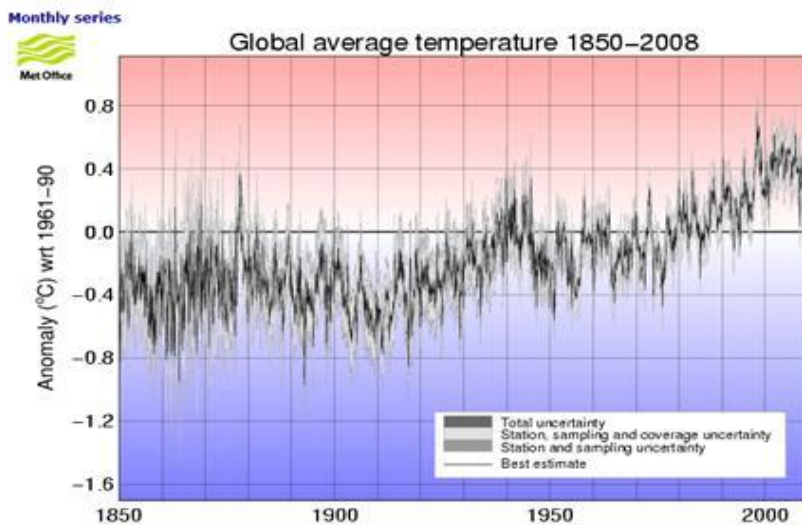


Carbon Dioxide is Not a Threat to Human Health

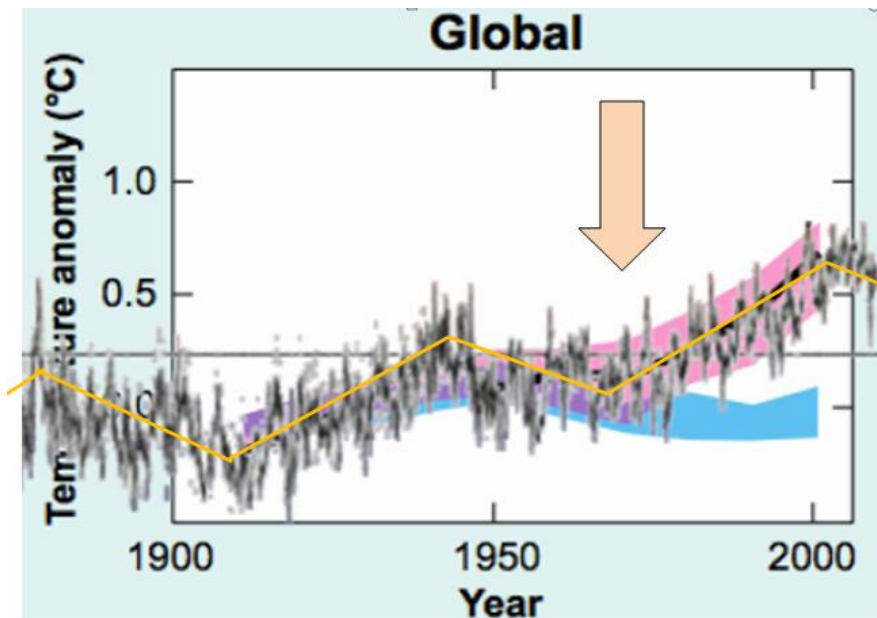
Alan Cheetham, M.A.Sc. (all of the following information is fully documented in greater detail at www.appinsys.com/GlobalWarming) (email: gw@appinsys.com)

Summary: The evidence that recent warming was caused by CO2 is lacking – the computer models do not match the reality of the observations. There is greater evidence that it is caused by solar variations. CO2 is not a threat to human health.

The following figure shows global temperature anomalies 1850 – 2008 (Hadley Centre data [<http://hadobs.metoffice.com/hadcrut3/diagnostics/global/nh+sh/>])

