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Global warming is real — despite e-mail hoax

William H. Schlesinger

The recent hacking of e-mails at the Climatic Research Unit at the University of East Anglia Center — one of the world's foremost institutions for the study of climate change — offers a disconcerting view of how modern science is done. If the truth is manipulated by scientists, then who are we to believe?

Recent studies confirm a rapid loss of ice from West Antarctica, potentially altering the habitat of some penguin species. Gentoo penguins in the Antarctic Peninsula. (Photos courtesy of Lisa Dellwo)

However, looking beneath the rough surface waters of scientific politics, the science of climate change — global warming — is as solid as ever. It is reassuring to note that despite the limited progress made in Copenhagen, the delegates found little reason to reopen the debate about the reality of the science behind global warming.

Since the late 1800s, we've known carbon dioxide acts as a greenhouse gas to warm our planet. We know that without a natural level of carbon dioxide and water vapor (the other major greenhouse gas) in the atmosphere, our planet would be below the freezing point of water and higher life forms would not exist. We know carbon dioxide has been rising in Earth's atmosphere since the dawn of the Industrial Revolution and that the long-term average temperature of planet Earth has risen at least 1 degree Celsius during the past century. We don't see anything resembling these trends and conditions in the records of the past 10,000 years.

Some delegates might have preferred to blame the recent temperature rise to external causes — something other than human activities — but the case for doing so is very weak. No studies show a significant increase in solar output during the same period, and satellite measurements suggest no large trends in the reflectivity of our planet to incoming radiation. The laws of physics show even small increases in the concentration of carbon dioxide and other greenhouse gases emitted by humans and added to the low, natural background concentrations in the atmosphere will translate to a warmer atmosphere.

Climate, like daily weather, is variable from year to year, so it is sometimes difficult to see and assess the long-term trends amid the annual variability. An analogy is valuable: a few cold days in March don't suggest we should throw out our expectations of an overall warming trend each year between January and July in the northern hemisphere.

Warmest years on record

The warmest year on record was 1998; the last few years have been slightly cooler. Still, the eight years from 2000-08 are among the 10 warmest years on record. Barring a huge volcanic eruption, I would bet 2020 will be warmer than 1998, and the trend in global temperature will rise every decade in the 21st century. Bets are not science, but smart bets are informed by science.

So it is reassuring the delegates in Copenhagen were able to ignore the foolishness in East Anglia. What was said in those e-mails was stupid and wrong, but it is clear a fair and open scientific process continued unabated.

The antics of a few do not disprove the work of the overwhelming majority of the world's climate change scientists, who have shown that rapid global warming is real, because of humans. It is dangerous to our health, our food supply, our cities and our national security — in short, our future.

It is unclear what all the posturing and political deals in Copenhagen accomplished, but our nation and the world need to get on with the job of reducing the emissions of carbon dioxide and other greenhouse gases to the atmosphere.

William H. Schlesinger *is president of the Cary Institute of Ecosystem Studies in Millbrook.*

Additional Facts

If you go
What: A lecture by William H. Schlesinger on how human activities causing climate change is altering sensitive habitats in Antarctica.
When: 7 p.m. Jan. 8.
Where: Auditorium at the Cary Institute in Millbrook.
Web: www.caryinstitute.org