

California Drought Update

For June 9, 2016
by Patrick Ruckert

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A Note To Readers

We have all heard the phrase, “the quiet before the storm.” It has been a quiet week on the drought front, but that is going to change soon. I think that is what this week's U.S. Drought Monitor is telling us. The monitor and my comment on it lead our report this week. That is followed by the reservoir graph.

I really looked, but, there really is not much to report this week. So, I included below some background on the Delta Smelt that is part of an article that the fish is nearing extinction.

The feature this week is the “Managing the Global Water Cycle” section of the report I have often linked, “THE UNITED STATES JOINS THE NEW SILK ROAD: A HAMILTONIAN VISION FOR AN ECONOMIC RENAISSANCE.”

This report provides an overview of the water cycle itself and the ways mankind manages the water he requires. One often hears that “we are running out of water,” or, “water is a limited resource.” Just a limited understanding of the water cycle will inform you that both claims are absurd. Providing water includes managing surface water, pumping groundwater, desalination, and, something most are not familiar with: artificial ionization of the the atmosphere to increase precipitation. You can read more below.

Yesterday, in San Francisco, we held a strategic seminar, “Will the U.S. Join The New Silk Road?-- A Choice of Global Scientific Development or Nuclear World War.” Sponsored by the Schiller Institute, the array of significant speakers included: Helga Zepp-LaRouche, Sergey V. Petrov-- Consul General of the Russian Federation in San Francisco, Lyndon LaRouche, former U.S. Senator Mike Gravel, and Keshia Rogers.

In addition, a special treat was Dr. Howard Chang, my friend and one of the nation's foremost hydraulic engineers, who presented a detailed picture of the existing and planned water development projects for South Asia. Dr. Chang is Professor Emeritus, San Diego State University.

I will provide the link to the video of the conference next week.

Here is one highlight from the first panel:

“Russia's Consul-General in San Francisco, at the Schiller Institute's seminar today in that city, responded to a question from U.S. Sen. Mike Gravel:

“I share the understanding, that we are very close to a major conflict. And I add that there is no possibility of a ‘limited nuclear war.’ If that starts, it will be end of the world.”

For more on this: “NATO's Catastrophic Nuclear Bluff Against Russia: You Can Help Stop It Now June 8, 2016.” larouchepac.com/20160608/natos-catastrophic-nuclear-bluff-against-russia-you-can-help-stop-it-now

The Dought Monitor and the reservoirs

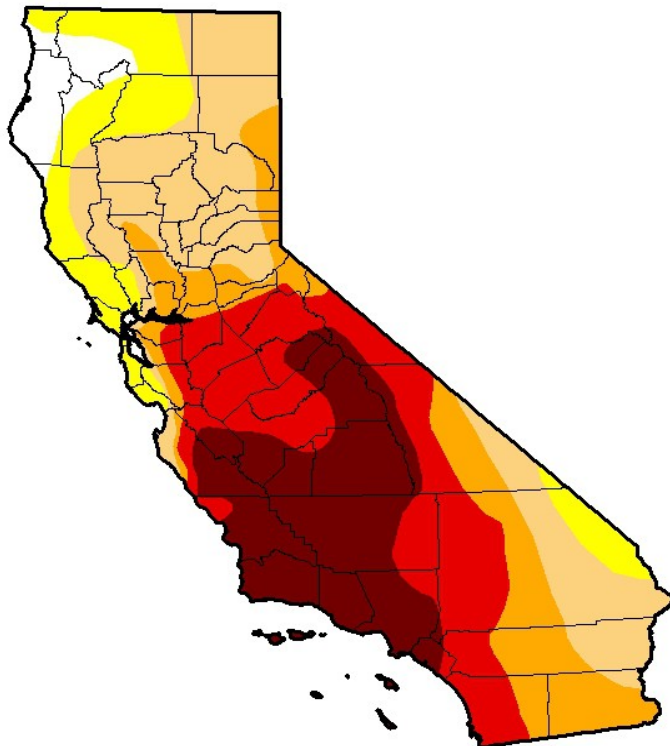
You have to look carefully to notice it. It is in the top line of the second column. For the first time in recent months one of the drought categories increased this past week. Not only that, none of the other categories of drought declined in percentage, as they had been since the rains began last December. This change was not broadcast as something new, but, usually, a sea-change is difficult to precisely pin down. Thus, my characterization in the introduction to this week's report that today may be recorded as the “calm before the storm.” And with a La Nina on the way (the 75 percent chance of it hitting in the early Fall was repeated by climatologists this week), dry days ahead are most likely.