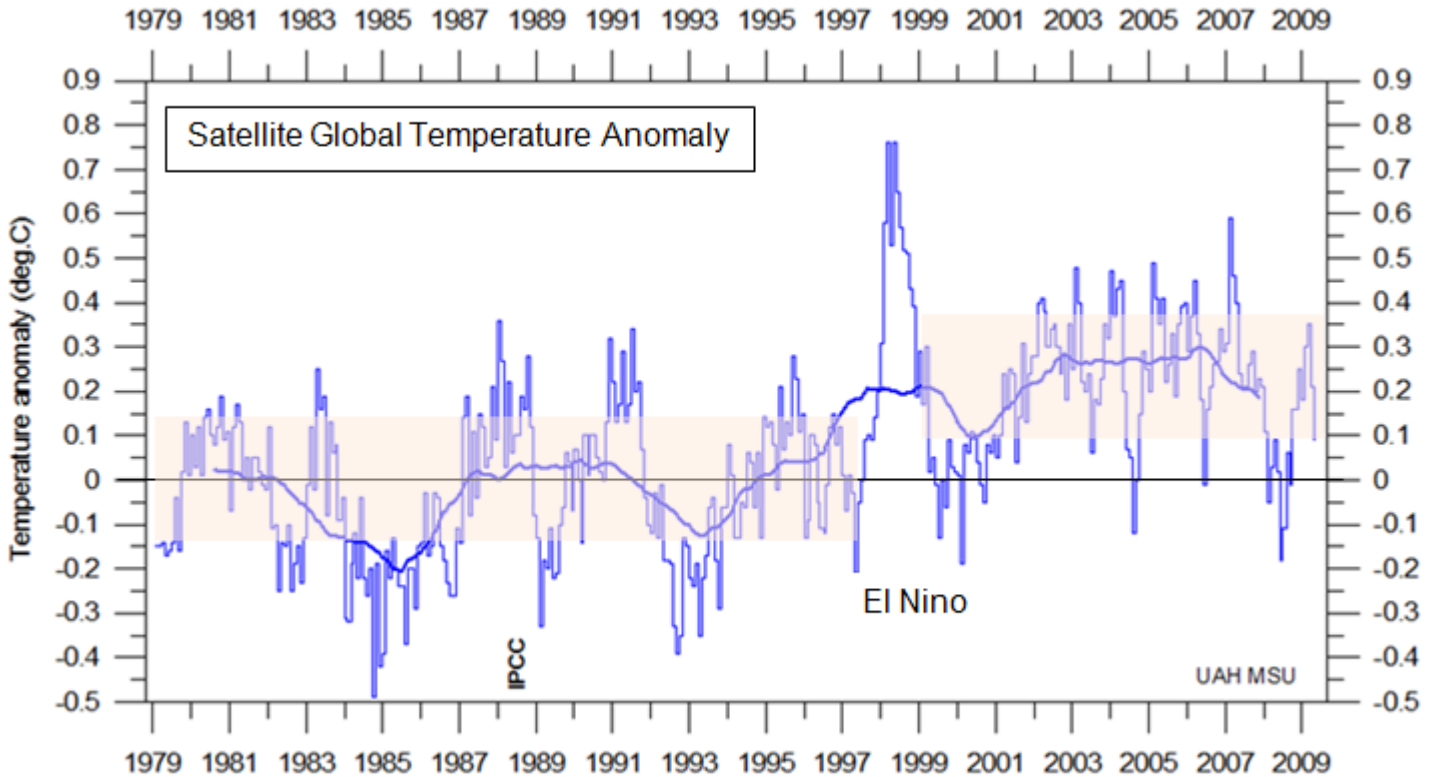


The following figure superimposes the above temperature anomalies on the IPCC graph of model outputs. (IPCC 2007 AR4 Figure SPM-4 [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf])

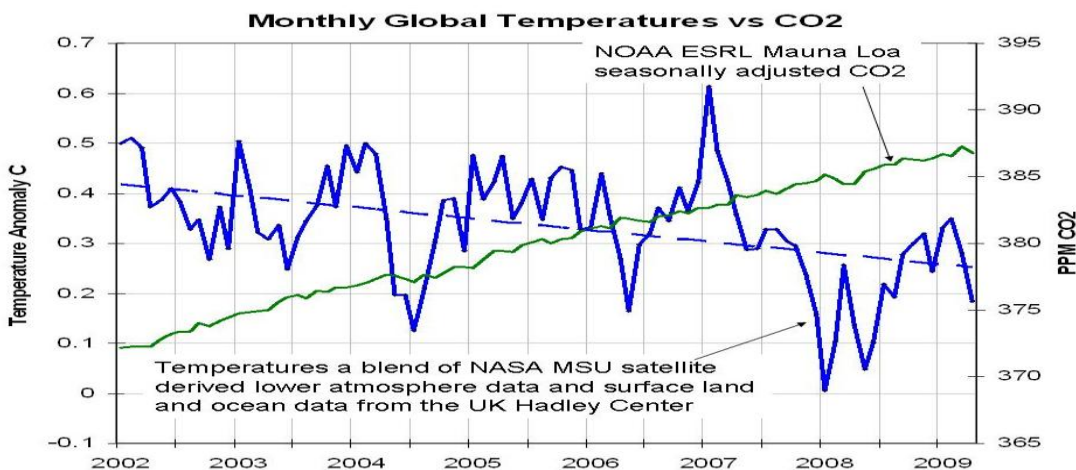


In the above figure, the blue shaded bands show the result of 19 simulations from 5 climate models using only the natural forcings. Red shaded bands show the result of 58 simulations from 14 climate models including anthropogenic CO2. This clearly shows that prior to about 1972, the global warming is fully explained by climate models using only natural forcings (i.e. no human CO2). The models need input of CO2 only after 1972 – prior to 1972 all warming was natural, according to the IPCC. There is no empirical evidence relating CO2 to the post-1972 warming – only the output of computer models.

