

Forbes

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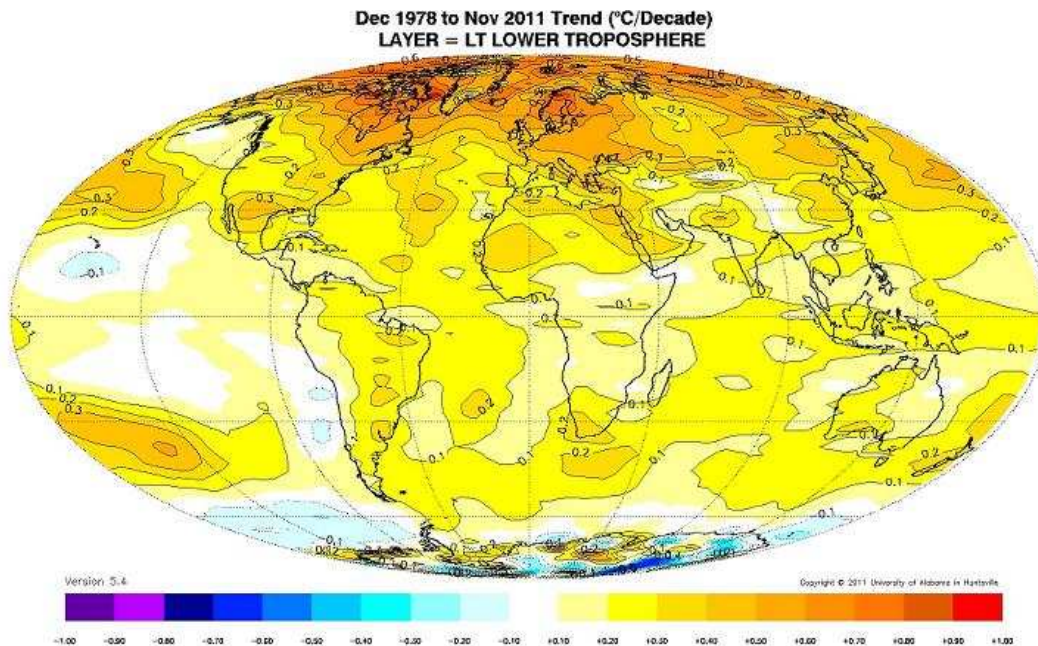
At the interface of public science and public policy

1/05/2012 @ 4:25PM | 1,088 views

Is Global Warming A Bipolar Disorder?

We now have a full one-third of a century of satellite-measured lower atmospheric temperatures, and what an interesting story the machines are revealing! I think it's fair to say that they provide increasing evidence in favor of the "lukewarm" view of climate change, or the hypothesis of modest warming. In climate change, "it's not the heat, it's the sensitivity", or the amount of warming that a change in carbon dioxide causes, that is important.

Almost every map of the decadal trends in the satellite data is centered on the Equator and looks like this:



