

# SUBMITTAL TO COMMONS SELECT COMMITTEE IPCC 5<sup>TH</sup> ASSESSMENT REVIEW

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Author of 10 Articles on Climate Change in CSPG "Reservoir" these articles were used as a basis for a presentation to the Swiss Academy of Sciences by the late Dr Peter Ziegler, Emeritus Professor, University of Basel, in December 2010 and, therefore, represent a balanced review of climate science. In this regard we quote from Dr Ziegler's letter to the OcCC (Organe consultatif sur les changements climatiques), an advisor to the Ministries of the Bundesrepublik, ***"To this end, the presentation of Dr. A. Neil Hutton gives you the views of an outstanding and independent scientist that cannot be disregarded. He is not alone but a member of a very large community of scientists, which are not linked to IPCC.***

## SUMMARY

***The IPCC expect us to accept that with hundreds of climate models which do not match observations and measurements, they are 95% confident that warming since 1951 is human caused. The global average surface record only shows warming in concert with increased CO2 between 1978 -1997. That is only 19 of the past 63 years amounting to only 30%. There is therefore a 70% chance that CO2 and atmospheric warming are not correlated and the claim that warming is human caused can not be supported***

***Model studies do not match the observed climate variability because of the limitation of their assumptions and can be shown to be 97.5% wrong. In order to characterize modern warming as unprecedented the IPCC simply evade the eight Holocene warming and cooling cycles of which our modern warming is the last and coolest. Evidence is incontrovertible that the Roman Warm Period and the Medieval Warm Period had world wide effect and were at least 1degree C warmer***

***IPPC simply ignore the evidence from the early history of the earth. Claim that CO2 content is at its most elevated in the last 200,000 years when in fact it is at its lowest levels in geological history. The very high atmospheric CO2 content in the early history of the planet can not be reconciled with IPCC forecasts and projections. According to IPCC forecasts the land and oceans would not be habitable at established ranges of atmospheric CO2 documented to be anywhere from 16 to 100 times current levels during the Proterozoic and Palaeozoic (0.25 – 3.5 Billion years ago). Thus CO2 can not be a significant driver of climate.***

***IPCC in an effort, to preserve credibility have simply written off the Sun the major source of our planetary energy Because solar output is relatively constant, IPCC have chosen to ignore a large body of evidence linking solar variability with climate which has the support of abundant peer reviewed measurement observation and experiment to corroborate the Sun, together with Cosmic influences, are the main driver of climate.***

***The IPCC is a deeply flawed process not scientific but political. From the perspective of jurisprudence CO2 is on trial for warming the planet, and a massive prosecution has been mounted with popular support, but no defence. Any criticism was regarded as heretical and although no one has been burned at the stake many careers and funding have gone up in flames. There has been a serious loss of objectivity and integrity in this process. How can the Summary for Policymakers precede the Scientific reports in order to have consistency? As the evidence for warming by CO2 has been discredited the IPCC have simply become more adamant in their claims.***

## **COMMENT ON AR5**

**1)** The IPCC wish us to believe that hundreds of climate model runs which do not match observations are still proof of warming. In normal scientific protocols, in use since the 17th Century, if the hypothesis is not corroborated by observation and measurement, it is **WRONG**. In the latest IPCC Assessment, (AR5) the Summary for Policymakers claims 95% certainty that the warming since 1951 is human caused while having presented no evidence to support such a link.

