

California Drought Update

by Patrick Ruckert

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Today is Thanksgiving

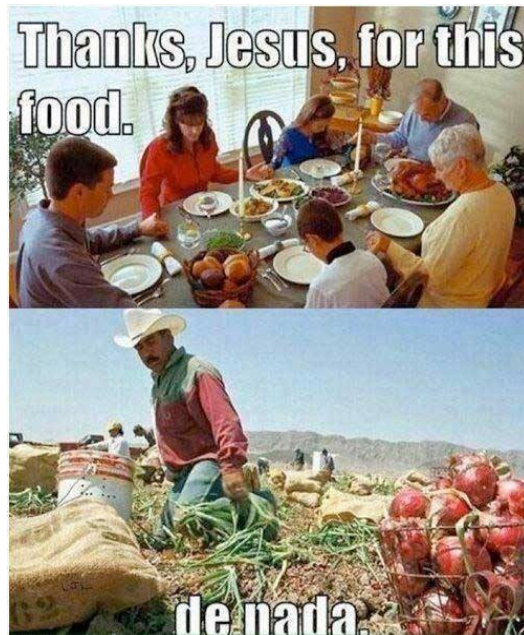
Erik Wilson, co-founder of the *My Job Depends on Ag* facebook page, authored the following, and you have to admire his passion:

Our name says it all!!! Simple proclamation of fact!! Sometimes we all need to really be thankful for all who produce food.....no matter the method. We are a select few.....some say just 1% of the American population. We feed the 99% who choose to find careers far from the fields. I'm glad many have chosen careers far from the farm too. Mankind has benefited tremendously from those who fled the fields to pursue so many different jobs and industries that has led mankind to discover things never thought possible or imagined just a century ago. That advancement is due to the modern farmer. No longer was one's life tied to planting and harvesting the back 40. Millions of people could now leave the farm to pursue their dreams. They stayed on the farm to survive. Through major achievements in the tools and tractors, mankind for the first time in human history created an abundance of food that afforded many the opportunity to pursue careers and invent so many things that have bettered mankind.

But somehow that trade-off has been lost. So many don't recognize that without Ag none of this is possible. People that make life so much easier for me can only devote the time to make such discoveries because they don't have to worry about where their food, fiber, and shelter are grown. To them it has always been there. Food is at nearly every corner and in this country you don't even need a job to get food. There used to be an appreciation from those in the cities for those that grew their food. But it seems we are worlds apart now. Everyone depends on Ag....no matter if your Donald Trump or Bill Gates-- because they would both starve to death if they had to grow their own food. Their fancy suits came first from a farmer. I challenge any who claim they can do what they do without Ag. It may seem possible.....but if you're honest.....you will realize that at the end of the day some farmer somewhere makes it possible for you to not only survive but they are sooooo good at what they do. Food is an afterthought for 99% of the American population. Y'all should be proud that just 1% of you contribute to the very foundation of our economy. It all starts with Ag.....PERIOD!!!!

P.S. AGRICULTURE employs 24 million people in this country making it the number one employer in America. And I'm sure the makers of Bill Gates' suits aren't added to that figure.....but they should be.

So, the following is very appropriate.



The United States' Mission Lies on the New Silk Road

That is the title of an item from *LaRouche PAC* on November 10, which presents the crisis humanity and the nation face, and the solution. The first sentence reads:

Every nation has a mission for mankind; and every nation's mission for itself is to allow each generation to give way to another which rises higher, and is of greater benefit to future humanity.

And a critical sentence reads:

Every nation has a mission for mankind; and every nation's mission for itself is to allow each generation to give way to another which rises higher, and is of greater benefit to future humanity.

The link is here: larouchepac.com/20151110/united-states-mission-lies-new-silk-road

Indiana Farmers Union Issues Call for 21st Century Glass-Steagall Act Passage

Taking a step that does present a solution, the Indiana Farmers Union issued a resolution this week, as reported by *LaRouche PAC*:

November 25, 2015

"Risky financial behavior in the U.S. finance sector is an issue that affects all Americans. Since the financial crisis of 2008 and the collapse of Bear Sterns, Lehman Brothers and other large financial institutions, many family farmers and consumers have lost confidence in the effectiveness of laws regulating banking and financial entities," the press release reads. "INFU President Jim Benham believes that the 21st Century Glass-Steagall Act (S. 1709, HR 3054) will address risky financial

behavior and, in a recent letter to lawmakers, urged support for this bill."

