Climate Change: The Rest of the Story

A case against the theory of man-made global warming

By Steve Goreham, Climate Science Coalition of America

Today, the world is in the grip of a madness. President Obama and another 192 heads-of-state have accepted the idea that mankind is causing dangerous climate change. Most major scientific organizations, most universities, many Fortune 500 companies, the news media and the United Nations have all accepted the theory of man-made global warming. The world is spending over $250 billion per year in an effort to fight climate change.

Yet, evidence is mounting that the hypothesis of dangerous man-made global warming is wrong. Let's review the basis for the theory and then discuss the "rest of the story."

The simple science of man-made global warming

The simple science of the theory of man-made global warming is based on four premises. The first basis is that Earth's surface temperature is rising. Global surface temperatures have increased about 1.3 F (0.7 C) over the last 130 years, which we'll call the Modern Warm Period. Proponents of dangerous climate change regard modern temperatures as abnormal and claim that something abnormal must be causing it.

The second basis for the theory is rising atmospheric carbon dioxide (CO_2). Modern measurements of atmospheric CO_2 show a rise from about 315 parts per million (ppm) in 1958 to about 400 ppm today. Climatists warn that CO_2 emissions from human society have "perturbed the Earth's carbon cycle," causing global warming.

The greenhouse effect is the third basis. Sunlight enters our atmosphere and is absorbed by Earth's

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surface. Like any warm body, Earth emits lower energy infrared radiation. A small amount of this emitted radiation escapes to space, but most is absorbed by greenhouse gases in our atmosphere, such as water vapor, CO_2 and methane. After absorbing the outgoing radiation, these gases re-radiate a portion of the captured infrared energy, which acts to warm Earth's surface.

Emission of greenhouse gases from human activity adds to Earth's greenhouse effect. But quantifying the amount of the greenhouse effect contributed by mankind is key to estimating the impact. This human contribution has not been quantified by climate alarmists.

The fourth basis of the theory is computer model projections. Computer models are used to model Earth's climate. The models, run on multi-million-dollar supercomputers, predict an accelerated rise in surface temperatures during the 21st century of 5.4 F (3.0 C).

From these four simple premises – rising global surface temperatures, rising atmospheric CO_2 levels, the greenhouse effect and computer model projections – climate alarmists warn of melting icecaps, flooded coastal cities, stronger hurricanes and storms, droughts and floods, species extinction and many other calamities. But climate science has drawn false conclusions which undermine the hypothesis of man-made climate change.

History shows that the Modern Warm Period is not abnormal

The proponents of the theory of man-made warming claim that the one-degree rise in global temperatures over the last 130 years is abnormal. But a look at Earth's temperature history shows otherwise. Two well-known examples of natural climatic changes are the Medieval Warm Period (MWP) and the Little Ice Age (LIA).

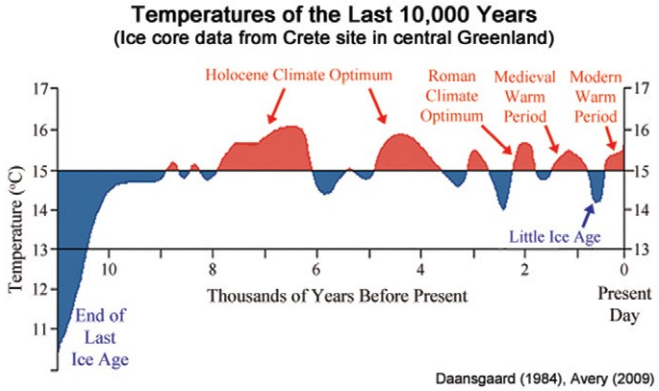
The Medieval Warm Period was an age from AD 900-1300 when temperatures were at least as warm as today. The Vikings settled southwest Greenland and built a colony at Hvalsey that grew to 5,000 inhabitants. Hvalsey residents farmed, raised livestock and traded polar bear skins and walrus tusks. Settlers were buried in graves near the old stone church in Hvalsey in ground that, today, is permanently frozen.

Around AD 1300, Earth's climate entered the cooler period of the Little Ice Age, which lasted to about AD 1850. Temperatures of the LIA were 1 to 2 C cooler than temperatures of the MWP and those of today. Sea ice closed in around Hvalsey and the colony was abandoned. European historical records show that the LIA was a period of shorter growing seasons, famine and disease.

