

July 2007

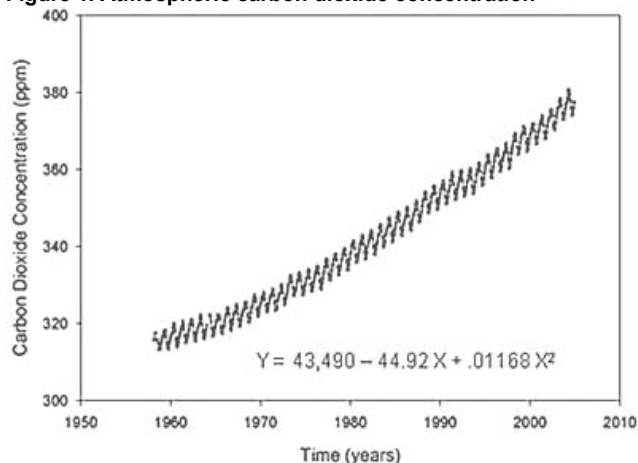
GLOBAL WARMING – SEEKING A GODLY PERSPECTIVE

By Jeff Gift, PhD

As a toxicologist working for the United States Environmental Protection Agency, I have become increasingly aware that the biggest environmental concern of the general populous has little to do with the chemicals and air pollutants that I study so intently every day. Not one of my neighbors, friends, or relatives has ever asked me how this chemical or that chemical affects their health. Instead, the question I'm most often asked, by a large margin, is "what do you think about global warming?" To be honest, I doubt they really care about what I think. What they probably mean is "what does the big, powerful, and influential USEPA think about global warming?" For the answer to that latter question I refer them to the USEPA website, www.epa.gov/climatechange. But after pushing the big red button on my desk that chimes "that was easy," I start feeling a bit guilty. I've read the EPA perspective, and there are a number of opinions in it that, as a Christian and a Creationist, I do not agree with and some that I'm not sure about. As much to sort things out in my own head as to edify this readership, I'd like to take you for a walk through the EPA website and compare some of the statements therein with what I have read in creationists' scientific literature, particularly a recent article by Dr. Larry Vardiman, Chairman of the Astro/Geophysics Department of the Institute for Creation Research (ICR).¹ Perhaps in doing so together, we can begin to understand the perspective of a bigger, more powerful and ultimately more influential entity than the USEPA, our creator God.

First of all, while disagreeing on the amount of time involved, both the USEPA and Dr. Vardiman acknowledge that significant climate change has occurred throughout earth's history without man's intervention. Some natural causes for such climate change discussed by both parties include changes in the earth's orbit,² changes in the sun's intensity,³ and vol-

Figure 1. Atmospheric carbon dioxide concentration



canic eruptions. Volcanoes can affect the climate because they can emit aerosols and carbon dioxide into the atmosphere. Aerosols do not produce long-term change because they leave the atmosphere not long after they are emitted. However, carbon dioxide (CO₂) in the atmosphere can contribute to what is referred to as the "greenhouse effect." According to the USGS Volcano Hazards Program, human activities now emit 150 times as much CO₂ as volcanoes (whose emissions are relatively modest compared to some earlier times).⁴

<<http://earthobservatory.nasa.gov/Library/Giants/Milankovitch/milankovitch.html>> Accessed 2007 Jun 16

³ According to NASA, reduced solar activity from the 1400s to 1700s may have contributed to a "Little Ice Age" which cooled North America, Europe and probably other areas around the globe. <<http://earthobservatory.nasa.gov/Newsroom/NasaNews/2001/200112065794.html>> Accessed 2007 Jun 16. Dr. Vardiman points out that scientists have recently shown "striking statistical correlation" between sunspot activity and temperature change over the past 1000 years (Marsh N, Svensmark H (2003) Solar influence on earth's climate. *Space Science Reviews*. 107:317-325

⁴ U.S. Department of the Interior 2006 Jan 10 Volcanic Gases and Their Effects <<http://volcanoes.usgs.gov/Hazards/What/VolGas/volgas.html>> Accessed 2007 Jun 16

¹ Vardiman L. (2007) Evidence for Global Warming, Institute for Creation Research Impact Article #406, <<http://www.icr.org/article/3233>>, Accessed 2007 Jun 16

² Changes in earth's orbit and tilt are thought by some old earth advocates, including noted mathematician Milutin Milankovitch, to be the most significant drivers of ice ages.

