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I ASSERT MY RIGHT UNDER THE INTELLECTUAL PROPERTY RIGHTS LAWS OF THE EUROPEAN UNION AS THE SOLE AUTHOR OF THIS WORK. I acknowledge the owners of the freely available scientific literature and various websites on which I conducted my research.

This paper will attempt to reconcile various issues within the current academic debate over the climate of the earth. I intend to show that the temperature of the earth is a function of various disparate parameters.

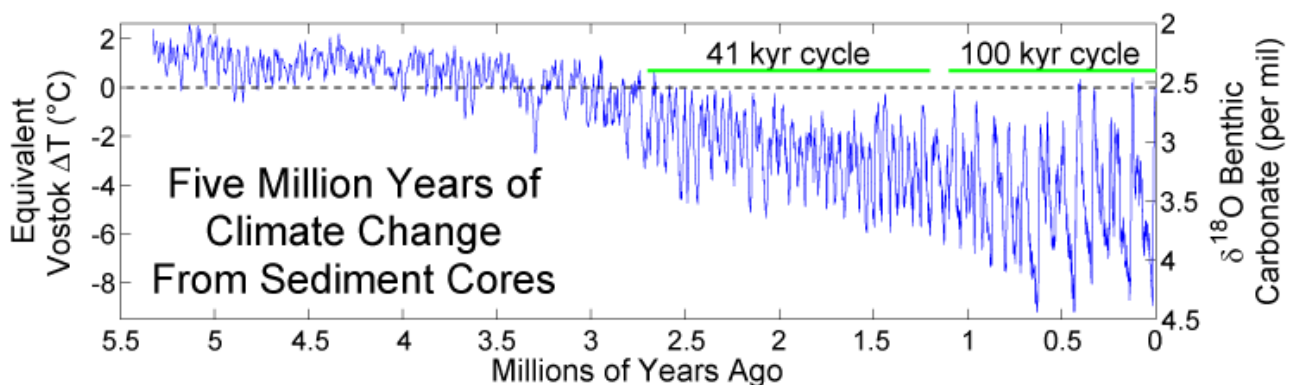
1. The earth in its simplest form is a black body and it radiates energy as a function of its average temperature.
2. This average temperature is a function of incident radiation, and the orbital dynamics of the earth-sun system and planetary Albedo and can be given by the following function.

$$T_E = T_S \sqrt{\frac{R_S \sqrt{\frac{1-\alpha}{\epsilon}}}{2D}}$$

See <http://en.wikipedia.org/wiki/Blackbody>

3. The known average temperature of the atmosphere varies between + 10 degC and + 40 degC of this theoretical figure
4. The principle reason for this anomaly is the greenhouse effect.
5. CO2, CH4, and H2O are the principle greenhouse and icehouse components.
6. When the level of greenhouse gases in the atmosphere fall below threshold values then the action of H2O liquid and solid become the principle climatic variables.

With reference to my previous submission on Milankovitch cycles formulated in the graph below, which shows the records of an unrepeatable empirical experiment contained in the geological record and found in the article. http://en.wikipedia.org/wiki/Marine_isotope_stage I will attempt to quantify the temperature record in respect to rising albedo and falling CO2 levels.



Milankovitch theory shows that approximate 28 kyr Insolation cycles lead to a corresponding 28 kyr cycle of average global temperatures. From the above graph it can be seen that when the mean temperature is above 0 degC Vostok equivalent the cyclical variation in temperature is less than 2 degC peak-peak. For the duration of the temperature record CO2 levels

have been falling due to net carbon sequestration over the 5.5 Myr recording period, this fall is of the order 400 ppm at 5.5 Myr to 280 ppm at the end of the last interglacial, with a theoretical slope of 22ppm per Myr. This would lead to a theoretical CO₂ level of 335 ppm CO₂ when the cycles changed to a 41 kyr periodicity and 305 ppm when the periodicity changed to 100 kyr.

The question I have been wrestling with is why.

It is an undisputed fact that we have recently gone through a prolonged period of ice ages. My contention is that the increase in Albedo is responsible for the increase in amplitude of the temperature variation, and the change in periodicity.

Changing the Albedo factor in the blackbody function given above from 30% to 32% gives additional cooling of up to 2 degC which would be sufficient to double the cyclical Milankovitch temperature variation to 4 degC peak-peak. Also internal variations of amplitude between Insolation lobes may be responsible for the change in periodicity. This periodicity is apparently equal to 1.5 Milankovitch cycles.

