

# **Warming Freezes the Southern Ocean**

**Another Mann-made Climate Change**

*by*

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*“The jingling bells of publicity tempt only  
frivolous minds. Ambition offends truth by  
subordinating truth to itself.”*

- A.G. Sertillanges

# “WARMING FREEZES THE SOUTHERN OCEAN”

## *Another Mann-made Climate Change*

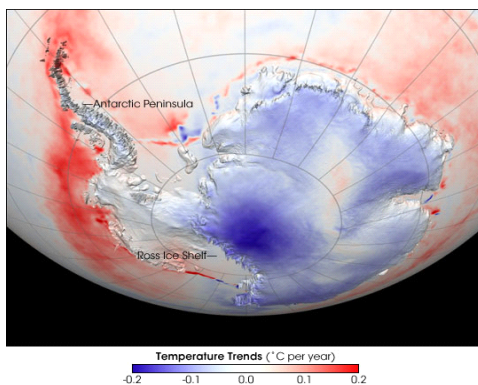
In late January 2009, the once-respected “science” journal *Nature* published the results of a computer model apparently showing that nearly all of the Antarctic continent had not cooled over the past 50 years, as the real-world observational data showed, but had warmed instead. The newly-created “warming” was achieved not by direct observation, which has long produced inconvenient cooling, but by “statistical climate-field-reconstruction techniques to obtain a 50-year-long, spatially complete estimate of monthly Antarctic temperature anomalies.”



The authors used “the special covariance structure of the surface temperature field to guide interpolation of the ... records of ... temperature from occupied weather stations,” on the ground that, “although it has been suggested that such interpolation is unreliable owing to the distances involved, large spatial scales are not inherently problematic if there is high spatial coherence, as is the case in continental Antarctica.”

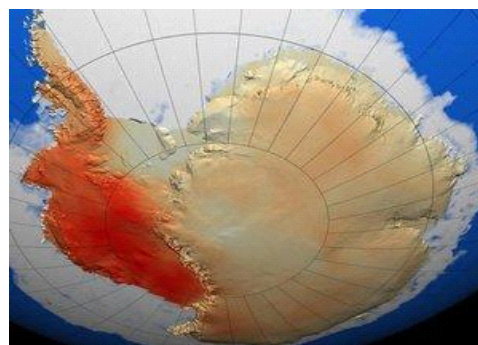
The “reconstructions” were said to “demonstrate” warming of 0.17 °C/decade over the past 50 years in West Antarctica, 0.10 in East Antarctica and 0.12 continent-wide; however, their own analysis, when tested against detrended data, found that the continent-wide warming was not demonstrably different from zero.

**BEFORE ...**



*Real-world data show a cooling Antarctic*

**... AFTER**



*“Interpolation” shows warming instead*

The international alarmist movement swung swiftly and expensively into action, actively supported by the more scientifically-illiterate news media, to say that the “warming” of Antarctica, illustrated in the widely-reproduced “before-and-after” images above, “proved” that “global warming” was truly global after all. The usual solemn warnings about the need for urgent and costly action to close down the economies of the West were added.

However, the entire analysis in the “warming Antarctic” paper depends not on actual temperature measurements, nor on other observations from the real world, which unequivocally show that Antarctica has been cooling for half a century, but on statistical “interpolation” of made-up data between the rather sparse observations from Antarctic research stations, so as to invent a temperature record across the vast majority of the Antarctic continent that does not exist in reality, and is inconsistent with it.

A very similar technique, by which real-world observations were suppressed in favor of estimates (on that occasion secretly deployed) that produced the desired result was deployed by Michael E. Mann and his colleagues in the same journal in 1998-9, when they purported to abolish the medieval warm period, during which global temperatures are known to have been considerably warmer than they are today.

In attempting to abolish the medieval warm period<sup>1</sup>, Mann *et al.* had hidden the real-world data for the Middle Ages in a file labeled “CENSORED\_DATA”. They had declared that they had used the real-world data and had not disclosed that they had replaced the “CENSORED\_DATA” by made-up estimates of their own.

