



Glen Canyon Dam holds back Lake Powell in Page, Ariz., on Monday, July 18, 2022. (Spenser Heaps/Deseret News)

California Water and Infrastructure Report For August 10, 2023

(With expanded coverage of all the Western States)
by Patrick Ruckert

Published weekly since July, 2014

An archive of all these weekly reports can be found at both links below:

<http://www.californiadroughtupdate.org>

<https://www.facebook.com/CaliforniaDroughtUpdate>

For a free subscription to the weekly report: Send me an email-- patruckert@gmail.com

www.californiadroughtupdate.org/20230803-California-Water-and-Infrastructure-Report.pdf

A Note to Readers

Notable this week is the flurry of articles arguing that climate change requires that farmers stop growing food in California and Arizona, that water rights be restricted for agriculture, and that farms in the Central Valley should be replaced by thousands of acres of solar panels. And there are two articles attacking the growing of food from the waters of the Colorado River. One of them has this stupid sub-headline: *“Mega-Dairy and Alfalfa Industries Perpetuate Egregious Cycle of Water Abuse.”* There is more, and it all can be found beginning on page 5.

The report begins with the map from the U.S. Drought Monitor and an article, both showing the beginning of increased drought conditions in the state.

The Colorado River section reports on the boost in the water levels of both Lake Mead and Lake Powell, driven by the snow melt. While the rising reservoirs puts off for now drastic measures to curtail water use for the 40 million people who depend on the water from the river, the drought generally continues in the region, and it is expected that decisions will soon be made for more serious water conservation measures.

Next is the series of articles mentioned in the first paragraph above.

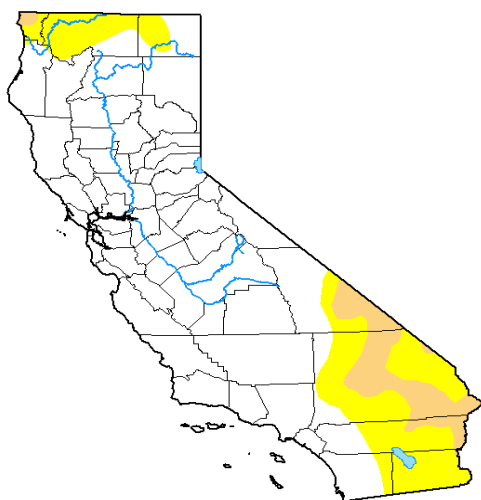
Under the title “**The Fraud of “Carbon Offsets,”**” you will find this article: “*A giant Oregon wildfire shows the limits of carbon offsets in fighting climate change.*”

The final section this week reports on “*A Second Breakthrough for Lawrence Livermore Labs in Demonstrating Progress in Achieving Fusion Power.*”

U.S. Drought Monitor California

U.S. Drought Monitor California

August 8, 2023
(Released Thursday, Aug. 10, 2023)
Valid 8 a.m. EDT



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:
Brad Pugh
CPC/NOAA



droughtmonitor.unl.edu

Statistics type

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2023-08-08	74.55	25.45	7.28	0.00	0.00	0.00	33
Last Week to Current	2023-08-01	74.43	25.57	6.52	0.00	0.00	0.00	32
3 Months Ago to Current	2023-05-09	68.02	31.98	5.95	0.00	0.00	0.00	38
Start of Calendar Year to Current	2022-12-27	0.00	100.00	97.94	80.56	35.50	7.16	321
Start of Water Year to Current	2022-09-27	0.00	100.00	99.76	94.01	40.91	16.57	351
One Year Ago to Current	2022-08-09	0.00	100.00	99.77	97.52	45.81	16.53	

Estimated Population in Drought Areas: 1,150,476

The West

The suppressed Monsoon and associated above-normal temperatures resulted in a 1-category degradation across Arizona and New Mexico.

Recent rainfall supported a decrease in abnormal dryness (D0) in southeast Montana, while a 1-category degradation was made to parts of northern Montana based on worsening short-term indicators. Following 1-category degradations to parts of Oregon and Washington the previous week, no changes were made.

Drought returns to California county for first time in months as state braces for more heat

Brianna Taylor

Thu, August 3, 2023 at 1:38 PM PDT · 3 min read

<https://news.yahoo.com/drought-returns-california-county-first-203818521.html>

From the Sacramento Bee

Meteorologists forecast that the remainder of the summer and the beginning of fall will bring above-normal temperatures to California, which could exacerbate the state's steadily increasing drought.