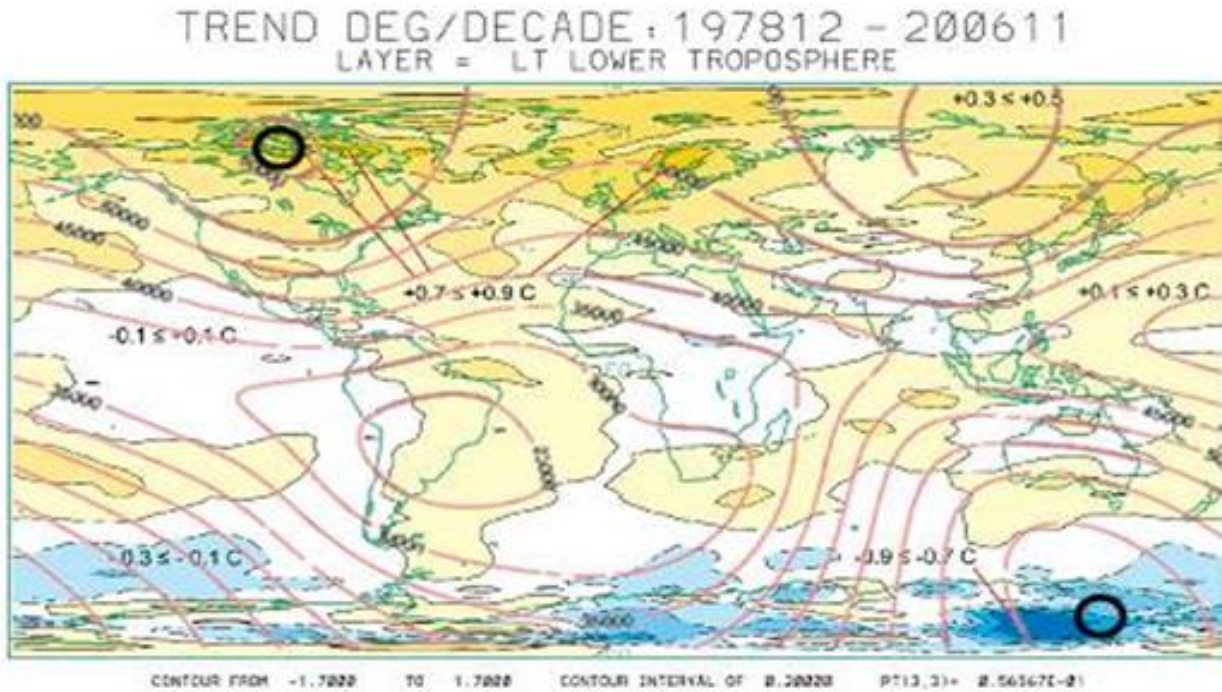
The following figure shows the global satellite temperature anomalies since satellite data first started to become available in 1979. From 1979 to 1997 there was no warming. Following the major El Nino in 1997-98, there was a residual warming and since then, no warming.



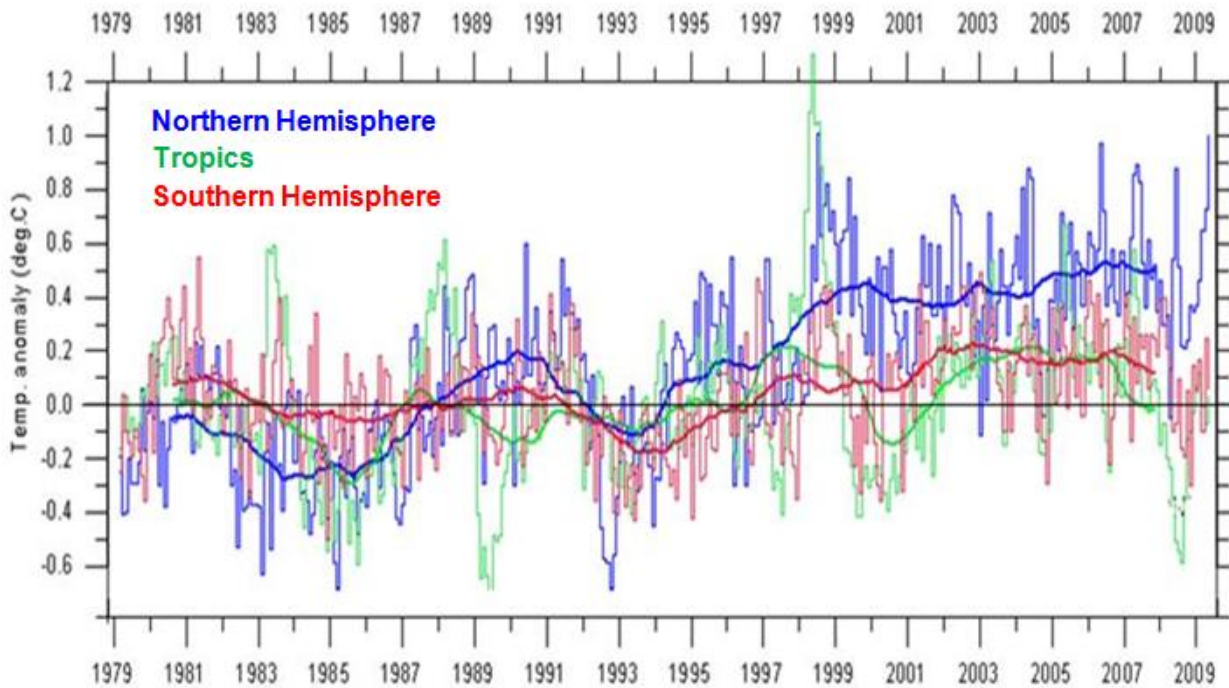
The following figure shows global temperatures since 2002 – a slight cooling (in other words, the warming is not accelerating or exceeding predictions). This figure also shows the non-correlation with CO2.



