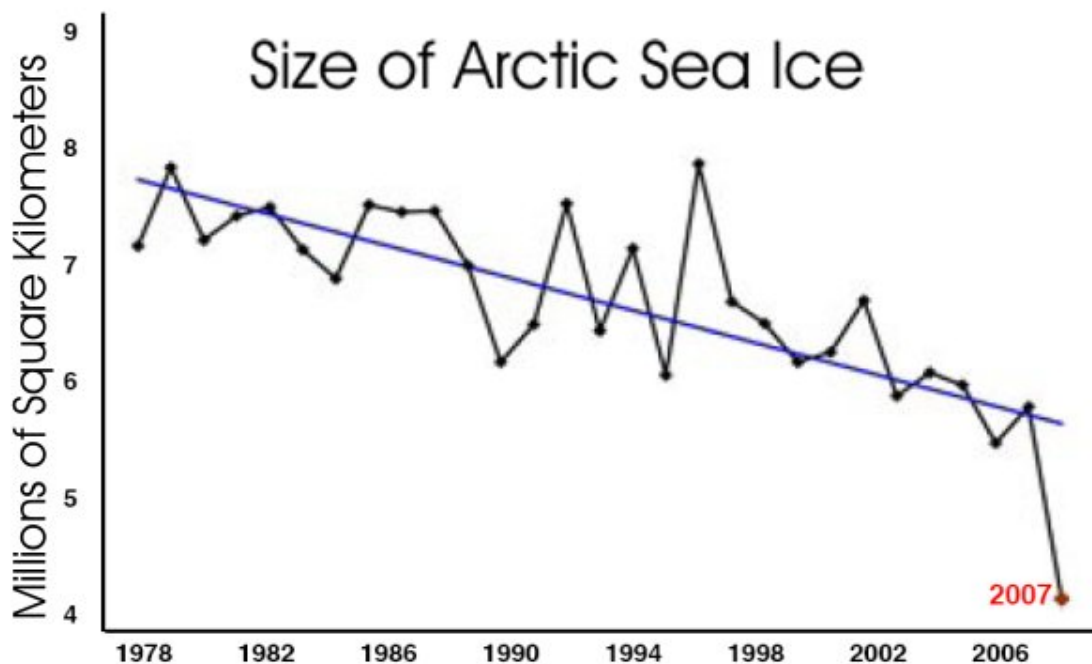


## Article 1 Global Warming Sooner Than We Thought

Seven years ago scientists thought global warming might cause the North Pole arctic ice sheet to completely melt by the end of this century. But this September the Arctic summer sea ice shrank to more than 20% below the previous record low. "The reason so much (of the Arctic ice) went suddenly is that it is hitting a tipping point that we have been warning about for the past few years," James Hansen, director of NASA's Goddard Institute for Space Studies, said.



Data from the National Snow and Ice Data Center

In the last 6 months estimates of when the North Pole ice cap will completely melt have been revised to 2023. At least one climate scientist, Wieslaw Maslowski of the Naval Postgraduate School, projects a blue, ice free Arctic Ocean in summers by 2013, an event that has never occurred before, as long as human beings have inhabited our planet.

In the last year estimates of when climate change will cause widespread famine have been revised to 2020. The September 2007 report from the Intergovernmental Panel on Climate Change (IPCC) includes estimates that food production in Africa is now expected to be cut in half by 2020 and that some crops, like wheat, will eventually

disappear there completely. Africa has trouble producing enough food to feed its 680 million people today. It is hard to imagine how it can feed an estimated 990 million Africans in 2020 when that continent's food production is halved.

In the last year estimates of when sea levels will rise 3 feet have moved from 2200 to 2100 (some say much earlier) making 70 million people in the developing world refugees. Researchers at the National Center for Atmospheric Research (NCAR) in Colorado concluded that if greenhouse gas emissions are not curbed and we continue with "business as usual," humanity will be committing the planet to a sea level rise as drastic as 20 feet. Bette Otto-Bliesner from NCAR said "We could get 3 feet of sea level rise per century." On Kauai that would submerge coastal areas, eliminate beaches, and make much of our harbor infrastructure unusable.