Del Norte County — which has been drought-free for months — now faces some moderate conditions.

According to the [National Oceanic and Atmospheric Administration](#), there's between 33% and 50% chance weather in California will lean above normal for this time of year. NOAA outlooks show "equal" chances of above-normal, near-normal or below-normal rainfall for August and September.

Is California still in a drought?

Nearly 903,000 people remain living in drought areas, according to a [Thursday update from the U.S. Drought Monitor](#) — an increase over roughly 892,000 people in

July and approximately 704,800 people in June.

In May, about 736,000 people lived in drought-stricken areas.

According to the [U.S. Drought Monitor](#), California is roughly 93% drought-free. The [state is free of "severe," "extreme," and "exceptional" drought conditions](#) for 17 weeks in a row.

Whether the drought is over depends on where you are and the status of your water agency's supply.

Roughly 25% of the state remains abnormally dry for the third week in a row.

The Colorado River

Lake Powell water levels nearly double with record spring runoff

Aug 7, 2023, 1:00 PM

BY [ADAM SMALL](#)

Reporter, Utah's Morning News

<https://kslnnewsradio.com/2026658/lake-powell-water-levels-nearly-double-with-record-spring-runoff/>



Glen Canyon Dam holds back Lake Powell in Page, Ariz., on Monday, July 18, 2022. (Spenser Heaps/Deseret News)

LAKE POWELL, Utah — In early 2023, Lake Powell hit a record low — sitting at only about 22% capacity. As of late July, those levels were nearly double.

Utah's Colorado River Commissioner Gene Shawcroft said the [ailing reservoir](#) had risen 65 feet from the [record spring runoff](#). Those inflows lifted the water levels to about 40% capacity.

Lake Powell levels this year

Since peaking at 65 feet, Shawcroft said Lake Powell had since lost about 3 feet to evaporation and downstream releases to Lake Mead, which is normal.

Water managers anticipate Lake Powell will get 14 million acre-feet of water flowing in through all of 2023. In all of 2022, the reservoir only got 6 million acre-feet of inflows.

“Two great blessings this year, an incredible snowpack and the timing of how the runoff came,” Shawcroft said. “Two lifelines that saved us a great deal of anguish.”

Lake Mead's rise remains steady despite record heat

By [Colton Lochhead](#) Las Vegas Review-Journal

August 8, 2023 - 5:00 am

<https://www.reviewjournal.com/local/local-las-vegas/lake-meads-rise-remains-steady-despite-record-heat-2883967/>

Not even Las Vegas' hottest month on record could knock Lake Mead's timely rise off course.

The reservoir east of Las Vegas ended July at just over 1,061 feet in elevation, more than 20 feet higher than where the lake's surface sat at the end of July last year.

July set a new [record for the hottest month ever recorded in Las Vegas](#), according to the National Weather Service. The average daily temperature for the month came in at 97.3 degrees — more than a full degree hotter than the previous hottest July in 2010.

Those temperatures likely increased evaporation somewhat, but the effect is much smaller than if well-above-average temperatures were to come during the winter months, Pellegrino said.

One good winter won't be enough

While both of the Colorado River’s two main storage reservoirs are in better shape than they were this time last year, they are still far below their full capacity. Lake Mead, which supplies about 90 percent of Southern Nevada’s water, sat at just 32 percent of its full capacity as of Monday, while Lake Powell was 40 percent full.

Despite the most recent winter giving the river that supplies water to 40 million Americans a needed reprieve, Pellegrino said, it certainly “has not reset the drought.”

A Multi-pronged Attack on Agriculture and Water Rights Escalates

California water agency under investigation for discriminating against tribes, people of color

by [Rachel Becker](#) August 9, 2023

<https://calmatters.org/environment/water/2023/08/california-water-agency-investigation-discrimination/>



The Sacramento-San Joaquin Delta on June 22, 2023. Photo by Miguel Gutierrez Jr., CalMatters

In summary

A discrimination complaint filed by Native American tribes and environmental justice groups alleges that California has failed to protect water quality in the Bay-Delta. The EPA is investigating.

