

Climate Fears and Finance

By the Science and Environmental Policy Project (SEPP), July 22, 2014

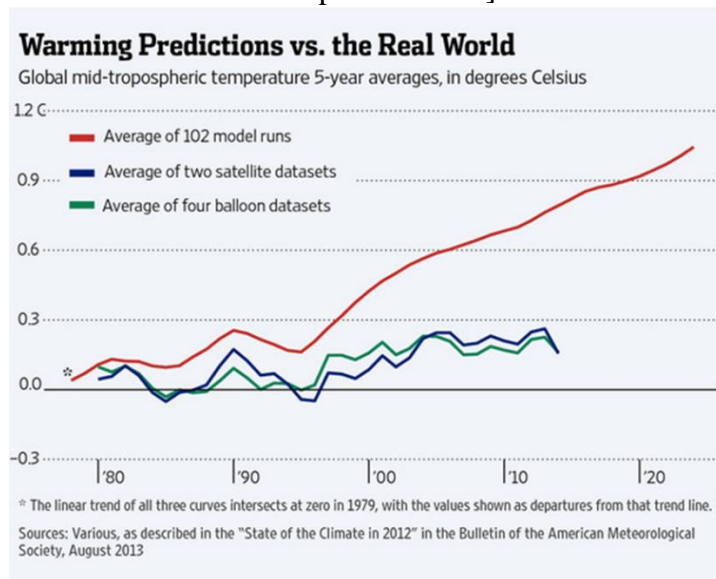
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The Science

Much of the fear of anthropogenic (human-caused) global warming (AGW), now called climate change, stems from long-term projections, using complex climate models. These are correctly called projections, not predictions, because none of the models have undergone the rigorous scientific testing required for verification and validation. Consequently, the models and their results are speculative. If a climate model had been verified and validated, that would be the only model needed. Instead, we have multiple models producing a wide variety of results. A critical issue in global warming/climate change science is the reliability of the models.

By far, the most rigorous, comprehensive data on global temperatures come from satellite measurements of the atmosphere (mid-troposphere), which is where the greenhouse effect takes place. The measurements started in December 1978 and the temperature estimates are calculated by two independent groups, who closely agree. These data are independently supported by four sets of direct temperature measurements from weather balloons. Weather balloons do not comprehensively cover the globe. [Also, surface measurements have a number of issues including that these are taken primarily on land, yet oceans cover 71% of the Earth surface.]

We can see below the direct comparison between 102 model runs and observations. [Model runs are expensive and time consuming, thus many of the models have only one or two runs.] [Note that temperatures for all datasets are with respect to 1979.]



Source: McNider & Christy, Wall Street Journal, February 19, 2014

There is good agreement between the average of the two sets of satellite measurements and the average of the four sets of weather balloon measurements, but significant disparity between the average of the model runs and the observations. This disparity is increasing over time. We also see that there has been no upward trend in temperatures for over a decade, even though levels of atmospheric carbon dioxide (CO₂) have increased by over 5% in the last decade and almost 18% since 1979 (Mauna Loa, June readings).

Ironically, as the “gap” between models and observations grew wider, as successive Assessment Reports (AR) by the UN Intergovernmental Panel on Climate Change (IPCC) expressed increasing certainty in the existence of dangerous carbon dioxide caused warming: namely, greater than 50% [AR2-1996], greater than 66% [AR3 2001], greater than 90% [AR4 2007], and greater than 95% [AR5 2013]. Clearly, current IPCC climate models are inadequate and cannot be used to forecast future temperatures or to set up far-reaching policies.

Conclusion: Government limiting emissions of essential CO2 is a “policy in search of a problem.”

The Finance

The failure of the IPCC and the climate establishment to produce reliable science and models is not due to the lack of funding. The United States, alone, has spent considerable sums on global warming/climate change issues. At different times, the Government Accountability Office (GAO), the Congressional Research Service (CRS), and the White House have reported to Congress on the extent of such funding. [Links below.]

After examining the reports, and removing double counting, SEPP calculated that from Fiscal Year (FY) 1993 to FY 2013 **total US expenditures on climate change amount to more than \$165 Billion. More than \$35 Billion is identified as climate science.** By way of comparison, the historian at NASA has calculated that in current dollars the Apollo program cost about \$130 Billion. The US has spent more on climate change than it spent to send men to the Moon. In August 2013, the White House reported the FY 2013 expenditures were some \$22.5 Billion

The most critical number for global warming/climate change is the sensitivity of the Earth to a doubling of CO2, which is called Climate Sensitivity. A 1979 report to the US National Research Council of the National Academy of Sciences estimated that Climate Sensitivity would range from 1.5°C to 4.5°C, about 3 to 8°F. (Charney, et al.

http://www.atmos.ucla.edu/~brianpm/download/charney_report.pdf)

Since then, five major reports by the IPCC show government-funded science on Climate Sensitivity has not advanced in 35 years. The latest IPCC report, AR-5, still shows the same range of uncertainty. Clearly, there is something wrong with the assertion that CO2 has a significant impact on Earth’s temperatures, or with the procedures used by the IPCC, or both.

SEPP believes that the problems are both in the assertion and in the procedures. Studies, largely ignored by the IPCC, estimate that the Climate Sensitivity will be below 1.5°C, perhaps significantly below 1°C. These estimates do not justify alarm about global warming/climate change, or the continued massive expenditures on a non-problem.

<http://www.gao.gov/products/GAO-11-317>

http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=91e9fae6-083a-44f6-b47c-33fdac25d6e0

http://www.whitehouse.gov/sites/default/files/omb/assets/legislative_reports/fcce-report-to-congress.pdf

