



California Water and Infrastructure Report

Formerly, the “California Drought (and Flood) Update”

For January 10, 2019

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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Krafft Ehricke, one of the space pioneers and architect of much of the Apollo Project to land a man on the Moon, summarized his philosophy of astronautics in three laws (1957):

First Law: Nobody and nothing under the natural laws of this universe impose any limitations on man except man himself.

Second Law: Not only the Earth, but the entire Solar System, and as much of the universe as he can reach under the laws of nature, are man's rightful field of activity.

Third Law: By expanding through the universe, man fulfills his destiny as an element of life, endowed with the power of reason and the wisdom of the moral law within himself.

A Note To Readers

“Krafft A. Ehricke was one of the most remarkable men of this century. Following in the footsteps of the father of spaceflight, Hermann Oberth, he extended the science of astronautics to enable not only man's exploration of the Earth and Moon but his humanization of the Solar System.”

From: “How We Got to the Moon-- The Story of the German Space Pioneers,” by Marsha Freeman; 1993; 21st Century Science Association. “Chapter X: Krafft Ehricke's Extraterrestrial Imperative.”

Whether it is building the nation's infrastructure needed today and tomorrow, or providing the American people with a vision of the world of the future that they shall be enlisted in to build, the problem is to overcome 50 years of cultural pessimism that set in as we virtually shut down the space program that President Kennedy had initiated. Not only that, as stated in the excerpt from a LaRouche PAC posting of January 9, not only is America no longer the leader in space exploration, we cannot even put a man in space today, and must rely upon the Russians to do it for us:

There are two outstanding strategic developments over the past week which bear emphasizing, Schiller Institute founder Helga Zepp-LaRouche remarked today. The first is the epochal achievement of China's Chang'e-4 lunar mission, which is already producing a "Sputnik"-like effect internationally—ranging from enthusiastic congratulations and calls for ongoing cooperation from Africa, Ibero-America, Asia, and parts of the scientific community in the West; to teeth-gnashing frustration from the likes of Germany's mass tabloid Bild Zeitung, which is horrified that China has leapt ahead of the West in this fashion.

What Chang'e-4 shows to anyone who cares to open his eyes, Zepp-LaRouche stated, is that China is on the right path of science-based physical economic development, including the Belt and Road Initiative; and that the West is idiotically wrong, and must come to its senses—a task which will be at the center of the upcoming Schiller Institute conference.

The second major development was the outright cancellation of NASA's invitation to Roscosmos head Dmitry Rogozin, who had been scheduled to come to the U.S. to address NASA leaders and hold meetings with his counterparts. This action, taken at the instigation of Democratic Senators and others, is utterly insane, Zepp-LaRouche said: The U.S. cannot even get to the International Space Station without Russian rockets! We are sawing off the branch of the tree that we are sitting on. Moreover, if we are to forge a global alliance for development led by the Four Powers specified by Lyndon LaRouche—the U.S., Russia, China and India—the cancellation of the Rogozin visit was the worst thing you could possibly do. <https://larouchepac.com/20190109/brits-find-its-not-so-easy-contain-human-creativity>

In This Week's Report:

Well at least northern California is getting an more than ordinary amount of rain and snow, at least for another week to come. It has not quite brought the total precipitation and snowpack up to the average for this date of the water year yet, but may do so this coming week. So, our first section below begins with the U.S. Drought Monitor, some reports on precipitation, a little background on atmospheric rivers and a nice map of the status of the Sierra snowpack.

California has a new governor, who while claiming to represent all Californians and riding on the delusion of a state budget surplus, promises the world to all while having no idea on how to deliver on such promises. And by the second day in office this week was already in a shoot-out with President Trump.

The Trump Energy Department in December announced that it's going to spend \$100 million over the next five years to create a research and development hub on desalination.

Jan. 31 is the deadline for the states that take water from the Colorado River to sign on to the drought contingency plan as the reservoir behind Lake Mead continues to shrink. The The Municipal Water District of Southern California is taking no chances that Arizona will not agree to a plan and is beginning to withdraw the water they have stored in Lake Mead. That itself could precipitate a crisis for the water supply of 40 million people.

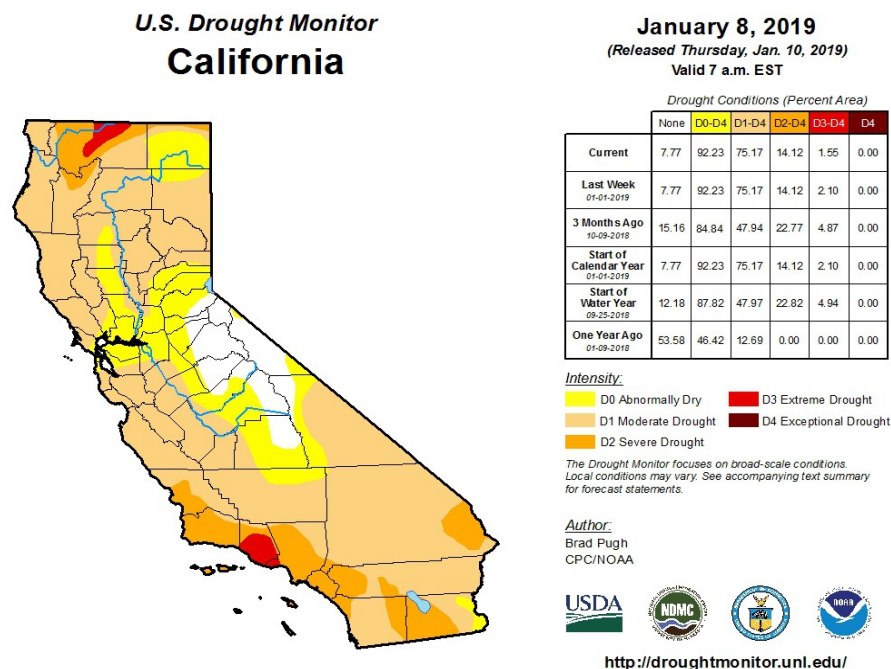
Next is the developing story and crisis of PG&E. The utility stands accused of being responsible for the