**2).** An inspection of the actual record shows that the global average temperature actually cooled between 1951 and 1978, so much so, that a number of scientists wrote to President Nixon warning of a coming Ice Age. A reasonable assumption given that we live in an interglacial warm period. These warm periods are episodic (approximately 15-20,000 years long, while glacial episodes last from 80 - 110,000 years. There have been 5 cycles in the last 450,000 years. (see Petit et al 1999) and in AR5 Working Group I it is stated, **There is high confidence that changes in atmospheric CO2 concentration play an important role in glacial-interglacial cycles.** This assertion is a total contradiction of the peer reviewed literature which shows that CO2 is not involved in the warming process but follows as a result of degassing of melting ice. Lags of 800 to 1300 years have been reported by authors such as ( Fischer et al 1999, Monnin et al 2001, Mudelsee 2001 and Caillon 2003) There is no mechanism to produce the CO2 in this strongly cyclical system and, more critically, how does it disappear with the onset of a new cooling trend? **It is quite clear that CO2 is a passive player in glacial interglacial cycles, and its manifestation is an indication only of its solubility, high in cold conditions and low in warm conditions.**

3). Between 1978 and 1997 the climate warmed correlative with rising atmospheric CO<sub>2</sub> but ceased in 1997 and has remained stable since. Therefore warming occurred in only 19 of 63 years which is only 30%. (an unlikely probability, in IPCC terminology) ***There is therefore a 70% chance, (likely probability in IPCC terminology) that CO<sub>2</sub> and warming are not correlated. The IPCC claim of 95% confidence that warming since 1951 is human caused is not be supported by the evidence.***

4). The fact is that climate models have been unable to match observed climate variability because of the limitations of their assumptions, in particular, the supposedly dominant role of CO<sub>2</sub>. It is well recognized by climatologists that CO<sub>2</sub> without amplification or positive feedbacks can not warm the atmosphere in the manner proposed by IPCC scientists. The failure of models to match actual observations is a clear indication that the model assumptions are wrong, and not that the heat is mysteriously hiding we know not where! Furthermore, a model is only a hypothesis awaiting corroboration by measurement and observation. **As demonstrated in Fig.1 below measurements and observations show that the IPCC models are 97.5% wrong**

