NOAA PROVES AN OUTLIER AGAIN IN MAY

By Joseph D'Aleo, CCM

NOAA proclaimed May 2009 to be the 4th warmest for the globe in 130 years of record keeping. Meanwhile NASA UAH MSU satellite assessment showed it was the 15th coldest May in the 31 years of its record. This divergence is not new and has been growing. Just a year ago, NOAA proclaimed June 2008 to be the 8th warmest for the globe in 129 years of record keeping. Meanwhile NASA satellites showed it was the 9th coldest June in the 30 years of its record

We have noted in the last year that NOAA has often become the warmest of the 5 major data sets in their monthly global anomalies. They were second place until they introduced a new ocean data set to be discussed later.

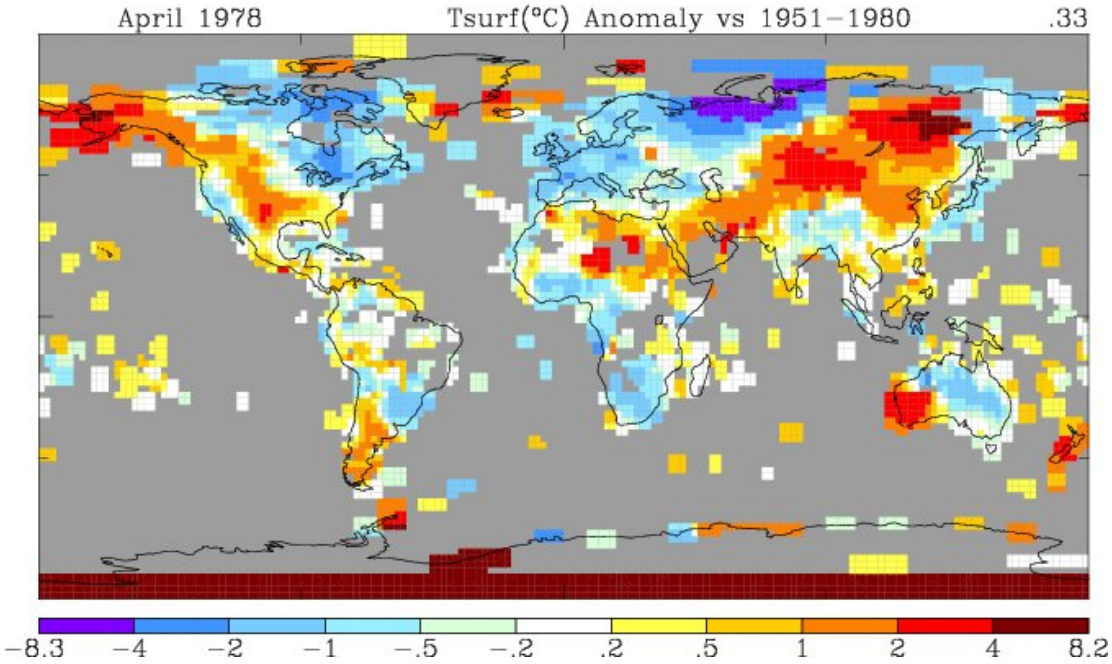
NOAA and the other ground based data centers would have more credibility if one of the changes resulting in a reduction of the warming trend and not an exaggeration which has been the case each time.