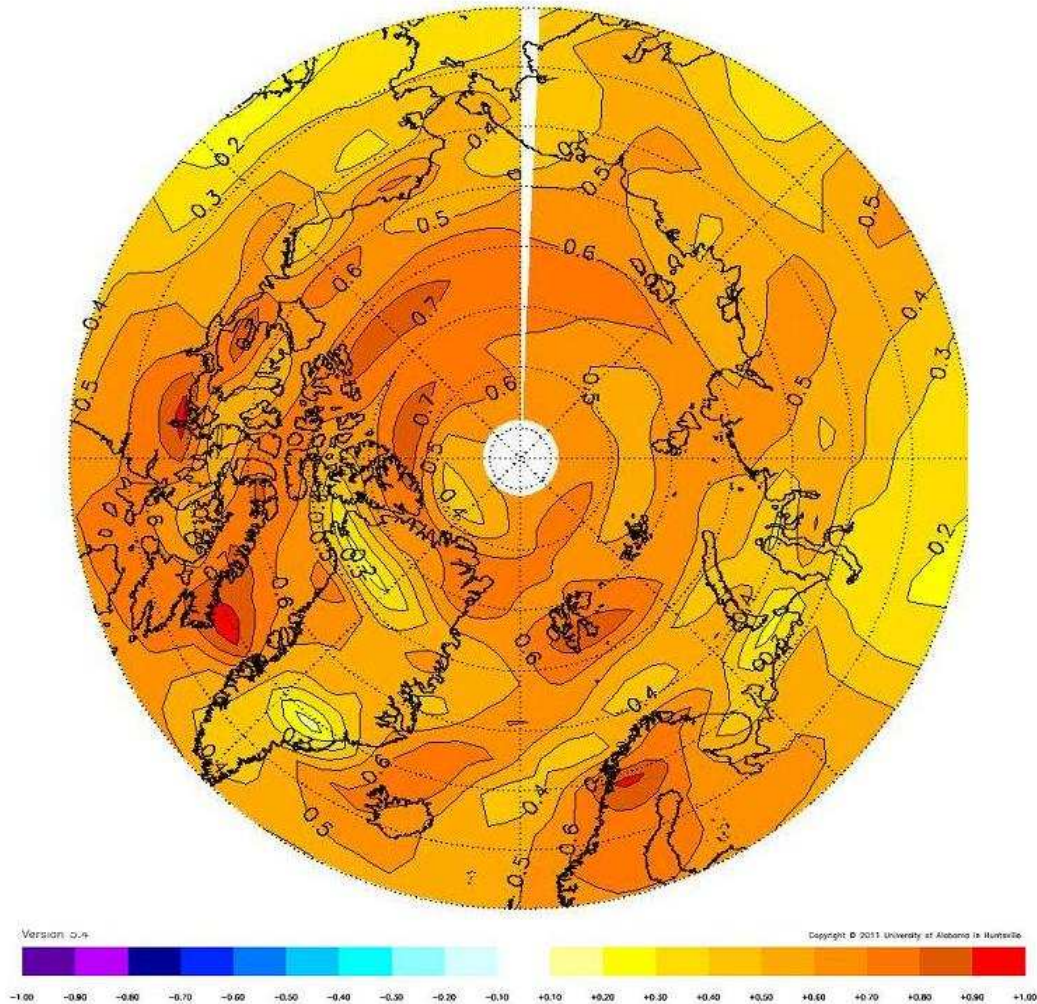
Broken lines outline areas that have a negative decadal trend; solid lines outline areas that have a positive decadal trend. Each contour represents 0.1 degree Celsius, starting at -0.10 and +0.10 degrees C.

But much more interesting things are going on around the poles, where the climate action is.

For a number of reasons, computer models with added atmospheric carbon dioxide preferentially warm the mid-and high-latitude land areas of the northern hemisphere that are ice-free, which also enhances summer melting of the relatively shallow ice in the Arctic Ocean. That, in turn, results in an increased absorption of solar radiation by the darker ocean surface, which also contributes to warming.

Here's a view from over the North Pole, with vision down to 60°N:

North Polar Projection (60 to 90 N) Dec 1978 to Nov 2011 Trend (°C/Decade)