The Biden administration’s environmental justice office is investigating whether California’s water agency has discriminated against Native Americans and other people of color by failing to protect the water quality of San Francisco Bay and the Sacramento-San Joaquin Delta.

The U.S. Environmental Protection Agency’s investigation was triggered by a complaint filed by tribes and environmental justice organizations that says the the state Water Resources Control Board for over a decade “has failed to uphold its statutory duty” to review and update water quality standards in the Bay-Delta.

Why Are We Paying for Crop Failures in the Desert?

Taxpayers are on the hook for heat-related crop losses in parched states like Arizona. That needs to change.

<https://newrepublic.com/article/174854/paying-crop-failures-desert>



David McNew/Getty Images: Fallowed farmland in drought conditions near Red Lake north of Kingman, Arizona, on June 29, 2021

In mid-July in Phoenix, a man demonstrated to a local news station how to [cook steak](#) on the dashboard of his car. The city sweltered through a nearly monthlong streak of 110-degree temperatures this summer, while heat records are tumbling across the Southwest.

But despite the signs that this is the new normal, farmers in the region are planting the same thirsty crops on the same parched land in the desert, and watching them wither year after year. And why not? The American taxpayer is covering their losses.

Research released in June by the [Environmental Working Group](#) shows that since 2001, heat linked to climate change has driven \$1.33 billion in insurance payouts to farmers across the Southwest for crops that failed amid high temperatures. As the planet warms through the century, payments resulting from the impacts of climate change across the nation are likely to increase by as much as [\\$3.7 billion](#).

Studies have repeatedly shown that federally subsidized crop insurance discourages farmers from updating their practices, tools, or strategies in ways that would help them adapt to climate change—but the federal government still subsidizes a whopping 62 percent of farmers' insurance premiums. Until someone in Washington figures out a better way to spend our money, farmers in the Southwest are going to keep planting thirsty crops in the desert. They have little incentive not to.

New Report Details Critical Threats to Colorado River Basin and Water Stability for 40 Million American

Mega-Dairy and Alfalfa Industries Perpetuate Egregious Cycle of Water Abuse

Published Aug 8, 2023

<https://www.foodandwaterwatch.org/2023/08/08/new-report-details-critical-threats-to-colorado-river-basin-and-water-stability-for-40-million-americans/>

Today the national environmental organization Food & Water Watch released a new report revealing the dangerous abuse of precious water resources in the Colorado River Basin by specific industrial agriculture sectors, and prolonged governmental refusal to rein in the most egregious offenders that are putting the water stability of nearly 40 million Americans at risk. The report, "[Big Ag is Draining the Colorado River Dry](#)," details the water mismanagement crisis playing out in the seven states making up the river basin, and advocates for specific state and federal policies to mitigate the crisis.

The report demonstrates how alfalfa farms and the aggressive proliferation of mega-dairies are sucking the Colorado River Basin states dry. It details a relentless feedback loop where water-intensive crops are grown in ever-greater volumes to feed animals on more and more factory farms, leaving less and less water for communities. The report comes in advance of an Aug. 15 public comment deadline on the Biden administration's [plan to manage water resources](#) in the basin for years to come.

Is the Colorado River crisis on hold? | PODIUM

- By Roy Johnston
- August 8, 2023

https://www.coloradopolitics.com/opinion/is-the-colorado-river-crisis-on-hold-podium/article_fb46b192-3649-11ee-b945-d3d93de01f0d.html

“Deal is reached to keep Colorado River from going dry, for now,” read the headline of a New York Times article last May 25. It implies Washington and river basin bureaucrats saved the Colorado River in a last-minute meeting. This miracle was achieved by agreeing to pay California farmers and American tribes \$1.2 billion to “temporarily” use less water.

To be fair, this will reduce water usage in Arizona and southern California, if enforced. But land developers will keep building and people will keep moving in. The only thing taxpayers in the rest of the country will get is a guaranteed supply of more expensive broccoli and lettuce. The Times reporter, however, did acknowledge in passing that the record snowpack also helped. That was in May. In June El Niño made it rain, and it continues to do so as of this writing on the eastern slope.

