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The Right Honourable Justin Trudeau  
Prime Minister of Canada

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## COP21 PARIS 2015 DOES THE IPCC CLIMATE SCIENCE MERIT ACTION?

As the World's Nations scramble to make their commitments to reduce Carbon Dioxide (CO<sub>2</sub>) in the atmosphere to keep the temperature increase below 2 °C, the COP21 representatives apparently have failed to notice that there has been no warming for almost 2 decades. Proposed action appears to be based on climate models predicting a rise of as much as 2 °C by 2030 but, so far, we have experienced only one tenth of that. Are we planning to introduce policies to reduce CO<sub>2</sub> on virtual warming? In Figure 1 it is apparent that there is no match between climate models and observed reality.

It is difficult to respect the claims made by the International Panel on Climate Change's (IPCC's). Let me quote from their latest Assessment AR5. "Each IPCC report has been **progressively stronger** in attributing climate change to human activities. The AR5 contains the strongest statement yet, saying it is "extremely likely" (a greater than 95 percent chance) that human activities are "the dominant cause of the observed warming" since the 1950s ". There is no scientific basis for such a claim, with less and less evidence, the IPCC claims have become more emphatic. It is strange that Canadian scientists have been in the forefront of demonstrating the false evidence presented by IPCC and yet our Government's position has not changed!

The actual recorded facts are that the climate **COOLED** from **1944 to 1976**, as shown in Figure 2, while CO<sub>2</sub> **INCREASED**. This cooling was sufficient to cause scientists to warn President Nixon of a coming Ice Age. Only from 1976 to 1998 was there warming in concert with increasing atmospheric CO<sub>2</sub>. Since **1998** there has been no statistically significant warming, as confirmed by the major observers. Therefore, only in 22 of the last 65 years has there been warming associated with rising atmospheric CO<sub>2</sub>. That is only 33%, not 95%, so there is a **67% chance (a likely probability in IPCC terminology) that CO<sub>2</sub> is not a primary driver of global average temperature!**

The temperature rise from 1911 to 1944 occurred before CO<sub>2</sub> could have had a significant effect on temperature but it is very similar to the rise from 1976 to 1998, and both increases are coincident with significant increases in solar activity as shown in Figure 3. But according to IPCC it is extremely likely (a greater than 95% certainty) that in the latter period human activities are the dominant cause of the observed warming. There is nothing unique or unprecedented about this warming and there is no signal to indicate it results from human released CO<sub>2</sub>.

If CO<sub>2</sub> warms the atmosphere by trapping long wave infrared radiation, there should be a reasonably consistent relationship between increased atmospheric CO<sub>2</sub> and temperature, but there is none. From **1944 to 1976** for every ppmv added to the atmosphere the temperature **declined by 0.01°C. This feature, in itself, suggests that the CO<sub>2</sub> warming theory is wrong. More CO<sub>2</sub> added to the atmosphere, according to the theory, should never result in cooling! SO WHAT IS THE CAUSE?**

The 32 year cooling initiated in 1944 can not be explained by volcanic activity or human activity but is explained by changes in oceanic cycles and changes in the solar magnetic field. There is a 45% drop

in sunspot activity from 1958 until 1976 in Sun spot Cycle 20 as well as a concomitant drop in the solar magnetic field. (Figure 3). The Pacific Decadal Oscillation (PDO) switched to its cool phase in 1945, and switched to the warm phase in 1977 corresponding to the cooling period as seen in HadCRUT4 (Fig. 4). The Atlantic Multi-Decadal Oscillation switched to the warm phase in 1975. These natural causes of climate change are not represented in climate models. We believe that these oscillations are ultimately caused by solar activity, as the sun is the only available power source that could cause these oscillations.

The 400 years of Sunspot numbers demonstrates that there is well defined correlation of solar activity with global climate. In Figure 4 the Maunder minimum coincides with the coldest portion of the Little Ice Age (LIA), while our late 20<sup>th</sup> Century warming is defined by a 1,200 year Grand Maximum in solar activity. Usoskin (2010) has demonstrated from analysis of Be10, and C14 isotope proxies that solar cycle 19 is the most active in the last millennium. The 1970 cooling episode is well defined by; a drop in sunspot number; a reduced solar magnetic field and a significant increase in cosmic ray count (Fig.5). Also, while we have no cosmic ray counts for the LIA, high Carbon 14 counts in tree rings indicate high cosmic ray influx at this time.

