Anthropoclastic Climate Change

Contributed by Dmitry Orlov
01 November 2009

When I published the previous article about the ever-more-dire forecasts of ocean level rise, little did I know that I was blundering into the midst of a "climate change debate." But then many readers reacted to this article by making comments to the effect that "climate change is a hoax" or that I am "just like Al Gore." Since that article reviews and attempts to interpret of some of the most authoritative, conservative and consensus-based scientific reports available, it should not have given rise to any controversy at all.

A potentially controversial part of the article relates to its highlighting the fact that consensus estimates exclude certain categories of risk, which may be quite severe but are at present poorly understood. Given this high level of uncertainty, the scientists are being cautious in incorporating them in their estimates. This is understandable: a physician would no doubt think twice before telling a patient that she has anywhere between 3 months and 30 years left. On the other hand, if your doctor tells you that you are about to die... sometime, then you would be within your rights to seek a second opinion. But few people raised objections based on that.

I feel that discussion of climate change need not become mired in controversy. The controversy results from the fact that an attempt is being made to package and sell climate change as part of a political process: "Catastrophic climate change will result unless we curtail harmful industrial activity." This is the idea behind various international initiatives to limit greenhouse gas emissions, such as Kyoto and now Copenhagen. Scientific data goes in one end, enlightened policy comes out the other, and Nobel prises are handed out. The public at large is polarised into those who clap and cheer and say "The sooner the better!" and those who shake their heads or hurl invectives. There are also a few thoughtful individuals who variously think that international climate change legislation is the work of the Illuminati who are creating a world government, that the topic of climate change can best be tackled by studying sunspot activity while leaving the rest up to the miraculous workings of the free market, and that carbon dioxide does not cause a greenhouse effect but is simply the stuff makes champagne so delightfully bubbly (the latter proposition does require more research; please send along samples for me to test).

Consider, however, the following allegory. Imagine that I am walking along a mountain ridge, while in a swank chalet in the valley below some scientists, politicians and progressive industrialists are meeting, discussing climate change mitigation while drinking Glüwein and sampling amusing local cheeses and sausages. And then I, inadvertently (for I would never do such a thing on purpose!) dislodge a boulder. The boulder goes hurtling off the ridge and down the boulder-strewn slope, dislodging other boulders, and soon there is an avalanche of boulders, all following unpredictable paths as boulders are wont to do, but some clearly aiming for the chalet full of scientists and politicians. Alarmed by the approaching tumult, the scientists whip out their binoculars and their laptop computers, do a bit of plotting, and declare with great confidence: "This avalanche is being caused by Dmitry Orlov dislodging boulders from the ridge above and it is very likely that this chalet will be destroyed as a result!" And then the politicians decide to act on this authoritative, rigorously researched, consensus-based report, and propose an immediate forced evacuation of the chalet. They also sign an international treaty making it illegal for Dmitry Orlov to dislodge any more boulders from the ridge above said chalet. I, of course, do desist from dislodging any more boulders (wasn't going to anyway). The avalanche somehow magically misses the chalet, leaving it completely intact, and tumbling harmlessly into a ravine. The scientists and the politicians all die in any case, because, you see, the Glüwein they were drinking was contaminated with something lethal. Later on, the swank chalet is destroyed by an asteroid.

Confused? Sometimes a good way to clarify a point of confusion is to introduce a new term. Allow me to add a word to your vocabulary: "anthropoclastic," consisting of "anthropo-" (from Gr. anthropos, man) and "-clastic (from Gr. klastos, broken into pieces). It's a very proper-sounding yet virtually unused term. "Anthropoclastic climate change" is reminiscent of "anthropogenic climate change," which is a theory that climate change is being triggered by human activity, such as the burning of fossil fuels (coal, oil, natural gas), agriculture (through deforestation, bovine flatus and so on), cement manufacturing, leaking or flaring gas into the atmosphere, chemical manufacturing... the list is very long. Anthropogenic climate change is the theory that these human activities are highly disruptive of the climate. Anthropoclastic climate change is the theory that a highly disrupted climate, which is what we already have, is highly disruptive of human activities, and, in consequence, highly destructive of human life. The anthropomorphic theory is a case of man pointing the accusatory finger at man, while the anthropoclastic theory is a case of man pointing the accusatory finger at nature. I

will leave it up to you to decide which of the two gestures is the the most futile, but, futile gestures aside, I believe that there are steps to be taken to let us survive climate change, and that these steps should be given due consideration before too long.