Camp Fire which destroyed Paradise and killed 85 people. Tens of billions and even criminal murder charges are possible consequences for the utility. The governor knows that one cannot allow the utility which supplies power to millions to be bankrupted and broken-up, but that is where it is headed.

A summary of an article, "Privatization Is Killing the U.S. Space Program," follows. And then an announcement of a new 5-part class series on larouhepac.com on Saturdays: *The Creative Powers of the Human Mind Reflect a Principle of the Universe as a Whole*.

Finally, the feature this week is an explication of the Second Law of LaRouche's Four Laws: National banking. Part of this section includes the Democratic Party proposal and a discussion of state banks.

Precipitation, Drought, Atmospheric Rivers and Snow Pack



Here comes the rain: Seven straight days of showers expected in Bay Area

By [Sarah Ravani](#)

January 10, 2019

<https://www.sfgate.com/bayarea/article/Here-comes-the-rain-Seven-straight-days-of-13523396.php>

The Bay Area will get a brief reprieve from the rain Thursday before a series of storms douse the region for the next seven days, officials said.

“Right now, it doesn’t look like we have any one system that is significantly strong or producing a significant amount of heavy rain,” he said. “But it does look like we will see periods of several systems moving in and bringing light to moderate rainfall to portions of the region.”

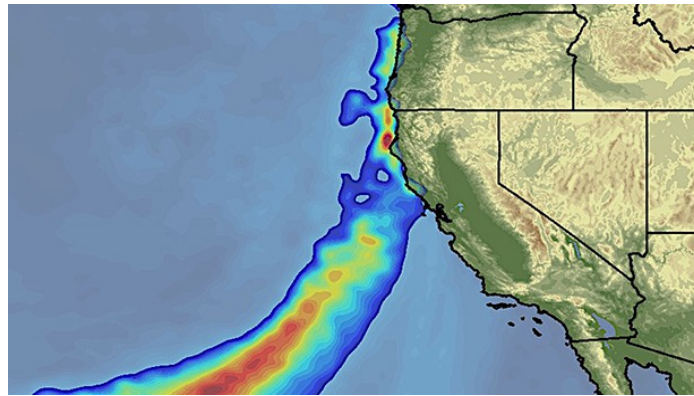
Since the water year began on Oct. 1, San Francisco has received 7.46 inches of rain, bringing the city to 73 percent of normal rainfall at this time of year (10.15 inches).

Oakland is at 72 percent of its annual average with 6.6 inches of rain. The North Bay has fared a bit better, with Santa Rosa at 85 percent of average rainfall with 13.73 inches of precipitation so far this season.

“We would expect these systems to bring those numbers up in the coming days,” Gass said. “But at this time we don’t see any kind of really strong rainfall that is going to up those numbers to extreme levels.”

Rivers in the Sky: What You Need to Know About Atmospheric River Storms

<https://www.kqed.org/science/1935067/rivers-in-the-sky-what-you-need-to-know-about-atmospheric-river-storms>



An atmospheric river storm makes landfall on Northern California in February, 2017 (Scripps Institution of Oceanography)

The rainy season is well underway in California: Roughly 90 percent of the Golden State's precipitation typically falls during the months of [October through April](#). While drought has bedeviled the state in recent years, there's [evidence](#) that the wet season is actually getting wetter.

If you live on the West Coast, you may hear the term "[atmospheric river](#)" thrown around. These massive, fast-moving storm systems can transport [more than 25 times](#) the moisture as flows through the mouth of the Mississippi River.

As you're breaking out those rain slickers, boots and umbrellas, here's what you need you know about atmospheric rivers, sometimes referred to as Ars.

So What Are Atmospheric Rivers?

"Giant rivers of water vapor in the sky with strong winds pushing them along." That's how [Marty Ralph](#), a leading AR researcher and director of the [Center for Western Weather and Water Extremes](#) in La Jolla, describes them.

A typical AR can be 300 miles wide, a mile deep and more than 1,000 miles long.

"They're the biggest freshwater rivers on Earth," Ralph says.

In addition to being long, fast and packed with moisture, ARs can behave erratically, changing direction unpredictably.

The science behind atmospheric rivers

An atmospheric river (AR) is a flowing column of condensed water vapor in the atmosphere responsible for producing significant levels of rain and snow, especially in the Western United States. When ARs move inland and sweep over the mountains, the water vapor rises and cools to create heavy precipitation. Though many ARs are weak systems that simply provide beneficial rain or snow, some of the larger, more powerful ARs can create extreme rainfall and floods capable of disrupting travel, inducing mudslides and causing catastrophic damage to life and property. Visit www.research.noaa.gov to learn more.

