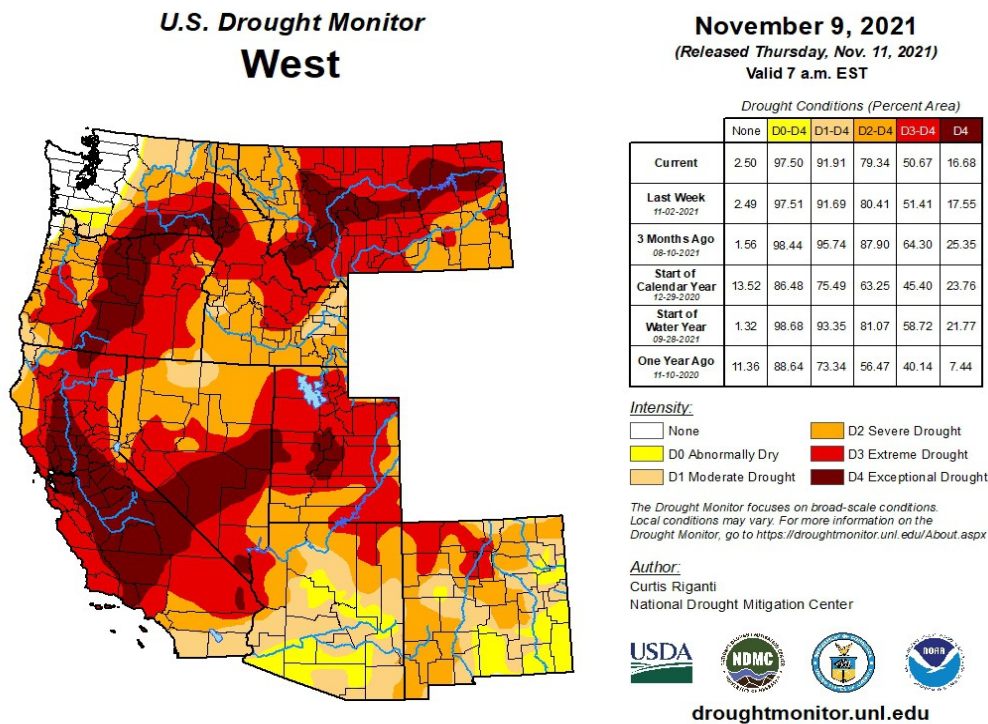


In the West, the rainy season has begun

But the western states continue to descend deeper and deeper into drought and an unprecedented water crisis

By Patrick Ruckert
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http://www.californiadroughtupdate.org/20211115%20In%20the%20West%2C%20the%20rainy%20season%20has%20begun.pdf?_t=1637185384



Over the past two or three weeks the west has been hit with several storms, one of which dropped record amounts of precipitation on northern California, Oregon and Washington. Storms have continued to inundate the northwest, but not California. And that record storm did little to alleviate the drought.

October through March each year, California receives the vast majority of the precipitation it gets from a few atmospheric rivers over the course of the six months. When the Autumn and Winter storms do not arrive the state goes into an immediate drought. That is not the worst of it. The Colorado River basin, upon which 40 million people in the seven states that are members of the Colorado River Compact and northern Mexico depend upon for water and electricity from the Hoover and Parker dams' reservoirs, has been in a 20 year drought. http://gcdamp.com/index.php?title=File:Colorado_River_Basin_MAP-CRBC-Chris_Harris.jpg

The states that are members of the Colorado River Compact are: Wyoming, Colorado, Utah, Nevada, New Mexico, Arizona and California. In Mexico the river flows through its territory and empties into

the Gulf of California.

Lake Mead behind the Hoover Dam and Lake Powell behind the Parker Dam have now reached such a low level that the Bureau of Reclamation that owns the dams, has declared a “Tier One Shortage” and will cut off Arizona from 20% of the water it normally receives beginning in January, 2022. That is just stage one of the emergency process for the river. Tiers two through five cuts off more and more water to all the states of the region and Mexico. Warnings from the Bureau of Reclamation this past week state that it is even possible that Lake Mead could become a “dead pool” as early as 2023 if the drought persists and states do not voluntarily cut back from water they receive. Last week California and Arizona announced a tentative agreement to voluntarily leave 500,000 acre feet in the reservoir each year. That, as reported, is soon to become finalized.

The latest forecasts for the winter see a La Nina taking hold now, which means that as the Jet Stream pushes north, the storms that hit the west coast are also pushed north, making for a colder and wetter winter in Oregon and Washington, and a dry and warm winter for the southwest, including California.

But already the drought has had the effect of forcing large cutbacks in water use by farmers, thousands of wells going dry and state mandated cut-offs to especially farmers. More on this below.

