**Introduction**

Some five and a half years ago I gave a talk at the Australian Adam Smith Club, entitled *Why You Should be Skeptical About Global Warming or A Layman's Guide to "Smelling a (Scientific) Rat"*. Few people have spoken more than once at an Adam Smith Club dinner. I could say I feel honoured to join such illustrious company. However being on the Club's committee I know the truth: They were desperate. Yet the topic of Anthropogenic Global Warming, which has morphed in the popular media into "Climate Change", is still very important. In the words of a former Australian Prime Minister, climate change is the "the greatest moral, economic and social challenge of our time". I tend to agree, but not for the same reasons.

Tonight I shall update you on some of the developments in Global Warming science but also dip my toe into the "moral, economic & social" challenges that result from the world-wide movement to tackle a non-existent problem.

**Recapitulation**

What do we mean by Induction?

Hume's Problem of Induction[1]

We naturally reason *inductively*: We use experience (or evidence from the senses) to ground beliefs we have about things we haven't observed.

Hume asks whether this evidence is actually good evidence: can we rationally justify our actual practice of coming to a belief of unobserved things about the world? (Hume concluded there was no logical or rational justification for such belief.)

Salmon's urn example:

We have an urn full of balls. After sampling *a few* of the black balls, all of which taste like liquorice, we infer that *all* of the black balls in the urn must taste like liquorice.

The argument:

1. Some black balls from this urn have been observed (i.e. tasted).
2. All observed black balls from this urn are liquorice-flavoured.
3. Therefore all the black balls in this urn are liquorice-flavoured.

Note that the inductive argument above from the sensory evidence to the general conclusion isn't logically guaranteed. It is possible for the conclusion to be false, even if the premises are true. (There was a black marble at the bottom of the urn & it wasn't liquorice-flavoured.)

Scientific Method & Problem of Induction

The philosopher Karl Popper argued that the logical process of induction simply does not exist. Theories are forever tentative and the most useful function (and the only logically decisive effect) of observations is to act as tests or attempted falsifications of theories.

So with the demise of Induction as a sure path to scientific truth what do we have to take its place? Popper suggested the following: We start with a problem, we propose a theory but as we cannot prove the theory by

[1] http://faculty.unlv.edu/beisecker/Courses/Phi-101/Induction.htm.

any number of verifying observations, the important thing to do is to try to disprove the theory by devising experiments to test it. If after many tests the theory is not refuted, then we may accept the theory as tentatively true. If the theory is refuted by a single test, then it is discarded and another must take its place.

To summarize, scientific knowledge and understanding grow through refuting existing theories and replacing them with better ones. However all our theories remain just that, theories – for one never knows when some observation will be found to refute them.

A crucial part of improving our understanding of the universe is the attempted refutation of theories. Thus it is clear that all scientists must be skeptics. Indeed it would be fair to say that a scientist who is not a skeptic is no scientist at all.

After the talk I gave here 6 years ago, more than one person came up to me afterwards & said, "Well you know Popper's philosophy of science is not accepted by all philosophers". The implication was that somehow this invalidates everything I had said that was based on Popper's scientific method. At the time, these were comments in passing & the formal question time had ended. So I did not really have time to address it.

But this is very important & many people seem to think that somehow this undermines my whole argument. Nothing can be further from the truth. If you reject Popper's methodology the key question that still needs to be answered is how do you solve the Problem of Induction? Answer: It cannot be solved. This means you can never be certain that a theory is true. I have been told that some philosophers have apparently tried to substitute probability for absolute truth. (I must admit, on the recommendation of a friend, I tried to read the great Australian philosopher Stove on this but gave up after a few dozen pages.) This may be an interesting exercise for philosophers in their ivory towers but redefining truth to mean some form of probability just means that you have abandoned truth altogether.

If you cannot solve the problem of induction, then you are left in the logical position that you can never prove a theory true, no matter how many measurements or tests you make all verifying the theory. However only one measurement is needed to refute the theory.

I don't care if you accept Popper's scientific method or not, it will always only take one fact to refute a scientific theory. There is simply no logical way around it.

Feynman Film

Richard Feynman was one of the greatest physicists of the 20$^{th}$ Century, winning a Nobel Prize in 1965 for his contribution to quantum electrodynamics.

**Show Film…** (www.youtube.com/watch?v=QdMmbaQHIs0)

Summary:

- Theories are guesses;
- You can't prove a theory true no matter how many corroborating experiments you conduct because you never know when the results of a new experiment will prove the theory wrong;
- Proving a scientific theory wrong is important because it implies we need to develop new & better theories to explain how the universe works.
- It only takes one experiment to prove a theory wrong.

So the job of the scientist is to make up new theories to explain the world & then to try to refute those theories. Whenever a theory is proven wrong by experiment, the scientist tries to make up a new theory that explains all the facts. It is a form of cyclic creative destruction or should that be destructive creation?

What do you do when you have two competing theories trying to explain something? As the theories are different they should predict different behaviours for certain situations. If they didn't predict different behaviours the theories would be the same. Therefore you try to devise an experiment that will check which of the different predicted behaviours actually occurs. The theory that predicts the behaviour not seen in the experiment is demonstrated to be wrong. The theory that predicts the behaviour that is seen in the experiment gets to live on until an experiment eventuates to refute it.

So last time we defined the theory of Anthropogenic Global Warming (AGW):

The Basic Theory:

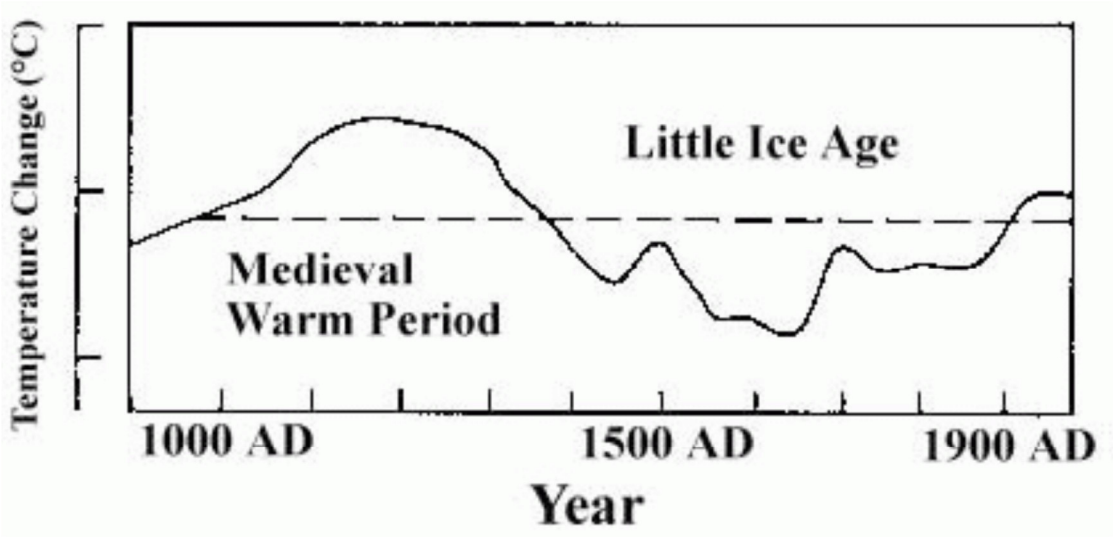
- Human $CO_2$ emissions are the main cause of global warming.
- If human $CO_2$ emissions are not curtailed (ASAP), catastrophic global warming will occur.

