

California Water and Infrastructure Report

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



For May 31, 2018

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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Alexander Hamilton would look in horror at what has become of the United States he helped to found. His system of economics, enshrined in our Constitution, recognizes that the source of economic wealth is the development of the productive powers of labor, the genius which results in fundamental scientific discoveries. To create structures capable of acting on a national basis to achieve such development, Hamilton's system mandates that the Congress — responsible for large-scale improvements in national productivity — create credit rather than borrowing money from predatory banks operating only to enrich themselves. By directing that credit through a national bank and the private banking system, it is possible to fund those infrastructure projects and fundamental scientific endeavors essential to create sustained economic growth in the long term, over spans of two or more generations.

From: CAMPAIGN TO WIN THE FUTURE-- A NEW PARADIGM FOR MANKIND

A Note To Readers

The above quote is from the new edition of the *LaRouche PAC* pamphlet, which our Feature this week highlights with excerpts from the introduction. See the last item in this report.

For, as this report emphasizes every week, to solve virtually any problem our nation faces requires the end of the London-based and U.S. infected speculative financial parasitical system that has now made the U.S. second to China in healthy life expectancy at birth for the first time, according to World Health Organization data. That report can be found on page 11, below.

As we have reported over the last several weeks, more than one-half of the American people are unable to meet their fundamental economic needs. Those who will shrug that fact off, perhaps, need to read no

further.

But, at least President Trump will not quit from his commitment to make America Great Again, and as the last paragraph of a new statement puts it:

“All of Asia is uniting around the spirit of the New Silk Road. President Trump is in the process of working with Asia to resolve the Korea crisis once and for all, through a 'peace through development' approach. With Russiagate being transformed into Spycgate within the U.S., due in great part to the [LPAC intelligence reports on the subversive role of British intelligence and the Obama intelligence team](#), Trump should soon be free to bring the U.S. into full cooperation with the New Silk Road in building a new paradigm for all of mankind. The opportunity must not be missed.”

<https://larouchepac.com/20180530/no-john-bull-markets-do-not-supersede-humanity>

In This Week's Report

The U.S. Drought Monitor for California shows no change in either the intensity nor the extent of the drought this past week.

But, fear not, long-term and medium-term problems are on the horizon as the climate does change, as it always has. The often repeated mantra from the environmentalist crowd that it is all due to mankind's activity does get tiring and deflects from an honest discussion of the dynamics of climate and weather. This is not a subject of this week's report, as I have covered that in past reports. So, when I do include articles and items that may or may not reflect that environmentalist bias, know that I think there is something useful in the article despite that problem with it.

The first two items below the U.S. Drought Monitor are a case in point.

The problems with an adequate supply of water for all the requirements of all the people and their activity in the state is highlighted by both the *State Water Project* and the *Federal Central Valley Project* allocations of less than 50% of that requested by water contractors. As reported last week, over the past more than 20 years there have only been two or three years in which full allocations have been made. So, this week the *United States Bureau of Reclamation*, which runs the *Central Valley Project*, announced it was upping its allocation to contractors to 45% of that requested. That is covered in the article, “Water allocation inches up despite abundant supplies in reservoirs.”

The Oroville Dam Update this week has a new video and an update on construction from the *Department of Water Resources*.

Shasta Dam has become somewhat of a symbol of the battle between the Trump administration and the Brown government. The Feds wish to raise Shasta dam, adding 18.5ft of steel and cement to the rim of the dam. This would add 634,000 acre-feet of extra storage space to Lake Shasta. It is the right thing to do, but, as I always caution, just adding more water storage in the state will not ensure adequate water supplies for 50 years from now. That requires *NAWAPA* and dozens of nuclear-powered desalination plants.

The Huntington Beach desalination plant continues to move forward in the permitting process and a short report on that is included below.

Another report on the Colorado River's future, and thus the water supply for 40 million people, comes next.

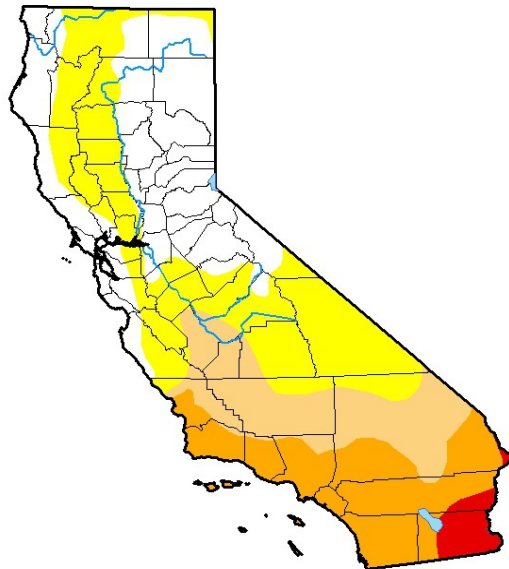
That is followed by Cal Fire's report on the “Cause Of Wildfires In 2017 Northern California Firestorm,” which blames PG&E. The response from PG&E is included.