An examination of the list of authors of the Antarctica paper reveals that, sure enough, Michael E. Mann is among them. As with his now-discredited paper on the medieval warm period, it does not appear that most of the authors of the “warming Antarctic” paper have any qualification in statistics.

*In attempting to abolish the medieval warm period, Mann et al. had hidden the real-world data for the Middle Ages in a file labeled “CENSORED\_DATA”*

Whether or not any of the authors was in any way qualified to write the paper, it is remarkable for its failure to address one or two obvious real-world events that demonstrate the results of their statistical prestidigitation to be questionable, because they are so startlingly at odds with observed reality.

Not the least among these real-world events is that the rapid cooling in East Antarctica in recent decades – amounting to as much as 2 °C over the period in some places – has led to environmental damage from the intense cold. The authors cannot have been unaware of this, because they cite the very thorough survey paper (Doran *et al.*, 2002) in which it is described.

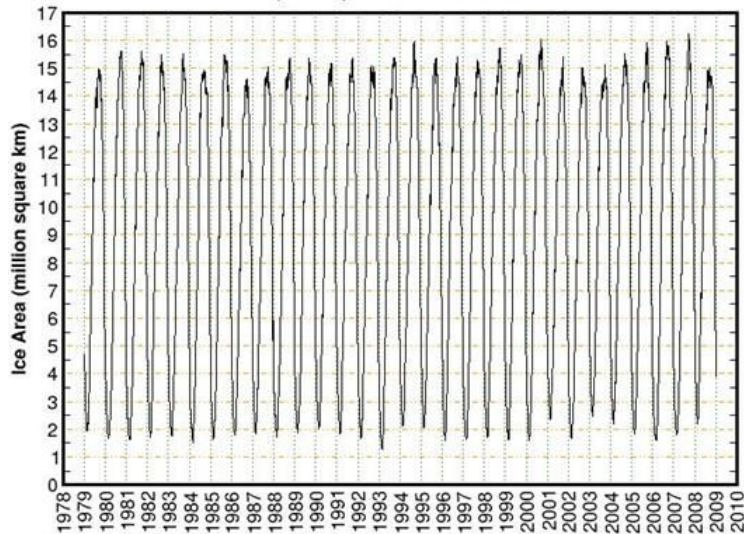
But surely the most obvious demonstration that the results of the authors’ statistical manipulations are inconsistent with reality is the well-established fact that the extent of the sea ice surrounding the Antarctic continent has been growing slightly in recent decades, reaching a record extent late in 2007 –

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<sup>1</sup> [http://scienceandpublicpolicy.org/monckton/what\\_hockey\\_stick.html](http://scienceandpublicpolicy.org/monckton/what_hockey_stick.html)

### Southern Hemisphere Sea Ice Area

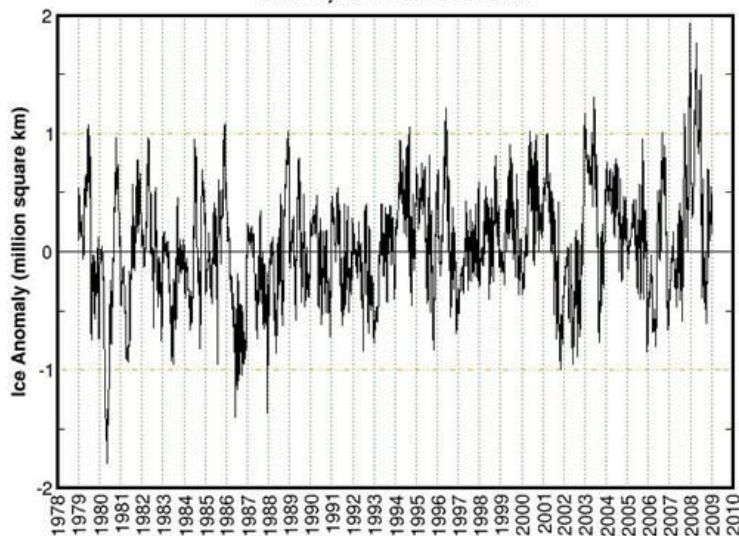
Data provided by NSIDC, NASA SMMR and SSM/I