The western states, and especially the southwestern states, as one can see in the maps of the U.S. Drought Monitor, are nearly 100 percent in a drought that has intensified all year. As much as 50% or more of some of the states are in the most extreme category of drought-- Exceptional Drought. <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?West>

An often repeated, but unfortunately not learned, is the saying that “droughts are caused by nature, but their effect is determined by mankind's preparations.” With a few exceptions the nation, and especially California, has for the past nearly 50 years, not listened to that idea at all. No physical water infrastructure has been built in the state since the completion of the California State Water Project in the early 1970s.

This article will not discuss the why for that disaster, except to say that it was in 1971 when President Nixon, on the advice of Wall Street and British bankers deregulated the global financial system and destroyed the fixed exchange rate system of the Bretton Woods agreement crafted by President Franklin Roosevelt's administration during World War II. That act was followed by decades of turning the U.S. and other advanced sector nation's economies into speculative gambling casinos, outsourcing and shutting down of industries, the manned space program and the building of physical infrastructure, like water systems, transportation systems, nuclear power generation and maintaining those systems built by previous generations. Now we are in the midst of not merely a supply chain crisis, but an actual complete breakdown of the entire physical productive economy.

Great Builders Created the Largest and Most Complex Water Management System in the World

For California by the early 1970s, the vision and ideas of creating a future for new generations had produced the largest and most complex water management system in the world. At the center of that system, in which multiple river water sheds were folded into one coordinated whole, were two great projects. First, the Central Valley Project built by President Franklin Roosevelt and the California State Water Project, built by California Governor Pat Brown. It was a system that provided adequate water for the state's about 20 million people. But it was not adequate for today's population of 40 million.

That system created the largest, most diverse and productive agricultural system in the world. Even today, California produces more than 40% of the fruits and vegetables grown in the entire United States. In addition, more than 80% of almonds, pistachios, walnuts and other nuts grow in California.

Thus, droughts that occurred even into the 1980s were not a threat to the water supply for cities and agriculture. But now, even a two year drought, like the one we have today, becomes an almost immediate emergency.

Of course, irrational and extreme environmentalism has played its role in preventing the building of water storage infrastructure and blocking for decades the building of nuclear power plants and desalination plants. The Carlsbad desalination plant, the largest such facility in the entire western hemisphere, producing 50 million gallons of drinkable water each day, was completed in 2015, but only after about 15 years of regulatory and law suit delays.

Recent California Drought and Water History

From 2012-2016 the worst drought in 500 years found a state not only unprepared, but by the third year of the drought more than 500,000 acres of the world's best farm land was fallowed, hundreds of wells went dry as farmers resorted to pumping more water from deeper and deeper wells as they were cut off from water supplies by the state and federal water projects. Reservoirs virtually emptied and hydropower produced electricity from the state's many dams fell for about 20% of the state's electricity production to less than 10%.

In 2014 voters responded and passed Proposition One to allocate more than \$7 billion for water infrastructure, including \$3.4 billion for more water storage. As of today, not one penny of that \$3.4 billion has been allocated or spent, as the environmentalist restrictions placed on projects to be acceptable has found none of the proposals able to qualify.

So now we are at the end of a second year of drought, which is worse and more intense in this second year than the previous five year drought was in that fifth year. The reservoirs are at record lows, and even the recent record storm barely moved them from 25% of capacity to 28%. Thousands of wells are going dry, both for individual homes and small cities, with emergency water deliveries now being made by the state and local governments.

The situation with agriculture in this drought is already worse than that of the last drought, and the Water Resources Board has cut off all deliveries of water from the main projects, and forbidden farmers from even withdrawing water from streams and rivers that they have a legal right to. One of the reservoirs, Lake Mendocino, behind Mendocino dam on the Russian River is expected to decline to become a "dead pool" by next summer, an unprecedented development, and many of the cities and towns that rely upon the reservoirs water have no alternative supply available. Already due to the low level of the reservoir, more than 200 farmers have been completely cut-off from withdrawing water from the river.

The state government is actually waging a war against agriculture, announcing a couple of weeks ago that it is withdrawing from a "voluntary agreement" process on releases of water from three of the Central Valley rivers. The agreement had been in effect for the last few years as the state and the farmers were cooperating on the amount of water to be released from dams on the river in order to ensure there was enough water in the rivers below the dams for salmon to survive. By ripping up the process, it is feared that the state will dramatically increase the amount of water to be released leaving

even less for agriculture.

In addition, water allocations from the Central Valley Project (CVP) and the State Water Project (SWP) have been dramatically cut. They are cut to just 5% from the SWP and 0% from the CVP. This has forced farmers to pump more water from their wells, which lowers the ground water table and has already resulted in thousands of wells going dry.

In Southern California, the supplier of water to 19 million people, the Metropolitan Water District of Southern California, has declared this past week a water emergency and as the emergency moves to higher stages, voluntary conservation edicts will be replaced by forced conservation measures or hefty charges for those that do not comply.