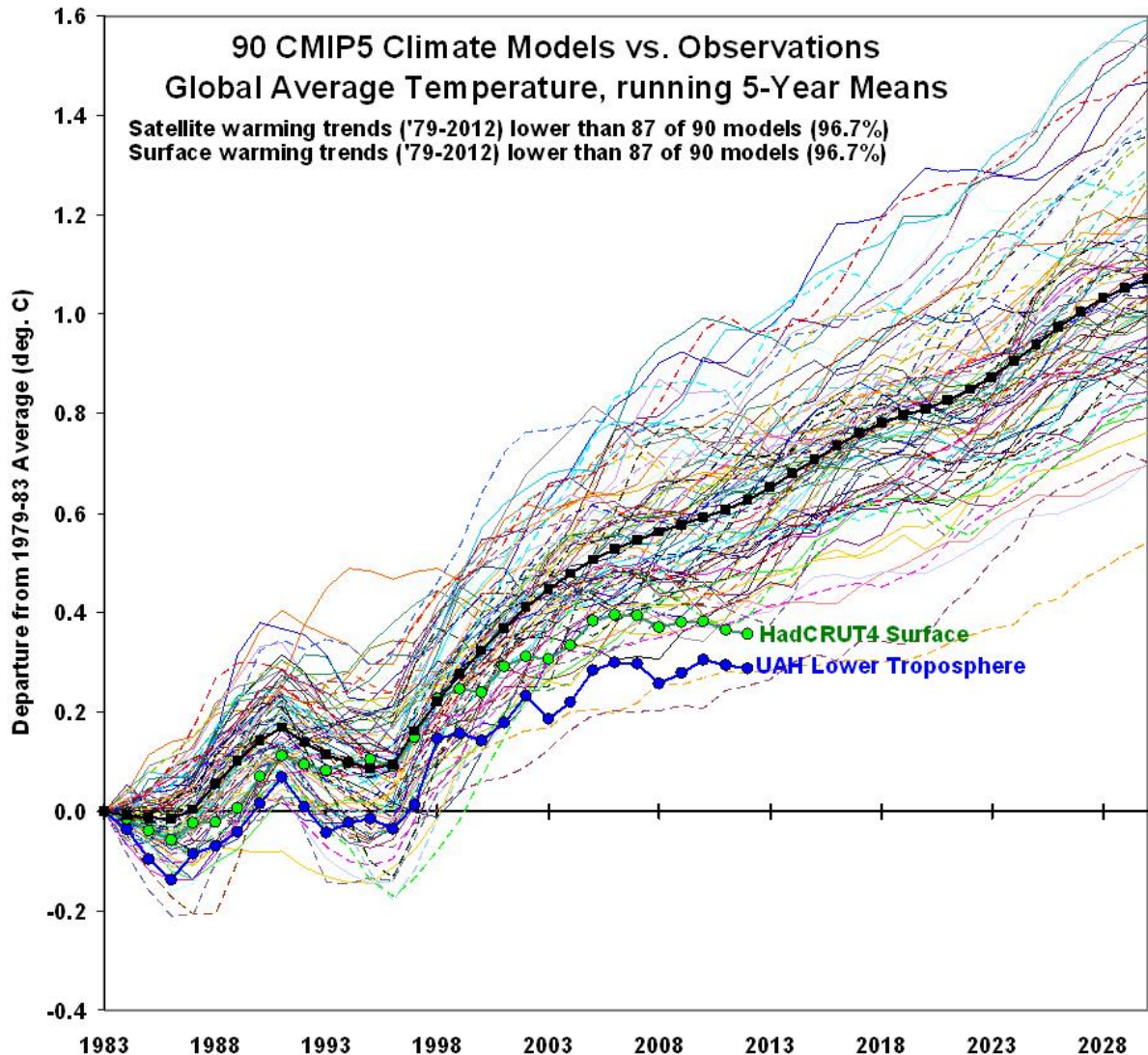


Fig 1 After Spencer 2013, (<http://www.drroyspencer.com/page/2/>) The figure documents that 97.5% of the models warm faster than the observations of the surface (green) and the troposphere (blue). This demonstrates that there is no basis to claim 95% probability that warming is human caused.

5). It is commonplace to read that atmospheric CO<sub>2</sub> content is at its most elevated in the last 200,000 years, but it is usual to avoid the ‘inconvenient truth’ that CO<sub>2</sub> is at the lowest levels in the last 500million years and is at minimum levels for a healthy biosphere. A new detailed report (Idso 2013) details the benefits to the planet of elevated CO<sub>2</sub> **The results indicate that the annual total monetary value of this benefit grew from about \$20 billion in 1961 to over \$160 billion by 2011, amounting to a total sum of \$3.5 trillion over the 50-year period 1961-2011. Projecting the monetary value of this positive**

**externality forward in time reveals it will likely bestow an additional \$11.6 trillion on crop production between now and 2050'**

**6).** In the last 15,000 years, within the current interglacial, the climate has had eight episodes of warming and cooling, in recurrent cycles, all in general comparable to our modern warming period, but clearly lacking any influence by CO<sub>2</sub>. The only feature that distinguishes the modern warming from eight previous cycles is that it is cooler. ( see Huang et al, 2000: Jiang et al 2007: Clegg et al 2010 : Dietrich 2007 : Fillipi et al 1999 and Yang et al 2009). Furthermore there are literally hundreds of peer reviewed articles describing the Medieval Warm Period and the Little Ice Ages' global occurrence ([www.co2science.org](http://www.co2science.org)) but in AR5, WGI, p.5-5 it states, **“With high confidence, these intervals were not as synchronous across seasons and regions as the warming since the mid-20th century”**. **This is a deliberate evasion not supported by published literature, and is present only to avoid acknowledging that many climate cycles occurred in the Holocene from solar forcing, totally independent of CO<sub>2</sub>, while our current warming is neither unique, unusual or occurring at exceptional rates**

**7).** There is abundant observational evidence, in published literature, to show that the two prior warm periods, the Roman Warm Period and the Medieval Warm Period, were as much as 1 ° C warmer than our late 20<sup>th</sup> Century warming. Since the modern warming initiates in the Little Ice Age as solar activity recovers from a 70 year hiatus in Sun spot activity then the warming into the 20<sup>th</sup> Century is certainly the result of increased solar activity. There is no signal to indicate the point at which natural warming is supplemented by the effect of CO<sub>2</sub>. Nor is there any signature which can identify anthropogenic versus natural warming.