The above graph, from the University of Illinois, shows the large seasonal fluctuations in sea-ice extent in the Antarctic over the 30 years of supposedly rapid Antarctic warming. Yet it is self-evident from the graph that there has been no downtrend in the extent of Antarctic sea ice. The peak extent in late 2007 is clearly visible, a result inconsistent with the authors' findings.

### Southern Hemisphere Sea Ice Anomaly

Anomaly from 1979-2000 mean

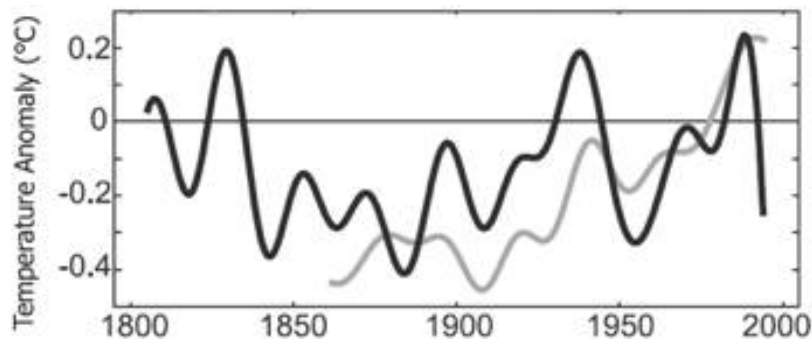


The above sea-ice anomaly graph for the Southern Hemisphere, also from the University of Illinois, shows still more clearly the peak in sea ice extent around the Antarctic continent late in 2007. The 30-year graph shows a gentle rising trend in the extent of sea ice – hardly consistent with warming on the scale imagined by the computers on the basis of “interpolation” of non-existent data. Prolonged warming would of course have produced the opposite effect: a shrinkage of sea-ice extent.

The authors of the “warming Antarctic” paper concede that “interpolation” is questionable: but they say it is justified because there is “high spatial coherence” in the Antarctic. Anyone who has actually visited Antarctica will know that this ill-defined phrase does not apply. Within remarkably short distances, the terrain and the climate are highly variable – more so than almost anywhere else on Earth. Here and throughout, the authors have attempted to justify their analysis on a basis that is manifestly inconsistent with the real world.

*“Here and throughout, the authors have attempted to justify their analysis on a basis that is manifestly inconsistent with the real world.”*

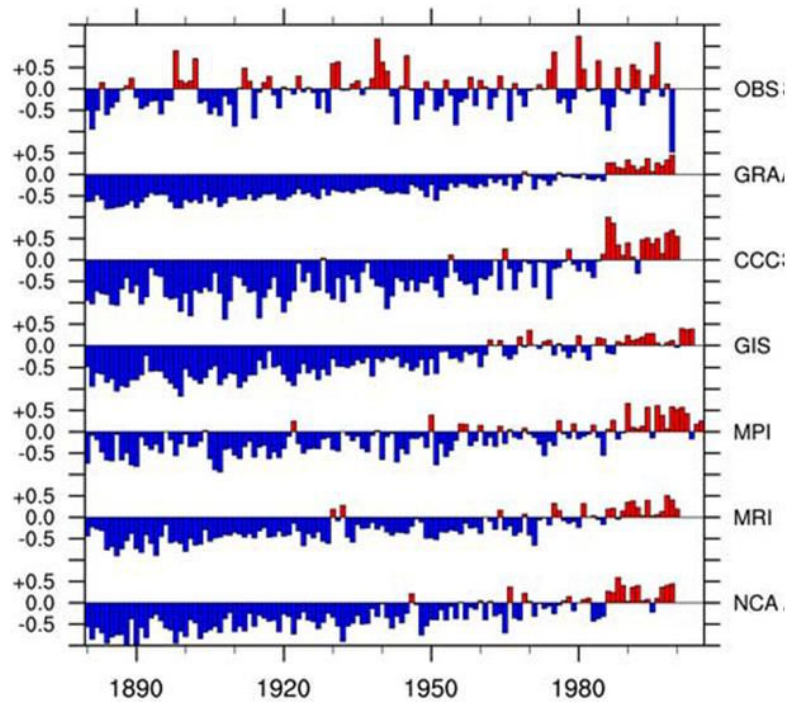
In the Arctic, which is said to have warmed at a rate not dissimilar to that which is now imagined by the authors in the Antarctic, there has been a decline in sea-ice extent, particularly in the summer. At the very moment when Antarctica was setting a new record high for sea-ice extent, the Arctic was setting a new record low (though at both Poles the record, which depends on satellite observations, is only 30 years long). However, it is clear that warming tends to melt ice, and it is also clear that “warming” in Antarctica appears to have led to the opposite result – a record freezing of the Southern Ocean, suggesting to the impartial mind the possibility that Antarctica as a whole may have been cooling, as observations have long shown.