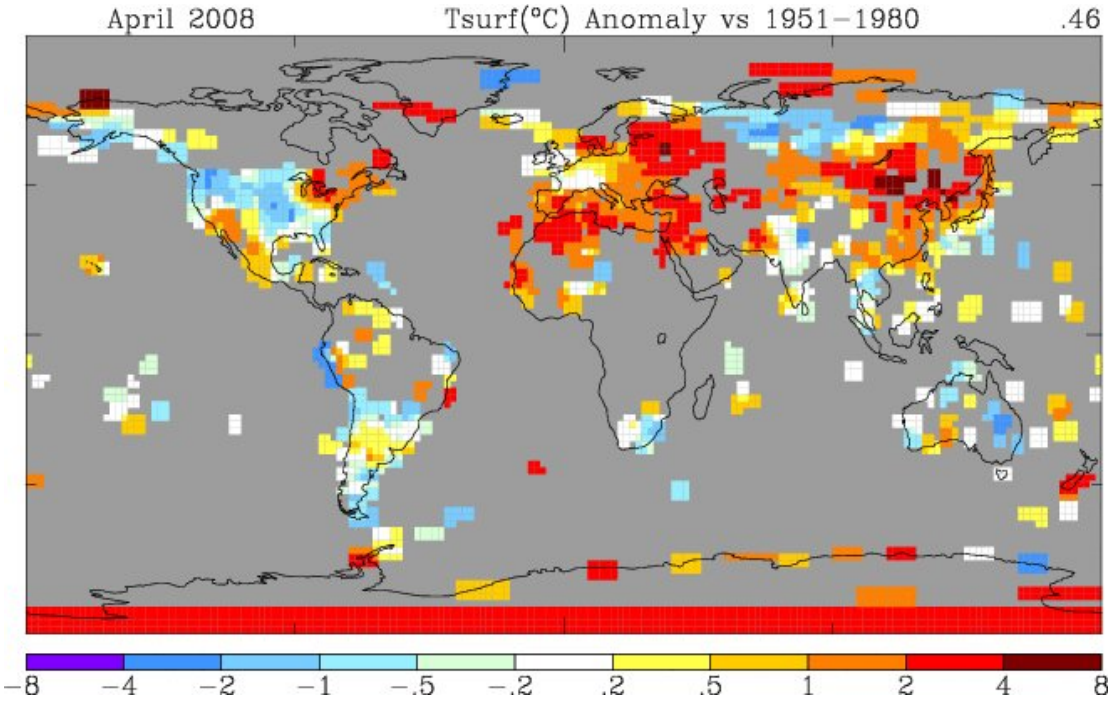
THE MANY ISSUES WITH THE STATION BASED DATA CENTERS

NOAA and the other station base data centers suffer from major station dropout (nearly 3/4ths of the stations) many of them rural, there has been a tenfold increase in missing months in remaining stations, no adjustment for urbanization even as the population grew from 1.5 billion to 6.7 billion since 1900 and documented bad station siting in the United States and almost certainly elsewhere. Also 70% of the earth is ocean and the methods for measurement there over the years have changed from ship buckets to ship intake to satellite surface sensing. Each measures a different level and produces different results. Transitioning was gradual making estimation more challenging.

STATION DROPOUT

NOAA's allowing over 2/3rds of the world's stations to dropout in 1990. You can see the coverage difference between the stations on this GISS analysis of the NOAA gathered stations from 1978 versus that in 2008.