To explain a little more about the basic theory, the effect of $CO_2$ by itself is known from laboratory measurements to be logarithmic and not large. A doubling of $CO_2$ concentration in the atmosphere over the next hundred years will only lead to between 0.8 to 1.0 degree Celsius increase in average global temperature. The logarithmic nature of the effect means that if a doubling of $CO_2$ concentration from 200 to 400 ppm will lead to a 1 degree increase in global temperature then a further doubling from 400 to 800 ppm will be required to obtain a further 1 degree increase in temperature. The enhanced greenhouse effect is postulated in order to produce significantly greater increases in average global temperature. Basically it is a positive feedback mechanism where the slightly increased temperature causes an increase in evaporation and thus water vapour in the atmosphere, which in turn causes more trapping of heat in the atmosphere and thus significantly increases the temperature by more than would be expected from $CO_2$ alone. In the models this enhancement of the effect of $CO_2$ is represented by a term called the "sensitivity". In order to achieve an increase in temperature of 4 degrees instead of 1 degree a hundred years from now, the model uses a sensitivity of say 4 instead of 1.

We talked about attempts to verify the theory, even though logically it is impossible to prove the theory right.

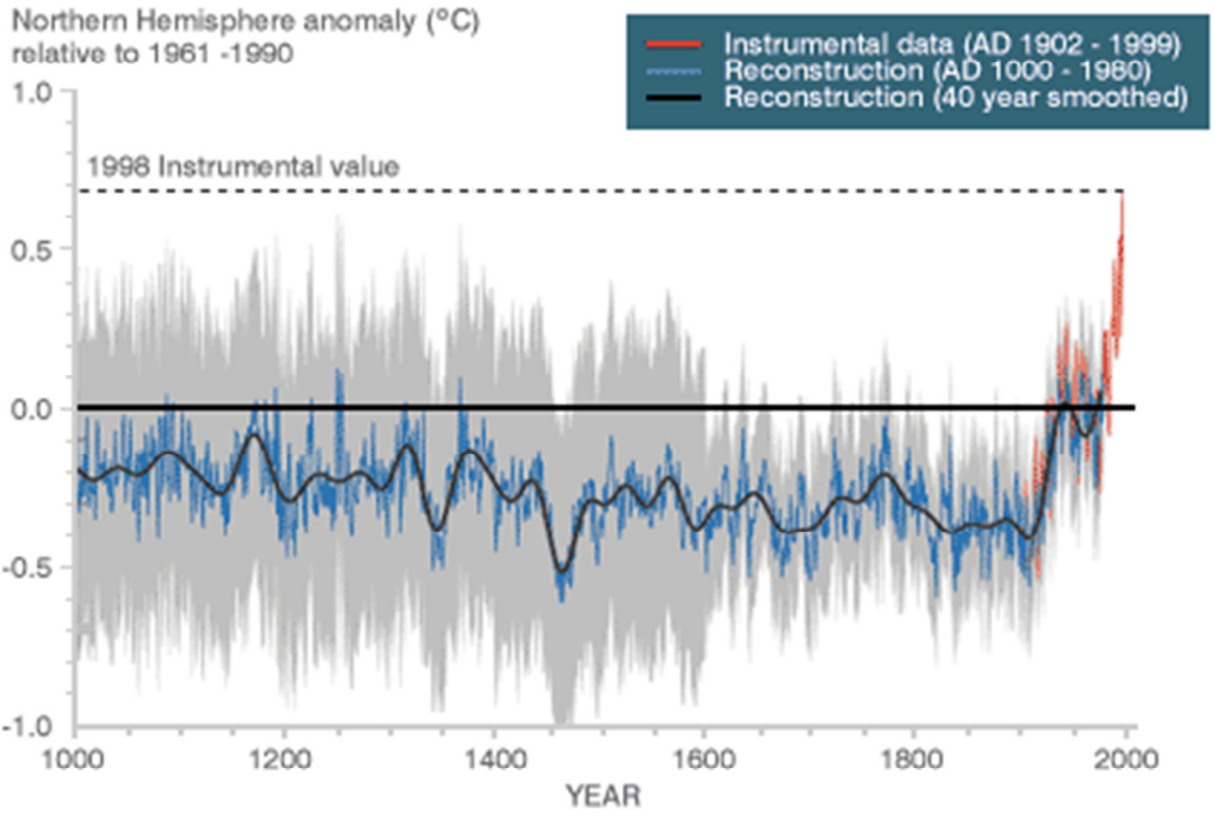
One such attempt was Correlation: that is, there appeared to be a good correlation between increased temperature and increased atmospheric $CO_2$. However as we showed this correlation turned out to be reasonable for the period of the 20$^{th}$ Century, but even then it was difficult to explain the drop in temperature from the 1940s to the 1970s. Going back over the past 400 thousand years, although Al Gore deliberately misled people into thinking there was a good correlation between temperature & $CO_2$ in ice cores taken from Antarctica & Greenland, detailed examination of these ice cores showed that temperature increased before $CO_2$ & decreased before $CO_2$ so that logically it was impossible for $CO_2$ to drive temperature. We don't hear much about ice cores these days as their data is an inconvenient truth the "warmists" would rather avoid.

We talked about Michael Mann & associates & their hockey stick graph, the intention of which was to remove the Medieval Warm Period from history. Around 1000 AD historical & scientific data indicated that the globe was as warm or even a bit warmer than today. This was illustrated in the following graph from the International Panel on Climate Change's (IPCC) 1995 Second Assessment Report.




Clearly as $CO_2$ was constant from 1000 AD to 1900 AD why was the Earth's temperature in 1000AD at least as warm as today?

Mann et al published in 1998 & 1999 two papers which produced the follow graph of temperatures in the Northern Hemisphere:




This graph became the poster child of the IPCC's Third assessment report. It was known as the "hockey stick" graph because it looked like an ice-hockey stick. Clearly the two graphs contradict each other. Mann et al suggested that the earlier graph was mistaken because the data it was derived from related to small parts of Northern Europe only & did not reflect the whole of the Northern Hemisphere let alone the whole globe. We spent a lot of time going through the sordid history of this "hockey stick" graph & its complete debunking by John Daly & then by McIntyre & McKitrick.

**Cherry Picking**

Choosing to make selective choices among competing evidence, so as to emphasize those results that support a given position, while ignoring or dismissing any findings that do not support it, is a practice known as "cherry picking" and is a hallmark of poor science or pseudo-science.[5]

— Richard Somerville, Testimony before the US House of Representatives Committee on Energy and Commerce Subcommittee on Energy and Power, March 8, 2011.

Most of the data from which the hockey stick graph was derived came from the measurement of tree ring widths on ancient trees. Increased tree ring widths implied increased temperature at the tree's location. So by counting the number of rings and their width we can derive a temperature versus time history of the location where the tree grew.

