California Drought Update

For April 28, 2016
by Patrick Ruckert

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A Note To Readers

Now we shall enter the month of May, and with it a serious warning of worse to come. Here is a sentence from one of the reports below: "*The peaks of the Sierra are thick with snow, and California reservoirs are still rapidly filling. But the wet and welcome respite after four years of drought may be short-lived, federal climate experts said Thursday."*

Before that ominous warning, the current state of the drought and the reservoirs are presented by the graphics of the U.S. Drought Monitor and California Department of Water Resources. Yes, things are better than last year at this time, but, as the article cited above from *San Francisco Chronicle* makes clear, while a little relief is welcome, don't count on it to last.

Some Democrats are breaking from the environmentalist agenda as seen in the U.S. Senate campaign of Loretta Sanchez, as we report this week.

And we cannot long neglect desalination, as we have been guilty of doing for the past several weeks. Despite a virtual blackout of this important technology, it is moving forward in the state.

Our lesson for the day this week is for those who wish to understand better how mankind manages the global water cycle, under the section with the title, "Using a Stupid Headline to Present a Lesson."

Finally, the last item this week is for entertainment purposes only.

The Drought and the Reservoirs

As you can see from the U.S. Drought Monitor below, there is no change in the intensity of the drought throughout the state this past week. The past few weeks of a lessening of the intensity that has been noted appears to now have ended. Now, we are likely to go the other way, and should expect that intensity to become more pronounced. Compared to one year ago, when 93 percent of the state was in Severe Drought, today that number is 96 percent. But, the Exceptional Drought category is better, with "only" 21 percent today, compared to 41 percent a year ago. Looking at the graph below you can see that South-Central California is where the Exceptional drought remains concentrated. This year's El Nino only delivered about half the normal rainfall to the Los Angeles area.

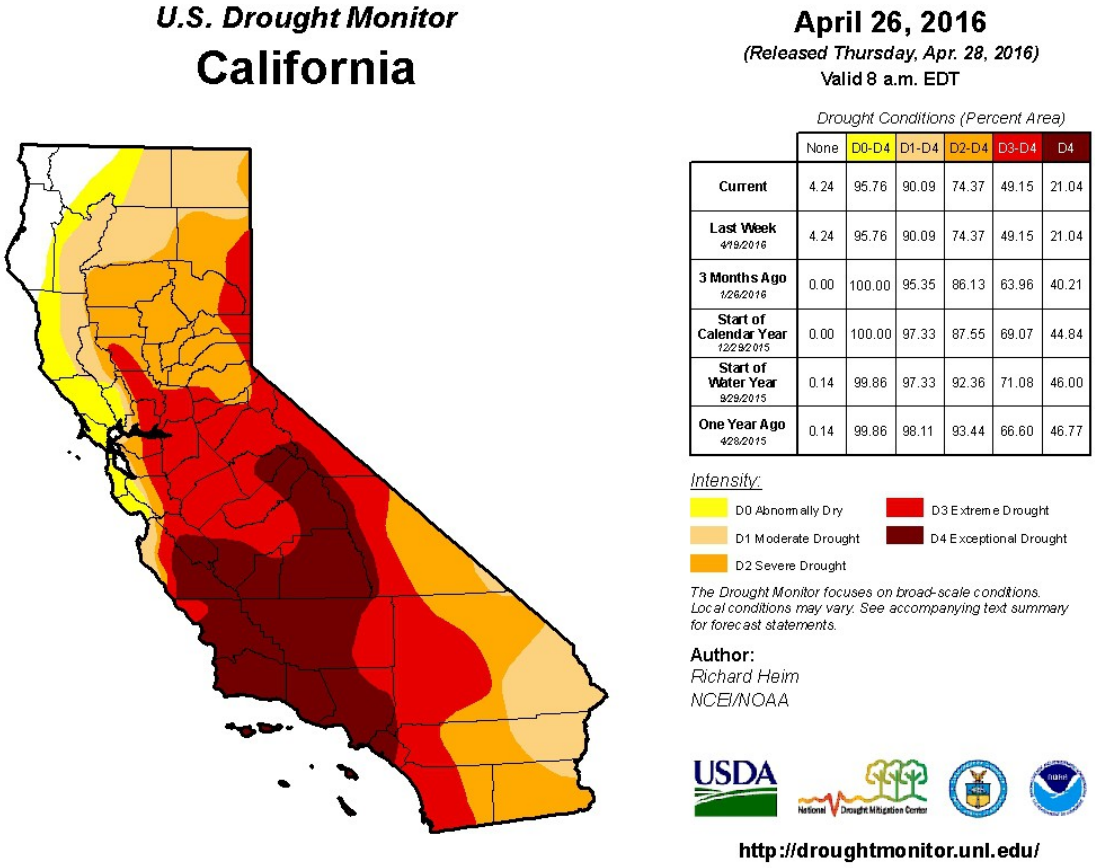
A useful perspective on drought intensity was provided in an article in the *Union Democrat* of April 21, written by Alex MacLean, "Drought's not over but less severe."
http://www.uniondemocrat.com/home/4233546-153/droughts-not-over-but-less-severe