A strong AR transports an amount of water vapor roughly equivalent to 7.5–15 times the average flow of water at the mouth of the Mississippi River.

ARs are a primary feature in the entire global water cycle and are tied closely to both water supply and flood risks, particularly in the Western U.S.

On average, about 30–50% of annual precipitation on the West Coast occurs in just a few AR events and contributes to the water supply — and flooding risk.

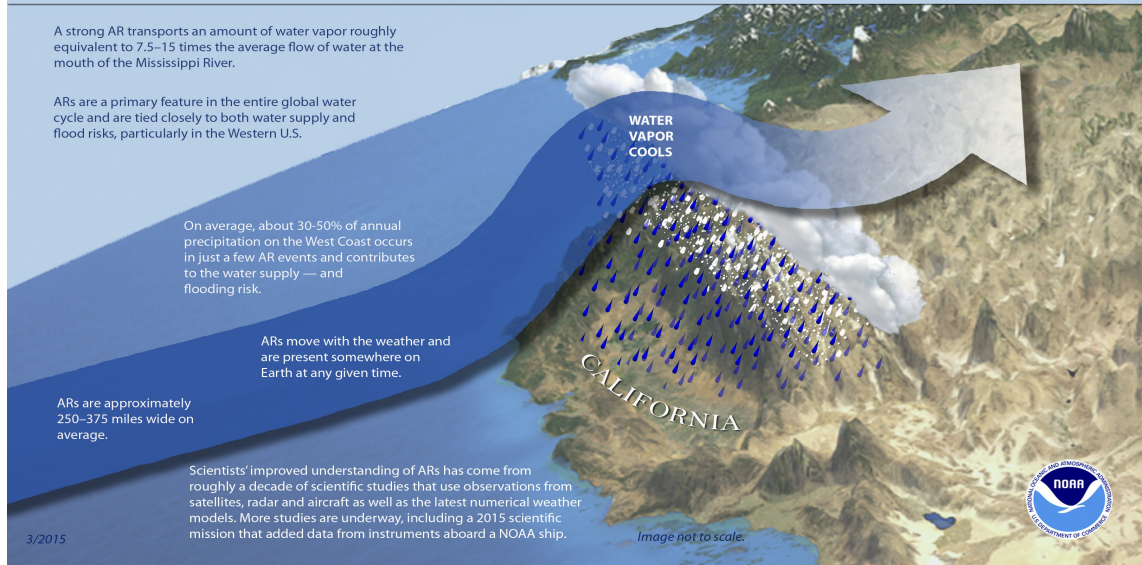
ARs move with the weather and are present somewhere on Earth at any given time.

ARs are approximately 250–375 miles wide on average.

Scientists' improved understanding of ARs has come from roughly a decade of scientific studies that use observations from satellites, radar and aircraft as well as the latest numerical weather models. More studies are underway, including a 2015 scientific mission that added data from instruments aboard a NOAA ship.

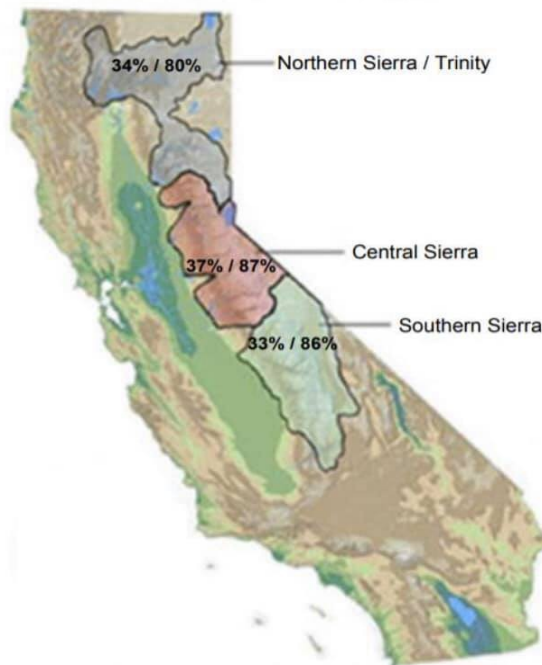
3/2015

Image not to scale.



Current Regional Snowpack from Automated Snow Sensors

% of April 1 Average / % of Normal for This Date



NORTH	
Data as of January 8, 2019	
Number of Stations Reporting	31
Average snow water equivalent (Inches)	9.8
Percent of April 1 Average (%)	34
Percent of normal for this date (%)	80

CENTRAL	
Data as of January 8, 2019	
Number of Stations Reporting	44
Average snow water equivalent (Inches)	11.1
Percent of April 1 Average (%)	37
Percent of normal for this date (%)	87

SOUTH	
Data as of January 8, 2019	
Number of Stations Reporting	29
Average snow water equivalent (Inches)	8.4
Percent of April 1 Average (%)	33
Percent of normal for this date (%)	86

STATE	
Data as of January 8, 2019	
Number of Stations Reporting	104
Average snow water equivalent (Inches)	10.0
Percent of April 1 Average (%)	35
Percent of normal for this date (%)	85

January storms benefit Sierra snowpack

January 9, 2019

By Kevin Hecteman

Although Mother Nature blew the storm door off its hinges in parts of California last weekend, the state continues to run below average for rain and snow so far this winter.