It is very serious to accuse a scientist of cherry picking as it implies they have deliberately hidden or did not disclose evidence that does not fit their theory. For instance in the case of the Michael Mann Hockey stick saga, Mann et al were accused of "hiding the decline". What it meant in this case was that tree ring data from which temperature was inferred, exhibited a drop in tree width with increase in temperature towards the end of the twentieth century. In order to hide this inconvenient data the Mann et al spliced 20th Century thermometer data onto temperatures inferred from tree width data going back to 1000AD. The scientists involved were accused of cherry picking the data that supported the result they wished to obtain. The Canadian commentator Mark Steyn effectively accused Mann of fraud over this & Mann has sued Steyn as a result. Many AGW skeptics are salivating at the prospect of this case going to court as they expect it will lead to Mann being forced to reveal much of the data he has steadfastly refused to provide for examination for more than 15 years.

Now in our topsy turvy world something very strange has happened. So called "climate skeptics" are being accused of cherry picking when they point out evidence contrary to the AGW theory. If I point out that the temperature record has been flat for the last 18 years & that this was not predicted by any of the climate models I am accused of "cherry picking" because I have not considered a longer period.


Published 23 September 2014

> I'm back, with the controversial topic of the so-called 'pause' in global warming. Some parts of the news media incorrectly claim that the climate is no longer warming, but is actually cooling. They get to this conclusion by everything from cherry-picking the data, all the way up to telling big fat fibs.

Here is another example from the Sydney Morning Herald:

---

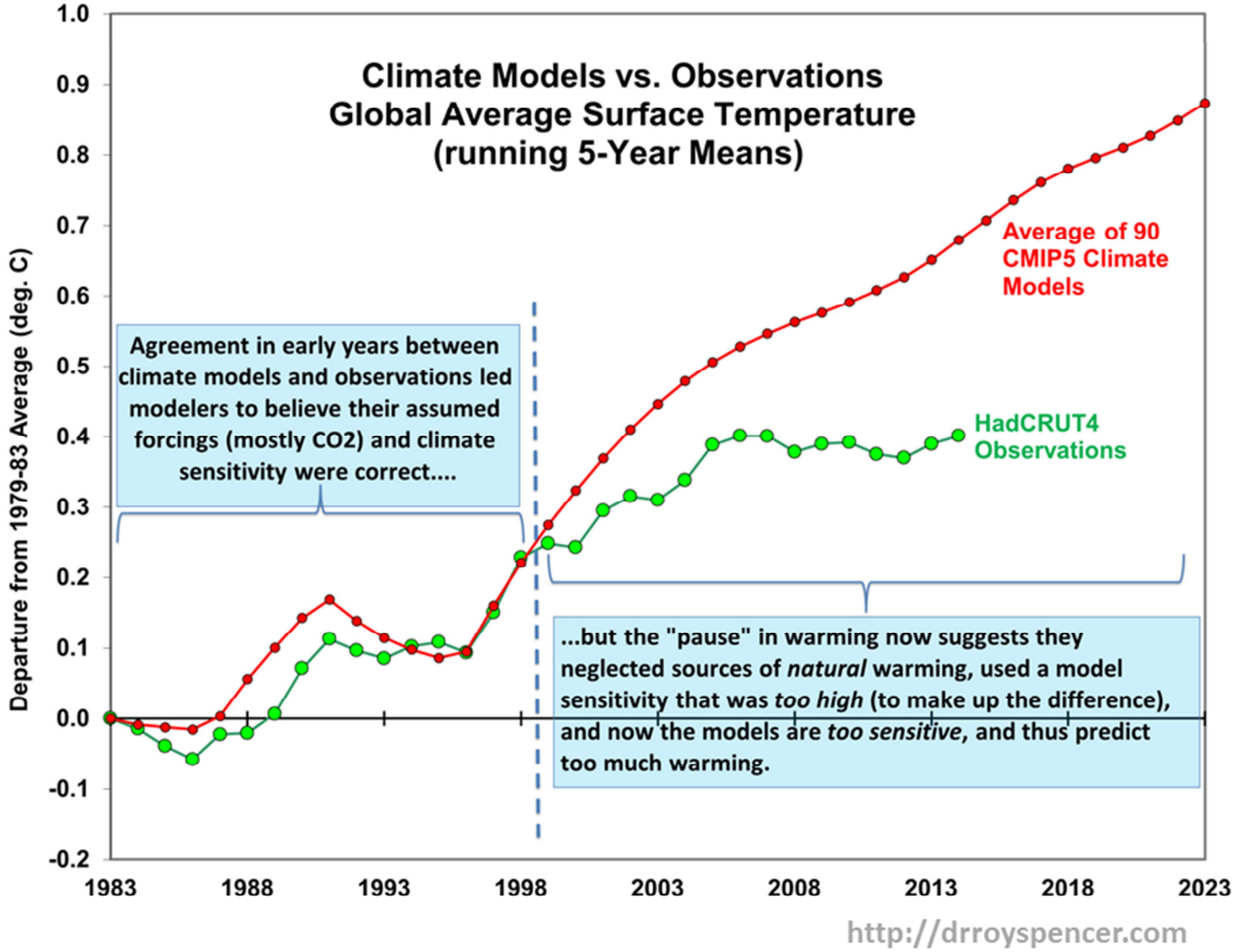
# Climate models don't over-predict warming, Nature study shows

January 29, 2015

**Geoffrey Mohan**

> "Cherry picking" the most recent 15-year interval to refute climate change modeling is misleading and obscures the long-term agreement between the models and measurements, according to study co-author Piers Forster, an atmospheric physicist from the University of Leeds, England.

Here is a graph of what I mean:




[2]

Now let's apply this concept of cherry picking to the above graph. Is it true that the model has failed only for the last 15 years or so? Yes. Does it matter that the model & prediction agree prior to 2003? No. Can I be accused of cherry picking? Let's go back to the definition. Am I making selective choices among competing evidence? Am I hiding anything? No, I am clearly pointing out that the models don't work after 2003, which logically means the theory is wrong.

Let's assume that I am cherry picking. Then let's go back to what we know about the scientific method. It only takes one fact to refute or falsify a scientific theory. So if I am indeed cherry picking in the above graph then the "one fact" to refute a scientific theory must be the most extreme example of cherry picking.

Here is another case. Last time we mentioned Newton's Law of Universal Gravitation & that it was refuted due to one fact; namely the very slight change to the expected period of the orbit of the planet Mercury. When the scientists who measured this had their results confirmed by others, were their results dismissed a just "cherry picking"? Certainly they could have been with far more justification than the above graph's results because for some three hundred years Newton's Law had enormous success & had always been verified. But no, the result was accepted as a refutation of Newton's Law. There may not have been a theory to replace it until Einstein Theory of General Relativity came along but even so, Newton's theory was accepted as wrong.

