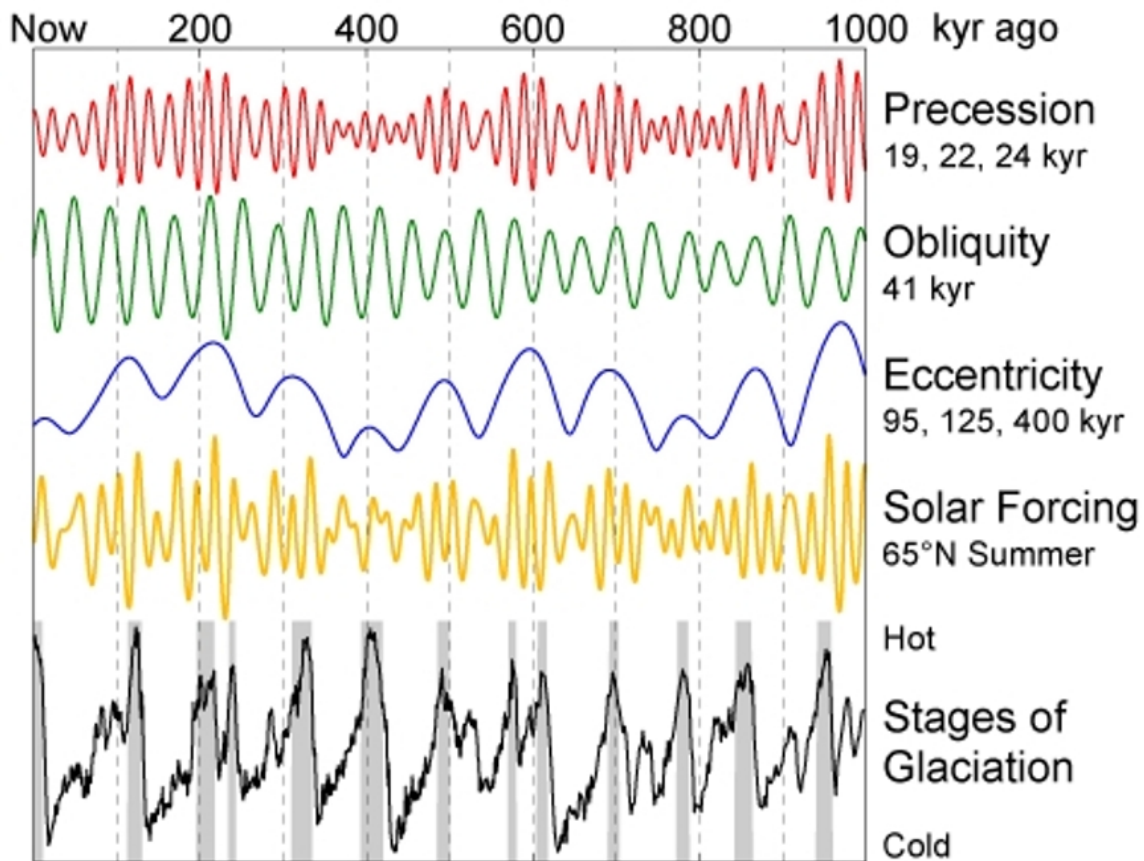


Probability of Sudden Global Cooling

By Dr. Peter Harris

The attached data is well known and was derived mathematically by Quinn et al. in 1991 and it shows the effect of orbital geometry on solar forcing or insolation, and displays global climate as glaciation data on the same time scale.

What seems to have been overlooked is the remarkable degree of correlation between insolation (shown in yellow) and sudden changes in global climate which are reflected in the glaciation data.



For some time it was thought that the 100 thousand year climate cycle was driven by eccentricity but the above data clearly shows how insolation responds to the combined orbital parameters including Obliquity and Precession. For example the split peak in glaciation approx 230KY BP is caused when Precession and Obliquity defeat eccentricity.

A closer examination of these data is one way of finding a macro measure of the probability and timing of sudden climate change.

A close review of the attached data shows that over the past 400KY there have been 18 down cycles in insolation and these correlate with 17 sudden downturns in global temperature. We have a rapid decline in insolation now.

In the same period there have been 17 upturns in insolation and they correlate with 16 sudden upturns in temperature.

Based on this history we can say with a probability of 94% that global climate will follow these variations in insolation and this seems to be a remarkable result. We could expect the mathematics to be correct but the glaciation data is based on analysis of a proxy, however it correlates well with independent ice core data.

The correlation is true in terms of direction of change ie cooling or warming, but does not extend to a measure of the degree of cooling or warming. It appears to display as a trigger or catalyst for the more complex internal process particularly involving the endothermic and exothermic reactions as water changes through three states as well as effects from the carbon cycle and ocean circulation etc.

Nevertheless there is a remarkable external macro correlation which could be used to forecast major sudden changes in global climate based on a projection of the orbital geometry.

The data also clearly shows the nominal 100KY cycle for glaciation and the interglacial phases and it shows that we have reached the end of the typical Interglacial cycle and are due for a sudden cooling climate change.

Based on this analysis we can say that there is a probability of 94% of imminent global cooling and the beginning of the coming ice age.

By observation of a number of natural internal processes we can find further support for the coming change and I have referred before to the confirmed slowdown of the Gulf Stream, the effect of major endothermic polar ice melt and forecast reduction in solar activity after 70 years of extreme activity not seen for 8000 years before. The Stratosphere is cooling and ice is building on the South Pole. Climate is becoming unstable.

Most of these major natural processes that we are witnessing now are interdependent and occur at the end of each interglacial period, ultimately causing sudden long term cooling