

Hotheads on a Lukewarm Planet

By Patrick J. Michaels

Summary: The public debate over global warming is driven by two camps: Hotheads, who claim that the earth is dangerously overheating thanks largely to mankind's industrial activities, and those who claim that there's no such thing as global warming or the greenhouse effect. Hotheads dominate the debate because they have considerable influence over what science is actually published in peer-reviewed journals. But both sides are wrong: the data show that the planet is really "lukewarming."

Joe Romm, a senior fellow at the Center for American Progress Action Fund and director of its Climate Progress project, is one of the nation's foremost climate "hotheads." For Romm, every damaging weather event, including even snowstorms and cold Januaries, is caused by global warming and a sign that the worst is yet to come. Romm treats any positive development such as the steady increase in global crop yields over the last century or the doubling of life expectancy, as odd anomalies soon to be overwhelmed by dreaded climate change.

The Union of Concerned Scientists (UCS) is also squarely in the hothead camp. On March 1 of this year it trumpeted a teleconference featuring Jeff Masters, who



NASA's Dr. James Hansen

started the popular weather blog Weather Underground, and Mark Serreze, who runs University of Colorado's National Snow and Ice Data Center. The two were eager to blame this year's relatively cold and snowy winter on, guess what?—global warming.

Yet only four years earlier, UCS held a workshop on Mt. Washington in New Hampshire to showcase that, thanks to global warming, New England ski resorts would soon need to promote a new sport that did not require snow. There are now so many scientists with so many pet theories that any advocacy organization can find

a prominent academic to advocate most any position, which is how UCS could completely flip-flop on winter's snow with impunity.

This is what turns global warming "science" very problematical. When a theory purports to explain both colder winters with more snow and warmer

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winters with less snow, then it cannot be tested or “falsified.” It no longer qualifies as science. It is what the great philosopher Karl Popper would call a “pseudoscience.” Popper (1902-1994) felt the two big pseudosciences of his time were Marxism and Psychoanalysis. I suspect he would have put global warming as practiced by hotheads in the same category.

Snow Jobs By Hotheads

Like Marxists and Freudians, global warming hotheads identify a single worldwide calamity—we are having a planetary meltdown—and propose a single radical solution—we must immediately curtail emissions of carbon dioxide and other greenhouse gases.

In 2009 the House of Representatives actually passed “cap-and-trade” legislation that proposed to begin a process of putting limits (a “cap”) on the net amount of carbon dioxide emitted nationwide. According to the bill, which never reached a vote in the Senate, the net amount of emissions per citizen that the law would permit 38 years from now would have to be reduced to an amount equal to the net emissions

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per citizen in 1867. How would a nation implement a policy of such a fantastic cutbacks? Even hotheads draw a blank on that.

Yet the list of organizations endorsing this economic suicide pact is a hothead pantheon: The Center for American Progress, Environmental Defense Fund, Natural Resources Defense Council, and the Sierra Club all deemed passage of the bill essential. Search their websites, however, and you will no specific technology could conceivably achieve these emissions reductions. In hothead world, talk is cheap.

There are a lot of scientific hotheads, if only because of the way that we fund science these days. Unfortunately every scientific topic is in competition with others for limited funding. No agency head ever increased his or her budget by testifying in front of Congress that the issues under purview were, in fact, inconsequential or exaggerated. Indeed, in climate change the common chant is “it’s worse than we thought!”

This really can’t be true. Consider an analogous problem to climate forecasts: weather forecasts. Like climatologists, meteorologists use mathematical “models”. They are fed new data every twelve hours and then re-run. Because they are unbiased in any particular direction (meaning that their forecasts are not systematically too hot or too cold), each time new data enters, the forecast model has an equal probability of, say, raising or lowering the temperature forecast for next Friday. In fact, allowing for the relatively uncommon occurrence when successive model runs predict the exact same temperature, the process should

be much like flipping a coin, heads or tails, with an equal probability that the succeeding forecast will be either warmer or cooler than the previous one.