The INFU, representing grain farmers, vegetable growers, fruit growers, livestock farmers, and dairy farmers from across the state, "supports the re-regulation of the financial services industry and believes that reinstating provisions of the Glass-Steagall Act of 1933 would prohibit commercial banks from engaging in speculative investments using bank depositor funds."

larouchepac.com/20151125/indiana-farmers-union-issues-call-21st-century-glass-steagall-act-passage

The Truth Be Told? Maybe, Maybe Not

A continuing conundrum for those wishing to get on with building more water storage infrastructure in the state is what happened to the \$2.7 billion allocated for storage in Proposition 1, passed by voters last year? Mark Cowin, the head of the *California Department of Water Resources*, let the cat out of the bag at the October 16 *Mountain Counties Water Resources Association* event, "The truth be told: The Delta, the tunnels, and the tributaries." Those who are hoping that something will be built that will provide water to agriculture, will not be pleased. In addition, Cowin's statements that "We are at the limits of water supply development in California," and, "There's no free ride anymore, no new water to develop," makes clear that the environmentalist, zero-growth Brown administration is committed to depopulating the state. As reported by [Maven](http://mavensnotebook.com/2015/10/29/the-truth-be-told-the-delta-the-tunnels-and-the-tributaries-part-2/) at: <http://mavensnotebook.com/2015/10/29/the-truth-be-told-the-delta-the-tunnels-and-the-tributaries-part-2/> :

Mark Cowin (Department of Water Resources) said that the \$2.7 billion in storage funds in for Prop 1 is one of the more misunderstood provisions of any water bond in the past decade or two. "Let's get very clear – This isn't \$2.7 billion to subsidize a local storage project; it's \$2.7 billion for a state partnership investment in storage projects, so I think one of the highest and best uses of that investment would be to produce flows as needed for the benefit of water quality and for fisheries. Any storage project that creates a new diversion is going to be subject to state board proceedings and has its own ESA obligations, so all of that will have to be factored in to how the project is operated. But to the extent, how should the tributaries look at Sites Reservoir, is it more of a problem or a potential benefit, I would tend to think it's a potential benefit, to the extent that a project like Sites Reservoir could be used to manipulate the contributions of [tributary](#) flows, such that it could produce spring outflow for the benefit of longfin smelt for instance in the Delta, perhaps that relieves what might end up being an additional obligation on tributaries to provide those flows in the springtime. I do think there's a lot of opportunity to use storage to help manipulate what are going to be [tributary](#) flow requirements into more manageable flows for broader benefit for the Delta."

"We are at the limits of water supply development in California, there isn't any doubt about that," said Mark Cowin (Department of Water Resources). "There's no free ride anymore, no new water to develop, that's why I said this morning, I do not see California Water Fix as a water supply development project. It's a modernization of the State Water Project and the CVP allowing us to operate it in a more efficient and environmentally sensitive manner. We're not planning on exporting new quantities of water unless the science actually leads us to a place where regulations acknowledge that there is more water available. I don't see that happening. Our real motivation here is to stem the increase of more draconian regulations that further restrict water supplies throughout the state, so simple answer to your question, we've already surpassed any real new developable water in California. We need to learn to manage what we have now and do it in a more ecologically sensitive

manner.”

Desalination

NBC Bay Area reported in an article on November 20, “Solutions to California's Water Crisis Have Already Been Implemented Abroad-- Technology that can improve California's drought resiliency, even without rain,” by Stephen Stock, Michael Bott, Jeremy Carroll and Jeff Clayton, that desalination is clearly on the mind. Some excerpts:

NBC Bay Area's Investigation found a consensus of experts who say California cannot conserve its way out of the water crisis, with climate change expected to cause prolonged future dry spells and possibly wipe out or severely diminish the Sierra snowpack, one of the three main sources of water for the state.

But every expert NBC Bay Area talked to about drought solutions agreed that desalination is the only truly drought-proof source of water. As for critics of the process, desalination experts say new technology has made the process more energy efficient. And engineers have developed ways to mitigate the briny wastewater and dilute it during the desalination process to make it more environmentally friendly.

