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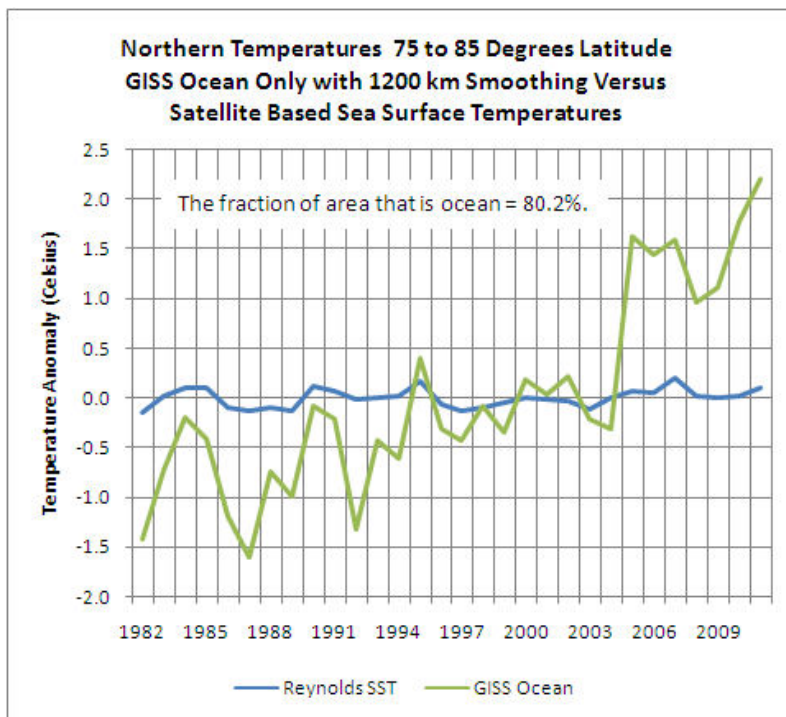
by Ken Gregory

Hotter in Hansen's World due to Missing "Oceans" of Data

NASA's GISS temperature trend in the Arctic Ocean is 35 times the *satellite measured* sea surface temperature trend.

James Hansen is responsible for NASA's Goddard Institute for Space Studies (GISS) temperature index that is widely used by alarmists to 'prove' global warming. For the satellite era (since 1981) the temperature index generally uses surface weather stations for the land portion and satellite measured sea surface temperatures for the ocean portion of the index. The GISS index greatly exaggerates the warming in the Arctic Ocean by replacing the sea surface temperature measurements with land temperatures that increase much faster.

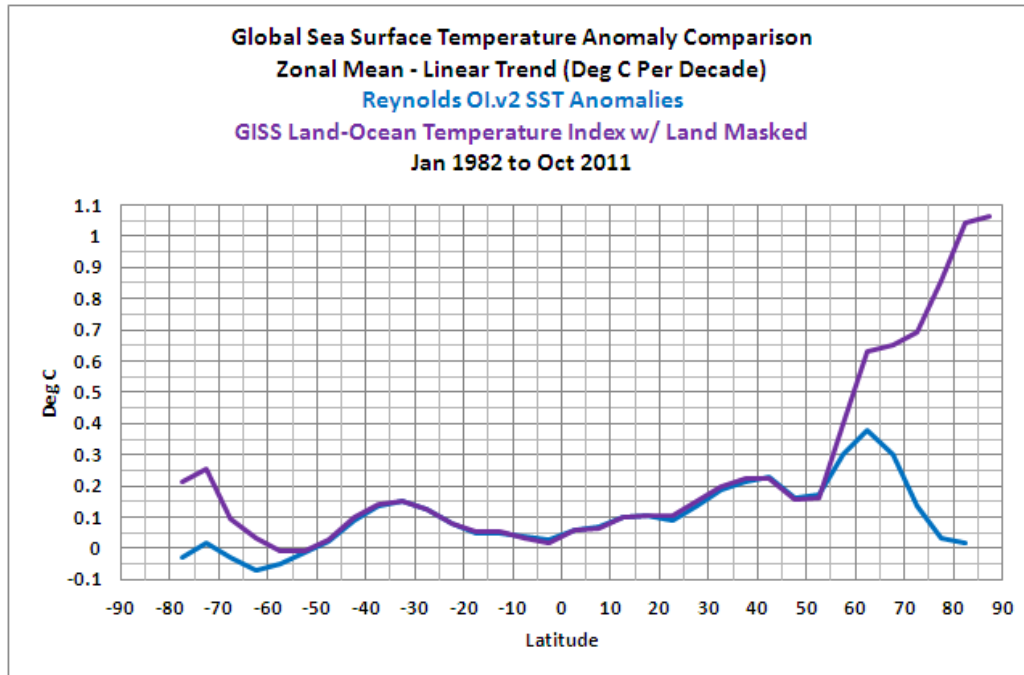
According to detailed research by climate researcher Bob Tisdale, NASA's GISS deletes all the sea surface temperature data in areas of the Arctic and the Southern Ocean with seasonal and permanent sea ice and replaces it with land surface temperature data, which naturally warms at a much higher rate. The land temperatures are extrapolated over the oceans up to 1200 km from the surface weather stations. Land temperatures are used over oceans even in the summer where there is no sea ice.



