

The following is an introduction for a future report by Burt Rutan on global warming data presentation fraud. The full report will be available in the first quarter of 2010.

Burt Rutan Mojave, December 2009



Introduction

Why I studied AGW

My lifetime work from childhood to the present has been focused on aircraft/spacecraft design and development, with flight-testing being my career specialty. Thus, I have always been challenged to determine the accuracy and meaning of a large amount of disparate data and have often been required to apply those interpretations to development of a product that absolutely must be safe and robust.

My main interest in energy efficiency started in the 1970's, when my desert backyard view became cluttered with thousands of large commercial wind generators, whose development was driven by the tax incentives from the oil shortage and peak-oil scare of that era. I equipped my small business with my own design, passive solar water heat system. I designed and built my custom bermed-Pyramid home, which was featured on the cover of the November 1989 issue of Popular Science magazine, labeled "The Ultimate Energy-Efficient House". I drove the all-electric EV-1 car as my primary automobile for seven years until GM canceled the lease and took it back.

I then lost interest in energy-efficient technologies until four years ago when I noticed something troubling about the challenges facing the global warming alarmists. I started my research on anthropogenic (i.e. man-caused) global warming (AGW) because, I found to my surprise, that to claim a catastrophic AGW theory as a "proof", the climate scientists thought they only needed to show that human emissions MIGHT cause a fractional-degree global decadal temperature rise, for an earth that generally varies 20 to 40 deg F every 24 hours and varies as much as 80 to 100 deg F every year – This seemed to be a Herculean task indeed.

Also, the scientists have to do their crisis forecasting by accessing a myriad of disparate temperature data from often degraded sensors or temperature proxies for a chaotic global system. That system has had clear decadal sunspot variation, likely 500 to 2,000-year temperature cycles, routine 85k-year ice-age periods, etc - all caused by non-human effects. Even if global temperatures **were** the result of a single cause, the

task of predicting future warming by the study of measured, conflicting surface/atmospheric/ocean data, would be difficult. With many chaotic causes (solar input intensity, precipitation, cloud formation, greenhouse gas warming, atmosphere-to-sea interactions, volcanoes, ocean currents, etc.), the task seemed overwhelming. In short, I observed that having adequate confidence in the data to make accurate, long-term global temperature predictions would likely be impossible.

Another thing troubled me - those scientists that claimed that warming is human-caused and catastrophic, tended to be the ones who sought out the media to proclaim their views (an unusual behavior for scientists immersed in the proper scientific procedure). The larger group of scientists that did not agree tended to be mute. This, of course gave the media and some politicians an impression that there was scientific "consensus", even though it did not exist. Of course, consensus has no place in a scientific search for the truth of a new theory (Galileo would likely agree). The most troubling thing about the situation was the history of what happens to the truth when researchers can advance their occupation and financial future by becoming vocal alarmists. The occasional data adjustments being made by the scientists are questionable at best and ludicrous or fraudulent at worst.

What is really going on with "Climate Change"?

Nearly all available measured climate temperature data or proxies, regardless of how old or new, show rapid changes, extreme scatter or both, when the data are not cherry-picked. Likely the best data (most-stable, least scatter) would be measured ocean temperature, due to its enormous thermal inertia. However, the alarmists do not use this because those data do not support any catastrophic AGW theory. Also, the oceans take 30 to 100 years to react to atmospheric temperature changes and the alarmists seem to want action "right now."