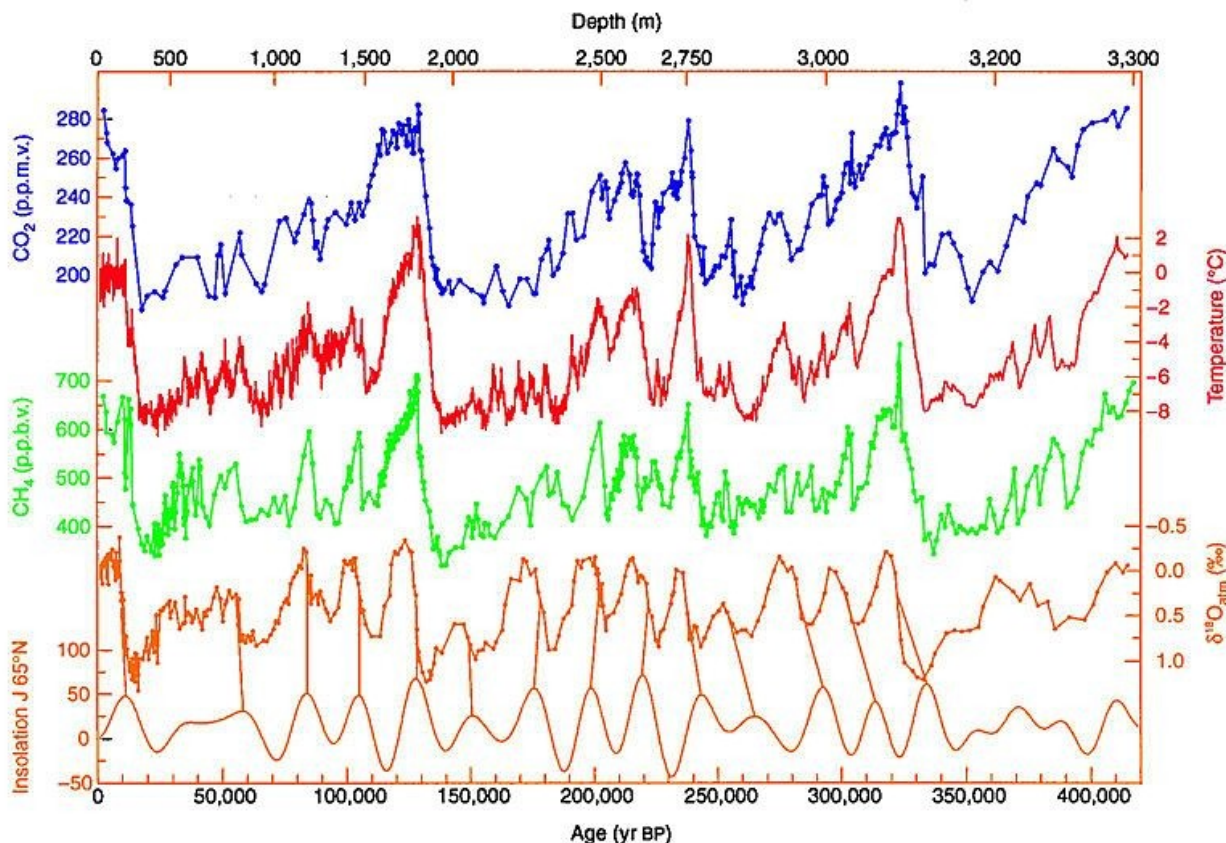
A further change in Albedo to 35% increases the blackbody cooling to 5 degC this would be sufficient to treble the cyclical Milankovitch variation to up to 7 degC peak-peak. As above this then appears to lead to a further change in periodicity.

It is probable that some additional cooling due to falling CO₂ levels is also within the record but I intend to show that this cooling is of a lower order.

I also intend to show that the atmospheric CO₂ level quoted above, 400ppm, is directly related to the average temperature of 1 degC +/- 1deg which is relevant to the current Global Warming debate.

The following is in reference to the ice core data below from the quoted article

http://en.wikipedia.org/wiki/Vostok_Station



My interpretation of this graph is that after increasing Albedo has triggered a glacial, the subsequent Milankovitch cycle variations revert to a lower amplitude of approximately 4 degC peak-peak which appears to be composed of the 2 degC Insolation component and a 2 degC Cooling induced CO2 modulation, until the abrupt glacial termination when the CO2 levels return to 280 ppm approximately.

If my estimate of the CO2 levels are correct, current CO2 levels of 400ppm should be interpreted as a future 2 decC peak-peak variation during the next positive Milankovitch cycle, i.e. from the current level of 0 degC to +2 degC, with a time scale of 11 kyrs.

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