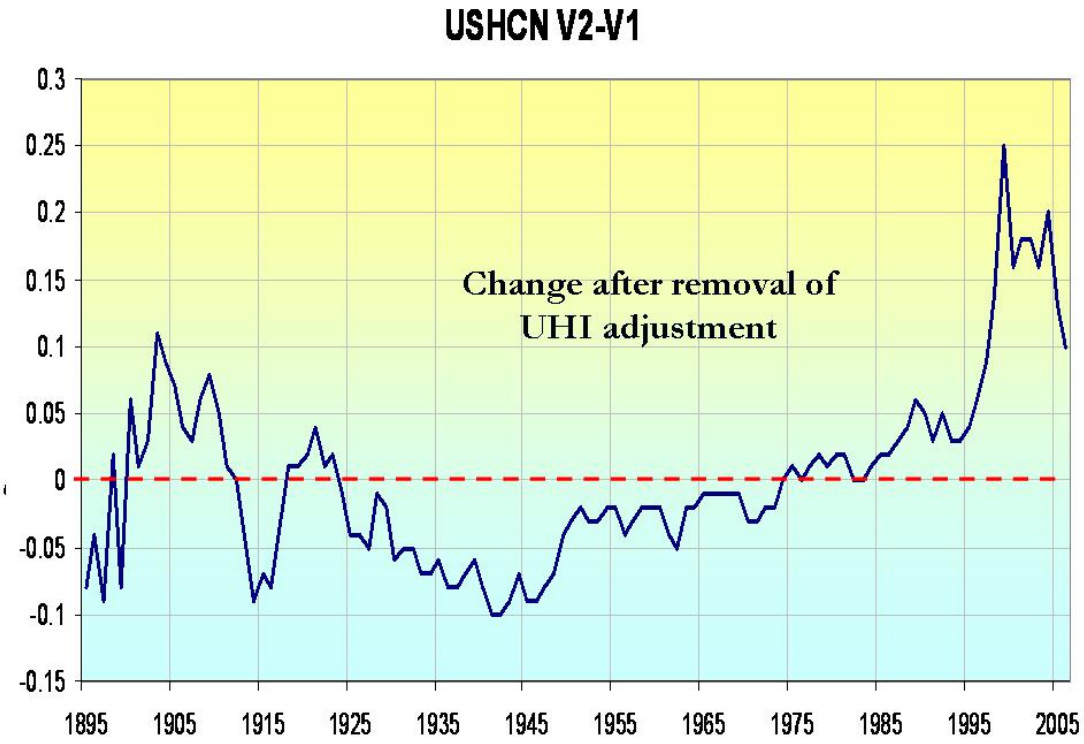




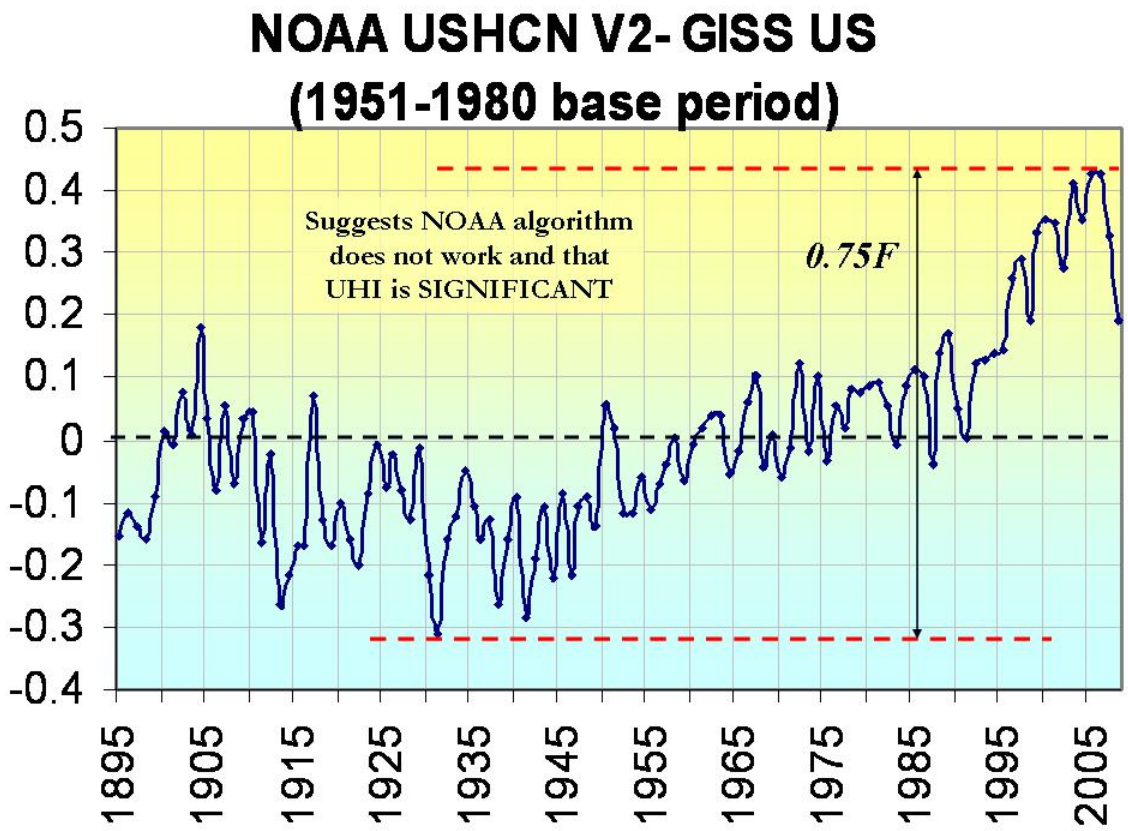
Notice the big gaps in Canada (where May was very cold), South America, Africa, western Asia, Greenland and Australia. Since many of these areas are more rural, this dropout led to more urban bias and thus warming.

