

The Colorado River runs through a canal in Pinal County, Ariz. (Credit...Rebecca Noble/Reuters)

California Water and Infrastructure Report

For June 1, 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

A Note to Readers

May, 2023 has come and gone. The Bureau of Reclamation deadline for the states of the Colorado River Basin to come to an agreement on reducing withdraws from the river by two to four million acre feet per year was May 30. Now we await the Bureau's decision on how that reduction will be divided, since it is the Bureau that has legal authority over the river.

The decision by California, Arizona, and Nevada to reduce their withdraws by 3 million acre feet over three years, may or may not be accepted by the Bureau. The decision is expected by sometime this summer.

This week's report begins with the U.S. Drought Monitor maps of California, and the West more generally. The discussion of the drought conditions for the West are included with the maps.

It is not only the far western region of the nation, as the next item demonstrates, where drought is a serious problem, but it is severely damaging this year's wheat crop in the mid-west.

In California, drought and flooding present a challenge to the Central Valley and other farmers in the state. A serious discussion of this by California Assembly Leader and 6th generation farmer, James Gallagher can be found beginning on page 4. It is a 38 minute video, and I urge you all to watch it: **“Why Farmers are on the brink of bankruptcy, despite epic rainfall.”**

The challenge now in the state is how to store all the water that has begun to melt from the snowpack. Two items-- putting the water underground, and raising Shasta Dam-- are included in this section.

Last week I reported on how Governor Newsom slapped his environmentalist supporters in the face once again by proposing the limiting of the time for approval of major infrastructure projects and bypassing some of the environmentalist roadblocks to such projects.

This week they slapped back at him, and the Democratic-led Assembly said, “no deal.”

On the Colorado River, we have two items this week, not really covering new ground, but both give updates on the present policy by the Bureau of Reclamation and some background on the states' approach to the crisis.

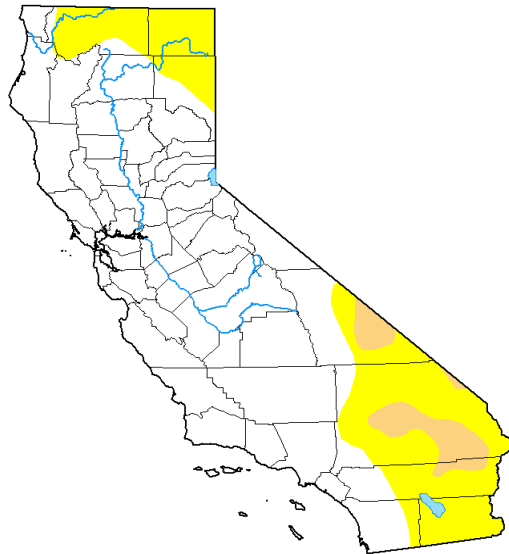
The **Feature** this week is a report from my colleague Michael Carr on the deep planning already going on in Japan to transform its economy to a fusion-driven development project. A new potential “Sputnik moment” for the U.S?

News Flash: “Arizona announces limits on construction in Phoenix area as groundwater disappears.” See article on page 7.