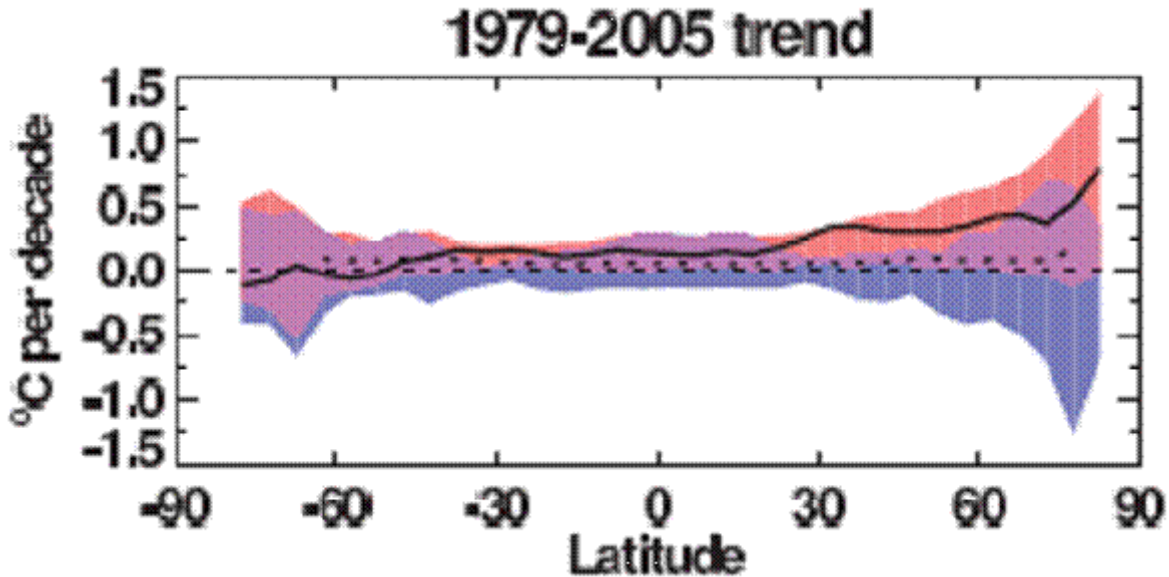
Global warming is **not** global. The following figure shows global temperature change from 1978 to 2006 (from satellite data – University of Alabama at Huntsville [<http://climate.uah.edu/>]). Warming has been occurring in the Arctic and Northern Hemisphere but not the southern hemisphere.



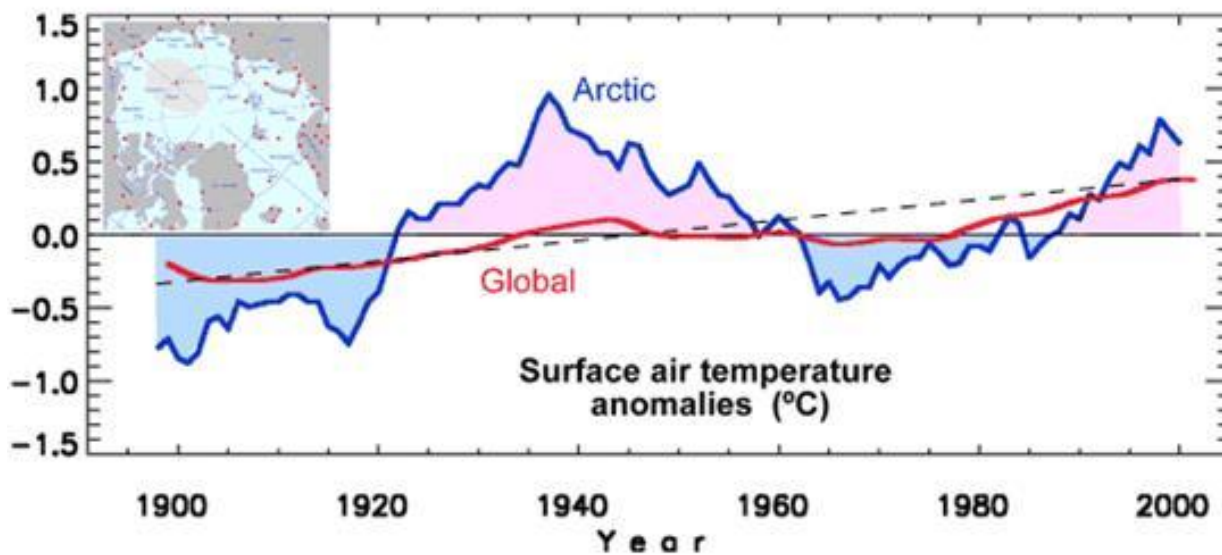
The following figure shows satellite temperature anomaly data for the three world regions of Northern Hemisphere, Tropics and Southern Hemisphere, confirming that warming has only been occurring in the Northern Hemisphere. This does **not** match the CO2 theory.



