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Climate Science Primer

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Curious Anomalies in Climate Science

First perusal of evidence has converted many people from being skeptical of Anthropogenic Global Warming, to believing it is true - this has happened to many scientists, and happened to me, watching Al Gore's film. However, further perusal of evidence can result in another U-turn from which people do not change their opinions again - since by now they have probed the science to the bottom and there is no more known key science left to probe.

For a short overview, read [The Problem](#). You might also like to hear [my story - a U-turn](#)

This is a personal story of awakening, as well as a skeptics' primer in Climate Science. It is not a science paper: it does not have an "abstract", and referencing is not perfect. I work from a lot of muddy, confusing evidence, and lack of awareness, to reach sufficient clarity in the science, so that effectively one *becomes* a scientist as one progresses with reading this and thinking about it. Thus you can reach your own informed conclusions about the science as well as the politics behind the science. You are protected from hitting a brick wall of technical language, or paywalls, or an overwhelming number of contradictory reports without clues. I found it vital to grasp the science, in order to understand such an important issue about which there have been serious charges of misleading people in the science itself. Checking contradictory sources, and continuing to question evidence, became essential to discovering the truth. Had I been a trained scientist when I started to doubt, I would have collected references better. But there are still quantities of good refs here, mostly lower down; and no amount of good references is good enough for someone whose mind is already made up. Nobody is sponsoring me.

Many capable scientists, both warmists and skeptics, have checked this Primer or helped me word it better. And there are many friendly scientific accounts that confirm my words; but if you cannot trust *evidence* unless it comes from a top scientist with whom you cannot pull rank, start with the videos: [Dr Christy](#) IPCC Lead Author and climatologist; [Prof Plimer](#) to learn the real Climate Science; [Dr Theon](#) who was Hansen's boss in NASA. Look at the *evidence* in Akasofu: [Two Natural Components of the Recent Climate Change](#) and Segalstad: [Atmospheric CO2 and Global Warming](#) (both large pdf files). Learn an overview of facts: [Global Warming Science](#) is a powerful resource for good science and good links. Read the short but forthright [Skeptics' Handbook](#) that clarifies the real issues for debate. Friendly for non-scientists is a simple introduction: [Science, Method, Climatology, & Forgetting the Basics](#). A longer introduction, written for ordinary folk and scientists who want to understand the science and the problem, is [Great Global Warming Hoax](#), by a good scientist with a track record as atmospheric physicist. Disprove the two basic AGW hypotheses with [Cause and Effect](#). Then there is the [NIPCC](#), written by experts to match the definitive style, and beat the expertise, of the IPCC itself. Here is a whole [list of introductions](#). More exist. Read our [quotes from top scientists](#) that include Nobel laureates. Take your pick. Nobody can truthfully say that scientists skeptical of manmade global warming are either kooks or crooks, or that there is a consensus - as Al Gore claimed.

I'm familiar with RealClimate; see below. I have, however, tried to judge the science on its own merits, not by whether it has been peer-reviewed and supported officially, or not. This is an important point. There's a lot of evidence that crucial work in Climate Science has been refused publication in peer-reviewed science literature, not because it's bad science but because it challenges the ruling paradigms. See [below](#) for evidence of this. The time for debate in Science is *never* over. Important ideas always bubble up to be explored, long before formal studies. Often even the experts disagree. It is actually pretty normal for important new work to be rubbished in science at first. More and more evidence has been arising that contradicts "manmade global warming". Some of this work is faulty (as is normal with early work). If you have evidence to query or improve anything here - please contact me, or join our [Forum](#). I've done my best, but I'm still learning.

I became alarmed by seeing *An Inconvenient Truth*

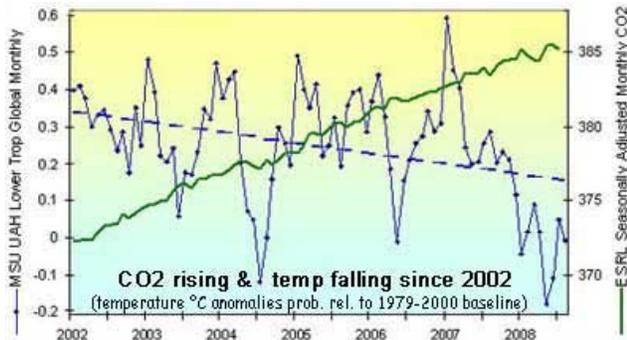
In September 2007 I became very concerned about global warming after seeing Al Gore's film *An Inconvenient Truth*. He showed a graph which is a "hockey stick" shape, showing a millennium of steady global temperatures, followed by a dramatic temperature rise as the twentieth century progressed. A second graph shows CO2 levels rising inexorably from 1958 when Keeling started CO2 measurements. Al Gore showed the temperature "hockey stick" together with Keeling's compelling zigzag graph, to demonstrate how the two had risen together. He then showed disasters worldwide, including Hurricane Katrina, which are all apparently getting worse as temperatures rise. He said

- **"Our CO2 emissions were the cause of the rising CO2 levels, since nothing else could have caused this.**
- **And the rising CO2 must have caused these temperature rises, since, again, there was nothing else."**

A study by Naomi Oreskes appeared to prove that a complete consensus of scientists were portraying a very serious picture - threatening our whole future - unless we drastically lower our carbon dioxide emissions, and unless we act quickly. It seemed there was no serious scientific dissent from Anthropogenic Global Warming (**AGW**) - and it seemed the issue was urgent.

The message was reinforced for me by top NASA scientist James Hansen describing catastrophic levels of polar ice melt. I've always checked evidence - but all my checks seemed to confirm it. As I live on the Somerset levels, a huge area as flat and low as Holland, the picture hit home. Holland would disappear completely in this new Noah's Flood. How are we to cut back CO2 soon enough? Cope with disaster? What are we bequeathing our children? How can I begin to wake people up?

That month, I changed from back-street thinker to 200% committed activist. I discovered Transition Towns, which are developing positive, creative ways to live with an energy-depleted future in the face of Peak Oil and Global Warming. I read many science websites, which all told me that those who still denied Anthropogenic Global Warming were ignorant, in denial, or in the pay of big oil. I found clear answers to all the skeptics' issues. I got to learn the chief skeptics' names.



It was all open to fair debate at well-regarded websites like [Skeptical Science](#). *Or so it seemed.*

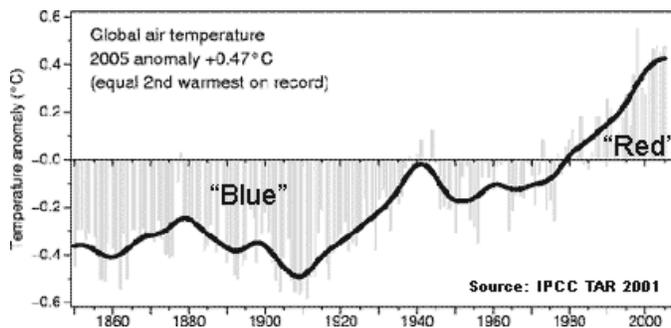
Then I heard a scientist who doubted AGW, and I started to wonder. His [scientific paper](#) showed serious evidence for doubt. He had an outstanding track record of scientific environmental work. But this was only one paper, not even published or peer-reviewed.

However, I started to look at evidence afresh. I found the graph [left], standard data (click on pic to explore what is "standard"), showing that global temperatures have *not* risen in the last decade, despite steadily rising CO2 levels.

What's up doc? temperatures falling despite CO2 rising..?

I noticed doubts in the AGW forums that I'd passed over before. I noticed *unexplained anomalies in the most basic data*.

IPCC (Intergovernmental Panel for Climate Change) use the following graph showing global temperature rise from 1860 to now. Their original bright red/blue vertical bars are actually highly distracting, so I've toned them all down to pale gray. This way you notice the temperature rises steeply from 1910 to 1940 when CO2 output was far lower. Then temperature decreases from 1940 to 1970, a period rather longer than any change due to wartime practices could last. The vertical bars change from "BLUE" to "RED" as they cross a "zero" line.

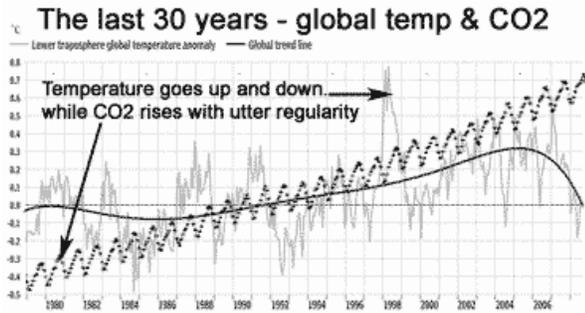


No convincing explanations are offered for any of this by the IPCC. Yet one would expect to find clear answers to such obvious queries right at the top of all the official FAQ's about Climate Change.

I realized that the zero line and the red-blue bar colours have no meaning whatsoever scientifically...

... but psychologically the effect is vey powerful. It distracts the eye from the anomalies to the temp rise=CO2 rise correlation, and it suggests the rise will continue dramatically. It prepares the mind...

...for the splice of this 150 years' thermometer record onto a millennium of "proxy" temperature measurements, that produced the ["hockey stick"](#). This icon was used prominently by IPCC 2001. I started Googling for evidence of other views on AGW - still trying to avoid the "baddies" like Lord Monckton and the Heartland Institute who were clearly in the pay of "big oil"... I found this Gallup poll - it is out of date - but does it still suggest there wasn't the consensus among scientists that Al Gore claimed when he made his film? Here's a [2006 poll](#)... but it's from Heartland... oh dear... is it fair or not?



Let's just check that big global temperature rise <-----

...where's it gone recently?

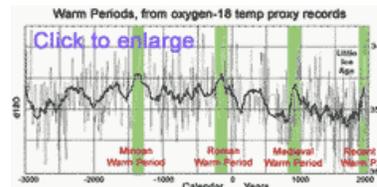
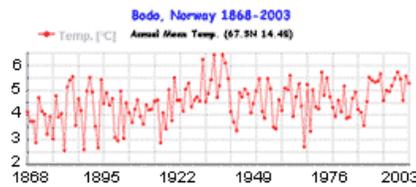
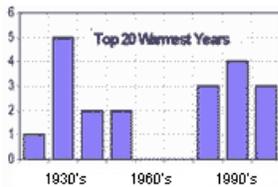
I thought it was rising...

...well, this is what scientists have been saying isn't it?...

...what scientists?

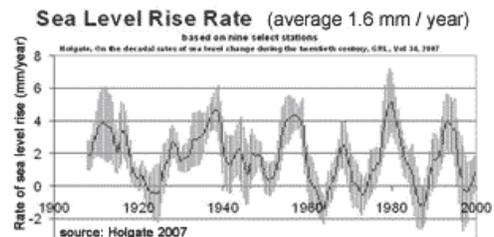
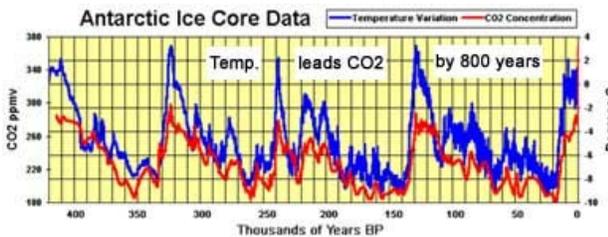


Help! but the nineties were the warmest years of last century? What, 1930's were warmer? ah, that was just the US! No, it was also true in Bodo, Norway... and oh my goodness, it was even warmer, according to the oxygen isotope records, in the Medieval Warm Period... even warmer in the Roman Warm Period... even warmer in the Minoan Warm Period. Is there other evidence for this, like Roman remains under recent glaciers? Greenland buildings still buried in permafrost? well, yes, there is...



Oh no! Al Gore has portrayed a totally misleading picture!

Suddenly there opened up a cascade of doubts over Al Gore's claims of scientific consensus over global warming, and the "hockey stick" graph that he used in An Inconvenient Truth (AIT). Al Gore maintained that CO2 is driving temperature change now, and he neatly implied that the geological records showed that CO2 has always driven temperature changes. In fact, the records show that CO2 lags behind big temperature changes by around 800 years - but on a geological time scale, this lag is so small that you don't see it unless you look close. Here's a short [video](#) of scientists challenging Al Gore.



Gore made claims of "extreme conditions" - serious sea level rise, serious droughts here, serious floods there, more tornadoes, more serious hurricanes like Katrina, glaciers melting fast, ice-sheets cracking up, the Gulf Stream shutting down, heatwaves killing people ...and other "plagues"... (tropical diseases spreading, lakes drying out, polar bears dying out) already happening and likely to getting worse, ...as a result of global warming. He calls carbon dioxide a pollutant. I discovered that...

... every single claim of An Inconvenient Truth can be refuted as cherrypicking, false, or otherwise critically misleading, as has been shown particularly well by "35 Errors in AIT" by Monckton, "Falsehoods in Gore's AIT" by William Johnson, "Unmasking AIT" by William Kininmonth, and "Convenient Fibs" by Prof. Rossiter. Check this **evidence** yourself: don't hold back because you've heard that the authors are supposedly untrustworthy (that's *ad hominem*).

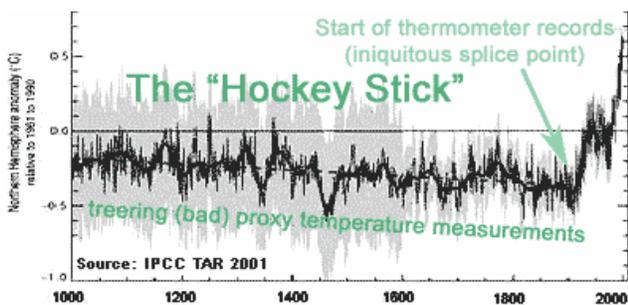
Here was weighty, informed evidence on all counts against Al Gore, that I could not refute - however much I might try. Suddenly - there was a mass of evidence that contradicts every single claim for Anthropogenic Global Warming (AGW).



