

# California Drought Update



**For January 19, 2017**

**by Patrick Ruckert**

**Published weekly since July, 2014**

<http://www.californiadroughtupdate.org>

<https://www.facebook.com/CaliforniaDroughtUpdate>

[patruckert@hotmail.com](mailto:patruckert@hotmail.com)

*“This is not a choice between spending and saving, for REA is a form of saving, as is this dam, hours and lives, saving farms and saving and returning to our Nation's Government every dollar loaned, with interest, in taxes on new appliances and new equipment, and new farm income. This program and so many like it have returned to the public treasuries many times the entire cost of the program.*

*President John F. Kennedy  
Oahe Dam, August 17, 1962*

(The REA was the Rural Electric Administration, signed into law by Franklin D. Roosevelt in 1936. In that year only 10 percent of the farms in the country had electricity. Through the REA, by 1952, 90 percent of the farms had electricity).

## **A Note To Readers**

This is the last day of Obama, finally bringing to a close not just an eight-year nightmare, but a 16-year nightmare of regime change wars and bank bailouts, just to name the most damaging of crimes by Bush and Obama. What has it produced? Ninety-five million Americans not in the labor force; a tripling of drug deaths, record levels of suicides and, for the first time in U.S. history, we have a falling life-expectancy.

A new Presidency will give us what we make it give us. Ours is not to sit back to “see what Trump will do,” but to ensure he does what the nation requires. That begins, as I have said before, with the reinstatement of the Glass-Steagall banking law. The “Feature” in this report over the past several weeks, and this week, have and do present the required policy. It is up to you to make sure the new

President does it.

Meanwhile, Governor Brown's train can't get on track; his other “signature” project, the Delta tunnels, may never get a shovel in the ground; and the nation's infrastructure badly needs some vision. To the rescue, potentially, comes China (as reported on January 16 by the South China Morning Post) with the proposal from Ding Xuedong, the head of the China Investment Corporation (CIC). Ding said his company wants to invest in a big U.S. infrastructure buildup. The CIC now holds \$50 billion in U.S. Treasuries, and wants alternatives in U.S. holdings to the low returns on these treasuries. Ding said true U.S. rebuilding will take \$8 trillion in investments, needs to have Chinese investments and CIC would go above \$50 billion into it.

Now, what does all this have to do with the drought? I hope you are not asking that question, but just in case some are, here is my answer. Actually, my answer is a question back to you: What could we do with unlimited and free (or nearly free) electricity? That was the idea from the scientists of the early 1950s as they began serious research into realizing fusion power. With new breakthroughs in several nations recently, fusion is not quite just around the corner, but not that too distant either. And instead of worrying our little heads off trying to use less, we shall use a lot more, or as perhaps the new President would say it, it will be a huge amount more.

Then the plan by President John Kennedy for nuclear-powered desalination plants up and down the coast of California will become a reality. And not just on the coast. We can put a few in the San Francisco Bay and pump water directly into the aqueducts heading south to the Central Valley.

Here is the history of the Kennedy plan: [Nuclear-Powered Desalination in California– Parts I-IV](#)

As advertised, this weekly report is not merely about the drought, but about solutions. Perhaps with an easing of the drought over the past few weeks, we can focus our reports more on the solutions side. To kick it off, I suggest a reading of the 2014 article by Benjamin Deniston, “**New Perspectives on the Western Water Crisis,**” published in *Executive Intelligence Review*.

[http://www.larouchepub.com/eiw/public/2015/eirv42n14-20150403/41-47\\_EIR14.pdf](http://www.larouchepub.com/eiw/public/2015/eirv42n14-20150403/41-47_EIR14.pdf)

As for the drought, the cup is neither half-full, nor half-empty, but it is filling. As I have over the past two weeks, I shall again raise the question, shall we go from mega-droughts to mega-floods? As you can read below, the atmospheric rivers just keep coming, and they are producing some scenes that have not been seen in the state for many years. Photos and videos are linked below.