U.S. Drought Monitor

June 1, 2023

California



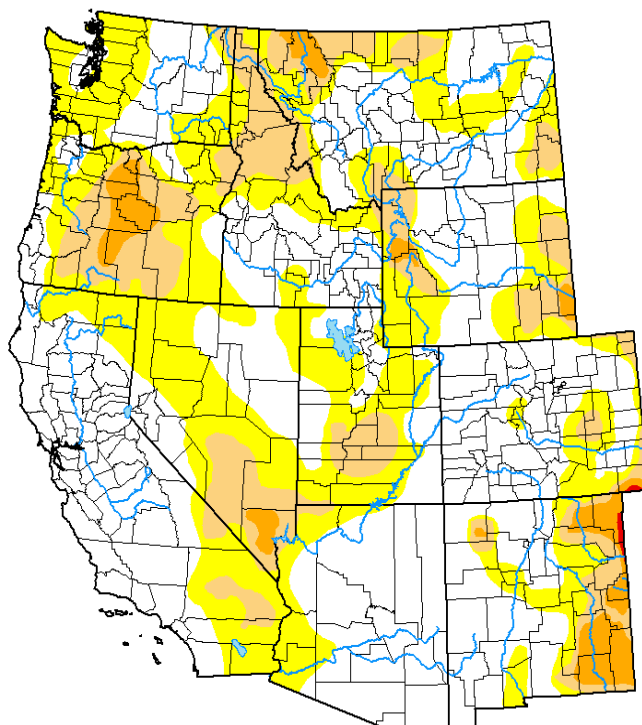
Intensity

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

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2023-05-30	70.88	29.12	4.63	0.00	0.00	0.00	
Last Week to Current	2023-05-23	70.86	29.14	4.63	0.00	0.00	0.00	
3 Months Ago to Current	2023-02-28	16.71	83.29	49.13	24.96	0.00	0.00	
Start of Calendar Year to Current	2022-12-27	0.00	100.00	97.94	80.56	35.50	7.16	
Start of Water Year to Current	2022-09-27	0.00	100.00	99.76	94.01	40.91	16.57	
One Year Ago to Current	2022-05-31	0.00	100.00	99.86	97.56	59.81	11.59	

The West

Half an inch of rain fell over parts of northern California and from Nevada to the northern Rockies, with much of Montana receiving 2 or more inches. Eastern parts of New Mexico were soaked by 2 to locally over 4 inches of rain, with over 7 inches recorded near Texico.



But the rest of the southern third of the West region, and most of Oregon and Washington, received

little to no precipitation. D1-D3 were pulled back in eastern New Mexico, and D0-D2 were trimmed in Montana.

But D0 expanded in parts of Oregon and Washington where the last 30 days have been unusually warm and dry, soils were drying, and streamflow was decreasing, and D0-D1 expanded in Yellowstone National Park and adjacent southwest Montana.

May 28 USDA data revealed 60% of the topsoil moisture in Oregon, 52% in New Mexico, and 48% in Washington was short or very short.

Drought Hits Kansas

Kansas farmers abandon wheat fields after extreme drought

Mon, May 22, 2023 [0 Comments](#)

By Tom Polansek

<https://srnnews.com/kansas-farmers-abandon-wheat-fields-after-extreme-drought/#:~:text=Nationally%20winter-wheat%20farmers%20plan%20to%20abandon%2033%25%20of,and%204%25%20in%202021%20according%20to%20the%20report>

WICHITA, Kansas (Reuters) – Farmers in Kansas, the biggest U.S. producer of wheat used to make bread, are abandoning their crops after a severe drought and damaging cold ravaged farms.

They are intentionally spraying wheat fields with crop-killing chemicals and claiming insurance payouts more than normal, betting the grain is not worth harvesting, Reuters found on a three-day tour of the state. Other growers are turning over dismal-looking fields to cattle for grazing.

Abandoning fields will lead to a smaller U.S. wheat supply in the world's No. 5 wheat exporter, with stocks seen falling to a 16-year low. High rates of abandonment deal an economic blow to farm towns and force wheat buyers to adjust procurement plans by buying the staple grain elsewhere.

Nationally, winter-wheat farmers plan to abandon 33% of the acres they planted, the highest percentage since World War I, the U.S. Department of Agriculture said in a May 12 report.

Kansas farmers are expected to abandon about 19% of the acres planted last autumn, up from 10% last year and 4% in 2021, according to the report. But farmers, grain traders and representatives of major food companies who traversed the state on an annual crop tour last week warn of an even greater percentage of unharvested acres.

California Farmers In Crisis As Efforts to Capture Flood Waters Are Made

Why Farmers are on the brink of bankruptcy, despite epic rainfall | James Gallagher

California Insider

May 19, 2023

https://www.youtube.com/watch?v=AkoItXtPj_w

Siyamak sits down with California Assembly Leader and 6th generation farmer, James Gallagher. He discusses the challenges he faces as a farmer and the current California policies that impact agriculture.

“I have never more worried about California agriculture than I am right now.”

“This is the most dire situation we have ever been in.”

Race to move water underground on as California’s Central Valley overflows

One of California's most susceptible regions to disastrous flooding faces dangerous conditions as the historic new snowpack melts. But there may be a silver lining in the floodwaters.

Natalie Hanson / May 26, 2023

<https://www.courthousenews.com/race-to-move-water-underground-on-as-californias-central-valley-overflows/>



A recharge basin fills with water in California's San Joaquin Valley, as snow from recent storms melts.
(Natalie Hanson / Courthouse News)

BAKERSFIELD, Calif. (CN) — After an unexpected wet winter, California’s drought-addled Central Valley now faces dangerous floods as a historic snowpack melts — even as the state moves to store the liquid gold as quickly as possible.