The Emperor's New Clothes

Everywhere I now looked, I was seeing the evidence differently. How could I have been so mistaken before? Was I really that mistaken? How could Al Gore be so mistaken? How could he have slipped through the checks and balances of Science, if

he really was that misleading or misled? How could so many worthy scientists be so mistaken? Perhaps, if I looked harder, I'd find that science did have answers after all? For a while I bounced uncomfortably from one side to the other as challenge after challenge appeared. AGW? Yes!! No!! Yes!! No!! Every time I dug deeper, I found more bad science, and more and more proof of no AGW. But what does this say about those who have promoted an empty, misleading, expensive science where the prime evidence disappears in every direction? Could scientists say they had been deceived or pressured? Did any experience a "Damascus" awakening? How was I going to avoid being trashed and ignored as just another skeptic skill of "big oil", another gullible newcomer, another dangerous heretic who cannot deal with the real science? And how was I to channel my distress and anger in positive ways? How was I to stand up for the truth with courtesy, in a field where I was uncovering what now looked like stupid gullibility, extreme discourtesy and even fraud at times? But I'm not alone - I found articles like ["how can so many be so wrong?"](#) and ["discrimination & job loss"](#) and ["confessions of an ex-IPCC reviewer"](#) and ["alarmist tactics & funding"](#) and ["Wikipedia disinformation"](#) and ["I devoted six years to carbon accounting"](#) and ["The Green Inquisition"](#) and saddest of all ["The Lynching of CO2 - the Innocent Source of Life"](#).



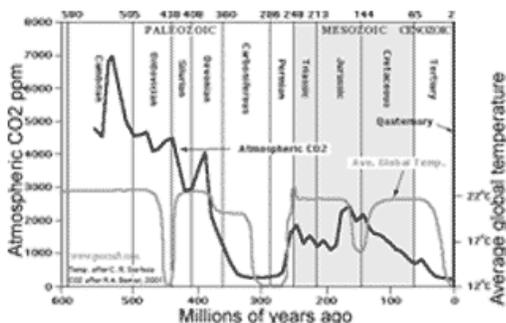
The "hockey stick" was given great prominence in IPCC 2001; it was used by Al Gore; and has recently been resuscitated. It shows temp. rising dramatically after 1000 years of supposedly little change. It denies the very existence of the well-known Medieval Warm Period - see the MWP [here](#) (Monckton's list of 19 papers), [here](#) (Loehle's study with non-dendro proxies) [here](#) (Idsos' ongoing project), and [here](#) (67-page paper).

The HS was discredited by the US National Academy of Sciences and by the Wegman Committee as having "a validation skill not significantly different from zero".

Many scientists started out believing there was a **serious greenhouse warming effect from rising CO2 levels**, and that the **increase in CO2 levels was due to our emissions**. There seemed to be nothing else that could have caused such dramatic recent temperature rises; nothing but us that could have caused CO2 levels to rise. But many scientists are doing U-turns like I did, when they see evidence that doesn't fit CO2 as driver of temperature. **CORRELATION DOES NOT PROVE CAUSATION OR EVEN CONNECTION.**

Let's look at the science and evidence for ourselves...

Now I've seen the skeptics' issues that [New Scientist](#) appears to have rebutted. **But...** there's also [Climate Skeptic](#) which appears to have rebutted all of New Scientist's rebuttals... Which is right? Let's try to go back to the basic evidence...



We can make wise choices instead of idiotic choices by learning the true science ourselves. Knowledge is power. Many official "experts" have not noticed, or have ignored, **fundamental anomalies** in the science that are right under our noses. Let's look further...

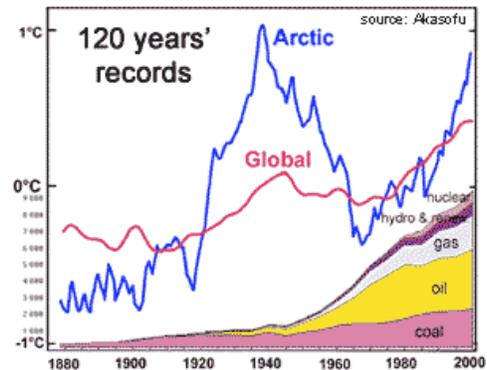
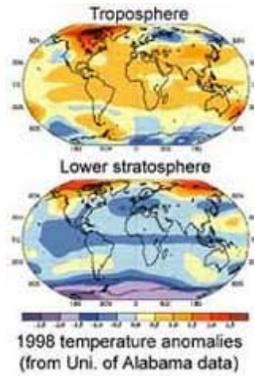
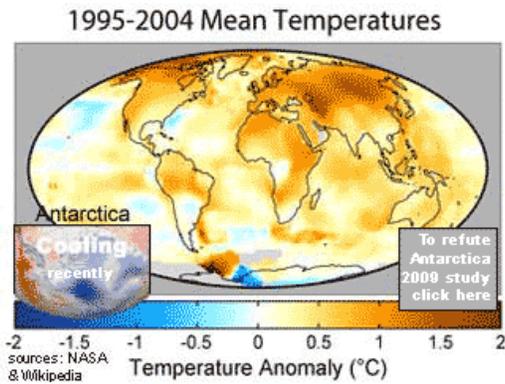
...here [left] is a **comparison of CO2 and temperature through the whole of Earth history**. The present CO2 level (black line) is a tiny fraction of what it has been in the past, even after life had blossomed. See how high CO2 has been. See how it doesn't fit temperature fluctuations (grey line) at all. So suddenly it does, now?

H'mm...

Temperature (surface, troposphere, stratosphere, Arctic, and Antarctica)

Below left is a map of **surface temperature anomalies**. Land temperatures fluctuate more than sea temperatures. Anomaly signifies a temperature different from "normal"; thus the red areas on Antarctica only indicate some lessening of the cold; they do not indicate warmth; moreover, most of Antarctica has cooled. H'mmmm...

Below centre, for approximately the same period, are **temperature anomalies for the troposphere** (region of clouds) **and lower stratosphere** (above the clouds). Unlike the surface temperature anomalies picture, the troposphere shows a balance between warming and cooling, while the lower stratosphere has been cooling a lot. Note the strongly cooler areas over Antarctica. Here is a good example of the difficulties of interpreting data. People confuse temperatures taken at the surface with data from higher altitudes. Place, height, and time span, can be critical.



Polar temperature anomalies [Here](#) is the best single user-friendly source of polar information. Both polar regions have patterns of fluctuation we need to understand, beyond the media hype - I've done a page on [polar issues](#) which picks up the 2009 nonsense regarding a supposedly warming Antarctica. **Antarctica:** overall, this huge continent has cooled in recent years, and its icecap and surrounding sea ice have grown. The warming spots may be due to volcanic activity as well as warm ocean currents from further north, affecting the maritime Antarctic Peninsula and Ross Ice Shelf, which is where the well-publicised melting occurred. There may be a very good reason why the rest of Antarctica cooled as the planet warmed - see [Svensmark](#). **The Arctic** is different again. Its sea ice has always been subject to huge area fluctuations, and the claims of "unprecedented melt!" are untrue if we go back to before the satellite temperature records started in 1979. Anecdotes, history, archaeology, and earlier science from Greenland, Alaska, and northern Canada should not be dismissed. These show a cultivated Greenland still frozen in permafrost, many earlier navigations of the North-West Passage, ice-free Arctic Ocean, etc. Much evidence of quality can easily be found by googling.

IPCC dogma trumps the evidence of Science

President Eisenhower's famous 1961 farewell address to the nation included two threat warnings. The well-known warning reminded us to beware of the "Military Industrial Complex." **The other, less-remembered warning was "...that public policy could itself become the captive of a scientific-technological elite."** Now see how History has unfolded...

...Sir John Houghton, first co-chair of the IPCC, said, "Unless we announce disasters no one will listen" and "The impacts of global warming are like a weapon of mass destruction". He claimed that it kills more people than terrorism. The IPCC role was supposedly to "assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation." But there is evidence that the scientific reports were edited to conform to a desired message. IPCC made the Summary for Policymakers, published *before* the science, the most important part of their reports. Frederick Seitz (a past president of the US National Academy of Sciences and American Physical Society) [blew the whistle](#) with an op-ed in the Wall Street Journal. The doubts [still reverberate](#) for many serious scientists. [Unstoppable Global Warming](#) describes how principal conclusions of the 1995 IPCC scientists' key Chapter 8 [were rewritten](#) - apparently to conform with a pre-arranged Summary for Policymakers:-

- *Where it had once said there was no discernible human influence on climate, it was rewritten to say there was now a discernible influence. This was done without reference back to the scientists who had originally submitted their final draft reaching the opposite conclusion.*

In line with this process of substitution, IPCC 2007 says:-

- *Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.*
- *... Carbon dioxide (CO₂) is the most important anthropogenic GHG. Its annual emissions grew by about 80% between 1970 and 2004.*
- *... Most of the observed increase in globally-averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations. It is likely there has been significant anthropogenic warming over the past 50 years averaged over each continent (except Antarctica).*

and now we hear in the media the classic AGW statement, that

- *"nearly all climate scientists would agree with three propositions":-*
- *First, the climate is in a warming trend.*
- *Second, that most of this warming trend is down to human emissions of greenhouse gases.*
- *And third, that if emissions continue to rise then the result will be continued warming which will become damaging to human society.*

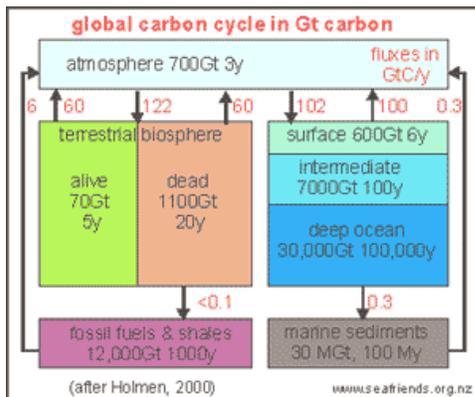
But "**nearly all scientists**" is misleading -

- *what about 31,000 scientist who signed the Oregon Petition (they're not all fake)*
- *what about the 700 scientists recorded by [Senator Inhofe](#) (the number is growing daily)*
- *there are stories [here](#), and elsewhere, of suppression of evidence contradicting "manmade global warming"*
- *and look at [all these individual testimonies from scientists](#)*

- "First", (a) the warming trend was only 1970-2000;
- (b) we need to exclude [urban heat island effect](#) and there is evidence that UHI has doubled apparent warming;
- (c) during this period, [most of Antarctica cooled](#) - it did the opposite to the rest of the planet.
- "Second", (a) temperature has levelled off and may have started to fall, but CO2 has continued to rise steadily;
- (b) [CO2 rise fits sea surface temperature rise](#) far better than it fits the rising curve of our emissions.
- (c) we appear to have long ago reached the [saturation level of the CO2 greenhouse effect](#).
- (d) The Sun's output has been [higher than it has been for 8000 years](#). Total Solar Irradiance is insufficient to explain the temperature rise, but the correlation with the sun, rather than with CO2, is undeniable (see below): all we need is to find the driver or amplifier that can cause the full temperature rise.
- "Third" - if CO2 is incapable of causing massive temperature rises, or if the temperature rise is incapable of doing the damage predicted, this fear is meaningless.
- [Monckton](#) and [Spencer](#) and others show there is no evidence for "runaway tipping points".

And in fact if CO2 were driving temperature with a "runaway tipping point", surely the seas, containing 50 times the atmospheric CO2, would have exploded millions of years ago, since they would be one big source of fizzy water, releasing more CO2... causing more temperature rise... releasing more CO2...

Let's get the basic CO2 figures: let's list our CO2 emissions alongside the natural planetary CO2 flux. Seas have 50 times as much CO2 as is in the air. We can unpack the details later (under [CO2 follows temp](#) and [Lynching of innocent CO2](#)):



GLOBAL WARMING: CO2 SOURCES		www.seafriends.org.nz
Where does the human-induced CO2 come from?		
Burning the forests:	1.7 PgC	21%
Soil degradation and desertification:	0.8 PgC	10%
Burning fossil fuels (gas, oil, coal):	5.0 PgC	83%
All human food and cooking fuel:	70.5 PgC	76%
TOTAL	8.0 PgC	100%
Volcanic activity	??1.0 PgC/yr	
Photosynthesis + decay on land	60-120 PgC/yr	
Photosynthesis + decay in the sea	40-100 PgC/yr	
What is the standing stock in Carbon units?		
All plants and trees above ground:	600 PgC	25%
All soil organisms, roots, mulch, peat:	1300 PgC	54%
All CO2 in the atmosphere:	500-700 PgC	21%
All CO2 in the oceans	37,500 PgC	
CO2 in marine sediments	30,000,000 PgC	
CO2 in the atmosphere increases 10-20% every 20 years and this rate is still increasing! (0.2 PgC/yr).		

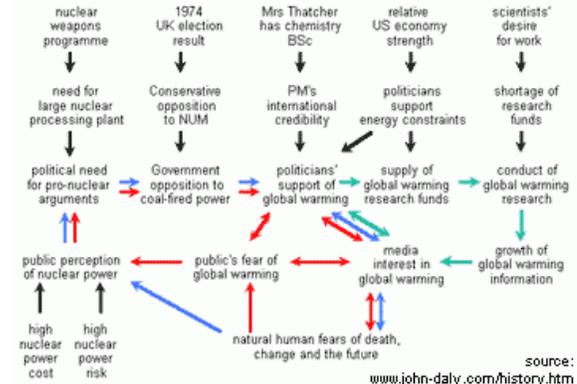
All the President's Men

I was now thoroughly disconcerted. I'd found evidence that upset everything - apparently. But all the evidence I'd found had supposedly been "dealt with" by New Scientist, Gristmill, Royal Society etc in their "[answers to skeptics](#)". With so much insistence that "manmade CO2 emissions are responsible for global warming", I could not be sure that I had found enough key evidence until I'd doubly checked both sides of each issue - **prosecution AND defence, plus prosecution's answers to defence AND defence's answers to prosecution**. This fourfold level of investigation was the real eye-opener.

I now found myself keeping company with the very skeptics I had been encouraged previously to ignore. "Monckton of Brenchley? he's long been discredited by real climate scientists, he's not even a scientist himself, but his scientific language fools the Telegraph readers. Get real". Indeed, Al Gore "discredited" Monckton - but Monckton replied in considerable detail, and when [I read it all](#), the evidence obliged me to credit Monckton highly, and to discredit Al Gore.

The diagram here suggests how a cycle of anxiety and propaganda could yield inordinate power to a few scientists, politicians, media and businesses. This comes from Courtney's very telling [history of AGW in the UK](#). It doesn't say that most scientists are corrupt - it is simply a suggestion of how corruption could have appeared and grown.