Since 1997, NOAA, GISS, UK Met Office and Japan Met Agency have agreed that there has been no statistically significant warming in the past 18 years despite a substantial rise in atmospheric CO<sub>2</sub> to 400 ppmv. The IPCC and other institutions are simply unable to account for this, some forty implausible reasons have been advanced to explain the so called "hiatus" except for the most probable reason that, **the CO<sub>2</sub> warming hypothesis is wrong and the climate variability is responding to the solar variability and resulting oceanic cycles.** Figure 5 shows the last six solar cycles, indicating the 1970s cooling, and a clear drop in sunspot number into cycle 24 which is the lowest in a Century. In 2005 there was a distinct step down in the AP index, a measure of the solar magnetic field which also marks a steady increase in cosmic ray influx

The observations above are completely consistent with the research of one of our outstanding solar physicists Dr. Henrik Svensmark, Director, Division of Solar System Physics at the Danish National Space Institute and his work is a model of the scientific method. He proposed that the Earth's climate is controlled by the interaction of the Solar Wind, (essentially the solar magnetic Field) and the influx of galactic cosmic rays predominantly from the Milky Way Galaxy which affects the volume of clouds and the amount of solar energy received by the Earth. Svensmark has confirmed by observation and experiment the validity of his hypothesis, and this has been confirmed independently at CERN an event studiously ignored by the media

We have had 8 warming and cooling cycles since the end of the Pleistocene Ice Age. These cycles occurred as a result of solar variability and are unrelated to CO<sub>2</sub>. It is therefore clear that our modern warming, poorly correlated with CO<sub>2</sub> is simply another part of the past Holocene climatic cyclicity. Well documented climatic information for the Roman Warm Period and the Medieval Warm period show that they were both significantly warmer than our current warm period and **there is nothing unique or unprecedented about modern warming.**

What is important about IPCC reports is not the actual content but what has been left out or ignored, like the evidence for solar forcing described, and failure to acknowledge the eight previous solar driven warming and cooling cycles. The most egregious omission, is the failure to recognize the role of CO<sub>2</sub> in the evolution of the planetary atmosphere. The literature records very high values 10-200 times current values, some 4000-80,000 ppmv. According to current wisdom these values would be toxic, nevertheless, life occurred prolifically in the Proterozoic oceans.

There is also an excellent body of literature documenting high CO<sub>2</sub> values in the last 550 million years since the Cambrian. The IPCC would like to ignore the geological history of the planet which is explicit that during the great periods of the evolution of new animal groups atmospheric CO<sub>2</sub> content was at very high levels, 1,000-7,000ppmv and, therefore, **CO<sub>2</sub> can not affect the atmosphere in the manner predicted.** In addition a detailed analysis of global temperature of the Phanerozoic (the last 550 million years) by Jan Veizer, Professor Emeritus at University of Ottawa clearly demonstrates the lack of correlation of atmospheric CO<sub>2</sub> with global temperature.

There is little doubt that the IPCC is not a scientific organization and it flaunts 200 years of established scientific discipline. Richard Feynman probably the most outstanding physicist since Einstein has made clear the requirements of the scientific method. In particular you should report **everything that you think might make your theory invalid** and or **other causes that might explain you results.** This is precisely the opposite of how the IPCC works they have very carefully avoided any aspect of science that would **invalidate their results**, like solar variability, very high CO<sub>2</sub> values throughout much of the planet's history, and the cyclical character of Holocene climate.

It is a matter of some serious concern that Western Governments are accepting IPCC reports at face value when there is a very well documented history of data manipulation and inappropriate statistical handling of data in order to justify the CO<sub>2</sub> warming hypothesis. The "Climategate" emails from University of East Anglia shows a group without integrity or objectivity prepared to go to any lengths to protect their position while their work has consistently been invalidated in peer reviewed documents. They have also blocked and obfuscated any attempts to release basic data or their processing algorithms. **Are we really prepared to accept their conclusions on climate and introduce damaging economic policies with no due diligence whatsoever?**

We strongly recommend that a joint Parliamentary Committee be established which will review the evidence that climate is profoundly influenced by solar variability and the influx of cosmic rays from space. To date solar physicists have been completely excluded from IPCC deliberations and no evidence that earth's climate is driven by the interaction of solar energy impacted by the influx of cosmic rays from the Cosmos is presented in IPCC Assessments. Worse still is the fact that Governments are heading to Paris to counter warming when in fact the majority of solar physicists predict future cooling as there has been a progressive drop in activity in the last three solar cycles (Figure 5)

Your Government should be unwilling to make any commitments in Paris or later COP conferences until they have conducted due diligence on an evidentiary basis. The natural cyclic warming and cooling periods that are so obvious in the climate record negates the CO<sub>2</sub> theory. While as we have demonstrated the global temperature is more closely correlated with the solar activity.