In the United States, NOAA has removed the US Urban Heat Island (UHI) adjustment and performs no UHI adjustment on global data. This is despite the facts that NCDC's own Director Tom Karl in Kark et al (1988 J Climate) in Urbanization: its detection and effect in the United States climate record, showed the importance of urban adjustment

and the Hadley Centre's Phil Jones (2008) in Jones et al. in Urbanization effects in large-scale temperature records, with an emphasis on China, showed UHI's contamination of data in China. There are many other peer review papers supporting the need for UHI adjustment even for smaller towns to determine climate trends. The removal of the UHO adjustment resulted in an increased warming trend as you would expect but an oddball cooling in the 1930s.



Removal of the UHI for the US resulted in a warming relative to GISS (which still does a UHI adjustment that seems to work for the US) with UHI in the United States of an amazing 0.75F since 1940.

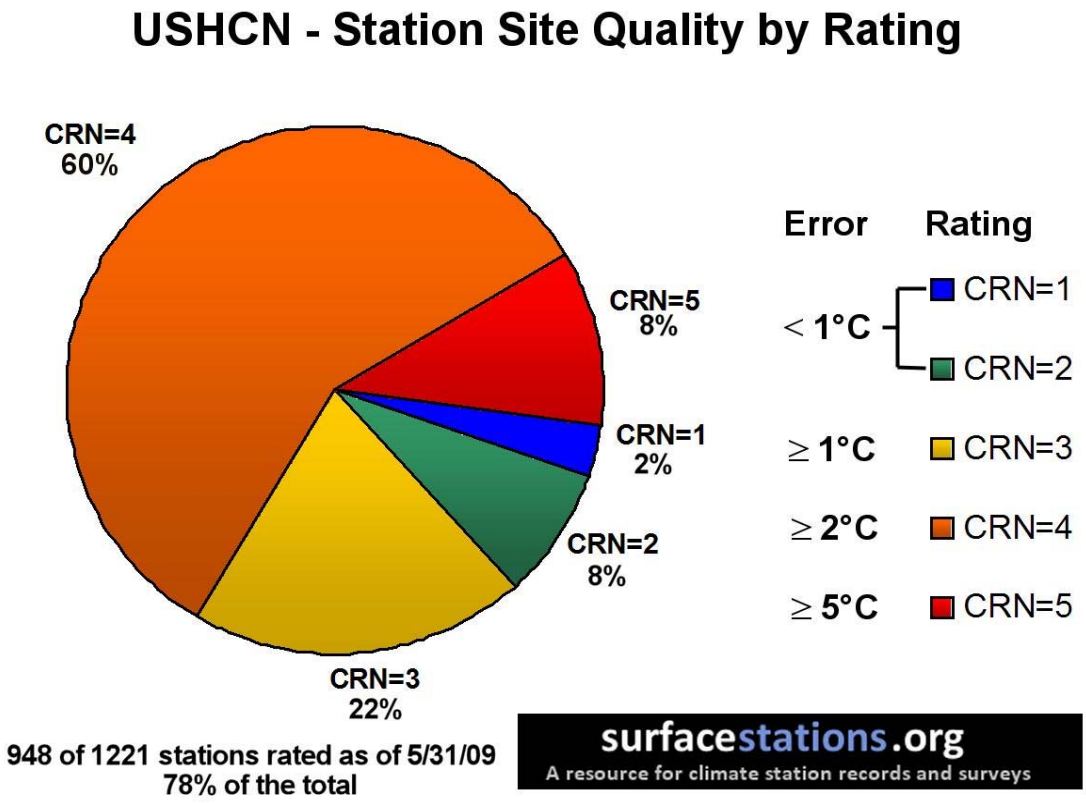


BAD SITING

Anthony Watts has clearly shown increasingly bad siting can lead to warm bias.

"During the past few years a team of more than 650 volunteers visually inspected and photographically documented more than 860 of these temperature stations. We were shocked by what we found. We found stations located next to the exhaust fans of air conditioning