Included in the report below is an item in which the following is included. I place it here to call attention to what the “academics” are talking about and planning: The end of agriculture in the Central Valley:

Jay Famiglietti, senior water scientist at the NASA Jet Propulsion Laboratory at Caltech stated in an interview:

*We will probably never get back what we've lost from the groundwater, because that's been going on for a century. This is a difficult message to get across— we use so much groundwater, the depletion of our groundwater resources, especially in the Central Valley, has been going on for a century. During wet periods like this, even if this were to persist for a few years, we'd get some recovery, but **unless we shift away from an agricultural economy, we'll likely never get it back what we've lost.** (emphasis added)*

## The U.S. Drought Monitor

Some excerpts from the article by Paul Rogers in the *San Jose Mercury News* on January 19 provides the background for the Drought Monitor this week:

## ***California drought continues to shrink, federal government says***

*By Paul Rogers  
San Jose Mercury News  
January 19, 2017*

<http://www.mercurynews.com/2017/01/19/california-drought-shrinking-federal-government-says/>

*Overall, 44 percent of the state remains in severe drought conditions or worse, down from 49 percent a week ago, according to [the U.S. Drought Monitor](#), a weekly study by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture and the University of Nebraska-Lincoln. The improved area, roughly 5.1 million acres, is mostly in the central Sierra Nevada, which has been hit with major snowstorms in recent weeks.*

*A year ago this week, the same report found 86 percent of California was in severe drought or worse.*

*Yet a stark difference remains between Northern and Southern California: 42 percent of the state is out of the drought entirely, the same percentage as last week. The areas no longer in a drought include nearly all of Northern California roughly from the Bay Area to Oregon.*

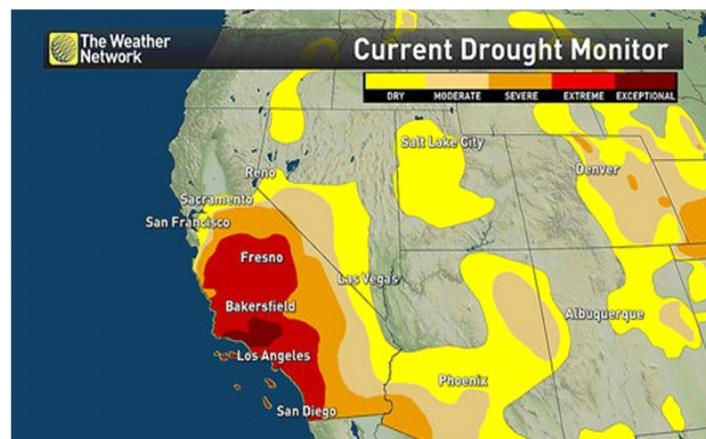
*Through next Monday night, however, between 9 to 13 inches of new precipitation is forecast to fall on coastal California and much of the Sierras, the report noted.*

*Each week, the scientists who write the drought monitor assign six levels of drought intensity: no drought, abnormally dry, moderate drought, severe drought, extreme drought and exceptional drought. They analyze soil moisture, stream levels, rainfall totals, snow pack, reservoir levels and other measurements in all 50 states, along with reported observations from more than 350 expert contributors around the country.*

*The statewide Sierra snowpack, the source of one-third of California's water supply, stood at 163 percent of the historic average Thursday, up from just 64 percent on New Year's Day, and already 82 percent of the April 1 average. Two years ago, in April 2015, it was at 5 percent of average.*

