

The Modelling History of Climatology

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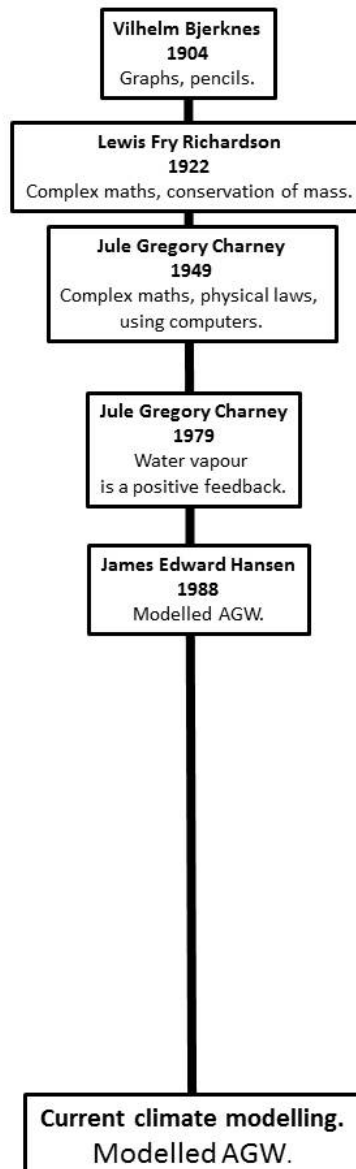
The Modelling History of Climatology

By Derek Alker,
with contributions from Alan Siddons and Hans Schreuder
October 2015

We have always wanted to know what the weather will be in the future; hence there are so many old sayings about it. Today it seems a natural progression that we try to predict the weather over as long a time scale as possible by using the most powerful tools available to us - computers. But what is the history of current computer climate modelling? Can it be traced? If so, what is the basis of what is modelled?

Current computer climate modelling and the rise of Anthropogenic Global Warming (AGW) can most simply be traced through the following time-line:

The Climatology modelling timeline (1).



Specific published academic papers that represent the first five steps in this time-line are listed in the reference section after this article and where possible links are provided to their online sources.

The first five steps will be attempted to be explained in a brief way below. It is probably the case that the first step was indeed the biggest single step.

Step 1 - Vilhelm Bjerknes 1904

The late 19th and early 20th Century was a chaotic time for science. There were so many new discoveries being made and it almost seemed that each new discovery would, inevitably, lead to yet another new discovery. Some of these new discoveries lead to new understandings and yet more new theories. Many scientists were rushing to be the first to publish new findings and to be the first to publish a new theory. All were clamouring to be the first to be credited and applauded for a new discovery or a new theory. With that came funding for further research; funding being the life blood without which a professional scientist can not continue his academic work. Indeed, how climate modelling chased funding can be said to have become ever more important to the science over the years and has actually determined what modern climate science is.

This book provides an excellent account of the new science - Appropriating the Weather: Vilhelm Bjerknes and the Construction of a Modern Meteorology -

http://www.amazon.co.uk/Robert-Marc-Friedman/e/B001H6PVXM/ref=dp_byline_cont_book_1

by <https://www.hf.uio.no/iakh/english/people/aca/robertfr/>

In 1891 Vilhelm Bjerknes (the son of Norwegian physics professor Carl Anton Bjerknes) went to Germany to defend his father's applied mathematics and aether based works with Hertz. He was beaten to publishing that experimental and mathematical defence of his father's work by two weeks because a Swedish "informer" had told French physicist Poincare, who promptly put together his own mathematics only paper and published it before Vilhelm Bjerknes published his. Vilhelm Bjerknes, because he was not the first to publish, had little choice but to return to Norway as a physics professor. Albeit, a physics professor with a failing career in 1893.

Vilhelm decided upon a new direction - that of applied mathematics of accepted physics to an area no one had done before - weather prediction. The calculations were far too complex, although they were "merely" seven partial differential equations. From these equations Bjerknes devised a 'graph and pencil' system, drawn on maps. He thought the weather was simply too difficult to ever be calculated, even if or when mechanical computing machines (computers) were to be invented.

After publishing his 1904 academic paper Vilhelm obtained government funding and Vilhelm's son (Jacob) started to work with him. A series of newspaper articles (an extended and simplified version of the academic paper, deliberately written and aimed at public understanding of the approach) was also published in 1904 to gain approval for his weather forecasting approach from fishermen, farmers, and aviators. Their work became the Bergen school, which made great advances in meteorology.

At this point, all seemed well with the maths and physics used. The approach was undoubtedly advancing the science of meteorology, by improving our understanding of weather. Particularly by improving what it is thought is happening at the larger scale, which causes the weather we experience.

Wikipedia describes the Bergen school and its contributions thusly

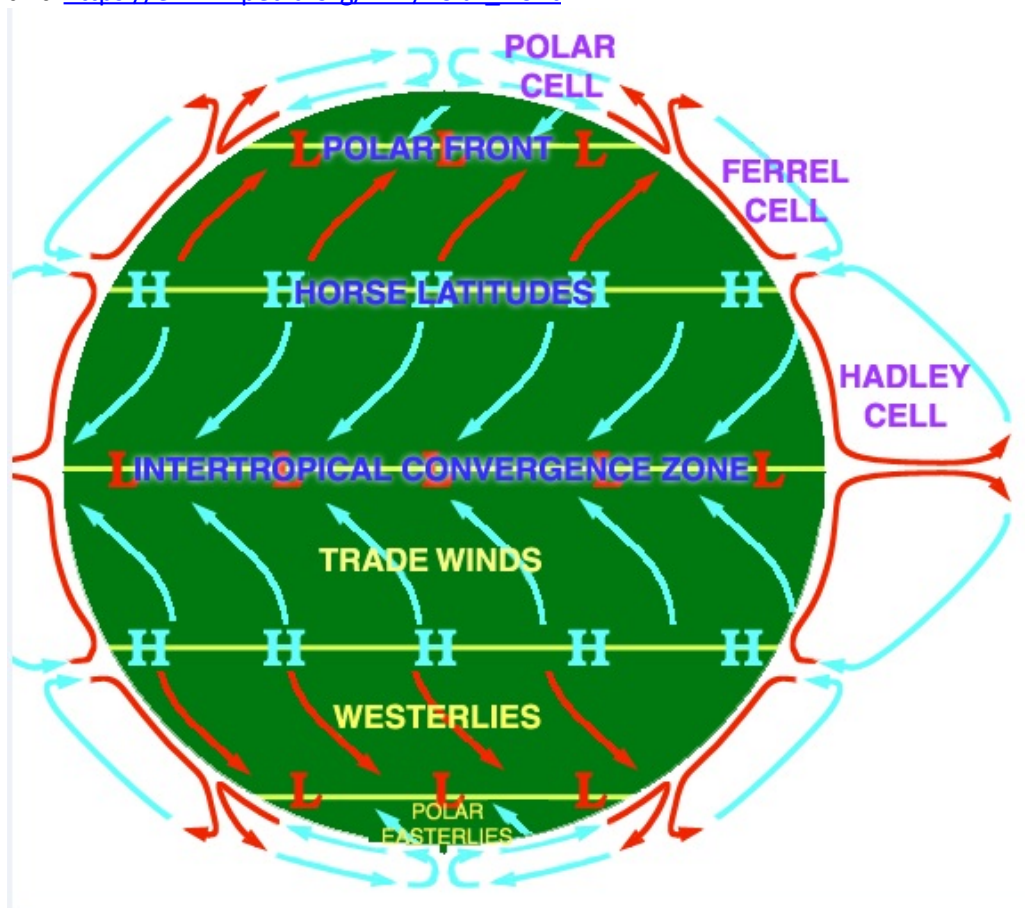
https://en.wikipedia.org/wiki/Bergen_School_of_Meteorology

"The "Bergen School of Meteorology" is a school of thought which is the basis for much of modern weather forecasting.

Founded by the meteorologist Prof. Vilhelm Bjerknes and his younger colleagues in 1917, the Bergen School attempts to define the motion of the atmosphere by means of the mathematics of interactions between hydro- and thermodynamics, some of which had originally been discovered or explained by Bjerknes himself, thus making mathematical predictions regarding the weather possible by systematic data analysis. Much of the work was done at the Geophysical Institute, University of Bergen, in Bergen, Norway."

See also https://en.wikipedia.org/wiki/Norwegian_cyclone_model

and https://en.wikipedia.org/wiki/Polar_front



Carl-Gustaf Rossby was a student at, and of, the Bergen School.

https://en.wikipedia.org/wiki/Carl-Gustaf_Rossby

https://en.wikipedia.org/wiki/Rossby_wave

"Atmospheric Rossby waves emerge due to shear in rotating fluids, so that the Coriolis force changes along the sheared coordinate. In planetary atmospheres, they are due to the variation in the Coriolis Effect with latitude. The waves were first identified in the Earth's atmosphere in 1939 by Carl-Gustaf Arvid Rossby who went on to explain their motion."

It would seem that the Bjerknes 1904 paper and the Bergen school it helped create laid down the basis of modern meteorology, but not in a strictly, or only mathematical modelling manner. Bjerknes did not think such was possible, then, or in the foreseeable future.

Step 2 – Lewis Fry Richardson 1922

Lewis Fry Richardson was a brilliant mathematician, and physicist, who preferred to work alone. He decided to try and make a 'mathematical calculations only' approach based on the Bjerknes modelling approach. He incorporated a more complex grid system for modelling the weather. Although he altered some of the equations Bjerknes had used, they were basically the same equations that Bjerknes drew up and with which Richardson calculated (albeit much more complex, because Richardson added many more factors than Bjerknes had taken into account).

Although Richardson had little or no previous experience of (or academic training in) meteorology, he is widely regarded as the 'father' of modern-day computer climate modelling, which is still using the very same accepted physics of the day. The 'radiative transfer theory' basis within climate models was never questioned. That was simply the "accepted physics" on which the models operated.