The “Antarctic warming” paper is startlingly at odds with the conclusions of a paper by one of the authors that was published only three years ago. The above graph, from Schneider *et al.* (2006), does not support the contention that there has been a warming trend in Antarctica over the past half-century. One could only draw that conclusion by very carefully choosing a start-point very close to the temperature trough in the early 1950s to show any uptrend.

The same author was also a co-author of another paper on temperatures in the Antarctic, published within the past year, which had shown a serious mismatch between observed temperatures and the output of several computer models of the climate in the region.

The paper, Monaghan *et al.* (2008), concluded that several leading computer models were overestimating the Antarctic warming trend between 1880 and 1999 by two and a half to five times. Monaghan *et al.* could not be sure why this extreme overestimate was occurring, but they thought it might be caused by an assumption in the models that the water vapor content of the Antarctic atmosphere had been increasing more rapidly than it has in reality, causing a strong (but in reality non-existent) radiative forcing at the surface.



As the above graph demonstrates, real-world observations (“OBS”) show no particular trend in Antarctic temperatures for a century until recently, when they began falling sharply. However, the mean of the five models (“GRA”) and each of the five models “predicted” a pronounced, long-run warming trend that had not in fact occurred. One of the models (“GIS”) was the model used by the authors of the “warming Antarctic” paper to justify their conclusion that the Antarctic has been warming, when it has not been.

*It is unsurprising that the latest departure of the computer models into statistical fantasy has not found favor with the world’s climatological community.*

Given these data from the real world, and given the devastating predictive failure of computer models, specifically including the model relied upon by the authors of the “warming Antarctic” paper, it is unsurprising that the latest departure of the computer models into statistical fantasy has not found favor with the world’s climatological community. Nor is it only those who are known to be skeptical of the climate scare who are speaking out against the “warming Antarctic” paper.

Dr. Kevin Trenberth, a lead author of the reports of the UN's climate panel and generally harshly critical of those independent-minded enough to be skeptical of the official "global warming" orthodoxy, has commented that although the paper was "a pretty good analysis" he remained "somewhat skeptical". He said, "It is hard to make data where none exist."

Dr. John Christy of the University of Alabama in Huntsville, who operates satellites used in measuring temperature changes worldwide and is also the Alabama State Climatologist, said: "One must be very cautious with such results because they have no real way to be validated. In other words, we will never know what the temperature was over the very large missing areas that this technique attempts to fill in so that it can be tested back through time."

*"Since there is no way to measure past temperatures in the areas of the Antarctic for which the authors of the "warming Antarctic" paper have invented a temperature record, their hypothesis is not testable and is accordingly of no scientific interest."*

In terms of the scientific method, a hypothesis is only properly so called, and is only of interest to science, if it can be tested. Since there is no way to measure past temperatures in the areas of the Antarctic for which the authors of the "warming Antarctic" paper have invented a temperature record, their hypothesis is not testable and is accordingly of no scientific interest.