*And the storms keep coming.*

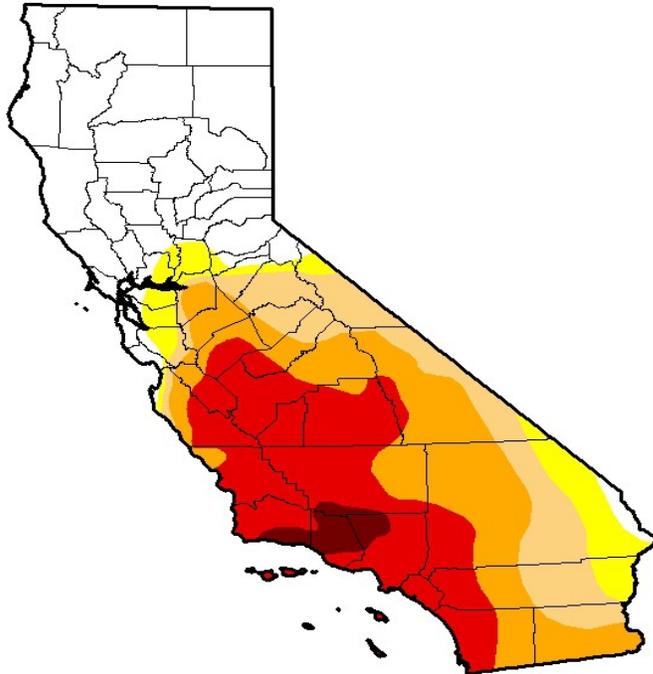
Here is one view of the monitor:



And another:

## U.S. Drought Monitor California

**January 17, 2017**  
(Released Thursday, Jan. 19, 2017)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	35.56	64.44	57.51	44.35	24.30	2.13
<b>Last Week</b> 1/10/2017	34.62	65.38	58.22	49.22	27.80	2.13
<b>3 Months Ago</b> 10/18/2016	7.77	92.23	81.12	61.80	42.80	21.04
<b>Start of Calendar Year</b> 1/3/2017	18.07	81.93	67.61	54.02	38.17	18.31
<b>Start of Water Year</b> 9/27/2016	0.00	100.00	83.59	62.27	42.80	21.04
<b>One Year Ago</b> 1/19/2016	0.00	100.00	97.17	86.13	68.15	42.66

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.