During the LIA, the London Frost Fair became an annual event on the frozen Thames River. Londoners build sheds, erected tents and drove horses and wagons onto the ice. A similar event is not possible today, since the Thames has not frozen solid at London for more than a century.

The MWP and LIA are just two of numerous alternating warm and cool periods in Earth's history. Reconstructions of global temperatures show several warm and cool periods since the last ice age. As another example, during the Roman Climate Optimum about 2,000 years ago, olives could be harvested as far north as Bonn, Germany, and England produced wines from locally-grown grapes.

Today, we enjoy a Modern Warm Period that began at the end of the LIA, about AD 1850. Hundreds of peer-reviewed studies show that temperatures during the Holocene Climate Optimum, the Roman Climate Optimum and the Medieval Warm Period were as warm as or warmer than today. These warm ages resulted from Earth's natural climatic cycles, not greenhouse gas emissions.



History shows that temperatures were warmer 1,000 years ago than they are today

Earth's climate and carbon dioxide

Earth's climate is complex. It's a chaotic interplay of forces from the solar system, atmosphere, oceans and land. It's been changing through cycles of warming and cooling, tropical ages, temperate ages and ice ages throughout Earth's history.

The sun drives all weather on Earth. Sunlight strikes the equator more directly than it does the North and South Pole, so more energy is absorbed in the tropics. Ocean currents, storm fronts, cyclones, the jet stream and trade winds all act to redistribute heat energy from the tropics to the polar regions.

The oceans have a huge impact on Earth's temperatures. Our oceans contain over 250 times the mass of the atmosphere and can hold 1,000 times more heat. The Gulf Stream of the Atlantic Ocean is a powerful driver of Europe's weather and the El Niño cycle in the Pacific Ocean affects weather all over the world.

But climate scientists are obsessed with the greenhouse effect, the warming from absorption of outgoing radiation by a trace gas, CO_2. Only four of every 10,000 molecules in the atmosphere are carbon dioxide. The amount of CO_2 that may have been added by man in all of human history is only a fraction of one of those four molecules.

The greenhouse effect

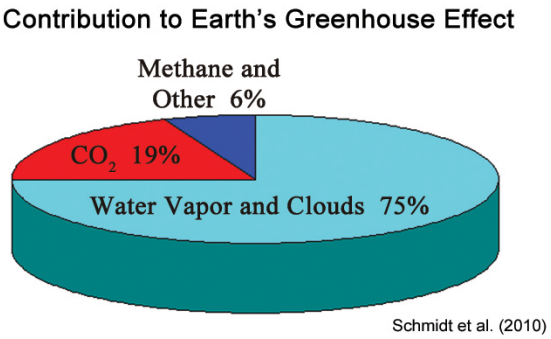
What is nature's most abundant greenhouse gas? The answer is water vapor! Scientists estimate that between 75 percent and 90 percent of Earth's greenhouse effect is caused by water vapor and clouds. Using the conservative 75 percent number, the last quarter of Earth's greenhouse effect is about 19 percent due to CO_2, with six percent due to methane and other gases.

But only about three percent of the CO_2 that enters the atmosphere each year is from mankind. 97 percent is naturally released from the oceans, the biosphere and volcanos. This means that humans cause only about one percent of Earth's greenhouse effect. If mankind completely eliminated all emissions, we probably could not measure the difference in global temperatures.

The big assumption – positive feedback from water vapor

In any reasonable scenario, CO_2 can't cause catastrophic global warming by itself. This is because the absorption of infrared radiation by CO_2 is non-linear. The first 20 ppm of CO_2 in our atmosphere account for about one-half of the greenhouse warming from CO_2. Adding more carbon dioxide has a diminishing warming effect. Doubling atmospheric CO_2 from 280 ppm to 560 ppm, whether from natural or man-made causes, would by itself increase Earth's surface temperature by only about 1.2 C.

So how do the climate models reach their alarming conclusions? They assume that positive feedback from water vapor will cause additional warming. The argument is that, since warmer air can hold more moisture, water vapor will increase in the atmosphere as Earth warms. Since water vapor is a greenhouse gas, this additional water vapor will add additional warming to that caused by CO_2.