In late July, CBS's "60 Minutes" produced a segment on the water crisis featuring Colorado state expert, Brad Udall. When asked “what’s happening on the Colorado River,” Udall responded, “Well, it's a signal of the long-term problem we’ve been seeing since 2000, which is climate change is reducing the flows of the Colorado significantly.” Later in the interview, however, he identified the real issue: “... We have a fully utilized system. We’ve over-allocated it and we now need to think about how to turn some of this back, because the only lever we control right now in the river is the demand lever. We have no control over the supply.”

The system is over-allocated, so what is a politician to do? Well, in May, Gov. Jared Polis convened a task force to study “drought security.” That’s right, folks, after 23 straight years of lower-than-average precipitation, the governor convenes a task force. Well, I’ve got news for you, we got task forces coming out our ears.

[BLOG: Well, Sacramento is at it again](#)

published on August 7, 2023 - 2:11 PM

Written by [Paul H. Betancourt](#)

<https://thebusinessjournal.com/blog-well-sacramento-is-at-it-again/>

- *This time they are going after pre-1914 water rights. Now, some of you are asking, “what are*

pre-1914 water rights? Sounds kind of geeky.” Fair enough.

But, if you know about water in California, a threat to pre-1914 water rights mean fightin’ words.

Pre-1914 water rights are just what they sound like. These are rights that are over 100 years old. They deal with appropriative water rights on non-riparian land. The old rule in water is “first in time, first in right.” These pre-1914 water rights are some of the oldest and most protected water rights in California. They have priority over rights developed after.

There is a long and complicated web of water law and rules in California. The key building blocks of water law include:

Farmers need stability. Politicians and environmentalists want us to make the change to drip irrigation and new crops. OK, California farmers are making the change. But we need stability to invest in the new systems. It is not reasonable to ask farmers to borrow money for huge capital investment and then change the rules. It is a lot like playing Jenga. If you pull out one of the lower blocks the whole thing can come tumbling down. If we let them mess with these 100-year-old rights, who knows where it will end?

Frankly, it looks to me like another water grab from city folks. They have been after farm water for a long time. This is just the latest effort. Instead of increasing supply as population grows, they keep playing this as a zero-sum game.

Can California Cropland Be Repurposed for Community Solar?

August 8, 2023 | 7:00 am

<https://blog.ucsusa.org/vivian-yang/can-california-cropland-be-repurposed-for-community-solar/#top>

[Vivian Yang](#)

[Western States Energy Analyst](#)

<https://blog.ucsusa.org/vivian-yang/can-california-cropland-be-repurposed-for-community-solar/#top>

When you think of [solar power](#), California undoubtedly comes to mind. The state’s [strong climate goals](#) paired with abundant sunshine have helped California [reach record](#) rooftop and utility-scale solar buildout. But surprisingly, its community solar programs (not to be confused with [community choice aggregation](#)) haven’t been able to [gain traction](#).

Out of the [5,700](#) megawatts of installed community solar in the country, less than 1% of that is in California. And for perspective, California has more than [40,000 megawatts](#) of installed solar capacity.

Does community solar on agricultural land make sense?

California’s current agricultural practices [aren’t sustainable](#). The industry needs to reduce and better manage its water usage. Certain practices, such as pesticide and [fertilizer overuse](#), have harmful health consequences to local communities. To transition to a more sustainable agricultural system, we’ll need to [retire some of this cropland](#). While the land won’t be used for farming, there are other ways to repurpose it such as community spaces, habitat restoration, businesses, and you guessed it, solar projects!

Solar projects can provide a host of [benefits to these farming](#) communities, including a more stable revenue stream for farmers and higher-paying and more stable jobs for farmworkers. They are also much less polluting than fossil-fueled energy resources and some agricultural practices, which can improve local air and water conditions.

The Fraud of “Carbon Offsets”

A giant Oregon wildfire shows the limits of carbon offsets in fighting climate change

By [Hal Bernton \(for OPB\)](#),

[Roman Battaglia](#)

Published August 2, 2023 at 10:43 AM PDT

<https://www.ijpr.org/environment-energy-and-transportation/2023-08-02/a-giant-oregon-wildfire-shows-the-limits-of-carbon-offsets-in-fighting-climate-change>



Green Diamond’s Justin Kostick, left, and John Davis look over dead trees on one of Green Diamond’s Klamath Basin properties, June 29, 2023. The 2021 Bootleg Fire killed all the trees in this area owned by the Seattle-based timber company. Starting in January 2022, the area was salvage logged and then replanted with lodgepole pine, Ponderosa pine and white fir in the spring of 2023. Kristyna Wentz-Graff/OPB

To help counter their greenhouse gas pollution, Microsoft and other companies invested millions in a project to store more carbon in Southern Oregon trees. The 2021 Bootleg Fire upended that plan.