MacLean writes, in regard to the two categories of Extreme (D3) and Exceptional (D4) drought:

Cindy Matthews, senior service hydrologist for the National Weather Service in Sacramento, stated in an email that the D4 category is reserved for the top-two percentiles of worst drought conditions.

While this year's snowpack and precipitation did not fit into that category, that doesn't mean the local drought conditions aren't severe.

"For those who worry that it looks like we've lessened the depiction of the drought, remember that the D3 — Extreme Drought category still indicates bad drought conditions," she stated. ***"In fact, it is an indicator of conditions in the worst three to five percentiles on record."*** (emphasis added)

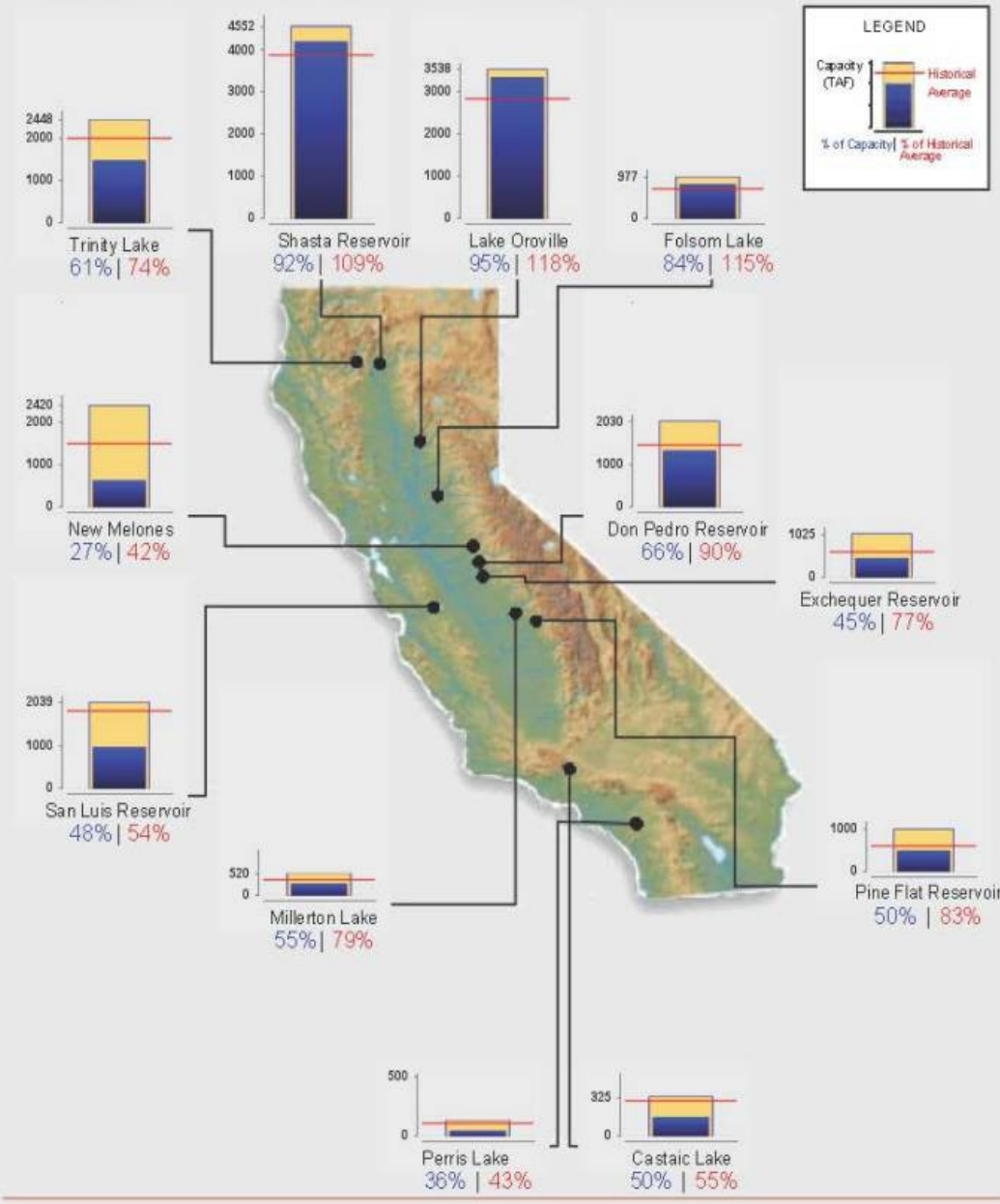


As for the reservoirs, what you see below is probably as good as it is going to get. The low level of the Central and Southern California reservoirs means it is unlikely that water deliveries to the Central Valley and Southern California will be increased beyond the level announced last week.

Reservoir Conditions

Ending At Midnight - April 24, 2016

CURRENT RESERVOIR CONDITIONS



Graph Updated 04/25/2016 06:15 AM

What is To Come? I Think We Should Pay Attention To This

An oncoming La Nina, along with warmer temperatures than usual are prompting forecasters to warn that we have not seen the worst of the drought. An article in the *San Francisco Chronicle* on April 22, "Dry La Niña period likely to follow El Niño," by Kurtis Alexander is excerpted below. http://www.sfchronicle.com/bayarea/article/Dry-La-Ni-a-period-likely-to-follow-El-Ni-o-7294795.php

The peaks of the Sierra are thick with snow, and California reservoirs are still rapidly filling. But the wet and welcome respite after four years of drought may be short-lived, federal climate experts said Thursday.

Runoff from the mountains will peter out earlier than usual this spring because of near-record heat, they said, and a weakening El Niño will probably give way to La Niña — all of which suggests a dry year ahead.

The monthly climate outlook released this week by the National Oceanic and Atmospheric Administration projects that most of California will remain in drought over the next several months. ***The forecast reverses last month's projection that nearly half of the state would begin seeing relief.*** (Emphasis added)

The change reflects the results of a disappointing El Niño, which didn't deliver the wetter-than-average winter that many had hoped for, and the increased odds of a La Niña emerging this fall — now at 70 percent.

"There is a trend for drier-than-normal conditions across the southern United States," said Jon Gottschalck, chief of the operations branch of NOAA's Climate Prediction Center.

Gottschalck said California is among the areas that typically see less rain and snow during La Niñas, noting Southern California's exceptionally dry history with the event.

The unusually warm weather further complicates California's water picture — the quickly melting snowpack in the Sierra is running more than two weeks ahead of normal.

"The earlier snowmelt raises concerns for water resources," said Nina Oakley, a climatologist with NOAA's Western Regional Climate Center.