Positive feedbacks promoting imagined risk of global warming ----->



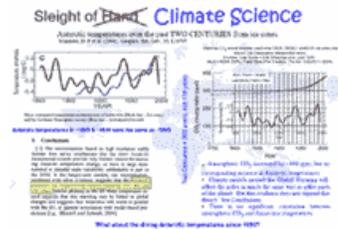
- Prof. Noble tells of a "[Corporate climate coup](#)".
- Prof. Tim Ball tells "[How UN structures were designed to prove human CO2 was causing global warming](#)".
- Climate data analyst John McLean wrote [Peer-review? What peer review?](#) about the IPCC.
- [Dr John Everett](#) led work for the IPCC for which he shared the Nobel Peace Prize - but read his "[Climate Change Facts](#)".
- Prof. Lindzen has published an important paper [Climate Science: is it currently designed to answer questions?](#) which talks about many incidents like this in a historical context.
- Prof. Akasofu, retired director of the International Arctic Research Center of the University of Alaska Fairbanks, has written some of the best well-informed, highly readable pieces, esp. [Misleading Information on Global Warming](#).
- Prof Segalstad of Oslo University: [On the construction of the "Greenhouse Effect Global Warming" dogma](#)

- Dr Keenan has found [strong evidence of fraud](#) in papers important to IPCC conclusions.
- [Prof Alexander](#) tells how his peer-reviewed paper was attacked as non-peer-reviewed bad science; and how the editor refused him space to set the record straight.

What doubled my sense of horror was to realize the extent to which even scientists are following bad science without the ability, or realization of the need, to check the basics for themselves. They only have the science-lookalike pieces that seem to explain away all the skeptics' issues, thereby suggesting that skeptics must simply be in denial and in Exxon's pay pocket.

The worst realization was discovering "brownshirt" activists who have gotten into positions of power and try to suppress all dissenting views, often vilifying, in ways that are untrue, misleading, unjustified, the small number of skeptics who speak up. I never thought I would be thankful that the [Great Global Warming Swindle](#) could still challenge orthodoxy. It's not my cup of tea. But its director now has my admiration, for standing up to Bob Ward, ex-manager in "policy communication" for the Royal Society, who [fought fanatically](#) to try to suppress the *Swindle* DVD. [Dr Vincent Gray's](#) insider's descriptions of the IPCC gave me much-needed evidence of an IPCC serially intent on devaluing natural causes of climate change. But his strong language make him an easy target for [AGW repudiation](#) that ignores his vital valid points.

Now all the major scientific bodies support AGW, and scientists cannot get funding, support, peer reviews, promotion, publication, or even [fair mention in Wikipedia](#) if they do not toe the "consensus" line. [Here's a real example, whose conclusion contradicts its own evidence - but supports AGW \(click to enlarge\)----](#)



Climate "skeptics" tell "[horror stories](#)" of suppression. This situation was already pretty well in place when Naomi Oreskes found a "consensus" among scientists. To check the invalidity of Oreskes' census, read Benny Peiser's challenge AND his response to his detractors who rubbished his challenge (URL's: scroll down from [Summaries](#))

How a false "science-lookalike" may have built up is an important study. [Koutsoyannis](#) and [others](#) have studied the problems of peer reviews in science today generally. Read [Prof Segalstad's](#) story. But I don't think anyone really understands the full problem as yet. The concern with our effects on the climate generally started innocently. See [Spencer Weart](#). Then in the '70's Thatcher cut research funding except for pro-AGW research. See [Richard Courtney](#). I suspect this started the rot. Then in the '80's and '90's Big Business funded the attempt to "scientifically" deny AGW. But with growing levels of apocalyptic fears, and probably also with a growing awareness that such fears could be manipulated for political gain, the scales tipped again, and now all businesses give lip-service to AGW and will no longer fund skeptics; there are [claims](#) that AGW science gets effectively 2000 times the amount of funding that skeptics get, despite continuing [AGW cries](#) that skeptics get "oil funding!" But scientists are [speaking up](#), and [Inhofe's list](#) of 700 scientists is increasing at about 4 a week. If we clear the tsunami of bad science, we find that a tiny core of good science has been growing too.

The heart of the science controversy - IPCC and greenhouse gas effects

Skeptics say that the CO2 greenhouse effect is grossly overestimated, has already reached its maximum level like opaque water, and does not have any serious "amplifying" effects threatening to tip the planet into runaway heating. The main greenhouse gas is water vapour, but this is much harder to quantify or predict.

Monckton wrote a very readable article "[Climate Chaos? Don't believe it](#)" for the UK *Daily Telegraph*. Key extracts:

I'll show how the UN

- ***undervalued the sun's effects on historical and contemporary climate,***
- ***slashed the natural greenhouse effect,***
- ***overstated the past century's temperature increase,***
- ***repealed a fundamental law of physics***
- ***and tripled the man-made greenhouse effect...***

The UN adjusted the maths and all but extinguished the sun's role in today's warming. Here's how:

- *The UN dated its list of "forcings" from 1750, when the sun, and consequently air temperature, was almost as warm as now. But its start-date for the increase in world temperature was 1900, when the sun, and temperature, were much cooler... [It] estimated that the sun caused just 0.3 watts/m²/sec of forcing since 1750. Begin in 1900 to match the temperature start-date, and the base solar forcing more than doubles to 0.7 watts. Multiply by 2.7, which the Royal Society suggests is the UN's current factor for climate feedbacks, and you get 1.9 watts – more than six times the UN's figure.*
- *Next, the UN slashed the natural greenhouse effect by 40 per cent from 33C in the climate-physics textbooks to 20C, making the man-made additions appear bigger.*
- *Then the UN chose the biggest 20th-century temperature increase it could find. In the US, 20th-century temperature went up by only 0.3C. AccuWeather, a worldwide meteorological service, reckons world temperature rose by 0.45C. The US National Climate Data Centre says 0.5C. Any advance on 0.5? The UN went for 0.6C...*
- *Even a 0.6C temperature rise wasn't enough. So the UN repealed a fundamental physical law. Buried in a sub-chapter in its 2001 report is a short but revealing section discussing "lambda": the crucial*

Finally, the UN's predictions are founded... on an excessive rate of increase in airborne carbon dioxide. The true rate is 0.38 per cent year on year since records began in 1958. The models assume 1 per cent per annum... In 2001, the UN used these and other adjustments to predict a 21st-century temperature increase of 1.5 to 6C. Stern suggests up to 10C. A simple global model shows that temperature will rise by just 0.1 to 1.4C in the coming century, with a best estimate of 0.6C, well within the medieval temperature range and only a fifth of the UN's new, central projection.

Schmidt of [RealClimate](#) rudely dismissed Monckton's

"Cuckoo Science". [Monbiot](#) then claimed in *The Guardian* to have "discredited" Monckton, quoting Schmidt. Monbiot wrote "[Monckton's] claims about the Stefan-Boltzmann equation have been addressed by someone who does know what he's talking about, Dr Gavin Schmidt of Nasa's Goddard Institute for Space Studies..." But...

Monckton wrote [Chuck it Schmidt](#) which rebutted every detail of Schmidt's "Cuckoo Science". Monckton made the science clear, removing the insulting language with which Schmidt's dismissal is peppered; and showed, moreover, that Schmidt himself had not grasped the matter properly.

"The Earth is not a black body!" Schmidt wrote, implying that Monckton had failed to grasp this elementary point.

Monckton wrote in reply:

My article and the supporting calculations took full and explicit account of the fact that Earth/troposphere emissivity is not 1 (for a blackbody) but ~0.6 (the Earth being a badly-behaved greybody). Schmidt had seen the supporting calculations,

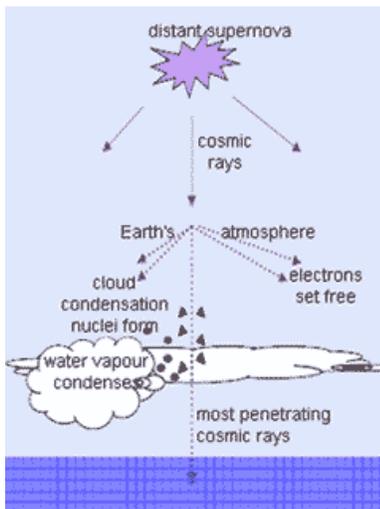
factor converting forcings to temperature. The UN said its climate models had found lambda near-invariant at 0.5C per watt of forcing. You don't need computer models to "find" lambda. Its value is given by ...the Stefan-Boltzmann law, not mentioned once in the UN's 2001 report, [yet it is] central to the thermodynamics of climate... The bigger the value of lambda, the bigger the temperature increase the UN could predict. ...Lambda's true value is just 0.22-0.3C per watt. In 2001, the UN [doubled] lambda to 0.5C per watt. A recent paper by James Hansen says lambda should be 0.67, 0.75 or 1C: take your pick. Sir John Houghton, who chaired the UN's scientific assessment working group until recently, tells me it now puts lambda at 0.8C: that's 3C for a 3.7-watt doubling of airborne CO2. Most of the UN's computer models have used 1C. Stern implies 1.9C. On the UN's figures, the entire greenhouse-gas forcing in the 20th century was 2 watts. Multiplying by the correct value of lambda gives a temperature increase of 0.44 to 0.6C, in line with observation. But using Stern's 1.9C per watt gives 3.8C.

because he later mentions the "M climate model", to which my article did not refer by name. Schmidt ought to have known that the Stefan-Boltzmann radiative-transfer equation, often mis-called the "blackbody" equation, is in fact capable of representing not only blackbodies (emissivity 1) that absorb and, by Kirchoff's law, emit all radiation, but also whitebodies (emissivity 0) that reflect all radiation, and all graybodies in between. Schmidt here erroneously implies that this fundamental climate equation applies to blackbodies only. A fourth-rate zoologist in the UK lifted this unfortunate implication from Schmidt's blog without checking it, and repeated it in a UK newspaper, which was obliged to print an article correcting this and other schoolboy errors arising from Schmidt's blog on the following day.

Schmidt still has no reply to Monckton's rebuttal of his "Cuckoo Science". This is of key importance. Had Schmidt been able to reply, he would not have passed up this opportunity to prove a key issue of the AGW thesis, and to silence opposition. Schmidt, in his July 2008 *Real Climate* "rebuttal" of Monckton's July 2008 [APS paper](#), refers to Monckton's "previous attempt" as if his "Cuckoo Science" rebuttal had disproved and silenced Monckton, which we can see was not the case. Monckton thus stands vindicated.

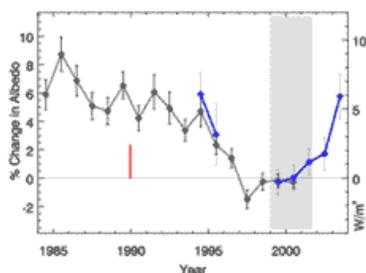
Here is the heart of the IPCC greenhouse gas science - and how AGW science has handled it. It's easy to wave equations or computer models in someone's face to say they prove something. But it's not so easy to fool someone who is a scientist or statistician, or has an eye for fraud, or has actually studied Climate Science. If the greenhouse effects of CO2 have been calculated incorrectly and much higher than the IPCC /UN figures dictate, the whole "greenhouse" basis of Anthropogenic Global Warming comes unstuck - and the credibility of the IPCC - and the expensive possibility of "fixing" nonexistent problem by reducing CO2 emissions.

Fresh air at last with Svensmark et al



It was hard work to extract myself from a mire of contradictory "science" claims, from colleagues I now believed were seriously mistaken if not knowingly fraudulent, and from a lot of self-doubt. But the polar bears are fine after all [9].

Eventually I was ready to investigate the work of Svensmark et al. Reading "[The Chilling Stars](#)" was like climbing a mountain and suddenly finding oneself emerging from rain, wind, and poor visibility, into clear, sunlit pastures above. This [new science](#) really fits the whole of earth history, and can explain all the many twentieth-century anomalies with a single factor. Svensmark and others are showing, inch by inch, an unremitting correlation between the level of cosmic rays and the quantity of low cloud. By increasing Earth's albedo, or whiteness, more solar energy lost by reflection. Black warms; white cools. Now over the last 100 years, the Sun's magnetic flux increased by 230%, in addition to its sustaining a TSI "high" longer than it has done for 8000 years. The high TSI heated the huge ocean reservoir gradually, and the high solar magnetic flux lowered the level of cosmic rays. Less rays, less clouds, more warmth. Data fits theory pretty well, and all this suggests that after all, the Sun is a prime driver of temperature changes. New experiments are starting to give an idea of how the cloud-forming mechanism could work.



Svensmark's material has been rubbished [15]. But in one instance that looks suspiciously typical, he was simply not allowed the normal space to defend his science when it was attacked by Laut in 2003, and Damon and Laut in 2004 [16]. Actually he has written very fair [rebuttals](#) of both Laut's papers.

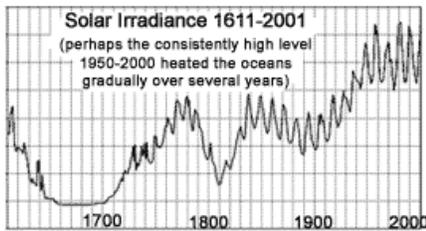
Svensmark responded to point out mistakes in Laut's science and fallacies in his rebuttals of Svensmark's science, and to point out his discourteous language. As I've seen many times now, discourteous and dishonest responses, and onesided reporting, can keep people away from good science. You have to read all sides' answers to each other. When I checked Svensmark's own website I found a serious bias in Wikipedia in that it mentions Laut, but omits to mention Svensmark's reply to Laut. Also, see [57] re Lockwood & Frohlich's dissent.

Here (above left) is a graph from Earthshine Projects, of recently-available measurements for the change in albedo. Again, the pattern correlates well with recent temperatures (rising with falling albedo worldwide, falling with rising albedo) and this correlation bears out the Antarctica anomaly.

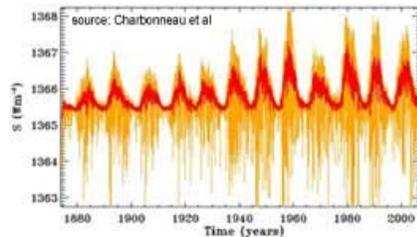
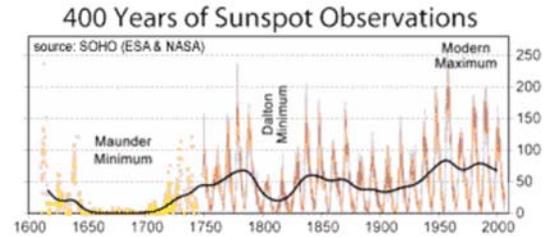
Having got the bad science out of the way, the real science starts to look simple and beautiful. But - this is a young science!!