**8).** The focus by the IPCC on only the last 50 years of Climate variability is like trying to describe a large richly furnished drawing room through the keyhole. What is most important is not what is in the AR5 report but what has been left out, or glibly avoided, most importantly, the history of the evolution of the Earth's atmosphere, 5.4 billion years of geological history, which utterly contradicts a major role for CO<sub>2</sub> as a climate driver.

**9).** In the beginning the Earth's atmosphere was anoxic and contained high volumes of Nitrogen, CO<sub>2</sub>, water vapour as well as molecules that are true pollutants like Sulphur Dioxide (SO<sub>2</sub>), Hydrogen Sulphide (H<sub>2</sub>S), Methane (CH<sub>4</sub>), and Nitrogen Oxides (NO<sub>x</sub>). Then how did this essentially toxic atmosphere come to support life and supply oxygen. Why! because of CO<sub>2</sub> along with the evolution of prokaryotic bacteria. In the early oceans 3.5 Billion years ago very primitive life forms, cyanobacteria, which were aquatic and photosynthetic, gradually became very abundant. Photosynthesis allowed the organisms to utilise sunlight to digest CO<sub>2</sub> converting it to cellulose and sugar molecules while releasing Oxygen (O<sub>2</sub>), the breath of life for the Animal Kingdom. These organisms occurred in such massive quantities that they oxygenated the

atmosphere to current oxygen levels. Therefore, without CO<sub>2</sub> and bacteria there would be no life on the planet.

**10).** Photosynthesis initiates a process of fixing and sequestering carbon which continues throughout geological history. By the close of the Proterozoic extensive carbonate platforms and stromatolitic reefs are commonplace and have fixed thousands of gigatons of carbon. Studies indicate that at 1.4 Billion years the Proterozoic atmosphere contained 10 to 200 times current levels of CO<sub>2</sub>. That is to say 4,000 to 80,000 ppmv of CO<sub>2</sub> (Kaufman & Xiao, 2003), (<http://www.nature.com/nature/journal/v425/n6955/abs/nature01902.html>), Although it will be argued that this is because of lower solar luminosity, this fails to account for the proliferation of life in the oceans, because, at these atmospheric concentrations of CO<sub>2</sub>, the IPCC are projecting dead oceans as a result of acidification. Despite these very high atmospheric concentrations of CO<sub>2</sub> the Proterozoic oceans were teeming with microscopic life steadily advancing in complexity.

**11).** Berner and Kothvala (2001) through a series of studies beginning in 1991, 1994 and culminating with Geocarb III have documented the CO<sub>2</sub> content of the atmosphere throughout the Phanerozoic. (see also Berner, 2006) The study shows very high values throughout the Paleozoic, (541 – 250 million years ago) and the validity of the very high atmospheric CO<sub>2</sub> values is corroborated from individual palaeosol analyses. In the Cambrian (541 – 485my) the CO<sub>2</sub> levels were 17 – 25 times current levels, approximately 6,500 – 9600 ppmv. The validity of such high atmospheric levels of CO<sub>2</sub> is completely corroborated by the massive amounts of carbon that were fixed during this period. Although the geography of the continents was quite different in the Cambrian most of the ancient continental masses were drowned and fringed by massive carbonate platforms. Minimum estimates of the carbon sequestered during the Cambrian yield 1,396,000,000,000,000 tonnes or 1,396, 000 gigatonnes. It is not possible to reconcile the very high atmospheric CO<sub>2</sub> levels during the Palaeozoic, some 15 – 17 times current levels (5800 – 6500 ppmv) with the IPCC projections for doubling of CO<sub>2</sub> (385 – 770ppmv), especially given the complete lack of evidence of any adverse conditions in the oceans ( Veizer et al 1999) or on land, as evidenced by evolution of land plants in the Devonian.