The graph compares the GISS temperatures over the Arctic Ocean, the green line, to the satellite measured sea surface temperatures, the blue line, from 75 to 85 degrees latitude. In this region, the satellite-based sea surface temperatures have increased only slightly, but the GISS index falsely shows the ocean temperatures have increased by about 3 degrees Celsius in 30 years. Hansen's GISS temperature dataset exaggerates the Arctic Ocean warming trend 35 fold. The satellite based sea surface product (Reynolds v2) uses advanced satellite sensors in conjunction with observations from ships and buoys.

Hansen's trick of replacing measured sea surface temperatures with land measured temperatures in areas with seasonal sea ice caused a large warming bias in the global temperature trend. Bob Tisdale says, "They increased the trend of the global sea surface temperature anomalies from 0.088 degrees Celsius per decade to 0.125 degrees Celsius per decade or about 42%."

Tisdale has compared the warming trends by latitude band of the sea surface temperatures as determined by the Reynolds satellite product to the ocean-only portion of the GISS temperature index. The comparison is shown in the graph below.



The South Pole is at the left, the equator is in the middle at 0 degrees latitude and the North Pole is at the right. The graph shows the linear warming rate in degrees Celsius per decade in each 5 degree latitude band over the period January 1982 to October 2011. The purple curve shows the GISS temperature trends over the oceans after they replaced the measured sea surface temperature (the blue curve) with the land temperature extrapolated over the oceans where there is seasonal sea ice. The discrepancy north of 60 degrees latitude increases to over 1 degree per decade in the high Arctic, and the discrepancy in the southern ocean is up to a quarter degree per decade.

The 20th century warming was not global and there has been no warming this century. Antarctica (graph [here](#)) and the southern ocean have been cooling for 30 years, and the sea surface temperature at the equator has barely shown any warming at all.

A temperature index as important as this must honestly reflect reality. James Hansen has a huge conflict of interest as he is both an extreme climate activist and the person in charge of producing a temperature index used by governments to justify imposing carbon taxes.

Arno Arrak, author of *“What Warming?”* had this to say about James Hansen and temperature models in a New York Times on-line commentary, “In the seventies he was an astronomer with the Pioneer Venus Project, even had an experiment on board the spacecraft that was on its way to Venus. Suddenly in 1978 he quit, abandoned his experiment, and joined GISS because “The composition of the atmosphere of our home planet was changing before our eyes...” His first task at GISS was to devise a new method for measuring global temperature change. There had been no warming in the fifties, sixties, and seventies but lo and behold, as soon as his method was implemented, global temperature began to rise. Trouble is, satellites could not see the rise. But in three years he was boss at GISS and in ten years he could announce to the Senate that global warming was here and we were the cause.”

For further information on the GISS Arctic Ocean data, see Bob Tisdale’s blog post [here](#).