And so should the same apply in climate, or in the effects of climate change. If the previous information is unbiased, then each new finding should have the same probability of being warmer or, “its worse than we thought,” or cooler (i.e. “not as bad as we thought”).

A few years back, I decided to test this hypothesis of neutrality. I assembled thirteen months worth of global warming articles from *Science* and *Nature*, arguably the two most prestigious general scientific publications on earth. In that period, they published 115 articles on global warming or its effects. 23 were “neutral”, or simply didn’t allow the reader to make the judgment that things were going to be worse or better than previously indicated. However, 83 articles clearly stated “it’s worse than we thought,” while only 9 indicated the future would not be as bad as previously forecast.

Flip a coin 92 times (83+9). What are the chances that you will come up with 9 heads and 83 tails? The odds that you will get this result are on the order of one time in 100,000,000,000,000,000 tosses of 92 coins. (This is an amount about 100,000 times larger than the national debt.)

So hotheads dominate the scientific literature. That’s because big science funding tends to gravitate towards those who see climate change as a planetary emergency, and the recipients of all this largess are in fact the community that reviews each others’ papers in the “peer-

reviewed” scientific literature. There’s simply a much greater incentive to urge publication of a work that keeps the funding coming, than there is to support work that slows down the gravy train.

Hothead Mythmakers

The king of the Hotheads is NASA’s James Hansen, director of its Goddard Institute for Space Studies. More than anyone else, he is responsible for the political prominence global warming has achieved.

On June 23, 1988 Congress held a hearing on global warming and Hansen was its star witness. The weather in Washington that day was blazingly hot. The day before it had reached 101° (despite Washingtonian whining, the city averages only one 100+ day per year). On the night before the joint House-Senate hearing, Colorado’s Democratic Senator Tim Wirth directed that the hearing room’s windows be opened to disable the air conditioning, which enabled Hansen to be sweating profusely as he argued the case for global warming in his testimony. Thus began the hotheads’ stage-management of the political process.

Alas, Hansen made climate forecasts on that fateful date. He had two scenarios for emissions of global warming gases, one called “business-as-usual” (which is pretty much what is going on in the world, with the exception of the treaty banning the ozone-depleting greenhouse gases that are chlorofluorocarbon propellants), and the other, “Scenario B,” in which there were modest reductions in atmospheric carbon dioxide emissions as well as for other greenhouse gases. You can see how they fared against observed temperatures in

Figure 1.

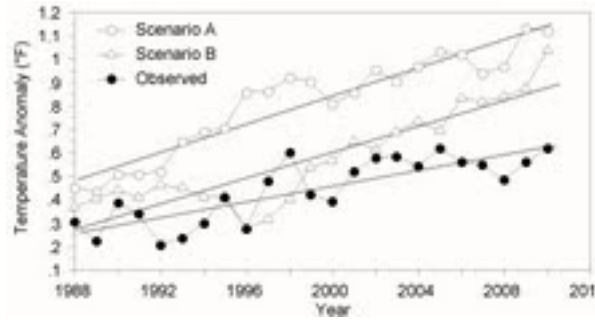


Figure 1. On June 23, 1988 Hansen offered two forecasts for global warming as greenhouse gas emissions increase (Scenarios A and B). The gap between them and actual observed temperatures is about 40% and growing.

By any stretch of the imagination, Hansen’s forecast was a bust. The growing disparity between his forecasts and real observed temperatures is obvious in Figure 1.

Tom Karl is a recent president of the American Meteorological Society and director of the National Climatic Data Center in Asheville, North Carolina. He is also the lead author of a remarkably alarmist federal publication called the “Synthesis Report” of the U.S Climate Change Science Program, which serves as the basis for EPA’s finding of “endangerment” from carbon dioxide and other greenhouse gases. He too, has a hot-forecast-gone-wrong in his history.

In 1997 and 1998 there was a gigantic “El Nino” event. These are periodical sudden warmings of the tropical Pacific that influence weather patterns worldwide. When they occur, global temperature spikes. They are usually followed by an equal and opposite cooling, called “La Nina”. In fact, the big El Nino was superimposed upon an existing slow warming trend (you can see

this in the black dots in Figure 1), and it lured Karl into an unfortunate projection.