units, surrounded by asphalt parking lots and roads, on blistering-hot rooftops, and near sidewalks and buildings that absorb and radiate heat. We found 68 stations located at wastewater treatment plants, where the process of waste digestion causes temperatures to be higher than in surrounding areas.

In fact, we found that 89 percent of the stations - nearly 9 of every 10- fail to meet the National Weather Service's own siting requirements that stations must be 30 meters (about 100 feet) or more away from an artificial heating or radiating/reflecting heat source. In other words, 9 of every 10 stations are likely reporting higher or rising temperatures because they are badly sited."



For example, here is a climate station of record located in a parking lot, at the University of Tucson, operated by the Atmospheric Sciences Department.

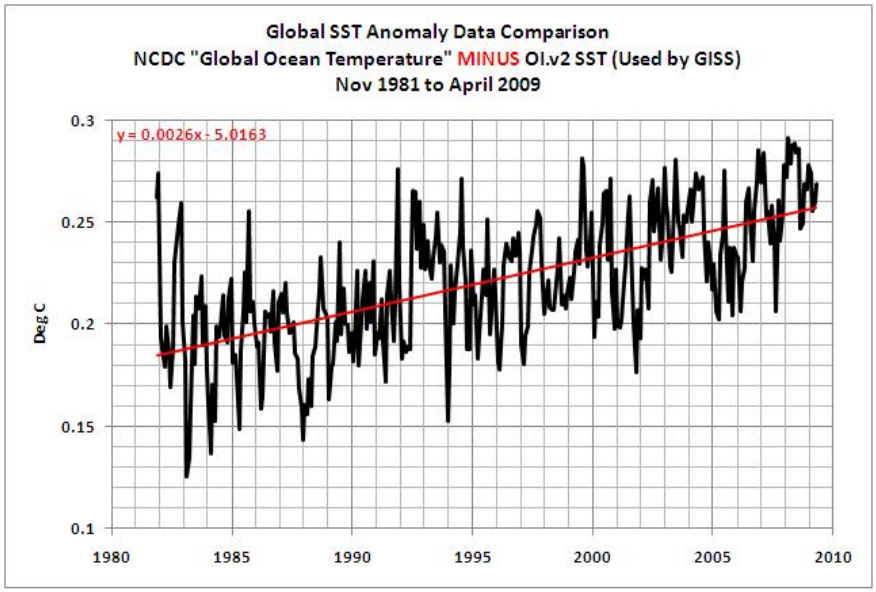
The conclusion is inescapable: The U.S. temperature record is unreliable. The errors in the record exceed by a wide margin the purported rise in temperature of 0.7C (about 1.2F) during the twentieth century. My report is available in full as this PDF document ".

TURNING TO THE OCEANS

Now having gotten all the warmth possible out of the land temperatures, they turn to the oceans, so promising as they cover 70% of the earth's surface. It appears they have found more warming there be reanalysis of past data.