Mark Lambert, CEO of IDE Americas, believes seawater desalination will eventually become 20 to 30 percent of California's water portfolio. “In Southern California, we get most of our water from imported sources, either from Northern California or from the Colorado River,” Lambert said. “Eighty percent of all water in San Diego comes from someplace else.”

On The Other Hand: Pessimism Reigns Supreme

The following, rather lengthy report on a presentation at the 12th Biennial State of the San Francisco Estuary conference, as reported by [Maven](#) on November 17, does include some interesting background to the drought, while bemoaning that the only (implicitly stated) solution is depopulation. Maven titles her report, “Drought, demography, and conservation in 21st century California.”

<http://mavensnotebook.com/2015/11/17/drought-demography-and-conservation-in-21st-century-california/>

[Dr. Glen MacDonald](#) is the John Muir Memorial Chair of Geography at UCLA; his research focuses on climate change and its causes and impacts on the environment and society. He gave this speech at the 12th Biennial State of the San Francisco Estuary conference, focusing on why the current drought is so severe, and also highlighting how the state's changing demographics could affect land and species efforts in the future.

We all know that we are in a severe drought and have been for four years now with severe to extreme drought conditions embracing the entire state, he said. “This is not our first rodeo; obviously we had droughts before, and we have a tremendous infrastructure for moving and storing water. And yet as we know, that infrastructure we put in place is sorely tested right now so that we are pushing the limits of our current engineering adaptive capacity in terms of drought.”

“If we take the results from the UC Davis study that looks at water use in the state, what we see is that urban water use, despite the fact that population has increased, has more of a flat line from the droughts in the 1990s,” he said. “We have become much more efficient in terms of urban water use for a number of reasons. Agricultural water use has not increased either over that time period. This is not

that this drought compared to the late 80s and early 90s has increased precipitously. We cannot say that it is in fact demand that has driven this drought to be so important and requiring so much special regulation and water restrictions.”

To really understand this drought, you have to look at temperatures, Dr. MacDonald said. “That’s where we do see we are beginning to go off the charts and where this is exceptional,” he said, presenting a chart of average temperature from 1900 to present. “Look at the final year there. We are off the charts, and that high value comes from a period of almost two decades of relatively high values of temperatures, so it’s the temperature which is really making this drought exceptional and extremely scary.”

“When you think about temperature and drought, you are talking about increasing rates of evaporation and increasing rates of transpiration from plants,” he said. “It’s the water loss that accompanies those high temperatures and dry air masses over the surface. We can put these together into something called the Palmer Drought Severity Index which incorporates evapotranspiration as well as water delivery and it looks at how the soil will lose water.”

He then presented a graph of the California Palmer Drought Severity Index from 1900 up until present day. “What you see is there has been a long term trend of increasing aridity on a statewide basis as measured by both precipitation and temperature, and that’s not surprising because it follows this increase in temperature that we’ve seen,” he said. “When you look at drought as it should be looked at – as a combination of high temperatures, high evaporation and transpiration, coupled with low precipitation, we’re in record-breaking territory. That’s why this is so severe.”

Studies of tree rings going back 1000 years have concluded that there have been other severe droughts and similar low periods of precipitation, he said. “But when we combine the high temperatures that we have today with the low precipitation, in some of the indices we look at, we are in record breaking territory for the last 500 years of so.”

A recent analysis looked at whether this could be attributed to increased greenhouse gases and climate warming, Dr. MacDonald said. “Is there a smoking gun here? In terms of the low precipitation, no,” he said. “In terms of the high precipitation, this analysis suggests that somewhere around 20-25% of the high temperatures that are pushing this drought into historical status are contributed by increasing greenhouse gases. This is a greenhouse gas climate warming driven drought. Not entirely – some of it is natural variability, but a significant portion of this seems to be related to the increasing temperatures driven by increasing greenhouse gases.”

This has resulted in large decreases in the reservoir storage on the Colorado River, with Lake Mead just dancing above 1075 feet in elevation. “If the water hits 1075 feet in elevation or below that, and the Bureau of Reclamation can predict that a year in advance, it will be the first time in history for a Level 1 water scarcity declaration, which will start cuts in the delivery of Colorado River water to Arizona and Nevada. Will there be litigation as California gets no cut? You bet. This is unprecedented. We can’t depend on increasing amounts of water coming from outside the state; it’s not going to happen.”