**12).** According to IPCC forecasts for doubling of CO<sub>2</sub>, and climate model projections, global average temperatures in the Cambrian would be sufficiently untenable that the wonderful evolutionary explosion of phyla in the Cambrian, Burgess Shale, could never have occurred. In all probability the planet would be as dead as Mars. On the contrary Cambrian oceans enjoyed an environment not greatly different from our modern Oceans and a few exceptionally long lived groups which have almost identical anatomy and physiology to their Cambrian ancestors persist in our modern Oceans off Japan and Australia. This is prima facie evidence that the elevated levels of atmospheric CO<sub>2</sub> do not cause catastrophic warming or ocean acidification, nor is there any relationship

between CO2 and climate in the last 500million years of Geological History (see Shaviv & Veizer, 2003 also Veizer 2003).

**13).**The worst aspect of the IPCC report is their total disregard of the solar influence on climate. In the very period where they are 95% confident of human influence we have **the most active solar cycles of the 20<sup>th</sup> Century showing solar maxima 30 to 40% greater than the 19<sup>th</sup> Century or the first half of the 20<sup>th</sup>.** From 1950 there are six cycles numbered **19** to **24**. The daily sun spot maximum at cycle **19** was **200** dropping to **110** in cycle **20**. Cycle **21** showed an increase to **163** then there is gradual decrease through cycles **22** and **23** from **155** to **115** and finally cycle **24** is at a low of **65**. This pattern of solar variability has a 95% correlation with global average temperature and so there is no need to search for missing heat.

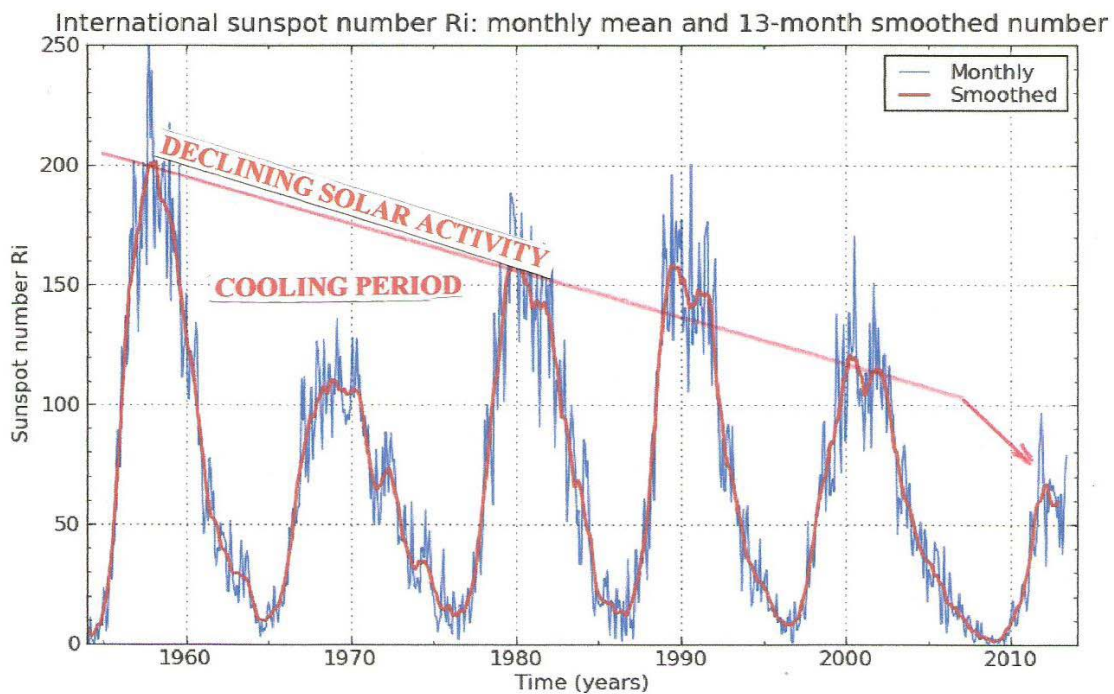


Fig.2 Illustrates the Solar Sun Spot cycle from 1950 – 2013, (cycles 19 – 24), 19 on the left, and showing a significant decline in activity especially since 1997.