So what conclusion can we draw from this? I propose a new law:

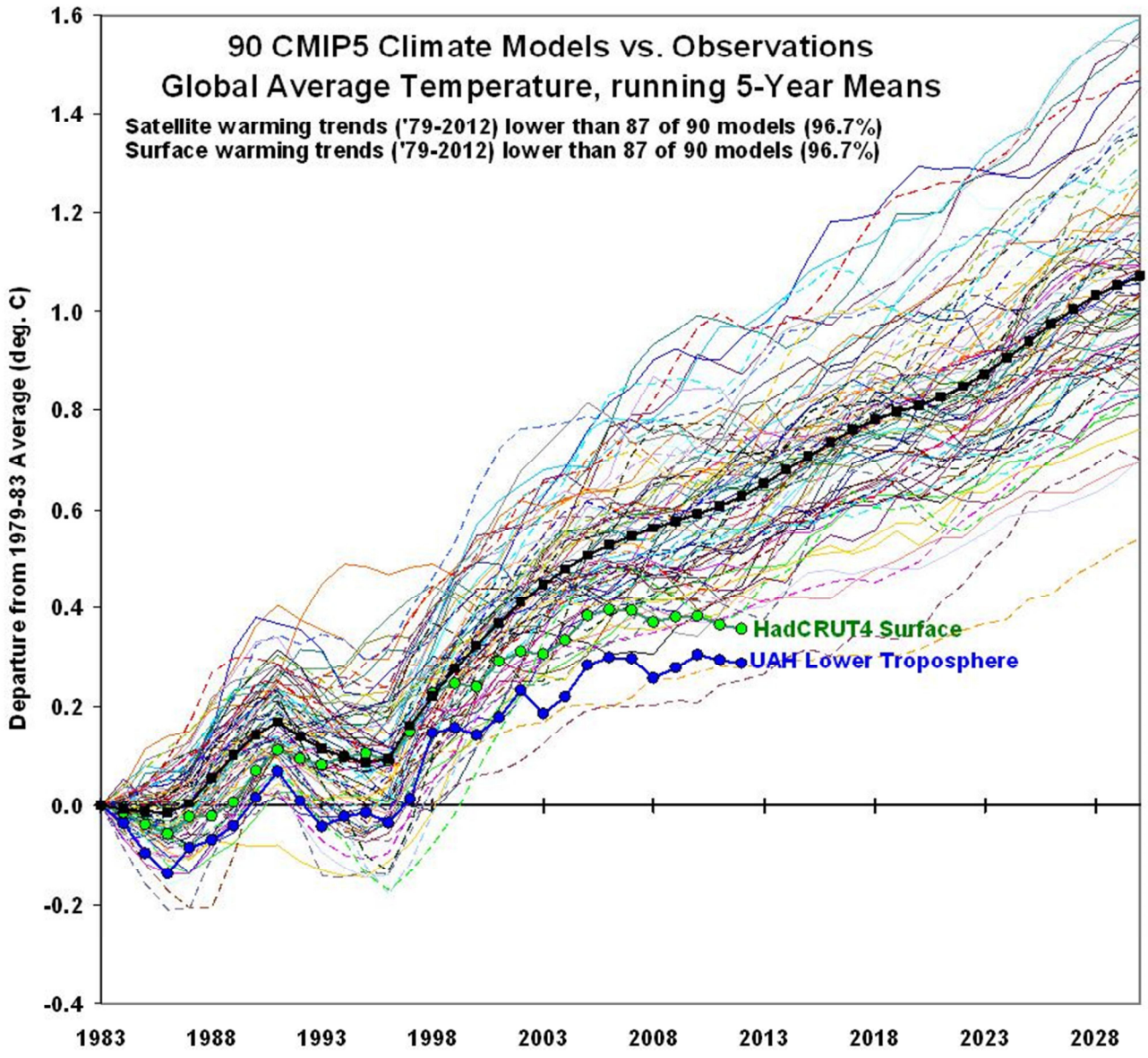
**Mannie's Law of Cherry Picking**

[2] http://www.drroyspencer.com/wp-content/uploads/90-CMIP5-models-vs-observations-with-pause-explanation.png

*Cherry picking is bad when trying to verify a theory.*

*Cherry picking is good when trying to refute a theory.*

Now I have to admit to a sin of omission in displaying the above graph. In order to make obvious the disparity between theory & observation, it does not show the individual 90 models that make up the average. But this can be very revealing. So here is a graph of all the model runs[3]:




A couple of things to note: this graph has extended the model runs out to 2030 whereas the previous graph ended in 2023. The more accurate satellite data is shown in blue & shows an even greater disparity between models & reality. The measurement data ends in 2012 whereas in the previous graph the measurement data ended in 2014.

But an important feature of this graph is the enormous spread in the model data that is hidden when only displaying the average of the 90 models. The IPCC claims that it has more confidence in the accuracy of the average than in any individual model. But such a claim is logically absurd. Each model is a prediction of the future based on the same starting conditions and expected growth in $CO_2$. What makes one model's results

[3] http://www.drroyspencer.com/2013/10/maybe-that-ipcc-95-certainty-was-correct-after-all/

better than another's? What magical property of an average gives us more confidence in its accuracy? Surely the scientific thing to do would be to reject all models that deviate from reality & only keep what remains as still not having been refuted by experiment or observation. The trouble with that approach is the models that would be kept would predict a much lower temperature in 2100 & therefore the catastrophic global warming prediction would disappear. The claim of greater confidence by the IPCC in the average of the models is a scientific fraud.

**Other Theories**

It is estimated that tens of billions of dollars has been spent on climate research modelling and yet they have got it wrong. Why? One possible answer is given by the IPCC:

When climate scientists talk about predicting the future climate, they are almost always using GCMs and this is what the IPCC[4] has to say about GCMs:

> In climate research and modelling, we should recognize that we are dealing with a coupled non-linear chaotic system, and therefore that the long-term prediction of future climate states is not possible.

When climate modellers are asked why they believe their models are right and that the enhanced greenhouse ($CO_2$) effect is the major cause of the late 20$^{th}$ Century warming and therefore will be the cause of future catastrophic global warming their answer has been that the only way their models can reproduce the warming of the 20$^{th}$ Century is via the enhanced greenhouse effect. In other words they have considered every possible effect and without the enhanced greenhouse effect it is not possible for their models to reproduce the 20$^{th}$ Century warming.

When you think of it, this is a pretty arrogant position to take. These people are in essence saying that they know everything there is to know, there are no possible other factors that they have not considered.

So let's now discuss some alternate theories or perhaps complementary theories that may contribute to a greater or lesser extent to climate change. A few years ago an interesting paper was published which looks at this:

Seven Theories Of Climate Change by Joseph L. Bast (SPPI, April 22 2010, http://scienceandpublicpolicy.org/reprint/seven_theories.html)

The seven theories are:

a) Anthropogenic Global Warming

b) Bio-thermostat (Nature's Negative Feedbacks)

   i. Carbon Sequestration

Increased concentrations of $CO_2$ in the atmosphere lead to increased sequestration of $CO_2$ from the atmosphere by plants. This could reduce the projected increase in $CO_2$ in the atmosphere from those projected to occur in the models.

   ii. Carbonyl Sulfide

[4] From the IPCC Third Assessment Report (page 774).

Produced in soil and in ocean. Increased concentrations are released into atmosphere with increased soil & ocean temperature. This has a cooling effect but significance is uncertain. Not taken into account by any models

iii. Diffuse Light

As higher levels of $CO_2$ promote greater plant productivity, plants emit greater amounts of gases converted into aerosols called “biosols.” These cooling effects are not adequately included in any computer model of Earth’s climate system.

iv. Iodocompounds

Iodinated compounds, or iodocompounds, are particles formed in sea air from iodine-containing vapours emitted by marine algae. These compounds,..., help create clouds, which reduce the amount of solar radiation reaching the surface... The creation of iodocompounds is stimulated by rising $CO_2$ levels and warmer temperatures.