The Jan. 5-6 precipitation, combined with the prospect of additional storms during the week, added to a snowpack that stood at only two-thirds of average levels statewide last week, when the state Department of Water Resources conducted its first manual snow survey of the new year.

By Monday, the snowpack had risen to 84 percent of average, according to DWR sensors—79 percent in the northern Sierra Nevada, 87 percent in the central Sierra and 86 percent in the southern part of the mountain range.

A year earlier, the statewide snowpack registered only 27 percent of average.

California Has a New Governor

Last week Governor Brown gave way to now Governor Gavin Newsom. Brown left office warning that global warming required sacrifices greater than those required to defeat the Nazis in World War II. I am sure the Russians, who lost 27 million people fighting and defeating the Nazis, will not be too enthused about the governor's demand. Now enters the new governor, who, in his inaugural address, probably has set a new standard for meaningless and innocuous rhetoric about being united to deal with a state that is the fifth largest economy in the world, and is the number one state in poverty in the nation. If you would like to torture yourself you can read the address here:

<https://www.latimes.com/politics/la-pol-governor-gavin-newsom-inaugural-speech-20190107-htmstory.html>

And true to form Newsom got into an immediate spat with President Trump. Did he bring it on by denouncing the President in his inaugural address? Perhaps. And then the next day he asks the President for help. Newsom knows that he is expected to attack the president, so he does. But, President Trump is not one to let such things go by and he does not take prisoners. So, it is off to the races.

On day 2, Gov. Newsom calls for greater fire safety — and seeks Trump help

By [Kurtis Alexander](#)

Jan. 8, 2019

<https://www.sfchronicle.com/california-wildfires/article/On-day-2-Gov-Newsom-calls-for-greater-13518839.php>

Gov. Gavin Newsom announced a plan Tuesday to confront California's growing wildfire threat, pledging more money to improve forest health and emergency response. And it starts with an unexpected plea to President Trump for collaboration.

Most of the plans announced Tuesday expand existing state programs, with \$305 million of new funding proposed in the upcoming state budget. The measures range from thinning trees and igniting prescribed burns in forests to adding new fire helicopters and upgrading emergency alert systems, which have fallen short in some blazes over the past few years.

But several of the proposals have the hallmarks of Newsom's brand of progressive politics. They include mapping fire hazards for the poor; increasing mental health services for first responders, and embracing the latest high-tech tools on the fire lines, such as wildland cameras that keep a lookout for

flames.

The new governor also appears to be petitioning the president for a truce in California's rocky relationship with the White House, at least on fire policy. While state leaders and the Trump administration agree on the need to act on the fire threat, the president has downplayed the role of global warming and urged an increase in logging. On the other hand, the state has championed greater climate action and the more surgical removal of wildland fuels.

Trump tells FEMA not to send more money to California for forest fires

By [Brett Samuels](#) and [Timothy Cama](#)

01/09/19

<https://thehill.com/policy/energy-environment/424506-trump-tells-fema-not-to-send-more-money-to-california-for-forest>

[President Trump](#) said Wednesday that he has ordered the Federal Emergency Management Agency (FEMA) to withhold funding for California unless the state improves its forest management to prevent wildfires.

"Billions of dollars are sent to the State of California for Forrest (sic) fires that, with proper Forrest (sic) Management, would never happen," Trump tweeted.

"Unless they get their act together, which is unlikely, I have ordered FEMA to send no more money," he added, calling it a "disgraceful situation in lives & money."

California Gov. Gavin Newsom (D), who was sworn-in on Monday, responded to Trump via Twitter, telling the president that Californians "should not be victims to partisan bickering." Newsom said he's already moved to modernize the state's forest management and emergency response practices.

"We have been put in office by the voters to get things done, not to play games with lives," he said.

California passed a comprehensive law last year aimed at wildfires. Among other changes, it puts new resources into clearing out brush, dead trees and other biomass that contributes to fires.

A majority of forest land in the state, however, is [owned](#) by the federal government.

Desalination

A Moonshot for Solving America's Water Crisis

A government-funded five-year, \$100 million effort to develop technologies around water desalination is seen as the best hope in generations for making the technology accessible.

By [Alan Neuhauser](#) Staff Writer Jan. 4, 2019, at 6:00 a.m.

<https://www.usnews.com/news/national-news/articles/2019-01-04/a-moonshot-for-solving-americas-water-crisis>

The Best Hope for the Water Crisis

The Trump administration is hoping to reinvigorate a technology long dismissed as too expensive or energy-intensive to help solve a water crisis that has seen drought grip swaths of the American West, sparking deadly wildfires and legal battles over supply.

The Energy Department last month declared that it's spending \$100 million over the next five years to create a research and development hub on desalination, a process that converts seawater and brackish inland water into freshwater.

Announced roughly five years after Congress appropriated the funds under the Obama administration, the planned hub comes as once-periodic water shortages have become perennial, if not ever-present, in American communities, forcing policymakers to rethink how residents get freshwater – and reconsider technologies they'd once shelved.

