California Water and Infrastructure Report

Formerly, the "California Drought (and Flood) Update"



For December 21, 2017 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

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The train accident that just occurred in DuPont, WA shows more than ever why our soon to be submitted infrastructure plan must be approved quickly. Seven trillion dollars spent in the Middle East while our roads, bridges, tunnels, railways (and more) crumble! Not for long!

President Donald Trump

December 18, 2017

Tweet on the Washington State Amtrak accident

A Note To Readers

President Trump in his tweet on the Washington State Amtrak accident has the numbers right. Seven trillion dollars for infrastructure is a good start. His attack on the Bush and Obama regime change wars policy in the tweet is also excellent.

But, if we are seriously going to rebuild the nation we must not start with dollars. We must begin with an idea-- an idea that defines what we want the nation to be 50 years into the future. We use our imagination to see the future we want to create, and only after determining what it is we need to built to make that future a reality, then we decide "what it will cost," and put together the financial structure required to do it.

Always guided by the idea that growth and development are not only a good, but a necessity, we turn upside down the usual discussion that dominates Congress, the media and even the President. Though we must remember that President Trump early in his presidency championed the "American System"

economic and financial policies of Alexander Hamilton and Abraham Lincoln. Helga Zepp-LaRouche had a message for President Trump today on just that topic:

There is no time to lose in returning the west to that American System, designed by Alexander Hamilton and advanced by Lyndon LaRouche. The tax bill passed by the U.S. Congress yesterday creates one and a half trillion dollars in new debt, but simply pumps that money into the economy without direction, where it will continue to feed speculation rather than expand the real economy, as did the trillions of QE money-printing over the past 10 years. If the same credit were to be extended under an American System of directed creditary expansion, the US economy could be totally transformed relatively quickly. This is the essence of LaRouche's Four Laws, as explicated in the new pamphlet released this week by LaRouchePAC: "LaRouche's Four Laws & America's Future on the New Silk Road." The population is angry and looking for direction. This pamphlet, together with the LaRouchePAC dossier exposing Mueller's coup attempt, are the means to provide that direction, and to give President Trump the means he needs to succeed in his stated goal — to make America great again. https://larouchepac.com/sites/default/files/20171221-british-assets-2.pdf

The train wreck in Washington State is discussed in the last section of this report.

In This Week's Report

Is California heading back into a drought?, is a topic of numerous articles this past week as we near the end of a December that has seen virtually no precipitation in the state. Remember, the months of December, January and February are the months of rain and snow in the state. If we don't get it then, we ain't going to get it.

So, I have brought back the U.S. Drought Monitor chart and the Reservoir level map, accompanied by several excerpted articles discussing "is it a new drought that we are in?"

That topic spills over to the subject of the wildfires, and I include a couple of items, including a very interesting one on a 'fire cloud' collapsing in the Thomas Fire. The Thomas fire in Ventura and Santa Barbara counties is probably by now the largest fire in state history-- over 270,000 acres.

There is one excerpted item in this week's Oroville Dam Update.

The Feature on the American Credit system begins with the final class on LaRouche's economics. Then a short item on the tax bill just passed by Congress. This section will conclude with the Washington State Amtrak derailment.

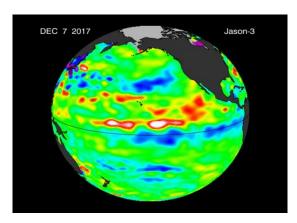
Is California heading back into a drought?

That title is the also the title of the first item below. All articles are excerpted, as usual.

Is California heading back into a drought?

By <u>Paul Rogers</u> and <u>Mark Gomez</u> Bay Area News Group December 14, 2017

http://www.mercurynews.com/2017/12/14/is-california-heading-back-into-a-drought/



NASA-JPL: A large mass of colder-than-normal water across the equatorial Pacific, shown Dec. 7, 2017 in this satellite image, is a classic sign of La Niña conditions, scientists say, which historically have increased the likelihood of dry winters in California.

Californians are beginning to wonder: Is the state heading back into a drought?

While experts say it's still too early in the winter rainy season to say for sure, the evidence is accumulating, and the rain is definitely not.