The method devised by Richardson proved to be impractical at the time of its publication. Richardson himself dreamed of the day computers could be used to do the calculating required. However, being a scientist, he did an experiment. He calculated a weather forecast from a start point. The calculation took in real time about 2 years for him to complete, although Richardson said he did it in his spare time, in 6 weeks' worth of work that was spread over 2 years. The results of his trial 6 hours ahead forecast were little short of outlandish, not to mention a little behind the weather it was trying to predict. His work was generally interpreted as being far too slow and far too complex to calculate at the time, and it did not give anywhere near the right answer. It seemed of little use or practical application to anyone. His works as described in his 1922 book were forgotten about as an interesting, but massively over complex, and seemingly useless, direction.

Yet, it was the same (7 partial differential equations) direction of the undoubtedly successful Bergen school modelling approach that Vilhelm Bjerknes started in 1904!

Step 3 – Jule Gregory Charney 1949

After the Second World War the world was a different place in many important respects. On both sides of the conflict, computers had been developed; in effect the computer was reinvented. The new breed of computers - with some major advances immediately after the war, such as an electronic stored-program digital computer in 1945 and the bipolar transistor in 1947 - changed just about everything.

<https://en.wikipedia.org/wiki/Computer>

In effect, what was too difficult to calculate before the war was very easily calculated just a few years after the war ended. This opened up the possibility that they could be used to calculate Richardson's climate modelling approach. Jule Charney realised this and resurrected Richardson's modelling approach in his 1949 paper,

<http://journals.ametsoc.org/doi/pdf/10.1175/1520-0469%281949%29006%3C0372:OAPBFN%3E2.0.CO;2>

Charney continued his work and the direction of research with John von Neumann, leading in 1951 to the publishing of this paper: <http://www.ccpo.odu.edu/~klinck/Reprints/PDF/charneyTellus50.pdf>

John von Neumann

https://en.wikipedia.org/wiki/John_von_Neumann#cite_note-82

The computing power of computers developed at an incredible pace. Global weather and how it might be thought to develop over time was also seemingly within the powers of computers to calculate. This threw up so many problems for the climate modellers that it is amazing that they ever managed to solve them. However, over the next 20 years or so the problems were slowly dealt with. Not all of them, although many were solved, but was the “solution” the correct answer, or merely the answer that gave what appeared to be “right” answer?

By the late 1960s the climate models had been developed into a steady state model that appeared to produce realistic weather patterns. They appeared to model, to represent, at a global scale, how the overall climate system of earth moves the excess energy (of solar input) at the Equator to the Poles, whilst still maintaining an overall steady state system. A steady state system as dictated by a constant solar input and also the radiative transfer theory as applied to earth in a two parallel plane basis of the modelling. It is an amazing achievement, of that there can be no doubt, but is it right? The modelling did not, and still does not, include the Indian monsoon for example!

It is also a matter of record that the climate modelling predictions at this time were showing global cooling to be the longer term concern, due to human emissions of aerosols. This was in part credited to the work and input of a pioneering young and brilliant climate modeller called James Edward Hansen. Behind the scenes he was known to have shown a depth of understanding of the models and how they worked that very few, if any, had shown to that date.

http://pubs.giss.nasa.gov/docs/1978/1978_Hansen_etal_1.pdf

Despite these advances, climate modelling was grinding to a halt; it was in the doldrums. Yes, some research was continuing, but it was not that “important.” For most scientists it was already far too complex, far too specialised and not of particular relevance because it simply was not good enough at predicting the weather a few days hence, let alone a hundred or more years into the future. Few took seriously the modelled predictions of the time of long term human caused global cooling.

In politics during the 1960s, the relevance of environmentalism had been growing since Rachel Carson published her book Silent Spring - https://en.wikipedia.org/wiki/Silent_Spring

There seemed to be a widely held and growing public concern for the environment. There also seemed to be a growing desire for political action to remedy the causes, to alleviate these concerns, and it was seemingly growing at an ever increasing pace and importance to the public at large.

Politicians such as Al Gore, and bureaucrats like Maurice Strong, realised this growing concern was potentially a very good and rewarding way forward. Politicians of course always want to tax us, especially new taxes to save the planet! What politician could resist that? Equally, what bureaucrat could resist a global problem that required global governance? Environmental concerns became very appealing to those already in power that wanted yet more power. Equally these same concerns became very attractive to the rich that wanted to become even richer. All that remained was how to get everyone on board and how to sell it to the public and the world’s governments. In effect a two pronged approach happened, whether by design or by accident is not the concern of this article.

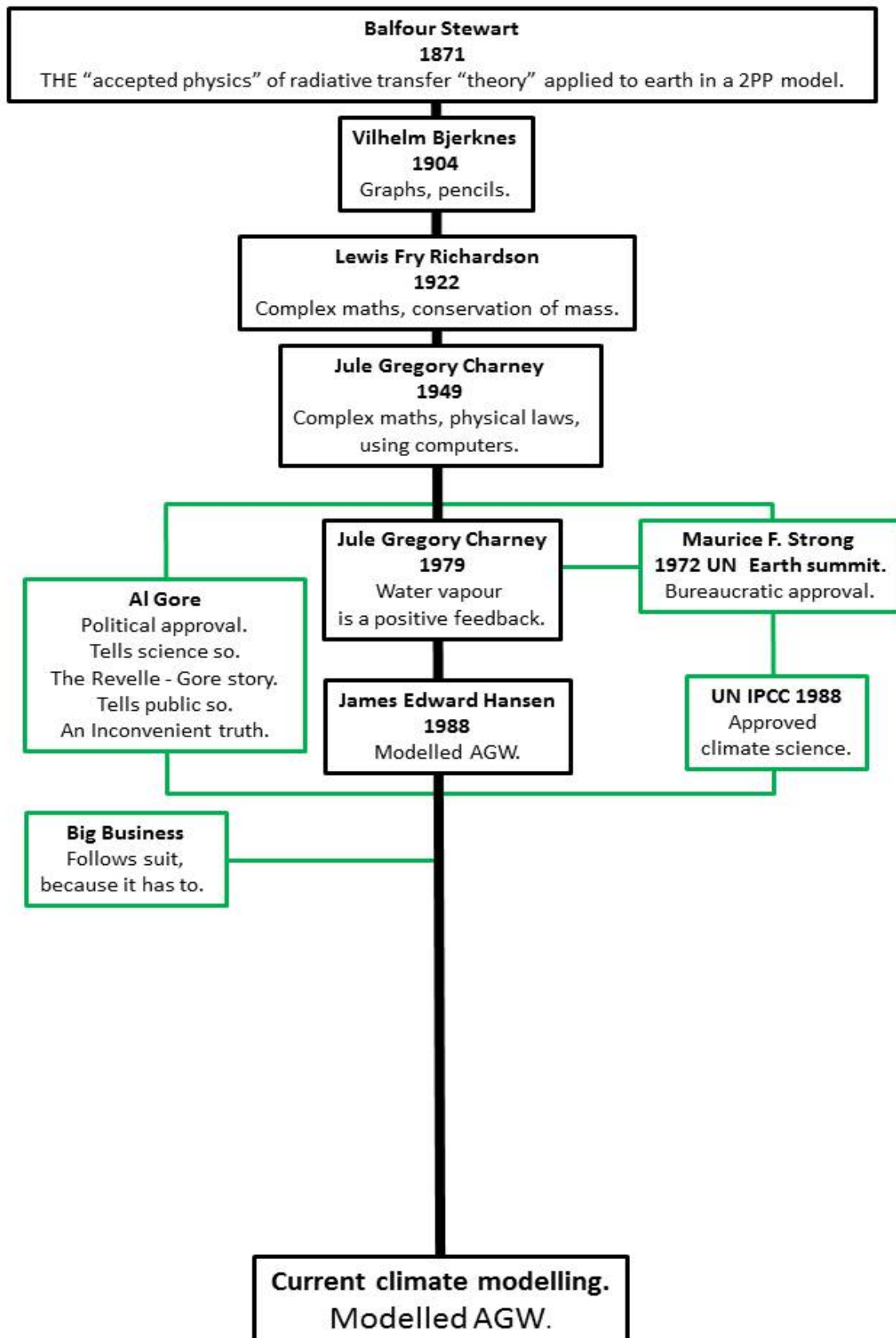
In politics the Revelle - Gore story publicly displayed and proved who was boss between politics and science; politics won hands down, by fair means and foul (when required). From a bureaucratic view point Maurice Strong decided to use the United Nations, as his speech to the 1972 Earth Summit clearly demonstrates.

<http://www.mauricestrong.net/index.php/speeches-remarks3/103-stockholm>

Maurice Strong's 1972 Stockholm speech had a glaring omission. There is no mention of global climate modelling or anthropogenic (man-made) global warming. Why? Quite simply: Anthropogenic Global Warming (AGW) had not been invented yet. If the climate modelling up to that date had shown there was a problem (the {modelled} global cooling fears of the time did not appear to be being taken seriously), Strong would have had to include mention of it in that speech. That he did not is confirmation there was no known "climate" problem at the time. To wit, earth had been in a cooling trend since the late 1940s according to all accepted measurements. So a suggestion of AGW would have seemed, at best, a little odd...

Step 4 – The Charney Reports 1979

The Climatology modelling timeline (2).



As a direct result of the 1972 Stockholm (first) Earth Summit the United Nations set up a new body, the United Nations Environmental Program (UNEP), this was headed by Maurice Strong.

At the first meeting of UNEP

http://www.unep.org/sgb/prev_docs/73_06_GC1_report_%20K7309025.pdf

it was noted that the meaning of an ad hoc study group is as follows:

157. So far as work between annual sessions was concerned, one representative, whose remarks were subsequently supported by others, stated that it would be desirable that certain work should be delegated to technical groups of experts on an ad hoc basis within the limitation of available resources. In his opinion, the members of such ad hoc groups of experts should have the confidence of their Governments, and he suggested that panels might be established from which such experts could be drawn, as was the practice in certain specialized agencies. He added that the Governing Council should exercise technical oversight over such expert groups. At the same time, he urged that the machinery to be devised for carrying out work between sessions should not be institutionalized at this stage. He added that, provided that the necessary documentation was available in good time, it might be advisable to hold a short preparatory meeting before the second session in an established United Nations headquarters.