News items this week include the report on China now surpassing the U.S. in healthy life expectancy, the Opioid crisis in California, and the world's first floating nuclear power plant.

As mentioned above excerpts from the new LaRouche PAC pamphlet's introduction is our feature this week.

U.S. Drought Monitor, the Snowpack, and Atmospheric Rivers

U.S. Drought Monitor California



May 29, 2018

(Released Thursday, May. 31, 2018)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	30.49	69.51	37.08	20.75	2.78	0.00
Last Week 05-22-2018	30.49	69.51	37.08	20.75	2.78	0.00
3 Months Ago 02-27-2018	8.48	91.52	47.87	19.98	0.00	0.00
Start of Calendar Year 01-02-2018	55.70	44.30	12.69	0.00	0.00	0.00
Start of Water Year 09-26-2017	77.88	22.12	8.24	0.00	0.00	0.00
One Year Ago 05-30-2017	76.47	23.53	8.24	1.06	0.00	0.00

Intensity:

■ D0 Abnormally Dry ■ D3 Extreme Drought
■ D1 Moderate Drought ■ D4 Exceptional Drought
■ D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Anthony Artusa
NOAA/NWS/NCEP/CPC



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

The Snow Drought In California Is Fueling Wildfires, Floods, & Mudslides

May 28th, 2018 by [Nexus Media](#)

<https://cleantechnica.com/2018/05/28/the-snow-drought-in-california-is-fueling-wildfires-floods-mudslides/>

Originally published on [Nexus Media](#).

By Jeremy Deaton

California is likely facing another year of water woes. The Sierra Nevada snowpack, which supplies up to a third of California's water, is exceptionally meager this year. Experts found around half as much snow on the mountains as they typically would in early April, when the snowpack is historically most voluminous.

Not only does the dwindling snowpack put California's water supply at risk, it also portends more floods, wildfires and mudslides over the coming year. This is precisely what makes climate change so dangerous. Even small changes in weather can have cascading effects, multiplying the risk of natural disaster.

Declining snowfall means less fresh water

Climate change is depriving California of needed precipitation, and it is also causing more

precipitation to come down as rain instead of snow. The result is that, over time, the Sierra Nevada see [less and less snow](#), with consequences for the Golden State. Every spring and summer, that snow melts, feeding the streams and rivers that supply California's reservoirs. Less snow means less water for farms and cities. Making matters worse, warmer temperatures mean that snow melts in late spring and early summer, leading to shortages later in the year.

Climate change may lead to bigger atmospheric rivers

<https://climate.nasa.gov/news/2740/climate-change-may-lead-to-bigger-atmospheric-rivers/>

By Esprit Smith,
NASA's Jet Propulsion Laboratory

May 24, 2018

A new NASA-led study shows that climate change is likely to intensify extreme weather events known as atmospheric rivers across most of the globe by the end of this century, while slightly reducing their number.

The new study projects atmospheric rivers will be significantly longer and wider than the ones we observe today, leading to more frequent atmospheric river conditions in affected areas.

"The results project that in a scenario where greenhouse gas emissions continue at the current rate, there will be about 10 percent fewer atmospheric rivers globally by the end of the 21st century," said the study's lead author, Duane Waliser, of NASA's Jet Propulsion Laboratory in Pasadena, California. "However, because the findings project that the atmospheric rivers will be, on average, about 25 percent wider and longer, the global frequency of atmospheric river conditions -- like heavy rain and strong winds -- will actually increase by about 50 percent."

The results also show that the frequency of the most intense atmospheric river storms is projected to nearly double.

Atmospheric rivers are long, narrow jets of air that carry huge amounts of water vapor from the tropics to Earth's continents and polar regions. These "rivers in the sky" typically range from 250 to 375 miles (400 to 600 kilometers) wide and carry as much water -- in the form of water vapor -- as about 25 Mississippi Rivers. When an atmospheric river makes landfall, particularly against mountainous terrain (such as the Sierra Nevada and the Andes), it releases much of that water vapor in the form of rain or snow.

These storm systems are common -- on average, there are about 11 present on Earth at any time. In many areas of the globe, they bring much-needed precipitation and are an important contribution to annual freshwater supplies. However, stronger atmospheric rivers -- especially those that stall at landfall or that produce rain on top of snowpack -- can cause disastrous flooding.

Are They Saving Water for A Rainy Day?