It turns out that there were 16 consecutive months of global temperatures that were record warm in 1997-8 (when measured as departure from normal).

Instead of recognizing that this was what should happen when an El Nino appears in an already warm regime, Karl concluded that the streak was so unusual that there was only a less than five per cent chance that global warming had not accelerated. He calculated that it had probably accelerated from 0.17°C (0.31°F) per decade to 0.30°C, or nearly a doubling.

In his paper, Karl did cover his bases, noting that “unusual events happen”. Indeed, the 1997-8 climate hiccup turned out to be one of those, with no greater cosmic significance. But you’ll never hear Greenpeace, the Natural Resources Defense Council and the Sierra Club say this, nor will Joe Romm. Nonetheless, such glaring mistakes make clear the unsettled nature of climate science.

The Greenland Disaster Scenario

Another urban climate legend is currently circulating courtesy of NASA’s Hansen. Let’s call it the Greenland disaster scenario. Computer models in the United Nations’ latest (2007) “Assessment Report” on climate change were run with atmospheric carbon dioxide concentrations reaching four times the preindustrial background (approximately 1200 parts per million versus the current 390), and maintained there for 2,000 years. While this scenario is

pure fantasy (think of how many different energy technologies are likely to evolve between now and the year 4,000), it still takes about 1,000 years for Greenland to lose half of its ice. If it lost all of it, sea level would rise about 23 feet. In contrast, the same UN report projects that the ice loss from Greenland will raise sea level this century about two inches.

Hansen disagrees. He's on record saying that much of the 23 feet could be added by 2100. The mythology is that, as Greenland's temperatures rise a bit, lakes form on the surface in summer, and that these lakes will drain down as much as 10,000 feet (yes, that's how thick the ice on Greenland gets) to bedrock and "lubricate" the glaciers, enhancing their flow into the sea. (This seems to neglect the fact that all glaciers are liquid at their base—otherwise they would not flow). Greenpeace has been especially active in promoting this one. See: <http://www.greenpeace.org/international/en/news/features/greenlandmelting170206/>

Well, if Hansen's scenario were to occur, we should have seen comparable evidence for rapidly rising sea levels from 1920 to about 1960, a period in which warming in Greenland was considerably greater than now. The evidence is not there. That warm period surely was not caused by human influence on climate. Lakes formed on the ice and disappeared downwards, just like they do now. There was no spike in sea level.

The Greenland disaster scenario has been pretty much dismissed by recent fine-scale studies of glacial movement. It appears that the emptying of a lake may indeed speed up ice flow—for a day or two, but not for a hundred years.

Global "LukeWarming": Real, But Tolerable

The hotheads are blowing smoke. Increasingly, the public is skeptical of climate disaster scenarios. Public opinion polls show that most people who acknowledge that the surface temperature of our planet has risen also believe the "problem" of global warming is grossly overstated. This has forced environmental groups to change their tune. Instead of predicting planetary disaster, green groups now say global warming is a health issue. Or they say it's a national security threat. Or they say it threatens to increase the acidity of the ocean.

I testified at a House Science and Technology subcommittee hearing last November, and this shift in green statements was apparent. Instead of slowly and gravely pronouncing the words "global warming," alarmist members of the committee quickly strung together a five-word catch phrase: "global warming and ocean acidification."

The hotheads have lost much of their credibility. How likely is it that "ocean acidification" will become their next scare phrase? (For an excellent summary of ocean acidification and the perfect antidote to green extremism, see Craig Idso at <http://www.co2science.org/data/acidification/acidification.php>.)

If the hotheads are no longer believed, perhaps more rational voices—whom I shall call "lukewarmers"—can win the argument. The position of the lukewarmers, among whom I include myself, is worthwhile to review here. It has not been effectively rebutted by the environmentalist establishment.