Dr. Roger Pielke, Sr., a former Colorado state climatologist at the University of Colorado in Boulder, said the authors of the paper had overstated their results –

"In terms of the significance of their paper, it overstates what they have obtained from their analysis. In the abstract they write, for example, 'West Antarctic warming exceeds 0.1 °C per decade over the past 50 years'. However, even a cursory view of Figure 2 shows that since the late 1990s, the region has been cooling in their analysis. The paper would be more balanced if they presented this result, even if they cannot explain why."

*I feel your study is absolutely wrong...  
With statistics you can make numbers go to almost any conclusion you want. It saddens me to see members of the scientific community do this for media coverage.*

Pielke also questioned how the authors "reconcile the conclusions in their paper with the cooler than average long term sea surface temperature anomalies off of the coast of Antarctica." He said: "These cool anomalies have been there for at least several years. This cool region is also undoubtedly related to the above-average Antarctic sea ice areal coverage that has been monitored over recent years."

Perhaps the most compelling voice from the real world of objective science and actual observation is in an email which a noted Antarctic researcher, Ross



Hays of NASA, sent to the lead author of the “warming Antarctic” paper within days of its publication. With permission of the email’s author, we reproduce it in full here –

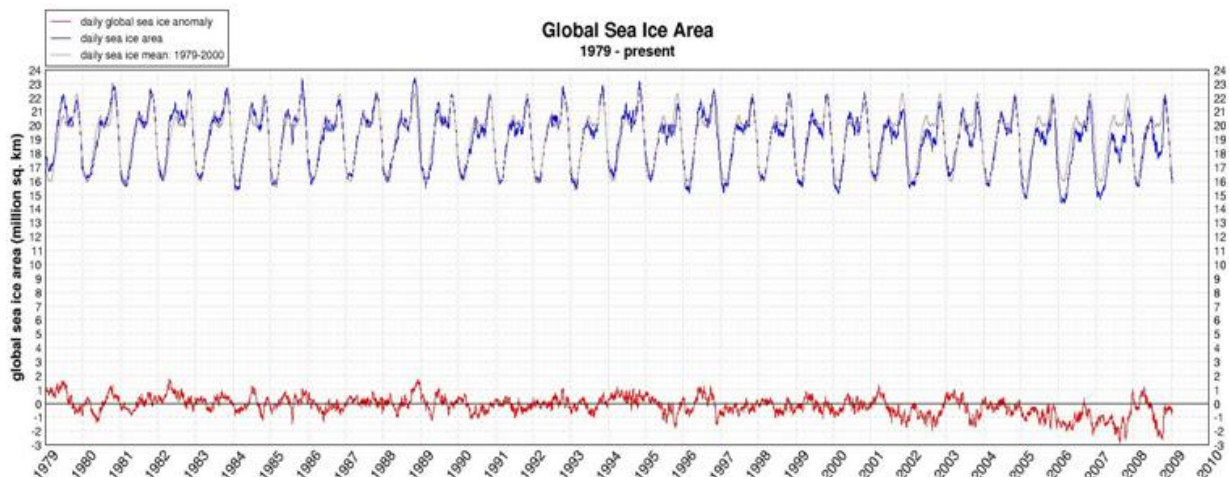
**From:** Ross Hays  
**Sent:** Thursday, January 22, 2009 10:35 AM  
**To:** Eric Steig  
**Subject:** “New data show much of Antarctica is warming”

Eric, – Let me first say that this is my own opinion and does not represent the agency I work for. I feel your study is absolutely wrong. There are very few stations in Antarctica to begin with and only a handful with 50 years of data. Satellite data is just approaching thirty years of available information. In my experience as a day-to-day forecaster who has to travel and do field work in Antarctica, the summer seasons have been getting colder. In the late 1980s helicopters were used to take our personnel to Williams Field from McMurdo Station due to the annual receding of the Ross Ice Shelf, but in the past few years the thaw has been limited and vehicles can continue to make the transition and drive on the ice. One climate note to pass along is that December 2006 was the coldest December ever for McMurdo Station. In a synoptic perspective, the cooler sea surface temperatures have kept the maritime storms farther offshore in the summer season and the colder more dense air has rolled from the South Pole to the ice shelf.