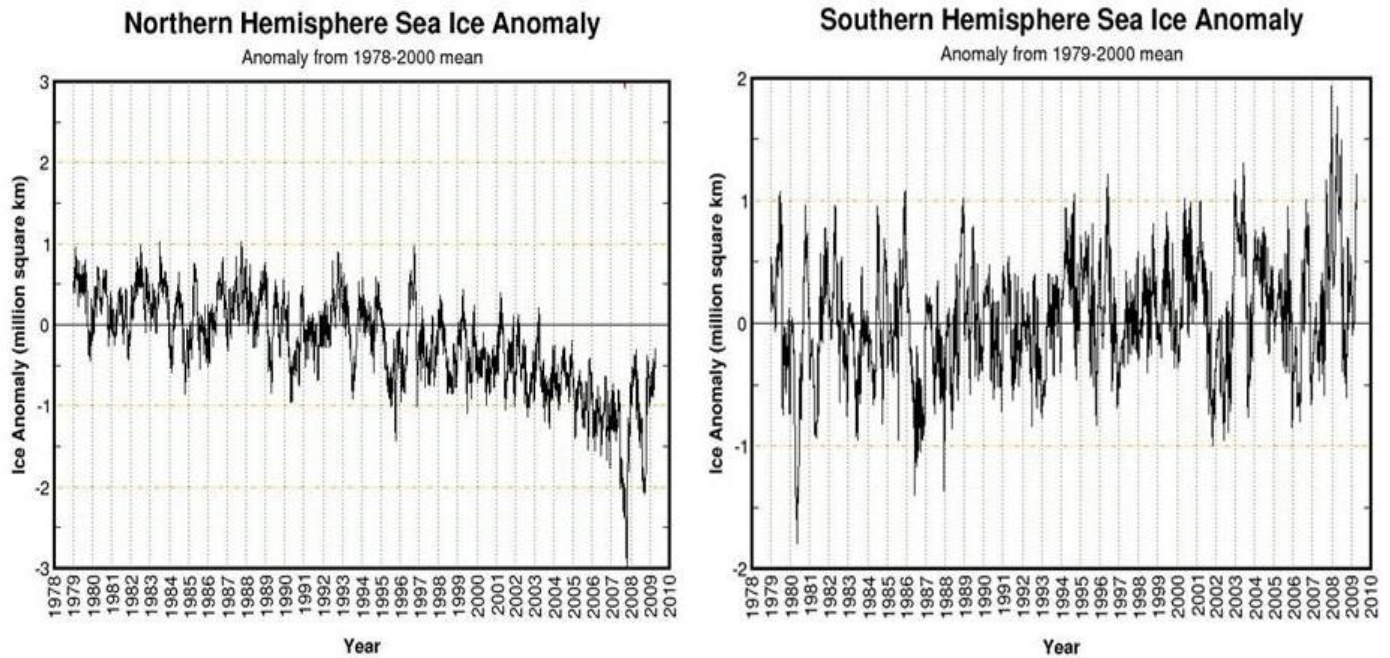
The following figure is from the IPCC Fourth Assessment Report (AR4) Figure 9.6 (2007). It shows the change in temperature (degrees C per decade) by latitude. The black line shows the observed temperature, the blue band shows the output of the computer models including only natural factors, whereas the red band shows the output of computer models including anthropogenic CO2. Notice that **the models without CO2 (blue shaded area) can explain all of the warming for most of the world up to 30 degrees north latitude**. The warming has been strictly a Northern Hemisphere phenomenon.



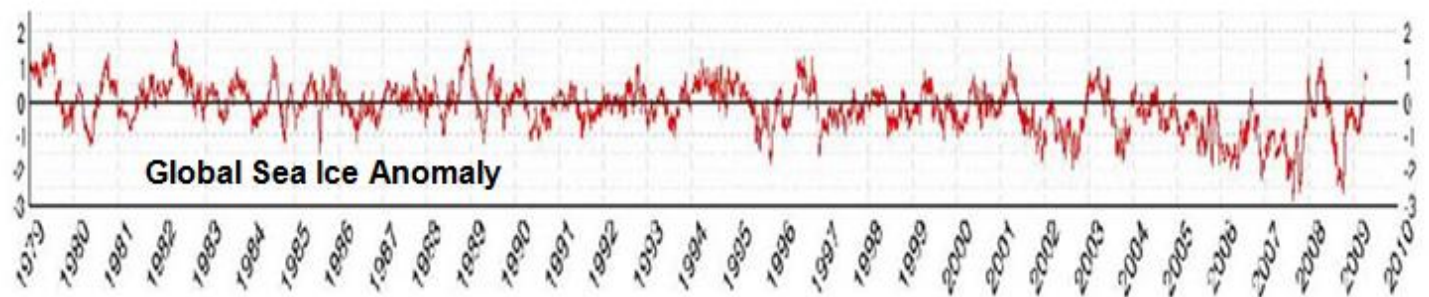
The following figure compares the Arctic temperature trends with global temperature trends (from <http://www.frontier.iarc.uaf.edu/~igor/research/aw/index.php>) Two observations are evident from this graph: the recent Arctic warming is not unprecedented, and the Arctic warming is much greater than the average global warming.



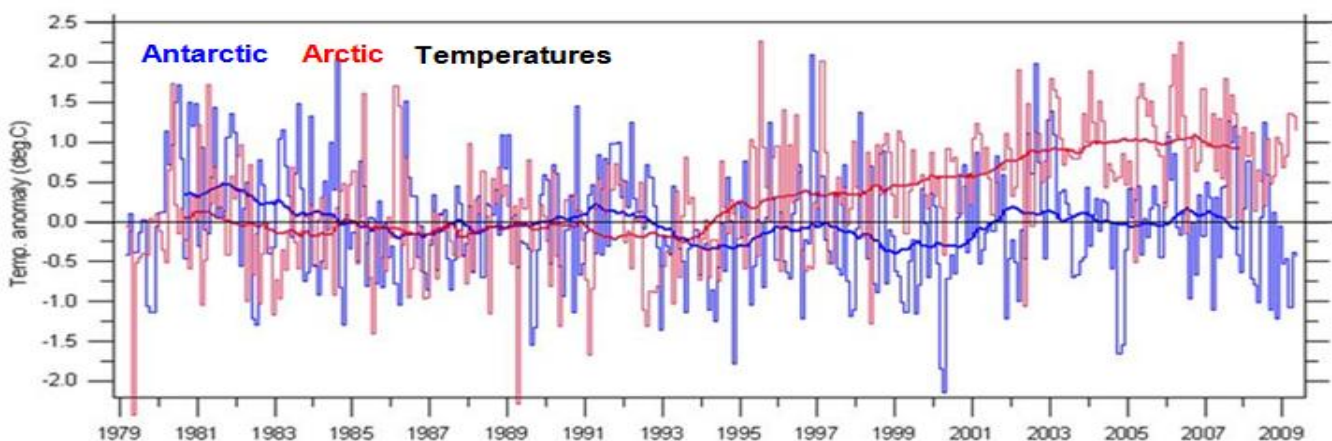
The following figures compare sea ice for the Arctic and Antarctic (all available data to March 2009 from <http://arctic.atmos.uiuc.edu/cryosphere/>). While Arctic sea ice has been declining in the 2000s, the Antarctic sea ice has been increasing.