In this patch of Southern Oregon forest, young stands of ponderosa and lodgepole pine once pulled carbon dioxide out of the air, storing this greenhouse gas in their trunks, branches and roots.

Today, these trees are charred black snags that bake in the summer sun. Most stand erect, a few so bowed that their tops curl down to touch the ground.

They were killed by the fierce heat of [the Bootleg Fire](#), which raged through here in July 2021, sending up huge pyrocumulus clouds of smoke and ash some 30,000 feet into the earth’s atmosphere — generating their own thunderstorms.

This was supposed to be a showcase for Seattle-based Green Diamond’s forestry strategy for a warming world.

The origins of carbon offsets

“Some serious scientists are part of the Environmental Movement, but many of the serious concerns about global warming, ozone depletion, unsustainable industrialization, and resource depletion or devastation are based on pseudoscience or no science at all — just wildly exaggerated claims,” said then-Simpson Timber Company vice president John Walker, in an Oct. 1, 1990, University of California, Berkeley, [lecture](#) that marked the 100th anniversary of the company’s founding.

A good idea, but how good?

As the carbon forestry markets expand, they face increased scrutiny. Critics say they are no substitute for reducing global dependence on coal, natural gas and oil, and may often fail to provide the carbon savings needed to offset fossil fuel emissions.

One of the most scathing assessments has come from an industry insider: Jim Hourdequin, chief executive of Lyme Timber, whose own company has put together forestry carbon deals.

“Our assessment is that many forest carbon offset projects in the U.S. have probably delivered relatively little carbon storage and climate benefit,” Hourdequin said in an [October 2022](#) talk to the Yale Forest Forum.

“While our commercial forests do store a lot of carbon ... these climate benefits are likely to be realized whether or not the property is enrolled in a carbon offset project.”

That often amounts, he maintains, to paying landowners to “not do what they were not going to do.”

A Second Breakthrough for Lawrence Livermore Labs in Demonstrating Progress in Achieving Fusion Power

US scientists repeat fusion ignition breakthrough for 2nd time



The target chamber of LLNL's National Ignition Facility, where 192 laser beams delivered more than 2 million joules of ultraviolet energy to a tiny fuel pellet to create fusion ignition on Dec. 5, 2022.

Reuters

August 7, 2023 12:07 AM PDT Updated 9 hours ago

<https://www.reuters.com/business/energy/us-scientists-repeat-fusion-power-breakthrough-ft-2023-08-06/>

[Lawrence Livermore National Laboratory](#)

Aug 6 (Reuters) - U.S. scientists have achieved net energy gain in a fusion reaction for the second time since December, the Lawrence Livermore National Laboratory said on Sunday.

Scientists at the California-based lab repeated the fusion ignition breakthrough in an experiment in the National Ignition Facility (NIF) on July 30 that produced a higher energy yield than in December, a Lawrence Livermore spokesperson said.

Final results are still being analyzed, the spokesperson added.

Lawrence Livermore [achieved](#) a net energy gain in a fusion experiment using lasers on Dec. 5, 2022. The scientists focused a laser on a target of fuel to fuse two light atoms into a denser one, releasing the energy.

The National Ignition Facility's preamplifier module increases the laser energy as it travels to the Target Chamber in an undated photograph at Lawrence Livermore National Laboratory federal research facility in Livermore, California, U.S. Damien Jemison/Lawrence Livermore National Laboratory/Handout via REUTERS/File Photo

That experiment briefly achieved what's known as fusion ignition by generating 3.15 megajoules of energy output after the laser delivered 2.05 megajoules to the target, the Energy Department said.

In other words, it produced more energy from fusion than the laser energy used to drive it, the department said.

The Energy Department called it "a major scientific breakthrough decades in the making that will pave the way for advancements in national defense and the future of clean power."

Scientists have known for about a century that fusion powers the sun and have pursued developing fusion on Earth for decades. Such a breakthrough could one day help curb climate change if companies can scale up the technology to a commercial level in the coming decades.