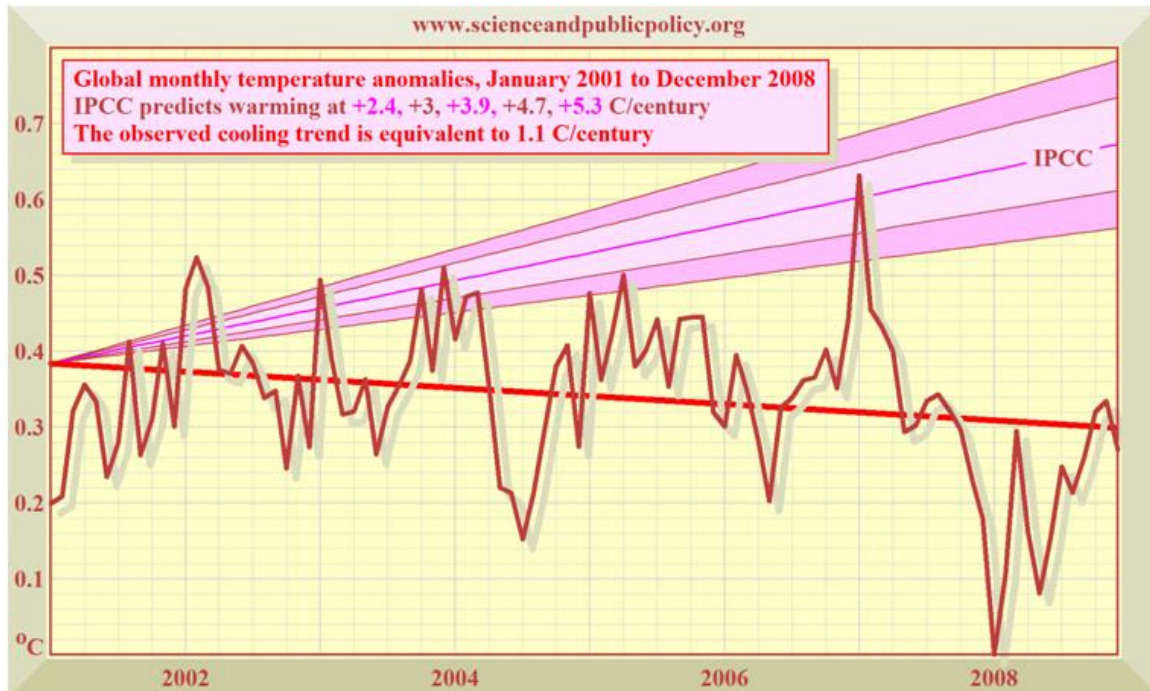
There was a paper presented at the AMS Conference in New Orleans last year noting over 70% of the continent was cooling due to the ozone hole. We launch balloons into the stratosphere and the anticyclone that develops over the South Pole has been displaced and slow to establish itself over the past five seasons. The pattern in the troposphere has reflected this trend with more maritime (warmer) air around the Antarctic Peninsula, which is also where most of the automated weather stations are located for West Antarctica, which will give you the average warmer readings and skew the data for all of West Antarctica. With statistics you can make numbers go to almost any conclusion you want. It saddens me to see members of the scientific community do this for media coverage. Sincerely – Ross Hays, NASA Columbia Scientific Balloon Facility

Two final tests will demonstrate the implausibility of the conclusion drawn by Dr Mann in statements to the media that the “warming Antarctic” demonstrates the correctness of the official “global warming” notion.