Water allocation inches up despite abundant supplies in reservoirs

<https://www.farmwater.org/farm-water-news/water-allocation-inches-despite-abundant-supplies-reservoirs/>

(The following is a statement by the San Luis & Delta-Mendota Water Authority on the updated Central Valley Project water allocation)

LOS BANOS, CA – Today, the United States Bureau of Reclamation inched up the allocation for south-of-Delta Central Valley Project (CVP) agricultural water service contractors by raising the expected amount of water to be delivered from 40% to 45%. The new allocation is still less than reasonably could be made by Reclamation. Last year’s record hydrologic year left a tremendous amount of water in the system, yet allocations remain low for many Central Valley Project water users.

“Water users today were dismayed by the relatively small allocation increase announced by Reclamation,” said Cannon Michael, chairman of the San Luis & Delta-Mendota Water Authority. “It is unbelievable that the statewide average for CVP reservoirs is almost 108 percent of normal, yet South of Delta farmers are left with a 45 percent allocation,” he said.

The last hydrologic year, 2017, was the wettest year on record in the Sacramento River watershed, and presently, most CVP reservoirs remain above their historic average.

With the abundance of water, the 45% allocation reveals that regulations, not the availability of water, are creating supply shortages and impediments to the efficient operation of the CVP.

“If the system cannot provide an adequate amount of water when water levels are above average, then clearly changes need to be made to the regulations governing the CVP,” said Frances Mizuno, Interim Executive Director of the San Luis & Delta-Mendota Water Authority.

“Reclamation, along with other federal agencies must reevaluate the decision-making process when these conservative and restrictive operations create enormous hardships for agricultural, urban and environmental water users,” said Michael. “The federal government continues to tell us about declining in fish populations and yet it resorts to the same ineffective policies of the past,” he said.

Communities served by the CVP have received progressively lower allocations which have impacted groundwater and water quality. And, farmers have been forced to fallow land and cut food production due to the uncertainty around water deliveries.

Oroville Dam Update

Oroville Spillways Phase 2 Update Late May 2018

California DWR

Published on May 30, 2018

Workers continue to prepare roller-compacted concrete (RCC) on the middle section of the main spillway for placement of structural concrete. Crews also perform the last controlled blasts of the original concrete on the upper chute of the main spillway in preparation for the placement of structural concrete.

<https://www.youtube.com/watch?v=3k-ifu7qwu8&list=PLeod6x87Tu6eVFnsyEtQeOVbxvSWywPlx&t=0s&index=2>

Lake Oroville Spillways Construction Update May 23, 2018

Published: May 23, 2018

<https://www.water.ca.gov/News/News-Releases/All-News-Articles/Lake-Oroville-Spillways-Construction-Update-May-23-2018>



Workers bore a series of holes to contain the explosives for the next round of controlled blasts to break up the original concrete slab of the upper chute of the Lake Oroville main spillway on May 21, 2018. DWR/2018

SACRAMENTO – Today the Department of Water Resources (DWR) provided an update on construction-related activities for the Lake Oroville Spillways Emergency Recovery Project.

Construction on the Main Spillway

- *Crews continue to demolish the uppermost 730 feet of the original main spillway chute and have begun using controlled blasting in the center portion of the upper chute.*
- *In the middle chute, crews completed demolition of the temporary roller-compacted concrete walls, and are now preparing for construction of sub-drains, slab anchors, and structural concrete slabs and walls.*
- *Work continues on the energy dissipators, or dentates, at the bottom of the main spillway. The dentates are being hydro-blasted and rebuilt with reinforced structural concrete and epoxy-coated steel dowels.*
- *Crews have begun resurfacing one of the structural concrete slabs that did not meet DWR's quality control standards on the main spillway last year. The slab has a poor surface finish and the top layer is being removed and replaced with structural concrete.*

Construction on the Emergency Spillway

- *Placement of RCC on the northern half of the splashpad is 78 percent complete.*
- *Crews continue to clean and prepare the southern half of the splashpad for RCC placement.*
- *Placement of the cap or grade beam on the underground secant pile cutoff wall is complete. The cap will tie the secant piles together and will be secured to the RCC splashpad.*

Shasta Dam: To Grow or Not To Grow? That Is the Question

Feds Push to Raise Shasta Dam, but Would It Ease California Water Woes?

By Alastair Bland

May 30, 2018

California's largest reservoir may get even bigger, despite opposition from the state. Some welcome the opportunity to store more water, but others are skeptical it could significantly ease competing demands for limited water and aid fish.