While the picture I have presented here is dramatic and frightening, I assure you that for the people directly affected by dry wells and water cuts offs in the middle of growing season for farmers, is devastating. Cattle ranchers are sending large portions of their herds to slaughter and thousands of growers have had to uproot orchards in order to save water for the trees they will keep. A typical headline reads, "California Cattle farmers endure 'one of the worst years ever.'"

On top of all that, the delays at the ports in unloading containers has also been devastating to California farmers as the same ships normally would load fill containers with agricultural products from American farms. One farm cooperative, California Dairies, Inc. has been losing \$45 million per month on delayed or canceled shipments of milk powder. An estimated 20 percent of the agricultural output of the nation is exported, and farmers across the country are losing millions of dollars as the consequence of outsourcing U.S. industrial production to cheap labor countries breaks down. While the Biden administration may claim it is all the fault of the Covid pandemic, that really was only the trigger for collapsing a system based on shareholder value, cheap labor and globalization more generally.

Water and Energy

In normal years twenty percent of California's electricity is generated by hydro-electric power. Already in this drought that has been reduced this year to about ten percent. Worse, the Oroville Dam generating plant has been completely shut down because of low water in the reservoir. This has never occurred before, and it may not be the only dam and reservoir that will do likewise.

On the Colorado River, the reservoirs behind Parker and Hoover dams are so low that both dams are producing 25% less electricity than they do when the reservoirs are at a near normal full level. That means that the utilities that sell the power to millions of customers have had to find other sources of supply.

And, the state of California, dominated by environmentalist elected officials and a like-minded bureaucracy, has made the state the poster boy for green fascism to combat their hysterical fixation on climate change. The state has in place a policy to achieve net-zero carbon emissions by 2045, earlier than either the federal government or any other state in the union. Coal and older gas plants have been shut down as windmills and solar panels have covered large parts of the territory of the state, ruining, of course, much of the scenery. Last year and this year the state had temporary black outs for millions of homes and businesses during extremely hot days as electricity usage soared. This year the governor was forced to put into operation a fleet of gas powered generators to prevent even more serious shortages of electricity.

Diablo Canyon Nuclear Power Plant Scheduled to Permanently Shut Down in 2025

Governor Gavin Newsom, egged on by our Malthusian cultists, pushed for the closure of the Diablo Canyon nuclear power plant, and got the agreement from its owner, Pacific Gas and Electric to do so in 2025. The heavily subsidized solar and wind generation of power, which is then able to undercut the price of nuclear generated power, makes it financially impossible to run the plant with any profit at all.

Closing Diablo Canyon means that 8% of all the electricity generated in the state will be lost, making the supply capability even more vulnerable to shortages and black outs.

An additional vulnerability of the electric power supply of the state is that about 14,000 gigawatts of the state's electricity is sent from Oregon, Washington and British Columbia hydro-electric production, generally during the summer months. Last summer this was temporarily interrupted as a huge forest fire in Oregon threatened the tie lines carrying the power.

While state law prohibits the building of more nuclear power plants, there is a fight to keep Diablo Canyon producing electricity. The most recent entry in this battle is a report from a MIT and Stanford University study that proposes that not only should the plant continue to produce electricity, but a desalination plant should be built next to it that produces drinkable water. Not only would that contribute to alleviating the state's ongoing water crisis, but also, since the nuclear plant is right next door, the electricity cost for running the desalination plant would be much lower than one that was required to buy the electricity on the open market.

In addition, the study also proposes that the plant produce hydrogen, which requires electricity for the electrolysis process required for its production. Hydrogen can be used for, as environmentalist should like, for a carbon free fuel for cars and trucks.

Overall, continuing to run the plant until 2045 would save ratepayers \$21 billion in power system costs, and make unnecessary wrecking 90,000 acres of land with windmills and solar panels to replace the electricity produced by Diablo Canyon.

Is There a Solution?

There is no short-term solution to the California and southwestern states water crisis. And in dealing with it now, the California government is worse than useless. In July, Governor Newsom declared a drought emergency for most counties and a month ago extended it to the entire state, while demanding that everyone voluntarily reduce water consumption by 15%. While most of the farm sector has had its water supply cut by up to 100%, a pathetic reduction for the urban population is underlined when it is noted that the urban population's use of the state's water is only 8% of the total water that flows through the state. Even former Governor Jerry Brown, during the last drought, imposed a 25% mandatory reduction by the cities of water consumption.

Other states, like Arizona, are at least paying farmers some compensation as they lose their access to water, which will be cut for about 20% of the state beginning next year as the first stage of a water emergency on the Colorado River goes into effect.

