

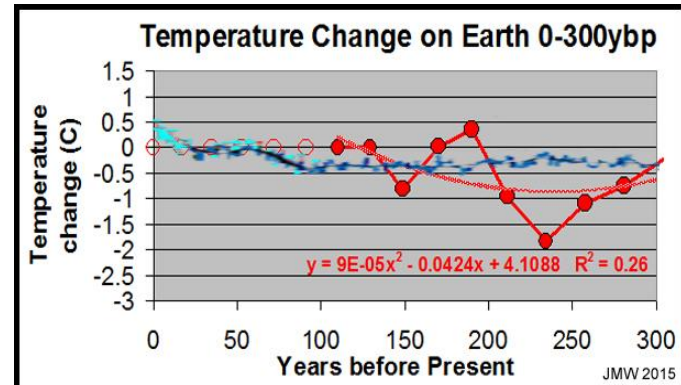
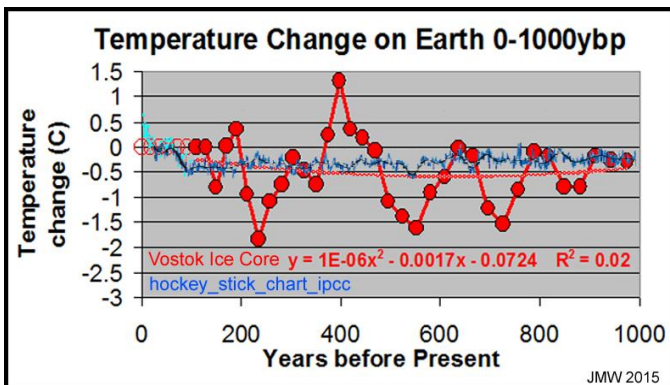
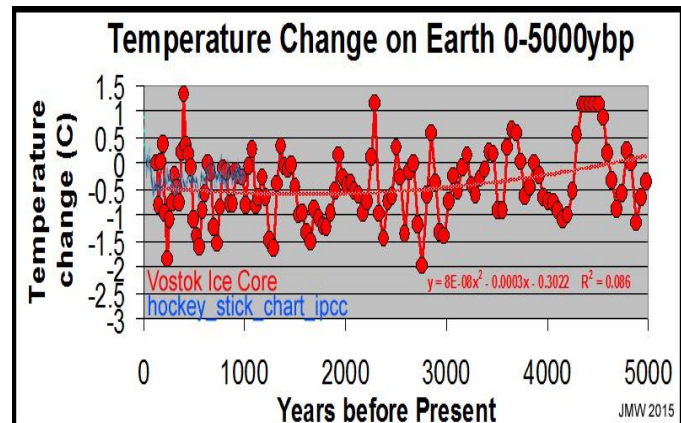
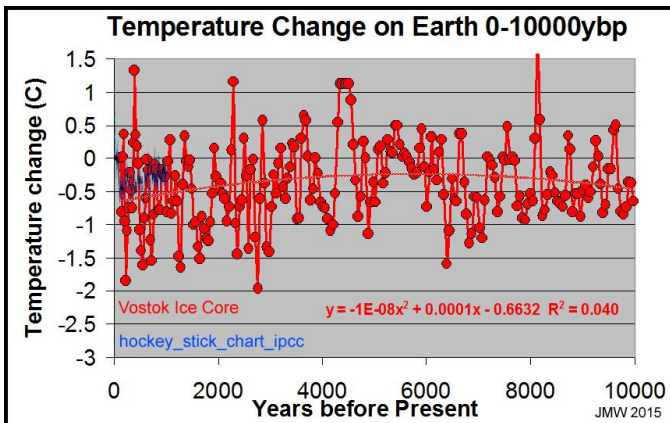
Global Temperature Anomaly Models and Vostok Ice Core Data

Abstract

The "hockey-stick" behavior is plotted on the Vostok Ice Core data for comparison. Plots are made for 0-300 to 0-10000ybp. While the former shows almost no deviation from linearity, the Ice Core data demonstrates that the earth has gone through considerable warm and cold spells since the last Ice Age.

In addition, the Vostok Ice Core data is plotted on a graph containing many modeling methods for the last 2000 years. Typically, the models are not as variant as the Ice Core data, except for the recent few decades.

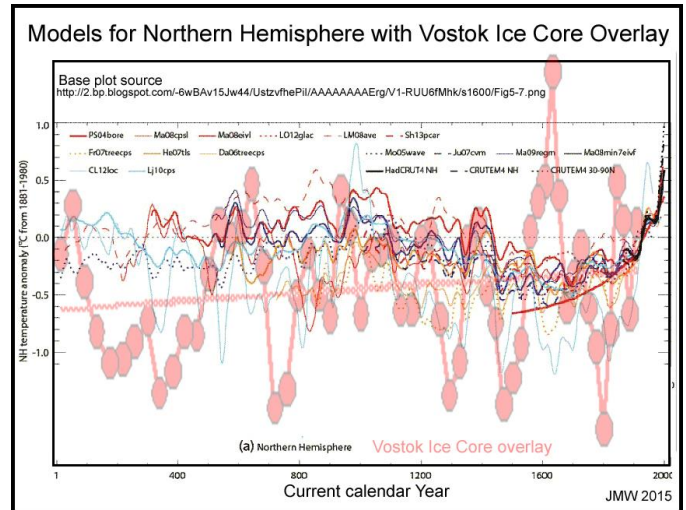
In order to compare the "hockey-stick global anomaly temperature"¹ with the Vostok Ice Core data², the following plots are presented. Regression curves of the Ice Core data are from 100-Xybp. The "hockey-stick" data is well within the variability expressed by the Ice Core data. Unlike the "hockey-stick" data, the only downward mean slope of the Ice Core data for the period 0-2000ybp occurs with the 100-10000ybp regression. Has the "hockey-stick" data been treated the same way for the last 2 decades as it was for the previous centuries? Or are we seeing little smoothing in the recent stuff vs the long-term trend?