<https://www.newsdeeply.com/water/articles/2018/05/30/feds-push-to-raise-shasta-dam-but-would-it-ease-california-water-woes>



Photo: Patrick Ruckert

Officials with the federal government seem determined to realize a controversial proposal to raise Shasta Dam and increase the storage capacity of the reservoir behind it – despite objections from fish and wildlife agencies and California law that technically forbids such a project. In January, the United States Bureau of Reclamation, which manages the dam, [received a \\$20 million appropriation](#) from Congress to begin design and preconstruction work – and, with the support of water agencies in the San Joaquin Valley, the bureau has announced plans to begin construction as early as the end of 2019.

The project, discussed informally for decades, calls for adding 18.5ft of steel and cement to the rim of the dam. This would add 634,000 acre-feet of extra storage space to Lake Shasta, already California's largest reservoir. Agricultural interests tend to be in favor the project, while environmentalists, tribes and groups dedicated to protecting fish – especially salmon – generally oppose the idea. Several agencies that manage fish, wildlife and water in California have advised against heightening the dam the plan, and opponents are concerned that the proposal could help mobilize a trend of federal agencies and Washington lawmakers overriding or just ignoring state environmental laws.

But the feds don't seem to be listening.

A state law that protects a river doesn't mean it won't be sacrificed for a large water project. When conflicts arise that pit federal laws against state laws, the federal laws usually win, said Doug Obegi, a water law attorney with the Natural Resources Defense Council.

Officials have estimated that adding 18.5 vertical feet to Shasta Dam will cost \$1.3 billion. Westlands Water District, a large agricultural region in the western San Joaquin Valley highly dependent on water allocated by the Bureau of Reclamation, seems to be counting on the dam being heightened. More than a decade ago, Westlands spent \$35 million purchasing about 3,000 acres of land in the McCloud basin that would be flooded by the project.

Cannon Michael, chairman of the [San Luis & Delta-Mendota Water Authority](#), which serves 29 member agencies that receive water via the Bureau of Reclamation's Central Valley Project, said the extra water storage that would result from the dam boost could help alleviate current strains on the water supply of California, where native fish populations teeter on the brink of extinction and farmers

remain perennially unsatisfied with their own water allocations.

“Six-hundred and fifty thousand acre-feet of extra water is not something that should be dismissed out of hand,” Michael said. “We would still need to discuss the best way to use the extra water, but I think it’s likely the benefits can potentially outweigh the tradeoffs.”

Desalination

Seawater desalination is water independence for Orange County



Poseidon is pursuing its final two permits for a proposed desalination operation adjacent to the AES power plant in Huntington Beach. Above is an artist’s rendering of the desalination facilities, in the bottom right-hand corner, at the power plant.

By [Denis R Bilodeau](#) |
May 26, 2018

<https://www.ocregister.com/2018/05/26/seawater-desalination-is-water-independence-for-orange-county/>

The Pacific Ocean offers an inexhaustible, drought-proof source of supply that can be used with the right environmental protection measures. Desalination opponents point to cost as a reason for their opposition. While we share concerns about cost, our own experience with GWRS confirms that smart capital investment today will save ratepayer dollars tomorrow.

At the price of a half-penny per gallon, seawater desalination is cost-competitive with the development of other new water supplies and on par with the household impact from the state’s recent mandatory conservation measures. Nonetheless, that doesn’t mean OCWD is without its concerns or is willing to overpay for desalinated water. We will continue to conduct our due diligence and only commit to purchasing water once state regulators approve a project we determine is economically feasible.

Denis R. Bilodeau, P.E., is the Orange County Water District board president.

More On The Colorado River

6 things to know about dire challenges to our Colorado River water lifeline

- [By Tony Davis Arizona Daily Star](#)
- May 26, 2018

<http://tucson.com/news/local/things-to-know-about-dire-challenges-to-our-colorado->

river/article_a2aadf13-59fa-5b68-8eba-2bb36af3d46c.html

A bruising battle between the Central Arizona Project and many states and water users has revitalized the push for a stillborn plan to prepare for more drought on the Colorado River.

1. President Trump has called concerns about human-caused climate change bad science. But out West, his Bureau of Reclamation officials are saying the seven basin states must act to avert a crisis on the Colorado that many scientists have traced to climate change.

Last Tuesday, Reclamation Commissioner Brenda Burman and bureau official Terry Fulp made their strongest warnings yet to the Imperial Irrigation District's governing board in El Centro, California, just west of Yuma.

If the region gets nine consecutive dry years like 2001 to 2008, without approval of a drought plan, "there is a possible and plausible scenario" in which Lake Mead on the Colorado drops below 1,000 feet by 2022 and 975 feet by 2025, said Fulp.

At 1,000 feet, Lake Mead would hold half the water it normally delivers each year to the Lower Basin, Fulp said. That could trigger major cuts to cities such as Tucson and Phoenix.

"I don't want to leave you thinking that the sky is falling. But if we're in that scenario, the sky is falling," said Fulp, director of the bureau's Lower Colorado Regional Office.

