Kyoto: Unanswered Questions on the Science of Global Climate Change

In the United States and in Europe, the science related to global climate change has been vigorously scrutinized, challenged and biases exposed. As a result, politicians, government bureaucrats, and the public have been able to better make an informed decision on the question of climate change and therefore on Kyoto. This has not been the case in Canada where there has been a government organized lobby to promote the CO_2 'greenhouse' warming to an unaware public: alternate data and interpretations have not been presented. The following is presented for those wishing to gain a better understanding of the science of global climate change.

Climate is always changing- that's a 100% certainty. What are the causes of these changes?

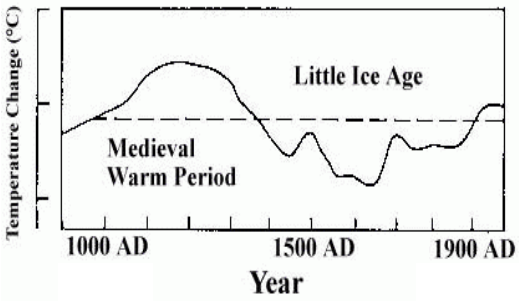
The public has been reminded constantly that the production of carbon dioxide (CO_2) from the burning of fossil fuels will (or has) caused global warming. The 'evil- CO_2' has been presented so repetitively that many now believe it to be a fact (Where was it said- that a lie presented a thousand times then becomes a fact!) We are not suggesting that CO_2 as a cause of warming is a lie, but we intend to present scientific information that casts it as very unlikely candidate for global warming.

SOME FACTS About The ATMOSPHERE: Is CO_2 The Culprit In Global Climate Change?

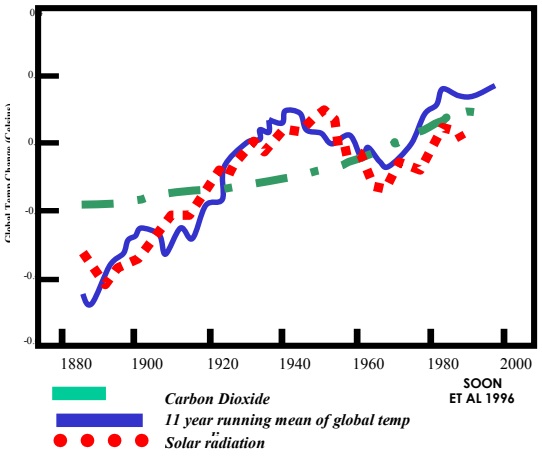
*Our atmosphere consists of 78% nitrogen, 21% oxygen, argon and trace gases (so-called 'greenhouse' gases - water vapor, CO_2, methane, ozone).

* Among the trace gases (including CO_2), 97% of the 'greenhouse' effect is due to water vapor and clouds.

* CO_2 is not a pollutant: it is not harmful to humans and it is sometimes referred to as a fertilizer as it is essential for plant growth.



* We know that CO_2 originating from the burning of fossil fuels was not the cause of earlier dramatic climate change. For example, 1000 years ago, scientific and historical data show that the earth was in the pleasant Medieval Warm Period (see IPCC, 1995) with agriculture established in Greenland and Iceland and settlements present in Newfoundland. This was followed by the Little Ice-Age starting about 1350 AD. This harsh cold period lasted until about 1860 AD during which time Greenland and Iceland settlements virtually perished.
We are still emerging on the warming trend that came after the Little Ice-Age Period.



* In the 20th century there is lack of correlation between temperature changes and CO_2 levels.
Scientists are in basic agreement that over the past 100 years, there has been a 0.5 degree C rise in temperature. However, that average hides some significant details. In the period 1910 to 1940 alone, a rise of about 0.5 degrees C occurred during which time there was an imperceptible rise in CO_2. From 1940 to 1975, the temperature decreased about 0.2 degrees C while CO_2 levels started to increase more rapidly. The out-of-sync relationship is obvious

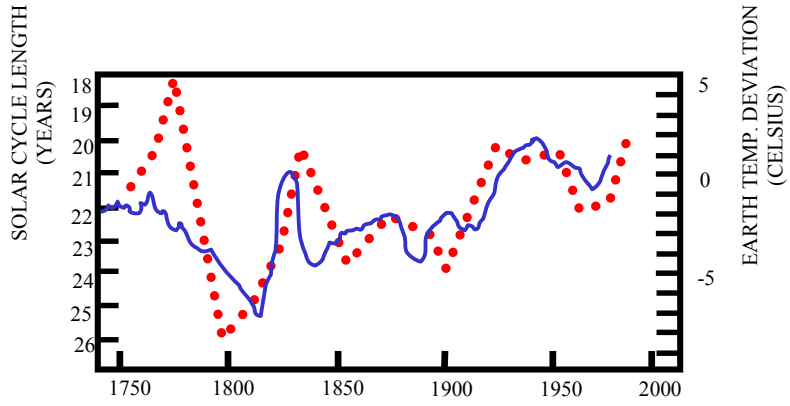
* Ice cores taken from three glacial-interglacial periods in Antarctic show that temperature rise

preceded rise in CO_2 by about 600 years: that clearly indicates increasing levels of CO_2 was not the cause of increased temperatures.