First, if both the Arctic and the Antarctic have been warming for half a century, then the *global* extent of sea ice must have declined appreciably. However, as the graph below from the University of Illinois establishes, global sea ice extent exhibits almost no trend at all over the 30-year satellite-observation era.



Secondly, the Arctic has been warming over the past eight years, while all of the global-temperature datasets, summarized in the graph below from the SPPI's global-temperature index, show a strong downtrend equivalent to more than 1 degree Celsius of cooling per century. Anomalous regional warmings such as that which has occurred in the Arctic and is now imagined to have occurred in the Antarctic do not indicate that the globe as a whole is warming at all, whether for anthropogenic or natural reasons.



The atmosphere is, in effect, a giant engine that transfers heat from the tropics towards the Poles. Therefore, over a sufficiently long period, the Arctic and the Antarctic will tend to amplify the temperature trends that are observed globally. For this reason, even if Antarctica had been warming (which, on the evidence from the real world, it obviously has not), the warming would not be evidence of the magnitude of “global warming”.

Finally, it cannot be too often stated that, even if *per impossibile* Antarctica has been warming over the past half century notwithstanding all the real-world evidence that it has been cooling, the *fact* of warming tells us nothing of the *cause* of the warming.

This is yet another occasion on which *Nature's* peer-reviewers have failed to do their job properly, allowing pseudo-statistical pleadings into its cover story solely because it reflects *Nature's* publicly-declared bias in favor of the alarmist presentation of climate science. It is not the business of science journals to declare a prejudice on one side or another of a scientific question, to refuse to print papers counter to that prejudice, and to print only views that appear to pander to that prejudice. That is not science – it is political alchemy. Suppose that *Annalen der Physik* had declared a prejudice in favor of Newtonian physics. How, then,

could Einstein ever have overthrown the old order in his short but devastating paper of 1905?

As Roger Pielke, Jr. once put it when commenting on another bad *Science* paper<sup>1</sup>, “Shoddy science, bad peer review and a failure of the science community to demand high standards is not the best recipe for helping science to contribute effectively to policy. Those who perpetuate such claims...are either ill-informed or dishonest.”

The conclusion bluntly stated by Dr. Hays in his email to the lead author of the “warming Antarctic” paper is our own: “With statistics you can make numbers go to almost any conclusion you want. It saddens me to see members of the scientific community do this for media coverage.”

## SUGGESTED ADDITIONAL READINGS

Temperature Change and CO<sub>2</sub> Change - A Scientific Briefing

[http://scienceandpublicpolicy.org/monckton/temperature\\_and\\_co2\\_change\\_briefing.html](http://scienceandpublicpolicy.org/monckton/temperature_and_co2_change_briefing.html)

Climate Action Plans Fail to Deliver

[http://scienceandpublicpolicy.org/originals/climate\\_action\\_plans\\_fail\\_to\\_deliver.html](http://scienceandpublicpolicy.org/originals/climate_action_plans_fail_to_deliver.html)

CO<sub>2</sub>, Global Warming and Coral Reefs: Prospects for the Future

[http://scienceandpublicpolicy.org/originals/co2\\_coral\\_warming.html](http://scienceandpublicpolicy.org/originals/co2_coral_warming.html)

Global Cooling is really Global Warming

[http://scienceandpublicpolicy.org/scarewatch/warming\\_really\\_cooling.html](http://scienceandpublicpolicy.org/scarewatch/warming_really_cooling.html)

An unscientific “Science Brief” by the Pew Center on “The Causes of Global Climate Change”

[http://scienceandpublicpolicy.org/originals/pew\\_center\\_science\\_brief.html](http://scienceandpublicpolicy.org/originals/pew_center_science_brief.html)

*Cover Photo: Courtesy of www.travelpod.com.*



<sup>1</sup> [http://sciencepolicy.colorado.edu/prometheus/archives/climate\\_change/000537the\\_other\\_hockey\\_sti.html](http://sciencepolicy.colorado.edu/prometheus/archives/climate_change/000537the_other_hockey_sti.html)