Yours very truly,

Warren Blair  
President  
Friends of Science

cc:  
The Honourable Catherine McKenna  
Minister of Environment and Climate Change

The Honourable Premiers of the Provinces of Canada

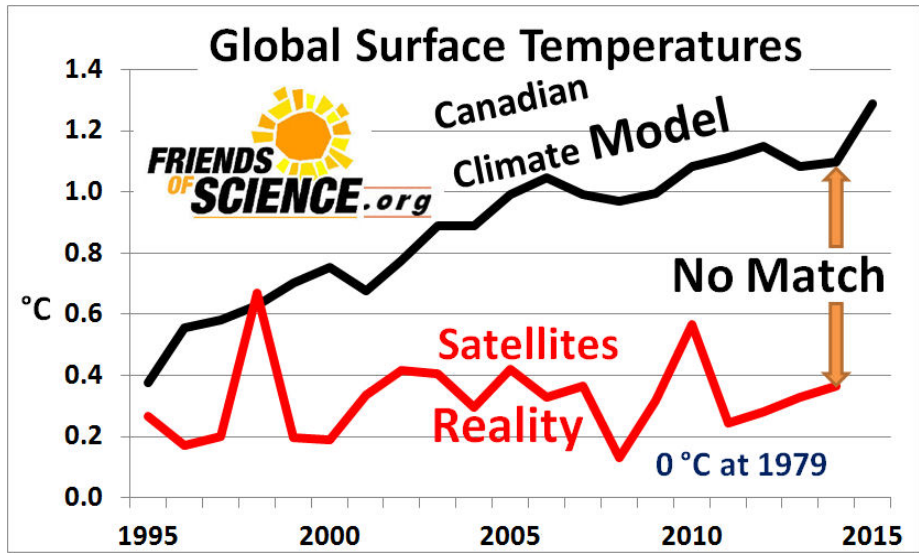


Figure 1 The Canadian Climate model (average of 5 runs) versus the actual Satellite measurement temperature record global near surface temperatures