There is no disagreement regarding the current trend in atmospheric carbon dioxide levels. Numerous bodies of evidence indicate that the concentration of carbon dioxide in the air, as shown in Figure 1, has been increasing exponentially for almost 50 years now. The data depicted in Figure 1 below were collected by C. C. Keeling of the Scripps Institute of Oceanography at the Mauna Loa Observatory, Hawaii.⁵

It is true that increased carbon dioxide levels in the atmosphere can increase the greenhouse effect and possibly cause warming. It is also true, however, that the heating or cooling of the Earth's surface can cause changes in greenhouse gas concentrations. As Dr. Vardiman suggests, this makes it difficult to distinguish whether global warming is due to increased carbon dioxide concentration or if higher carbon dioxide concentration is the result of global warming. He points out that the ocean contains thousands of times more carbon dioxide than the atmosphere "and can release significant quantities of carbon dioxide if they are warmed or the pH altered."

Dr. Vardiman analyzed three data sets in his analysis of recent warming trends, (1) the sea-surface temperature in the Gulf of Alaska, (2) the frequency of hurricanes in the southeastern Atlantic and Caribbean, and (3) the polar extent of sea ice in the Arctic Ocean. Figures 2-4 show that the trends for all three processes seem to be consistent with global warming for at least the short term. Sea-surface temperature in the Gulf of Alaska has increased about 3% over the past 30 years. Hurricane frequency in the western Atlantic appears to have increased about 3% over the past 150 years. And, the Arctic sea-ice extent has decreased about 5% over the past 25 years. Based on these limited observations, it appears likely that global warming seems to be occurring over at least the past 30-50 years. Dr. Vardiman emphasized, however, that because of the limited spatial coverage and short time period of these data, it is still not possible to say if these trends will continue. There may be even longer-period fluctuations which we don't yet see in the data.

When long-period records of data are plotted, oscillations for many periods are often seen. In fact, the EPA website contains extrapolations back millions of years, showing significant fluctuations of magnitude equal to or greater than what is being observed today.⁶

⁵ Keeling CD, Whorp TP, and the Carbon Dioxide Research Group, Scripps Institution of Oceanography (SIO) University of California (2004 Jun) Carbon Dioxide Research Group, Scripps Institution of Oceanography (SIO), University of California, <<http://cdiac.esd.ornl.gov/ftp/maunaloa-co2/maunaloa.co2>> Accessed 2007 Jun 16

⁶ Since the 1960s numerous quantities have been measured in ice cores to make inferences about Earth history. According to

Figure 2. The sea-surface temperature in the Gulf of Alaska

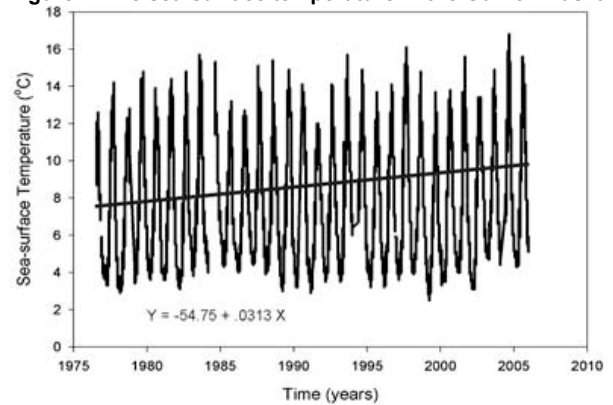


Figure 3. Frequency of hurricanes in the southeastern Atlantic and Caribbean

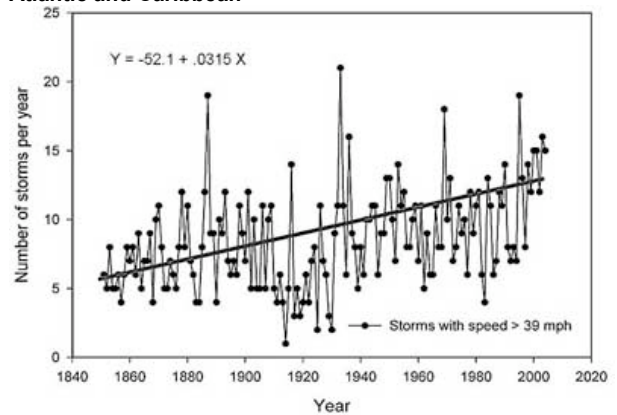
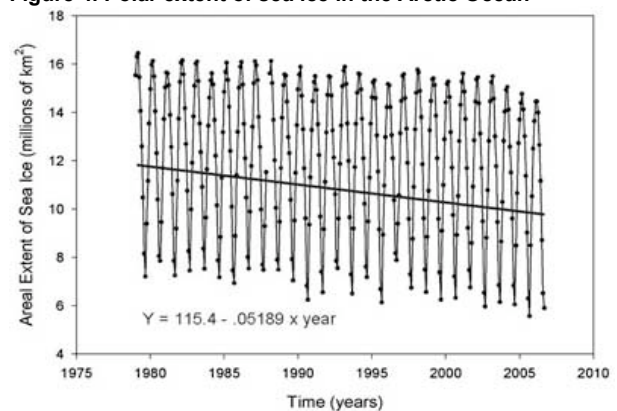


