

Be Grateful for Global Society



By Dr. Alan K. Betts

Our cool season garden has grown well in June and July with so much rain. By the summer solstice, the last of the head lettuce that had wintered over was gone,

but many more rows planted this spring headed up as the weather warmed. By late June we were eating broccoli every night and then peas; delicious with chard and shiitake mushrooms from the Rutland Farmers Market. It has been very satisfying to localize our food supply in the past ten years and to share some of what we grow with others.

This past week, I have been at the European Weather Centre in England, discussing the improvements they have made with their global forecast model and strategizing on the next developments. I have been working with them for thirty years, and it is always a delight to come to an international institution with clear goals that is run by scientists with little political interference. Not surprisingly, their forecasts have been the best in the world for decades. They are systematically taking on the responsibility of analyzing all the global environmental data, identifying weather extremes as they occur daily, forecasting floods on a global scale and calculating the sources, sinks and transports of CO2 around the globe.

Here in the U.S., NOAA struggles with political interference, which has often squeezed budgets and personnel. A few weeks ago, I read about a threat to cut funding for hurricane forecasting. Perhaps the supreme leader is dreaming of building a Great Wall to keep hurricanes out? Our current administration is of course annoyed that NOAA's climate simulations don't support their "alternative facts." The new EPA administrator, Scott Pruitt, living in a dream world, says that he "does not agree that carbon dioxide is the primary driver of global warming." I doubt he has looked at the science that shows that if you remove all that pesky carbon dioxide from climate models,

the Earth quickly freezes over! Fortunately, hurricane forecasts from the European Centre model are steadily improving, as they couple atmosphere and oceans more tightly on ever finer scales.

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Of course, this administration came in with the confused notion of demolishing as much of the federal government as possible, and they are succeeding by making it simply dysfunctional. This is a pathetic reminder of how doctrinal interference with science weakened the Soviet Union fifty years ago. There is nothing here that will make America great again: it will simply speed up the coming implosion, unless we the people wake up and act soon.

Fortunately, this is happening across America as cities and states are taking responsibility for climate change and the transformation of our energy system. Fourteen states, including Vermont, have joined

the U.S. Climate Alliance to uphold the commitments of the 2015 Paris agreement. In New England, we have a good chance to address together the issues of sustainability and social justice, and implement useful long-term strategies. But it will require a lot of effort.

The people will have to lead, because the national Republican and Democratic parties are too mired in past doctrine and indebted to wealthy interests. Pay attention to the radical change that just happened in France. There a democratic revolution replaced the old left and right political parties in a single year with a new visionary political party and president. If climate scientists are fired in the United States, France has offered them jobs!

We live in a global world where we can be grateful that others take their responsibilities seriously. The new global analysis from the European Centre, which goes back forty years, will be freely available to all scientists to help us understand our changing climate. We need to understand how and why heavy rain, flash flooding and more severe storms are becoming more frequent as the climate changes. On July 1st, Vermont had major flooding once again, while Maine experienced five tornadoes. The good Vermont news was that the recently finished flood diversion

culvert under U.S. Route 7 built to protect Brandon, VT after Irene saved the town from another disastrous flood. Across the U.S., however, extreme weather and climate disasters caused \$53 billion in economic damage in 2016.

But despite all our rain this summer, my year's supply of garlic is harvested and dry. When I get home, there are potatoes to be dug, and no doubt prolific squash and tomatoes..

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*Climate Forecast:
"Expect temperatures above average into fall."*