La Niña conditions in the Pacific Ocean — the cooling of ocean waters near the equator that have historically increased the chances of dry winters in California — are strengthening and should last through the spring, federal scientists said Thursday.

December has so far brought almost no rain across the state, and with no significant storms forecast for the next two weeks in the Bay Area, the month is on track to become the driest December in San Jose history since records began in 1893 and the third driest in San Francisco history back to 1849.

The Sierra Nevada snow pack, which got off to a good winter start with several storms in November, has melted down to 34 percent of its historic average.

That's the bad news, but experts and optimists point out that roughly half of the annual rainfall in Northern California falls in December, January and February, and big storms in the coming months could wipe out this year's winter precipitation deficits.

For the past few weeks, a huge ridge of unusually high atmospheric pressure has sat off the West Coast. Such ridges and troughs of high and low-pressure air come and go daily around the world and help shape much of its weather. During the drought, one such ridge blocked storms from bringing rain to California to such an extent that it became known as the "ridiculously resilient ridge."

A similar ridge is back now, and it's unclear when it will dissipate.

How dry is it? Scientist says California has only slim chance of normal rainfall this winter

By Dale Kasler

December 15, 2017 11:17 AM

http://www.sacbee.com/news/weather/article189996659.html

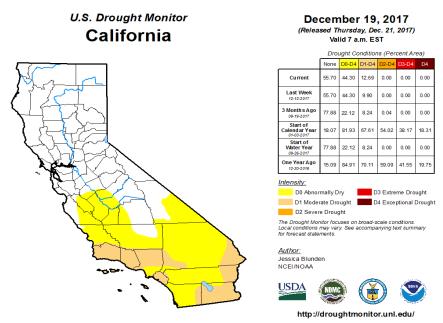
This is how dry it has been so far this season: California's chances of having a normal "water year" have fallen to around 33 percent in much of the state, according to a federal scientist.

Michael Dettinger, a hydrologist with the U.S. Geological Survey, said those dismal odds are based on

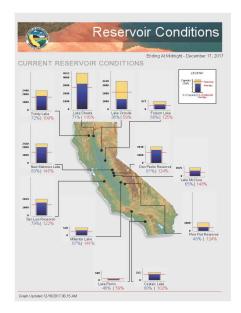
the amount of rain and snow that has fallen so far this year — and the history of how much precipitation California traditionally gets in the remaining months of the rainy season.

Dettinger said most of Northern California has either a 33 percent or 34 percent chance of having a normal water year. The chances drop to as low as 14 percent in much of the southern half of the state, where rainfall has been even scarcer so far this season. The water year runs from Oct. 1 to Sept. 30.

U.S. Drought Monitor



California Reservoir Conditions



Is the dry start to the rainy season pushing California reservoirs back toward a drought?

By Amy Graff, SFGATE

December 19, 2017

http://www.sfgate.com/weather/article/California-reservoir-levels-drought-dry-December-12434345.php

After a series of powerful atmospheric rivers brought the wettest rainy season on record to Northern California, brimming reservoirs became a symbol of the state's plentiful water reserves and the end of a five-year drought.

Now that this year's season has started with below average precipitation and the northern part of the state has seen very little rain in December (only .02 inches in S.F. and .18 in Shasta County), you might be wondering how the reservoir water levels are looking.

SFGATE tracked down images of some of the state's largest and most important reservoirs and the good news is that they're still swollen with water.

L.A.'s increasingly hot and dry autumns result in 'these near-apocalyptic fires'

By Rong-Gong Lin II
Los Angeles Times

December 21, 2017

http://www.latimes.com/local/lanow/la-me-ln-weather-thomas-fire-20171221-story.html

This year, however, it's been no contest. Autumn has seen excruciatingly little rain, intensely low humidity, record heat and powerful winds that sparked what is so far the second largest wildfire in modern California history.

"The result are these near-apocalyptic fires that we're seeing," climatologist Bill Patzert said.

Together, the weather conditions that fueled Southern California's December firestorms offer a window into a future that could include more destructive fires.

On average, downtown L.A. gets more than an inch of rain in November and more than two in December. But this year, there was only a hundredth of an inch of rain in November and nothing at all in December until Wednesday night, when a weak storm system dropped one-hundredth of an inch of rain on downtown Los Angeles. In fact, there had been no substantial rainfall in downtown Los Angeles since February.