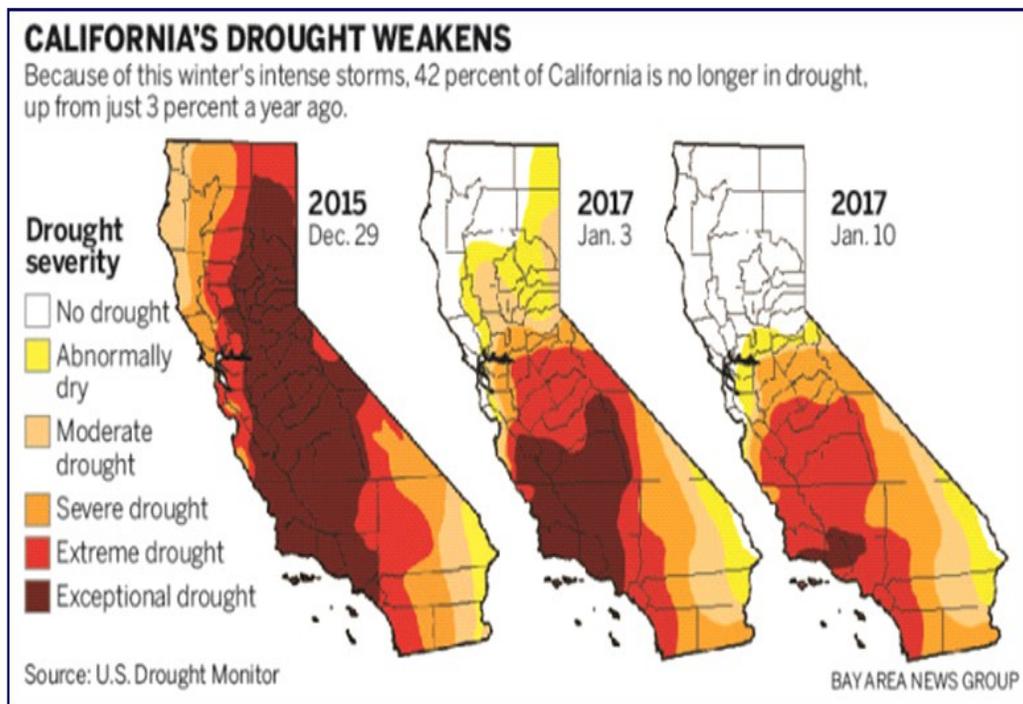
**Author:**

Richard Tinker  
CPC/NOAA/NWS/NCEP

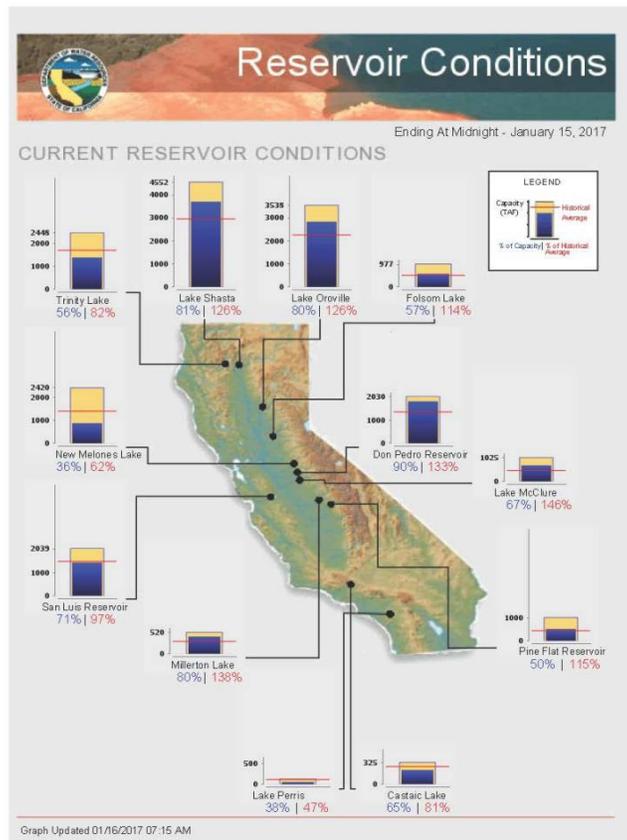


<http://droughtmonitor.unl.edu/>

And one more, over time:



# Reservoir Conditions

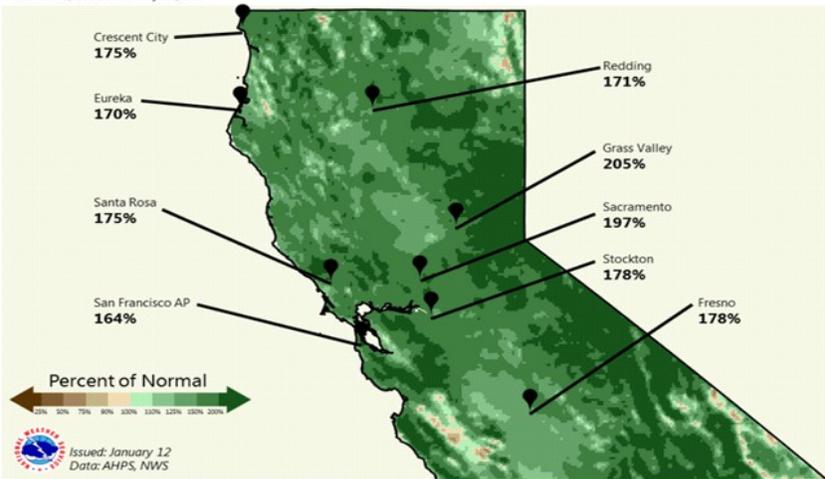


## Just How Wet Has It Been?

Very wet, at least in the northern part of the state.

## It's Been Very Wet This Year!

October 1, 2016 – January 12, 2017



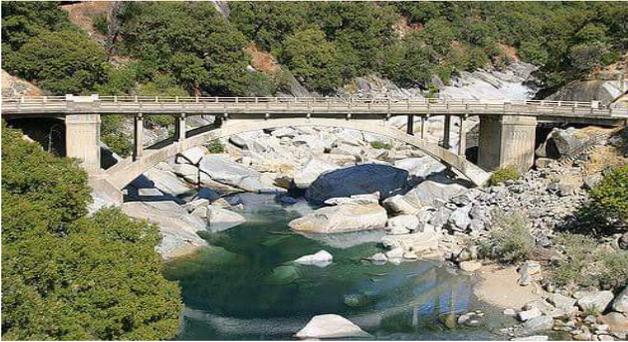
Weather Forecast Office  
Sacramento, CA

1/12/2017 12:11 pm PST

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## And the rivers are raging:



Before and after pics of the Yuba River. Thanks to Erik Wilson for posting this on face book.