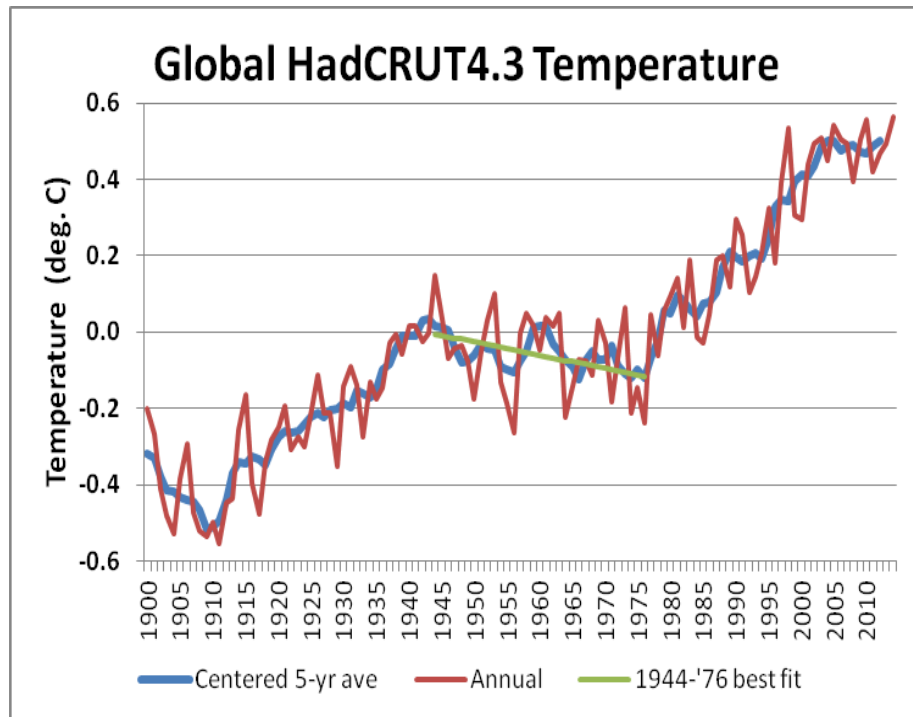
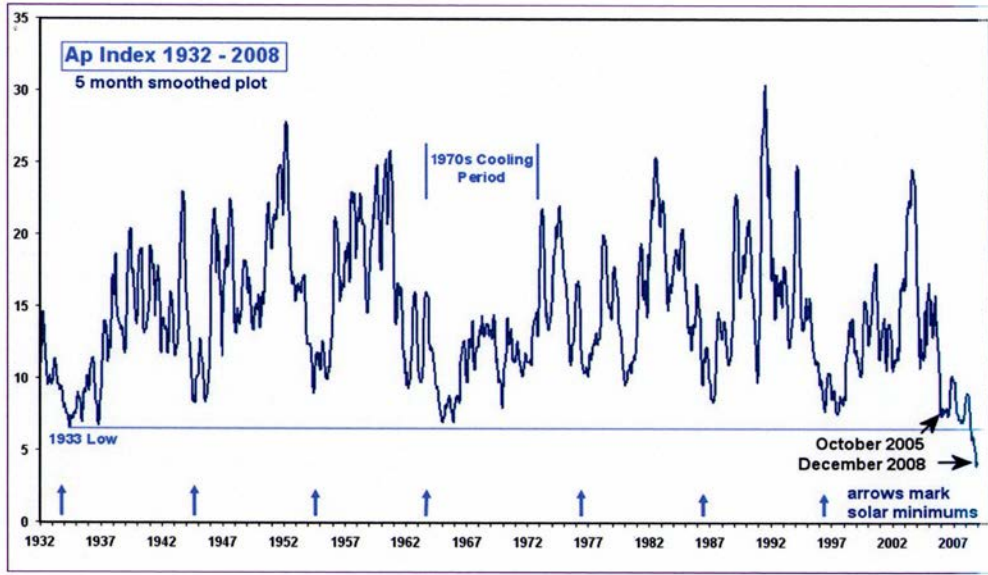


Figure 2, Global surface temperature, Hadley, Climate Research Unit



When the 10 Ap unit variations are multiplied by the 0.05 scale factor, it suggests about a 0.5 W per sq. meter modulation of global reflected sunlight during the 11 year solar cycle (as well as in monthly and yearly variations of geomagnetic activity). I calculate that this is a factor of 10 greater than the change in reflected sunlight that results from the 0.1% modulation of the total solar

Figure 3, A presentation of the Solar AP index, a measure of the Sun's magnetic field, sometimes referred to as the Solar Wind, an outward stream of charged particles expanding into space and intersecting with the interstellar wind providing an umbrella for the solar system against the rain of charged particles from outer space (Cosmic Rays). The blue arrows across the bottom of the section indicate the Sun Spot minima, while the peaks in AP Index readings occur at the Sun Spot maxima. The cycles have been numbered since the 18<sup>th</sup> Century and in Fig.23, start with cycle 17 on the left ending with 23 on the right. Note the sharp drop in the AP Index at Cycle 20, centered on 1970, from 23 AP units to 13 AP units during the 1970's cooling. This indicates a response to Solar Activity and not CO2 which actually increased from 310-330 parts /million by volume (ppmv.)