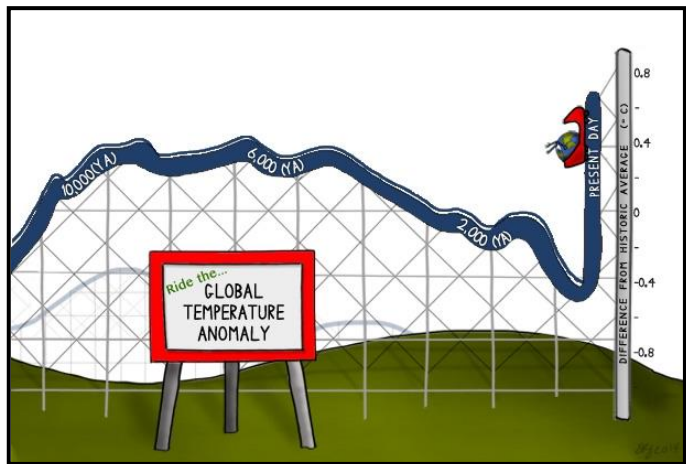
¹ https://wattsupwiththat.files.wordpress.com/2013/08/hockey_stick_chart_ipcc_large1.png

² The data available from CDIAC represent a major effort by researchers from France, Russia, and the USA; Jouzel and others in these refs - Nature 329:403-8 (1987), Nature 364:407-12 (1993), Nature 399: 429-436 (1999) and Climate Dynamics 12:513-521 (1996); <http://cdiac.ornl.gov/ftp/trends/temp/vostok/vostok.1999.temp.dat>

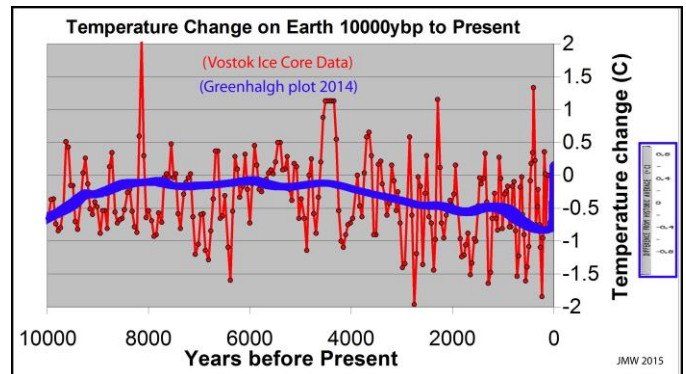
The Vostok Ice Core data overlays a number of modeling programs³ in the figure below. All of them, except the CL12loc data, show little variance compared to the Ice Core data. The Northern Hemisphere CL12loc data appears offset (delayed response?) relative to the Antarctica Ice Core data. **What is particularly disturbing is the opposite deviation of all of the models from the Ice Core data in the 1600-ish time range! Something strange is occurring. Data? Modeling?**



Greenhalgh has created a cartoon⁴ (on the right) that indicates that the “roller coaster” global temperature anomaly ride for the past 10,000 years has been rather smooth – UNTIL now when the “rail” takes a dramatic, skyrocketing, vertical rise.



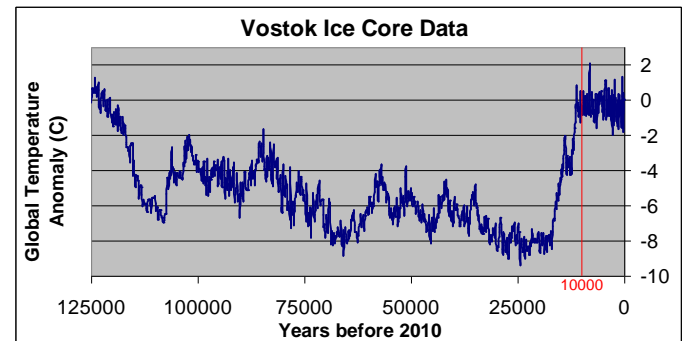
Greenhalgh's "coaster rail" has been plotted (in the figure on the right) over the "unsmoothed" Vostok Ice Core data for the same period. The two have different "0" anomaly indexes. Greenhalgh's curve is placed as an eyeball fit of the Ice Core data. There is lots (!) of smoothing of the "past" in order for



Greenhalgh's presentation to make the "rail" a bit easier to ride! There appears to be no smoothing in the "present" realm that I can surmise. Just hysteria! How much smoothing of the recent, relative to that done in the past to get that smoothness, would yield the same hysteria that Greenhalgh is trying to project?

If you think riding the last "10,000-year roller coaster" has been something, try riding the

"100,000-year roller coaster" – even with smoothing. The Vostok Ice Core data indicate what it was like (see figure on the right)! Down from temperatures 125,000 years ago comparable to those we have currently to the "great ice age" before climbing back up to the present 11,400-year long, "warm" period. Rather "raw" for most of the ride! Takes about 100,000 years of cooling to form those great glaciers that covered much of North America during the last Ice Age!



³ Part of Fig 5.7 in ["Climate Change 2013 - The Physical Science Basis: Working Group I"](#)

⁴ Fig in <https://www.climate.gov/news-features/climate-qa/what's-hottest-earth-has-been-lately>