

FOUR LEVELS OF GLOBAL WARMING: A CLIMATE CHANGE UPDATE

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www.home.roadrunner.com/~nickgier/CopenMyth.htm

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How much more evidence do we need before we take action?

—Hydrologist Peter Gleick on unprecedented river flows

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see out there is part of the cooling process.

—Michael Steele, Chair, Republican National Committee

Surface temperatures are the highest since 1880, and scientists have now confirmed that the lower atmosphere has warmed as well. In the U.S. there have been two record high temperatures for every all-time low. The surfaces of the oceans are warmer—up 7 degrees Fahrenheit off the coast of Sumatra—and sophisticated measurements have indicated that the ocean depths have warmed as well, especially in the waters surrounding Antarctica.

Arctic Sea ice has retreated to the third lowest extent in recorded history, and the 58-foot Russian *Peter I* has just completed a circumnavigation of the North Pole without the aid of ice breakers. The sea ice around Antarctica has actually expanded, but because of the warming of the adjacent oceans, the total ice mass/volume in Western Antarctica has declined by up to 196 gigatons per year (*Nature Geoscience*, 11-22-09). As volume is more significant than extent, it is important to note that Arctic Sea ice reached its lowest ever volume in 2009.

Many scientists now believe that the estimates in the 2007 Intergovernmental Panel on Climate Change (IPCC) report were too conservative. A major error in the 2007 report—that the Himalayan glaciers would melt by 2035—has been corrected, as well as minor errors about the Netherlands. The willingness to correct errors always increases the credibility of those whom we want to believe. Only ideologues believe that finding errors or conceding them are fatal weakness.

Although it urged the climate scientists to be more transparent, the Science and Technology Committee of the British House of Commons has cleared the East Anglia Climate Research Unit (CRU) of any wrong doing in a sensationalized round of accusations that they tampered with data to fit preconceived notions about warming. The chair of the committee states: “We do believe that Professor Phil Jones, CRU director, has in many ways been scapegoated as a result of what really was a frustration on his part that people were asking for information purely to undermine his research.” Penn State University has also exonerated climate scientist Michael Mann of “falsifying or suppressing data, intending to delete or conceal

e-mails and information, and misusing privileged or confidential information.” The charges against Mann were particularly scurrilous.

At least two major newspapers have retracted stories in which they unfairly criticized climate scientists. The London *Sunday Times* apologized for misquoting a scientist about the Amazon rain forests, and the *Frankfurter Rundschau* retracted a story challenging IPCC predictions about climate change in Africa. Just like “creation” scientists, adamant climate deniers (as opposed to honest skeptics) do not deserve equal time.

According to the World Meteorological Organization—those leftists who deceive your weather reporters every day—CO₂ levels rose to 387 parts per million in 2009. The figure was 280 parts per million at the start of the industrial revolution. The level was 316 in 1959. There is a consensus that a level of no more than 350 parts per million is what allowed the great civilizations to flourish. We will soon reach a point of no return in which no amount of reduction of CO₂ will prevent wide-spread damage. Last month the Geological Society of London published a report predicting that it would take 100,000 years for the earth to recover from such high levels of CO₂.

Those who say that the sun is responsible for global warming simply don’t have the facts. As Fred Pearce (*New Scientist* 5-16-07) states: “For the period for which we have direct, reliable records, the earth has warmed dramatically even though there has been no corresponding rise in any kind of solar activity.” In 2009 NASA reported that since 1996 solar irradiance has declined substantially to a 12-year low. David Hathaway of the Marshall Space Flight Center states: “This is the quietest sun we’ve seen in almost a century.”

In the 1990s scientists were puzzled when they found that temperatures in the lower atmosphere were not rising in sync with surface temperatures. More sophisticated experiments by NOAA scientists have now demonstrated that “the lower part of the atmosphere is warming and this warming is broadly consistent with both theoretical expectations and climate models.”

In October, 2010 the National Academy of Sciences published a paper that found that the volume of the world’s rivers has increased 18 percent from 1994-2006. Hydrologist Peter Gleick concludes: “If the water cycle intensifies, then we will see more frequent, more intense floods [like the one in Nashville], and more persistent drought.” Gleick continues: “This is exactly what climate modelers have said would happen. How much more evidence do we need before we take action?”

Not only is the surface of the oceans warming, but their depths are warmer as well. University of Washington oceanographer Sarah Purkey states: “Previous studies have shown that the upper ocean is warming, but our analysis determines how much additional heat the deep ocean is storing from warming observed all the way to the ocean floor.”

