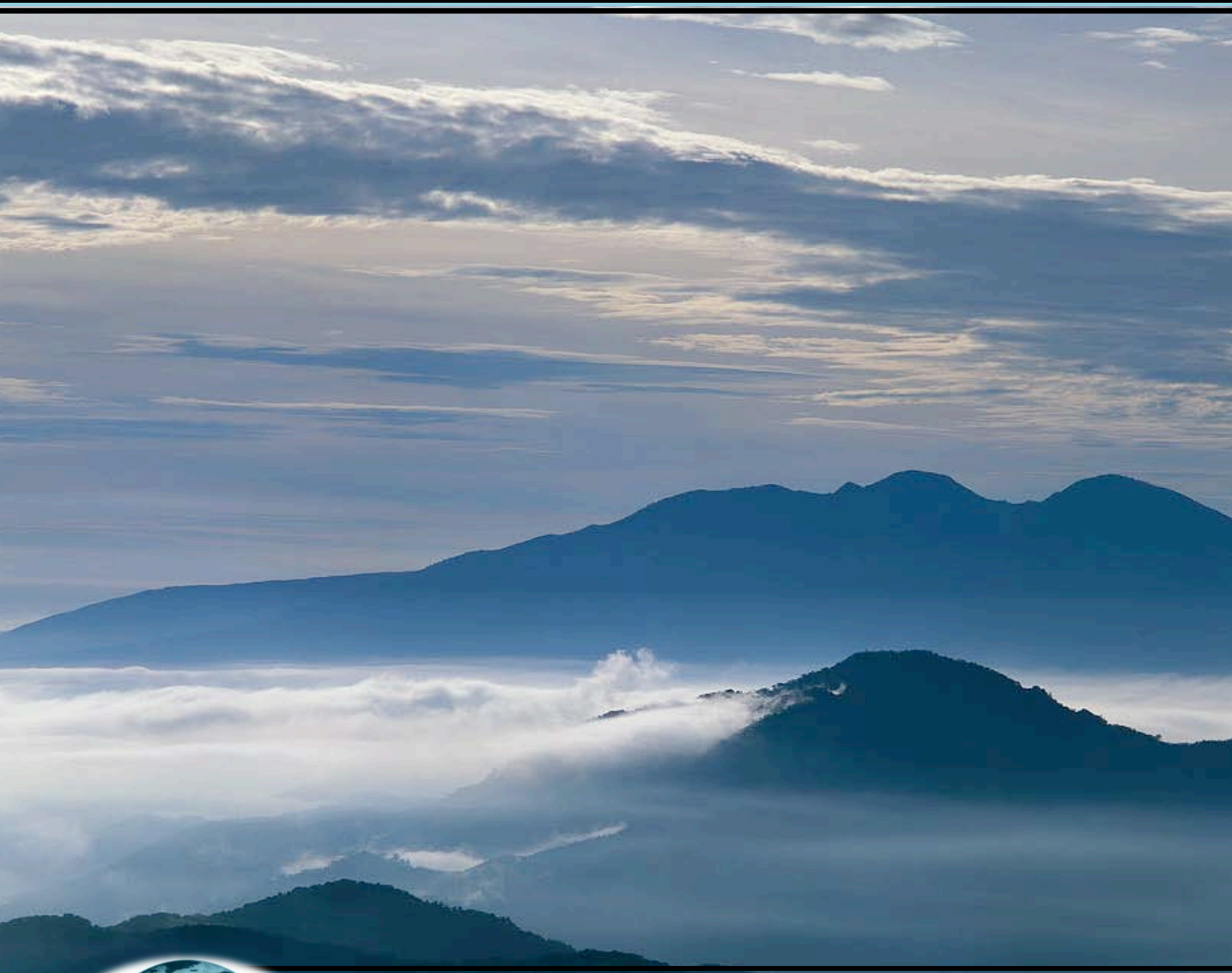


A CLIMATE SCIENCE BRIEF

by Christopher Monckton



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Facts that both sides agree upon

The Earth has been warming not for 150 years but for 300. Bristlecone pines are unreliable sources of data on temperature because tree-ring width is influenced less by temperature than by rainfall and, more recently, by CO₂ fertilization.

The last major Ice Age, which had endured for 100,000 years, ended not in 11,500 but in 9,500 BC. The Little Ice Age began in 1420 and ended in 1715. Between 1695 and 1735, temperatures in central England rose by 4 Fahrenheit degrees. Compare this with the 20th century, when temperatures globally rose by just 0.7 F.

In addition to the Roman and Medieval warm periods that you mention, there was a Holocene Climate Optimum that endured for some 2000 years in the Bronze Age. For much of the past 11,400 years, global mean surface temperatures have been significantly higher than they are today.