U.S. Drought Monitor California

June 7, 2016

(Released Thursday, Jun. 9, 2016)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	4.27	95.73	83.91	59.02	42.99	21.04
Last Week 5/31/2016	6.08	93.92	83.91	59.02	42.99	21.04
3 Months Ago 3/9/2016	0.43	99.57	97.49	83.16	60.86	38.48
Start of Calendar Year 12/29/2015	0.00	100.00	97.33	87.55	69.07	44.84
Start of Water Year 9/29/2015	0.14	99.86	97.33	92.36	71.08	46.00
One Year Ago 6/9/2015	0.14	99.86	98.71	93.91	71.08	46.73

Intensity

- 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. See accompanying text summary for forecast statements.

Author:

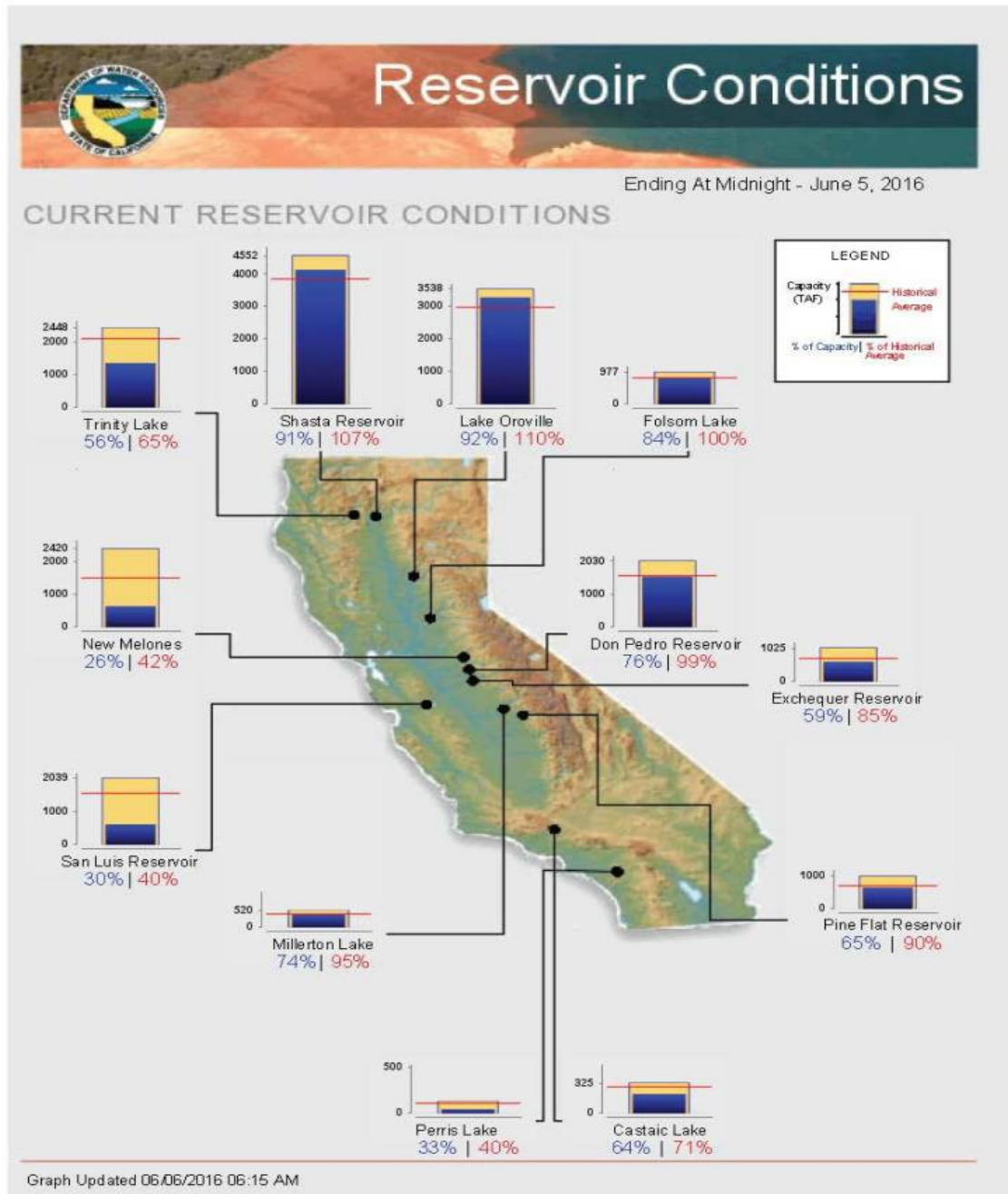
Deborah Bathke

National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>

As for the reservoirs, the slowly declining levels of the central and southern California ones continues, with the critical San Luis Reservoir now down to 30 percent of capacity.



Some of You Have Been Waiting For This

Here is the headline: “Critical index finds smelt nearly extinct in Sacramento Delta.” This June 6 article in the *Sacramento Bee*, reports on the latest analysis from the state Department of Fish and Wildlife of the viability of the Delta Smelt. It is not very viable, not matter how many millions of acre-feet of water is poured through the Delta. Excerpts from the article by Ryan Sabalow follow:

<http://www.sacbee.com/news/state/california/water-and-drought/delta/article82144857.html>

Delta smelt have hovered close to extinction for years, but biologists say they've never seen anything like this spring.

“There’s nothing between them and extinction, as far as I can tell,” said Peter Moyle, a UC Davis biologist who has studied smelt and other Sacramento-San Joaquin Delta fish species for nearly four decades.

