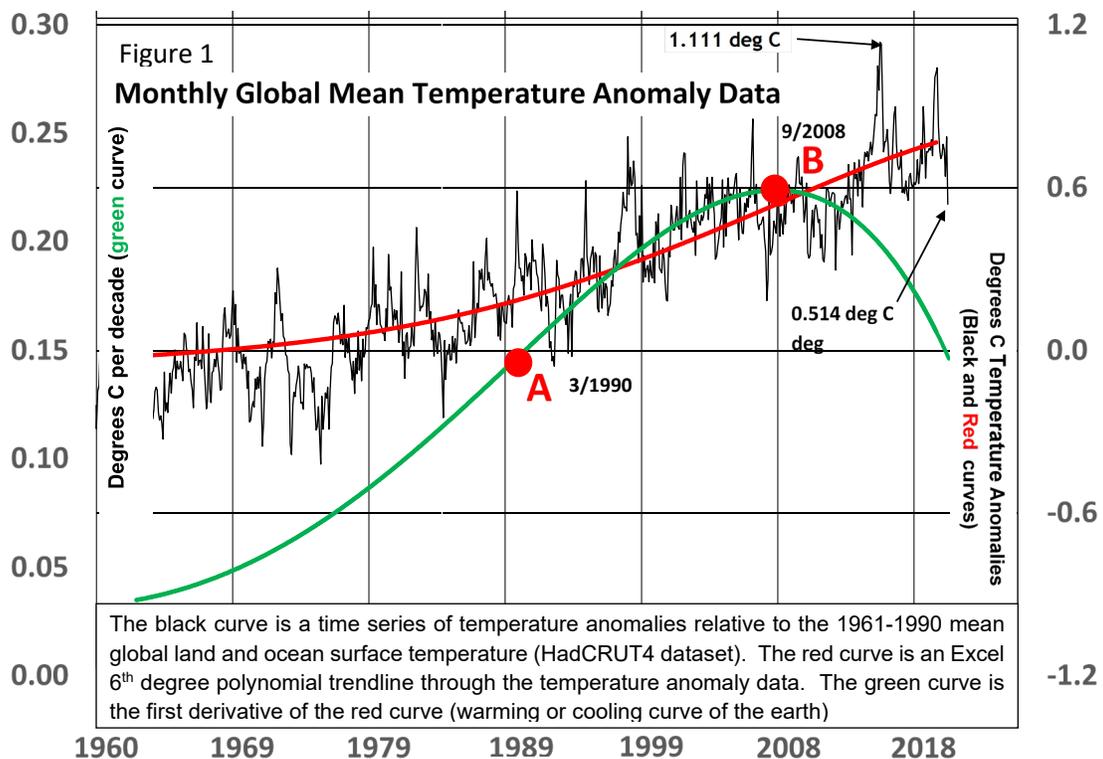


CLIMATE CHANGE REVISITED: The short version

Less than rigorous interpretations of global time-temperature data have led to misleading estimates of future global temperatures. The Hadcrut4 temperature dataset, managed by the Climatic Research Unit at the University of East Anglia, shows the highest ever mean monthly temperature anomaly of 1.111 °C and was recorded in January, 2016. The monthly mean temperature anomaly recorded in December 2020 is 0.514 °C, a 53 percent drop in mean monthly temperature over five years. These data do not support a prediction of long-term rising temperatures.



In Figure 1, the black curve is a plot of global monthly average surface temperature anomalies. The jagged character of the curve is data noise (inaccuracies in measurements and natural, short-term weather events that do not contribute to long-term temperature trends). The red curve is an Excel sixth-degree polynomial best fit trendline of the temperature anomalies. The curve-fitting process enhances the measured temperature data by removing much of this noise. The green curve, the first derivative

of the trendline, is the single most important curve derived from temperature anomalies. In this case, a derivative is mathematically the limit of the change in temperature to the corresponding change in time. The units of the green curve are °C/decade, the rate of warming or cooling of the surface of the earth. In mathematics (particularly in differential calculus), the derivative is a way to show instantaneous rate of change: that is, the amount by which a function (temperature) is changing with time at one given point.

Only a few single point estimates of the rate of warming of the earth have been reported based on other analyses. The average rate of warming of the earth derived from the green curve from 1960 to the present is 0.14 °C/decade, a number too small to determine with measured or surrogate temperature data. In a recent talk, Dr. John Christy, director of the Earth System Science Center at the University of Alabama in Huntsville, reported estimates of noise-free warming of the troposphere in 1994 and 2017 of 0.09 and 0.095 degrees °C/decade respectively (6). These values were estimated from 15 years of newly acquired global satellite data in 1994 (7) and, a repeat of the 1994 study in 2017 with nearly 40 years of satellite data (8). From this work, Dr. Christy concluded the earth warming in the troposphere for the past 40 years is approximately a straight line that slopes 0.095 °C/decade. The average rate of warming of the earth derived from the green curve from 1960 to the present is 0.14 °C/decade, an estimate which includes some remaining noise from ENSO activity.

The perceived threat of excessive future temperatures may stem from an underestimation of the unusually large effects of ENSO (El Niño–Southern Oscillation). Nearly 50 years of transient warming from several large ENSO events, including the largest El Niño ever recorded may have been misinterpreted to include significant warming due to anthropogenic emissions of CO₂. The intensity of that ENSO has been diminishing for over 13 years. The derivative of the temperature anomaly trendline shows the mean value of earth warming over 2,032 months since 1850 is -0.084 °C/decade. This number is not evidence of out-of-control earth warming, and is compelling evidence that global warming is not a likely threat to the planet.

The scientific goal must be to narrow the range of uncertainty of predictions with better data and better models. A rational environmental protection

program and a vibrant economy can co-exist. The challenge is to allow scientists the time and freedom to work without interference from special interests. This is not the time to embark on grandiose projects to save humanity when no credible threat to humanity has yet been identified. Justice Oliver Wendel Holmes eloquently addressed a similar situation in a famous opinion he wrote in the Schenck case in 1919: “The most stringent protection of free speech would not protect a man in falsely shouting “fire” in a theatre and causing a panic”. We have the time to get the science of climate change right before shouting “global warming” and causing a global panic before such a threat has been shown to exist.

The author declares that there are no competing interests.