In medieval Greenland, the principal Viking settlement was at Hvalsey, on the south-western coastal plain. The burial ground at Hvalsey is still under permafrost. It was not under permafrost when the bodies were buried. Greenland was warmer then than now.

Absorption of CO₂ into the biosphere and hydrosphere is in fact occurring at twice the rate predicted by the UN. Forest clearance has not happened on a large enough scale to make very much difference.

The Arctic was actually warmer in the late 1930s and early 1940s than it is today: it is actually some 4 F cooler now than then. The climate of the Arctic is highly variable, and 30 years of satellite measurements give us too short a period to draw any conclusions about whether the Arctic sea ice is thinning. Certainly its winter extent is much as it was 30 years ago, though its late-summer extent has been less in the past two years than previously. However, there may have been no Arctic ice-cap during the Medieval Warm Period's summers, and there was certainly none 850,000 years ago, when Greenland was entirely ice-free.

Hockey Stick

One may like to read my paper on this subject at http://scienceandpublicpolicy.org/monckton/what_hockey_stick.html, which gives a very comprehensive account of the fabrication of this bogus graph.

Temperature measurements

For the past 30 years, global mean surface temperature has increased at a rate equivalent to 2.7 F/century, or about half of the long-run rate predicted by the IPCC. Since 1995, for almost 15 years, there has been no statistically-significant “global warming” at all. Since late 2001, for eight years, there has been statistically-significant global cooling.

However, atmospheric temperature is not really the best measure of “global warming”. It is agreed between all parties that 80-90% of any additional heat trapped in the atmosphere by additional greenhouse gases must find its way to the top 400 fathoms of the ocean. However, the 3300 ARGO bathythermograph buoys deployed throughout the world’s oceans in the past six years have shown, if anything, a slight cooling. Yet CO₂ concentration has continued to increase. The failure of the oceans to warm as predicted is fatal to the notion that changes in CO₂ concentration cause large changes in global temperature.

Extreme weather

The Clausius-Clapeyron relation, one of the few proven results in climate science, demonstrates that any space, including the space occupied by the atmosphere, *can* carry near-exponentially more water vapor. However, that does not mean that it *will* carry more water vapor. The IPCC falsely assumes that if the atmosphere warms then there will be more water vapor. However, at altitude, and particularly in the tropical upper troposphere, subsidence drying transports any additional water vapor to lower altitudes, where it has far less effect in impeding outgoing long-wave radiation than at higher altitudes. This is why the tropical upper troposphere is not warming at thrice the surface rate as the models predict, and it is one of the main reasons why we know that CO₂ has very much less effect on global temperature than the models predict. A recent paper by Prof. Lindzen has shown that the change in temperature in response to a given change in outgoing radiation is far less than models predict. In response to the doubling of CO₂ concentration that is expected this century, the world will warm not by the 6 F imagined by the IPCC, but by just 1 F.

Sea level

Sea level rose at 8 inches/century in the 20th century. Since 1993, when satellites took over from tide-gages, sea level has been rising at 1 ft/century. This apparent increase is probably attributable to the change in the method of measurement, accompanied by some tampering on the part of those reprocessing the satellite data. However, Professor Niklas Moerner, who has written 520 papers on sea-level rise and first discovered the data tampering, considers that sea level will rise by no more than 8 inches in the 21st century. Since he pointed out the tampering four years ago, the data have shown no statistically-significant rise in sea level at all.

Modeling

The reason why modeling is of extremely limited use is that the climate is either a stochastic object, in which case anything can happen and modeling is of no value at all, or a chaotic object, in which case what happens will be deterministic but non-periodic, and, in the absence of periodicity, reliable very long-term predictions cannot be made by any method unless the values of the millions of parameters that describe the climate object are known at any chosen t_0 to a precision that has long been proven to be unattainable in practice (Lorenz, 1963; and see Giorgi, 2005).

Let us assume that the climate is not stochastic but chaotic, so that modeling can at least in theory play some part. In the absence of adequate initial data, modeling cannot tell us *whether*, let alone *when*, a “tipping-point” (Let’s speak for what mathematicians call a “phase transition” or, more precisely, a “bifurcation”) will occur, nor in what direction it will occur, nor its magnitude. There is, therefore, no scientific basis for any statement to the effect that we are approaching any particular “tipping-point” in the climate: nor will there ever be any scientific basis for any such statement.

Worse, the models do not tell us the one thing we really need to know: *how much* warming will a given proportionate increase in atmospheric CO₂ concentration cause? This crucial variable is an *input* to the models and not an *output from* them: they are told to assume absurdly high climate sensitivity from the outset – a value altogether inconsistent with recent observation and measurement. Therefore, the models cannot tell us anything useful about whether “global warming” will become a global catastrophe.