It's part of a larger weather trend for Southern California: Over the last seven years, maximum temperatures during the fall have gotten <u>hotter</u> and there has been <u>less rain</u>. This October and November were the <u>hottest</u> in 122 years of record keeping for the region.

For downtown Los Angeles, this is shaping up to be the driest March-through-December period on record. A paltry 0.68 of an inch had fallen through Tuesday, beating out the 1.24 inches that fell during the same 10-month period in 1962.

A persistent weather pattern has blocked rainfall away from Southern California.

There's a large mass of high pressure over the West, which is associated with an unusually weak jet stream, said Patzert, a climatologist at NASA's Jet Propulsion Laboratory in La Cañada Flintridge. A weak jet stream — a powerful river of air in the upper atmosphere upon which storms ride — can be bad for rain in California when it meanders over the northern hemisphere and results into the development of a powerful mass of high pressure over the West that sends storms away north of

California.

The mass of high pressure matters so much because Southern California gets most of its rain and snow from just a small number of storms every year.

During the worst period of fire weather, humidity sank to extremely low levels — as low as 1% — with low single-digit readings even at the beaches, which are typically damp from moisture from the ocean.

Even during a summer heat wave in Southern California, there's still enough moisture in the air to cause dew to form at 20 to 40 degrees. But the air had become so dry that the temperature would have to have fallen as low as negative 20 degrees to form dew, Swain said.

On top of that has been the unremitting Santa Ana winds this month. Typically, Santa Ana wind events might last for two or three days. But the National Weather Service clocked in a record stretch of 12 consecutive days of red flag warnings that began on Dec. 4, the same day the Thomas fire ignited.



(Sources: Ventura and Santa Barbara counties, Mapzen, OpenStreetMap)

Despite overnight rain in Bay Area, December tracking to be one of driest on record

https://www.eastbaytimes.com/2017/12/20/despite-overnight-rain-in-bay-area-december-tracking-to-be-one-of-driest-on-record/

For the first time in more than two weeks, rain fell overnight in the Bay Area. But the amount of precipitation recorded was minimal, and with no rain in the forecast through Sunday, December remains on track to be one of the driest in the Bay Area on record.

Rain totals were generally less than one-tenth of an inch, with as much as .25 in some North Bay locations, according to the weather service. Rainfall reports through 4 a.m. include Boulder Creek in the Santa Cruz Mountains .24 inches, San Francisco .13 inches, San Carlos .10, Oakland .07, Danville .09 and San Jose .03.

The storm delivered the first measured precipitation in the Bay Area since Dec. 3 when San Francisco recorded .03 of an inch. With no rain in the forecast through Christmas, this month is on track to become the fourth driest in San Francisco history back to 1849. San Jose is tracking to become the third driest December in San Jose since records began in 1893.

Wildfires Are Us

Cal Fire reported 6,982 fires in California from Jan. 1 to Dec. 17. The fires have burned more than 505,900 acres, and counting. That is more than twice the acreage burned last year of 244,304 acres.

California's five-year average for wildfires is 4,787 and 202,737 acres burned.

The second article below is an argument that states global warming has nothing to do with the fires.

Thomas Fire to become largest wildfire in California history as winds intensify

By Faith Eherts, AccuWeather meteorologist

December 20, 2017

https://www.accuweather.com/en/weather-news/thomas-fire-to-become-largest-wildfire-in-california-history-as-winds-intensify/70003588

Following a subsidence in winds early this week, winds are forecast to kick up to troublesome levels for firefighting efforts prior to the end of this week.

The Thomas Fire is likely to become California's largest wildfire on record, when it tops 273,246 acres burned, from the Cedar Fire in October 2003.

Another Santa Ana wind event is likely to unfold, with canyons and passes from Santa Barbara through San Diego becoming subject to damaging winds.

Winds will increase during Wednesday afternoon and evening.

"Wind gusts of 40 to 50 mph will be possible in the canyons and passes but could reach up to 60 mph in the mountains later Wednesday night and Thursday," AccuWeather Senior Meteorologist Kristina Pydynowski said.