According to a study published in Nature in 2002, emissions of iodocompounds from marine biota “can increase by up to five times as a result of changes in environmental conditions associated with global change.” A change of this magnitude “can lead to an increase in global radiative forcing similar in magnitude, but opposite in sign, to the forcing induced by greenhouse gases.” In other words, this one biological process could offset all of the warming caused by rising $CO_2$ levels.

v. Dimethyl Sulfide

The amount of biologic dimethyl sulfide (DMS) emitted by the world’s oceans is closely related to sea surface temperature. A study published in the Journal of Geophysical Research in 2000 found DMS was a “very important” negative feedback that could potentially offset the original impetus for warming. The effects of this process are not incorporated into today’s state-of-the-art climate models.

vi. Other Aerosols

The IPCC gives short shrift to the extensive scientific literature on aerosols, estimating their net effect to be just a small fraction of that of $CO_2$. However, a literature survey conducted by Idso and Singer in 2009 indicates the IPCC’s estimate is far too low. Many studies suggest the cumulative negative forcing of aerosols is large enough to completely offset the positive forcing due to rising atmospheric $CO_2$.

c) Cloud Formation and Albedo

A third theory of climate change postulates that changes in the formation and albedo of clouds create negative feedbacks that cancel out all or nearly all of the warming effect of higher levels of $CO_2$. This theory is based largely on observational data reported by a series of researchers, rather than computer models as in the case of the AGW theory.

d) Human Forcings Besides Greenhouse Gases

Another theory of climate change holds that mankind’s greatest influence on climate is not its greenhouse gas emissions, but its transformation of Earth’s surface by clearing forests, irrigating deserts, and building cities.

i. Urban Heat Islands

Advocates of the AGW theory falsely attribute higher temperatures caused by urban heat islands to rising atmospheric $CO_2$ levels.

ii. Aerosols and ozone

Anthropogenic aerosols and ozone have shorter lifetimes than greenhouse gases, and therefore their concentrations are higher in source regions and downwind. Pielke and colleagues estimate the effect of human aerosols on the gradient of radiative heating on regional scales "is on the order of 60 times that of the well-mixed greenhouse gases." With many surface-based temperature stations located in urban or near-urban areas, it is likely they are registering the warming effects of these aerosols and ozone, not $CO_2$.

iii. Deforestation

iv. Coastal development

v. Jet contrails

Anyone living in or near a large city knows that jets often leave trails behind them, called contrails (short for "condensation trails"). Composed of water vapour, they precipitate the creation of low clouds that have a net warming effect. According to a 2006 study published in the International Journal of Climatology, contrails in the U.S. "may cause a net warming of the surface rivalling that of greenhouse gases" and "in certain regions, contrails already may contribute as much as the present anthropogenic $CO_2$ forcing on climate."

e) Ocean Currents

f) Planetary Motion

g) Solar Variability

i. Evidence of a Solar Effect

ii. Solar Wind Modulation of Cosmic Rays

A 2002 study published in Science found the intensity of cosmic rays varies by about 15 percent over a solar cycle, which in turn is associated with variation in low cloud amount over a solar cycle by about 1.7 percent. This change in cloud cover corresponds to a change in the planet's radiation budget of about one watt per square meter (1 $W/m^2$). This change, the authors wrote, "is highly significant when compared ... with the estimated radiative forcing of 1.4 $W/m^2$ from anthropogenic $CO_2$ emissions." This theory of cosmic ray modulation of the cloud cover is also known as the Svensmark Theory.

Two other scientists, Jan Veizer, Distinguished University Professor (emeritus) of Earth Sciences at the University of Ottawa, and Nir J. Shaviv of the Racah Institute of Physics at The Hebrew University of Jerusalem, found in 2003 that between two-thirds and three-fourths of the variance in Earth's temperature over the past 500 million years may be attributable to cosmic ray flux. Once this is taken into account, they say, a doubling of the air's $CO_2$ concentration could account for only about a 0.5°C increase in global temperature, about the same increase found by many other scientists who dispute the AGW theory.

iii. Solar-Arctic Connection

There is no way in the time available that we could hope to adequately describe all the alternate theories and contributions to climate change which have been pointed out above. The important points are:

- Some of the effects have been measured and shown to be significant. That is, of the same order of magnitude but of opposite sign to the contribution of $CO_2$. Most of these effects have not been accounted for in the climate models.

- There is more than one possible theory to explain global warming and they all need to be subjected to stringent testing in order to determine which, if any, are valid.

## Other Developments

### Svensmark

Svensmark's theory of cosmic ray modulation was tested at the Large Hadron Collider facility in Europe in an experiment known as "CLOUD". The results of the experiment corroborated the theory or rather, was unable to refute it.

This is how it was described in the Australian newspaper by David Archibald[5] who coincidentally addressed the Club twice in the past:

> The Intergovernmental Panel on Climate Change and its acolytes pay scant attention to any science, however strong the empirical evidence, that may relegate human causes to a lesser status.
>
> This mindset sought to bury the results of Danish physicist Henrik Svensmark's experiments using the Large Hadron Collider, the world's most powerful particle accelerator. For the first time in controlled conditions, Svensmark's hypothesis that the sun alters the climate by influencing cosmic ray influx and cloud formation was validated. The head of CERN, which runs the laboratory, obviously afraid of how this heretical conclusion would be received within the global warming establishment, urged caution be used in interpreting the results "in this highly political area of climate change debate". And the media obliged.

There is not much more we can say about Svensmark's theory other than it does not look like it is going away any time soon, despite the efforts of the media to suppress it.

### Homogenization & Temperature Adjustments

A strange phenomenon has been observed over the last few years. Past temperatures have been changing & all in the same direction – downwards. How is this possible? Are we in some sort of Sci Fi movie where a parallel universe is intersecting with ours & the laws of cause & effect are breaking down?

Actually two strange things have been happening.

1. For very many sites around the world the temperature history of the site looks nothing like the original raw temperature data. The adjustments to the raw data is called "homogenization."
2. Over the last several years, "improvements" have been made to the homogenization algorithms that appear to have always led to a decrease in past temperatures.

The end result of this process has been to increase the apparent rate of warming of the globe.