## Video from ABC News: Sacramento Flood Plain at Sunset

South of Sacramento the land has been turned into a very large lake.

[http://abcnews.go.com/US/video/sacramento-flood-plain-sunset-44768101?cid=social\\_fb\\_abcn](http://abcnews.go.com/US/video/sacramento-flood-plain-sunset-44768101?cid=social_fb_abcn)

## “Drought’s back broken — or not?”

<http://capitolweekly.net/drought-california-rains-over/>

Asks the headline in an item by *Capitolweekly.net*, by Lisa Renner on January 18. She answers the question, writing:

*Despite the torrential rains of the last few weeks, experts say it’s too early to tell whether California’s interminable drought is really over. It will be necessary to monitor rainfall through at least March to make an assessment.*

Very true Lisa, but at least more is coming. I like the over-the-top verbs, adjectives and adverbs used in this article:

### ***Inland area braces for 'epic' storms***

By DAVID DOWNEY / STAFF WRITER

Jan. 18, 2017

<http://www.pe.com/articles/snow-823407-flooding-san.html>

*A potentially epic “three-punch” series of storms that could pound the region with rain not seen in a half-dozen years is barreling toward Southern California, promising to bury the local mountains in snow and threatening to unleash mudslides and floods.*

*“Guaranteed, Northern and Central California are going to get hosed. And we’re going to get more than a glancing blow” in Southern California, said Bill Patzert, climate scientist at NASA’s Jet Propulsion Laboratory in Pasadena. “We could get the big show too.”*

*At mountain elevations between 5,000 and 6,000 feet, 6 to 12 inches of snow is possible; up to 2 feet could fall between 6,000 and 7,000 feet; and up to 3 feet is possible above 7,000 feet.*

*“We haven’t seen precipitation amounts forecast like this since 2010,” said Jimmy Taeger, a Weather Service meteorologist in San Diego.*

*The rain and snow will come in three consecutive storms, wreaking their first havoc on the Thursday morning commute and not fully clearing out until the middle of next week.*

*Each of the storms will be soakers, forecasters say.*

*“This is a three-punch event,” Patzert said. “If things really line up, it could be epic.”*

*Of course, it’s already been raining this winter – and raining a lot. That is good news from the perspective of the long dry spell that has plagued the region. Indeed, Richard Minnich, an earth sciences professor at UC Riverside, said the drought is about to become history.*

*“The next week or so is going to be pretty wild,” Minnich said in a written statement. “Believe me this is going to end the drought.”*

### ***Flooding fears***

*With the back-to-back-to-back storms, and little time in between them for things to dry out, forecasters believe flooding is likely.*

Now back to the note of caution, with these excerpts from an article from *Water Deeply*:

### ***Why Record Precipitation May Not Be a Cure-All for California Water Issues***

*by Tara Lohan*

*January 11, 2017*

<https://www.newsdeeply.com/water/community/2017/01/10/meet-the-minds-laura-tam-on-creating-resilient-cities>

*There is no denying that recent precipitation will make a good dent in the state’s water deficit, especially when it comes to filling reservoirs. But it’s still too soon to fully take stock of the drought impact with the peak of the snowpack still about three months away and two more months left of the heaviest precipitation time, said Carlsen.*

*“The question will be whether this wet pattern can persist for the rest of the winter, and whether temperatures will be cold enough to maintain a healthy snowpack into the spring,” said Swain. Last year, warm temperatures quickly reduced accumulated snowpack in the northern Sierra. “In parts of Southern California, the severity of long-term drought remains quite high, and we would still need to see a prolonged streak of above-average precipitation in that region to bring things back closer to where they should be.”*