As of Tuesday evening, Dec. 19, the Thomas Fire became the second largest wildfire in California history with an acreage of 272,000. It has caused two fatalities. Over 6,800 personnel are working around the clock to increase the fire's containment level, which is currently 60 percent.

California's 'new normal' of winter wildfires doused by climate scientists

By <u>Valerie Richardson</u> - The Washington Times - Monday, December 11, 2017 https://www.washingtontimes.com/news/2017/dec/11/california-wildfires-new-normal-baseless-climate-s/

California <u>Gov. Jerry Brown</u> and former Vice President Al Gore lead the list of those blaming climate change for Southern California's devastating wildfires, calling them "the new normal," but others insist the science just isn't there.

That includes climate scientists such as University of Washington meteorologist <u>Cliff Mass</u>, who moved to extinguish the "now normal" narrative by arguing that the data "strongly suggests there is no credible evidence" that global warming is fueling this fall's <u>California coastal</u> wildfires, and that claims to the contrary are "baseless, if not outright wrong."

"The bottom line of all this is that observations and the best scientific reasoning do NOT suggest that global warming is enhancing CA coastal wildfires through effects on temperature and precipitation," Mr. Mass said Monday in a post on his weather and climate blog.

Scientists are rejecting arguments by a rash of politicians and media outlets linking climate change to blazes that have charred more than 256,000 acres so far in Los Angeles, Santa Barbara, San Diego and Ventura counties, according to reports from the National Interagency Fire Center.

At the same time, evidence suggests that wildfires were worse before World War II.

Bjorn Lomborg, president of the Copenhagen Consensus Center, compiled data from 1926-2017 showing that the acreage burned by U.S. wildfires has dropped fourfold since peaking in the 1930s, which was posted on the skeptics' website Climate Depot.

David B. South, emeritus forestry professor at Auburn University, told the Senate Environment and Public Works Committee in 2014 that eight of 10 "extreme megafires" in the lower 48 states since 1850 occurred during cooler-than-average decades.

"These data suggest that extremely large megafires were 4-times more common before 1940 (back when carbon dioxide concentrations were lower than 310 ppmv)," Mr. South said in his written testimony. "What these graphs suggest is that we cannot reasonably say that anthropogenic global warming causes extremely large wildfires."

Dramatic time lapse shows 'fire cloud' collapsing in the Thomas Fire

By Amy Graff, SFGATE

December 14, 2017

http://www.sfgate.com/bayarea/article/Thomas-Fire-fire-cloud-Ventura-County-video-12430724.php

The Ventura County Fire Department captured a dramatic time lapse of a collapsing pyrocumulus cloud, or 'fire cloud,' on Dec. 11 while fighting the fierce Thomas Fire.

Fire clouds behave similarly to thunderstorms as intense heat causes an updraft of air to push smoke higher into the atmosphere, creating whirls of wind. These systems are extremely unstable and sometimes reach a level of unstableness that causes them to collapse.

"When a cloud like that collapses a lot of wind and smoke are produced and flames shoot out in all directions," says Stuart Seto, a meteorologist with the National Weather Service's Los Angeles office. "It's very dangerous when something like that develops. It can spread a fire great distances. It makes a lot of smaller fires."

Seto adds: "The main danger is to the people underneath."



Photo: Ventura County Sheriff / Office Of Emergency Services . The Thomas Fire looking toward Santa Barbara from Sisar Peak on Dec. 10, 2017. Posted on <u>Twitter</u>.

Captain Stan Ziegler, a public information officer with the fire department, says massive fire clouds have been common during Thomas Fire that's burning across Ventura and Santa Barbara counties.

"We have recorded plumes reaching 30,000 feet into the air," Ziegler says.

One of those 30,000-foot-tall plumes developed Sunday and was widely photographed (see images above).

Oroville Dam Update

The following article is an excerpt. Go to the link for the rest of the "answers."

Our View: DWR spokesperson says they're confident in work done at dam

December 19, 2017 6:57 pm

http://www.appeal-democrat.com/opinion/our-view-dwr-spokesperson-says-they-re-confident-in-work/article 96867d92-e531-11e7-b837-c30c55ac9f67.html

We're working on part four of a series of packages including questions and responses about the Oroville Dam crisis last February – work and ongoing issues, and changes and reactions from officials over time.