Assuming 75 percent of Earth's greenhouse effect is caused by water vapor and clouds, the last quarter of Earth's greenhouse effect is about 19 percent due to CO_2, with six percent due to methane and other gases

But, satellite data shows atmospheric water vapor to be relatively constant over the last 30 years. In addition, peer-reviewed papers by Lindzen and Choi (2011) and Spencer and Braswell (2010) show that climate system feedbacks are likely to be low or even negative. Rather than adding to the warming, water vapor and clouds may even act to reduce warming from rising atmospheric CO_2.

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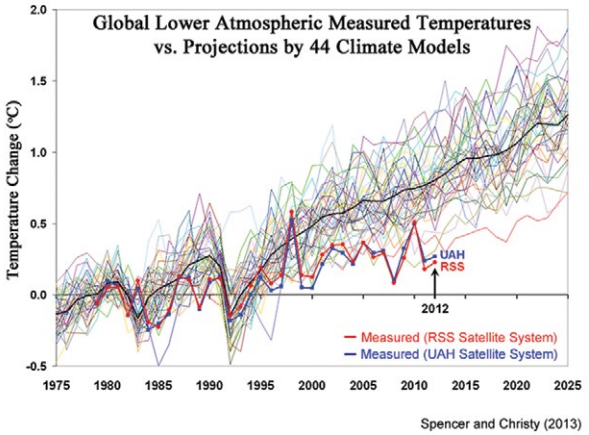
The failure of the climate models

Climate science is in turmoil. Despite predictions of rapidly rising temperatures from the world's climate models, global surface temperatures have now been flat for 16 years, despite rising levels of atmospheric CO_2. All major climate models have overestimated the effects of man-made warming because they assumed positive feedback from water vapor.

World citizens rejoice

World citizens should be rejoicing. The climate models are wrong. Global temperatures may rise due to natural causes, but it's unlikely that catastrophic temperature rise will be caused by man-made emissions.

CO_2 is a trace gas and water vapor is Earth's dominant greenhouse gas. Mankind is responsible for only about one percent of Earth's greenhouse effect. History shows that temperatures were warmer 1,000 years ago than they are today. Global data shows that tropical storms are neither stronger nor more numerous than those of past years. Twice as many polar bears roam the Arctic today than in the 1960s. Arctic sea ice is at a 30-year low, but Antarctic sea ice is at a 30-year high. Sea levels have been rising only seven inches per century, not the 20 feet per century of some alarming claims.



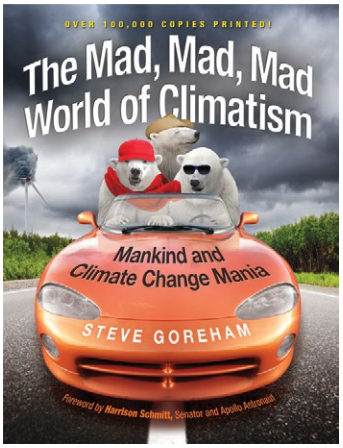
Spencer and Christy (2013)

Despite predictions of rapidly rising temperatures from the world's climate models, global surface temperatures have now been flat for 16 years, despite rising levels of atmospheric CO_2

World governments should focus on solving the real problems of mankind, such as poverty, disease and lack of low-cost energy, sanitation, clean water and education. Let's end the foolish and futile fight against global warming. ◆

Steve Goreham is executive director of the Climate Science Coalition of America (www.climatescienceamerica.org) and author of Climatism! Science, Common Sense, and the 21st Century's Hottest Topic and The Mad, Mad, Mad Word of Climatism: Mankind and Climate Change Mania.

In the Grip of Madness



Review of *The Mad, Mad, Mad, World of Climatism: Mankind and Climate Change Mania*
By Steve Goreham
New Lennox Books,
2012, 302 pages

Review by Jason Hayes,
Associate Director,
American Coal Council

I always find it instructive to peruse critiques of a book that I am preparing to review. I do this because I know that when a book can provoke an animated reaction, I have something that could promote change in my hands. I made sure to check the critiques of *The Mad, Mad, Mad World of Climatism* (*Climatism*) and the angry attacks did not disappoint.

