

Can We Control Weather?

Mother nature is the decider, like it or not.

Dr. Dennis Avery

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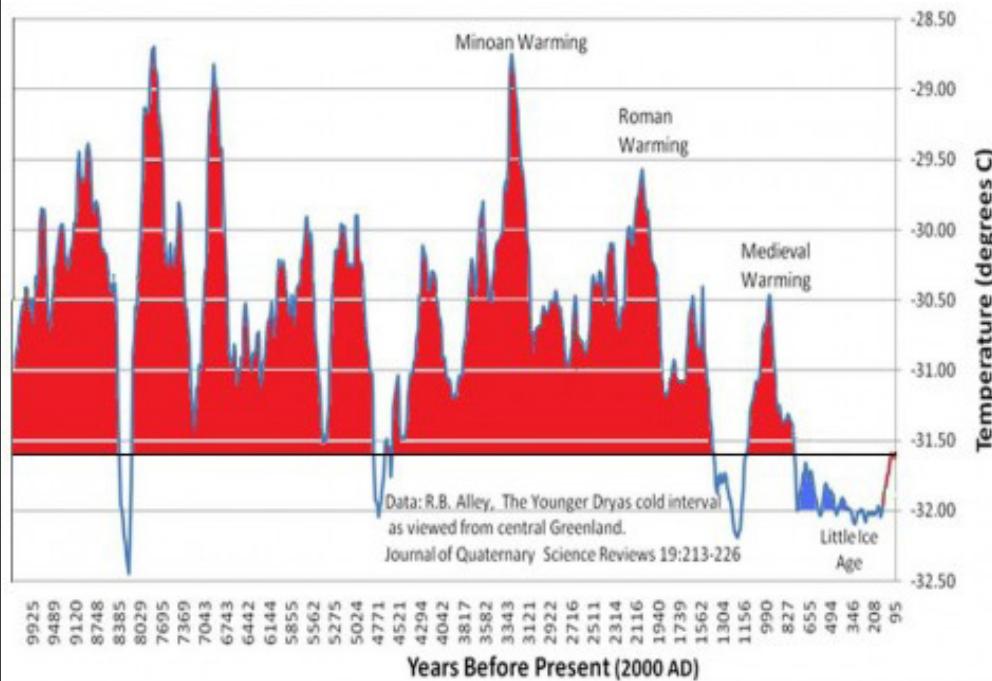
Summary: The thermometer record since 1860 has shown that the post-1940 cooling had been just a cooling phase of the 60-year Pacific Decadal Oscillation. Thus, why we have counted on today's warming trend to enhance our crop yields and global vegetation with stable growing seasons. Still, today, with global food production continuing to trend upward, plus no global warming for 16 years, we're nevertheless being told that we must stop using fossil fuels that produce food and fertilizer or suffer grim consequences. Humans haven't failed. Mother Nature has just pulled the rug out from under us over and over, in an endless climate cycling that has slashed crop yields by as much as 50 percent or more. Taking today's population into consideration, why would we give up the nitrogen fertilizer that helps us triple much-needed yields?

It's too bad we didn't discover the earth's long, natural 1,500-year cycle a decade or two before 1984. If we'd known of the cycle, we'd have known in the 1970s that the earth wasn't sliding back into the Ice Age--something Time and Newsweek had predicted based on the earth's modest temperature decline after 1940. The cycle, however, told us it was too soon for another "little ice age," based on the sediment records. The shortest warming in recent record was 350 years long, and our current warming has been only 150 years old. Thus, this recent cycle should tell us our crop-and-people friendly warming should almost certainly continue for centuries ahead.

Looking back

The thermometer record (since 1860) has shown that the post-1940 cooling had been just a cooling phase of the 60-year Pacific Decadal Oscillation (PDO), the PDO superimposed on the longer 1,500-

Greenland GISP2 Ice Core - Temperature Last 10,000 Years



Richard Alley, 2004, GISP 2 Ice Core Temperature and Accumulation Data, in Data Contribution Series #2004-013, NOAA/NGCDC Paleoclimatology Program.

year cycle. Thus, why we have counted on today's warming trend to enhance our crop yields and global vegetation with stable growing seasons. Nor should we have expected any wild species to become extinct because the existing species have all been through the temperature cycling, probably hundreds of times.

We could also have confidently predicted the current decline in extreme weather events. Yes, I said decline in extreme weather events--and records back that up. Look at the list of extreme weather events for 1956 and it looks amazingly like the past 12 months. Storms get their power from the temperature differential between the equator and the poles. With global warming, the Arctic warms a lot and the equator doesn't--narrowing the differential.

Will Dangsgaard and Hans Oeschger didn't publish their discovery of the 1,500-year climate cycle until the public's attention had been focused on the "ozone

hole" and its widely publicized "man-made threat" to human existence. The media and the professors believed humans were now so powerful that we could control the earth's weather. They said we had to stop humanity's foolish pursuit of new technology we didn't need, and never mind our past successes with sailing ships, coal, steam engines, and penicillin.

Past human societies have averaged only about 500 years of brilliant success and then collapsed dramatically. Books warned that those "modern" societies were obviously on a course toward another collapse. The Club of Rome had predicted we'd run out of resources. Paul Ehrlich told us we'd soon starve by the millions because too much food was supporting too many people having too many babies. Except it didn't happen. Consider Norman Borlaug's new farm technology package that tripled the world's crop yields after 1960 as just one example.