Here's a summary of what we've found so far:

- It will be another year or more before all construction is complete, but they're ready for whatever this winter throws at us, said Erin Mellon, assistant director of pubic affairs for the Department of Water Resources. They have filled in giant scour holes and rebuilt the chute.
- What caused the initial erosion: An independent forensics team is still investigating, but they said a couple weeks ago they were basically done and expected to release a report soon.
- Work so far: replacement of concrete on the spillway chute, including the filling in of the holes. Some parts of the chute will be replaced or improved next year. Finishing work is being done. Efforts to improve the emergency spillway are continuing.
- DWR responded on concerns over small cracks appearing in the recently laid concrete. They said they anticipated the cracks and that they are not of concern and the Federal Energy Regulatory Commission, which licenses the facility, concurred.
- The dam's integrity has never been in question, it was reiterated.

Feature: The American Credit System

Following the links to the LaRouche PAC economic class series is a short item on the tax bill just passed by the Congress. Then comes coverage of the Amtrak derailment in Washington State.

The American Society of Civil Engineers' (ASCW) Report Card for America's Infrastructure, published this year, makes clear that while \$4.3 trillion would bring the existing infrastructure back up to standard and add some necessary elements, that is only leaving us where we should be. It does not move the nation to a new platform of productivity, which can only be accomplished by an aggressive policy on the frontiers of science. As is seen in LaRouche's Fourth Law, it is massive investment in an expanded space program and fusion research that can be the pathway to real development; development that does give us what we require fifty years from now.

A link to the ASCW report is below.

The LaRouche PAC Economic Class Series:

Class No. 11: LaRouche's Economics Class Series Wrap-Up

https://larouchepac.com/20171220/11-larouches-economics-class-series-wrap

And here are the links to the first ten classes:

Class No. 1: LaRouche's Science of Economics is the Basis for US Joining the New Paradigm https://www.youtube.com/watch?v=WTXCAPwfSAw

Class No. 2: LaRouche's Physical Economic Metrics: Productive Powers of Labor https://www.youtube.com/watch?v=sWcFDt3yfiA

Class No. 3: Physical Chemistry: Stages of Development https://www.youtube.com/watch?time continue=4&v=A XCGAfNa2U

Class No.4: Qualitative Change: What Number Cannot Measure https://www.youtube.com/watch?
time_continue=1&v=MHh8Ht5qShU

Class No. 5 Bernhard Riemann and the Shape of Economic Space https://www.youtube.com/watch?v=r2mQuAze838

Class No. 6: LaRouche's Physical Economic Metrics, Part II: How to Define Value https://action.larouchepac.com/2017-econ-class-series-sixth

Class No. 7: The True Meaning of Infrastructure: Physical Economic Platforms https://www.youtube.com/watch?v=cWjGr62d9H0

Class No. 8: Making it Happen: Money vs. Credit https://larouchepac.com/20171129/class-no-8-making-it-happen-money-vs-credit

Class No. 9: Science Driver Principle https://larouchepac.com/20171206/class-no-9-science-driver-principle

Class No. 10 -Inside the Creative Mind: Metaphor https://www.youtube.com/watch?v=jQgcPnLTWGA

GOP Tax Bill Is the Wrong Use for \$1.5 Trillion New Debt

Dec. 20 (EIRNS)—President Trump today signed the "Tax Cut and Job Creation Act" which cuts household taxes for the next five years, and corporate taxes permanently from 35% to 21%. There remains little public interest in the Act; the United States is already a relatively low-tax industrialized country for households and individuals.

The acute need is not for lower taxes but for real wages to increase from a secular decline which has now reached 40 years, the deindustrialization period. For this, more productive and skilled employment must increase relative to the workforce; and the path to that end is wide-ranging national investment in new high-technology infrastructure.

The tax bill has the effect of authorizing \$1.5 trillion more in Federal debt over a decade. Instead of using this to cut (primarily corporate) taxes, that new debt authorization could be used in Treasury

borrowing for a new Reconstruction Financial Corporation, a national credit institution for infrastructure and more productive manufacturing and agriculture.

By contrast, the corporate tax cut which is the centerpiece here will result in much more money invested in stock market speculation, stock buybacks, bigger dividends, mergers and acquisitions—it will be, as Jamie Dimon called it, "QE4."