2. CAP officials are concerned that conserving "too much" water in Lake Mead could trigger a premature shortage in water deliveries first for Arizona farms, and later for Phoenix and Tucson's drinking water. Others say that isn't valid.

3. Without a drought plan, the bad tidings that many fear will befall Lake Mead in the distant future could arrive much sooner.

The first fear is that without a drought plan, Southern California's Metropolitan Water District — the Met, which serves Los Angeles — would soon pull from Mead a lot of water it could leave there otherwise. That by itself could plunge the river into a shortage. The Met is storing this water in Mead under a program that allows it to remove the water whenever it wants, even if there's a shortage, as long as there's a drought plan in place. But if there's no drought plan, California would not be able to take the water once a shortage happens. That could put pressure on it to take the water out as soon as possible.

Overall, the failure of a drought plan could set the stage for the Interior secretary to step in and impose drastic cuts in water deliveries to cities and tribes, Buschatzke said. The drought plan would let Arizona decide its own fate, he says.

4. The drought's additional threat to Lake Powell could threaten Western power production as well as Lake Mead, which supplies water to Arizona.

This year's well-below-normal runoff into Powell and other issues will lower the lake's elevation 32 feet this year, federal forecasts say.

Two more bad years and Lake Powell could be approaching 3,525 feet. At that level, Glen Canyon Dam's power production — mostly for rural areas all over the West, including Arizona — becomes jeopardized as water pressure declines.

The power production would be cut off entirely at 3,490 feet.

5. Arizona's water agencies are making nice now, and a top CAP official sounds almost contrite. But

approval of a drought plan remains uncertain.

6. The drought plan is only a Band-aid but putting an end to the fighting is considered essential.

Cal Fire vs PG&E

Cal Fire Releases Cause Of Wildfires In 2017 No. California Firestorm

by: [gina clugston](#)

May 25, 2018

<https://sierranewsonline.com/cal-fire-releases-cause-of-four-wildfires-in-2017-no-california-firestorm/>

SACRAMENTO – Cal Fire investigators have determined the cause of four wildfires in Northern California last October that destroyed hundreds of homes and charred thousands of acres.

“After extensive and thorough investigations, investigators have determined that four wildfires in last year’s October Fire Siege were caused by trees coming into contact with power lines,” said Cal Fire in a statement released today.

The four fires, located in Butte and Nevada counties, are the first fire investigations from last October to be completed.

Cal Fire investigators were dispatched to the fires last year and immediately began working to determine their origin and cause. The Department continues to investigate the remaining 2017 fires, both in October and December, and will release additional reports as they are completed.

The October 2017 Fire Siege involved more than 170 fires and charred more than 245,000 acres in Northern California. More than 11,000 firefighters from 17 states helped battle the blazes.

Below is a summary of the four completed investigations:

These fire investigations have been referred to the appropriate county District Attorney’s offices for review.

PG&E Responds to CAL FIRE Announcement

May 25, 2018 Updated May 25, 2018

http://www.citizentribune.com/news/business/pg-e-responds-to-cal-fire-announcement/article_9e5b7543-ad4e-5c5f-b291-983064df0fa9.html

SAN FRANCISCO--(BUSINESS WIRE)--May 25, 2018--Pacific Gas and Electric Company (PG&E) today issued the following statement in response to the release of information by the California Department of Forestry and Fire Protection (CAL FIRE) regarding some of the October 2017 Northern California wildfires.

Based on the information we have so far, we believe our overall programs met our state’s high standards.

Under PG&E’s industry-leading Vegetation Management Program, we inspect and monitor every PG&E overhead electric transmission and distribution line each year, with some locations patrolled multiple times. We also prune or remove approximately 1.4 million trees annually.

PG&E meets or exceeds regulatory requirements for pole integrity management, using a comprehensive database to manage multiple patrol and inspection schedules of our more than two million poles.



California Highway Patrol | Golden Gate Division | Reuters

Years of drought, extreme heat and 129 million dead trees have created a “new normal” for our state, and we must continue to adapt to meet these challenges.

Extreme weather is increasing the number of large wildfires and the length of the wildfire season in California. According to CAL FIRE, in 2017 alone, CAL FIRE confronted 7,117 wildfires, compared to an average of 4,835 during the preceding five years. Five of the 20 most destructive wildfires in the state’s history burned between October and December 2017.

In the case of these Northern California wildfires, we saw an unprecedented confluence of weather-related conditions, including: years of drought resulting in millions of dead trees, a record-setting wet winter that spurred the growth of vegetation that then became abundant fuel after record-setting heat during the summer months, very low humidity and very high winds.

