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Voice of the Times

Alaska glaciers receding since 1800

By Dr. Syun-Ichi Akasofu

Few can argue that the earth's temperature is not changing -- especially in Alaska. However, before we create fundamental policy changes, let's keep everything in context.

Our work at the International Arctic Research Center and that of many other scientists has produced significant findings. One thing we do know is that there is no definitive scientific proof that all of the present global warming is attributable to humans, or caused by the greenhouse effect. Natural changes are also important factors to consider.

First, the Ice Age was only an average of 6[deg.]C cooler than today. There is permafrost in Alaska and Siberia, which is the product of the Ice Age. The fact that it still exists and is still thawing is partly due to the fact that the Ice Age has not concluded yet. The present warming must partly be due to the recovery from the Ice Age.

Alaska glaciers have been receding since 1800, before greenhouse gases increased significantly after the Little Ice Age. Portage Glacier has been receding from about 1890 or earlier (the earliest record).

Additionally, we cannot scientifically explain the complicated way the Arctic sea ice along the Alaska Arctic coast and other areas such as Siberia are receding. We do know that the resulting open sea allows for the development of intense cyclones that cause serious coastal erosion in Alaska and elsewhere. It cannot be concluded that this is a result of the greenhouse effect.

Two other factors to consider are the North Atlantic Oscillation and solar output. We know that the warm North Atlantic water that is flowing into the Arctic Ocean is an important factor in warming the Arctic Ocean. The intensity of this flow occurs in pulses, some of which are driven by cyclical changes known as the North Atlantic Oscillation.

In addition, the sun has been putting more energy out during the last 100 years, which is estimated to be equivalent to a 0.2[deg.]C increase (not the greenhouse effect!), one third of the 0.6[deg.]C, which has been determined to be the official estimate of global warming during the last 100 years.

Added to such long-term trends, there are multi-decadal and interannual fluctuations. Three years ago, Europe suffered from an intense heat wave. One can easily see that it was not due to the greenhouse effect, since uncommonly hot summers in Europe did not make the headlines either last year or this year.

Likewise, it has been said that the number of hurricanes is increasing, however, there is no clear indication of it. These are interannual fluctuations.

In addition to actual temperature changes, there are other issues to consider. One such case is that many recent disasters have been attributed to the greenhouse effect without scientific proof; this includes the great floods in Bangladesh and India in recent years.

These floods may partly be due to massive deforestation in these countries, to which some people must be held responsible. On the other hand, by saying it is due to the greenhouse effect, I am afraid that they are hiding behind the greenhouse catastrophic scenario. The danger from such confusion and hysteria may be even greater than from global warming itself.

In this respect, the reduction of CO2 release must be based on a carefully assessed scientific ground, not the catastrophic scenario. The United States spends more than any other country on climate change research -- \$5 billion next year. We should address the impacts of climate change while allowing scientists to continue their work on the true causes of these changes. Let's base our policy decisions on sound science -- not hysteria.

Dr. Syun-Ichi Akasofu, director of the International Arctic Research Center in Fairbanks, is one of the world's leading experts on Arctic science. He was director of the Geophysical Institute at the University of Alaska Fairbanks from 1986 to 1999 and has been director of the International Arctic Research Center there since it was established in 1998.

He has published more than 550 professional journal articles, authored and co-authored 10 books and has been the invited author of many encyclopedia articles.

Dr. Akasofu has been honored for his Arctic research by -- among others -- the Royal Astronomy Society of London, the Japan Academy of Sciences, the Ministry of Posts and Telecommunications of Japan, the American Geophysical Union, the American Association for the Advancement of Science and the National Association of State Universities and Land Grant Colleges.