## 400 Years of Sunspot Observations

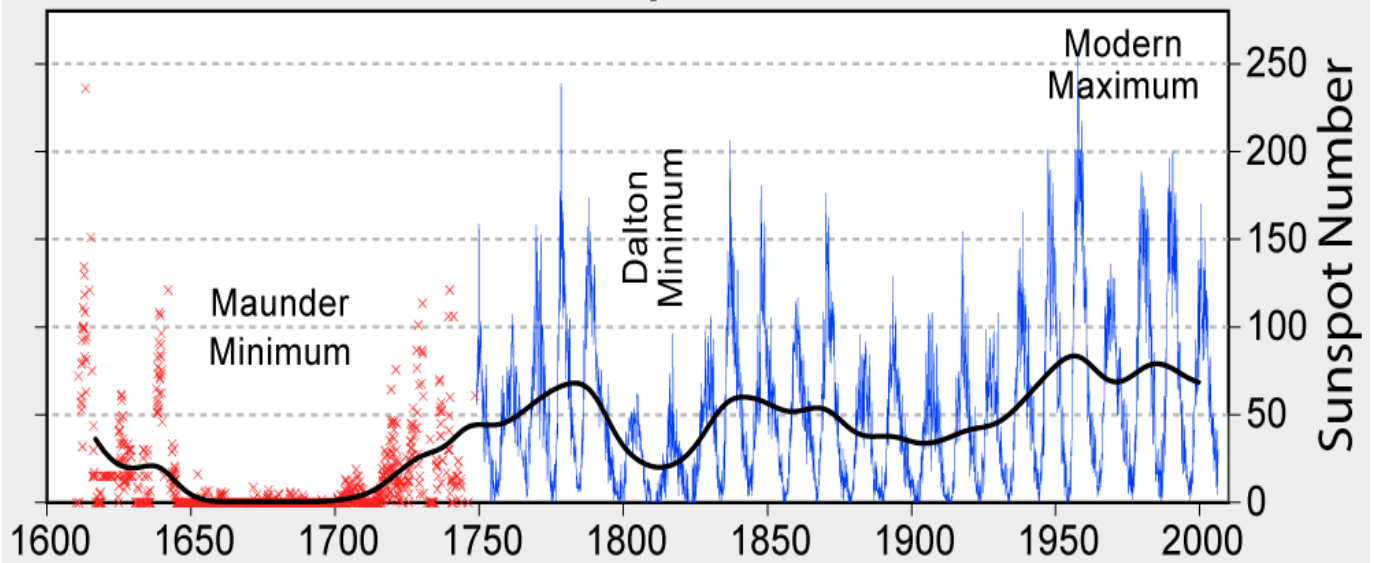


Figure 4, 400 Years of Sunspot Numbers with the eleven-year mean of the monthly averages (heavy black line) that shows the Modern Maximum Activity is higher than at any time in the past 400 years shown on the chart. Also the 1970s cooling episode is again clearly depicted. Therefore the late Twentieth Century warming is related to the activity of the Sun and is simply a continuation of the Holocene warming and cooling cycles (Source, NOAA and Royal Observatory of Belgium, compiled by Hoyt and Schatten, 1998a, 1998b).