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The 1979 Charney report describes itself as

Ad Hoc Study Group on Carbon Dioxide and Climate

The members of that group are listed as,

Jule G. Charney, Massachusetts Institute of Technology, *Chairman*
 Akio Arakawa, University of California, Los Angeles
 D. James Baker, University of Washington
 Bert Bolin, University of Stockholm
 Robert E. Dickinson, National Center for Atmospheric Research
 Richard M. Goody, Harvard University
 Cecil E. Leith, National Center for Atmospheric Research
 Henry M. Stommel, Woods Hole Oceanographic Institution
 Carl I. Wunsch, Massachusetts Institute of Technology

The report was, in all but name, a United Nations report that in effect told the American Government, and other governments, as well as academia globally, what the basis of climate science (of man-made global warming) is going to be. The basis of the science had been settled. The most notable change to what was the previous generally held understanding (in fact reversing it) was that water vapour within earth's climate system is a strong positive feedback mechanism (increasing the amount of change in the direction it was changing). That is what the climate models were from then on going to be modelling.

A small amount of (global) warming, whatever the cause, would be magnified, increased, by a (global) positive water vapour feedback. No one objected? Why? Most either did not know, or understand, the significance of the Charney report and the changes it reported in climate modelling.

Climate modelling that had been turned from a steady state to an unsteady state simply by reversing the sign of water vapour feedback. *Crude, very crude, but incredibly effective*. Whether warming (due to human CO2 emissions) or cooling (due to human aerosol emissions) the models were now prepared to model either runaway warming or runaway cooling, all that was required was a control and the preferred direction the models should go in. Up until the late 1970s the world had been cooling, but some suspected there may be a warming phase in the near future, so the models had to be made into an each way bet.

The glaring omission in Strong's 1972 Stockholm speech was that environmentalism, for political and bureaucratic purposes needed a global and imminent concern. Something that is happening. Something that is affecting everyone. Something everyone contributed to. Something that can be proven. Something everyone could understand, and understand how they can help to alleviate by agreeing to new global bureaucratic dictates from the UN.

IF this "something" was also an issue that would allow politicians (globally) to raise new taxes in order to "save the planet", then all the better. But the new unifying concern, the new overall issue, must be certain or at least appear to be so. It would seem a little too obvious to mention but such an issue would also be an extremely well funded research area for scientists. Unsurprisingly it did not take long for climate modelling to step up and offer its services for the cause. That is what the Charney report was doing and that is why no one objected. A cause all could benefit from ... Greatly ... Yes, the basis of the science had been settled, but not completely. Warming or cooling had yet to be decided. In that respect the science had not been settled yet. But it would be in good time.

During the 1970s in the main stream media there was little doubt what the concern was though.

<http://www.populartechnology.net/2013/02/the-1970s-global-cooling-alarmism.html>

THE global, environmental concern was human pollution caused global cooling.

Step 5 - James Edward Hansen 1988

It is a matter of record that James Hansen produced a tremendous number of academic papers about climate science modelling. Between the years 1978 to 1988 he produced at least one a year. It was an amazing feat. He appeared to be a man possessed. That or he was a man working towards a very tight deadline! These papers were all (very) concerned with predictions of human caused global warming. Cooling predictions and fears were plainly yesterday's news.

By 1988 everything was in place for Hansen to make his presentation about the immanent dangers of anthropogenic global warming to a United States subcommittee in June of that year.

The New York Times reported that in Washington, on June 23rd 1988.

<http://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html?pagewanted=1>

"Dr. James E. Hansen of the National Aeronautics and Space Administration told a Congressional committee that it was 99 percent certain that the warming trend was not a natural variation but was caused by a build-up of carbon dioxide and other artificial gases in the atmosphere. "

Hansen's statement as a pdf,

http://climatechange.procon.org/sourcefiles/1988_Hansen_Senate_Testimony.pdf

The science had been settled. The decision had been made. It was to be global warming due to human emissions of carbon dioxide. The "control knob" for the modelled warming was to be greenhouses gases, principally carbon dioxide, as fed into the models by the Bern carbon cycle model results.

Environmentalism had the new global issue it needed, and it had been (supposedly) proven by computer climate modelling.

In 1988 Maurice Strong at the UN set up the Intergovernmental Panel on Climate Change.

<http://www.ipcc.ch/>

In 1989 Al Gore started giving his presentations.

https://en.wikipedia.org/wiki/An_Inconvenient_Truth

“An Inconvenient Truth presents in film form an illustrated talk on climate by Al Gore, aimed at alerting the public to an increasing "planetary emergency" due to global warming, and shows re-enacted incidents from his life story which influenced his concerns about environmental issues. He began making these presentations in 1989 with flip chart illustrations, ”

It has been noted in this article,

<http://www.principia-scientific.org/what-is-the-theory-of-man-made-global-warming.html>

that the United Nations mantra is:

**We humans, by our activities emit carbon dioxide,
this accumulates in the atmosphere,
intensifying the greenhouse effect,
and thus the world warms.**

Clearly by 1988 the scientists, the politicians, and the bureaucrats were all in agreement, the new global environmental issue that concerned everyone, that everyone could understand, and that would be greatly beneficial to all that advocated it was computer modelled anthropogenic global warming.

For climate scientists the ends (securing future research funding) justified the means (computer modelled AGW). However, it remained to be seen if the means would be beneficial to the science of meteorology itself. No doubt many assumed history would repeat itself and that meteorology would make great leaps forward, as the Bergen School had done, so many years earlier.

Step 6 – Current computer modelled AGW.

The general circulation model (GCM) approach James Hansen presented in 1988 seemed complex at the time it was presented, and indeed it was.

https://en.wikipedia.org/wiki/General_Circulation_Model

Wikipedia states -

History

In 1956, Norman Phillips developed a mathematical model which could realistically depict monthly and seasonal patterns in the troposphere, which became the first successful climate model.[3][4] Following Phillips's work, several groups began working to create general circulation models.[5] The first general circulation climate model that combined both oceanic and atmospheric processes was developed in the late 1960s at the NOAA Geophysical Fluid Dynamics Laboratory.[2] By the early 1980s, the United States' National Center for Atmospheric Research had developed the Community Atmosphere Model; this model has been continuously refined into the 2000s.[6]

This modelling base has been further developed -

In 1996, efforts began to initialize and model soil and vegetation types, which led to more realistic forecasts.[7] Coupled ocean-atmosphere climate models such as the Hadley Centre for Climate Prediction and Research's HadCM3 model are currently being used as inputs for climate change studies. [5]

The early GCM (atmosphere only) modelling is described as:

A GCM contains a number of prognostic equations that are stepped forward in time (typically winds, temperature, moisture, and surface pressure) together with a number of diagnostic equations that are evaluated from the simultaneous values of the variables.

Thus ocean models were developed,

Oceanic GCMs (OGCMs) model the ocean (with fluxes from the atmosphere imposed) and may or may not contain a sea ice model.

The atmospheric and oceanic models were then combined to produce,

Coupled atmosphere–ocean GCMs (AOGCMs) (e.g. HadCM3, GFDL CM2.X) combine the two models. They thus have the advantage of removing the need to specify fluxes across the interface of the ocean surface. These models are the basis for sophisticated model predictions of future climate, such as are discussed by the IPCC.

AOGCMs represent the pinnacle of complexity in climate models and internalise as many processes as possible. They are the only tools that could provide detailed regional predictions of future climate change. However, they are still under development.

How were the atmospheric and oceanic models combined? The HadCM3 is probably one of the most important climate models that is directly traceable back to the model, and modelling approach James Hansen presented in 1988. HadCM3 being an abbreviation for, Hadley Centre Coupled Model, version 3, which is a coupled atmosphere-ocean general circulation model (AOGCM) developed at the Hadley Centre in the United Kingdom.

https://en.wikipedia.org/wiki/Hadley_Centre_for_Climate_Prediction_and_Research

It was one of the major models used in the IPCC Third Assessment Report in 2001.

<https://en.wikipedia.org/wiki/HadCM3>

Coupling

The atmospheric model is run for a day, and the fluxes (of heat, moisture and momentum) at the atmosphere-ocean interface are accumulated. Then the ocean model is run for a day, with the reverse fluxes accumulated. This then repeats through the length of the run. Unlike its predecessor HadCM2 there is no need for flux correction—the model climate remains stable and does not significantly drift. The lack of flux correction is cited by the IPCC as one of the advances in modelling since the IPCC Second Assessment Report.[5]

Since 1988 the what seems now relatively simple general circulation model (GCM) approach has been further developed into a much more complex atmosphere-ocean general circulation model (AOGCM) approach. AOGCMs are also commonly referred to as global climate models. It should be noted the AOGCMs, when referred to as global climate models can easily be confused with the much simpler GCMs, because they have the same initials.

The older and much simpler GCMs are currently often used with a much smaller grid scale to produce regional short term (several days typically) weather forecasts, whilst the AOGCMs, are used at a far larger global grid scale to attempt to predict climate changes over far longer time periods. Usually, 100 to 200 years into the future.