The investment is widely seen in the research field as a moonshot effort, the best attempt yet to jump-start the kind of advancements that would make the elusive process energy-efficient and cost-effective and make a resource out of vast unusable deposits like the saltwater that covers two-thirds of the earth's surface.

Desalination is costly and enormously energy intensive: Israel and Australia – two of the driest nations on Earth – are by far the world leaders in desalination, largely by necessity. While Israel draws more than half of its water from desalination plants – and more than 85 percent of its municipal water overall is reused – desalination plants in the U.S. provide less than 0.002 percent of the water consumed in the country each year.

That doesn't mean there are no desalination plants in the U.S.: [One study](#) from 2016 pegged the tally at over 1,330 plants. The largest, in Carlsbad, California, supplies 50 million gallons a day to some 110,000 residents in San Diego County. The process, in fact, was pioneered in the U.S.: The Bureau of Reclamation funded an office on saline research as early as the 1950s.



A worker passes rows of tubes used in the reverse osmosis process at the Carlsbad Desalination Project in California on Sept. 22, 2015.(Gregory Bull/AP)

In the past half-century, however, while there have been some innovations, the techniques for separating salt and other molecules from H₂O haven't greatly changed.

Growing water scarcity across the U.S. is also providing new business cases for desalination: While desalination is most commonly associated with converting seawater to freshwater, its biggest market might be inland: Finding freshwater – whether by drilling deeper into sinking aquifers or treating brackish water – has grown more expensive, narrowing the gap between the traditional costs for freshwater and the pricetag for desalination. The cost of desalinating inland water also tends to be cheaper: The water is typically less salty than seawater, making it easier to treat.

"If you can improve your desalination technology, you're opening up a wide range of water sources for additional use," Haddad says.

Colorado River and Lake Mead: The Crisis Continues

What if Arizona misses a Jan. 31 deadline to join the drought contingency plan?

[Joanna Allhands](#)

Arizona Republic

Jan. 9, 2019

<https://www.azcentral.com/story/opinion/op-ed/joannaallhands/2019/01/09/drought-contingency-plan-jan-31-deadline-what-if-arizona-misses/2511886002/>

Opinion: Can Arizona take its time to sign a plan that impacts a key water source - and if so, how much time might we have?

The federal Bureau of Reclamation has [set Jan. 31 as the deadline for states to sign drought contingency plans](#), which aim to keep lakes Mead and Powell from falling to catastrophically low levels.

If states fail to meet that deadline – that means Arizona and a couple of signatories in California, since everyone else claims they're ready to sign – Reclamation will dictate how much less water everyone will get.

But some Arizona lawmakers have balked at that deadline, saying they won't be rushed into signing such a monumental deal. Not when so many questions surround the plan to implement its cuts in Arizona.

California and Nevada are already beginning to [withdraw water they've voluntarily stored in Lake Mead](#), should DCP fail. They don't want to leave their water in the lake without the agreement because they'll lose the ability to remove it when a shortage is declared.

Yanking that water will tank the lake even faster.

Arizona also would lose access to its previously stored water during a shortage – water it now plans to use to bail out farmers – without DCP because 1) we're limited in how much we can withdraw from the lake, 2) no one ordered that water for 2019, in part because we have no place to store all of it, and 3) we're not fully sure our canals could handle that much water, even if users had ordered it.

Under the current rules and without DCP, Arizona would be only one on the hook to shoulder cuts during shortages. And that's not counting whatever else Reclamation makes us do.

Obviously, this is a worst-case scenario.

Metropolitan Water District begins drawing down stored water in Lake Mead

[January 7, 2019 Maven Breaking News](#)

<https://mavensnotebook.com/2019/01/07/this-just-in-metropolitan-water-district-begins-drawing-down-stored-water-in-lake-mead/>

General Manager Jeff Kightlinger noted that a portion of water that has accrued towards Metropolitan might be conserved water that should be credited to IID, so they will be working with them on that.

“I did direct staff to go to a 6 pump flow starting immediately in January so that we will have the option of pulling our ICS down as the year goes on,” he said. “If there is no Drought Contingency Plan, we don't want to leave potentially half a million acre-feet or more locked up in Lake Mead if we go into shortage. So we will be relocating, or at least positioning ourselves to relocate that storage into Southern California. If the Drought Contingency Plan does get executed, we can back of pumping

as the year goes along and leave that in Lake Mead, but by acting now, we will have the flexibility to pull that down, so we are currently at a 6 pump flow and relocating some of that storage.”

The Camp Fire, PG&E, Court Action and the Governor

There is just too much breaking right now on the above related topics to attempt to summarize it here. The context is that PG&E equipment is definitely responsible for the Camp Fire in November that destroyed the town of Paradise and killed about 85 people. Executives at the company are being fired, the company appears headed for bankruptcy as the financial damage is in the 10s of billions and there is likely to be criminal charges.

So, below are some excerpts from some of the articles this week:

California Gov. Newsom announces new executive actions on wildfire preparedness, addresses PG&E

<https://abc7news.com/california-gov-newsom-working-on-pg-e-crisis/5037504/>

January 08, 2019

COLFAX, Calif. (KGO) --

Governor Gavin Newsom appeared in Colfax today with state fire and emergency response agencies to talk about new priorities. The new California governor said he was on the phone Tuesday morning first thing to deal with the PG&E crisis.