News Items

China overtakes U.S. for healthy lifespan: WHO data

[Tom Miles](#)

[Health News](#)

May 30, 2018

<https://www.reuters.com/article/us-portugal-germany/germanys-merkel-ready-to-work-with-new-italian-government-idUSKCN1IWIMI>

GENEVA (Reuters) - China has overtaken the United States in healthy life expectancy at birth for the first time, according to World Health Organization data.

Chinese newborns can look forward to 68.7 years of healthy life ahead of them, compared with 68.5 years for American babies, the data - which relates to 2016 - showed.

American newborns can still expect to live longer overall - 78.5 years compared to China’s 76.4 - but the last 10 years of American lives are not expected to be healthy.

“The lost years of good health that are a factor in calculating healthy life expectancy at birth are lower for China, Japan, Korea and some other high income Asian countries than for high income ‘Western’ countries,” said WHO spokeswoman Alison Clements-Hunt.

The United States was one of only five countries, along with Somalia, Afghanistan, Georgia and Saint Vincent and the Grenadines, where healthy life expectancy at birth fell in 2016, according to a Reuters analysis of the WHO data, which was published without year-on-year comparisons in mid-May.

The best outlook was for Singaporean babies, who can count on 76.2 years of health on average, followed by those in Japan, Spain and Switzerland. The United States came 40th in the global rankings, while China was 37th.

In terms of overall life expectancy China is also catching up with the United States, which Reuters calculations suggest it is on course to overtake around 2027.

“Chinese life expectancy has increased substantially and is now higher than for some high-income countries,” said Clements-Hunt.

Meanwhile U.S. life expectancy is falling, having peaked at 79 years in 2014, the first such reversal for many years, Clements-Hunt said.

That reflected increasing rates of drug overdose deaths, mainly from opioids, suicides, and some other major causes among younger middle-aged Americans, particularly in less affluent areas, she said.

The world’s longest life expectancy is in Japan, at 84.2 years, meaning that babies born there in 2016 were the first to be able to look forward to seeing the next century.

Reporting by Tom Miles; editing by John Stonestreet

California opioid crisis

from Vox

Deaths from fentanyl in 2017, 746, is triple the figure of 2016. Total opioid overdose deaths in California totaled 1,882 in 2017, down from 2,031 in 2016, but fentanyl deaths are up, according to California Department of Public Health. "This is a signal fentanyl as an illicit opioid has really arrived in California," says Phillip Coffin, director of substance use research at SF Dept. of Public Health.

SPACE -- CHINA

Lunar relay satellite for the Chang'e-4 farside mission, Queqiao, carried out a breaking maneuver yesterday, that puts it on a trajectory to reach the "halo" orbit needed to be the communications link between the Earth and the craft on the farside of the Moon. The second launch with the lander and rover will be toward the end of this year.

"There was only a short window for the breaking," explained project manager, Zhang Lihua. "And Queqiao had only one chance, due to limited fuel." The tricky breaking maneuver took place just 100 km above the surface of the Moon. It will take about two months for the relay satellite to reach its station.

Space experts worldwide recognize the challenge and importance of the mission. "Doing things in space, especially at a far distance from Earth, remains hard, so success is far from assured," space historian John Logsdon said after the May 21 launch. "Spacefaring countries around the globe are focusing a great deal of attention on lunar exploration," he said, "and this far side capability, if it comes into being, puts China in a leading position..."

The landing would be a "world historical first," offered Bernard Foing, a prominent European lunar scientist. It would provide a "deep space opportunity to study the far side," which, he pointed out has a

different composition than the sites that have been previously explored.

World's first floating nuclear power plant reaches Russia's Arctic for maiden mission

21 May, 2018

<https://www.rt.com/business/427330-russia-floating-nuclear-power-plant/>



© Pavel Lvov / Sputnik

The first sea-borne nuclear power plant made in Russia has been towed to the country's Arctic port of Murmansk, ready to undertake its first mission, generating electricity in remote locations.

The water-borne power plant, named Akademik Lomonosov, was built by the state-run nuclear corporation Rosatom in St. Petersburg. The new vessel is set to pioneer a new power source for remote regions of the planet, the company says.

The floating nuclear power plant will take on board a supply of nuclear fuel and will then be towed to Pevek, a small town in the Far Eastern region of Chukotka. The port of Pevek, which is located in Russia's extreme northeast, is separated from the US state of Alaska by the 86-km (53 mile) wide Bering Strait.

The power plant is set to start providing electricity for homes as soon as in 2019, replacing a coal-powered plant and an old nuclear power plant that provides electricity to more than 50,000 people in the region.

According to Rosatom, small sea-borne power units are best suited for remote areas. The plants may help to reduce greenhouse gas emissions, which are blamed for global warming. Power plants of this kind are able to operate without stopping or the need for refueling for up to five years. The vessels were created to make it possible to supply electricity to hard-to-reach regions of the huge country.