He presented images from the GRACE satellite mission from 2011 to 2013, noting that the red area indicates where the water table height has decreased up to about 160 millimeters or beyond. “Now you can see from space how California’s aquifer or groundwater system being depleted and water mined, and the level of groundwater falling,” he said. “We will not be able to continue to fall back on that resource to support our agriculture, particularly in the Central Valley as we move forward. Replenishing that aquifer is going to be hard enough.”

A lot has changed in the last 100 years, he said. “Muir was looking at state with a couple million

people; we're now in a state with 38 million people," he said. "I think that would have been an unimaginable increase in population. The demand for resources and the demand for space to live has just increased incredibly as has the demand for water has increased incredibly. The nation has also grown; we're the largest agricultural producer in the nation; 80% of our water goes to grow crops. This has put tremendous pressure on the environment and the ecosystems, and on the conservation work that you all are doing."

“California Climate and Health, Part II: It’s in the Water”

That is the title of *Health Line's* part II report of November 17. <http://www.healthline.com/health-news/california-climate-and-health-part-2-its-in-the-water-111715>

While there are some man-caused global warming nostrums included in the report, there are real consequences from the drought and the refusal to solve it on human health presented. Some excerpts from the report follow:

Even before the beginning of the state's current drought, California's Central Valley has had heavily contaminated groundwater. Today, with less water than ever to dilute toxins like arsenic and nitrates, communities that depend on groundwater are being exposed to toxic levels of water pollution, if they have any water at all.

For at least a decade, officials have known that much of the region's drinking water is too toxic to drink. It contains levels of nitrates and arsenic that violate both state and federal laws.

The chemicals can occur naturally, but the elevated amount of nitrates in particular is the calling card of agricultural runoff.

How bad are these chemicals? Well, arsenic is a poisoner's traditional murder weapon. Nitrates can cause chronic oxygen deprivation. In infants, they can lead to "[blue baby syndrome](#)." Both increase cancer risk.

More than [2 million](#) Californians are served by local water systems that have nitrate levels higher than state or federal laws deem safe, according to a 2008 count that is, state officials said, the most recent available.

Many people scattered across the San Joaquin Valley don't have access to any municipal water system because they live in unincorporated areas.

These people often rely on wells they drill themselves, which pull up the same contaminated water. These wells leave as many as 250,000 people at high risk of nitrate contamination, according to a 2012 government-commissioned [study](#).

The changing water economy threatens to bring additional illnesses in coming years, according to Kelly Middleton.

Middleton counts mosquitoes and tests them for disease as director of community affairs at the Greater Los Angeles County Vector Control District.

She finds herself with a front-row seat as California becomes a much less temperate place. This year, Middleton has had her hands full with West Nile Virus, a disease never seen in California before 2003.

“Typically we see higher levels during drought years and we’re seeing that in some parts of California for sure,” she said.

The state has confirmed [570](#) cases of the virus this year, including 34 deaths. In general, only a fraction of cases are diagnosed and reported.

That’s our very big concern. I think it’s inevitable that we’ll start to see some [chikungunya] cases here.

Kelly Middleton, Greater Los Angeles County Vector Control District

Why does a mosquito-borne illness spike during a drought? The mosquitoes and birds that carry the virus can’t find water in nature, so they seek it out closer to human communities. With closer proximity come more infections.

Chikungunya, an illness characterized by fever and joint pain, which few had ever heard of five years ago, is [marching](#) up through Mexico ever closer to the U.S. border.

Paris, November 30-- The Real Terrorists Shall Gather

As I have reported over the last couple of weeks, on November 30 begins the COP21 conference of world leaders to discuss climate change and to attempt to impose on the world strict limitations on carbon emissions. While the privileged, led by Prince Charles, discuss global warming, hundreds of thousands of refugees from the wars started by these same people are now freezing in tents in nations throughout Europe.

Ben Deniston put it this way in the November 20 *LaRouche PAC* weekly webcast.