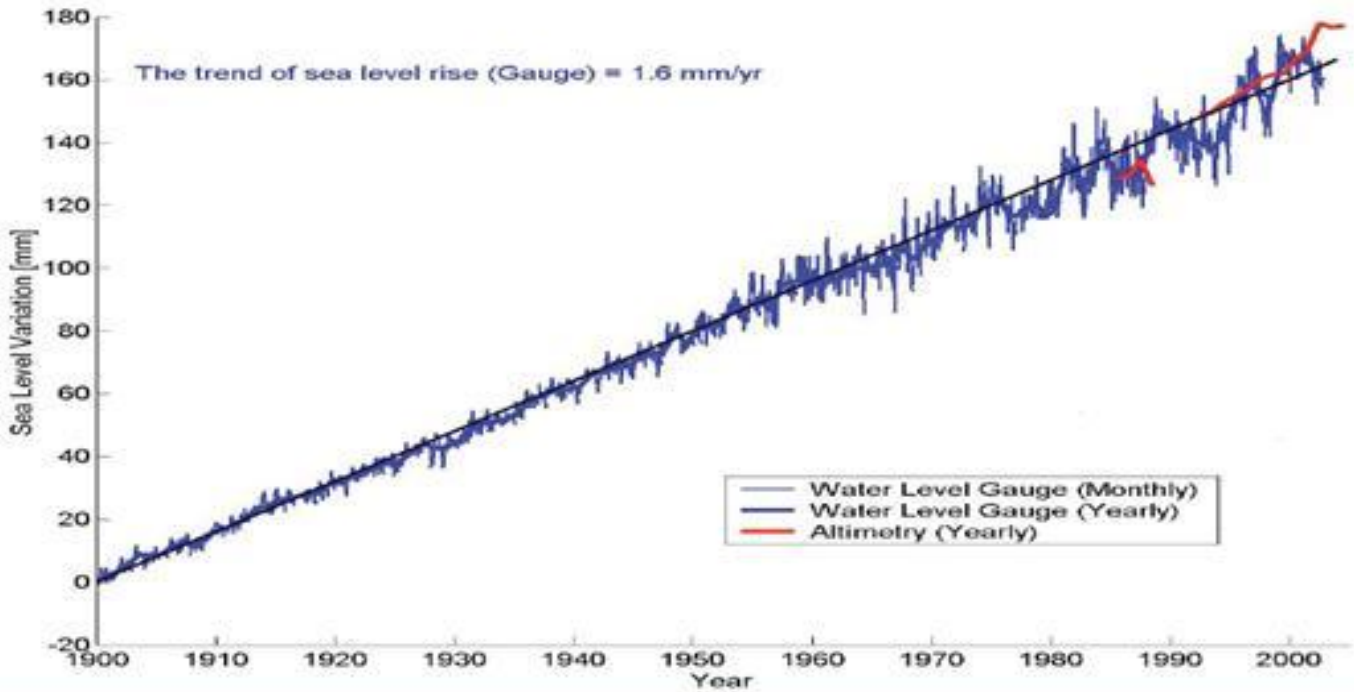
The following figure shows the **global** sea ice extent anomalies to March 2009 (from the same source as above). Arctic sea ice losses were balanced by Antarctic ice gains for most of the period until the 2000s. As of March 2009, the global ice anomaly is positive – i.e. more ice than the 1979-2000 mean.



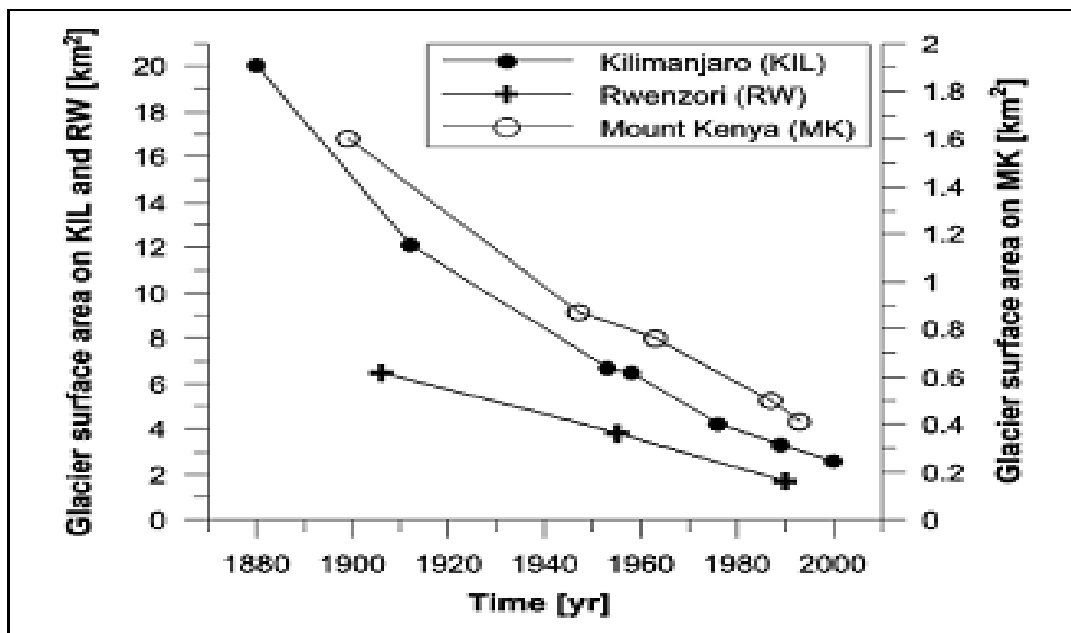
The following figure compares Arctic and Antarctic temperature anomalies.