Oakley said that while many of California's big reservoirs have filled, thanks to recent runoff, particularly in the north, the snow to sustain them will be gone by late spring or summer. This means cities and farms will have less reserves to live with during the driest part of the year.

Democratic U.S. Senate Candidate Says Pump More Water

Joining U.S. Senator Diane Feinstein, Congresswoman Loretta Sanchez, running for the retiring Senator's seat, said on April 25, that more water must be pumped to the farmers in the Valley. Sanchez will be the opponent of Kamila Harris in November as the Republican candidates will have no chance of making it through the primary.

Here are some excerpts from the *Sacramento Bee* article of April 26:

"Loretta Sanchez says relaxing species law 'on the table' to help state"

http://www.sacbee.com/news/politics-government/capitol-alert/article74003692.html

By Christopher Cadelago

Democratic U.S. Rep. Loretta Sanchez, campaigning for U.S. Senate, said Tuesday that she would consider amending the federal law governing endangered species to help improve the water supply across the parched state of California.

To help address the drought, Sanchez said she wants to take a broader approach that calls for continued conservation measures, increased storage sites and the construction of Gov. Jerry Brown's twin Delta tunnels project to move water south. Asked whether the Endangered Species Act should be looked at, Sanchez said yes.

"Everything needs to be on the table when we go in to find a solution," Sanchez told the editorial boards of McClatchy Newspapers at a meeting in Fresno.

Desalination

Avoiding real solutions for California's water problems is nothing new for either the political leadership of the state or the state's media. But, the virtual blackout of how successful the new desalination plant at Carlsbad has been is downright criminal. Pumping 56,000 acre-feet per year, the plant went on-line last December and now provides nearly 10 percent of all of San Diego's water needs.

Last week the Carlsbad plant was named the International Plant of the Year for 2016. Coverage of that award has been almost zero. Here is an excerpt of an article from *businesswire.com* on April 22:

Carlsbad Desalination Plant Named International Plant of the Year for 2016

Global Water Award announced in the United Arab Emirates
http://www.businesswire.com/news/home/20160422006109/en/Carlsbad-Desalination-Plant-Named-International-Plant-Year

CARLSBAD, Calif.--(BUSINESS WIRE)--The Claude "Bud" Lewis Carlsbad Desalination Plant has been honored with a Global Water Award as the Desalination Plant of the Year for 2016 by Global Water Intelligence, publisher of periodicals for the international water industry. The award, announced this week at the Global Water Summit in Abu Dhabi, United Arab Emirates, goes to "the desalination plant, commissioned during 2015, that represents the most impressive technical or ecologically sustainable achievement in the industry."

While on the topic, a sister plant to the Carlsbad desalination facility is moving along toward construction. Here is an update from Poseidon from their website:
http://poseidonwater.com/our_projects/all_projects/huntington_beach_project/

The Huntington Beach Desalination Project is a 50-million gallon per day facility currently in late-stage development. The desalination plant will be located adjacent to the AES Huntington Beach Power Station and is scheduled to be operational by 2019.

Poseidon is in the final phase of the project's permitting process and is currently working with state agencies to secure the remaining development permits.

Using a Stupid Headline to Present a Lesson

Gottfried Wilhelm Leibniz is famous for saying that, "This is the best of all possible worlds." That statement has been much abused over the centuries since Leibniz lived, but what he made clear is that he believed that the existence of a great evil can bring forth an even greater good. So, in the spirit of Leibniz, here is the headline:

"The world already would be out of water if everyone ate like Americans."

The text of the article continues the theme, and you can read it if you like:
https://www.revealnews.org/blog/the-world-wouldve-already-run-out-of-water-if-everyone-ate-like-americans/

Why do I call it a stupid headline? Because the world can never run out of water. Yes, there can be a lack of freshwater in localized areas, but our Earth is two-thirds covered with water; water that evaporates and returns to the Earth by precipitation. It then is used by plants, animals and mankind, and then returns to the oceans. And mankind's creative powers can move water where it is needed or create freshwater out of salty or brackish water.