It's been known for over a century that temperatures increase as more carbon dioxide is added to the atmosphere, but that additional increments are added, the rate of increase in temperature slows. So if the atmospheric concentration of CO₂ increases at a constant rate of, say, two parts per million (ppm) per year, the associated increase in temperature grows less over time.

However, in fact the increase in atmospheric CO₂ is not constant. When climate scientists first began measuring this over 50 years ago, CO₂ atmospheric concentration was growing by about one ppm per year; now it grows at about two ppm. This increased rate of growth counteracts the slowdown in temperature increases that would be expected if the addition of carbon dioxide to the atmosphere was constant from year-to-year. As a result, the rate of increase in atmospheric warming has remained constant rather than falling. Essentially this is what very complicated climate models reveal. While different models necessarily project different rates of warming, they all tend to show that the rate of increase is constant.

This is the "lukewarm" argument. Lukewarmers cite evidence that some of the warming that began in the mid-1970s has a carbon dioxide-based component, for two reasons. Greenhouse theory predicts that winters should warm more than summers, and this is quite apparent in land-based temperature histories. It also predicts that the stratosphere—the region from about 7 to 30 miles up—will cool, which it has. (People who say that the sun causes all of the recent warming have a hard time explaining why this cooling is taking

place, which is why I don't even consider the there-is-no-warming-or-greenhouse-effect crowd in this discussion). The lukewarm perspective is that, indeed, the rate of warming is constant, which accords with theory and computer models, but that the models are clearly overestimating the rate.

Why Hotheads Are Wrong

Left to its own devices, doubling atmospheric carbon dioxide would only produce about one degree (Celsius) of average surface warming. The computer models create their larger warmings (around three degrees (C) this century) with two large "feedbacks" that increase warming.

First, they argue that the initial warming caused by carbon dioxide is amplified by the fact that a warmer atmosphere contains more evaporated water from the surface of the ocean. Water vapor is a very potent warming gas. So the initial warming "feeds back" (amplifies) itself by creating a more moist atmosphere.

The second feedback comes from clouds themselves: the hotheads' computer models project changes that will produce additional warming.

But clouds could also produce more cooling. Respected climate scientists like MIT's Richard Lindzen, the University of Alabama's Roy Spencer, and Arizona State University's Robert Balling have argued that both water vapor and cloud effects are grossly overestimated in the computer models.

* Spencer cites strong evidence that the cloud feedback is either neutral or negative (i.e. that it reverses carbon dioxide warming to some extent). His work is real-world based, the result of studying the impact of warm El Ninos.

* Lindzen believes that satellite measurements of radiation data at the top of our atmosphere suggest that we are overestimating the sensitivity of temperature to greenhouse gases.

* Balling and I argue that nature has had plenty of time—about seventy years of significantly increasing carbon dioxide in the atmosphere—to reveal the extent of that sensitivity. The evidence, we contend, is less than what most of the computer models argue for.

So Who's Right?

The hotheads have made so many errors that are so egregious that their views lack credibility. Unfortunately, they dominate the scientific literature and they are entrenched in the green think tanks and advocacy groups. That means they get the federal grants funding. With publications, institutional support, money and credentials, they hold sway over the media and the political process. By contrast, we "lukewarmers" have the data on our side, which allows us to identify the errors in the hotheads' computer models and feedback systems. When in doubt, I think it's a good idea to go with the data.

The data show that there is a warming trend in the earth's atmosphere. But it is a trend that is clearly lower than the mean

rates given by hotheads' computer models. In other words, the future will be getting lukewarmer. Unless we want to roll the clock back and destroy the progress of our industrial civilization, it is extremely unlikely that we can stop modest amounts of warming in our environment.

Which raises an interesting question: Why would we want to try?

Patrick J. Michaels is senior fellow in environmental studies at the Cato Institute and author and editor of the upcoming "Climate Coup: Global Warming's Invasion of Our Government and our Lives," to be released on Earth Day, April 22.