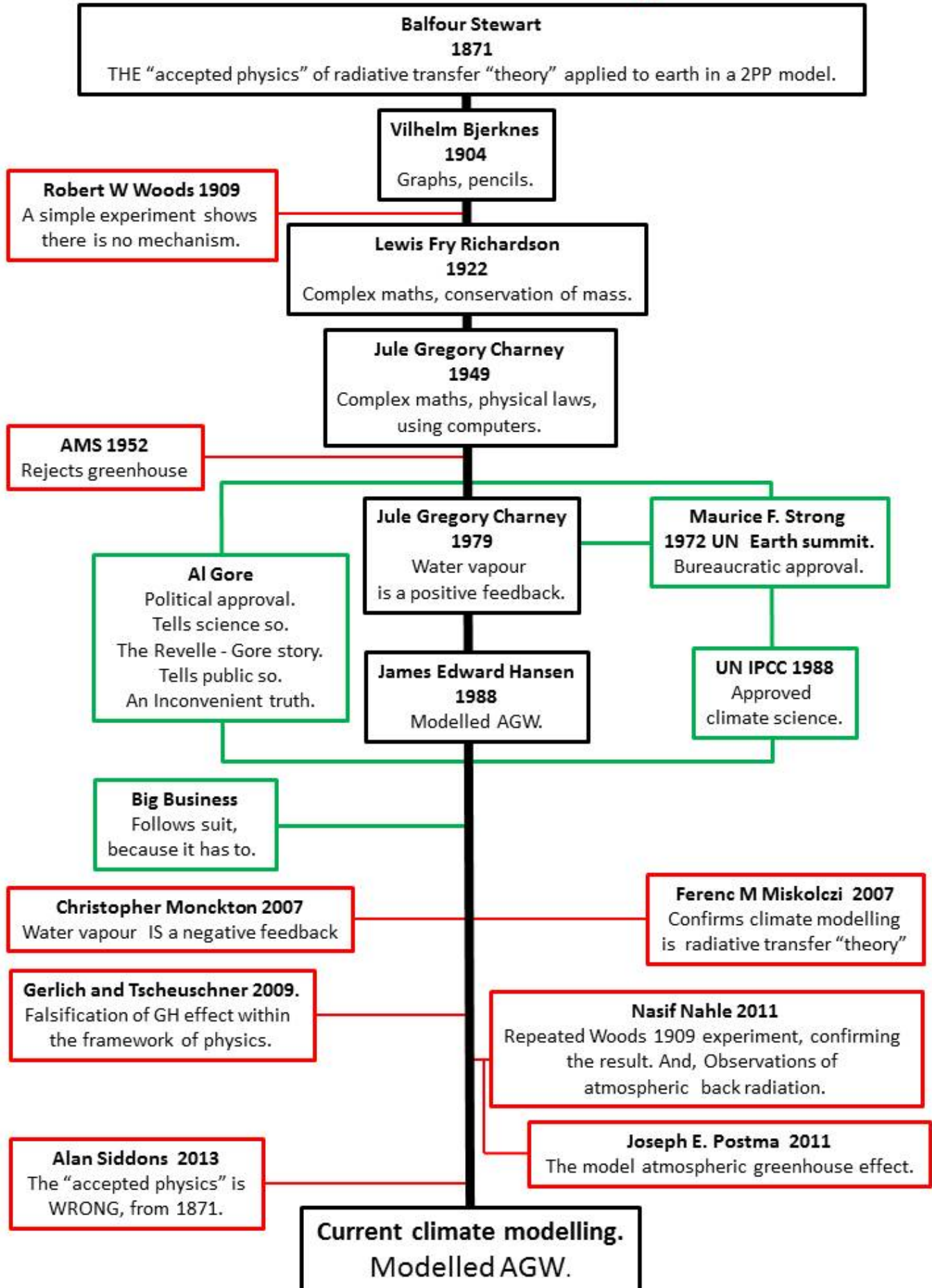
Whether the prediction has been made by GCM for local weather for just a few days in to the future, or the prediction has been made by AOGCM for global climate a hundred or more years in to the future, neither seem to have had much success. Given the massive amount of sometimes brilliant work by so many, over so many years, at such massive cost, it seems reasonable to ask why? WHY has the current computer modelling approach (GCM or AOGCM) had so little success at predicting weather or climate?

In the following sections some of the omissions from the so far described computer climate modelling timeline will be briefly described. However it should be noted, and it cannot be overstated that, earth's climate system is a natural, complex, dynamic yet robust system. It is a climate system that must be dominated by negative feedbacks otherwise it would not be stable. It is also a complex system that must react to changes from a great number of variables, factors, and inputs, which are all constantly changing to some degree or other, and yet the system maintains stability, even under the gaze of the variable star we refer to as the sun!

Interim Conclusion

To model an approach based upon an assumed (black body) steady state of climate that we are supposedly affecting by, and that is significantly and dominantly only affected by, our emissions of carbon dioxide, can only be described as ridiculous, and therefore, inevitably doomed to failure.

The Climatology modelling timeline.
The times when it should have been stopped.



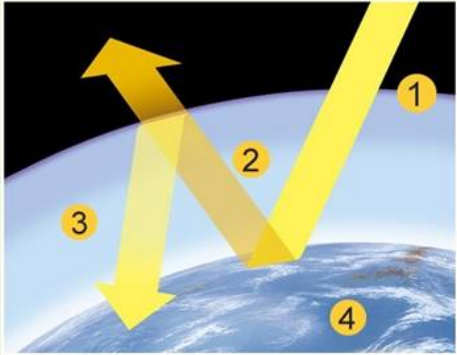
Step 7 - Does current climatology modelling have a future?

Greenhouse effect (GH) “theory”, which is the basis of current climatology modelling whether it be GCM or AOGCM is currently presented to the world in the four, increasingly complicated versions.

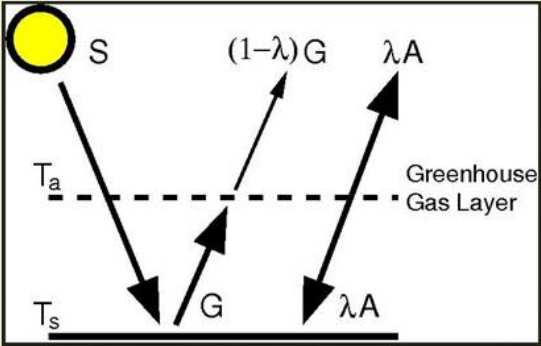
http://www.tech-know-group.com/essays/What_is_Man_Made_Global_Warming_Theory.pdf

In the simplest form GH “theory” is four arrows. 1) Solar input (240W/m²), 2) atmospheric back radiation (240W/m²), 3) earth’s surface emissions (480W/m²), and 4) Outgoing long-wave radiation to space (240W/m²). The arrows are drawn to show (overall) 1 in and 1 out of the system at the top of the atmosphere (TOA), and 2 in and 2 out within the system, between earth’s surface and the atmosphere.

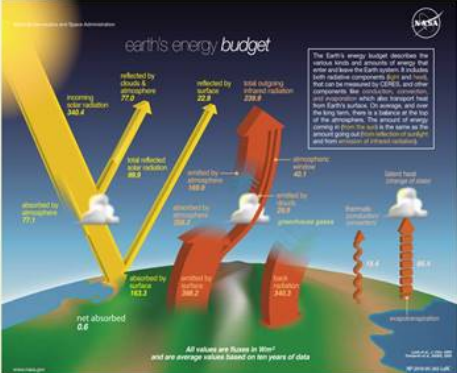
1) “Old” (heat flow) Greenhouse effect “theory”.
The greenhouse analogy



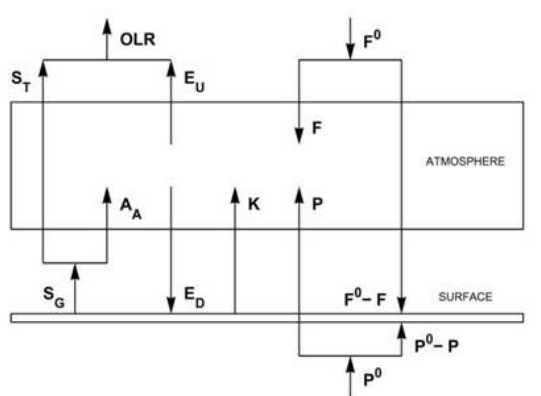
2) “New” simplified, (energy flow) Greenhouse effect “theory”.
Unphysically conserving energy.



3) “New” complex (energy flow) Greenhouse effect “theory”.
Global Energy Budgets (GEBs)



4) Radiative transfer (mathematical) Greenhouse effect “theory”.
A simplified one dimensional model of what is modelled.



GH “theory” in the simplest form views solar input to earth as some reflected at TOA, the rest absorbed at earth’s surface. Global Energy Budgets (GEBs) and computer modelling view solar input as some reflected at TOA (or cloud tops), some absorbed within the atmosphere, some reflected at earth’s surface, and some absorbed at earth’s surface, heating it.