That is the water cycle, and it is man's duty and privilege to manage the water cycle. My colleague Ben Deniston has written extensively on the water cycle, so we shall use this stupid headline to present one of Deniston's articles. Below is an appropriate excerpt from his article "New Perspectives on the Western Water Crisis," published in *Executive Intelligence Review* on April 3, 2015.
http://www.larouchepub.com/eiw/public/2015/eirv42n14-20150403/41-47_EIR14.pdf

New Perspectives on the Western Water Crisis

by Benjamin Deniston

Here we will add some new considerations, allowing us to re-think what we are actually dealing with when we speak of California's water crisis.

It is mankind's mission and obligation on this planet to improve the conditions for life – to develop and improve the planet, by understanding, managing, and improving the systems and processes at play. That is what mankind naturally does, what he must continue to do, and the global water system is a critical case in point.

Ultimately the hydrological cycle is a single global system. For mankind, the most fundamental characteristic of this is the evaporation of ocean water, the transport of atmospheric water vapor, the precipitation of atmospheric water over land, and the eventual flow of surface and ground water back into the oceans.4

Obviously there are many other aspects to the global water system, and various sub-cycles as well, but this serves to provide the basic conceptual framework needed here. Again, for more information see this author's contribution to the EIR special report, "The New Silk Road Becomes the World Land-Bridge," Dec. 1, 2014.

This is what provides the vast majority of water resources utilized all over the world. The general challenge mankind has been dealing with for millennia is to manage and improve these cycles.

Starting with the earliest irrigation systems, man better utilized small streams and rivers. This expanded to larger scale systems. Reservoirs and flood control systems were developed. By the early 20th century the United States set new standards with the Tennessee Valley Authority and the management and diversion of the Colorado River (along with other impressive projects).

Today, China has responded to the needs created by the past fifty years of economic and technological growth by raising the bar further with their Three Gorges Dam and their South Water North project. Tomorrow, to continue this process of natural development, we'll need to go to larger (international, continental) systems, like NAWAPA, but, also, we'll need to make a new leap, towards understanding how to better control these cycles (and not just on a larger scale, but from a qualitatively higher level).

This takes us to the cosmic (solar and galactic) perspective, implicitly provided by China's space program.

The Earth, and all its systems (water included), was never an isolated body.

In terms of bulk energy input, the electromagnetic radiation from the Sun drives the entire global water cycle, by pumping the atmosphere full of water vapor via evaporation. Another solar system process contributes to the circulation of the atmospheric water vapor, the rotation of the Earth.

For Entertainment Purposes Only

Artificial Intelligence is suppose to replace human creative thinking. That statement alone disqualifies itself as having been made by actual human creative thinking. But, let see how it works in practice, and the topic is the California drought. *Padvalagriculture.com*, which promotes organic farming, appears to be a site that posts articles written by a computer. "Liquidating our water resources – california drought highlights unsustainable agricultural," (sic) is an article posted on that site on January 31, 20016. You can see the entire article here: http://www.padvalagriculture.com/liquidating-our-water-resources-california-drought-highlights-unsustainable-agricultural/

Here is the first paragraph of the article:

The dry season in California is currently in its fourth year and the most noticeably bad on record. All Americans ought to be concerned, in light of the fact that California delivers about portion of U. S.-developed natural products, vegetables, and nuts. Moreover, 40 states in the U. S. are relied upon to experience water deficiencies inside of the coming decade. The emergency in California serves as an illustration of basic agrarian approaches and practices that harm our water supplies. The risk of water deficiencies will increment as environmental change advances, for instance, by contracting snowpack. Snowpack is crucial to environments and more than half of the world's populace. Snowpack gives around 33% of California's water supply when it softens in late spring and summer and renews stores. California's snowpack is at its least level on record. Photograph Credit: California Department of Water Resources Senator Jerry Brown.

Here is some real, rather than artificial intelligence