He plans to amp up fire protection strategies but addressed PG&E by saying, "I try to be objective about these things as much as I can. My role for the state of California is to protect your interests and not PG&E 's, interest but sometimes those interests align and that's where it gets complicated."

The governor said he's having long honest cell phone conversations with PG&E executives as he talks with the PUC and finalizes the names of the three commissioners he'll soon be appointing to come up with quick recommendations.

The governor's main focus at the press conference was to outline that his new budget will add \$305 million to fire mitigation efforts including over \$200 million directed at cutting brush and creating fire breaks across the state. He plans to bring on board 13 new engines to be pre-deployed during fire season along with 100 new infrared cameras and retrofitting more Blackhawk helicopters and C130s for fire suppression.

California AG: Utility Company Could Be Prosecuted for Murder Over Deaths From Latest Wildfire

by [Colin Kalmbacher](#)

December 29th, 2018

<https://lawandcrime.com/high-profile/california-ag-utility-company-could-be-prosecuted-for-murder-over-deaths-from-latest-wildfire/>

California utility company Pacific Gas & Electric Co. (PG&E) could be prosecuted on criminal charges—up to and including murder—over the deaths of 86 people during the deadly Camp Fire in Butte County, California last month.

*According to local ABC affiliate KBC 10, a brief submitted to a federal court by California Attorney General **Xavier Becerra** outlined the legal standards that might be used to charge PG&E with various crimes should an investigation determine the utility company was the cause of the fire—the deadliest and most devastating in Golden State history.*

Federal Judge Proposes Restrictions On Unsafe PG&E Power Lines

January 9, 2019

By [Richard Gonzales](#)

<https://www.npr.org/2019/01/09/683815660/federal-judge-proposes-restrictions-on-unsafe-pg-e-power-lines>

A federal judge in California dealt utility giant PG&E another setback Wednesday by proposing to restrict the beleaguered company from using unsafe power lines during the 2019 California fire season.

U.S. District Judge William Alsup in San Francisco, who is overseeing the utility after a 2010 gas pipeline explosion, said the company should be required to "remove or trim all trees that could fall onto its power lines" and reinspect its grid.

PG&E's power lines are widely believed to have caused the massive fires in northern and southern California that killed 86 people and destroyed 18,500 structures in 2018.

In June, state fire officials [blamed PG&E](#) power lines for sparking several northern California wildfires in 2017.

Last week [NPR's Eric Westervelt reported](#) that PG&E is considering selling off a major part of the company in the face of staggering liability costs for its potential culpability in the wildfires of 2017 and 2018.

On Tuesday, Westervelt reported that a key ratings agency slashed the California utility giant's credit rating to "junk" status.

Judge could force PG&E to inspect all 106,000 miles of electric grid

By [Dale Kasler](#) and [Tony Bizjak](#)

January 09, 2019

<https://www.sacbee.com/latest-news/article224204400.html>

In a startling new legal problem for PG&E, a federal judge threatened Wednesday to impose broad new mandates on the utility to reduce wildfire risks in the wake of this year's Camp Fire and the 2017 wine country blazes.

U.S. District Judge William Alsup, citing PG&E's "history of falsification of inspection reports," said he plans to order PG&E to "re-inspect all of its electrical grid and remove or trim all trees that could fall onto its power lines, poles or equipment in high-wind conditions." He also said the utility might be required to "fix any other condition anywhere in its grid similar to any condition that contributed to any previous wildfires."

An inspection of PG&E's entire grid would be an enormous undertaking; the utility maintains 106,000 miles of distribution lines in California; its territory runs from Eureka to Bakersfield.

Alsup is overseeing the probation term imposed on PG&E in 2017 after it was convicted of six felony

counts of violating federal pipeline laws in the 2010 San Bruno pipeline explosion. After the Camp Fire ripped through Paradise in November, killing 86 people in the deadliest fire in California history, the judge demanded to know whether any of the 2017 or 2018 wildfires represented a violation of the probation.

Cal Fire investigators are focusing on a faulty transmission tower in the vicinity of where the fire started but hasn't yet determined a cause of the fire. PG&E equipment was blamed by Cal Fire in a dozen of the 2017 wine-country fires.

Privatization Is Killing the U.S. Space Program

Jan. 9 (EIRNS)—A cogent opinion piece by freelance writer Daniel John Sobieski in yesterday's American Thinker juxtaposes the Chinese landing on the lunar far side to the destruction of the American manned space program, which once held the leadership in space. Having to now rely on the Russians to transport U.S. crews to the International Space Station is a "telling indictment" of how far the U.S. has sunk, he says, warning that while privatization may have some useful purposes, it is no substitute for government direction and support when it comes to serious missions for science and exploration.

"While China lays plans for the first permanent lunar base, we entrust our space exploration to the eccentric Elon Musk, whose SpaceX promises to give a Japanese billionaire the ultimate joyride around the Moon," he ridicules. Sobieski quotes the late Eugene Cernan, the last man to walk on the Moon, that the activities of the commercial companies are not really "private," calling them "NASA's new way of spending money." Former NASA Administrator Mike Griffin has similarly said it is a joke to call these projects "commercial," since they have received tens of billions of dollars from NASA's budgets.

Sobieski denounces the fact that "the vast expertise and space exploration infrastructure we developed suddenly vanished as an administration [Obama] bent on expunging American exceptionalism from the face of the Earth abandoned space."