Thanks to Bob Tisdale , we have a better idea why that is the case with his story "Recent Differences Between GISS and NCDC SST Anomaly Data And A Look At The Multiple NCDC SST Datasets" covered in the recent WUWT post Something hinky this way comes.

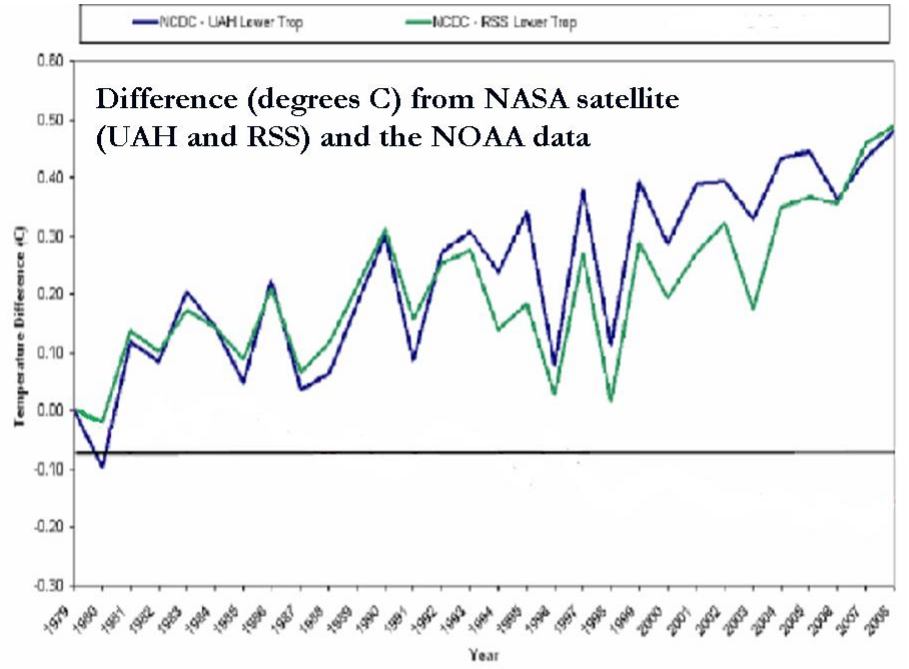
NOAA has a revised warmer sea surface data set now implemented that is significantly warmer than the prior and the current version used by GISS.