A lot of "climate skeptics" have strong hunches about how the true science works, but the basics are not 100% proven (or they may be proven to a small number who can grasp the science involved, but are unclear to most of us), and much warm discussion is happening. Ah, perhaps this is one reason why it has been possible for dogmatic academics and "green" alarmists to come in with rogue certainties about "disasters ahead!" Easy answers for people who dislike uncertainty.

Climate Science now makes sense! It comes from the Sun, here are the key factors:



- **THE SUN** warms the planet. Tiny variations in its TSI (Total Solar Irradiance) correlate with huge effects.
- **SOLAR POWER** is around **24,000 times greater** than what we generate today.



- **GLOBAL TEMPERATURES** rise overall in step with increased total solar irradiance (TSI), and fall with increased "albedo" - whiteness - from ice caps, from cloud cover -and with occasional large volcanic eruptions.
- **HUMAN EFFECTS** are from urban warmth, change of land use, and bad data management esp. surface stations.
- **OCEAN CURRENTS** act like huge, slow messengers whose varying cycles strongly affect land temperatures (blue panel, right, no.3).
- **CLOUD COVER** varies significantly according to the solar magnetic flux (blue panel, left). Clouds reflect significant warmth into space.

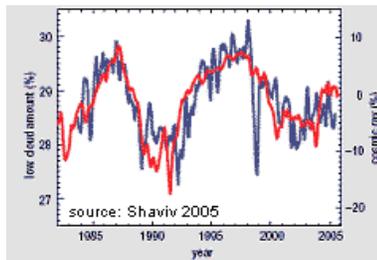
- **THE SUN'S RECENT ACTIVITY** regarding solar magnetic flux between 1940 and 2000 was at a higher level than has been seen for 11,500 years. Perhaps this is why temperatures rose up to the year 2000. TSI is too low to have been the direct cause; nevertheless, the correlation is there so it looks as if we simply need to discover the mechanism - and Svensmark's work may well provide some of the clues.
- **THE SUN'S VERY RECENT ACTIVITY:** Solar output has fallen again (no sunspots at present!), and the earth has now been cooling, slowly and with variations, but unmistakably, for ten years.
- **OCEANS ARE PLANETARY RESERVOIRS** - 1000 times the thermal capacity of the atmosphere - that take a long time to heat or cool. Geological records show CO2 lagging temperature by around **800 years**; the thermohaline current cycle is also approximately **800 years**.
- **CO2 AND OCEANS:** Oceans, at 70% of the earth's surface area, release huge quantities of CO2 in the tropics, and absorb huge quantities of CO2 at polar latitudes. Oceans hold 50 times as much CO2 as is in the air.
- **WARM OCEANS:** The oceans may still be warming, still in slow recovery from the Little Ice Age (*Akasofu*). Evidence for this is that sea levels have been **steadily rising** since before fossil fuels. Therefore, the oceans could well be still outgassing - **THIS alone can explain almost all the CO2 increase.**
- **ATMOSPHERIC CO2** increases greatly with only a tiny overall increase in sea surface temperature. CO2 stays in the atmosphere for only a few years (*Segalstad* + 35 other studies), not the many years that the AGW thesis needs.
- **OUR CO2 EMISSIONS** are tiny (c.3%) in comparison with the huge CO2 flux out of, and back into, the oceans and the terrestrial vegetation and "leaf water". Carbon isotope levels have been shown by *Segalstad* and *Quirke* as verification that the increase of CO2 is natural and not from fossil fuels.
- **CO2 AND THE BIOSPHERE (NATURAL BIOSEQUESTRATION):** If the ocean temperature rose by only 1°C, atmospheric CO2 levels would rise another 150 ppm by *Endersbee's* actual graph figures. However, by the "atmospheric pipe effect" the 150 ppm MEASURED rise of CO2 represents an increase in CO2 "PRESSURE", and the extra CO2 is absorbed by vegetation by photosynthesis and by coral etc by calcification. Endersbee's statistics are a little questionable but highly suggestive - this is one of many areas of ongoing study. See our [CO2](#) page.
- **CLIMATE SCIENCE IS STILL IN ITS INFANCY**, but unfortunately, major claims that are seriously mistaken or unproven, have been repeated as fact while the "obvious" Sun has been neglected because TSI is not the cause.

Key Correlations: but how to prove what drives what??

Cosmic Rays ~ Clouds

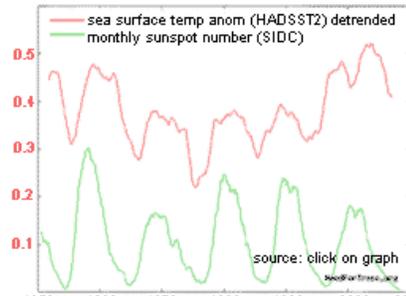
Sunspot numbers ~ Sea Surface Temp

Temp ~ Sun + Oceans but not CO2



Shaviv and Svensmark: High correlation between cosmic rays and cloud. See the varying correlations in the other graphs.

Cyclic solar activity is significant, modulated by oceans & clouds.



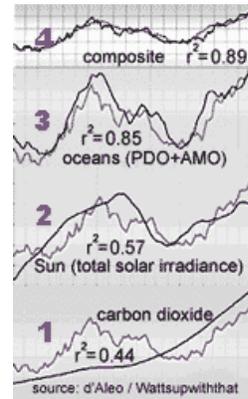
TallBloke's graph (see [WUWT 03:08](#) on 1/1/09) shows an impressive correlation between sea surface temp and sunspots over 5 cycles. SST is averaged over 43 mths (1/3 solar cycle).

(4) Ocean, sun, CO2 all together for best fit to temperature.

(3) Temp. correlates with ocean currents even better.

(2) Temp. fits Total Solar Irradiance much better - includes mid-century dip.

(1) Temperature fits 100 years of regularly rising CO2 records very poorly.

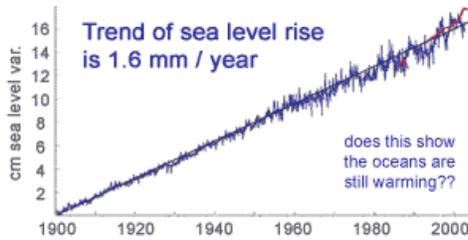


Temperatures correlate to the sun and oceans far better than to CO2 overall ([Joe D'Aleo](#), above right). [Dr Glassman](#) shows the strong correlation between the *solubility* of CO2 and the CO2/temperature link, as shown in the Vostok ice core data - irrespective of time. [Lance Endersbee](#) shows a very high correlation between CO2 and sea surface temperature - but the time frame is still too short for the statistics to be very "robust"; however, it is very suggestive - it's worth watching...

CO2: the fluctuations in its increase rate fit temperature fluctuations closely. This pattern fits outgassing from the oceans; but it does not fit the steady rise of fossil fuel emissions although the overall trends are comparable. Segalstad & Jaworowski say in *Atmospheric CO2 and Global Warming* ([pdf](#)):

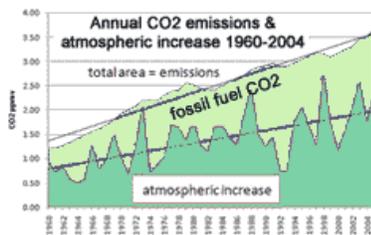
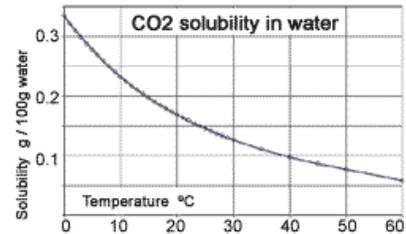
"The equilibration between CO2 concentration in the atmosphere and in the sea is very short (about 3/4 year according to Bolin, 1982). Therefore one might expect that most of the annual man-made perturbation in atmospheric CO2 would be visible in the Mauna Loa data. But the dramatic "Mauna Loa" CO2 changes are not reflected in the more steady annual emissions of fossil fuel CO2".

Therein lies mischief: people assume the rise of atmospheric CO2 has to be due to the rise of fossil fuel CO2...



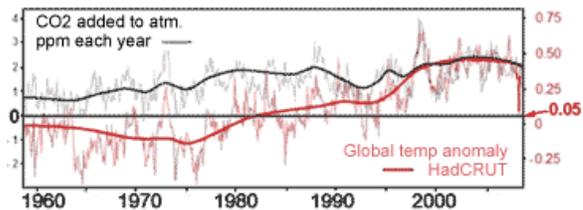
...but forget about the **huge power of warming oceans to outgas CO2** as solubility decreases--->

<--- and the **likelihood** of slowly warming oceans - shown by the steady rise of sea levels since before fossil fuel CO2 rise.



Fluctuations in total CO2 levels fit temperature fluctuations --->

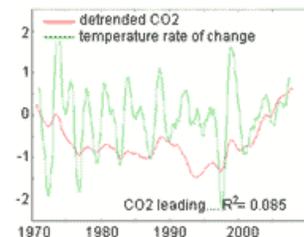
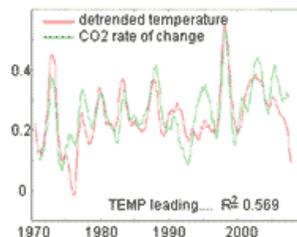
<--- whereas they do NOT fit our steady fossil fuel CO2 emissions rise.



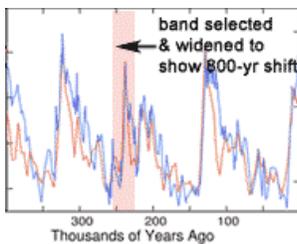
...er, carbon dioxide follows temperature, now...

Taken from Josh Hall's post [here](#) (scroll down to 11.38am) [48], these graphs show a high "fit" for temperature-leading-CO2 but only a very low "fit" for CO2-leading-temp. These graphs are explained further [here](#). Click on pics to see originals. [Macrae](#) describes the same proof.

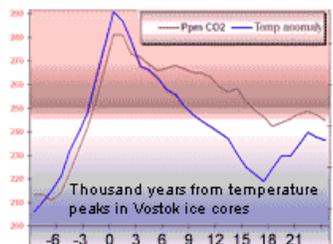
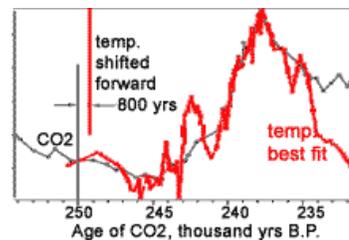
Below, centre, we see the extremely high correlation between sea surface temperature and CO2 level - independent of time - strongly suggesting that CO2 levels fluctuate globally with sea temperatures.



...as always... here's the pattern of the last 4 Ice Ages...



Al Gore said "The relationship is very complicated but there is one relationship that is far more powerful than all the others and it is this: When there is more CO2 the temperature gets warmer, because it traps more heat from the Sun". **He is misleading.** <---In the graph he used, it's impossible to see which leads. The R.H.---> graph is the pink band widened. When temperature is shifted to "best fit", we see that **temp. leads CO2** by 800 years - as if **warmth causes CO2 level to rise.**



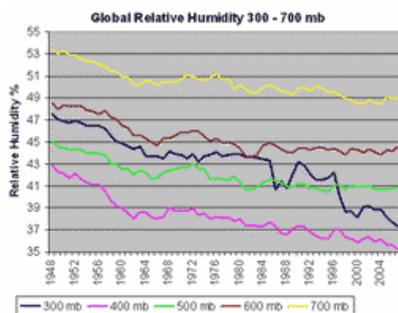
See Caillon's 800-yr-shift graph [here](#) (note reverse direction of time). Moreover, [Lansner](#) and [WUWT](#) show that, despite unsubstantiated claims to the contrary ([RealClimate](#) and [here](#)), it appears that **CO2 has never amplified temperature.** <---This graph is a composite of the last 4 Ice Ages. Very useful to see the pattern. At any two points of equal CO2 concentration there is a higher temp. when temp. is rising, and a lower temp. when temp. is falling. This is consistent with temp. leading CO2, but not vice versa. Anyway, what causes the downturn if CO2 has amplified the upturn? And parallel rising lines prove CO2 has a linear fit to temp; if CO2 were leading, the CO2 rise would need to be plotted logarithmically (each doubling of CO2 would have the same effect) to obtain parallel lines.

Probably, no runaway warming effects are even possible

In the [Silurian Age](#), while the Earth emerged from an ice age, CO2 levels *dropped* from **4000 ppm** to **3000 ppm**. While CO2 levels have declined from **7000 ppm** to the current **350 +/- 50ppm**, very ancient global temperatures appear to have oscillated firmly between a lower limit of **12°C** and an upper limit of **22°C**. CO2 level between ice ages and interglacials varies between **200 ppm** and **300 ppm**. Today we have seen a similar rise of CO2 levels; but a temperature rise of less than **1°C**. There is no sign in any ancient records of runaway warming. Revisit the [video](#).

All the evidence says that CO2 does not affect temperature, but temperature affects CO2.

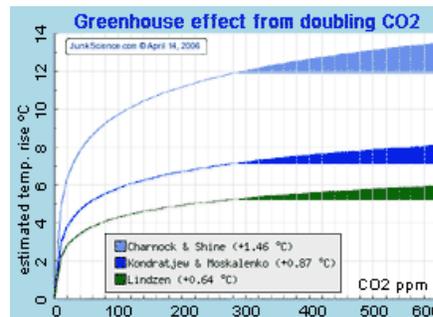
The IPCC's *models predicted that as CO2 increased, water vapour would also increase*, giving a "feedback loop" that would amplify temperature increase above that expected from CO2 alone, *to give 4-6°C temperature increase* over this century - if CO2 levels increase at the present rate.



<--- But real-life observations show that, on the contrary, **as CO2 rose in the last century, water vapour fell**

Yet water vapour is a far more powerful greenhouse gas. This change more than balances any possible GHG effect due to CO2,

which is **already at near-maximum greenhouse effect** <--->



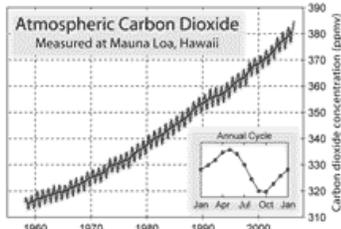
Right now I'm investigating [Miskolczi](#), a brilliant scientist who worked with NASA until his paper was refused publication, probably because it is non-alarmist. I believe that his science of greenhouse gases points the way forward. It not only fits real-life measurements and provides theory, but also shows the atmosphere to have an inbuilt mechanism, whereby rising CO2 is linked to falling water vapour, thus cancelling not amplifying the greenhouse effect of CO2.