I hope that focusing specifically on the anthropoclastic dimensions of climate change will eliminate most of the fruitless debate or political nonsense that clouds so many minds, because climate change per se is something we can all observe first-hand. Some of the particularly compelling bits of evidence require a trip to an exotic locale, such as the arctic tundra, the glaciers in Greenland, the Antarctic ice shelves or the ocean above the Arctic Circle, and since not all of us can make such a trip, or have the prior experience and knowledge to interpret what we would see there, we have to trust the observations of others. Take, for instance, what David Barber, Canada's Research Chair in Arctic System Science at the University of Manitoba, said to the Canadian Parliament on the disappearance of the arctic ice pack that had persisted for tens of thousands of years: "We are almost out of multi-year ice in the northern hemisphere... I've never seen anything like this in my 30 years of working in the high Arctic... From a practical perspective, we almost have a seasonally ice-free Arctic now."

Those who are loathe to trust the testimony of experts and prefer to only trust their own eyes can see for themselves. To be able to make your own observations, it would help for you to be one of the old people who have lived in one place their entire life, deriving some part of their sustenance and inspiration from the natural world that surrounds them, and are thus forced to pay attention to it. Short of that, some of your evidence would have to be second-hand: you could find a few people like that, and ask them if they've seen any big changes as far as the weather and such, trees and animals and so forth. If it looks to them as if you are really willing to listen, you will walk away with an earful, believe me! All around the world, but especially far north, we have, at the very least, entered a long period freak weather.

In case it helps, I will share with you some of my own observations. I grew up on the Gulf of Finland in Russia, which is occupied Finnish territory. Before the Revolution the Finns were part of the Russian Empire, and sometime after they became independent they allied with Nazi Germany and started arming themselves against Russia. Then Nazi Germany invaded Poland, and shortly thereafter the Soviet Union invaded Finland and reconquered Karelia (Kariela), Finland's easternmost province. I grew up in Kuokkala; the neighbouring town was Kilomäki, but once the Russians switched the signs at the railroad stations, few people besides my grandparents seemed to remember what they were.

In spite of the expulsion of the Finns, growing up in Karelia exposed me to Finnish cross-country ski culture at an early age. The per capita count of skis per household was quite ridiculously high. Attics were packed full of old wooden skis, and an entire branch of science was devoted to ways of waxing them. After I conquered all of the local hills, and the maze of cross-country trails that fanned out throughout the neighbouring forests (sometimes I was towed by a large and disobedient family dog) I ventured out onto the Gulf, all the way out to the shipping lane kept clear by icebreakers, and back to terra firma.

One winter a huge storm blew up and toppled many layers of thick ice floes onto the beach. It didn't completely melt until mid-summer, and we had to climb over the ice barefoot to go wading across clean yellow sand to swim in fresh, cold, crystal-clear pale blue water. A few years after that my family moved away, and twenty years later, when I came back to visit my childhood haunts, the formerly pristine waterline wore a thick coat of rotting algae, the water was tepid and murky, and wading in it wasn't advised due to the risk of catching hepatitis, Giardia and an assortment of intestinal parasites.

The Gulf of Finland still freezes, and in 2003 it froze solid, to a depth of 80 centimetres (2.6 feet) but for many other bodies of water the ice has become unreliable. One of my Finnish friends grew up in Vermont (a small mountainous province that borders Canada) where he used to drive a laden van across the ice of Lake Champlain, navigating by shore lights. He tells me that by mid-winter the ice used to be thick, smooth, solid, and blown free of snow. If you try making that passage today, you are more than likely to drown. The following chart tells the story in numbers: it shows the number of years per decade that the lake froze over by a given month [source].

If strangely warm winters have become the norm, what about the summers? Last summer, while living on a sailboat in the middle Salem Harbour, Massachusetts, I decided to scrub my (boat's) bottom. And so I donned a snorkel, fins and the obligatory Speedos, grabbed a brush and jumped overboard. I emerged almost an hour later, not the least bit chilled, but encrusted with tiny shrimp which took quite some time to pick off. New England coastal waters are not supposed to be this tepid. Nor was I the only one who noticed the change. Salem News had http://salemnews.com/punews/local_story_231220831.html" target="_blank">this to say about it: "In July, ocean surface temperatures reached the highest ever recorded during that month, according to the National Oceanic Atmospheric Administration. NOAA began keeping records in 1880... The average global water temperature in July is around 63 degrees [F, 17.2C], according to NOAA's National Climatic Data Centre in Asheville, [North Carolina]. On Tuesday, the ocean temperature at the buoy closest to Beverly and Salem was nearly 73 degrees [F, 22.2C] according to the NOAA Web site."