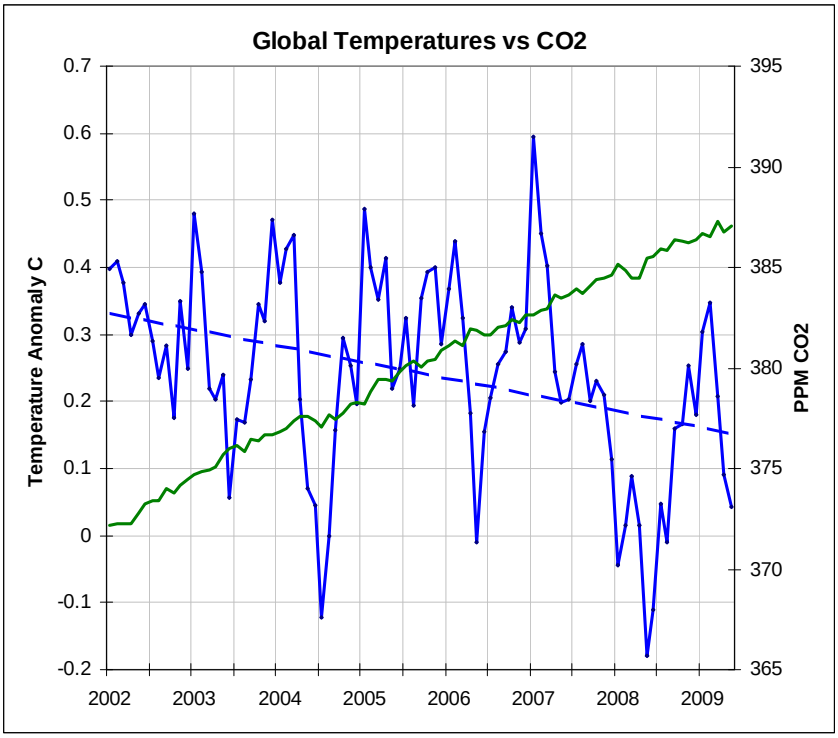
SATELLITE A BETTER WAY

Satellite are widely believed to be the most reliable source of reliable trend information if you can calibrate the differences as one bird gets phased out and a new one goes online. UAH and RSS have gotten very good at this in a very cooperative way in recent years.

When you compare the satellite trends of both UAH and RSS with NOAA, you see an increasing warm bias in the NOAA data which explains why months with major cold in the news get ranked so high by NOAA and not by the satellite sources. The difference is approaching 0.5C (almost 1F).

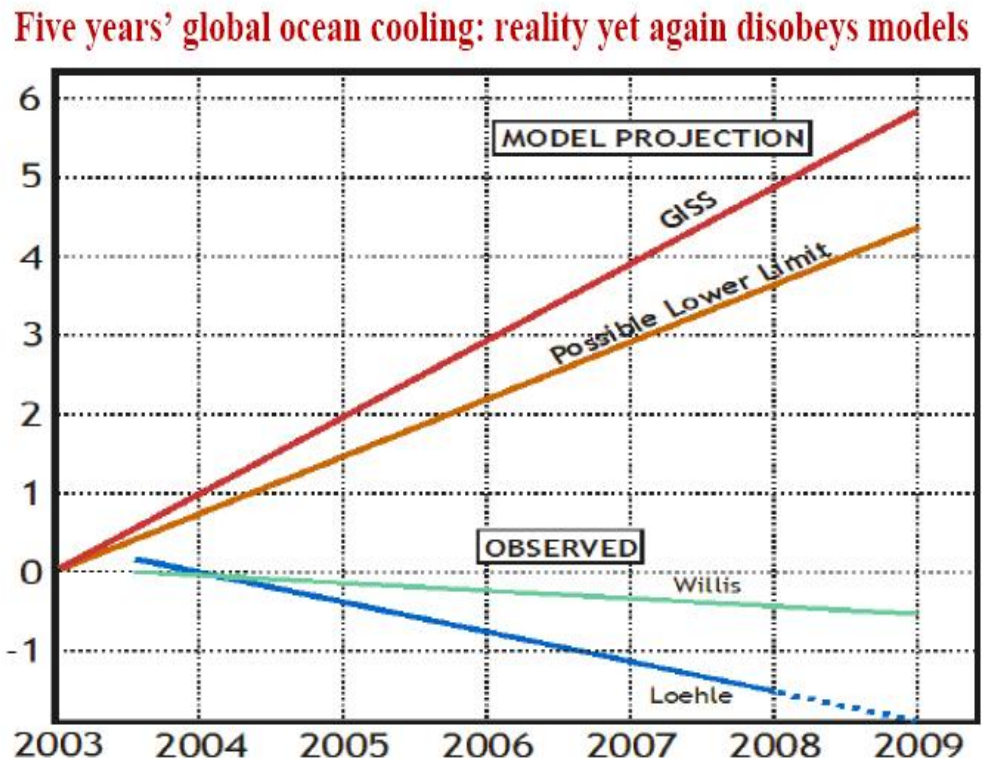


The satellite data is regarded even by NOAA administration to be the most reliable but they don't use it in releases as it is only available for 30 years. It has shown a cooling since 2002.



OCEAN HEAT CONTENT

Roger Pielke Sr.advocates using ocean heat content as a measure of climate change. Bill Dipucchio showed how using Pielke's Willis (2008) data and Loehle's data since 2003 deployment of the Argo buoys, ocean heat content has fallen as well.



These all suggest we ignore NOAA's nonsense global monthly press releases and pay close attention to the satellite and ocean temperature trends.