Last week, the state Department of Fish and Wildlife released the results of spring trawling surveys that track adult Delta smelt. The surveys found just handfuls of fish across the huge area where they are known to spawn. The low catches were a marked drop from even the record low numbers of Delta smelt tallied in 2015’s trawls.

Steve Martarano, a spokesman for the U.S. Fish and Wildlife Service, said the index is used in part to help biologists estimate the entire population of the fish in the Delta.

Since the surveys began in 2002, the highest the Delta smelt population has ever been is about 600,000. Last year, the federal government estimated there were around 112,000. This year, biologists say there are likely just 13,000 fish, Martarano said.

Each year, in response to stormwater entering the estuary, Delta smelt migrate up from the salty Suisun Bay to spawn in the estuary’s fresh water.

But the heavy storms that trigger these migrations are also when water agencies reliant on two giant pumping stations at the south end of the Delta say the pumps ought to be cranked on. The pumps deliver Sacramento Valley water to 19 million Southern Californians and 3 million of acres of farmland in the San Joaquin Valley.

This winter and spring brought high flows after four years of extreme drought, but regulators said they had no choice but to operate the pumps extra carefully because smelt were doing so poorly. Federal agencies are responsible for safeguarding Delta fish protected by the Endangered Species Act. Court rulings empower the agencies to govern Delta water flows, which often translate into pumping limits to keep fish from being harmed.