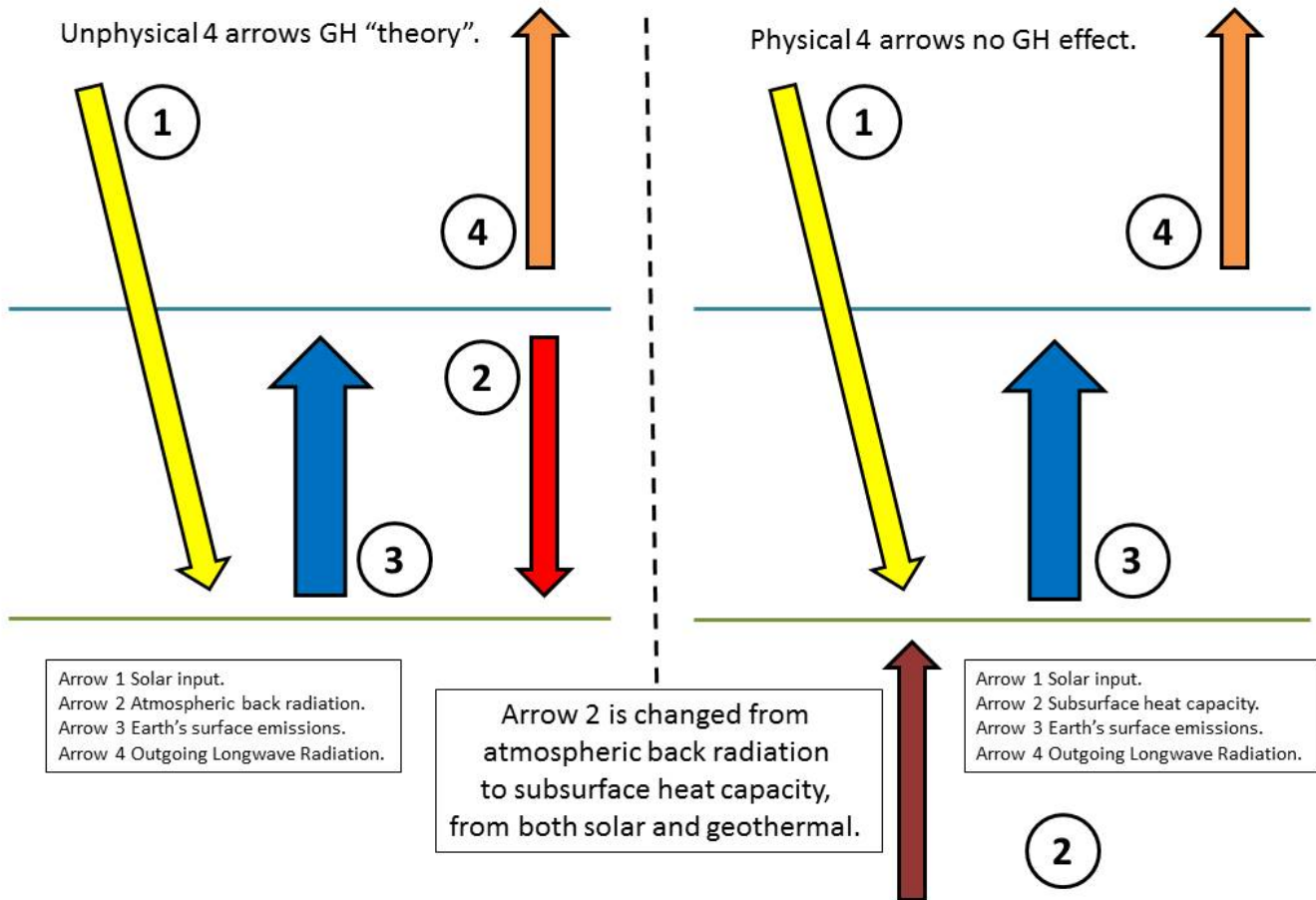
This approach is too simplified, it is unphysical, and it has a major omission.

If the basic geography of earth is taken in to account, then the omission becomes obvious.

http://www.tech-know-group.com/essays/Basic_geography.pdf

On a planet that is 71% covered in ocean, some solar input penetrates and warms the subsurface of earth. Some solar input, particularly at and around the equator adds significantly to earth’s subsurface heat capacity, that will be released later. It should be remembered that the Pacific Ocean alone is almost half of earth’s surface. The subsurface heat capacity of the world’s ocean cannot be ignored or omitted, as it currently is.

Does this mean that the unphysical 2nd arrow of GH “theory”, atmospheric back radiation, can be deleted, and replaced, in effect flipped in to a physical heat capacity contribution arrow from below to earth’s surface? Physically speaking plainly the only answer to this question is yes. If this is done, a rather large problem arises. At the surface there is still a balance of 2 in and 2 out, but in the atmosphere there is 2 in but only 1 out! This is a large imbalance that cannot be ignored.



Can this imbalance be explained physically?

Is it possible the issue is that most people think only in the terms of radiant energy, radiant energy flows, when energy can be much more than just those types of flows? It is mass and a flow of mass too for example. There is plenty of mass in the atmosphere in the form of the water cycle. Does this mass provide the energy balance for the atmosphere? Is it the missing arrow out of the atmosphere that does not count at the earth’s surface? If so, how can that be possible? Does, a properly calculated “Loschmidt” hold the answer? ie, does liquid water at altitude possess PE, but not at sea level?

Two often overlooked physical facts may well help to explain the imbalance noted above.

1) Liquid water does not (and cannot) exist in space.

<https://www.youtube.com/watch?v=pOYgdQp4euc>

In the vacuum that is space water evaporates until it freezes, or rather changes state in to ice. If ice in space absorbs some energy the ice that has enough energy sublimates in to the gas water vapour. This means that in effect earth’s atmosphere is a cold trap for liquid water at earth’s surface. Very few people seem to realise this and the significance that it has. Without an atmosphere there would be no liquid water at earth’s surface. With an atmosphere there is both water at earth’s surface AND the water cycle

within earth's atmosphere. These are the massive and totally dominant negative feedbacks that make earth's climate system stable.

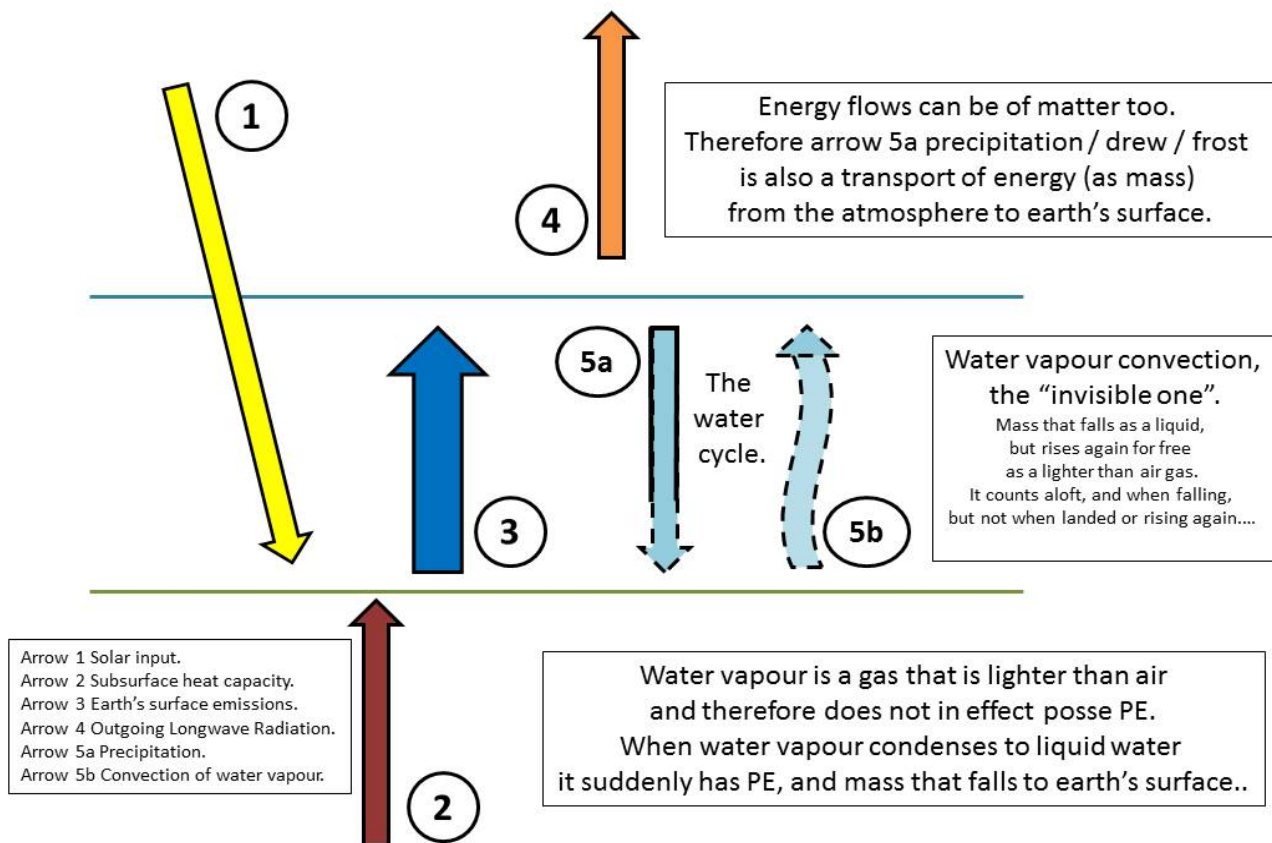
Alan Siddons' Learning by candlelight article -

http://www.ilovemycarbon dioxide.com/archives/Learning_by_candlelight.pdf

2) Gravity pulls down heavier and therefore lighter is displaced upwards "for free."

The gas water vapour is lighter than air, thus it rises in earth's atmosphere. In effect mass is taken aloft "for free." The gas condenses to liquid water aloft with potential energy (PE) when it cools / relative humidity / enough condensation nuclei are available, etc, etc, etc. Frequently water condenses and re-evaporates many times, due to the environmental lapse rate; it helps create by its physical properties and latent heat losses and gains. Thus the water cycle operates through the depth and width of the atmosphere, and through time as well. An amazingly complex, and ever adapting dominant negative feedback that maintains a balance (GMT), and yet creates an imbalance (of the mass of water aloft) that powers one side of the water cycle, and, more importantly traps liquid water within earth's atmosphere.

Taking these two physical effects in to account the simple but unphysical (GH "theory) four arrows diagram can be physically redrawn as follows.



Time will tell what the future direction of computer climate modelling will be. The current climate modelling paradigm has been (as will be shown in the following appendixes), and beyond any reasonable doubt, falsified in science. It has failed. The future computer modelled paradigm will have to include earth's massive surface heat capacity, principally of the oceans. It will also have to be based upon a complex, dynamic and robust natural system, including the water cycle, which may be far too difficult for anyone to be able to model in the foreseeable future. Thus, the answer to the question is simply no.

Appendix 1

The basis of what has become current GCM and AOGCM computer climate modelling started in 1904 with the publication of Vilhelm Bjerknes' academic paper and extended newspaper article. Bjerknes based his approach upon the accepted physics of the day, most importantly, Balfour Stewart's 1871 radiative transfer theory as applied to earth in a two parallel plane model.

The impossible 1871 "accepted physics" basis of current climatology modelling.

In 2013 Alan Siddons noted that

"In 1871's An Elementary Treatise On Heat, Balfour Stewart indulged in some idle speculation. He imagined that the atmosphere was like an envelope of glass surrounding the earth and that this promoted a higher temperature, much as occurs in a greenhouse. Stewart described the physics thusly:

Now let R' denote the radiation of this envelope outwards into space, then R' will also approximately denote the radiation of the envelope inwards towards the sphere, since as the envelope is very thin, both its surfaces may be imagined to be of the same temperature. Hence the radiant heat which leaves the envelope will be $2 R'$...