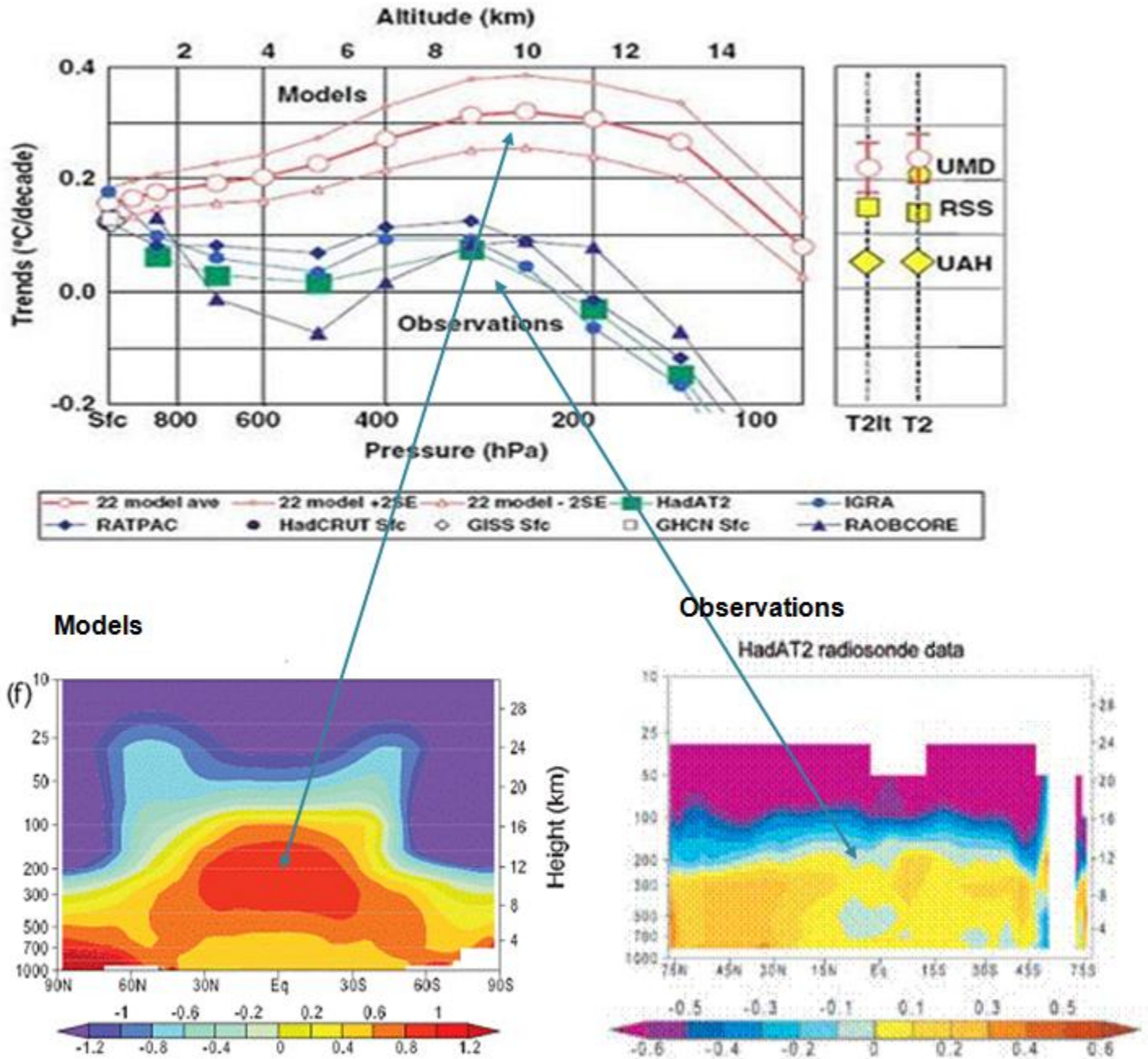
Sea level has been rising since record keeping began. This is not due to CO₂-based global warming, it is due to recovery from the Little Ice Age of the 1700s. The following figure shows global sea level rise from 1900 to 2002 [http://www.wamis.org/agm/meetings/rsama08/S304-Shum_Global_Sea_Level_Rise.pdf]. Since according to the IPCC, CO₂-based warming has only shown up since the 1970s, all of **this sea level rise since prior to 1970 cannot be caused by anthropogenic CO₂, and yet the trend has not increased.**



The same is true of glaciers around the world – they have been receding since record keeping began. The following figure shows African glaciers including Mount Kilimajaro (International Journal of Climatology, 2004 [<http://www.geo.umass.edu/faculty/bradley/kaser2004.pdf>]). **Again CO₂ cannot be the cause.**