Fig.5

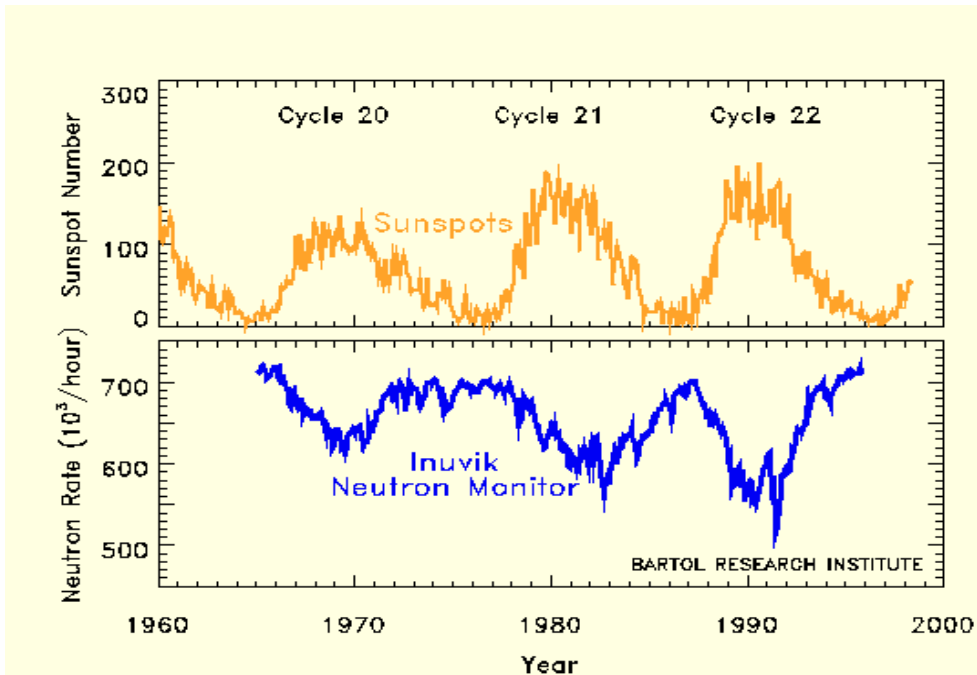
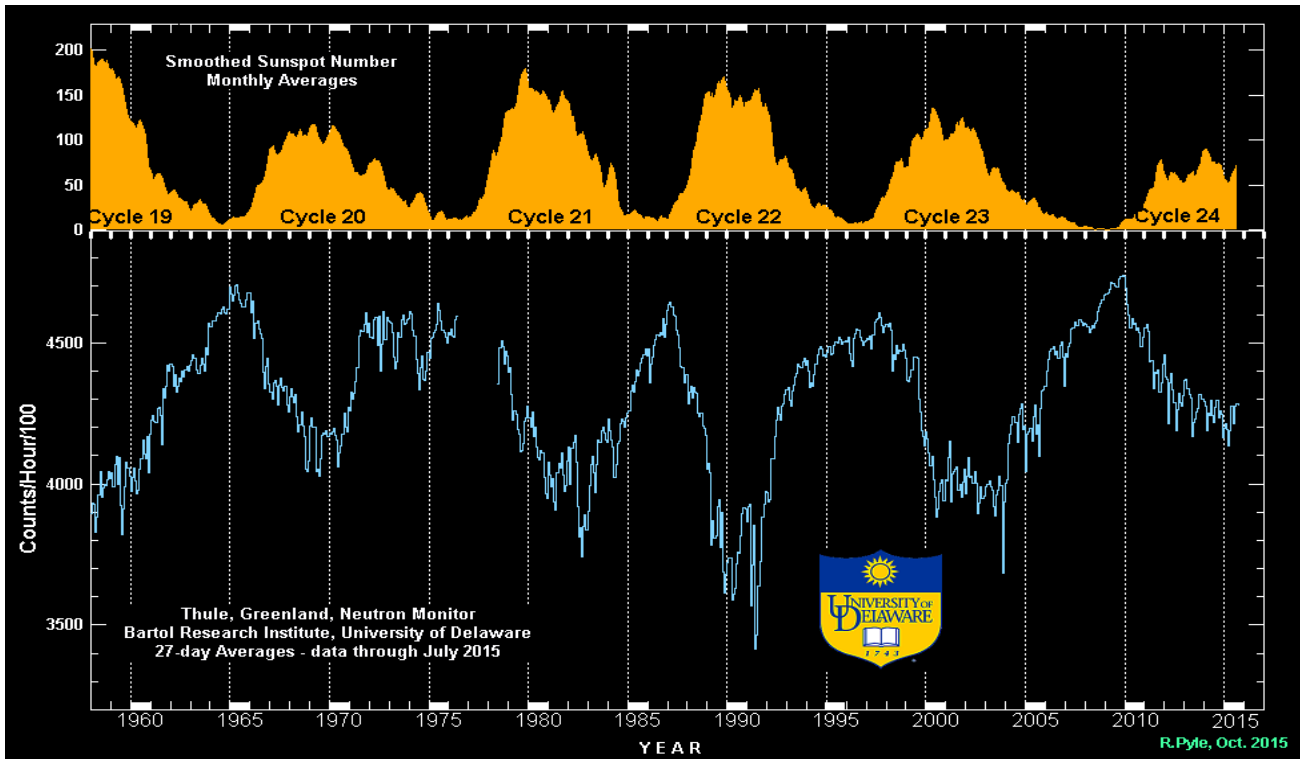


Figure 5, Shows the cosmic ray counts from the Inuvik Neutron Monitor. When sunspot counts are high the cosmic ray count decreases. On average, sunspot numbers peak every 11 years when the Sun is most active. Plasma and magnetic fields spread out from the Sun and create a barrier which galactic cosmic rays must struggle through. Thus, when the Sun is active, fewer galactic cosmic rays reach Earth. In Cycle20 in which there is a 45% drop in some spot numbers there is an extended period of high cosmic ray counts as indicated by the Neutron Monitor which is consistent with the fact that the 1970s cooling is solar related



**Figure 6** Solar modulation refers to the influence the Sun exerts upon the intensity of galactic cosmic rays. As solar activity increases (upper panel), the count rate recorded by a neutron monitor in Thule, Greenland decreases (bottom panel). Although there is an inverse relationship between the solar cycle peaks and cosmic ray counts, the chart suggests that there are indications of external influx also. At cycle 20, the period of 1970s cooling, the counts of cosmic rays are high a minimum of 4200 counts per hour, but drops to 3500 counts per hour at cycle 22 and then increases progressively to 4300 at cycle 24. Note the progressive drop in Sun spot counts from Cycle 21 to 24.