So simply adding a layer of glass will give you two times the radiant power that you had before. Everything else proceeded from that silly blunder, because other armchair scientists eagerly seized on Stewart's empty conjecture as The Answer, the very Truth. "

Alan Siddons is noting that what Balfour Stewart is stating and that what Bjerknes later accepted including as fact is that the sun warms the surface of earth, the earth's surface radiates the absorbed energy and that warms the atmosphere. THEN the atmosphere emits that amount of energy (as radiation) both out to space, AND the same amount of energy (as radiation) back to earth's surface. $1R$ becomes $2R$. That is what Stewart stated. Energy is created (doubled) from nothing. Energy can not be created.

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There are yet other peculiarities exhibited by bodies in their action upon different rays, but these must be reserved until next chapter.

CERTAIN PRACTICAL CONSEQUENCES.

249. Suppose we have a large heated globe, as in Fig. 55: and in the first place, let us suppose there is no envelope round it, but that it is free to radiate its heat into space without receiving back any in return. Let its velocity of radiation be denoted by R . Suppose now that this sphere is closely surrounded by a very thin envelope, opaque as regards the heat from the sphere; and let us imagine that there is no heat conveyed from the sphere to the envelope either by convection or conduction, or in any other way than by radiation. Now let R' denote the radiation of this envelope outwards into space, then R' will also approximately denote the radiation of the envelope inwards towards the sphere, since as the envelope is very thin, both its surfaces may be imagined to be of the same temperature.

Hence the radiant heat which leaves the envelope will be $2R'$, while that which reaches it from the globe will be R . ~~But if the globe be very large and cool very slowly,~~ the envelope will, it is clear, settle down into a state of equilibrium of temperature, and therefore its absorption will be equal to its radiation; that is to say,

$$R = 2R', \text{ or } R' = \frac{R}{2}.$$

We see, therefore, that by an arrangement of this nature

An Elementary treatise on heat.
Balfour Stewart.

1871.
 Page 228.

$1R \text{ (in)} = 2R \text{ (out)}$

Energy is created from nothing.

Energy can not be created.

This is the basis of the “accepted physics” that is now known not as radiative transfer theory as applied to earth’s climate system in a 2 parallel plane model but as the greenhouse effect” theory”. It is not possible, simply because energy can not be created.

The modelling should not have started using the “accepted physics” basis it did. It is a false basis.

1909 - Does atmospheric back radiation warm earth’s surface? No!

Professor Robert W. Wood published his "Note on the Theory of the Greenhouse" in The London, Edinburgh and Dublin Philosophical Magazine and Journal of Science, in which he stated:

“the fact that trapped radiation appears to play but a very small part in the actual cases with which we are familiar.”

It seems peculiar now that a world renowned scientist of his expertise and status in the subject area of radiation did not perform and write up his experiment at the time. He simply showed atmospheric back radiation has no observable warming effect at earth’s surface. In other words the $1R$ radiated downwards does not add energy to, or warm earth’s surface (as postulated by Stewart), therefore there can not be a greenhouse effect (as accepted by Bjerknes).

Maybe Professor Woods did not think it important enough to bother with. Maybe he did not want to be responsible for curtailing another scientist's (Vilhelm Bjerknes) hard-earned funding stream, that was producing excellent results that were improving the young science of meteorology. Maybe he thought, the science would improve and then correct the mistake; hence he published the note to be noticed at the appropriate time.

It would seem that Professor Wood's note and the concerns it raised went unnoticed.

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There is an error of centering in equations (6) and (7) because the flux is at the surface while the temperature difference is centred above or below. This error appears to be inevitable. It would be reduced if the strata were thinner. But we must leave it and pass on.

In (7) $C_{n,s} = \frac{\text{(thermal conductivity)}}{z_n - z_{n-1}}$ (8)

The thermal conductivity of soil has been repeatedly measured. For a loam rich in humus, T. B. Franklin* gives for the conductivity 0.004 calories sec⁻¹cm⁻¹degree⁻¹, which is 1.67×10^7 ergs sec⁻¹cm⁻¹degree⁻¹,(9)

Next let us consider the heat taken in and out by radiation, precipitation and evaporation. As our first business will be to find the surface temperature, these quantities should be classified according as they depend on the surface temperature or not. Let Γ be the radiation coming from the sun or the atmosphere and absorbed by the soil.(10)

Γ has been computed on Forms P IV, v, VI and is thus known. The long wave radiation emitted by the interface may be expressed as $\varepsilon \sigma \theta_s^4$,(11) where σ is Stefan's constant = 5.36×10^{-12} erg cm⁻²sec⁻¹(12) and ε is the emissivity of the solid for long waves.(13)

The effect of precipitation has been mentioned on p. 46 but is not easy to systematize, and with this reference will be omitted for the present, after giving to the ergs per second brought to a horizontal square centimetre by precipitation the symbol ω .

The rate of evaporation has been denoted by Ξ gram sec⁻¹ per cm² of a horizontal surface.(14)

If the top layer of soil is wet, evaporation takes place there and increases rapidly with the surface temperature. If the top layer of soil is dry, evaporation may still go on underneath but then it is conditioned not by the so-far unknown θ_s but by θ_a , which is a main-variable, traced step by step.

Let the latent heat of evaporation be denoted by \dagger

$\tau = (3182 - 2.51 \theta) \times 10^7$ erg grm⁻¹,(15)

The whole flux of heat arriving on a horizontal square centimetre per second by radiation, precipitation and evaporation is therefore:

$\Gamma - \varepsilon \sigma \theta_s^4 + \omega - \tau \Xi$,(16)

This, together with the inflow f_a coming up from the ground and the inflow $-f_o$ coming down by eddies in the air, must amount to zero, since no heat can accumulate at a surface. But f_o and f_a are given by (6) and (7). Therefore

$0 = C_{0a}(\tau_s - \theta_s) + C_{na}(\theta_s - \theta_a) + \Gamma - \varepsilon \sigma \theta_s^4 + \omega - \tau \Xi$,(17)

This is to be looked upon as an equation to determine the common temperature θ_s or θ_a at the interface. The best way to solve it is first to assume some trial value

* Edinburgh Roy. Soc. Proc. Vol. 39, Part 2, No. 10. † τ is a Coptic letter named "ho."

Weather Prediction by numbers.
Lewis Fry Richardson.
1922.
Page 174.

Atmospheric back radiation is modelled as adding energy to earth's surface.

It is also calculated as further warming earth's surface, by increasing the surface intensity of emission.

“radiation coming from the sun or the atmosphere and absorbed by the soil.”

The colder atmosphere can not warm the warmer soil. This is a violation of the 2nd Law of Thermodynamics.

Colder can not heat warmer.

1951 - The American Meteorological Society rejects the human emitted CO2 is responsible for warming earth notion

The notion that human emitted CO2 somehow was responsible for the observed warming trend from the 1870s to the late 1940s was regarded by the AMS as a coincidence. Nothing more, thus without a plausible mechanism, the notion was rejected, completely. Although many famous and respected scientists such as Svante Arrhenius had previously expressed they thought the notion may have had some basis around the turn of the Century.

“ In the past 100 years the burning of coal has increased the amount of CO2...some .see this as an explanation of the recent rise of world temperature. But.....there seems no reason to regard this rise as more than a coincidence. This theory is not considered further ”

Compendium of Meteorology AMS 1951. Edited by Thomas F. Malone.
 (2nd paragraph) page 1016.

Without it explicitly being stated, the AMS was very publicly rejecting both greenhouse effect “theory”, and any notion that human emitted CO2, of itself, could possibly cause global warming.

In other words the basis of climate modelling at the time should have been changed. May be few realised that the climate modelling had a radiative transfer theory basis. May be few realised that radiative transfer theory as applied to earth in a two parallel plane model is greenhouse effect “theory”. Either way, Charney had resurrected Richardson’s development of Bjerknes’ approach, and the “accepted physics” from 1871 remained the basis of the modelling, even though, and regardless of the fact it had already been disproved and rejected.

The perfect storm that created modern “climatology” as the pseudo-science it is today

From the history earlier described in this article it can be seen that Charney’s “new approach” and the development of computers proved very attractive to many interested in the possibility of climate modelling. Thus during the 1950s and 1960s the modelling continued to develop, mostly away from public knowledge or interest. It was simply far too complex maths for most to take an interest in. That said, modelling itself benefited tremendously as new mathematical and statistical methods and techniques were developed. As the climate models became more complex new problems arose and new solutions were sort. More often than not they were found too. Climate modelling helped computer modelling per se, in many totally unrelated to climate areas to develop. Soon the climate models were so complex very, very few actually understood what, and how, they were calculating any longer.

During the 1960s environmental awareness was growing. It was becoming a political and bureaucratic “hot potato.” Environmentalism was becoming extremely fashionable (as it should be, in a realistic, sensible, and practical way). Al Gore a young and very ambitious politician realised this. Maurice Strong an extremely capable organiser and networker (bureaucrat) also realised this. What was needed was a way to sell to the masses environmentalism in the form of taxes (and controls), people would have to pay, and want to pay, and controls they would want to abide by, to “save the planet” that the politicians and the bureaucrats could benefit from.

Inevitably the dream team, or rather the perfect storm of Gore, Strong and Charney came together, probably during the first earth summit at Stockholm in 1972. After which Gore worked to set the political stage, Strong worked at the UN to set up both a global bureaucratic structure, and fund the scientific basis for environmentalism. Charney continued to develop modelling (pseudo-science) basis for the “ad hoc” group that would advise governments of the science for the new type of global environmentalism they could all benefit from. The global environmental gravy train for politicians, bureaucrats, government funded climate scientists, and all smart enough to realise what was being presented to them, was presented to the world in 1988 by James Hansen. Unsurprisingly, very few objections were raised when Hansen made his presentation. Although some did raise minor points, mostly irrelevant points, to make it all look more convincing to Joe public.

2007 - A difficult year for climate pseudo-science modelling and for some of its sceptics

In 2007 Christopher Monckton published an article titled Greenhouse warming? What greenhouse warming?