"President Trump wants to return us to space," but the nation has not returned to a country "whose President, John F. Kennedy once proudly pledged" to go to the Moon, Sobieski wrote. That is, the country, with an aroused citizenry looking to the stars, must be awakened if the U.S. is to once again take up the space exploration programs, that drive the creative foundation of our economy.

New 5-part Class Series on Saturdays on larouchepac.com

The Creative Powers of the Human Mind Reflect a Principle of the Universe as a Whole

Class #1: How You Think the Universe Works is How You Behave

[https://www.youtube.com/watch?](https://www.youtube.com/watch?v=ljdhX7d0anI&fbclid=IwAR0azdwZuKokR2ttwKGWkOdsRYH7YPH4V2jbW9qgdVS8w2cWyf8XBFN3i3o)

[v=ljdhX7d0anI&fbclid=IwAR0azdwZuKokR2ttwKGWkOdsRYH7YPH4V2jbW9qgdVS8w2cWyf8XBFN3i3o](https://www.youtube.com/watch?v=ljdhX7d0anI&fbclid=IwAR0azdwZuKokR2ttwKGWkOdsRYH7YPH4V2jbW9qgdVS8w2cWyf8XBFN3i3o)

**NEW LAROUCHEPAC CLASS SERIES* How you behave is largely shaped by how you think the Universe works, and it's likely wrong. Join LaRouchePAC's latest class series and learn to think about how you think, and why that's relevant to political economy. <https://discover.larouchepac.com/> Watch Bruce Director's entire class here, https://youtu.be/cvyOfD_ma6s*

Feature: LAROUCHE'S FOUR LAWS FOR ECONOMIC RECOVERY-- The Second Law

<http://media.larouchepac.com/larouche/documents/20180503-LPAC-2018-Campaign-web.pdf>

- (1) The immediate re-enactment of the Glass-Steagall law instituted by U.S. President Franklin D. Roosevelt, without modification, as to principle of action.**
- (2) Return to a system of top-down, and thoroughly defined, National Banking.**
- (3) The purpose of the use of a Federal Credit-system, is to generate high-productivity trends in improvements of employment, with the accompanying intention, to increase the physical-economic productivity and the standard of living of the persons and households of the United States.**
- (4) A Crash Program for Fusion and an expanded Space program.**

(2) Return to a system of top-down, and thoroughly defined, National Banking.

Restoring and enforcing Glass-Steagall banking system regulation empties the Wall Street casino; the President and Congress must then create a large-scale national credit institution to replace speculation with productive employment and productivity.

To not merely “rebuild” America’s obsolete economic infrastructure but to create a new, more productive infrastructure at the frontiers of technology, will require \$5 trillion or more in national investments; Ding Xuedong, the head of China’s sovereign wealth fund China Investment Corporation (CIC) recently estimated \$8 trillion was required, and offered to invest CIC’s U.S. Treasury holdings in it.

The need for the U.S. to be able to create a large amount of national economic credit, rapidly, to mobilize the American economy and raise its productivity, is not simply a matter of “renewing the nation’s infrastructure,” but also one of maintaining credit for innovative manufacturing—including by small and medium-sized companies—through a large national system of commercial banks.

For 150 years, when such mobilization of national credit was done successfully—from the time of Washington to that of FDR—the method of doing it was Treasury Secretary Alexander Hamilton’s.

Hamilton’s Method

Alexander Hamilton, U.S. Treasury Secretary during George Washington’s Presidency, created a system that closely coordinated the relationship of public credit with the intention of national government to follow through on the actions for which the credit is emitted. The more the nation’s government is committed to see through the creation of credit, and has the necessary powers of finance, trade regulation, and taxation, the better certainty there is on that credit, and the more is credit between

parties able to serve as a currency and means of payment.

The task is to create and circulate new currency which is sound in the immediate term, and to invest it in the broad national purposes of developing the productivity of the American economy and labor force, so that it will be much more than repaid in the medium and long term. Any and all national currency, is national debt.

During the period of rapid U.S. economic and population growth stimulated by Hamilton's First Bank of the United States and the Monroe-Quincy Adams Second Bank of the United States, the Hamiltonian representatives of the "American System" held that the Treasury should create, issue and regulate circulation of new currency exclusively through a National Bank. The National Bank, as a commercial bank and issuer of the currency, would make sure the new currency issued was immediately sound and based on funded debt of the Federal government. And if the Bank were led on Hamiltonian principles, it would also make sure that the use of that new currency fostered the future greatness of the United States, and multiplied itself in value in the process.

The First and Second Banks of the United States were extraordinarily successful in directing new credit to waves of new infrastructure—roads and ports, then long-range canals, then railroads, iron and coal works and steam projects, etc.—and also to the rapid growth of innovative manufacturing in America.

Lincoln's Method

When, under Abraham Lincoln, the U.S. Treasury for the first time, itself created a new paper currency—the Greenbacks—its issuance was still based, not this time on a Third Bank of the United States, but on a new national banking system, of newly Federally chartered commercial banks. These Treasury-chartered banks bought new Treasury bonds being issued by the government, and received Greenbacks in equivalent amounts to circulate. The new Treasury debt was of 20 years maturity; the interest had to be made sound by new taxes, and was. The nationally chartered commercial banks, holding Federal debt as their reserves at the Treasury, were the points from which the new Greenback currency was issued, was circulated, and to which it came back to pay taxes. Considered collectively in cooperation with the Treasury, those newly chartered commercial banks functioned, effectively, as a Third Bank of the United States.