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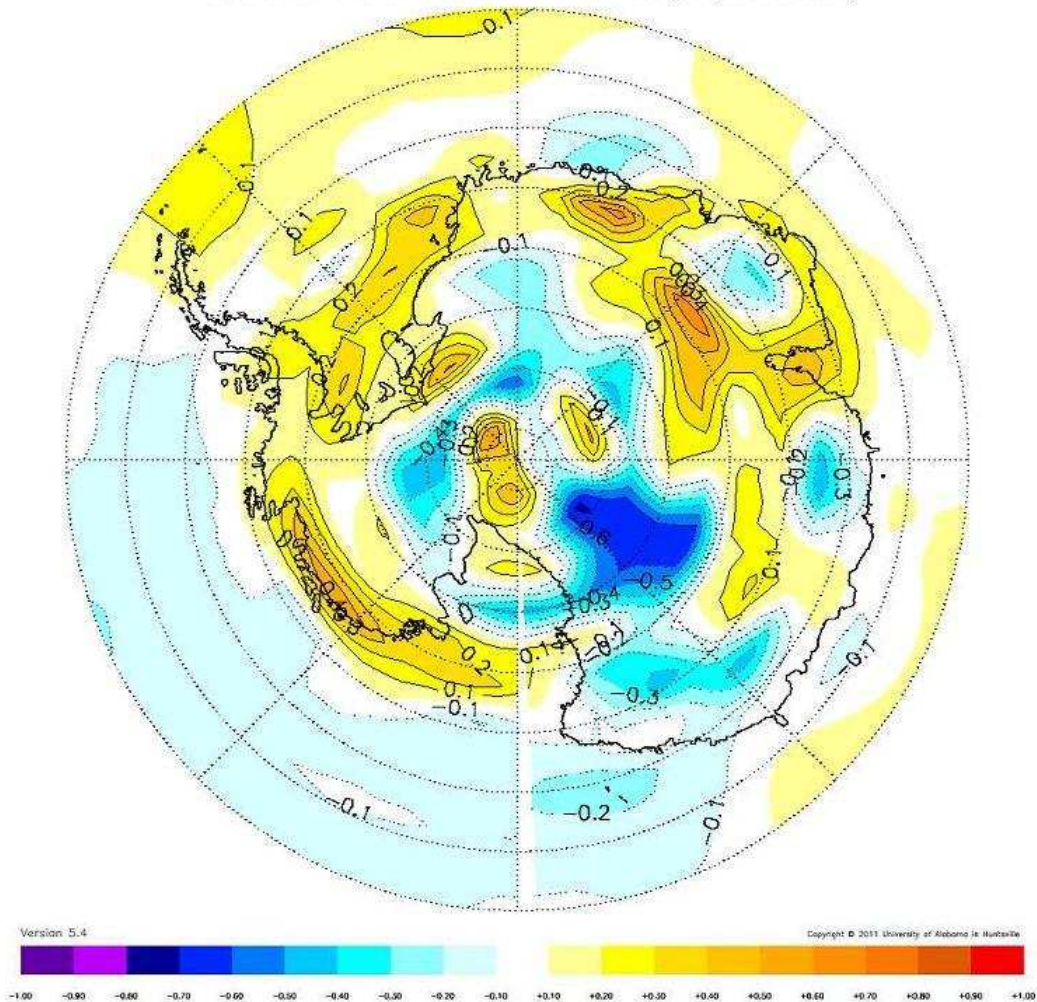
The warming of high-latitude North America and the adjacent Arctic Ocean is the largest of any on the planet. Note that there tends to be less warming over the massive Greenland ice cap.

That's because Greenland is kind of a miniature Antarctica, where things are much different than they are in our hemisphere.

Here's the view from over the South Pole:

South Polar Projection (60 to 90S)

Dec 1978 to Nov 2011 Trend (°C/Decade)



Antarctica is surrounded by a very cold and turbulent ocean, whose massive thermal capacity (compared to land) drastically reduces warming, compared to what we see in our

hemisphere. But, even a tiny warming of the huge Southern Ocean must increase the amount of moisture in the air around Antarctica which can only result in more clouds and snow over the continent. Indeed, interior Antarctica can conceivably cool with a modest “global” warming. Warming doomsayers conveniently ignore the fact that even the UN’s models (current version) forecast that Antarctica will gain ice this century.

A lot of interior Antarctica (and a big patch of the southern ocean, for reasons I think no one understands) is getting colder. There are some pockets of decent maritime warming right near the coast, which almost certainly are increasing snowfall substantially when the wind blows onshore.

Here’s the lukewarm part: The bipolar behavior is pretty close-in pattern-to what theory and models say should be happening. But the models aren’t even close in the amount of warming.

The average warming trend in the one-third century of satellite data is 0.14°C per decade, but the warming rate in the UN’s midrange climate models is 0.25°. This differential has been pretty constant ever since the satellite data was corrected for orbital and sensor issues.

There’s no reason for that not to continue. In other words, the UN’s average forecast of 3.2°C of warming this century is off by about 40%, which should spell the victory of the lukewarmers and the death-knell of apocalyptic global warming. Indeed, it is not the heat, it’s the sensitivity, which looks to be quite a bit lower than what’s in those computer simulations.