**14)** The decline in solar activity through the last Sun Spot Cycles (Nos. 21, 22, 23 and 24) is shown in Fig.2, and this is consistent with the lack of warming in the last 15 years. A weakening Cycle 23 lasted for 12.4 years and recorded 821 sun spot free days, a number not seen since the 19th Century. The strong decline in sunspot number in Cycle24 suggests that we are now entering a solar minimum indicating the probability of cooling in the next decade.

**15).** There is considerably more evidence both observational and experimental which confirms the Sun's role in determining climate. Henrik Svensmark has been a leading proponent of the solar influence on climate and in 1998 published an article to show that Earth's temperature follows more closely decadal variations in galactic cosmic ray flux and solar cycle length, than other solar activity parameters. He then demonstrated a close relationship between cosmic ray flux and the development of low cloud (Marsh and Svensmark 2000) Svensmark then demonstrated in his laboratory (The SKY study) that incoming cosmic rays entering a simulated atmosphere caused the growth of clusters of molecules of the kind that build cloud condensation nuclei. These are specks of sulphuric acid on which cloud droplets form.(Svensmark et al 2007)

**16).** In order to confirm these observations that more fully met the constraints of the atmosphere and the nature of cosmic particles a much more sophisticated experiment was undertaken at the European Organization for Nuclear Research (CERN). The results, released in 2011, have fully substantiated Svensmark's hypothesis that incoming cosmic ray flux produces a steady production of new ionized particles (molecular clusters) that induce the nucleation of clouds. (Kirby et al Nature 2011), Therefore, in an exceptional demonstration of Scientific Method in climate science through observation, measurement and experiment Svensmark has shown that the Earth's Climate results in large part from an interplay of the Sun's activity and the incoming flux of cosmic rays from space, primarily the Milky Way Galaxy. When the solar flux is weak cosmic bombardment is strong and low cloud is propagated causing cooling; with an active Sun, as we have had for most of the last Century, the increased solar flux deflects and reduces the cosmic ray influx. The weaker cosmic ray flux results in less cloud and a warmer climate. This hypothesis explains in detail the climatic history of the Earth for the last 550 million years without resort to CO2 forcing. The failure of IPCC to acknowledge this groundbreaking research on cosmoclimatology is entirely political and without scientific merit.

**17).** The IPCC have been accorded a cloak of infallibility second only to the Pope, but have not fulfilled the trust that they have been accorded. Scientific objectivity and integrity have been sacrificed to achieve political goals almost at any cost, including blocking publication, lobbying editors, interfering with peer review and selective use of data. Lead authors are not obligated to address critical comment and for the most part critical reviews are ignored.

**18).** The AR5 report has provided no evidence on which policy decisions can be based. The so called "hiatus" is simply a euphemism to avoid admitting that the IPCC projections are invalid. While it is evident that the current solar minimum is very likely a precursor of continued cooling. The IPCC process has demonstrated a propensity to use data selectively and manipulate it in order to exaggerate their claims. They have indulged in fearmongering extensively in



exaggerating claims of melting ice caps, rising sea level and increasing severe weather floods, droughts and tropical storms

## **RECOMMENDATION**

**It would be invaluable to the Committee to invite Professor Henrik Svensmark of Division of Solar System Physics at the Danish National Space Institute as witness in order to properly comprehend the role of solar variability and cosmology in driving the Earth's climate throughout geological history.**

**What we should do about CO2 is wisely nothing.**

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*Fig 1 After Spencer 2013, (<http://www.drroyspencer.com/page/2/>)*

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