[Erl Happ](#) demonstrates how the Earth Laboratory tests the greenhouse theory once a year, every year, and finds it wanting every time. I've also found [two excellent science papers](#) showing the minuscule heating effect of CO2 in atmospheric conditions, that should have been published, one 1986, the other 1994 or so - but they were suppressed. Who knows how many more have been suppressed.

The lynching of innocent CO2

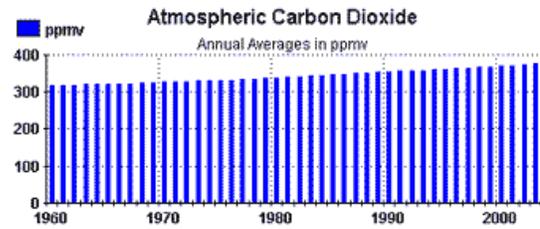
The scare science has been building up for quite a while. Over a hundred years ago, Arrhenius suggested that if our CO2 emissions built up, they could cause global warming. [His grandson](#) joined the same laboratory in the US as Roger Revelle, Al Gore's own mentor. Revelle became concerned that our emissions could become a problem - but how to measure the CO2 levels well enough? So he set up a station at Mauna Loa in the Pacific, far from any land-borne influences, subject only to

seasonal fluctuations, to measure CO₂, and appointed Charles Keeling as record keeper.

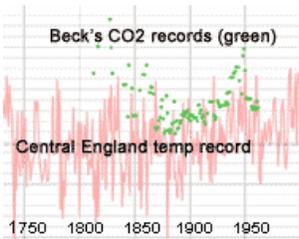


<--- Keeling produced this "stairway to heaven" that converts people to AGW.

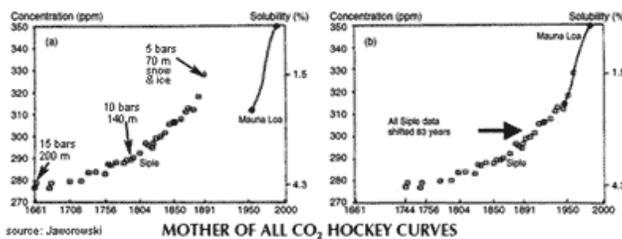
But the rise is actually tiny if we put it in perspective <--->



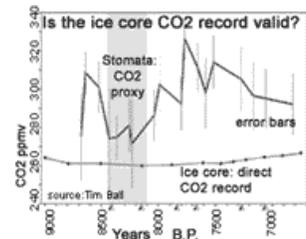
Now the old, forgotten chemical CO₂ records are being re-examined by [Beck](#), [Lansner](#) and [others](#). Keeling's son would like to see this evidence [suppressed](#). Yet these records have a very high level of accuracy. They are still effectively as accurate as Keeling's system (with different issues) and were used, interestingly, for a short overlap period in Scandinavia when Keeling started. Therein lie some [important observations](#) that cast doubt on the "infallibility" of Mauna Loa. There is a problem of location, since winds from forests and industries can create huge daily differences. Even so, it is possible they indicate higher past CO₂ levels that can collapse suddenly, and that reflect the old Central England temperature record (below left).



Old CO₂ records fit old temperature records



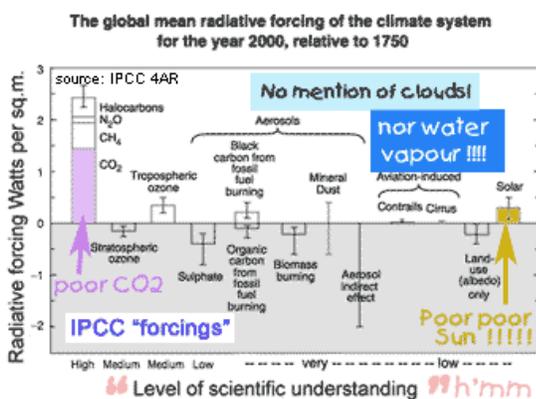
Why was the ice core record shifted 95 years to fit the new CO₂ measurements from the very different Mauna Loa?



More evidence casting doubt on ice core CO₂

The ice core CO₂ record has been shifted 95 years forward (above centre), to splice neatly onto the start of Keeling's record in 1955. But this is a highly suspect splice, not checked over a proper overlap period, and producing a "hockey stick" with a sudden, recent, alarming rise, like the [temperature Hockey Stick](#). There are serious questions about the reliability of ice core CO₂ records: the stomata proxy record (above right) suggests far more variability, and a higher level of CO₂, than the ice core shows. [Prof Jaworowski](#), top expert in ice core studies, describes all this and more. Jaworowski deserves proper study, not least *Atmospheric CO₂ and Global Warming* ([pdf](#)) that he co-authored with Prof Segalstad of Norsk Polarinstitutt.

The IPCC's alarm picture, built on models, ignoring real factors & data



The greenhouse gas properties of carbon dioxide are well-known to all skeptics. CO₂ is opaque to some infra-red wavelengths. The question is: **do GHG effects actually increase seriously, if present CO₂ levels rise?** The simple answer is, no.

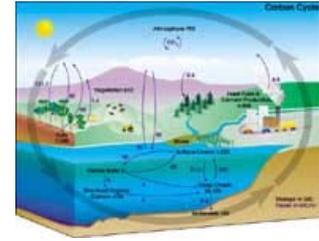
<<Here is the IPCC's chart of "forcings" - with my comments. Many scientists have been concerned about greenhouse gases, from Arrhenius in 1896 on. Suggestive evidence mounted as temperatures went up and up. Our CO₂ emissions seemed a likely culprit - to a mediocre scientist who ignored the mysterious sun; who forgot Henry's Law, the size of the oceans, and the power of the biosphere; who ignored all the studies showing the short lifespan of CO₂ in the atmosphere; and who failed to consider or measure the water vapour situation, or the logarithmic GHG "saturation" effect, whereby higher levels of CO₂ make virtually no difference to its net GHG effect.

IPCC has constructed a dogma, extending the work of Callendar (1949) Bolin & Eriksson (1959), Revelle and Keeling, and Siegenthaler & Oeschger (1987) who were already building up a thesis of global warming effects through our CO₂ emissions, while ignoring all the above. See also Monckton demonstrating [IPCC's serial fudging of GHG science](#) and Segalstad demonstrating [serial falsification of CO₂ science](#).

Here is the real story of Carbon Dioxide, Staff of Life of all plants.

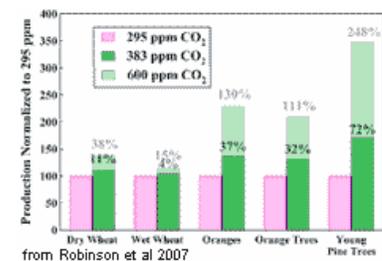
Treat yourself, [watch](#) Segalstad's friendly presentation all about CO₂. [Watch](#) (and do) a kitchen experiment yourself!

- We are emitting 3-4ppm (6-8Gt) carbon dioxide each year, perhaps 2% of the total annual [CO2 flux](#).
- CO2 levels have been rising at around 1.5ppm, or 3Gt p.a. since Keeling's records started in 1952
- CO2 levels are around 380ppm (=750Gt) now.
- **The total annual CO2 flux is huge but just how big? - maybe 220 Gt p.a. (Holmen 2000), maybe 150 Gt p.a. (IPCC SAR) (or more if one includes leaf water and rain water?) - between one third and one fifth of the total atmospheric CO2 - or more.**

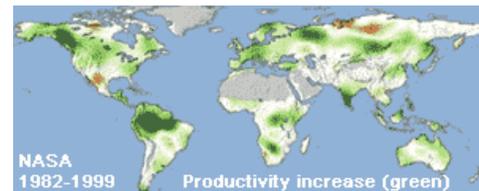


- Henry's Law says that CO2 is in balance between the atmosphere and the oceans in approx. ratio 1: 50
- **Only 1/50 of our emissions can remain longterm in the air, in theory.**
- Since the measured CO2 rise of 1.5ppm p.a. is so much higher than the 0.035ppm p.a. that should ultimately remain airborne from human emissions, **this surely alerts us to look for another cause of CO2 rise.**
- **Also, the CO2 level is rising at about 46% of the rate of our emissions rise, BUT it has a jagged profile of rise, which doesn't fit the smooth rise of our emissions, but fits temperature fluctuations.**
- AGW said "We KNOW we have caused the CO2 rise." So IPCC invented a "buffer effect" to overrule Henry's Law. If this were real, we could never have fizzy drinks!
- It seems that to "prove" their bad science, IPCC had to invent more bad science: they now need CO2 to remain in the air for 50-200 years, or more, which we can see, from the size of the annual flux, is ridiculous.
- [Segalstad](#) lists 35 studies based on 6 different factors, which give lifetimes between 2 and 12 years.
- AGW - and "townies" behind computers - forget the massive area and volume of the oceans that outgasses vast quantities of CO2 with tiny temperature changes. The [Greenpeace CO2 cycle](#) ignores the oceans!

- [Dr Floor Anthoni](#) explains the "[atmospheric pipe effect](#)" - the level of CO2 works like pressure on vegetation to grow more.
- AGW totally underestimates this biosequestration: **increased CO2 levels enable vegetation to grow more, naturally sequestering CO2, as the biosphere has done for millions of years in response to erupting volcanoes and a steady trickle of CO2 from space.**
- AGW also fails to consider the [subtle oceanic balance](#), where **more ocean CO2 enables more plants AND enables CaCO3 to be precipitated into corals and mollusc shells, by drawing on ever-present Ca ions.**

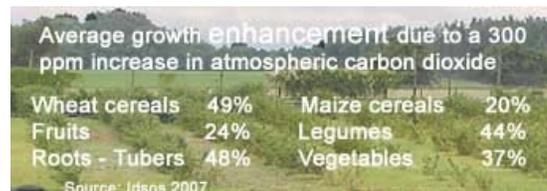


The [capacity of plants to take up CO2](#): This [animation of satellite data](#) suggests the huge Eurasian biosphere soaks up CO2 each summer. Since plants depend on CO2 to live, and thrive on raised levels of CO2 in greenhouses, the benefit of slightly raised CO2 seems plain common sense. NASA admit the effect and even have [this graph](#) ---> documenting it. And [this graph](#) shows how wrong Al Gore is to call CO2 a pollutant. Any studies seriously suggesting otherwise are clearly in AGW's pay pocket.



The idea of carbon sequestration arises from an inversion of Science.

- * It would be robbery from the biosphere
- * It would be very costly yet have zero effect

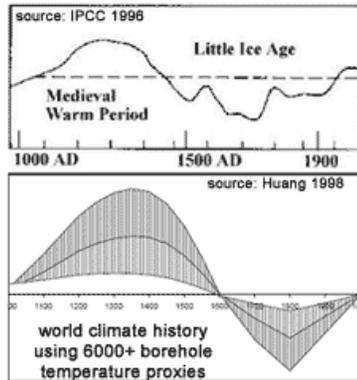


More scare stories and bad evidence we can almost certainly reject:

- **Dangerous ocean acidification is a scare story. Marine fauna use the plentiful Ca+ ions with dissolved CO2 to build shells. See [here](#) and [here](#). The actual problems here are mostly local pollution issues.**
- **Dangerous [sea rise levels](#) is another scare story. Sea levels have been rising, but only by the tiny amount that corresponds to thermal expansion, and even this has recently apparently slowed or even [stopped](#).**
- **The big global ice sheets, whose melting WOULD raise sea levels, are not melting - they are growing if anything. But local effects in Greenland and the Antarctic peninsula are often taken to represent global patterns, and the effects of ocean currents and volcanic activity in these areas have been ignored or forgotten.**
- **[Aerosols](#) cause local effects eg smog; the true global effects are far less certain; volcanic aerosols cool.**
- **Other greenhouse gases: Methane is doing its own thing; there is serious evidence casting doubt on the CFC link to the ozone hole which has been shown to fluctuate naturally and regularly**

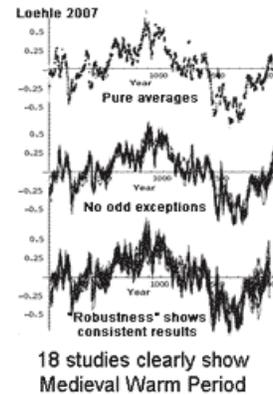
The strange story of the missing Medieval Warm Period

IPCC 1996 had this picture [below, upper left] showing the Medieval Warm Period (MWP). The MWP is well-known to historians as well as to scientists. **686 scientists from 401 institutions in 40 countries on the [co2science.org](http://www.co2science.org) Medieval Warm Period database say the Middle Ages were warmer than today.**

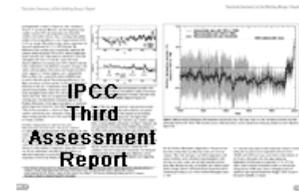
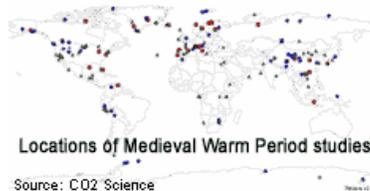
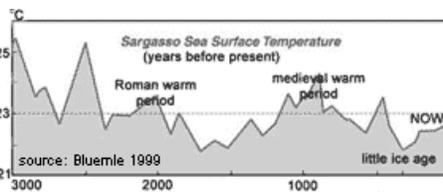


Anthropologists and archaeologists are aware of the MWP from [Viking settlements](#) in Greenland. They know from things like places inhabited, plants cultivated. The Schnidejoch pass in Switzerland [Svensmark & Calder, *The Chilling Stars*] was used regularly in Roman and in Medieval times; the pass has only just reopened. But AGW devalues "anecdotal" and historical evidence in favour of "proxy" temp. measurements.

In 1998 a study by Huang et al was published of over 6,000 borehole records of the last 20,000 years, from which temperature proxies were read. Here is the last millennium [lower left], strikingly similar to the IPCC 1996 graph. The world experienced a medieval warm period that appears to dwarf recent changes.