## **Climate Change Seems to Always Be the Culprit**

Another study to mention while on the topic of storms is this one from MIT, which, as usual, claims that man-caused climate change is responsible. For those who would wish to pursue the topic, I again suggest they begin with my review of the book “The West Without Water,” for a discussion of how

extreme climatic changes are the norm for the West Coast:

*Are We Controlled by the Whims of Nature, or Will We Create Our Future?*

[http://larouchepub.com/eiw/public/2014/eirv41n19-20140509/48-52\\_4119.pdf](http://larouchepub.com/eiw/public/2014/eirv41n19-20140509/48-52_4119.pdf)

Here is the link to the article and one sentence from it:

### ***MIT scientists: Monster storms will triple in California by 2100***

*By Mike Moffitt*

*Wednesday, January 4, 2017*

<http://www.sfgate.com/science/article/MIT-scientists-Monster-storms-will-triple-in-10835311.php>

*As forecasters predicted 12 inches or more of rain in parts of Northern California over the next week, MIT released a [new study](#) that warned that the state could expect the frequency of extreme storms to triple by the end of the century.*

## **DWR Will Release More Water This Year**

Responding to mana from heaven and the filling reservoirs, the Department of Water Resources on January 18 announced that it was upping the water supply that water contractors will receive to 60 percent of their requests. That now matches the allocation from last year. Here are some excerpts from their announcement. Note the chart at the end of the statement. Drought or no drought, there is not enough water in the system that can meet the needs of the state. Not since 2006 has the DWR provided 100 percent of the amount requested by water contractors.

*January 18, 2017*

*From the Department of Water Resources:*

*As winter storms continue to fill reservoirs and boost the snowpack, the Department of Water Resources (DWR) today increased its estimate of this year's State Water Project (SWP) supply from 45 to 60 percent of most requests.*

*"Our water supply outlook is definitely brighter, but we still haven't shaken off the effects of our historic drought," said DWR Acting Director William Croyle. "Californians' in some areas still depend on bottled drinking water; some reservoirs remain low and groundwater basins are still in decline and have yet to recover. We know from painful history that California winters can go quickly from very wet to very dry. We want to see the snowpack continue to build for the remainder of the wet season."*

*DWR initially estimated it would be able to deliver only 20 percent of the 4.1 million acre-feet of SWP water requested this year. That projection (allocation) was increased to 45 percent as reservoirs rose from December storms. Today's increase to 60 percent of collective delivery requests is due to the atmospheric river storms that have filled many reservoirs and brought flood waters to some areas. With more rain and snow in the forecast, DWR hopes it will be able to increase the allocation further.*

*The last 100-percent SWP allocation – difficult to achieve even in wet years because of*

*Delta pumping restrictions to protect threatened and endangered fish species – was in 2006. SWP allocations in recent years:*

- 2016 – 60 percent
- 2015 – 20 percent
- 2014 – 5 percent
- 2013 – 35 percent
- 2012 – 65 percent
- 2011 – 80 percent
- 2010 – 50 percent
- 2009 – 40 percent
- 2008 – 35 percent
- 2007 – 60 percent
- 2006 – 100 percent

## **Famiglietti Says We Must “Shift Away From” an Agricultural Economy**

One of the most often quoted experts over the course of the drought, Jay Famiglietti, senior water scientist at the NASA Jet Propulsion Laboratory at Caltech, in an interview January 12 on *Southern California Public Radio*, made the above statement. Here is an excerpt from that interview:

### ***Why it will take a 'family of baby Godzillas' to end the drought***

*By A. Martinez and Monica Bushman*

***Take Two*** January 12

<http://www.scpr.org/programs/take-two/2017/01/12/54347/why-it-will-take-a-family-of-baby-godzillas-to-end/>

*Jay Famiglietti, senior water scientist at the NASA Jet Propulsion Laboratory at Caltech, joined Take Two to discuss.*