[5] The Australian, August 14, 2014

There was an article by Willis Eschenbach on the web site *Watt's Up With That?* On December 8, 2009. Its title is "The Smoking Gun At Darwin Zero". In it he describes the homogenization process & how it affected the temperature history of Darwin. I shall quote from Eschenbach's article:

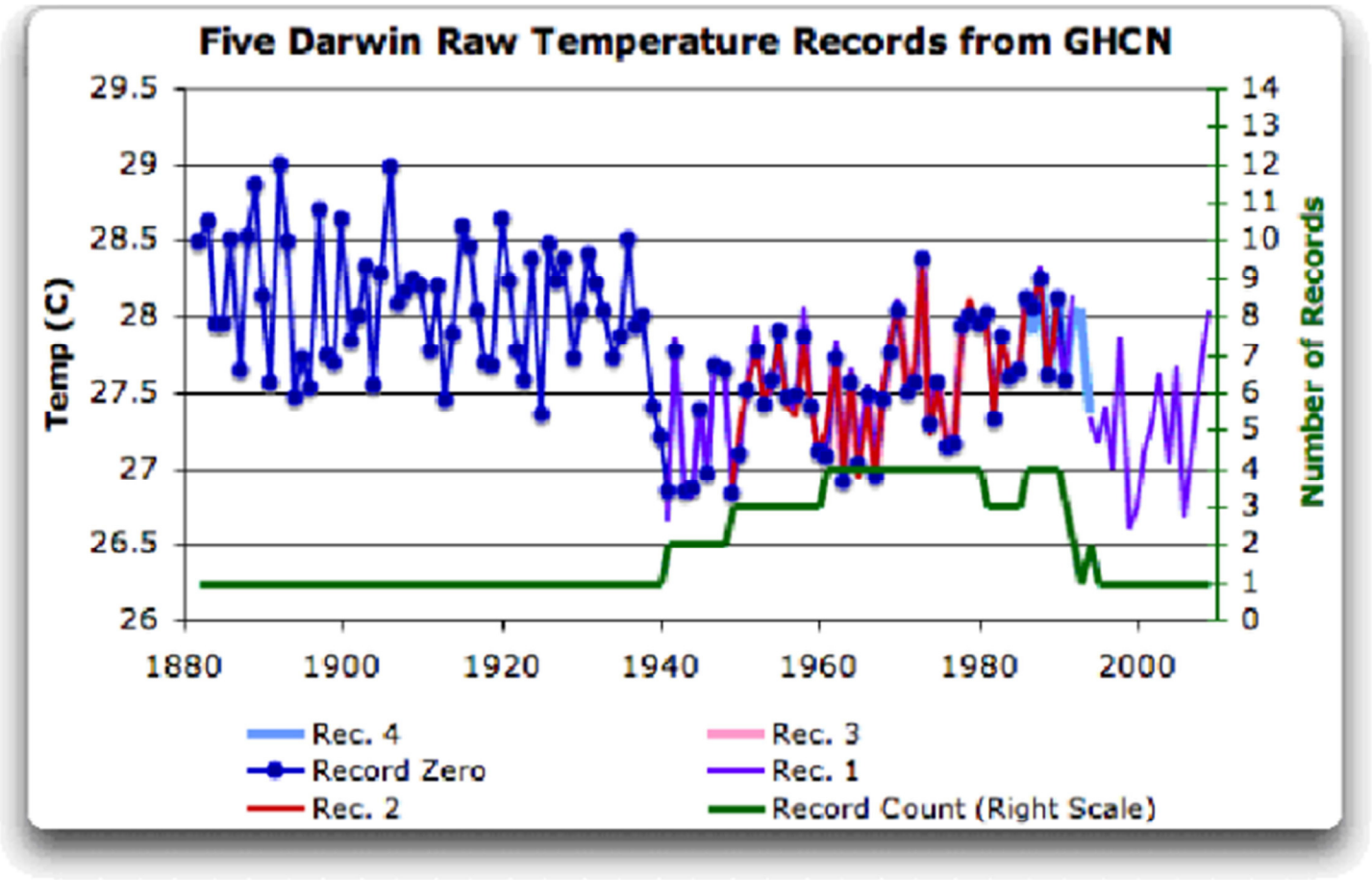
"There are three main global temperature datasets. One is at the CRU, Climate Research Unit of the University of East Anglia... One is at NOAA/GHCN, the Global Historical Climate Network. The final one is at NASA/GISS, the Goddard Institute for Space Studies. The three groups take raw data, and they "homogenize" it to remove things like when a station was moved to a warmer location and there's a 2C jump in the temperature. The three global temperature records are usually called CRU, GISS, and GHCN. Both GISS and CRU, however, get almost all of their raw data from GHCN. All three produce very similar global historical temperature records from the raw data."

"GHCN adjusts the data to remove what it calls "inhomogeneities". So on a whim I thought I'd take a look at the first station on the list, Darwin Airport, so I could see what an inhomogeneity might look like when it was at home. And I could find out how large the GHCN adjustment for Darwin inhomogeneities was.

"First, what is an "inhomogeneity"? I can do no better than quote from GHCN:

*"Most long-term climate stations have undergone changes that make a time series of their observations inhomogeneous. There are many causes for the discontinuities, including changes in instruments, shelters, the environment around the shelter, the location of the station, the time of observation, and the method used to calculate mean temperature. Often several of these occur at the same time, as is often the case with the introduction of automatic weather stations that is occurring in many parts of the world. Before one can reliably use such climate data for analysis of longterm climate change, adjustments are needed to compensate for the nonclimatic discontinuities.*

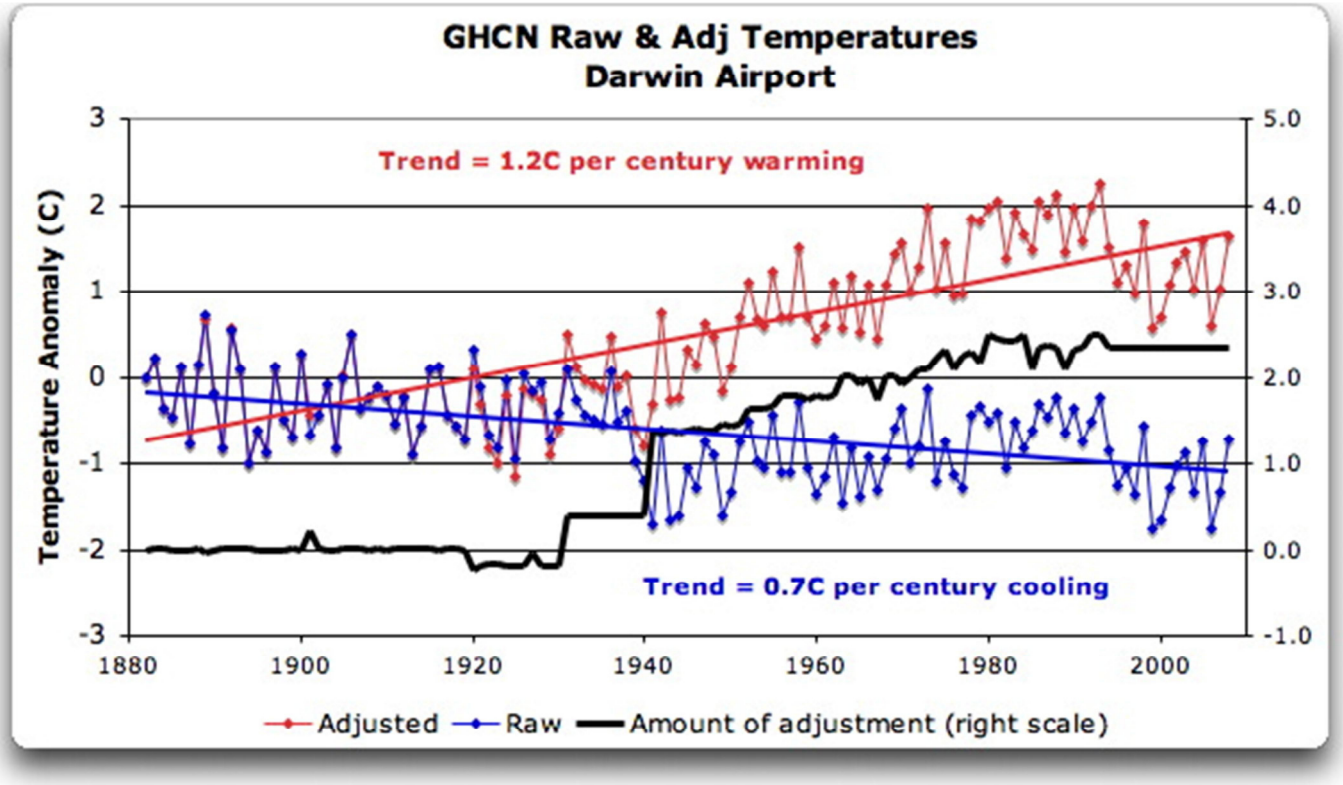
"That makes sense. The raw data will have jumps from station moves and the like. We don't want to think it's warming just because the thermometer was moved to a warmer location. Unpleasant as it may seem, we have to adjust for those as best we can."