<http://scienceandpublicpolicy.org/images/stories/papers/monckton/whatgreenhouse/moncktongreenhousewarming.pdf>

The article is subtitled as:

“The fingerprint of anthropogenic greenhouse warming predicted by computer models is absent from real world, observed trends in atmospheric temperature change”

He states that:

“The purpose of the test was to study whether the rate of temperature change between the commencement of the satellite record in 1979 and the beginning of the 21st Century was a little higher in the tropics than in the northern or southern hemispheres, as it should be if the tropical mid-troposphere “hot-spot” were strong enough to justify the IPCC’s chosen 3 degrees Celsius central estimate of climate sensitivity to CO₂ doubling”

and notes that:

“Secondly, the radiosonde record also showed that the observed tropical rate of change in temperature was less than the northern or southern hemisphere rates of change: in fact, it showed a steep decline over the period.”

Monckton (whom is not a trained scientist) clearly showed that the climate modelling predicted tropical mid-atmosphere “hot-spot” according to real world measured data is a cool spot. This can only mean that the modelled as dominant positive water vapour feedback is in fact a dominant water vapour negative feedback. The complete opposite of what climate modelling assumes and models is happening. This demonstrates that when the Charney report in 1979 described water vapour as a positive feedback it was wrong. It is a negative feedback. Why did Monckton not state this? It can only mean there is no greenhouse effect as currently modelled, according to the modelling radiative transfer theory basis. Monckton may well have only wanted to show that AGW is over exaggerated, but what he showed, using the accepted data, is that there is no greenhouse effect. Yet, he did not, and still does not say that? It is also a matter of record he has recently been making great efforts so that others CAN NOT interpret other scientists work, other than they intended! Is this, his own work, one of the works he does not want interpreting other than he says? It would appear so. Science should not be limited, neither should the subject area to be debated, but it appears Monckton is trying to delimit both, so that greenhouse “theory” itself can not be questioned.

Margaret Thatcher was a trained scientist who became a politician. May be Monckton knew, all too well being a politician himself, and Thatcher’s political adviser in regard of science, there is some “science” you can not question. Specifically government funded, and globally politically correct science, even if it is pseudo-science.

Also in 2007 a Hungarian mathematician, Dr Ferenc Miskolczi, who had been employed at NASA under James Hansen management published a paper that applied real world observations to a simplified version of what the climate models modelled. The paper published in a Hungarian journal is titled “Greenhouse effect in semi-transparent planetary atmospheres”

http://owwww.met.hu/idojaras/IDOJARAS_vol111_No1_01.pdf

In the paper Dr. Miskolczi by applying real world measurements to the simplified climate model in effect circumvents, or rather as a scientist he tested, the positive water vapour feedback assumption that can not be observed in reality. What did Dr. Miskolczi’s study show? The study showed that the models without the positive water vapour feedback assumption model a steady state.

The simplified model the study used furthermore showed that the modelled steady state is based upon black body assumptions. It must be remembered that the black body concept used in physics is an imaginary, although it is still sometimes a useful concept, when the limitations of what it can describe are borne in mind. No matter, or body, however large or small could ever be a black body. All matter has heat capacity. To ignore these facts invalidates any conclusions that may be drawn. Regardless of how simple the resulting maths used are, or how complicated they may become.

It may well be the case that both Monckton and Miskolczi only intended to test or question the positive water vapour feedback assumption that the Charney report in 1979 put into climate modelling. However the outcome in both cases was that both studies showed there is no greenhouse effect. Thus, there can not be any man made global warming, because there is no mechanism.

It is interesting to note that in 2010 Dr. Miskolczi published a continuation from his previous study - THE STABLE STATIONARY VALUE OF THE EARTH'S GLOBAL AVERAGE ATMOSPHERIC PLANCK-WEIGHTED GREENHOUSE-GAS OPTICAL THICKNESS 2010.

<http://www.climatescienceinternational.org/images/stories/pdf/ee2010miskolczi.pdf>

In which he states:

"The data negate increase in CO₂ in the atmosphere as a hypothetical cause for the apparently observed global warming.

A hypothesis of significant positive feedback by water vapor effect on atmospheric infrared absorption is also negated by the observed measurements.

Apparently major revision of the physics underlying the greenhouse effect is needed."

2009 - There is no framework within physics for the "greenhouse effect theory"

The most comprehensive physics rebuttal of greenhouse effect "theory" was published in 2009 by Gerhard Gerlich and Ralf D. Tscheuschner: The Falsification Of The Atmospheric CO₂ Greenhouse Effect Within The Frame Of Physics Version 4.0 (January 6, 2009)

<http://arxiv.org/pdf/0707.1161.pdf>

"... a body cannot simultaneously be interacting with and also be in equilibrium with a second body. The interactive net transfer concept FORBIDS thermal equilibrium from ever being reached, which constitutes a violation of thermodynamic laws PER SE.

For thermal equilibrium to even exist, heat HAS to be transferred in only one direction"

In simple, everyday words: colder can not heat hotter. Therefore, on average, overall, atmospheric back radiation can not heat, nor add energy to earth's surface because the atmosphere is on average colder than earth's surface. If earth's surface is warmer than it should be due to solar insolation alone, then the extra heat, energy must be coming from somewhere else. Or, the calculation that suggests the earth's surface is warmer than it should be is wrong. Suggesting, using an unphysical calculation, ie, the power of sunlight at the top of earth's atmosphere divided by four (P/4), as greenhouse effect "theory" does, that the extra heat, energy comes from an impossible, unphysical, in violation of the second law of thermodynamics source, ie, atmospheric back radiation, is known to be wrong, and can not be right.

2011 - History revisited, and the result repeated, beyond any reasonable doubt

In 2011 Nasif Nahle repeated Professor Wood's 1909 experiment. The experiment was written up and published at the Principia Scientific International website.

Repeatability of Professor Robert W. Wood's 1909 experiment on the Theory of the Greenhouse:

http://principia-scientific.org/publications/Experiment_on_Greenhouse_Effect.pdf

Nahle had repeated Woods 1909 experiment and got the same result.

Atmospheric back radiation can not be observed to warm earth's surface, during the day or at night.

Observations on "Back radiation" during Night time and Day time

http://principia-scientific.org/publications/New_Concise_Experiment_on_Backradiation.pdf

2013 – Alan Siddons describes how a pseudo-science was born

Thursday, April 11, 2013 Alan Siddons writes, in regard of what Balfour Stewart wrote in 1871:

"So simply adding a layer of glass will give you two times the radiant power that you had before. Everything else proceeded from that silly blunder"

It is obvious that radiative transfer theory as applied to earth in a two parallel plane model is greenhouse effect theory. From that it is also obvious that man made global warming is merely greenhouse effect "theory" with a positive water vapour feedback assumption and a CO₂ control knob added to the "theory." Computer modelled man made global warming can not exist without the unphysical black body based steady state greenhouse effect "theory". However the accepted physics basis of greenhouse effect "theory" is a scientific blunder from 1871, which for political reasons in the late 20th Century became a global, environmental, politically correct poster child that was beyond question.

Appendix 2

The following excerpts are from <https://www.aip.org/history/climate/GCM.htm> which is titled, "The Discovery of Global Warming", and was written by Spencer Weart.

"All this was based on a few equations that could be written on one sheet of paper. It would be decades before people began to argue that modelers were creating an entirely new kind of science; to Charney, it was just an extension of normal theoretical analysis. "By reducing the mathematical difficulties involved in carrying a train of physical thought to its logical conclusion," he wrote, "the machine will give a greater scope to the making and testing of physical hypotheses." Yet in fact he was not using the computer just as a sort of giant calculator representing equations. *With hindsight we can see that computer models conveyed insights in a way that could not come from physics theory, nor a laboratory setup, nor the data on a weather map, but in an altogether new way.*" (9)

In other words: The models are determining the science.

"This essay does not cover the entire range of models, but concentrates on those which contributed most directly to greenhouse effect studies. For models in one or two dimensions, see the article on [Basic Radiation Calculations](#)."

Spencer Weart's essay linked to above that these excerpts are taken from, only concentrates on GH "theory" based modeling. That is because ALL current climatology modelling is based upon GH "theory".

"Modelers would likewise force transfers of water and so forth, *formally violating basic laws of physics to compensate for their models' deficiencies.*(95a)"

Thus: The science is being (knowingly) determined regardless of the laws of physics.

"Yet the models were far from proven beyond question. The most noticeable defect was that when it came to representing the present climate, models that coupled atmosphere to oceans were notably inferior to plain atmosphere-only GCMs. That was no wonder, since arbitrary assumptions remained. For example, oceanographers had not solved the mystery of how heat is transported up or down from layer to layer of sea water. *The modelers relied on primitive average parameterizations, which new observations cast into doubt.*

The deficiencies were not severe enough to prevent several groups from reproducing all the chief features of the atmosphere-ocean interaction. In particular, in 2001 two groups using coupled models matched the rise of temperature that had been detected in the upper layers of the world's oceans. *They got a good match only by putting in the rise of greenhouse gases.* By 2005, computer modelers had advanced far enough to declare that temperature measurements over the previous four decades gave a detailed, unequivocal "signature" of the greenhouse effect. The pattern of warming in different ocean basins neatly matched what models predicted would arise, after some delay, from the solar energy trapped by humanity's emissions into the atmosphere. Nothing else could produce such a warming pattern, not the observed changes in the Sun's radiation, emissions from volcanoes, or any other proposed "natural" mechanism."

Thus: The one assumption that is not and can not be questioned, yet is just a given, is the Greenhouse effect, therefore GH "theory" is THE answer to the entire climate modelling chaos.

"For the IPCC's fifth report, issued in 2013, computer modeling teams launched an even more massive cooperative multi-year effort. The results were scarcely different from earlier attempts. "The drive to complexity has not reduced key uncertainties," two of the experts reported. *"Rather than reducing biases stemming from an inadequate representation of basic processes, additional complexity has multiplied the ways in which these biases introduce uncertainties in climate simulations."* The panel concluded that equilibrium sensitivity for doubled CO₂ was "likely" to be in the range 1.5 to 4.5°C — exactly the same, albeit with much higher confidence and on a much sounder basis of evidence, as the conclusion reached by the Charney panel 34 years earlier.(115)"

GH "theory" - is not being questioned. It is not allowed to be questioned. It simply has to be accepted.