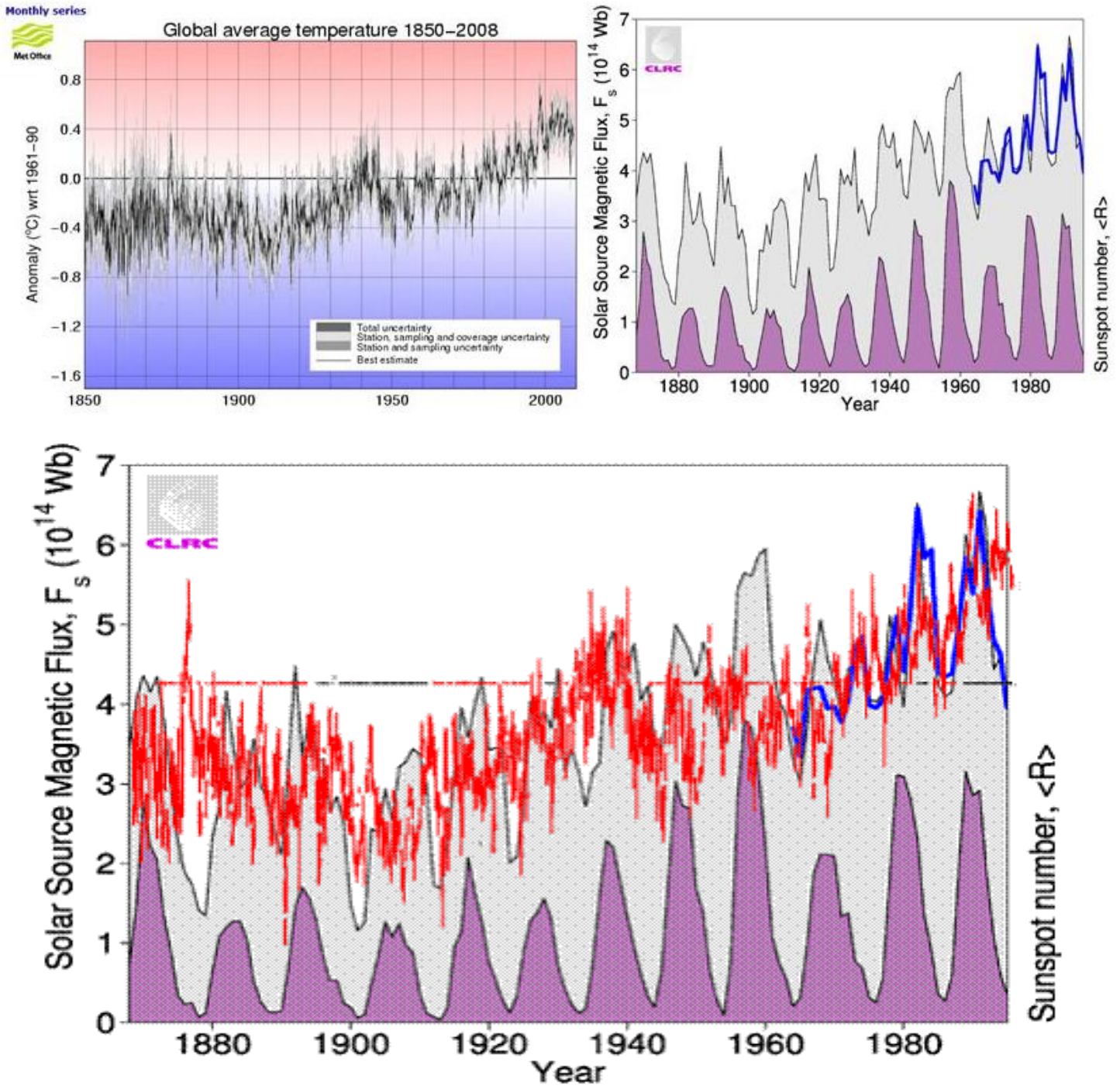


The CO2-based climate models have been shown to be incorrect. The following figure combines the following: Top: from the International Journal of Climatology. [<http://www.scribd.com/doc/904914/A-comparison-of-tropical-temperature-trends-with-model-predictions>] comparing the climate models to observations from satellites and balloons; Lower Left: from the IPCC 2007 AR4 Report Chapter 9 – Understanding and Attributing Climate Change [http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch09.pdf] providing the climate model based simulation of the expected CO2 “spatial signature” of all forcings including anthropogenic CO2; Lower Right: actual data from radiosonde data, from [<http://www.climate.gov/Library/sap/sap1-1/finalreport/sap1-1-final-chap5.pdf>] showing the actual non-CO2 based temperature signature. This further evidence indicates that CO2 is not causing the warming.



Trends in degrees per decade – left: IPCC CO2-based trend; right: actual data from radiosondes

The following figure (bottom) combines the global average temperature anomalies (left) with the total solar magnetic flux (right – from M. Lockwood, R. Stamper, and M.N. Wild: “A Doubling of the Sun’s Coronal Magnetic Field during the Last 100 Years”, Nature Vol. 399, 3 June 1999 which states: “The magnetic flux in the solar corona has risen by 40% since 1964 and by a factor of 2.3 since 1901.” <http://www.ukssdc.ac.uk/wdcc1/papers/nature.html>)



The connection between global warming and the sun is clear.

CO2 is a minor factor and not a danger to human health.