Washington State Mayor Predicted Fatal Amtrak Crash Was 'Inevitable'

Dec. 20 (EIRNS)— "It's virtually inevitable that someone is going to get killed" said Lakewood, Washington Mayor Don Anderson on Dec. 4, referring to the fact that the new high-speed Amtrak Cascades Line was scheduled to go into service on Dec. 18 without the necessary safety equipment. In fact, the train derailed Monday on its maiden run, killing 3 and injuring over 100.

Addressing a City Council meeting on Dec. 4, Anderson also said to the Washington State Department of Transportation representatives: "Come back when there is that accident, and try to justify not putting in the safety enhancements, or you can go back now and advocate for the money to do it, because this project was never needed and endangers our citizens for very, very, very, highly subsidized transportation enhancement."

President Trump, in response to the wreck, said that the U.S. had spent \$7 trillion on wars in the Middle East while letting the American roads, rail, and other infrastructure collapse.

While the above item is correct as far as it goes, there is something more fundamental that must be said.

First, only in the U. S. today could a train that has a maximum speed of 80 mph be called high-speed rail. I am sure a knowing smile is the response of China, Japan, much of Europe and even now some countries in the continent of Africa. The global standard for high-speed rail are trains that travel at 200-300 mph.

Second, the new line being inaugurated is really only a ten mile by-pass, and as the mayor of Lakewood quoted above makes clear, even that new line still has car crossings, and as the accident demonstrates, 30 mph curves. Pathetic.

Real high-speed rail must be new lines, with no car crossing and the curves must not slow the train down. A clear right-of-way and 200 mph trains must be the standard. China has built more than 20,000 kilometers of rail that meets that standard in the past decade, and will add another 20,000 kilometers by 2025.

If China can do that, there must not be any reason why the U.S. cannot do it.

Here is further discussion of Amtrak and the political environment it operates in. Like China has done, the U.S. must say, "we must have a nationwide high-speed rail system," and then fund it with a new Reconstruction Finance Corporation credit system.

President Trump Sought To Cut Funding To Amtrak Before Deadly Derailment

By <u>Nicole Goodkind</u> On 12/18/17 at 4:16 PM http://www.newsweek.com/amtrak-derailment-trump-infrastructure-washington-751664

In May, President Trump released his transportation budget, which dramatically slashed federal aid to Amtrak by 13 percent. The budget, which reflects White House priorities and serves as a guide for

Congress, proposed deep cuts in funding for long-distance service, expanding transit lines and construction grants.

In 2017, 31.7 million passengers took trips with Amtrak, which operates a 21,356-mile railroad network in more than 500 communities. Yet the U.S. invests a much smaller amount in passenger rail than many countries in Europe and Asia do, according to the American Society of Civil Engineers. Amtrak covered 94 percent of its costs in 2016 with ticket sales but relies on government funding for capital investment and repairs. It currently operates on an annual budget of \$18.6 billion.

Trump has previously expressed interest in high-speed trains, but Republicans typically don't support funding for railroad projects or Amtrak because their districts don't typically use it. Congress has not passed a long-term funding bill for Amtrak since 2008 and instead repeatedly authorizes short-term extensions at existing funding levels. It's unclear if the infrastructure bill, which is expected to be submitted to Congress in early January, will include any funding for Amtrak or other rail programs.

The American Society of Civil Engineers' Report Card

https://www.infrastructurereportcard.org/making-the-grade/

Every four years, the American Society of Civil Engineers' Report Card for America's Infrastructure depicts the condition and performance of American infrastructure in the familiar form of a school report card—assigning letter grades based on the physical condition and needed investments for improvement.

Our nation is at a crossroads. Deteriorating infrastructure is impeding our ability to compete in the thriving global economy, and improvements are necessary to ensure our country is built for the future. While we have made some progress, reversing the trajectory after decades of underinvestment in our infrastructure requires transformative action from Congress, states, infrastructure owners, and the American people.

That's why, every four years, America's civil engineers provide a comprehensive assessment of the nation's 16 major infrastructure categories in ASCE's Infrastructure Report Card. Using a simple A to F school report card format, the Report Card examines current infrastructure conditions and needs, assigning grades and making recommendations to raise them.