildfires.

Experts with the United States Drought Monitor, a collaboration of several federal agencies and the University of Nebraska-Lincoln, assess the severity of drought in a given area, ranking it from moderate to exceptional. They take many factors into account, including precipitation totals, snowpack, stream flows and soil moisture measurements, and use images from remote-sensing satellites to assess the health of vegetation.

How bad is the current drought in the West?

It's very bad, both in terms of the size of the affected area and the severity. The latest map from the drought monitor shows that all or nearly all of California, Oregon, Nevada, Arizona, New Mexico, Utah and North Dakota are in drought, and in large areas of those states conditions are "severe" or "exceptional." Colorado, Idaho, Washington, Montana, South Dakota and southwestern Texas are also affected.

Original Article: [The New York Times by Henry Fountain](#)

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