Once the largest freshwater lake west of the Mississippi River at about [650 square miles](#), it hosted a diverse ecosystem and many Indigenous people. When the lake dried as rivers were diverted for cities and farming, agricultural communities appeared thanks to the rich soil.

Today, the basin spans several counties and [produces more than half](#) of the state’s agricultural output, according to the Public Policy Institute. Those crops account for 97% of regional water use, often relying groundwater pumping in dry years.

Without an outlet to the ocean, water normally leaves the basin through evaporation and agriculture. The lake occasionally reappears in particularly wet years. Snowpack from recent storms melts into about 4 million acre-feet of additional runoff, leaving 103,000 acres underwater. Communities within the Tulare Lake Basin will be on flood alert well into July.

Shasta Dam Sits at the Center of California's Water Wars. So Will They Raise It?

[Active NorCal Follow on Twitter](#) May 25, 2023

<https://www.activenorcal.com/shasta-dam-sits-at-the-center-of-californias-water-wars-so-will-they-raise-it/>

The water levels of Shasta Lake currently sit at the **highest they've been in four years**. Photos circulating the internet show a lake brimming with water, and comment section warriors continue to point at how the government will waste the surplus of water instead of saving it for the inevitable droughts California will see in the future.

For some, that answer is simple – raise Shasta Dam.



The **[proposal to raise the Shasta Dam](#)** was introduced during the Trump administration and has been a topic of interest and mystery since its acceleration in 2018. The project has become a contentious issue, dividing environmentalists, tribal nations, and water agencies, and currently sits in a state of flux.

The Bureau of Reclamation's plan aims to increase the height of the dam by 18.5 feet, which would expand the reservoir's capacity by more than 600,000 acre-feet. The primary goal of the project is to improve water storage capabilities for the state, which proponents argue is crucial in the face of increasing water demand and fluctuating weather patterns due to climate change.

So should they raise Shasta Dam? And when could the project come to fruition?

Bi-Partisan Support for Raising Shasta Dam

Democrats Slap Back at Gov. Newsom

California Democrats sideline Gavin Newsom's plan to build big things faster

by [Marisa Kendall](#) and [Julie Cart](#) May 25, 2023 Updated May 26, 2023

<https://calmatters.org/housing/2023/05/gavin-newsom-ceqa-setback/>

In summary

Gov. Gavin Newsom rolled out a plan to speed construction of major public infrastructure and demanded quick votes from lawmakers. His Democratic allies put the proposals on ice.

Dealing a blow to Gov. Gavin Newsom, Democratic legislators today shot down his ambitious attempt to reform state environmental law and make it easier to build big infrastructure projects in California.

In a 3-0 vote, a Senate budget committee found Newsom's package was too complex for last-minute consideration under legislative deadlines. The cutoff for bills to pass out of their house of origin is June 2, just two weeks after the governor rolled out his proposal to adjust the landmark California Environmental Quality Act.

The Colorado River

Arizona announces limits on construction in Phoenix area as groundwater disappears

By [Ella Nilsen](#), CNN

Updated 5:56 PM EDT, Thu June 1, 2023

<https://www.cnn.com/2023/06/01/us/arizona-phoenix-groundwater-limits-development-climate/index.html>

Arizona officials announced Thursday the state will no longer grant certifications for new developments within the Phoenix area, as [groundwater rapidly disappears](#) amid years of [water overuse](#) and climate change-driven drought.

A new study showed that the groundwater supporting the Phoenix area likely can't meet additional development demand in the coming century, officials said at a news conference. Gov. Katie Hobbs and the state's top water officials outlined the results of the study looking at groundwater demand within the Phoenix metro area, which is regulated by a state law that tries to ensure Arizona's housing developments, businesses and farms are not using more groundwater than is being replaced.

The study found that around 4% of the area's demand for groundwater, close to 4.9 million acre-feet, cannot be met over the next 100 years under current conditions – a huge shortage that will have significant implications for housing developments in the coming years in the booming Phoenix metro area, which has led the nation in population growth.

State officials said the announcement wouldn't impact developments that have already been approved. However, developers that are seeking to build new construction will have to demonstrate they can provide an "assured water supply" for 100 years using water from a source that is not local groundwater.