However, green campaigners have raised some concerns over the risk of nuclear accidents. Greenpeace has dubbed Akademik Lomonosov the "nuclear Titanic." The floating power plant will not just generate electricity for Pevek, it will be used for oil and gas exploration as Russia is pushing development further north into the Arctic.

Feature

Here is the new edition of the LaRouche PAC pamphlet:

CAMPAIGN TO WIN THE FUTURE-- A NEW PARADIGM FOR MANKIND:

LAROCHE'S FOUR LAWS FOR ECONOMIC RECOVERY

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

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- 1. Restore Glass-Steagall Now, Before the Impending Crash**
- 2. A New National Bank or Equivalent Means for Credit Issuance**
- 3. Increased Productivity as the Metric for Application of Credit**
- 4. Crash Program for Fusion Power Development and Space**

INTRODUCTION: The End of Partisan Politics

In a speech that would soon prove prescient, on September 20, 2012, in celebration of his 90th birthday, Lyndon LaRouche discussed the impending end of partisan party politics in the United States and the challenge this posed to the individual citizen — to you — to take leadership. This dynamic would soon manifest itself, to the absolute confoundment and amazement of most, in the 2016 election of U.S. President Donald Trump, who had made himself the sworn enemy of both parties' elites.

LaRouche asserted that the conflict between the old paradigm of the decadent and dying Wall Street and City of London speculative monetary system, which had imploded in 2008, and the fledgling new paradigm, struggling then to be born, would result in the destruction of the two-party system in the United States. Ossified and corrupt political structures would be fatefully challenged by a population which had had enough and would reject the agenda of both political parties which were only out to preserve their dying system, even if that meant world war. However, once this was accomplished, LaRouche said, the citizens of the United States would face a challenge: Would they organize and educate themselves through a principled dialogue concerning the future direction of our nation as required by the U.S. Constitution? Would they take actions consistent with the intent of our Constitution to revive and direct our damaged nation into a prosperous future?

Now, in 2018, we face a turning point in the dynamic to which LaRouche gave voice at that birthday event. Both decadent political parties, rejected by the voters in 2016, have mobilized to reverse the results of that very same 2016 election. The Republican establishment hated Trump and ran against him. The Democratic Party not only despised him but labeled the millions of people who voted for him, including millions of Democrats, racist, sexist "deplorables." Now they intend to use the midterm 2018 elections to gather sufficient seats in the House of Representatives and the Senate to impeach the President.

Why Trump Won

Donald Trump campaigned against central planks of Republican orthodoxy, saying he was the champion, like Franklin Roosevelt, of the "forgotten American" in the misnamed and financially abandoned "fly-over" country, the formerly agricultural and industrial heartland of the United States situated between the liberal coasts. He favored the restoration of the Glass-Steagall banking regulation which would end Wall Street's casino economy, and he embraced by name the American System of economics created by Alexander Hamilton.

Trump's most resonant campaign promises were two: huge new infrastructure projects to drive U.S.

economic development with a revival of manufacturing on a modern platform, and a return to collaboration between sovereign nation states pursuing common interests, rather than the globalist system pursued by Bush and Obama. Trump specifically called for improved relations between the United States and Russia and an end to the endless decades of perpetual regime change wars.

These ideas are what won the 2016 election. Not a paltry \$100,000 of crude Russian Facebook ads. Not the hoax surrounding the claim that the Russians hacked the DNC's computers. Not James Comey. It was candidate Trump's economic ideas and pledge to end America's endless wars that struck a chord with the voters. By contrast, Hillary Clinton and Barack Obama told working and middle class Americans, ravaged by suicide, opioid addiction, and despair, that they had never had it so good. America's political class and its bankrupt parties stood ruined as a result, just as LaRouche said they would.

Since the election, the political establishment has warred with Trump, softly seeking to cage and bend him into following their Wall Street financial policies and interventionist foreign policies while wielding the club of an ongoing coup. New smears and attacks against this President seem to appear on an hourly basis. He is being stalked by an amoral independent counsel, Robert Mueller, armed with an unlimited hunting license. Once again, the cheap identity politics championed by Hillary Clinton, Barack Obama, and Republican stalwarts circumscribe and debase our political discourse. The news media has become a vehicle for an incessant propaganda campaign against the duly-elected President. However, unless Americans rise above the controlled political dynamic that this ongoing coup attempt is intended to foster, its instigators will have achieved their fundamental purpose: the demoralization of those who revolted in 2016. LaRouche's call to citizens to take individual responsibility for the fate of the nation, for the future, stands unanswered. As a result, the big ideas of 2016 have been shelved as the President tacks and reacts, simply to live another day.