Warmer air holds more water vapor, so we can expect more intense rain storms in the summer and more snowfall in the winter. Kevin Trenberth, head of climate analysis at the National Center for Atmospheric Research, states: “Global warming, ironically, can actually increase the amount of snow you get, but it also means that the snow season is shorter.”

The world's oceans act as a huge CO₂ sink, but the more they absorb the more acidic they become. The National Research Council reports that "the chemistry of the ocean is changing at an unprecedented rate and magnitude due to anthropogenic carbon dioxide emissions." The oceans have not been this acidic in 800,000 years.

Warmer and more acidic seas destroy coral reefs, which, under normal conditions, take tons of calcium out of CO₂. About 80 percent of the corals at the eastern end of the Indonesian island of Sumatra are now dead. (The water temperature there is now a "hot bath" 93 degrees.) Mass bleaching of coral has also occurred off the coasts of Sri Lanka, Thailand, Vietnam, and Malaysia.

New Jersey Senator Frank Lautenberg told a Commerce Committee panel: "This increase in ocean acidity threatens to decimate entire species, including those that are at the foundation of the marine food chain. If that occurs, the consequences are devastating." The New Jersey seafood industry hires one in six of the state's workers and produces \$50 billion a year in revenues.

The thermal expansion of the oceans and increased river run-off has caused sea levels to rise. How high they will go depends primarily on how fast the world's glaciers will melt. New estimates are 50 percent gone by 2050 and 70 percent by 2070. This does not include the ice sheets of Greenland or Antarctica, which will last much longer, but are still melting at an alarming rate. From 2004-2007 Greenland lost 708 billion metric tons of ice.

During the 20th Century sea levels went up 4-8 inches, and by 2100 the predictions range from 30 inches to 6 feet. (That high figure comes from a 2009 paper published in Proceedings of the National Academy of Science.) A 16 inch rise would put 11 percent of Bangladesh underwater and force 7-10 million people to relocate permanently.

Some Pacific islands are frequently flooded by "king" tides, and some are already authorizing budget lines for the complete relocation of their citizens. This will be the first time in history that nations have physically disappeared. The question of who is obligated to take them is, for me at least, an easy one to answer. The countries that produce the most CO₂ should open their doors and provide temporary food, shelter, and job training.

At 19 tons per person the U.S. produces more than twice as much CO₂ as the 27 countries of the European Union (8 tons). The world average is 4 tons per person. Oil rich nations such as Qatar (56 tons) and United Arab Emirates (33 tons), presumably because they flare off huge quantities of natural gas, should open their borders as well.

Sitting a few feet above sea level in the middle of the Indian Ocean is the island of Diego Garcia. Although the natives were initially angry that they were forced to evacuate by the U.S. and British military, they may now be happy they will not sink into the sea along with billions of dollars worth of sophisticated military installations.

If climate change deniers will not listen to scientists, perhaps they will pay heed to military leaders who believe that climate change is a threat to the security of all nations. A recent report by the National Intelligence Council concludes that climate change will increase demands

for humanitarian responses, which “may significantly tax U.S. military transportation and support force structures, resulting in a strained readiness posture and decreased strategic depth for combat operations.” Speaking to the *New York Times* (8-9-09) retired Marine Gen. Anthony Zinni warns that “we will pay for this one way or another,” and his advice is that we do it now before the costs and security risks become too great.

Unfortunately the number of climate change deniers has dramatically increased in the U.S. Congress, and on December 2 four GOP lawmakers sent a letter to Secretary Hillary Clinton objecting to the \$3.2 billion that has been set aside for developing countries to fight climate change. Citing errors in the IPCC report (a red herring) and the treasury deficit, they insist that taxpayer money should not be wasted in this manner.

Most conservative lawmakers have a libertarian mind-set, and they need to be reminded that principled libertarians believe that individuals and governments are responsible for personal injury or damage to property, and those aggrieved can seek legal remedies in the courts. It seems more prudent to approve the aid rather than to pay damages enforced by international courts.

In conclusion I would like to quote from Michael Steele, the Chair of the National Republican Committee: “We are cooling. We are not warming. The warming you see out there is part of the cooling process.” This is just plain ignorance, but what is more dangerous is fabrication and manipulation driven by ideologues who can get the facts straight if they really wanted to.

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