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Many thanks,

**Terrence Scanlon
President**

GreenNotes

Well, the reviews are in on the much-vaunted **Chevrolet Volt**. “When you are looking at purely dollars and cents, it doesn’t really make a lot of sense. The Volt isn’t particularly efficient as an electric vehicle and it’s not particularly good as a gas vehicle either in terms of fuel economy,” according to **David Champion**, senior director of *Consumer Reports* auto testing center. “This is going to be a tough sell to the average consumer,” Champion concludes. Ouch. *Consumer Reports* paid \$48,700 for its Volt, which is featured on the cover of its April issue of annual automobile reviews. You mean a government-subsidized, government-promoted product costs too much and performs poorly? Will wonders never cease...

It’s not just Canada’s oil sands that environmental groups want to take off the table for energy developers (see last month’s *Green Watch*). The *Calgary Herald* reports: “A coalition of environmental groups is demanding a moratorium on offshore oil and gas drilling in the Gulf of St. Lawrence until there’s been a thorough review of the potential risks.” The so-called **St. Lawrence Coalition**, which includes **Attention Fragile**, **Nature Quebec** and the **David Suzuki Foundation**, have “challenged Quebec Premier **Jean Charest**’s government and cabinet ministers to resist pressure from oil and drilling companies.” Yes, resist pressure from oil companies, who are trying to provide for the energy needs of Canadian businesses and homes, including those of environmentalists, who presumably need to heat their homes and light their offices just like everyone else.

So Kansas thinks it has the power to regulate its own energy sector? Well, the state may be about to learn a harsh lesson: Federal bureaucrats and green do-gooders know what’s best for Kansas. Last December the **Kansas Department of Health and Environment** (KDHE) issued a permit to the **Sunflower Electric Power Corp** to proceed with construction of a \$2.8 billion coal-fired power plant to be built near Holcomb, Kansas. But **Earthjustice** and the **Kansas Sierra Club** are opposed to the plant and are urging the federal regulators to step in - with some success. The Topeka Capital-Journal reports that **Environmental Protection Agency** (EPA) regional administrator **Karl Brooks** has notified the KDHE that “... the permit placed lax limits on emissions of nitrogen oxide and sulfur dioxide from the proposed.” However, Kansas authorities are stubbornly insisting on their sovereignty: “KDHE Secretary **Robert Moser** said in a letter Tuesday to the EPA that he stood by the decision to issue the permit to Sunflower because it complied with ‘all applicable state and federal air quality requirements.’”

Lodgepole pine, we barely knew ye. In one of the latest climate-change scaremonger stories, researchers at **Oregon State University** and the **Department of Forest Resource Management** at the **University of British Columbia** are touting new data suggesting that the lodgepole pine, one of many species of trees that blanket the American Northwest, may be threatened by - you guessed it - climate change. The range for the tall pine tree may shrink by - gasp! – 10 percent by 2020, according to their new study, in part because of the increasingly flourishing spruce beetle. *The New York Times*’ Green blog elaborates: “The threat to lodgepole pines from the destructive bark beetle has risen as decreasing snow cover and milder winters allow more of the insects to survive from season to season.” So climate change is good for beetles at least; why their interests are inferior to those of pine trees is beyond the comprehension of *Green Notes*.

Ron Schiller, then Senior Vice President of **National Public Radio** (NPR), met recently with a group he thought were potential donors. Unfortunately, the “donors” were really imposters intent on secretly recording the NPR exec disclosing bigotry against conservatives. Schiller obliged them wholeheartedly: On the subject of climate change, he explained: “The main point here is that it is not our responsibility to present the opinion of a non-scientist through our science desk. All educated scientists accept that climate change as fact. On the political side, however, where it is not accepted as fact, and the fact that debate is happening is news and it’s really important news. And our point of view requires that we cover that debate, if for no other reason than to have Americans understand there are still people who believe that it is not fact.” All educated scientists? Really? Well, that will come as news to the author of this issue of *Green Watch*, **Patrick J. Michaels**, who holds A.B. and S.M. degrees in biological sciences and plant ecology from the **University of Chicago**, and a Ph.D. in ecological climatology from the **University of Wisconsin** at Madison. Apparently, to Mr. Schiller an “educated” person is really just someone who agrees with him. How convenient.