Five individual temperature records for Darwin, plus station count (green line). This raw data is downloaded from GISS, but GISS use the GHCN raw data as the starting point for their analysis.

"Then I went to look at what happens when the GHCN removes the "in-homogeneities" to "adjust" the data. Of the five raw datasets, the GHCN discards two, likely because they are short and duplicate existing longer records. The three remaining records are first "homogenized" and then averaged to give the "GHCN Adjusted" temperature record for Darwin.

"To my great surprise, here's what I found. To explain the full effect, I am showing this with both datasets starting at the same point (rather than ending at the same point as they are often shown)."

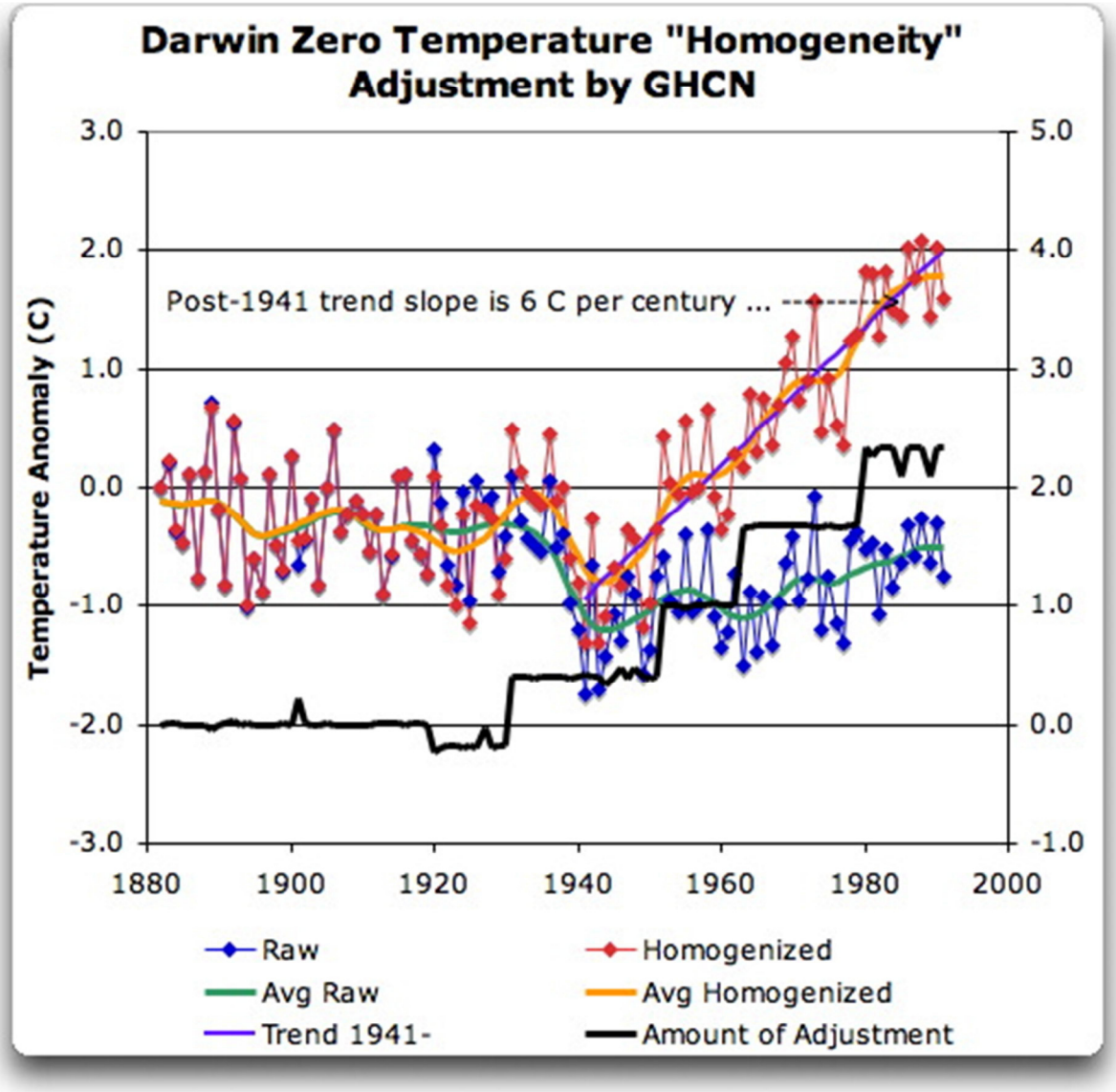



GHCN homogeneity adjustments to Darwin Airport combined record

“YIKES! Before getting homogenized, temperatures in Darwin were falling at 0.7 Celcius per century … but after the homogenization, they were warming at 1.2 Celcius per century. And the adjustment that they made was over two degrees per century … when those guys “adjust”, they don’t mess around. And the adjustment is an odd shape, with the adjustment first going stepwise, then climbing roughly to stop at 2.4C.

“Intrigued by the curious shape of the average of the homogenized Darwin records, I then went to see how they had homogenized each of the individual station records. What made up that strange average in …. [the] Fig? I started at zero with the earliest record. Here is Station Zero at Darwin, showing the raw and the homogenized versions.”

“Intrigued by the curious shape of the average of the homogenized Darwin records, I then went to see how they had homogenized each of the individual station records. What made up that strange average shown in Fig. 7? I started at zero with the earliest record. Here is Station Zero at Darwin, showing the raw and the homogenized versions.”




Darwin Zero Homogeneity Adjustments. Black line shows amount and timing of adjustments.

“Yikes again, double yikes! What on earth justifies that adjustment? How can they do that? We have five different records covering Darwin from 1941 on. They all agree almost exactly. Why adjust them at all? They’ve just added a huge artificial totally imaginary, six degree per century trend to the last half of the raw data… And in the shape of a regular stepped pyramid climbing to heaven? …

“Those, dear friends, are the clumsy fingerprints of someone messing with the data Egyptian style … they are indisputable evidence that the “homogenized” data has been changed to fit someone’s preconceptions about whether the earth is warming.”