The Coup Is Destroying the Nation

We see the real damage every day. As the LaRouche PAC's lead 2018 endorsed candidate, Kesha Rogers, campaigns in Texas' 9th Congressional District, she witnesses the poverty of large swaths of voters and the enforced homelessness resulting from the damage wrought by Hurricane Harvey and Houston's historic floods. This was a human disaster that never had to happen. The infrastructure plans to prevent such damage — from the known threat of hurricanes and flooding — have been drawn up and ready to go for years. But somehow, the “money” to preserve human life has not been there. Now the money can't be found even to do repairs. How has Rogers' opponent, Al Green, spent his time since the floods devastated his constituents? He has been drawing funds and media attention to himself from Washington D.C. PACs and liberal donors, by leading the drive for Congressional Democrats to impeach President Trump.

This does not even take into account the opioid epidemic which has engulfed the de-industrialized areas of our country and threatens the survival of entire swaths of our population. Journalist Sam Quinones, author of a best-selling book about the drug epidemic, *Dreamland*, testified before the Senate Health and Education Committee in January, 2018. He called for a crash program to confront the crisis based on the Marshall Plan and the Space program, and for large-scale infrastructure development in the economically ravaged areas of the country where drugs, despair, and purposeless, are literally killing people every day. The Senators simply ignored any discussion of Quinones' solution. Again, the “money” for an actual solution can't be found.

True American Economics

Alexander Hamilton would look in horror at what has become of the United States he helped to found. His system of economics, enshrined in our Constitution, recognizes that the source of economic wealth is the development of the productive powers of labor, the genius which results in fundamental scientific

discoveries. To create structures capable of acting on a national basis to achieve such development, Hamilton's system mandates that the Congress — responsible for large-scale improvements in national productivity — create credit rather than borrowing money from predatory banks operating only to enrich themselves. By directing that credit through a national bank and the private banking system, it is possible to fund those infrastructure projects and fundamental scientific endeavors essential to create sustained economic growth in the long term, over spans of two or more generations.

In order to overcome the Great Depression, and to prevent the types of financial mania typical of the 1920s, Franklin Roosevelt enacted the Glass-Steagall Act in 1933. This law ensured the stability of the commercial banking sector and its ability to function as a source of credit for the expansion of the economy. Glass-Steagall achieved this objective (for over half a century) by protecting and insuring the lending activity of our country's banks, while completely separating off their speculative activities.

After the 1999 repeal of Glass-Steagall, the large Wall Street banks—allied with the City of London—have looted the real economy through reckless speculation. This resulted in the 2008 economic collapse from which this country has not recovered. We are now facing a new collapse as Wall Street and the City of London have continued their reckless policies and built a new and even bigger bubble.

The LaRouche Approach

The present economic disaster of the United States demands a solution that cannot be found within the axioms of economic courses or textbooks. We must turn to Lyndon LaRouche, whose unique economic discoveries set the stage for his remarkably accurate forecasts and the fundamental science of physical economic growth which he spent his lifetime developing. LaRouche built beyond Leibniz's understanding of technology and Alexander Hamilton's recognition of the central role of increases in the productive powers of labor as the source of economic wealth, to create a qualitative measurement for economic progress, "potential relative population density."

LaRouche locates the only source of economic wealth — indeed, the very basis for the existence of that uniquely human phenomenon known as "economy" — in the discovery of universal principles of nature that change our relationship to nature itself. From the controlled use of fire, which first set our species apart from the beasts, to the electric fire studied by that "American Prometheus," Benjamin Franklin, the entire history of human development is one of creating new resources by expanding our knowledge of previously unknown universal principles, allowing us to apply our creative discoveries to bring about entirely new states of matter and an improved human environment.

In 2014, from his knowledge of the true ABCs of economy (and his absolute rejection of the clap-trap masquerading under the name "macroeconomics" in universities), Lyndon LaRouche distilled the needed policy outlook into what he called his "Four Laws for Economic Recovery."

LaRouche's "Four Laws" mandate actions to be taken to bring the U.S. economy into coherence with the actual scientific laws governing economic progress. A credit system, like that employed by Hamilton, Lincoln, and Roosevelt, is used to fund large-scale economic projects, such as modern and new infrastructure, if they raise both overall productivity and living standards. Examples from our history are Roosevelt's Tennessee Valley Authority and John F. Kennedy's space program. A crash program to develop fusion energy, a cheap, powerful, and essentially unlimited energy source, will transform our relationship to raw materials: to water, to energy, and to fusion powered space exploration, allowing us to literally leap into a modern, future economic platform, from the post-industrial scrap heap we have become. Restoring Glass-Steagall is the remedial measure which stops Wall Street's speculative casino from literally robbing the economy of the resources necessary to grow.