Early on in almost every review of *Climatism* that you encounter, you see a repeating pattern; critics ignore the arguments made in the book and dive headlong into an almost uniform application of illogic: ad hominem, guilt by association, fallacious appeals to popularity, equivocation, red herring, appeals to irrelevant authority, false dichotomies and appeals to fear among others. Goreham's critics spit out these fallacies in a withering and relentless unison.

That type of energetic response forces one to wonder, "What did Mr. Goreham include in *Climatism* that has so incensed his critics?"

I'll break it down into three simple areas to help speed things along. First, Goreham has deftly critiqued the notion that the science of climate is "settled"; it is anything but settled. Second, he has given a detailed description of the destructive influence that money and politics have had on climate science. Third, Goreham has laid bare the many failings and flaws of climate models as well as the predicted causes and impacts of greenhouse gas emissions.

In the early chapters of *Climatism*, Goreham runs readers through many of the "settled" scientific concepts that are presented as fact in the media, government reports and by special interests. He discusses the Earth's CO_2 cycle and humanity's relatively minor role in altering it.

"Carbon dioxide is (a) trace gas … *Only four of every 10,000 air molecules are carbon dioxide*. In all of human history, man-made emissions are responsible for adding *only a fraction* of one of these four molecules," he notes.

Goreham also breaks down the greenhouse effect and discusses sunspots, the role of cosmic rays and clouds, rising sea levels, multiple errors in surface temperature data, growing polar bear populations, extreme weather events, ocean acidification, natural 1,500-year climate cycles, the Medieval Warm Period and the Little Ice Age. He describes warming trends that have been measured over the past few hundred years and how a planet, still coming out of a (relatively) recent

PHOTO BY COMSTOCK/PHOTOS.COM

In *Climatism*, Goreham has laid out a clear and concise critique of the notion that climate change is caused by human activity. He argues that the science actually shows climate change is a natural phenomenon and that the rush to stop the use of fossil fuels and heavily impact world economies should be viewed as the "greatest global delusion in history."

ice age, should expect to see warming. Recounting historical records, such as human settlements at Hvalsey, Greenland, Goreham also demonstrates that there is a natural variability in climate and suggests modern warming is not abnormal.

Goreham also delves into the impact of politics and money on climate science. He looks at the scandals associated with the "Hockey Stick" graph and "Climategate," where leaked emails from the East Anglia University's Climate Research Unit (CRU) revealed collusion amongst climate researchers to "hide the (temperature) declines" in tree-ring proxy records and to alter peer review processes to mask dissenting or "skeptical" research. Goreham's look at the Intergovernmental Panel on Climate Change (IPCC) also reveals serious concerns about the profound influence of politics on the organization's ostensibly apolitical research and reports.

Goreham also describes how billions of dollars in funding that is given to researchers, universities, NGOs and government departments is also funding the development of general circulation models (GCMs), the tools used to drive much of the concern and governmental action over climate change. Goreham describes the chronic inability of scientists to match GCM forecasts with real world temperature measurements. He also describes the "adjustments" that climate scientists apply to raw temperature data to "homogenize" and arrive at "accurate, unbiased and modern historical climate record." Not surprisingly, those adjustments just happen to make the homogenized data show a distinct temperature rise over the past century.

Interestingly, however, Goreham describes how very recent temperature data – derived from actual thermometer readings and satellite measurements, as opposed to model results – show a two-decade-long leveling of worldwide temperatures that has confounded climate scientists and GCMs that had predicted rapid, unrestrained warming due to rising atmospheric CO_2 levels.

In *Climatism*, Goreham has laid out a clear and concise critique of the notion that climate change is caused by human activity. He argues that the science actually shows climate change is a natural phenomenon and that the rush to stop the use of fossil fuels and heavily impact world economies should be viewed as the "greatest global delusion in history." Goreham closes out his latest book arguing that adaptation and refocusing limited resources on solving serious and immediate problems, such as providing clean water in developing nations, should be a far more pressing priority.

For those interested in a well-researched, documented and skeptical view of climate science, I would highly recommend Goreham's *The Mad, Mad, Mad World of Climatism*. ◆

Jason Hayes is the associate director of the American Coal Council.