At the time this exposure of the questionable adjustments to Darwin’s temperature record was dubbed “Darwin Gate”. It made it to “The Telegraph” in the UK, but soon was deliberately forgotten by the media.

Dr Jennifer Marohasy who addressed the Club some years ago has had more success recently in raising public interest in the questionable homogenization techniques of the Australian Bureau of Meteorology. Here is an excerpt from one of Dr Marohasy’s blog posts:

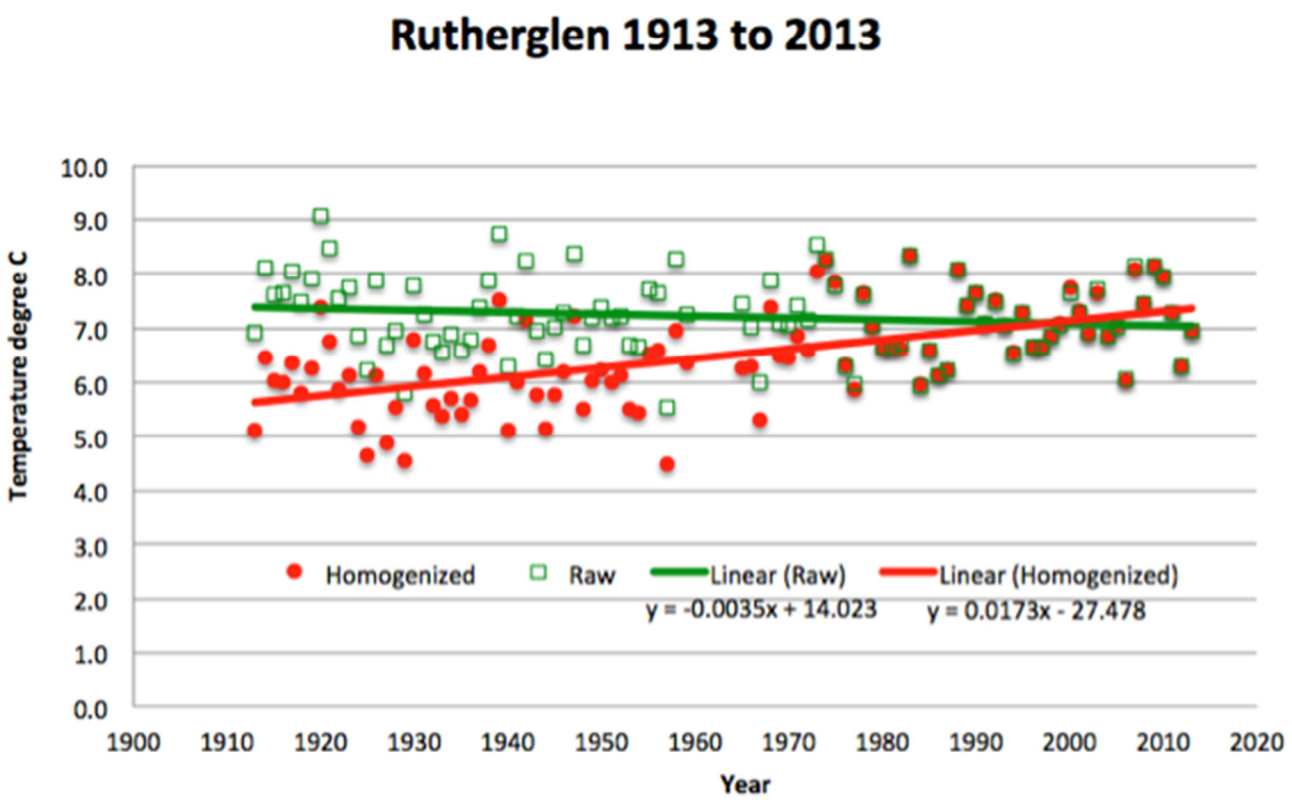
**Heading: Who’s going to be sacked for making-up global warming at Rutherglen?**

August 27, 2014

“HEADS need to start rolling at the Australian Bureau of Meteorology. The senior management have tried to cover-up serious tampering that has occurred with the temperatures at an experimental farm near Rutherglen in Victoria. Retired scientist Dr Bill Johnston used to run experiments there. He, and many others, can vouch for the fact that the weather station at Rutherglen, providing data to the Bureau of Meteorology since November 1912, has never been moved.

Senior management at the Bureau are claiming the weather station could have been moved in 1966 and/or 1974 and that this could be a justification for artificially dropping the temperatures by 1.8 degree Celsius back in 1913.

Surely its [sic] time for heads to roll!”




“The temperature record at Rutherglen has been corrupted by managers at the Australian Bureau of Meteorology.”

Dr Marohasy has produced a number of blog posts which document a plethora of sites in Australia where questionable homogenization has been applied. It has been picked up in “the Australian” newspaper. This, in turn has led to the Australian government appointing a panel to review the official national temperature record for Australia. I suspect this will end up in a white-wash, but you never know.

But this questionable homogenization of temperature records is a world-wide phenomenon. It has also been picked up by Christopher Booker in “the Telegraph”, where he notes that “The Global Warming Policy Foundation (GWPF) has enlisted an international team of five distinguished scientists to carry out a full inquiry into just how far these manipulations of the data may have distorted our picture of what is really happening to global temperatures.” Why does there need to be an enquiry? Because meteorological organizations throughout the world steadfastly refuse to release detailed information on how they homogenize the temperature data. The fact that all these organizations are publicly funded & their government employers avoid doing anything about it, speaks volumes.

**Conclusion**

Another trend that has occurred in the market place of ideas is the growing tendency for the “warmist” advocates to substitute ad hominem attacks for rational debate. This is a good sign. It means they have lost the argument & it inspires more skeptics with confidence that they will eventually win.

It has also led to other movements for the fossil fuel divestment, where pressure is placed on organizations & individuals to divest themselves of any investment they have in the fossil fuel industry. When I said earlier that climate change is the "the greatest moral, economic and social challenge of our time", it is because of the consequences of actually reducing our $CO_2$ emissions. All the scientific arguments will be trumped by the moral argument if we let the “warmists” convince the world that $CO_2$ emissions are somehow evil. It is a well-known economic fact that if you raise the cost of a good its consumption will be reduced. Those people least able to pay for the good, namely the poor, will suffer the most when the cost is raised. Our standard of living, indeed our civilization is founded on the availability of cheap energy. 87% of the world’s energy consumption comes from fossil fuels. If we reduce its availability by raising its cost or by legislation we will further impoverish & starve the poor. This is a moral issue & the “warmists” do not wish to be confronted with the moral consequences of their utopian schemes. Luckily for us someone has decided to dedicate his considerable talent & energies to fighting the battle on this front. His name is Alex Epstein & he has written a book with the title “The Moral Case For Fossil Fuels”. It is a well argued, well documented, readable book that proves the moral case fossil fuels & continued $CO_2$ emissions. I cannot commend it too highly.

Much has happened over the last 6 years but no new evidence has bolstered the case for the “warmists”. All the evidence is pointing more strongly to the conclusion the “Climate Change Emperor” has no clothes.