This did not abate even more people worrying desperately that they were destined for even bigger famines a few years down the road, which haven't happened. The result: now population growth is predicted to stop and trend downward after 2050 because city folks are suddenly choosing not to have so many babies.

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Why do we refuse to pay attention to a climate history that tells us that it is always changing? The ice record since the last Ice Age shows at least seven big Dansgaard-Oeschger global warmings and several smaller ones--with a corresponding number of "little ice ages." The planet is always either warming or cooling, never standing still. The ice tells us we couldn't keep temperatures "stable" no matter how few people are born nor how many virgins we sacrifice on the altar of biofuels.

Ice ages

History tells us that the 550-year "Little Ice Age" finally ended in 1850. It gave us terribly cold and unstable weather that created widespread famines--due to short, cloudy growing seasons, untimely frosts, rain-soaked harvests, and mega-droughts across the globe--simultaneously. The mega drought in Ghana lasted 350 years from AD 1300 to 1750.

In an earlier "little ice age" at 3900 BC, mega-drought struck humanity's first city in what's now Iraq. That cold phase brought 300 years of drought. The valley and its farms were abandoned. Those who didn't die of thirst would mostly have starved. After 500 years, the climate shifted abruptly back to warm, stable growing seasons and new residents wandered in. They somehow managed to recreate their irrigated farming and built a new city. Iraq has had seven such "little Ice Ages" since they built their first city and seven collapses. Each time after centuries of famine and abandonment, new residents wandered in and built anew. Is that failure or persistence?

Egypt suffered similarly. Its famed "sustainable farming" suffered six centuries-long periods of famine and collapsed dynasties. Often, neighboring cultures invaded during these times.

China suffered six such collapses at the same times as Iraq and Egypt. At 2200 BC, just to pick one of the historic "little

ice ages," the archaeology and the new paleo-climate studies tell us that famine and abandonment hit southern Greece, Palestine, Egypt, Iraq, the Harappan culture in northwest India and brought down a Chinese dynasty all at the same moment. There were heavy floods in the Netherlands and the bristlecone pines in the California Sierras endured intense cold. It was one of the recurring "little ice ages" and they were global.

Global warming

My New York Times best seller, *Unstoppable Global Warming Every 1,500 Years*, was published in 2007. At that time, I predicted that the global warming predictions would implode--but also that it would take many years. It's still happening, though Europe is coming out of its trance.

During the Medieval times of global warming--following the famines, wars, and bubonic plagues of the colder Dark Ages--the world's human numbers tripled. It saw the recovery of crops so abundant that hundreds of thousands of artisans, for example, built Gothic cathedrals in Europe and the 10,000 temples at Angkor Wat in Cambodia. When the Little Ice Age followed, human numbers shrank back to the Dark Age levels due to renewed famine, drought, and the bubonic plague.

The good news

Humans haven't failed. Mother Nature has just pulled the rug out from under us, over and over, in an endless climate cycling that has slashed crop yields by 50 percent or even more.

The good news is that we've finally found the solution to the "famine trap." That answer revealed itself during the AD 1600s. Farmers began to rotate crops and livestock on the same land to replenish vital soil nitrogen. Windmills began to pump excess water from the lowlands. The gang plow, pulled by six oxen, finally allowed farmers to plant those rich, moist soils along the rivers, which turned out to have the highest crop yields of all. Europe imported the potato from America, which proved to have the highest food yields of any crop--ever. From China, Europe got cold-tolerant turnips. Planted as a second crop after grain harvest, they fed their livestock through the winter so there was more meat and milk for more people.

If we can eat, why shouldn't we be able to succeed in all other ways? Conversely, if we can't eat, how could we possibly succeed in other ways? Taking today's population into consideration, which is multiple times that of the early 1900s, how

could we feed today's population by going back to organic farming? Why would we give up the nitrogen fertilizer that helps us triple much-needed yields? Why would we reject salt-tolerant tomatoes that would expand our irrigated farming potential?

What does the 1,500-year cycle predict for the climate now? History says the cycle shifts global temperatures about 2 to 4 degrees C on average--and it's front-loaded. About half of the warming comes in the early decades after the ice age ends. Thus, global average temperature has risen about 0.6 degree C since 1850, but there has been little net warming since 1900. Total warming is likely to be less than 2 degrees C because that's what it has been back though the past million years. Even more telling, the shortest "little ice age" we've documented was in the Dark Ages at 350 years. The warming has lasted 350 to 800 years. The medium-term outlook thus is good, with several more warm centuries likely ahead. We can't be certain, of course, because we can't control the climate by giving up gasoline and coal-fired power plants. We must accept Mother Nature's decision because we don't have any choice.

Summing up

Warming may resume in another 15 to 20 years. In fact, I think it will because the 30-year PDO cooling will end. However, that still won't mean we should trust computer models that have never been verified by any real-world data. They've only been tested against each other. Model builders keep trying to get them to agree more closely with "scientific consensus." But is that successful predicting? There's no reason to believe in a radically hotter Dansgaard-Oeschger warming because that has never happened over the cycle's past million years. I expect another 1 to 1.5 degrees of warming C down the road before Mother Nature throws us into another inevitable "little ice age."

We'd better be prepared for it, with more food production potential in reserve, or there'll be massive global famine, along with the repeated plow-down of a huge swath of wildlife habitat.

So...how much will you bet against the cycle? Your future? As I said at the beginning, Mother Nature is the decider--like it or not.

Dr. Avery is an environmental economist and a senior fellow for the Hudson Institute in Washington, DC.