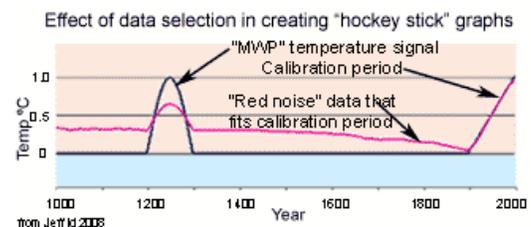
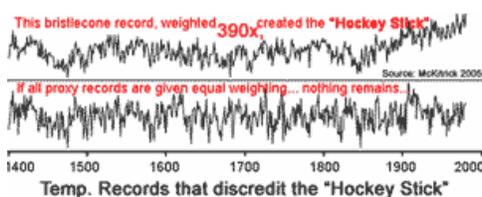
[CO2 Science](#) has studied many people's work on the MWP. [Monckton](#) lists 19 recent studies that clearly show the MWP. Craig Loehle, himself the author of some 200 peer-reviewed papers, wrote a [paper](#) describing 18 studies that show the MWP (a different set to Monckton). See graph above right, showing the cluster of MWP evidence. The Sargasso Sea [below left] demonstrates a MWP and a Roman warm period that were both warmer than now. The Sargasso Sea map, and the centre map of locations of MWP studies, show the MWP was global and not just local to Europe.



There is evidence that someone at IPCC wanted to erase the Medieval Warm Period from visibility... Dr. David Deming was welcomed into the close-knit group of global warming believers after he published a paper in 1995 that noted some warming in the 20th century. Deming says he was then contacted by a global warming "scientist" who told him point blank "we have to get rid of the Medieval Warm Period." IPCC 2001 (Third Assessment Report) replaced the 1996 MWP graph with the "hockey stick" which tidily removes the MWP. Iain Stewart (BBC) says that skeptics want the MWP restored, because they do not want the truth. H'mmm... looks like the shoe is on the other foot. The Hockey Stick was reproduced six times in the IPCC report. [Monckton](#) writes "The UN says [the Hockey Stick] is not important. It is. Scores of scientific papers show that the mediaeval warm period was real, global and up to 3°C warmer than now." The Hockey Stick, amplified by Al Gore's visually hypnotic film, has overlaid traditional well-proven knowledge with propaganda claiming that there never was a significant Medieval Warm Period. By my understanding, this is fraudulent misrepresentation.

How [McIntyre](#) and [McKittrick](#) broke the "hockey stick" - the fraudulent temperature graph

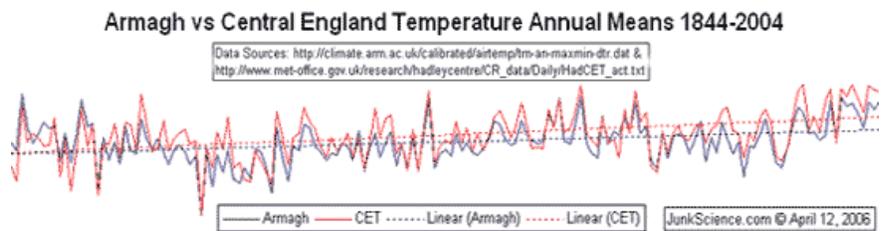
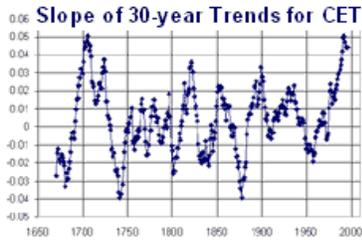
Canadian statistician Steve McIntyre became suspicious of the IPCC 2001 graph where the Medieval Warm Period had disappeared. He had been an IPCC assessor. McIntyre requested the data from Mann so that he could check the results for himself. Mann refused and obstructed. In the end, McIntyre used the Freedom Of Information Act to obtain material. He and his Internet team found that one proxy record, bristlecone pine, had been given prominence *390 times the weighting of the rest* - because it had the key data that could be shaped into a hockey-stick [right]. Some of the other data had simply been buried in a file marked "censored". [Ross McKittrick](#) tells the story. Longer histories of the malfeasance are told by [Bishop Hill](#) and [Monckton of Brencley](#).



Before Al Gore's film, McIntyre & McKittrick had published refutations of the statistics of the hockey stick, in 2003 and 2005.

Their work was subsequently supported by the Wegman report (2006) for the US House of Representatives, and (re. the statistics) by the North report of the National Academy of Sciences in the US. Dr. Wegman is one of the world's most eminent statisticians; his report found that the graph had "a validation skill not significantly different from zero". Unfortunately, the media reported North's support for Mann's *conclusions* of warming, but failed to say that North did not support Mann's *statistics*, and thus gave the impression that NAS approved the hockey stick. This belief still persists and has been used to bolster support for the similarly worthless 2007 and 2008 hockey sticks.

Recent work by [Jeff Id](#) [above right] is a superb **demolition of the validity of the statistical process** invoked in using proxies by selection ... the past is automatically diminished in comparison with the present... making a hockey stick... Notice the family resemblance to both the original Hockey Stick and the Luminous Spaghetti graph - subdued MWP, slowly dipping, then kick up to a current high - a resemblance not shared with a single one of [Monckton's 19 studies](#) and clearly not with [Loehle's 18 studies](#). Loehle wrote another paper that summarizes over 20 papers that challenge the use of tree-ring measurements for proxy temperature measurement. Tree-ring proxies were used to produce the original hockey stick - but these tend *not* to show the MWP - *perhaps because they measure moisture not temperature*. All other proxies tend to *show* the MWP

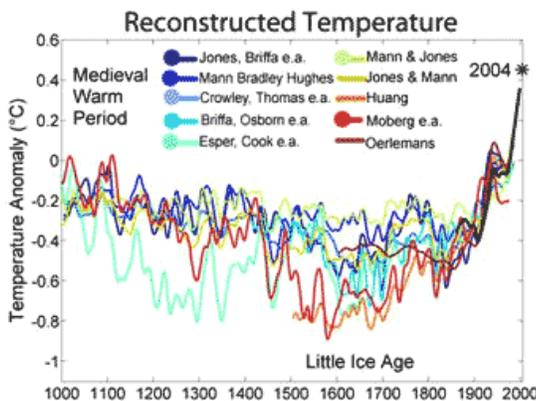


Two longterm thermometer records that exists, **Central England from 1611 to now, and Armagh (Ireland), show no "hockey stick" rise for the whole twentieth century** - there is only a very recent temperature rise, almost certainly due to the "urban heat island" effect. Instead, if we look closely, we see a record temperature rise from 1680 to 1710 that exceeds in both magnitude and rapidity the whole twentieth century temperature rise, that could only have been natural.

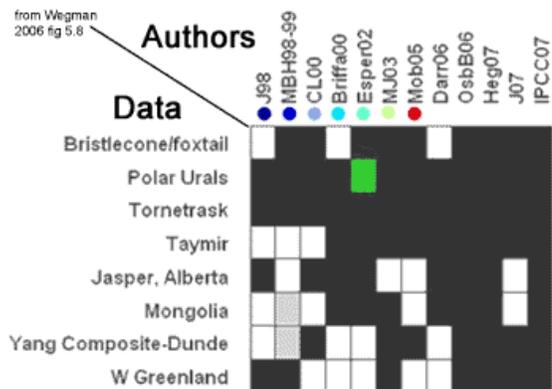
Steve McIntyre now runs [Climate Audit](#) which deservedly won the 2007 award for Best Science Blog. It provides crucial audits of bad IPCC statistics and associated bad practice, and shows real science at work (the proper use of statistics is science in its own right, and is an essential part of almost all other sciences). But Steve cannot get stuff peer-reviewed or published in the old, formal sense; he has become an embarrassment to the establishment. And the saga of obstruction continues - just check out CA any day.

The Team carries on promoting suspect science

The website [RealClimate](#) is described as "run by real climate scientists". But they are all members of the same coterie as the original Hockey Stick authors, from NASA, University of East Anglia, and elsewhere, and including Michael Mann, Phil Jones, and Gavin Schmidt. They actually chose to call themselves "the Team" in a rare moment of self-recognition, and Steve McIntyre happily adopted the name. There are strong suspicions that RealClimate was set up (with suspect funding) to try to counter the work of Steve. RC consistently refuse to name him, so Steve calls himself "he who must not be named". As many at [Climate Audit](#) and at [Watts Up With That](#) can testify, RealClimate will not allow anything that gives the skeptics any quarter; many RC posters believe that skeptics are only a small group of "flat-earther" "denialist" nutcases in the pay of Big Oil, simply because the debate at RC is so censored that they are not aware of our real existence, our real science, or our real difficulties in getting heard. The RC forum is a totalitarian non-debate made to look like a debate. They have perfected the art.



This well-known hockey stick, the "spaghetti graph" appears to be formed by several independent studies. But analysis of data ----> reveals that they are anything but independent of each other.



IPCC 2007 abandoned the original hockey stick in favour of - another hockey stick [above left]. The "spaghetti" graph looks different - but it's virtually the same hockey-stick, disguised with minor concessions... Look: (a) the data is from a limited set, bristlecone pines and Polar Urals data sets are both highly suspect - see [Steve's 2009 IPCC presentation](#) [above right] (b) it's mostly procured by "The Team" [both diagrams above]; (c) the MWP is still devalued way below what the real evidence suggests, (d) the graph still uses the same unholy splice of data - thermometer for the twentieth century and

questionable proxies for earlier - despite existing temperature records.

Then the Team constructed yet another Hockey Stick [2008]. Despite no tree-ring temp. proxies, the latest model bears every sign of the original flaws: cherrypicking proxies that are already suspect (contaminated Finnish lake sediment)... the unholy maths that automatically produces a hockey stick... To add insult to injury, BBC has been parading the original hockey stick (Iain Stewart, *Climate Wars*) as if it had never been discredited by top statistician Wegman.

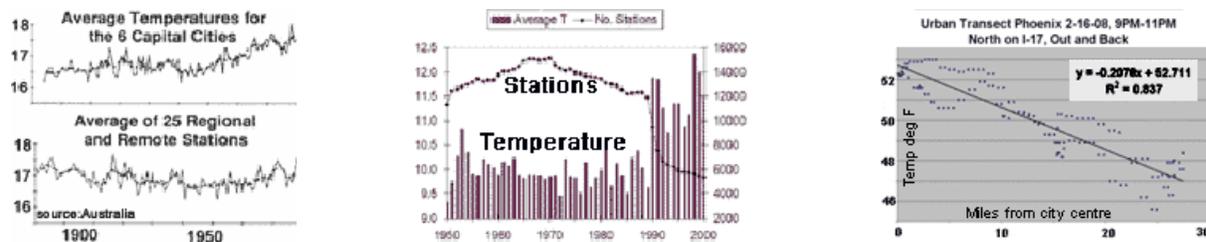
The Team's latest iniquity is Steig's 2009 paper that purportedly shows Antarctica warming. *Nature* magazine proudly shows Antarctica coloured yellow and red - despite a continental average of around minus 40°C, and a measly warming of a fraction of a degree. Even that "warming" depends on (1) choice of start and end dates (2) including minor and unrepresentative areas that are warming slightly and (3) highly suspicious statistics. And since they will not release their methods into the public domain (as should be de facto for any science with policy repercussions) the suspicion of bad practice in the stats is heightened. Yet the warmist models "predict" that polar regions should show the greatest warming.

See my paragraph on all this, among real Polar science and facts, at [Warming Antarctica by Paintwork](#)

Urban Heat Island effect and other issues of data corruption

The UHI effect probably wipes out all of the recent global temperature rise in excess of solar-linked rises and ongoing recovery from the Little Ice Age. The two graphs [below left] show a huge discrepancy in Australian weather station records. The 14-year-old son of Warren Meyer of [Climate Skeptic](#) could conduct a perfectly adequate survey of the UH, fail by a long margin to comply with meteorologists' own standards! effect, to reveal a difference of about 3 degrees C between city centre and countryside [below right]. Steve McIntyre showed that NASA made urban adjustments of temperature data in its GISS temperature record in the *wrong direction*, which make the warming trends steeper. Yet the urban adjustment is supposed to remove the effects of urbanization! Thus the surface temperature trend utilized by the IPCC is exaggerated. See [Gregory June 2008](#).

The majority of US weather stations are sited very badly, near tarmac, heat exchangers, airplane exhausts, barbecues, warm buildings, sewage plants, etc, falling far short of AMS' own standards, with the majority likely to record positive errors of 2-5°C. Such stations amplify the UHI effect still further. Anthony Watts is running a [surface stations project](#) on this with help from volunteers, and has [recently published](#) the results which show that 90% of all US station records are untrustworthy, mostly showing rises in urban areas that are unmatched by reliable rural records. Around 1990 **the number of weather stations worldwide was suddenly cut**, mainly in rural locations, and the "average temp" suddenly rose at the same time [below, middle]. For details of these and other issues see [d'Aleo Jan 2009](#).



Proliferation of false and misleading information

Members of "the Team" have just (Jan 2009) published a paper in *Nature* entitled *Warming of the Antarctic ice-sheet surface since the 1957 International Geophysical Year*. Widely acclaimed, it claims that Antarctica's temperature has been rising. Lead author [Steig says](#) "our results don't violate the model physics", which is in apparently blatant contradiction to the same team's [February 2008](#) announcement that the "known" cooling of Antarctica is not contradicting the models. **This touches the whole disreputable issue of climate models. Since these do not allow anything like adequately for key factors like ocean currents, water vapour, solar changes, and clouds whose fluctuations are linked to this, they are worthless. Like hellfire preachers, their predictions just fail and get postponed. I don't want to even begin discussing them. The whole skeptical community knows.**

The paper is acclaimed as plugging a gap in the AGW theory. But the text, read carefully, does not prove anything of the kind. If the start date is changed either way it would not give the desired warming. The paper makes the strange statement, "The continent-wide mean trend remains at 0.08°C per decade, although *it is no longer demonstrably different from zero (95% confidence)*" (my italics). The temperature changes are minuscule, even more ridiculously so when set against the large fluctuations and how low they are altogether. The survey also uses statistical methods which may be questionable and tend to a warming bias - this is currently under survey by Climate Audit.

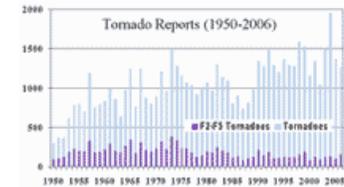
[CBS News](#) reported last year "New research compiled by Australian scientist Dr. Tom Chalko shows that global seismic activity on Earth is now five times more energetic than it was just 20 years ago." [Closer investigation](#) reveals that what has increased is not seismic activity, but our capacity to detect.

The major fraudulent issues have been answered specifically. But there are thousands of reports that mislead and even lie outright, often with the connivance of the researcher, as appears to be the case above. One web page collected them all, so that you can see how everything, but everything, is said these days to be due to "global warming".