Proposals to build more water storage in California to capture and hold water, that otherwise would flow to the ocean during heavy rain years, have been on the books for decades. The most obvious and doable of these proposed projects is to build the Sites Reservoir, near the Sacramento River, where

excess water in the river can be diverted to it. It is termed an “off-stream” reservoir, as it requires no dam, and is essentially a large basin that can hold more than one million acre feet of water. An acre foot is equivalent to a football field with a foot of water on it.

Other proposals include raising Shasta Dam by ten feet which would increase its storage capacity by nearly another million acre feet.

Desalination and the North American Water and Power Alliance

Since the domestic supply of the water California receives is entirely domestic, including the Colorado River which is on the border between Nevada, Arizona and California, only creating new water can supply what is required by the state.

That was the intent of those with vision more than fifty years ago.

During President John Kennedy's administration two serious projects were envisioned by those who built the Central Valley Project and the State Water Project, with the intent of completing them by the early 1990s, when the population increase of California would require more water resources. As far as the political representatives and water managers of today are concerned, their job is to merely manage limited resources, water included, and impose scarcity as best they can.

President Kennedy implemented a policy of building nuclear- powered desalination plants in California, Texas and Florida. <http://www.californiadroughtupdate.org/2015/05/29/nuclear-powered-desalination-in-california-parts-i-iv/>

Even after his assassination, the Metropolitan Water District of Southern California and the federal Nuclear Regulatory Commission signed a contract to build the first such complex off the coast of Huntington Beach in southern California. Legislation was debated in both houses of Congress for several years, but the shift of the economy to become a gambling casino and the rise of irrational environmentalism resulted in the program dying a slow death by the early 1970s.

It was not until the 1990s that a private company, Poseidon Water, proposed to build a large desalination plant at Carlsbad in San Diego County, that a serious approach to creating new water began. After almost twenty years of regulatory delays and law suits were overcome that construction began in 2014, with the plant going into operation in 2015. Carlsbad produces 50 million gallons of fresh water daily, which is about 50,000 acre feet per year, providing about ten percent of San Diego's water supply. A sister plant was proposed, also in the late 1990s, to be built at Huntington Beach, the original location of the first plant proposed by John Kennedy. After 20 years of similar hurdles to that which the Carlsbad plant had to overcome, final approval may be made in December this year.

A year's construction for similar plants is a good estimate for building more such plants, if the delays can be overcome. The entrance for water to the aqueducts of the Central Valley and State Water projects are near San Francisco Bay, so building half a dozen or more such plants on the Bay would ensure a reliable source of water for both projects. And since southern California gets about 20 percent of its water from the State Water Project, more than 400 miles from its source in the Bay Delta, the entire state will benefit from such an undertaking.

There are presently several smaller desalination plants now operating in the state that with their limited production are only able to supply water to a few thousand people.

The second proposal during the Kennedy years was to build a project called the North American Water and Power Alliance (NAWAPA). <https://www.youtube.com/watch?v=1NdKsZrG9RA&t=51s>

Briefly, it would build dams, reservoirs and aqueducts in Alaska to send about 100 million acre feet annually south through Canada to the U.S. With some of it going to the mid-west to recharge the Ogallala Aquifer, and the rest to the southwestern states and to Mexico. That was originally proposed by the Parsons Engineering Company of Pasadena, CA, and was endorsed by members of Congress, including Robert Kennedy, before his assassination, and the Premier of Canada. Construction, had it begun when proposed, would have cost about \$100 billion and would have delivered water to all destinations by the 1990s, making all droughts after virtually irrelevant. That project, too, slowly died for the same reason JFK's nuclear-powered desalination program died in the early 1970s.

It is now time to revive both projects and put them on an accelerated permitting and construction track. And as the revolt against the Woke Culture, the Vaccine mandates, hysterical apocalyptic forecasts of doom from climate change, the Biden collective's Build Back Better austerity and limited resources lie, and in general, the entire policy of globalization, as that is now most visible in a collapsed supply chain and the inflation of everything that makes even survival possible, such great projects as President Trump's Artemis Project to put the first woman and the next man on the Moon in 2024, not only become possible once again, but also the revival of the mostly forgotten great projects, like NAWAPA, can become the nation's agenda again.

About the author:

Patrick Ruckert is the publisher of the weekly, "California Water and Infrastructure Report." He has been an organizer with the Lyndon LaRouche political organization for 50 years.

The report is a 12-16 page round-up of developments in regard to the drought, water supply and the history of the California water management system. Infrastructure, generally, but more importantly, the platform of productivity for the entire economy depends on scientific discovery and its application to technology. The political battle today requires fundamental changes in our financial system, so that once again our nation is focused on industry, science, space exploration, and the building of new infrastructure platforms. The water crisis we have in California today is the result of the shift fifty years ago with the economy becoming a gambling casino and the rise of irrational and destructive environmentalism.

The report's website is: <http://www.californiadroughtupdate.org/>

And on Face Book at: <https://www.facebook.com/CaliforniaDroughtUpdate>

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