2023 Drought Response Operations Plan Finalized; plan focuses on recovery of upstream reservoirs

Media Contact: Upper Colorado Basin Public Affairs (385) 285-6506 ucbpao@usbr.gov

For Release: May 26, 2023

<https://www.usbr.gov/newsroom/news-release/4534>



Scenic view of Flaming Gorge Dam in Dutch John, Utah

SALT LAKE CITY – Under the Drought Response Operations Agreement, the Bureau of Reclamation today began implementation of the 2023 Drought Response Operations Plan, which focuses on allowing upstream reservoirs to recover additional water previously sent downstream to Lake Powell.

Mapping Colorado River water: How California, Arizona and Nevada plan to use less

[George Petras](#) [Javier Zarracina](#)

USA TODAY

May 26, 2023

<https://www.usatoday.com/story/graphics/2023/05/26/colorado-river-water-usage-agreement-map/70247831007/>

California, Arizona and Nevada, three of seven states that depend on the shrinking Colorado River for water and hydropower, plan to temporarily [reduce the amount of river water](#) they use by 13% over the next three years, federal officials have announced.

Will it be enough to alleviate the river's decline? It will help, but [more measures will be needed](#), officials say.

River levels have fallen over the past 20 years with [an extended drought](#) and [persistent overuse](#) of river water. [Climate change](#) has hastened the reduction. And while this year's heavy snowpack is improving the river's flow, it [won't be enough](#) to overcome the effects of the drought.

How much water do states get?

The three states have proposed to collectively cut their water use by at least 3 million acre-feet from now until the end of 2026. Details have not been disclosed.

The agreement, announced May 22, is now awaiting federal approval. It will help prevent water levels from falling further in [Lake Mead and Lake Powell](#), the two reservoirs used by the states. Reservoir capacity has [approached record lows](#) in recent years.

The Colorado River Basin covers more than 246,000 square miles in seven states. It's governed by the [Colorado River Compact](#), a century-old agreement allocating water to the states and Mexico.

States are in one of two sections:

- **Lower Basin:** California, Arizona and Nevada
- **Upper Basin:** Colorado, Utah, New Mexico and Wyoming

The water, measured in millions of acre-feet, is allocated annually:

- **Lower Basin:** 7.5 million
- **Upper Basin:** 7.5 million
- **Mexico:** 1.5 million

Feature:

Remember the Sputnik moment in 1957, when the Soviet Union put the first satellite in space? Perhaps a new such moment is on the horizon, and this time from Japan; and this time it is fusion.

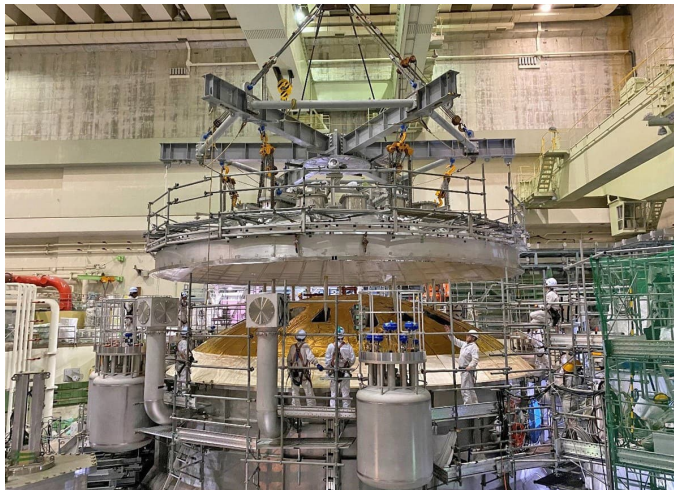
A Friendly Sputnik Reminder? Japan Aims to be First in Commercial Fusion



By [Michael Carr](#)
May 27, 2023

https://www.larouchepac.com/a_friendly_sputnik_reminder_japan_aims_to_be_first_in_commercial_fusion

If we can prevent all the King's men in Washington from blowing up the world, the future could be very bright indeed. Once again, another nation, this time Japan, reminds us about how far our puppet government's policy has diverged from the methods of dirigism which once put us in the forefront of advanced technology, productivity, and an unmatched standard of living.