* World Climate Report (Jan/2002) show that CO_2 levels have remained essentially flat from 1975 to the present during a time of maximum production of CO_2 from fossil fuel

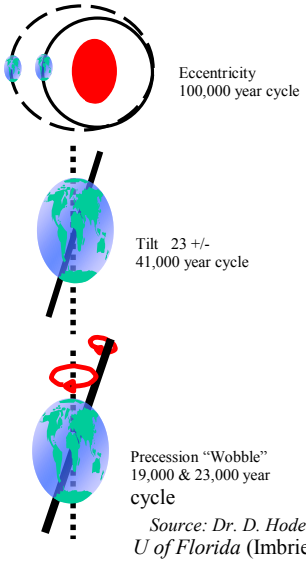
POSSIBILITIES FOR GLOBAL CLIMATE CHANGE:

If the burning of fossil fuels was not the cause of earlier changes in climate, what might the possibilities be? Scientists Soon et al (1996) found an excellent correlation between varying global temperatures and the sun's variable radiant energy while Baliunas and Soon (1996) found a near perfect fit between solar magnetic cycle length and earth temperature. Other scientists (Milankovitch, Hodell, Imbrie) working with earth's eccentric orbit, the varying tilt of the earth's axis, and its wobble (precession) have found an acceptable theory for the major ice-ages and interglacial warm periods.

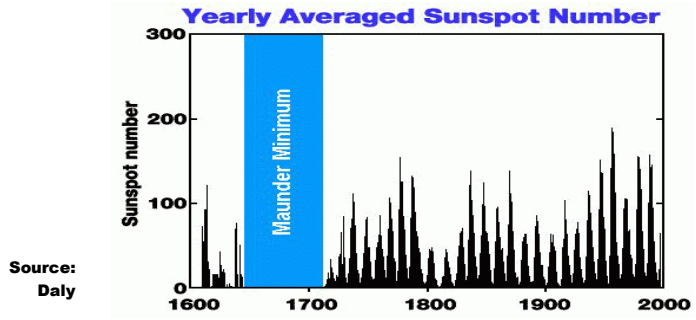


Moving 11 year average of terrestrial northern hemisphere temperature deviations from 1951-1970 mean (Baliunas &Soon , 1996

Solar magnetic cycle length - the shorter the cycle the more active & brighter



Source: Dr. D. Hodell
U of Florida (Imbrie#)



Source: Daly

During the middle of the Little Ice-Age (1620 to 1710), the 11-year sunspot cycle essentially stopped; as one scientist noted 'It's as if the sun stopped breathing'. As the sun's radiant energy varies with sunspot activity, it is reasonable to conclude that the sun had some effect on climate during that Period

 # Imbrie et al acknowledges Milankovitch as the originator of the theory

The IPCC and Environment Canada:

Interpretive information is provided by the Intergovernmental Panel on Climate Change (IPCC) and Environment Canada, both of which rely heavily on general circulation models (GCM's) and both involve CO_2 as the culprit. These computer models which are intended to forecast temperatures embody an immense number of assumptions in attempting to forecast events 50 to 100 years into the future; for example, variables in population, per-capita income, amounts of fuel consumed, predictions of future industry, and so on. As Buliunas explains "Computer simulations must track over 5 million parameters .... ..and such simulations require accurate information on two major natural greenhouse gas factors...water vapor and clouds.....whose effects we still do not understand." It is not surprising that the

IPCC forecasts for temperature have had to be revised downwards several times in the last 10 years. For those wishing to gain a better understanding of the science problems inherent in IPCC, the reader is referred to McKitrick and to http://www.sepp.org/ipcccont/ipcccont.html. .

WHAT ABOUT RECENT TEMPERATURES?

Surface recorded temperatures since 1979 show an upward trend with a dominant spike due to El Nino in 1997-98 whereas satellite temperature records in the Lower Troposphere show little change. Scientists (Doran et al) have found the Main Antarctic continent to be cooling while in the Arctic, there is evidence of warming in the Western Arctic and cooling in the Eastern Arctic

'SCARY SCENARIOS' - what about the forecasts of droughts, hurricanes, ice storms, and other extreme weather events. These exaggerated forecasts which Environment Canada and special interest groups correlate with global warming do not have scientific support. Studies show that the frequency and intensity of severe weather events such as hurricanes have not increased. The reader is referred to Landsea et al, Mendelsohn et al, Mendelsohn, and Zang et al for details.

SUMMARY:

So what is going on here? CO_2 is not a pollutant; it's a trace gas with minor potential for 'greenhouse' warming; water vapor and clouds produce the main 'greenhouse' effect, but it's contribution is near impossible to model; increases in CO_2 are shown to lag temperature increases and are not the proven cause of temperature increases; and we see with near certainty that temperature changes in the past came about from variations in the sun's radiant energy and the earth's orbit.

These questions and others may explain why thousands of scientists and others objected to the science behind the Kyoto Protocol: The Heidelberg Appeal, 1992 (4000 scientists including 70 Nobel Prize winners); the Leipzig Declaration, 1997 (100scientists); and the Oregon Petition, 1998 (17000+ signed of which 2500 were specialists in the field). Hanson, in 1988 linked increasing production of CO_2 to increases in 'greenhouse' global warming. This precipitated the environmental rush to Kyoto. However in 2000, he reversed his earlier position by identifying the reduction of particulate matter and noxious oxides as the priority - not CO_2. Any balanced, objective look at the science should tell us that we need to stop and answer a lot of relevant questions before proceeding with Kyoto.

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(We invite objective, referenced science pertaining to the above document)