### ***What's happening with our groundwater and reservoirs right now? Are we getting back what we lost?***

*We will probably never get back what we've lost from the groundwater, because that's been going on for a century. This is a difficult message to get across— we use so much groundwater, the depletion of our groundwater resources, especially in the Central Valley, has been going on for a century. During wet periods like this, even if this were to persist for a few years, we'd get some recovery, but **unless we shift away from an agricultural economy, we'll likely never get it back what we've lost.** (emphasis added)*

*But on the upside, of course our reservoirs are being replenished and the snowpack is building, especially in the northern part of the state, so that's all great news, we just have to wait and see how the rest of the storm season will unfold.*

# Desalination

Since as the Department of Water Resources itself, as demonstrated in their graph of eleven years of not delivering even close to what the water contractors requested, admits that the entire water policy of the state is a failure and will continue to fail, only a completely different policy is required. Part of that different policy must be desalination.

But, only if desalination is undertaken in a manner similar to that proposed in 1963 by President John Kennedy, can we consider it to be serious. Here is the history of that President's proposal for building nuclear-powered desalination plants:

## **Nuclear-Powered Desalination in California– Parts I-IV**

<http://www.californiadroughtupdate.org/2015/05/29/nuclear-powered-desalination-in-california-parts-i-iv/>

Meanwhile, in addition to the now operating Carlsbad plant producing 50 million gallons of water per day, a hit and miss array of plans are underway. Here are some reports.

### ***L.A. County is looking to local sources for water. Is a South Bay desalination plant the answer?***

<http://www.latimes.com/local/lanow/la-me-ln-desalination-20170103-story.html>

*Matt Stevens*

*On a picturesque summer afternoon, West Basin Municipal Water District officials chose to woo regulators with a stroll by the beach in El Segundo, stopping to admire an unadulterated strip of California coastline.*

*"It is beautiful," said Diane Gatza, West Basin's water resources engineer.*

*A few hours later, environmental advocates held a town hall two miles away in Manhattan Beach.*

*"The reason we're here is West Basin Municipal Water District is proposing a ... desal plant," said Bruce Reznik, head of Los Angeles Waterkeeper. "Unfortunately, it seems a little bit like a done deal. We're trying to stand up here and say that there are better alternatives."*

*Like a crashing wave, the fight over desalination has finally arrived in Los Angeles County.*

This article is short, but outlines the desalination process.

### ***The solution to California's droughts could be drinking seawater***

*IDE technologies is fixing California's water shortage using advanced membranes*

<http://www.wired.co.uk/article/desalination-station-drought-water>

*By [Bérénice Magistretti](#)*

*Saturday 14 January 2017*

### ***Southern California Eyes Desalinated Water From Mexico***

*In an effort to diversify supply, a proposed desalination plant in Mexico could soon send potable water to some areas in San Diego County, but there are environmental concerns.*

By Padma Nagappan

January 5, 2017

<https://www.newsdeeply.com/water/articles/2017/01/05/southern-california-eyes-desalinated-water-from-mexico>

*A consortium of international companies plans to build the largest desalination plant in the West in Rosarito, Mexico, a coastal resort city in Baja California, about 15 miles (24km) south of the U.S. border. Otay Water District is interested in buying some of that water and piping it up north.*

*Plans for the plant were mired in legal squabbles for a while, but things moved forward in 2016, and if the consortium gets its financing in line, it will break ground in May 2017. The first phase, with 50 million gallons (190 million liters) of water in daily capacity, will be completed in 2019 or 2020.*

This *Los Angeles Times* article from last fall presents a fairly comprehensive picture of the Huntington Beach desalination plant now going through the permit process.

### ***A \$1-billion desalination plant might be coming to Huntington Beach, but it will test California's environmental rules***

By Bettina Boxall

*The Los Angeles Times*

October 5, 2016

<http://www.latimes.com/local/lanow/la-me-poseidon-desalination-20161005-snap-story.html>

## **Feature**

### **If You Wish to Solve the California Water Problem, Then Go To the Moon**

Lyndon LaRouche's concise 2014 policy document entitled, "[Four New Laws for the USA Now: Not an Option, an Immediate Necessity!](#)" outlines the basis for mankind to progress forever.