A year ago we thought 2017 was when greenhouse gas concentration in the atmosphere would reach the danger level of 450 ppm. But last month Australian scientist Tim Flannery disclosed the upcoming IPCC report will show greenhouse gas levels have already reached 455 ppm. He said, "It establishes that the amount of greenhouse gas in the atmosphere is already above the threshold that could potentially cause dangerous climate change. We thought we'd be at that threshold within about a decade, that we had that much time. I mean, that's beyond the limits of projection, beyond the worst-case scenario as we thought of it in 2001"

We know exactly what is damaging our planet. Everyone on the planet using coal and oil and gasoline is doing it. We've loaded up our atmosphere with so much carbon dioxide that the entire planet acts like your car parked in front of Wal-Mart on a sunny day with the windows rolled up. Just like your car gets hotter inside than outside, the build up of CO<sub>2</sub> in the air makes the entire Earth hotter and hotter.

Climate scientists see the manmade effects of global warming on 10 different aspects of Earth's environment: surface temperatures, humidity, water vapor over the oceans, barometric pressure, total precipitation, wildfires, change in species of plants and

animals, water run-off, temperatures in the upper atmosphere, and heat content in the world's oceans. "There are now no loose ends. The message is pretty compelling," said Ben Santer, a scientist with the US Department of Energy's Lawrence Livermore National Lab.

The greenhouse gasses from today and last year and the last 20 years are going to be floating around the atmosphere for a long time causing trouble. "It is too late to avoid all climate change impact," warned Martin Parry the co-chair of the IPCC's Working Group on Food Security. "Our choice now is between a damaged world and a severely damaged world."

We can't hide from this problem. It is a global problem which will affect us even here in the middle of the ocean. The sea waters will creep up destroying our beaches much more quickly than nature can rebuild them. Our harbors and costal infrastructure will become inoperable. Tropical diseases like malaria could become endemic on Kauai.

This series of articles will explore the man made causes of global warming, the almost inconceivable problems we will face if it isn't controlled, and focus on what we all need to do right now so our children and grandchildren will have a chance to live a life as rich as our own. We will focus on what our leaders in local government right here on Kauai must do, what our utility must do, and what we as individuals must do.

We don't know if they will act on Maui and Oahu, if they will act in California and Kansas. We certainly don't know if they will act in Canada and China and India and Italy. We must hope so, because our survival here on Kauai depends on their actions. And their survival depends on our actions. But if we chose not to act others may use our inaction as an excuse not to act, and I do not want anyone to be able to point at us as an excuse for their inaction.

In upcoming articles we will explore

- The science explaining the causes of climate change.

- Where we are headed right now; is it already too late for our grandchildren?
- What are the global solutions we need?
- What county infrastructure needs to change? What does our county government need to do right now?
- What does our electric utility need to do right now?
- What does each of us need to do in our own lives?
- What leadership is needed at the state and federal level to address this problem?

This series of articles will show you what you need to learn to protect your children and grandchildren.

### **Sidebar: Act Today**

You can start doing something significant to help right now.

Replace any light bulbs you use more than one hour a day with compact fluorescent bulbs. You will save a little on your electric bill; you will help save the planet. And every time you replace any bulbs that burn out, replace them with CFL bulbs.

Install solar hot water heating right now. By replacing your electric water heater with solar you will save about a third on your electric bill and you will eliminate a huge part of your personal contribution to global warming. The co-op will give you a rebate or a zero-interest loan to install the system. Call them at 246-8284 today to get started.

Car pool to work. Driving back and forth to work accounts for a large part of your role in global warming. You must know someone in your neighborhood who works near you. Share the ride; spend less on gas; and have someone to talk to when you're stuck in traffic.

## Pictures



(NASA Image) Composite satellite view taken from polar orbit showing the North Pole Arctic ice.



(Image created from NASA data by Wolfgang Wieser) Latest estimates now predict the entire North Pole Arctic ice sheet may melt by 2013.