

Extensive regulations are being considered to seek, as a matter of urgency, to reduce emissions of carbon dioxide in our society. Such changes would have a significant cost to the community. Before such regulations are implemented it should be established that increased emissions of carbon dioxide do indeed, as is claimed, increase global temperatures. It would be expected that the vastly increased emissions of CO₂ in recent years from countries such as China would be reflected in increases in the background rate of global warming. I believe that it is not evident from existing measurements of global temperatures that such increases are occurring.

The "Interim Report to the Commonwealth, State and Territory Governments of Australia, February 2008" has a heading 2.1 "A growing body of evidence that the world is warming" and Fig. 5 in the report shows temperatures increasing from 1970 to the present. But we do not need to just establish that the earth is warming. We know that the earth has been warming for the last 100 years, and presumably 100 years ago anthropogenic emissions of carbon dioxide were having a negligible effect compared with today. To justify economic penalties on carbon emissions we need to establish not just that there is global warming, but that there is an increase in the rate of global warming due to carbon dioxide. We need to determine that there is a positive second derivative of the temperature as a function of time. The temperature varies month by month and variations are generally less than 1 degree. Fig. 1 shows plots from the Hadley Climate Research Unit in the UK (HadCRUT) for the last 10 years and plots of Fig. 2, from the data of the University of Alabama, Huntsville, USA give plots for the last 30 years. Monthly plots for HadCRUT are also given and discussed by P. Brohan et al, *J. Geophys. Res.* 111, D12106 (2006). The plots of Figs 1 and 2 include points for 2007 and Jan-Feb. 2008 and also give carbon dioxide concentrations. From these Figures it is by no means clear that recent very large anthropogenic emissions are causing an increase in the underlying increase in global temperature. The steadily increasing concentrations of CO₂ do not correlate with the temperature.

In my view the sensitivity of global temperatures to carbon dioxide emissions to the atmosphere from anthropogenic sources as predicted by computer models has not, at least up to the present, been supported by measurements of global temperature. From the IPCC report, the predicted further increases in temperature are largely the result of secondary feed back effects from increased water vapor rather than from increased carbon dioxide, whose absorption effects are largely saturated. But increased water vapor can produce increased cloud cover which can cause global cooling instead of global warming. Many of the features of measured temperatures as a function of time have no explanation so that factors exist that are not accounted for in computer models. I have great respect for the modeling work at the basis of the computer predictions, but I strongly prefer that there should be a compelling validation of the computer predictions before very large costs are imposed on society to limit carbon dioxide emissions.

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Monthly Hadley and MSU UAH Temps vs CO2

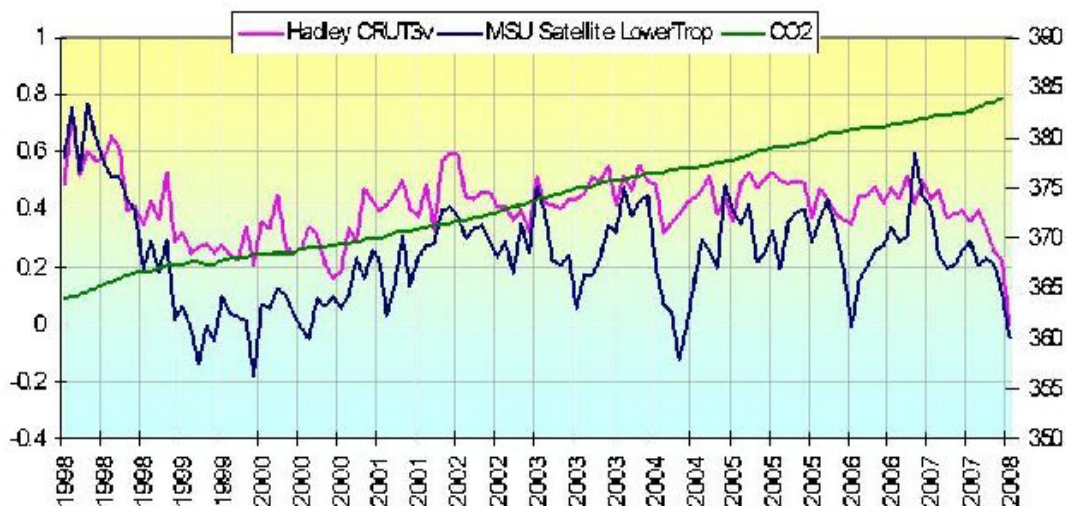


Fig. 1. Monthly Hadley land and ocean temperatures over the last decade compared with CO₂ concentrations in ppm. The red curve gives average land and sea surface temperatures, the black curve, temperatures from satellites and the green curve atmospheric concentrations of carbon dioxide in ppm. On this curve temperatures have not increased since 1998 and do not correlate with the increasing CO₂ concentrations. From <http://www.jennifermarohasy.com/blog/archives/002784.html> ; 22/2/08.

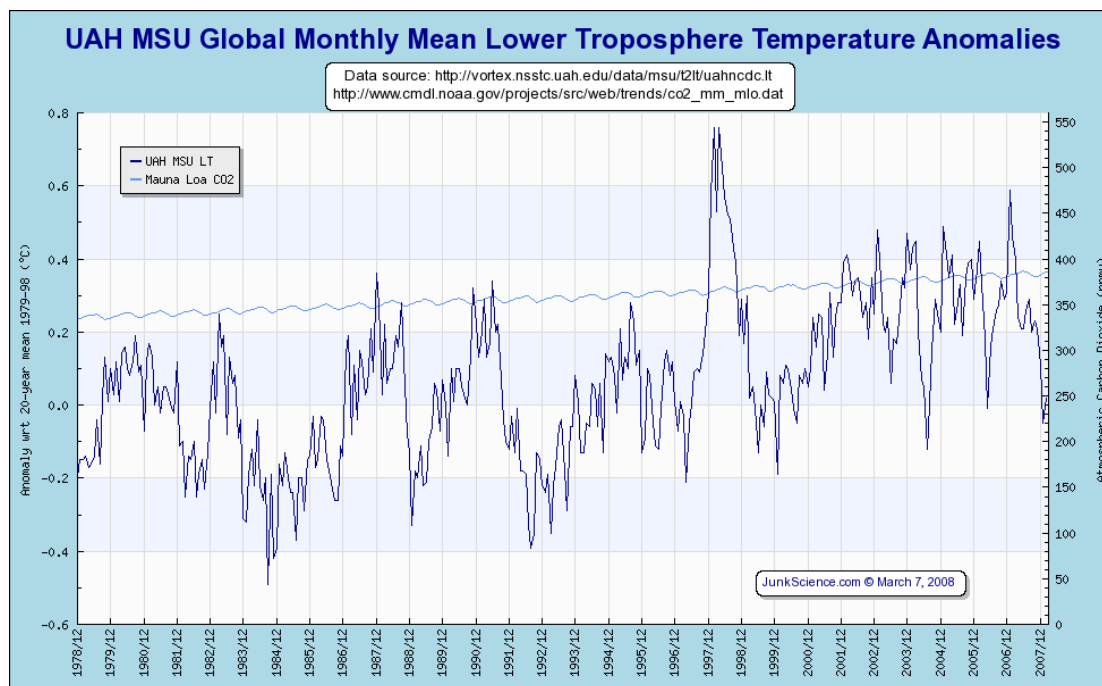


Fig. 2. Temperature variations, given by the irregular curve and also carbon dioxide concentrations, given by the steadily increasing curve, as a function of time, similar to the previous figure, but for the last 30 years instead of 10 years, as in Fig. 1.