No single one of these measures alone can work, only the integrated implementation of the entire program as the single totality. Economic growth is a product of the mankind's unique capabilities for creative discovery — setting mankind apart from all lower forms of life, and ensuring there are no limits to mankind's growth (other than those self-imposed by degenerate policies). LaRouche's Four Laws program is rooted in this scientific insight into the source of economic progress, as understood by Franklin Roosevelt, Abraham Lincoln, and the great genius of Alexander Hamilton.

LaRouche's Four Laws provides the only basis for the United States to save itself from collapse and join in collaboration with China, Russia, India, and other nations participating in the global economic renaissance centered around China's New Silk Road program.

This week we highlight law number 4 of Lyndon LaRouche's Four Laws for a real economic renaissance.

## 4. Fusion and Space Science Driver

As Mr. LaRouche concludes his Four Laws policy paper, “a Fusion economy, is the presently urgent next step, and standard, for man’s gains of power within the Solar system, and, later, beyond.” It is the unique capability for creative discovery of scientific principle which separates mankind from the mere animals—meaning mankind’s most basic essence requires continual revolutionary creative progress. Any idea of a limited growth for mankind is unnatural and immoral in the most fundamental sense, and must be forever dispensed with. Mankind must always look to the new challenges which provide the paths to transform mankind into ever higher states. Today that points us towards the mastery of fusion power (and related technologies) and to the development of the Moon as mankind begins to truly enter the Solar System as a creative force.

**For background, the following links are a start:**

Background: Mr. LaRouche on the science of human creative discovery

- [“The Wonderfully Immortal Ghosts We Must Be: Einstein Viewed Kepler”](#)

Background: Understanding fusion

- Video: [“Forging Fusion: Physical, Chemical, Nuclear, Fusion!”](#)
- [“Fusion: Basic Economics”](#)
- [“Who Stole Fire from Mankind? The Suppression of Fusion”](#)

Background: Fusion and the Space Program

- [See our Space Program page](#)
- [“The Lunar Helium-3 Fusion Driver”](#)
- [“Principles and Boundary Conditions of a New Space Program”](#)
- [“Science for a New Paradigm: Time for a Solar Noösphere”](#)

Here are the links to the first two of a recent three part series of articles on fusion and the space program by Megan Beets of the LaRouche PAC Science Team. The author describes the articles thus:

*In Part I of this article, “Return to the Road of Infinite Progress: Revive a Crash Program for Fusion Power” published in this paper, we covered the elementary principles of creative growth that distinguish man from all beasts, and demand our continuing breakthroughs to more and more energy-dense modes of power (e.g. chemical fuels, to nuclear fission, to fusion).*

*Here in Part II, we will examine why there is great potential today to organize humanity to conquer fusion, starting with important developments of the past 12 months in Europe and Asia, as well as the promising recent achievements of the U.S. program, despite its crippled condition.*

Part I:

***The Road of Infinite Progress: Revive a Crash Program for Fusion Power***

<https://larouchepac.com/20161227/road-infinite-progress-revive-crash-program-fusion-power-20161223-road-infinite-progress.pdf>

December 23, 2016

*by Megan Beets*

*This is article is an introduction to a coming series of weekly articles by the LaRouchePAC Science Research Team regarding the critical role of fusion power, space exploration, and the creative powers of the human mind in shaping the coming establishment of the new international paradigm of relations among great civilizations.*

Part II:

***America Must Become Promethean Again! Ignite the Power of Fusion Energy***

<https://larouchepac.com/20170110/america-must-become-promethean-again-ignite-power-fusion-energy>

*January 10, 2017*

[20170110-america-promethean.pdf](#)

*Part II in a series on the importance of the Fourth Law, i.e. a Fusion Science Driver Program, of [The Four New Laws economic recovery program](#) as presented by Lyndon LaRouche in June, 2014.*

*by Megan Beets*