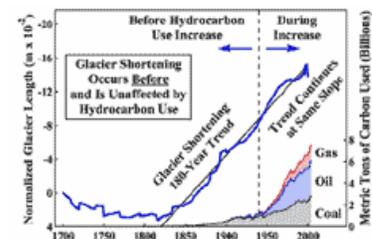
What about Al Gore's claims? Tornadoes? More reported; but there are, overall, less very severe tornadoes. --->

<-- [Polar bears](#)? Mitch Taylor has worked with them for thirty years, and knows that their numbers have greatly increased – due to limits on hunting - but they've survived warmer times in the past are not under any threat now.



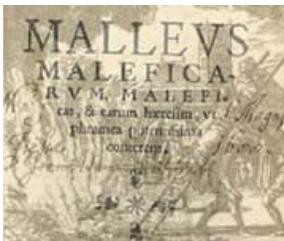
<--- There is volcanic activity warming some polar areas. **Glaciers?** They have been melting for 200 years - and most of the world's glaciers, which are on Antarctica, have been growing. --->

More fibs? Monckton's "[35 Inconvenient Truths](#)" is as good an exposé of Al Gore's science as any - or if you want to demolish the lot, read [Unmasking An Inconvenient Truth](#).



Facing the Truth of the Problem

Consistently, AGW have trumped excellent pre-existing science with bad science, or have ignored or vilified new evidence challenging AGW. All the Western science organizations claim that manmade global warming has been proved, and have refuted all serious skeptics' arguments with what they claim is fair science. Many sincere scientists now believe there is fair evidence of anthropogenic global warming. But at no point have IPCC's two fundamental theses been confirmed by evidence. **Many experts, seeing only their area of expertise, have said, "I believe in AGW... except for what my area of expertise shows". This is corruption in the very heart of the scientific process. It is time to join up the dots...**



...for all of this unfortunately displays the same tricks that were used to publish the notorious Malleus Maleficarum. Kramer and Sprenger printed a fake approval for all copies sold outside Cologne, the town of the censors, but in Cologne itself they omitted the fake approval. This convinced everyone outside Cologne that the book had the approval of both the Pope and the censors, when, in reality, it had no Papal approval and it had downright condemnation from the censors. By the time the discrepancy was noticed, it was too late, the masses were rarin' to go beat the hell out of the witches, and the Pope was cornered into conceding his belated support. IPCC, Al Gore, and others have sold the masses, and the scientific establishments, bad science and fake travesties of science, of which many individual scientists, including top scientists, are aware.

"It is unfortunate that the integrity of science will be badly damaged by alarming the public without solid scientific foundation" says [Prof. Akasofu](#). "Although it is often reported that there is "consensus" among scientists... this situation has no comparison to the consensus among many scientists at the time of the nuclear crisis in the 1970s and the 1980s, when scientists alarmed the world. The difference between them could be compared to a dinosaur (which was proven to exist) and a dragon (which is an imaginary creature)... Scientists are responsible for clarifying and rectifying the confusion."

How could this have happened, if it is true? How could so many worthy scientists including the major scientific institutions, the major publications, and Nobel prizewinners, have been mistaken for so long? How could apocalyptic anxieties and politics have undermined the heart of Scientific Method so completely in Climate Science? How can we be sure in future that Science is right, or what our real problems are?

Healing the Problem and Appreciating its Lessons

Many scientists are upset by the [corruption of Science](#) that has happened, as willingness to reconsider basic theories and new evidence has given way to name-calling, gagging, misrepresentation, and fear of speaking up. [Prof Will Alexander](#) tells how corrupt science was used to discredit his excellent work, when he realized the whole system had become corrupt. But as the traditional outlets of good Science are closing, new outlets are opening where the real Science can develop, transparently, and free from the shackling corruption of the official science. Readership of [Watts Up With That](#) and similar blogs is rising. [Inhofe's list](#) is growing and now holds over 13 times as many scientists as were ever involved in IPCC; some are defectors from the IPCC. James Hansen's former boss Dr John Theon said [at the 2008 ICC conference](#):

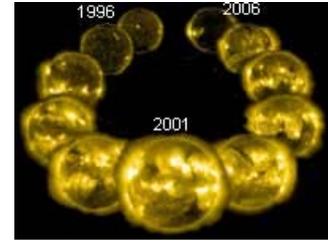
"I worked as the head of the NASA Weather and Climate Program which included up to 300 scientists in NASA, in academia, and in the private sector... Jim Hansen had... some very powerful political friends. Al Gore was a Senator... and subsequently became Vice President of the US. Now there isn't too much a NASA person can do when he's up against that kind of a challenge... In the early '90s I realized the whole thing was a great big fraud... Recent developments have convinced me that it is my duty to speak out, and to help educate the public about what we're going to get into if we don't stop this nonsense".

Lawrence Solomon, Anthony Watts and Senator Inhofe all used to believe in AGW. The [Oregon Petition Project](#) is signed by 31,000 scientists who don't accept AGW. **What, 31,000 scientists don't know what they're talking about?** The Oregon Petition has been attacked unpleasantly; to answer such attacks, visit its [FAQ page](#) and meet [Art Robinson](#) - an inspiring fighter, even though one may disagree sometimes... My own journey is proof that ordinary intelligence *can* master the

science, with persistence, imagination, and commonsense.



I can see a new chapter of Science coming to birth under the "lid" of official censorship. The Sun in the Solar System and Galaxy promises a lot to explore. Here is the Sun in all his glory, seen through a whole 11-year sunspot cycle by NASA/SOHO. Click on the picture. Enjoy it well, for this may be the most powerful cycle that we will see for some time. **There are strong signs that we may have cool times ahead - and these are far harder to cope with than warm times. Crops fail in the shorter seasons; there is both less sun, and less moisture, everywhere.** However, we have ingenuity and, occasionally, wisdom, and incentive to research further.



Perhaps we can dream up some kind of amnesty for all those unfortunate scientists and insane AGW activists (like I was), when they can detox, dry out, hand in their AGW weapons without fear of recrimination or incarceration... just appropriate de-de-bunking post-trauma debriefing... Here's the **Twelve Step Plan to Shake Off the AGW Indoctrination**

Step 1: Honesty

Tell the truth, and listen for the truth.

Step 2: Faith

Believe what can be proven.

Step 3: Surrender

Don't let pride keep you from freedom.

Step 4: Soul Searching

Listen to the voice of reason within you.

Step 5: Integrity

Don't allow yourself or others to advance falsehoods unchallenged.

Step 6: Acceptance

Don't think you are less of a person because you were wrong in the past.

Step 7: Humility

Realize that no one knows everything and that science is still advancing.

Step 8: Willingness

Make a list of those you convinced and set them straight.

Step 9: Forgiveness

Forgive yourself and also forgive those who still believe that CO2 is bad.

Step 10: Maintenance

It is OK to be wrong . Science advances by testing hypothesis and tossing the wrong ones out the window. You are a scientist !

Step 11: Making Contact

Stay in touch with scientific advancement and those who also stay informed.

Step 12: Service

Help everyone around you remember that as you pursue truth, you are also pursuing happiness

Many scientists skeptical of the full "alarmist" package are still concerned that we have, or could have, some warming effect on the planet. Environmentalist Lawrence Solomon wrote [The Deniers](#): top scientists from all over the world, heads of their professions, who are, *often only from their point of expertise*, AGW "deniers". The science has been obfuscated by an environment of specialist experts; and while some scientists say that the whole notion that CO2 causes warming due to its greenhouse effect is unproven, falsifiable, tiny, or compensated by other factors, other scientists are not quite sure. **The science is not settled** - at least, not in a way that all scientists can agree, although perhaps some understand it perfectly and cannot understand why the rest of us are so slow! **There is no consensus, nor should there be!** One thing is very clear - **there is no alarming situation requiring us to cut CO2 - in fact, the more CO2 is in the atmosphere, the better the plants will cope, especially if the coming years cool.** The "precautionary principle" is completely upside-down.

Summaries

- **BASIC INFORMATION SOURCES** - [Here](#) is our info collection: primers, books, and other information sources.
- To see AGW science in full steam, go to [Real Climate](#) - but if you are a competent skeptic, don't expect them to allow you to post - whereas if they think they can debunk you, they may let you post.
- [Watts Up With That](#) is the skeptics' meeting-ground, a generally informed and lively debate with good science; it has won the 2009 Science Blog of the Year award.
- [Climate Audit](#) won the 2008 award - it's a tough website for beginners, gentle to those who treat it with courtesy, but a real thorn in the flesh to the leading AGW scientists at RealClimate and elsewhere.
- [Icecap](#) is a wide-ranging news portal for all the latest.
- Our [video page](#) now contains excellent easy-to-learn info on the real science
- [Alan Cheetham](#) is an excellent all-round user-friendly scientific source
- Here is another excellent long [list of URL's](#) grouped by AGW myths
- [Here](#) is our collection of good scientists' testimonies.
- **REAL CLIMATE SCIENCE BASICS** - The Earth's climate varies in regular cycles.
- Solar output to earth = over 24,000 times our total human output.
- There is a strongly-suspected link between the Sun, cosmic rays, and our climate; but the science is young.
- There have been vastly greater quantities of CO2 in the ancient past, with no ill effects.
- The greenhouse gas effect of CO2 is already saturated, so even doubling CO2 would have near-zero effect.
- Ocean currents oscillating over decades have huge effects on measured temperatures; the oceans' thermal inertia is 10,000 times that of the atmosphere.
- Oceans hold 49/50 of all free CO2 which outgasses in the tropics and sinks at the poles; the total annual CO2 turnover could be a quarter of the total atmospheric CO2 and around 40 times the human contribution; it is possible that almost all the CO2 increase is from "fizzy" oceans still warming since the 17th Century "Little Ice Age".
- Water vapour is the biggest greenhouse gas; clouds are the biggest natural cooler and a variable quantity.

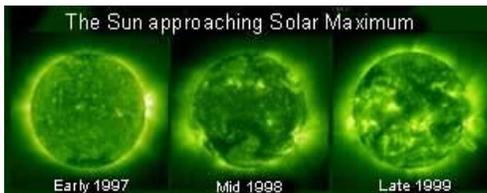
- Plants on land, and sea animals making shells, are the earth's well-tested natural CO2 regulators; plants account for a third to a half of the annual CO2 turnover.
- There are serious problems with bad data, the most critical being the "urban heat island" problem.
- There are more serious problems with bad science, corrupt organizations, and lack of transparency.
- Little of this is in the standard info sources like New Scientist; there is much disinformation about skeptics instead.

DEEPER INTO THE SCIENCE of greenhouse gases and runaway effects - To keep abreast, read the blogs. I cannot keep this paragraph sufficiently up-to-date; ICECAP or other sources may be better here; but my links are, of course, still valid. Monckton's [science paper at APS](#) is worth perusing if you're serious about understanding the core science used and misused by IPCC; likewise Roy Spencer's [recent address](#) and Douglas and Christy's [recent paper](#): all deconstructing the central fallacy of AGW that CO2 could ever cause runaway effects. There are rebuttals and comments like "not peer-reviewed!" - but there are rebuttals to the rebuttals... every time I have followed the clues right through, the skeptics have always won. Some scientists are even saying that there is [no greenhouse effect](#)...at all [41]. Have a look at IPCC [30] even though the IPCC does *not* report what scientists concluded, as Monckton of Brenchley points out in this [taster of Apocalypse? No!](#)

TO SUMMARIZE THE STORY,

- THINGS ARE NOT WHAT THE OFFICIAL PICTURE PORTRAYS
- correlations between our emissions, rising CO2, and rising temperatures, does not prove causation;
- huge factors with vital evidence are ignored: Sun, clouds, stars, oceans, history, geology, and the biosphere;
- the thesis of manmade global warming is essentially COMPLETELY unsupported by real-life evidence, a fact that prestigious modelling cannot alter any more than King Canute could make the tide turn back;
- warming is not a genuine problem, whereas cooling is, and we are likely to get cooling soon;
- CO2 is what plants depend on; to try to curb CO2 would be expensive, and would be harmful not helpful;
- there ARE environmental problems we need to worry about, Peak Oil, and the likelihood of cooling;
- but we need to reclaim good science first; otherwise how can we be certain we've identified the real problems?

SCIENTIFIC METHOD IS NOT DIFFICULT TO GRASP: it is, essentially, intelligent commonsense and persistence in searching out and testing the laws of the Universe, consolidated and referenced, but NOT limited, by awareness of "orthodox" scientific knowledge. See also [Ric Werme](#) and [James Lewis](#) for insights into Scientific Method and the challenge of the current situation.



SCIENCE EVOLVES BY UPENDING

CONSENSUS. All the really important discoveries were once heresy. The Universe is a mystery, however much beautiful science we clothe it in. And though Al Gore is now up to his ears in bad science, he once wrote an interesting book called *Earth in the Balance* (just leave out the science).



THE CHALLENGE OF CORRUPT SCIENCE IS SERIOUS. It has been difficult to grasp or check. Most is bad, or naive, rather than deliberately corrupt. Much of the problem is at the top, where, with a new science that has political implications, confusion has emerged between what is natural and expected in politics, and what is legitimate, expected, and trusted, in science. See Peiser's challenge to the legitimacy of AGW's claim of consensus [here](#) AND [here](#) AND [here](#). You need to read all three to see through the "[disproofs of Peiser](#)" that are around, to see how difficult it can be to get to the truth.

- One widespread problem has been lack of transparency, regarding data, methods, and other issues.
- The IPCC have been less than honest, less than scientific. There were only 52 scientists, not 2500.
- The complexification of Science, leading to specialization, has lent itself to "divide and rule" and the trumping of good science by bad science, politics, and fear-mongering.
- Until we have the real climate drivers, models are nothing but expensive, intimidating distractions and games.
- There has been [corruption of the peer-review process](#) and the process of publication.
- The media have contributed great damage to the integrity of Science, by choosing again and again to publish alarmism and to fail to convey a balanced account; they should be brought to heel.
- The reins of power have been held by a small group spanning the UN, the IPCC, certain business interests, and a few key scientists, bloggers, activists; they have often broadcast "don't look at us! look at the contrarians / deniers!", used personal slurs, and avoided the science.