To question GH "theory" would be like trying to learn to ride a reversed bicycle!

<https://www.youtube.com/watch?v=MFzDaBzBIL0>

Yet, the laws of thermodynamics (LoTs) ALWAYS apply to ALL matter. Climatology therefore has to learn how to ride a normal bicycle, in compliance with the known laws of thermodynamics. The bicycle it is currently riding is a reversed bicycle. Having to violate the LoTs to make the models work proves that.

Interim Conclusion: The paradigm the models are based upon is admitted to be in violation of the known laws of physics which means it is therefore and can only be false!

Appendix 3

Carl Brehmer writes on August 4th 2015:

“The “greenhouse effect” hypothesis is not actually the central false belief that is being promulgated by the promoters of the catastrophic anthropogenic climate change ideology. The primary delusion that they promote is the notion that an international political body, such as the IPCC, has the authority to determine what is, and what is not, the scientific truth. The case in point is the IPCC which proclaims itself to be the world’s foremost scientific authority on climate change—what causes it, how catastrophic it will be and what must be done to stop it. The first sentence of the IPCC AR5 syntheses report clearly states this “AR5 provides a clear and up to date view of the current state of scientific knowledge relevant to climate change.”

Unfortunately far too many people in positions of authority and influence take the IPCC at its word. Thus the most common argument in current climate science debates is “The IPCC says . . .” For these people the “word” of the IPCC = scientific truth. This was the theme of the recent Summit on the Environment held at the Vatican; this is the sentiment expressed by the World Bank and the Club of Rome; this is the mantra of numerous political and even religious leaders around the globe, etc. “The IPCC said it; I believe it and that settles it.”

The idea that a politically appointed international panel of “experts” can have authority over scientific truth is the core of the fraud being perpetrated regardless of what that “truth” might be at any point in time.

The real danger is that, after they have worked out the kinks in the process using the “climate change” issue, they will move on to other policy objectives and set up other panels of “experts” such as:

- IPSJ - International Panel on Social Justice
- IPPC - International Panel on Population Control
- IPDS - International Panel on Sustainable Development
- IPGCC - International Panel on Global Carbon Currency
- IPEDW - International Panel on the Equitable Distribution of Wealth
- IPHC - International Panel on Health Care
- IP??? - International Panel on what ever

This is the process:

- 1) Fund “scientific” research on a particular policy objective
- 2) Assembly a panel of international “experts” on that policy objective
- 3) Have those “experts” cherry-pick through the bought and paid for “research” for those papers that best support your policy objective
- 4) Prepare a massive report that is thousands of pages long containing obtuse scientific language and mind numbing statistical gibberish to guarantee that no one will ever actually read it
- 5) Write a short “Summary for Policy-makers” that concludes that the overwhelming body of scientific literature supports the policy objective.
- 6) Laud the integrity of the international “experts” and the validity of their reports through the apparatus of controlled media outlets and disseminate their conclusions throughout the educational system from kindergarten to post-graduate studies.
- 7) Demonize and marginalize any and all dissenting voices including firing dissenters from government and educational posts or any other occupation where they might influence the thinking of others, while making it nearly impossible for dissenters to get research funding as well as undermine their ability to get their self-funded papers published.

Unfortunately our educational system, our political system and even our religious institutions strongly discourage independent thinking. People are trained from birth to defer to "experts", i.e. the teachers, the professors, the political leaders, the clergy, etc.

Catholicism, for example, even has a name for the doctrine that forbids independent thinking. It is called "obsequium religiosum", which is Latin for "religious submission", "the faithful are to accept their teaching and adhere to it with a religious assent. This religious submission of mind and will must be shown in a special way to the authentic magisterium of the Roman Pontiff." So, for > one billion Catholics the Pope's recent encyclical on the environment made belief in catastrophic anthropogenic climate change is a religious duty. Catholics are bound by Catholic Law to submit their minds and wills to the Roman Pontiff. This means that henceforth to not believe that carbon dioxide is a pollutant that is threatening to kill the biosphere is an act of heresy if you are a Catholic, regardless of whether or not such a believe is actually true.

The bottom line is this, the general public has to do some independent thinking, but how do you get people to start thinking for themselves in a society that punishes independent thought?"

End of quote.

Current computer climatology modelling has a false basis and is therefore not science but pseudo-science, for political and bureaucratic purposes. The situation "we" find ourselves in is a result of the weaknesses of the systems that our societies are governed by. In particular the greed of the few that has been able to usurp the science for the many, regardless of the consequences to society.

Current computer climatology modelling is being used to justify political policies at a global level. These policies have no basis in science. This raises the very real concern that such policies could cause great economic and social harm, the brunt of which will be mostly borne by the young and the poor the world over. A science that has gone astray is one thing, but a science that has gone astray for political bureaucratic and ultimately financial greed of the few that will kill many of the rest of humanity is something completely different altogether.

It is time this computer modelled climatology travesty is halted, before too many of the "we" pay the ultimate cost for the greed of the few.

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and

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Hansen, James E., et al. (1988).

http://pubs.giss.nasa.gov/docs/1988/1988_Hansen_etal_1.pdf

Some of Hansen's papers from 1978 to 1987...

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Hansen, James E., et al. (1987). *Prediction of near-Term Climate Evolution: What Can We Tell Decision-Makers Now?, Preparing for Climate Change*. Proceedings of the First North American Conference on Preparing for Climate Change, October 27-29, 1987. Washington, DC: Government Institutes, Inc.

http://eaps4.mit.edu/research/papers/Hansen_etal_1987_p35.pdf

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Professor Robert W. Wood's note.

Wood, R. W. (1909). "Note on the Theory of the Greenhouse". The London, Edinburgh and Dublin Philosophical Magazine and Journal of Science, Vol. 17, pp. 319–320

XXIV. Note on the Theory of the Greenhouse

By Professor R. W. Wood

" the fact that trapped radiation appears to play but a very small part in the actual cases with which we are familiar. "

http://www.tech-know-group.com/papers/Note_on_the_Theory_of_the_Greenhouse.pdf

The American Meteorological Society. 1951.

Compendium of Meteorology. Edited by Thomas F. Malone.

(2nd paragraph) page 1016

" In the past 100 years the burning of coal has increased the amount of CO₂...some .see this as an explanation of the recent rise of world temperature. But.....there seems no reason to regard this rise as more than a coincidence. This theory is not considered further "

<https://archive.org/stream/compendiumofmete00amer#page/n6/mode/1up>

Greenhouse warming? What greenhouse warming?

Christopher Monckton. 2007.

<http://scienceandpublicpolicy.org/images/stories/papers/monckton/whatgreenhouse/moncktongreenhousewarming.pdf>

" The fingerprint of anthropogenic greenhouse warming predicted by computer models is absent from real world, observed trends in atmospheric temperature change "

Please note - The study showed that water vapour is a negative feedback, rather than the assumed positive feedback. Since, Christopher has been very insistent that others do not misinterpret his work so.

Greenhouse effect in semi-transparent planetary atmospheres

Ferenc Mark Miskolczi, 2007.

http://owww.met.hu/idojaras/IDOJARAS_vol111_No1_01.pdf

THE STABLE STATIONARY VALUE OF THE EARTH'S GLOBAL AVERAGE ATMOSPHERIC PLANCK-WEIGHTED GREENHOUSE-GAS OPTICAL THICKNESS Ferenc Mark Miskolczi, 2010.

<http://www.climate-science-international.org/images/stories/pdf/ee2010miskolczi.pdf>

" The data negate increase in CO₂ in the atmosphere as a hypothetical cause for the apparently observed global warming. A hypothesis of significant positive feedback by water vapor effect on atmospheric infrared absorption is also negated by the observed measurements. Apparently major revision of the physics underlying the greenhouse effect is needed. "

The Falsification Of The Atmospheric CO₂ Greenhouse Effect Within The Frame Of Physics

Version 4.0 (January 6, 2009), Gerhard Gerlich and Ralf D. Tscheuschner.

<http://arxiv.org/pdf/0707.1161.pdf>

" a body cannot simultaneously be interacting with and also be in equilibrium with a second body. The interactive net transfer concept FORBIDS thermal equilibrium from ever being reached, which constitutes a violation of thermodynamic laws PER SE. For thermal equilibrium to even exist, heat HAS to be transferred in only one direction ."

Hans Schreuder has produced a shorter, non-technical summary of the above paper.

http://www.tech-know-group.com/papers/Falsification_of_the_Atmospheric_CO2_Greenhouse_Effects.pdf

Repeatability of Professor Robert W. Wood's 1909 experiment on the Theory of the Greenhouse

Nasif Nahle Sabag, 2011

http://principia-scientific.org/publications/Experiment_on_Greenhouse_Effect.pdf

Observations on "Back radiation" during Night time and Day time

Nasif Nahle Sabag, 2011

http://principia-scientific.org/publications/New_Concise_Experiment_on_Backradiation.pdf

Joseph E. Postma.

<http://climateofsophistry.com/about-the-author/>

The Model Atmospheric Greenhouse Effect

Joseph E. Postma, 2011.

http://principia-scientific.org/publications/The_Model_Atmosphere.pdf

Copernicus Meets the Greenhouse Effect

Joseph E. Postma, 2011

http://principia-scientific.org/publications/Copernicus_Meets_the_Greenhouse_Effect.pdf

Learning by Candlelight.

Alan Siddons 2009.

http://www.ilovemycarbon dioxide.com/archives/Learning_by_candlelight.pdf

The basic geography of earth.

Derek Alker 2015.

http://www.tech-know-group.com/essays/Basic_geography.pdf

What is the theory of man made Global Warming?

Derek Alker 2015.

http://www.tech-know-group.com/essays/What_is_Man_Made_Global_Warming_Theory.pdf