

CLIMATE CHANGE ACTION FOR THE MONTH of November, 2007

WHO TO WRITE AND WHAT TO ASK FOR:

Please write to the leaders of the five nations circling the Arctic:
Prime Minister Stephen Harper, President George W. Bush, President of Russia
Vladimir Putin, Prime Minister of Norway Jens Stoltenberg and
Prime Minister of Denmark Anders Fogh Rasmussen, President George W. Bush.
Please send copies to President of Inuit Tapiriit Kanatami Mary Simon.

New research shows the Arctic Sea ice to be melting faster than predicted by any of the 18 computer models used by the Intergovernmental Panel on Climate Change in preparing its 2007 assessments. Most estimates for the year when the summer ice will be gone now range from 2030 to 2013.

Is there hope that the Arctic ice will be restored to its mid-twentieth century state? The answer is "No." Dr. James Overland, of the National Oceanographic and Atmospheric Administration's Pacific Marine Environmental Laboratory in Seattle has told me that in a meeting of polar scientists in late October a consensus was reached that "it's never going back." As the air and water temperatures continue to warm, we can expect a greater rate of ice loss annually, until it's all gone. The summer when that happens, according to Robert Hunter in his book "2030: Confronting Thermageddon in our Lifetime" it will cause "a heat explosion" on our Planet.

Tell the leaders of the circumpolar nations you are deeply concerned about the shocking melt of summer ice in the Arctic this year and that you understand that the loss of the reflective ability of so much of the ice cap will raise the temperature of our Planet much faster than anticipated. This will result in faster melting of the permafrost and the release of huge quantities of methane and carbon dioxide, creating a dangerous feed-back loop.

Tell them they can no longer view the melting Arctic as a business opportunity for oil, gas and mining industries. Instead, they should act as stewards to protect this delicate area from further encroachment. It is vital they, for the sake of all life on our Planet, do all they can to slow the inevitable process of the dissolution of the Polar ice cap. They should make public any data they have concerning the thickness and condition of the ice cover in their area, and should immediately negotiate a treaty to protect the Polar north, so crucial to the stabilization of our climate.

Ask that your letter be made part of the permanent public record of each country.

Please send copies of letters to each of the five leaders, as well as to your federal and provincial representatives.

BACKGROUND:

The word "Arctic" derives from "Arcus, the Latin word for "bear," and it is easy to imagine a great white bear lying across our polar north, her mantle spread to protect our cold seas from the heat of the sun. For the last ten thousand years of our civilization, the Polar ice cap has helped keep our planet habitable for the living species found on Earth today. But in the middle of the 20th century, this changed. Then, slowly and erratically, the ice cover began shrinking and thinning. This weakening continued until the summer of 2007, when our "Arcus" was dealt a deathblow. According to Dr. Overland, half of the polar ice has melted away between 1980 and this year, and 22% or 1.19 million square kilometres, was lost between 2005 and 2007. On September 16th of this year, the Polar ice cap was reduced to an all-time low, represented on a graph as a long, sharp descending line, almost a 180 degree trajectory. The surface ice lost is the same as the area of Texas and California combined.

Scientists are universally shocked. Only the word, "catastrophic" accurately describes the huge Arctic melt this past summer.

The Arctic ice has begun to refreeze now, but slowly, and there will be much less ice next May when the summer thaw starts than there was in 2006. Thus more of the Arctic Ocean will be exposed to the sun, and the warmer ocean water under the ice will speed its melt, causing a classic example of a positive feedback loop, or "vicious circle. This feedback loop will drive another one, the melting of the permafrost and the consequent eventual release of gigatonnes of carbon dioxide and methane, now in a frozen state. (Methane, by the way, according to Dr. James Lovelock, is 24 times more powerful a greenhouse gas than CO₂.) And, of course, this greenhouse gas release will raise global temperatures even more, causing more melting of the world's glaciers and ice sheets, which will raise the sea level. And so on, tragically.

The question is: "When will all the summer ice be gone?" To answer this with any degree of accuracy, one should know how fast it is thinning. We can see how fast it is shrinking from the outside in from satellite images, but we don't have a truly precise measurement of the thickness of the ice cap. Dr. Peter Wadhams, Professor of Ocean Physics at the Cambridge University Department of Applied Mathematics and Theoretical Physics, has told me in private correspondence that "the real long-term record of thickness (from 1958) comes from submarines." Satellites do not give a good representation of ice thickness. He says that the ice is thinning faster than it is shrinking, which is very worrisome.

This does not mean that efforts have not been made to find an answer. In 2000 the British Royal Navy released its last classified figures for analysis, and on August 23 of that year, in an article in The Guardian, Dr. Wadhams stated the "The average ice thickness in summer has decreased by 40% between the 1970s and now." <http://www.guardian.co.uk/environment/2000/aug/23/g2.weather> He was a veteran of Arctic submarine voyages in the Fram Strait area using "upward-looking sonar" to measure the thickness of the ice.

Dr. Wadhams was not alone. In 1999, Drew Rothrock, Associate Professor of Oceanography at the University of Washington Polar Science Center in Seattle, published a paper at <http://psc.apl.washington.edu/thinning/thinning.html>, where he stated that the "volume is down by some 40% (*since 1953*). The thinning is remarkable in that it has occurred in a major portion of the perennially ice-covered Arctic Ocean." This information was reported by BBC News Online on December 7, 2000: "Arctic sea ice 'thins by almost half.'" <http://news.bbc.co.uk/2/hi/science/nature/1058353.stm>

Since the year 2000, there has been apparently much more reliance on satellite data than upward looking submarine sonar to measure the Polar ice cap. So we know a great deal about the shrinkage of the ice area, but not as much about the thinning. In other words, we don't have an accurate three-dimensional view. The newer submarines in use by the US Navy do not have the more accurate sonar with which the older ones were equipped. Professor Rothrock has told me, however, that US submarines will have better sonar this coming year. This is encouraging, for without knowing the thickness of the ice, an accurate prediction of the year of its disappearance cannot be made.

What should be the response of world leaders to this crisis? Instead of showing rational alarm for the disastrous summer melt in the Arctic this year and the effect this will have on our biosphere and our species, they are reacting shamefully in a frenzied scrabble to see which country can extract the most resources from this delicate area as fast as possible. Some pundits are calling this the "new cold war." Stephen Harper is behaving in an especially contemptible way, even arming Inuit citizens to defend Canadian sovereignty against, presumably, the United States.

Not only will great damage be caused to fragile ecosystems and endangered species in the process of resource extraction, but the eventual burning of the oil and gas removed from the melting Arctic will contribute greatly to global warming. Another calamitous positive feedback loop will be set in motion. We are already seeing the results of this. Melting glaciers are causing the sea to rise; wind and ocean currents have been disrupted, causing catastrophic droughts, flooding and storms. Not only will the Polar ice cap "never go back," but our world as we knew it was been changed forever by melt this summer.

Is there hope for us? Absolutely. But that will be the subject of subsequent letters.

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