WITHOUT WASTING ENERGY IN BLAME, THERE ARE IMPORTANT LESSONS TO LEARN. I end with Monckton's [conclusion](#) to his recent paper *Climate Sensitivity Reconsidered*, which reopened the debate in the American Physical Society; also his [concluding words](#) to the students at Cambridge in 2007, as lights to hold in the mysterious realms of Science. I think he can see these vital principles all the more clearly because he is NOT a degree'd scientist but has taught himself - thus making nonsense of those who dismiss him because of lack of "qualifications" or papers "peer-reviewed" to corrupt standards.

from Monckton: [Climate Sensitivity Reconsidered](#) (AGW viability)

- Even if temperature had risen above natural variability, the recent solar Grand Maximum may

From Monckton's conclusion to [Address to the Cambridge Union Society](#) (key ethical issues)

AL GORE says, "I believe this is a moral issue." So it is. To "announce disasters" or "scary scenarios" or "over-represent factual presentations" in

- have been chiefly responsible.
- Even if the sun were not chiefly to blame for the past half-century's warming, the IPCC has not demonstrated that, since CO2 occupies only one-ten-thousandth part more of the atmosphere than it did in 1750, it has contributed more than a small fraction of the warming.
- Even if carbon dioxide were chiefly responsible for the warming that ceased in 1998 and may not resume until 2015, the distinctive, projected fingerprint of anthropogenic "greenhouse-gas" warming is entirely absent from the observed record.
- Even if the fingerprint were present, computer models are long proven to be inherently incapable of providing projections of the future state of the climate that are sound enough for policymaking.
- Even if per impossibile the models could ever become reliable, the present paper demonstrates that it is not at all likely that the world will warm as much as the IPCC imagines.
- Even if the world were to warm that much, the overwhelming majority of the scientific, peer-reviewed literature does not predict that catastrophe would ensue.
- Even if catastrophe might ensue, even the most drastic proposals to mitigate future climate change by reducing emissions of carbon dioxide would make very little difference to the climate.
- Even if mitigation were likely to be effective, it would do more harm than good: already millions face starvation as the dash for biofuels takes agricultural land out of essential food production: a warning that taking precautions, "just in case", can do untold harm unless there is a sound, scientific basis for them.
- Finally, even if mitigation might do more good than harm, adaptation as (and if) necessary would be far more cost-effective and less likely to be harmful.

In short, we must get the science right, or we shall get the policy wrong...

place of adherence to the scientific truth – that is a moral issue.

To let politicians insert data into official scientific documents; to alter those documents so as to contradict scientific findings; to manipulate decimal points so as to engender false headlines by exaggerating tenfold – those are moral issues.

To exaggerate by 2000% not only the atmospheric lifetime of a trace gas but also the effect of that gas on temperature; to reduce the magnitude of its predicted influence on temperature without reducing the predicted temperature itself – those are moral issues.

To claim scientific unanimity where none exists; to assert that catastrophe is likely when most scientists do not; to exalt theoretical computer models over real-world observations; to misstate the conclusions of scientific papers or the meaning of observed data; to overstate the likely future course of climatic phenomena by several orders of magnitude – those are moral issues.

To reverse the sequence of events in the early climate; to repeat that reversal in a propaganda book intended to infect the minds of children; to persist in false denial that past temperatures exceeded today's; to state that climate events that have not occurred have occurred; to ascribe these non-events as well as specific extreme-weather events unjustifiably to humankind – those are moral issues.

To propose solutions to the non-problem of climate change that would cost many times more than the problem itself, if there were one; to advocate measures to mitigate fancifully-imagined future climatic changes when adaptation would cost far less and achieve far more; to ignore the real problems of resource depletion, energy security, bad Third World government and fatal diseases that kill millions – those are moral issues.

To advance policies congenial to the narrow, short-term political or financial vested interest of some mere corporation or faction at the expense of the wider, long-term general interest of us all – those are moral issues.

Above all, to inflict upon the nations of the world a policy of ever-grimmer energy starvation calculated not merely to inconvenience the prosperous but to condemn the very poorest to remain imprisoned in poverty forever, and to die in their tens of millions for want of the light and heat and power which we have long been fortunate enough to take for granted – that is a moral issue...

Note: 2006 Poll on "[Consensus among scientists](#)"

Despite claims of a "consensus" in favor of alarmist predictions, surveys of scientists, as well as petitions, show an extensive opposition to alarmism. A 2003 international survey of climate scientists (with 530 responding) found only 9.6 percent "strongly agreed" and 25.3 percent "agreed" with the statement "climate change is mostly the result of anthropogenic causes."

A 2006 survey of scientists in the U.S. found 41 percent disagreed that the planet's recent warmth "can be, in large part, attributed to human activity," and 71 percent disagreed that recent hurricane activity is significantly attributable to human activity.

A recent review of 1,117 abstracts of scientific journal articles on "global climate change" found only 13 (1 percent) explicitly endorse the "consensus view" while 34 reject or cast doubt on the view that human activity has been the main driver of warming over the past 50 years.

References (now incomplete: needs updating!)

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- [2] Monckton of Brechley, "[35 errors in AIT](#)" - a classic piece of the story
- [3] Wm R Johnston, "[Falsehoods in Gore's An Inconvenient Truth](#)"
- [4] Prof Rossiter, "[Convenient Fibs. or Why I Flunked Al Gore](#)"
- [5] James Peden's Climate Science introduction "[The Great Global Warming Hoax?](#)"
- [6] C Monckton, Telegraph 05/11/06, "[Climate Chaos? Don't believe it](#)"
- [7] Monckton of Brechley, "[Gore Gored: a science based response to Al Gore's Global Warming Commentary](#)" pdf
- [8] Steve Durkin, "[The Great Global Warming Swindle](#)" video
- [9] Courtney writes an interesting [history of AGW & Thatcher's involvement in the UK](#)
- [10] George Monbiot, [The Guardian](#)
- [11] Schmidt at RealClimate attacks Monckton as "[Cuckoo Science](#)"
- [12] Monckton replies "[Chuck it Schmidt](#)" including "Why the UN should apologize for the Hockey Stick", and 16 recent UN science papers proving the Medieval Warm Period
- [13] Svensmark & Calder's book, [The Chilling Stars](#), at Amazon with rave reviews
- [14] [Cosmoclimatology](#) in outline, Danish National Space Center
- [15] eg Wikipedia, [Solar Variation Theory](#)
- [16] Journal of Atmospheric and Solar-Terrestrial Physics, 2003 p801-812
- [17] [Damon & Laut](#) charge Svensmark with bad science he never did (pdf)
- [18] Svensmark et al, [Response to Criticism](#) (section with several relevant papers)
- [19] [CBS News](#), article on Wikipedia Climate Science disinformation
- [20] Spencer Weart, "[The Discovery of Global Warming](#)"
- [21] US senator Inhofe claims [AGW has monumental funding advantage. \\$50,000 million to \\$19 million](#)
- [22] eg vikings in Greenland <http://www.spirasolaris.ca/sbb4g1bv.html>
- [23] Huang and coauthors, Geophysical Research Letters, 1997
- [24] Idsos, CO2 Science, "[Medieval Warm Period](#)"; Monckton "[Chuck it Schmidt](#)", references at the end of this paper
- [25] McKittrick, "[The hockey-stick debate](#)" (pdf) - a classic piece of the story
- [26] [Watts Up](#) draws attention to Beck's paper validating old CO2 records
- [27] Steve McIntyre's award-winning science blog: pages on [Proxies](#) and [Data quality](#) are especially revealing
- [28] [Oregon Petition Project](#) - 31,000 US scientists who do not accept the IPCC picture of AGW
- [29] Lawrence Solomon, environmentalist reporter & author of "The Deniers", [podcast](#) "the list is extremely long and the scientists are extremely

eminent, and the picture Al Gore paints is just not accurate"

[30] Climate Change 2007: The Physical Science Basis. Contribution of Working Group to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, p.100, p.120

[31] eg <http://www.cbc.ca/health/story/2006/05/15/polar-bears.html>

[32] [Article showing there is no acidification problem](#) - "the system under study was surprisingly resilient to abrupt and large pH changes" - just the opposite of what CAGW characteristically predicts...

[33] Nils-Axel Morne, IPCC reviewer, "[Sea level expert - it's not rising](#)" (pdf)

[34] Glance first at Monckton's reply to Schmidt [12], before reading Monckton's original Nov 2006 article [6] or Schmidt's Nov 2006 "Cuckoo Science" rebuttal [11]. Since Monbiot had taken Schmidt's rebuttal as gospel, and has not shifted his position despite Monckton's excellent science refuting Schmidt's rebuttal, this particular scientific exposition is important. Yet Schmidt has never answered Monckton's reply, as would be expected in such a key position, if he had had an answer to offer. In fact, Schmidt recently (July 2008) referred to his "Cuckoo Science" article as if he had successfully disproved Monckton. Given that Monckton had answered Schmidt's supposed disproof in 2006, point for point, Schmidt's 2008 statement is sheer dishonesty. After months of perusing, I've concluded that Monckton is one of the best introductions to the refutation of the central science issues, leaping from journalist's article to exact science about the key issues. Just put aside Monckton's reference to 1421, for although that too can be proved sound, it too is currently under attack from orthodoxy, and will only create a distraction. You don't need the 1421 reference to validate the rest of Monckton. For more detailed maths, refer to [36] since the Telegraph hyperlink doesn't seem to function.

[35] "[Al Gore Debates Global Warming](#)", short U-tube video - there are more of this kind.

[36] "[Climate Sensitivity Reconsidered](#)", Monckton's classic 2008 expert paper on the American Physical Society Forum

[37] [Skeptics' Guide to Global Warming](#) from Climate Skeptic website: finally a book! This last chapter deconstructs New Scientist's rebuttals of 20 skeptic "issues" and, by implication, the "answers to skeptics" at Gristmill, Skeptical Scientist, Royal Society,

[38] New Scientist's "guide for the perplexed" list of [20 skeptics' issues](#) "explained"

[39] Skeptical Science's main list of [52 skeptics' issues](#) - each issue is discussed, then opened for public discussion - this is good.

[40] [CO2 Skeptics](#) can inform you about the real nature of CO2

[41] no greenhouse effect (layman's introduction, by a chemist with practical experience of absorption and emission spectroscopy) "[Greenhouse Gas Facts and Fantasies](#)" by Tom Kondis; "[Falsification of Atmospheric CO2 Greenhouse Effects within the frame of Physics](#)" (pdf) by Gerlich & Tschuschner; "[Heat Stored by Greenhouse Gases](#)" by Nasif Nahle (peer-reviewed); and [I Love my Carbon Dioxide](#) website of Hans Schreuder (why greenhouse effect is false: links to several more papers)

[42] Climate Sensitivity issues brought to US Congress by ex-NASA scientist Roy Spencer, [WattsUpWithThat](#)

[43] award-winning astronaut speaks out against CAGW science, [WattsUpWithThat](#)

[44] Ric Werme's excellent introduction [Science, Method, Climatology, and Forgetting the Basics](#)

[45] Lance Endersbee 2008 "[Carbon dioxide and the oceans: Should we try harder to understand the causes of natural climate change instead of assuming present climate change is man-made?](#)" (pdf) - powerful visual evidence for ocean temp causing CO2 levels

[46] "[A 2000-Year Global Temperature Reconstruction Based on Non-Treering Proxies](#)" - shows MWP & LIA - 2007 Craig Loehle, with minor corrections thanks to Steve McIntyre, Gavin Schmidt, et al

[47] NASA "[Antarctic Heating and Cooling Trends](#)" and NASA "[Two Decades of Temperature Change in Antarctica](#)". Now although [In It for the Gold](#) says that Connolley suggested that the first picture is "probably the work of a PR droid", we suspect bias all round.

[48] [WattsUpWithThat](#) - Scroll down to 11.38am post on 4/8/08 by Josh

[49] Josh Hall explains the use of graphs for "[Causality Inference in Dynamic Systems](#)"

[50] Joe d'Aleo, [US Temperatures and Climate Factors since 1895](#) pdf

[51] Dr Vincent Gray, "[Spinning the Climate](#)" and "[Comments on the Recent Statement by the Climate Committee of the Royal Society of New Zealand](#)" - these pages are unique, to my knowledge, for adequately conveying the IPCC workings, the weakness of their science claims, and their serial downplaying of natural factors (this is clear by the IPCC chapter headings), in a lively, readable way. But Dr Gray's latest "[Global Warming Scam](#)" is badly written, with foolish assertions that do not help make his science credible. There are better skeptics' writings on the issues he covers here. However, [here](#) (read both letters), he sets out pretty clear, straightforward evidence against AGW's basic claims.

[52] [Dr John Everett](#), IPCC impacts analyst, "[Climate Change Facts](#)"

[53] Prof Tom Segalstad "[On the construction of a greenhouse effect global warming dogma](#)"

[54] Robinson, Robinson & Soon "[Environmental effects of increased atmospheric CO2](#)" pdf

[55] Usoskin & Solanki "[Millennium-Scale Sunspot Number Reconstruction: Evidence for an Unusually Active Sun since the 1940s](#)" pdf

[56] John McLean, "[Peer review? What peer review? Failures of scrutiny in the UN's Fourth Assessment Report](#)" pdf

[57] Lockwood and Frohlich, [Recent oppositely directed trends in solar climate forcings and the global mean surface air temperature](#) is a rebuttal of the recent solar warming underpinning Svensmark - but it's rebutted in turn by "[A Critique on the Lockwood/Frohlich Paper in the Royal Society proceedings](#)" by Ken Grigorey. Read both!

[58] William Kininmonth, "[Unmasking AIT](#)" pdf

[59] Prof. David F. Noble, "[Opposing Views on Global Warming: The Corporate Climate Coup](#)"

[60] Beck, "[180 Years of atmospheric CO2 Gas Analysis by Chemical Methods](#)" 2007. Download from this page to read the paper, the telling comment by Keeling junior, and Beck's reply



Glossary of Acronyms and Abbreviations

ppm	parts per million by volume	Gt	gigatonnes weight (=1,000,000,000 tonnes)
AGW	Anthropogenic (manmade) Global Warming	IPCC	Intergovernmental Panel for Climate Change
CAGW	Catastrophic AGW	CO2	Carbon Dioxide (the chemical formula)
GHG	Greenhouse Gas	AIT	<i>An Inconvenient Truth</i> (Al Gore's film)
MWP	Medieval Warm Period		

I've tried to give credits where appropriate, however if I've not acknowledged you properly, please let me know and I'll put in the credits or remove the reference. If anyone has serious queries with my material, I would be glad to be given the chance to respond in kind, before being dismissed in places where I've had no chance to respond. If you sign up to our Forum [here](#), we can then start a civilized conversation.

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