The Cryostat Top Lid is lowered in position marking the end of main assembly operations for Japan's fusion reactor, JT-60SA. 2020. Photo: fusionforenergy.europa.eu

The French word *dirigisme*, or *dirigism* in English, refers to the act of directing, setting targets, and ensuring that targets are met. It is the opposite of sitting back and waiting for some “invisible hand of the market” to magically accomplish great things. American examples include the Erie Canal, the Transcontinental Railroad, the TVA, the Manhattan Project, the Apollo Project, and the Artemis Project for Moon/Mars colonization advanced by President Trump.

In the case of which we write, the new Japanese government, acknowledging the need to reverse a long

period of relative stagnation in progress and innovation—compared to the once extremely rapid pace of technological progress in many parts of Japanese industry—and [acknowledging the rapid advances in fusion research](#) and [commercialization projects](#) around the world, has just stepped forward to outline a dirigistic national plan to put Japanese science and industry in the forefront of the development of fusion electrical power and space propulsion development. Japan’s plan is to become the first nation to develop commercial fusion and its related industrial, manufacturing, and space faring processes and applications.

[As reported by the Fusion Industry Association](#) and [Asia Times](#), the new plan is called the “Fusion Energy Innovation Strategy.” As summarized by the Fusion Industry Association Japan aims to industrialize fusion energy in the next 10 years and to be the first in the world to do so. **“To achieve this vision, it is necessary to promote further participation of Japan’s private sector and cooperation between industry, academia, and government, and to develop a national strategy that includes specific actions that will attract private investment,” the plan emphasizes.**

The authors of Japan’s plan note that other nations are developing comprehensive fusion strategies including the U.S., the U.K. and China. They note that Japan cannot afford to be left behind in this race and, instead, should aim to be first, utilizing its well-known talent for innovation and in-depth industrial and technological development. While all such plans engender competition, it is the type of competition from which all who put in great effort emerge as winners, and it is the type of friendly competition which can finally snuff out the British Empire’s attempts at using the Four Horsemen of the Biden Apocalypse to crush humanity back into a New Dark Age. As opposed to Biden’s failing primitive power landscape of giant windmill and solar farms, Japan has also recently turned on all of its idled nuclear power plants.

Some extended quotes from the [bold Japanese plan](#) remind us that fusion, an unbounded energy source, can usher in a renaissance of sustained and previously unimagined economic development throughout the world. It is exactly the type of future oriented economic plan which can reverse the destruction of our economy under Biden while advancing President Trump’s vision of a modern U.S. technological and scientific platform bringing prosperity to all. It features exactly the type of public/private relationship in advanced technological development once featured in the American System of sovereign economic development.

“Fusion energy will not only solve the energy problems of Japan, which is poor in ready-to-use energy resources, as well as its environmental problems, and become the foundation for supporting Society 5.0, which is hailed as the model for the future society Japan should aim for, but it will also enable the sustainable development of humankind on a global scale. It is science and technology that Japan can harness to greatly contribute to the international society.

“For example, if the uneven distribution of energy resources can be solved through the realization of fusion energy, wars fought in countries around the world over energy resources will be eliminated, thus truly contributing to peace and stability in the world. Moreover, by not only becoming a substitute for existing energy resources but also a source of power for space and deep-sea exploration since it can generate a huge amount of energy from a small amount of fuel, fusion energy is expected to open up unexplored frontiers for humankind. Beyond Japan’s national strategy, such a future awaits.

“It will be necessary to promote the further participation of Japan’s private-sector companies and for industry, academia, and government to collaborate in the efforts for realizing this vision for fusion energy. The government has formulated a national strategy for this vision, which will incorporate concrete action for pump-priming private investment....

“Core areas of fusion energy systems.... In particular, these are areas in which resources should be focused since the technologies that Japan is strong in provide opportunities for acquiring overseas

markets. Moreover, areas that like-minded countries are also strong in should be addressed while strategically cooperating with those countries. Furthermore, those areas that could hinder the realization of fusion energy in Japan if dominated by other countries should be approached from the perspective of supply chain access regardless of whether Japan has strengths or weaknesses in them....

“Even if private companies have the technological seeds, since further research and development will be needed until the seeds are suitable for social implementation, the Cabinet Office and MEXT [Ministry of Education, Culture, Sports, Science and Technology] will support the R&D by private companies that will play a major role in developing the fusion industry. In particular, support to start-ups will be enhanced from fiscal 2023....

“Problems that still need to be solved for the realization of fusion energy remain, and since we must respond to changing markets, advances in research and so on, Japan will regularly update and revise its national Fusion Energy Innovation strategy.”