This Greenback credit issuance funded not only the huge military and industrial effort of the Union in the Civil War, but the development of trans-Continental railroads, steel and iron industries, state colleges and agricultural extension services, and propelled the United States to the world's leading industrial power by the early 20th Century.

And the Greenbacks remained throughout a sound currency, fully backed by interest-bearing Federal debt backed in turn by taxes. So sound—made so by growing productivity and real wealth—that when the 20-year Greenback bonds became mature for redemption, in gold and silver no less, nearly all holders of Greenbacks elected to keep the paper currency and pass up the precious metal specie.

Roosevelt's Approach

Franklin D. Roosevelt, basing himself on certain actions of Congress in 1933, attempted in 1934 to create a "national industrial bank" with 12 branches, within the Federal Reserve System. In FDR's March 1934 proposed legislation, this national industrial bank within the Fed would absorb a total of \$6 billion in Treasury securities, and then be able to issue an equivalent amount in Treasury Notes (Greenbacks) directly as loans to industrial companies struggling to revive production. Franklin Roosevelt's ancestor Isaac Roosevelt, still famous in the family in FDR's time, had been Alexander Hamilton's partner in the Bank of New York; and FDR himself had written a thesis on Hamilton's economics while at Harvard.

Congress did not adopt this “national industrial bank” legislation of FDR’s, leaving him to rely on Hamiltonian approximations in the Reconstruction Finance Corporation (RFC), Tennessee Valley Authority (TVA), and Works Progress Administration (WPA). This was, again, successful in reviving economic growth, productive employment and productivity, and defeating fascism.

Infrastructure Bank

Democrats Plan To Move Fast with Lightweight Infrastructure Bank

Dec. 30 (EIRNS)—President Trump’s advisor Kellyanne Conway said in a CNN interview this morning, “The President has listened to Democrats talking about infrastructure bills. We hope that’s true and we will see them quickly.” Congressional Democrats are indeed likely to present infrastructure bank legislative language for discussion at an early point, but they will be a disappointment with regard to the real needs of the physical economy of the United States.

Recent discussions, and op-ed columns by New York businessman/Democratic consultant Leo Hindery, Jr. and former Pennsylvania Gov. Ed Rendell, indicate that Democrats hope to move infrastructure bank legislation in the House, substantially rejecting “publicprivate partnership” schemes, within the first quarter of the year. The level of capitalization of an infrastructure bank cited in Hindery’s piece in Washington Monthly Dec. 26, was \$1-1.5 trillion. The years-long exclusivity of Rep. Rosa DeLauro’s (D-CT) bill has been broken up with at least three other infrastructure bank or infrastructure credit bills being put forward. In addition, the Congressional Budget Office has indicated a reform of its past bank-killing method of “scoring” the costs of infrastructure-project lending.

The problem with the Democratic plans is not so much how infrastructure credit will be funded, but what they will fund.

An example suffices: the manifest need of the Texas Gulf Coast cities and industries for sea walls as well as dredging and other land-side stormprotection improvements, would not be addressed. They would be left to Army Corps of Engineers spending bills—as similar project plans have been, without avail, for the last 50 years. Since state and local, and in many cases “green infrastructure” would be given priority, still less would the scope include actually transformative new infrastructure, on a national or North American continental scale, taking years of development and construction.

The route to changing this, lies through international agreements on third-party infrastructure projects, the purpose of an American “New Bretton Woods” agreement initiated with Russia, China, and India as proposed by Lyndon LaRouche.

Could California succeed where Wall Street fails? Five things to know about a state-run bank

By [Felicia Mello](#) and [Ben Christopher](#) | Dec. 27, 2018

<https://calmatters.org/articles/public-bank-california-five-things-to-know/>

Once an idea batted around mostly in Occupy Wall Street circles, public banking is attracting a surge of interest among policymakers in several states, including California.

“We must break Wall Street’s chokehold on state finance and develop our own state bank,” Gov.-elect Gavin Newsom said on the campaign trail.

If California had a bank controlled by the government rather than profit-hungry shareholders, public

banking advocates argue, the state could fund social goods that often get the cold shoulder from commercial institutions: infrastructure projects, low-interest student loans and affordable housing. California's treasurer and attorney general just published two studies that look at whether a state bank could help the newly legal weed industry by providing a safe repository for cash that major banks won't accept.

Both reports gave the idea a hard "no".

"No state-backed financial institution designed to support the cannabis industry is feasible. All alternatives fail on both risk and financial grounds," said the report commissioned and then released by the Treasurer's office this afternoon.

Banking industry representatives, not surprisingly, also voice skepticism. "Banking is complex," said Beth Mills, a spokesperson for the California Bankers Association. "It's not something you can just set up overnight."

But what precedent is there for a state bank in California? How would it work? Here are five things to know:

- 1) North Dakota has been doing it since 1919.*
- 2) Other states are pondering public banking, too.*
- 3) Banking the cannabis industry? Easier said than done*
- 4) California already has a public bank...sort of*
- 5) Some cities are considering pint-sized public banks*