Thus, you don't have to think that humans caused climate change, or that humans can stop climate change before it is too late, but my feeling is that either you will agree that strange and dramatic climatic changes are afoot, or you just haven't done your homework. On this issue, I just don't see that there is any room for legitimate debate. The evidence is in.

It is also not controversial that the unusual climactic conditions are affecting the ability of farmers to grow food. I don't have to look too far to find examples: in New England, where I live, farmers are receiving federal disaster aid, because they lost over half of their crop. According to the Massachusetts congressional delegation, which petitioned for federal relief, "rain was 148 percent above normal in June, which was also the sixth coolest June on record in both Boston and Worcester, and likely the second cloudiest June on record since 1885. In July, rainfall was 200 percent above normal, with corresponding lower temperatures." "Corn growers in Norfolk County saw 83 percent of the value of their crop destroyed. In Essex County, strawberry growers could not bring more than 35 percent of their crop to market" reported the Boston Globe.

New England is by no means a unique case; everywhere you look, agriculture is under assault from the shifting climate. The barrage of strange weather makes it increasingly difficult for farmers to decide what to plant and when and where to plant it.According to the paleoclimatologist J.P. Steffensen, the stable climate that has prevailed during the previous 10,000 years is what made agriculture possible.

You can ask, Why didn't human beings make civilisation fifty thousand years ago? You know that they had just as big brains as we have today. When you put it in a climatic framework, you can say, "Well, it was the ice age." And also this ice age was so climatically unstable that each time you had the beginning of a culture they had to move. Then comes the present interglacial - ten thousand years of very stable climate. The perfect conditions for agriculture. If you look at it, it's amazing. Civilisations in Persia, in China, and in India start at the same time, maybe six thousand years ago. They all developed writing and they all developed religion and they all built cities, all at the same time, because the climate was stable. I think that if the climate would have been stable fifty thousand years ago it would have started then. But they had no chance.

Steffensen is a neo-catastrophist - a climatologist who believes in abrupt, catastrophic climate shifts. So is just about every other climatologist. They base their belief not on some exotic theory or complex computer model; in fact, they are often at a loss to explain the underlying mechanisms. Instead, they simply cannot disregard the overwhelming empirical evidence they have collected. Still, even after listening to a neo-catastrophist tell it like it is, I find no reason to think that agriculture will fail everywhere at once, and result in instant mass starvation. It seems more likely that, as agriculture becomes less and less reliable, malnutrition will become chronic in many places, resulting in high death rates, low birth rates and high childhood mortality, and an overall dwindling of the population over several generations.

Anthropoclastic climate change does not have to be a catastrophe, but it can be made catastrophic by clinging on to a failing agricultural model of food production. If we insist that farmers produce monoculture cash crops on the industrial model, we shall surely all starve. But if instead people make a concerted effort to reclaim the entire landscape, both rural and urban, for informal food production, growing edible plant species on former golf courses, parking lots, cemeteries, town greens, suburban back yards, urban rooftops and balconies, and front lawns of stately homes, then it seems quite

likely that, no matter which way the climate lurches in a given year, something somewhere will be bearing fruit, enough to make it to the next season.

Wild foods can make a difference as well. Last summer, the forests of New England were full of berries that went unpicked. We did not pick any berries this year, but we did get a chance to pick some wild mushrooms, which had a fine year. As I write this, garlands of wild mushrooms are drying in our hallway. Man doth not live by mushrooms alone, but it's a start. And start we should, the sooner the better, but certainly before the shelves in the shops are bare, and so are the ones in your pantry. Mitigating anthropoclastic climate change will not be up to the politicians or the scientists or the industrialists, it will be up to me and to you.

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This article originally appeared on
ClubOrlov on Nov. 1, 2009.

On that website Jan Lundberg posted this comment:

I wish I did not have to differ somewhat with "I find no reason to think that agriculture will fail everywhere at once, and result in instant mass starvation."
Besides climate change and economic collapse there will be a terrible, final shortage of petroleum for agriculture and distributing and preparing food. Petrostarvation could be generated for possibly a billion people within a year or two if enough goes wrong with supplies of petroleum from geopolitial factors in a post-peak oil world exacerbated by the unreliable, volatile oil market.
It seems also that electricity is a special consideration we cannot take for granted. See "The End of Electricity" by Peter Goodchild on culturechange.org.
That said, I enjoyed Dmitry's article immensely and can even hope it will have an impact that's positive.

Jan

Culture Change

Dmitry Orlov has several wonderful articles on Culture Change. See CultureChange.org Search for a selection. After reading them you may agree he is not a demigod but a dmigod!