Figure 4. Polar extent of sea ice in the Arctic Ocean



To summarize and compare the USEPA and Creationist perspective on this issue I've put together the following three tables. Table 1 compares what the USEPA and creationists like Dr. Vardiman believe is known about the global warming issue. Note that, regarding what is

the EPA, "Scientists have been able to piece together a picture of the Earth's climate dating back decades to millions of years" from these data. Of course, the data are interpreted differently by young-earth creation scientists. <<http://www.icr.org/article/120/63/>> Accessed 2007 Jun 17

considered known, the two sides are in fairly close agreement. Table 2 compares what the USEPA and creationists like Dr. Vardiman believe is likely true about the global warming issue. Note that, regarding what is considered likely, the two sides are a bit further apart. Table 3 compares what the USEPA and creationists like Dr. Vardiman believe should be done about the global warming issue.

While the two sides may agree that some research questions remain unanswered, they do not appear to agree on the extent to which additional resources and funding will help to resolve global warming. Due to growing concerns in this area expressed by the media, EPA and other secular organizations, a great deal of government money is being spent to address the areas of scientific

uncertainty identified above.⁷ Dr. Vardiman's perspective, and the perspective of many Christians and young earth creationists, is that such intense scrutiny and concern may not be justified. Global warming may affect some parts of our society negatively but would likely benefit others. In fact, the current warming trend may be returning our global climate closer to that prevalent in the Garden of Eden. In any case, it is likely that the global warming issue is not the catastrophic concern that many in the media currently convey. Now, going back to my real area of expertise, would anyone like to ask me about toxic air pollutants? I'm pretty sure that the Garden of Eden contained less ozone and particulate matter than we breathe today. ☹

Table 1. What is believed to be known about the global warming issue?

USEPA Perspective	Dr. Vardiman's Creationist Perspective
Human activities are increasing the levels of carbon dioxide in the Earth's atmosphere.	True, but we do not know how much of the increase in carbon dioxide is due to man's influence.
A warming trend of about 0.7 to 1.5°F occurred during the 20 th century.	Sea-surface temperature in the Gulf of Alaska has increased about 3% over the past 30 years. Global warming appears to have been occurring for the last 30-50 years.
Atmospheric levels of greenhouse gases will continue to rise over the next few decades.	Global warming may only be a short-term fluctuation, but could be a longer-term trend.
Increasing greenhouse gas concentrations tend to warm the planet.	And vice versa, warming of the ocean produces greenhouse gases.

Table 2. What is likely to be true about the global warming issue?

USEPA Perspective	Dr. Vardiman's Creationist Perspective
There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.	Evidence is still inconclusive regarding whether man is causing the global warming.
As atmospheric concentrations of greenhouse gases rise, average global temperatures and sea levels will rise and precipitation patterns will change.	Because of the limited spatial coverage and short-term period of the data analyzed, it is not possible to say if the warming trends apparent for the past 30-50 years will continue. There may be even longer period fluctuations that we don't yet see in the data.

Table 3. What should be done about the global warming issue?

USEPA Perspective	Dr. Vardiman's Creationist Perspective
Research to improve our understanding of natural climatic variations, changes in the sun's energy, land-use changes, the warming or cooling effects of pollutant aerosols, and the impacts of changing humidity and cloud cover.	Extensive research in these areas may be premature. Earth has a stable environmental system, designed by God, with many built-in feedback systems to maintain a uniform climate.
Determining the relative contribution to climate change of human activities and natural causes.	Earth's climate has only been dramatically upset by catastrophic events like the Genesis Flood.
Projecting future greenhouse emissions and how the climate system will respond within a narrow range.	Compared to climate changes which have occurred in Earth's history, a temperature rise of a few degrees is a small fluctuation which will not lead to a complete melting of the polar caps or another ice age.
Improving understanding of the potential for rapid or abrupt climate change	Catastrophic climate change will occur again in the future, but only by God's intervention in a sudden, violent configuration of planet Earth in the end times (II Peter 3:1-12).

⁷ The CCSP (U.S. Climate Change Science Program) is developing twenty-one Synthesis and Assessment products to advance scientific understanding of these uncertainty areas by the end of 2008.

COMING EVENTS

Thursday, July 12, 7:00 P.M., Providence Baptist Church, 6339 Glenwood Ave., Raleigh.

Everett Coates will present the video "The Grand Canyon-Monument to Catastrophe". Everett will introduce the video with some comments about the bias-controlled interpretation of geologic evidence.

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