Feature

This week's feature is an excerpt, the section titled, “Managing the Global Water Cycle,” from the LaRouche PAC pamphlet: **“THE UNITED STATES JOINS THE NEW SILK ROAD: A HAMILTONIAN VISION FOR AN ECONOMIC RENAISSANCE**

<https://larouchepac.com/sites/default/files/US%20Joins%20Silk%20Road-web.pdf>

2. Managing the Global Water Cycle

While California is the face of the water crisis, other regions are not far behind. In the Northwest, Oregon and Washington have suffered drought in recent years. The entire Southwest—from California to Texas, Utah to Arizona— has long struggled with water shortages. The main water supply of the High Plains states—the Ogallala Aquifer—is being diminished each year.

Water, however, is not a finite resource on this planet (relative to any conceivable level of human use).

We simply have to use existing freshwater cycles more productively, when possible, and create entirely new freshwater cycles as needed. All of this is within our grasp.

Weather Control from a Galactic Perspective

Start with a 21st Century understanding of the water cycle. While our star—the Sun—powers the entire cycle by pumping freshwater into the atmosphere via evaporation of ocean water, it is our Galaxy which closes this atmospheric component of the water cycle via the effects of high-energy galactic cosmic radiation.

In the past two decades new scientific studies have shown that the ionization effects of high-energy galactic cosmic radiation play a critical role in triggering the condensation of atmospheric water vapor— leading to cloud formation and precipitation. On the one side, this is connected with understanding why the Earth's climate has changed in response to our Solar System's travels throughout the Galaxy.

On the other side, this is a clue as to how mankind can manage the ionization conditions of the atmosphere to control the behavior of water vapor, weather, and precipitation.

Can we control the rain?

*It is already being done! As discussed in more detail in the 2015 EIR special report, *The New Silk Road Becomes the World Land-Bridge*, ground-based atmospheric ionization system pilot projects have increased precipitation in Mexico, Israel, Australia, the United Arab Emirates, Russia, and other locations. These technologies can be further refined and expanded, giving mankind the revolutionary control over the water cycle needed to permanently solve droughts, in California and other locations.*

Desalination

A more energy-intensive, but well-developed option is mass-scale desalination of ocean water. This is already being utilized in many places around the world—including Saudi Arabia and Israel, for example. With the higher energy flux-density levels of a nuclear economy, the United States could easily afford large-scale desalination as needed. For example, if we wanted to provide all of the domestic water needs for California's largest coastal metropolitan areas (65% of the state's population) the power requirements would be less than 100 watts per capita.

Surface Water Transfer

For the interior regions of the nation, we will also likely have to consider various water transfer or river diversion options. Perhaps the grandest scheme seriously considered was the 1960s North American Water and Power Alliance (NAWAPA) program, including its later upgrades and options for expansion, designed to divert ten to twenty percent of the abundant and excessive freshwater runoff from the

Northwest coast of the North American continent (Alaska, Yukon, and British Columbia) down throughout the Southwest. Such a program would greatly improve the productivity of the entire North American water cycle, ensuring the water flowing through the continent accomplishes more work per

cycle before it returns to the ocean. Various other water transfer options also exist (for California, for the Missouri River basin, and for other locations) which could be done on their own, or, better, in conjunction with a continental program.

Man Improves What He Touches

Ionization-based control of precipitation, desalination of ocean water, and transfer of surface water, together, give man-kind the capability to improve and expand the water cycle in ways never before seen. Perhaps most importantly, not only will this address existing water shortages, it will enable new growth and development. The Great American Desert, encompassing the Southwest, can finally be tamed, and a greener, more prosperous future can be created for that entire region.

Dimensions of the Water Cycle

The Earth's water is not a finite resource: it is part of a cyclical system. Mankind never has, and never will simply use up water supplies—the challenge is to manage the water cycle in ever-improving ways. The cycle is fueled by the immense amounts of solar energy going into the evaporation of ocean water. Only a small fraction of this evaporated water precipitates over land, creating all the groundwater, rivers, and lakes mankind has depended upon for millennia. The necessary future of mankind's management of the water cycle depends not only upon massive water transfer projects on a continental scale, but also creating new sources of freshwater through desalination, and managing the precipitation of water in the atmosphere through ionization technologies.