<https://larouchepac.com/20151120/friday-webcast-november-20-2015>

If you reflect on this process, it really almost sounds like you're describing the opening scenario of a rather famous short story by Edgar Allan Poe; it's almost reminiscent of something like “The Mask of the Red Death.” We have some major gathering of representatives of upper class layers of society, gathering in some isolated, climate-controlled conference halls – very comfortable; hoping they can celebrate their own delusional picture of the world. Hoping they can celebrate their determination of the fate of the masses of people, under the fantasy that they themselves are going to free from the effects of their actions. Well at the same time that this absurd scene is going on, you have millions of desperate people gathering around them throughout Europe; fleeing into Europe. Running from the policies which most of the people at this conference refuse to address; Obama's policies. Masses of people suffering from the reality that those people at this conference refuse to accept; which is the fact that global warming is nothing but a Malthusian hoax. So, it's got an eerie similarity to some stories of the past, but unlike Poe's dramatic account, what we have now is that you still have the time to act.

Directly addressing this ironic contrast is an article from November 22, on the *LaRouche PAC* website, “Terrorism and a Cold Winter Refugee Crisis,” by Paul Driessen and Joe D’Aleo. Here are just a few paragraphs from the article:

larouchepac.com/20151122/terrorism-and-cold-winter-refugee-crisis

Joe D’Aleo is a Certified Consulting Meteorologist and American Meteorological Society Fellow and co-founder of The Weather Channel. Paul Driessen is senior policy analyst for the Committee For A

Constructive Tomorrow. Climate experts Allan MacRae and Madhav Khandekar contributed to this article.

A brutal cold spell could kill refugees. Paris COP21 delegates need to discuss this climate issue.

Even after the latest Paris massacres—and previous radical Islamist atrocities in the USA, France, Britain, Canada, Spain, India, Iraq, Syria, Nigeria and elsewhere—politicians absurdly say hypothetical man made global warming is the greatest threat facing humanity. In reality, fossil fuel contributions to climate change pose few dangers to people or planet, and winters kill 20 times more people than hot weather.

After being assured snowy winters would soon be something only read about in history books, Europe was shaken by five brutally cold winters this past decade. Thousands died, because they were homeless, lived in drafty homes with poor heating systems, or could not afford adequate fuel....

In fact, cold weather kills 20 times more people than hot weather, according to a Lancet medical journal study that analyzed 74 million deaths in 384 locations across 13 countries. It should be required reading for the 40,000-plus bureaucrats, politicians, activists and promoters who will soon descend on Paris, to enjoy five-star hotels and restaurants while blathering endlessly about dire threats of global warming.

The fact that developing sector nations, like China and India are leading more than 100 other countries in a fight for real economic development, not payoffs, has not been covered in the press, should surprise no one. The *Daily Caller* reported the following (excerpts) on November 20.
<http://dailycaller.com/2013/11/20/epic-fail-un-climate-talks-fall-apart-as-132-countries>

The G77 and China bloc led 132 poor countries in a walk out during talks about “loss and damage” compensation for the consequences of global warming that countries cannot adapt to, like Typhoon Haiyan. The countries that left claim to have the support of other coalitions of poor nations, including the Least Developed Countries, the Alliance of Small Island States and the Africa Group.

“The US, EU, Australia and Norway remain blind to the climate reality that’s hitting us all, and poor people and countries much harder,” said Harjeet Singh, spokesperson for ActionAid International. “They continue to derail negotiations in Warsaw that can create a new system to deal with new types of loss and damage such as sea-level rise, loss of territory, biodiversity and other non-economic losses more systematically.”

Last and least is Prince Charles, who this week in an interview as reported by *The Telegraph* on November 23, said the following. <http://www.msn.com/en-gb/news/uknews/prince-charles-climate-change-failure-is-a-factor-behind-syrian-crisis/ar-BBnjZDs>

The Prince, 67, said: “We’re seeing a classic case of not dealing with the problem, because, I mean, it sounds awful to say, but some of us were saying 20 something years ago that if we didn’t tackle these issues you would see ever greater conflict over scarce resources and ever greater difficulties over drought, and the accumulating effect of climate change, which means that people have to move.

“And, in fact, there’s very good evidence indeed that one of the major reasons for this horror in Syria, funnily enough was a drought that lasted for about five or six years, which meant that huge numbers of people in the end had to leave the land.”