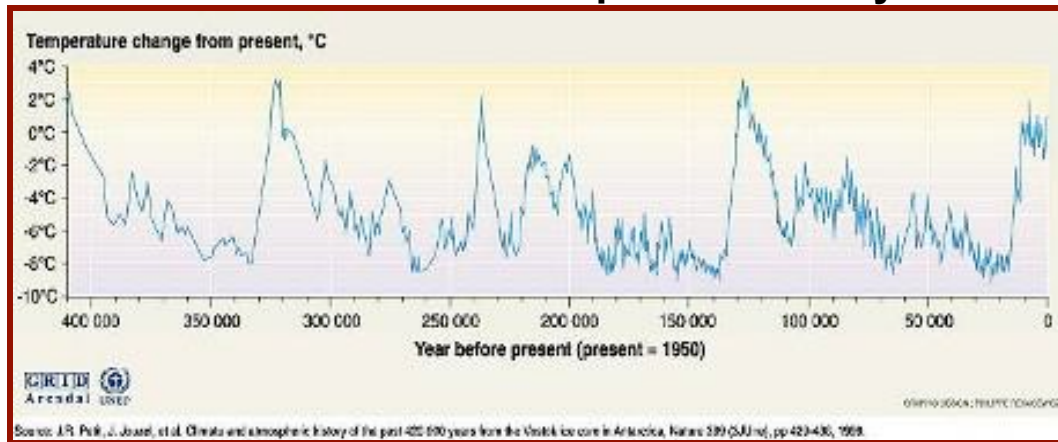
Is it sensor/proxy inaccuracies (instrument error/scatter, inadequate coverage), or does the planet really react quickly to whatever causes the observed temperature swings? Regardless of which it is, any engineer who needs to make his important design or program conclusions/recommendations, based on analysis of available climate data, would conclude that it is not possible (or not ethical) to predict future fractional-degree decadal (or century) global temperature changes from this mess of scatter and conflicts.

Also, an engineer knows it is wrong to arbitrarily select a single theory (for example, human emissions of greenhouse gas (GHG) effects) as a 'proof cause' of warming. This is especially true when that single-proposed cause is a small effect among the many other possible causes. Pointing to sharp increases of measured temperature and then claiming global warming is due to the miniscule human additions to the planet's atmospheric GHG, while ignoring the fact that cooling periods are also observed while emissions increase, does not pass a sanity check.

I found that no conclusion on human GHG-blame could be made if one honestly considers the other causes. This is supported by the observation that the climate likely has always had at least today's temperature swings, in the absence of any significant human activity. Also, the GHG warming effect is primarily driven by water vapor, not by CO₂, and the human emissions' portion of atmospheric CO₂ is tiny.

The Vostok ice core data (see chart below) show that our recent history (the last 12,000 years) has been the most stable warm period in the last 400,000 years. Those data also show that the planet's current and recent temperatures are cooler than those seen during any of the other measured warm periods. Since we know from the fossil record that all the planet's plants and animals thrive best in the brief warm periods, an honest scientist should be reporting this observation as "very good news" - all living things (including us humans) are experiencing the best of all times; rather than scaring us with predictions of imminent doom. The misinformed reports that we are now "experiencing unprecedented hot conditions and ice melting" are clearly wrong. The last 100 years warming is merely just another of those small scatter hashes at the far right of the Vostok chart – another very-desirable oscillation indeed.

Vostok Ice Core Temperature Proxy



The climate scientist's problem of proving his human-caused GHG crisis theory seemed, to my engineering mind, impossible. This is what attracted me to study the raw data and to see if there was fraud in its summary presentations, since the slightest changes in the data, such as a bit of cherry picking tree rings or even an 'innocent' selection of a truncated temperature data set, is all that would be needed to alarm the naive non-scientific audience. It is important to note that those who write UN summary reports and those who make energy policy decisions do not look at the raw data; they only see the summary presentations. My conclusion is that, if the analysis (yes, the analysis by climate scientists) had been required to pass a typical engineering preliminary design review, the crisis theory would have never been passed on to the non-technical audience.

In the presentation that follows this introduction, you will see charts you

are familiar with; those from movies/newspapers/magazines/TV that have allowed alarmists to thrive with their predictions of climate calamity. You will also see what is revealed when the charts are subjected to a typical engineering review, where the questions asked are these:

1. Are all the available data considered and presented?
2. Is the data presented in a way that is not biased to a pre-conceived conclusion?
3. Is it possible to make confident predictions with large data scatter and data conflict?
4. Have all possible causes/effects been considered, before claiming a proof (example - attributing observed global warming to human GHG emissions)?
5. Have other views and other scientific theories been considered?

What I found is that the entire process of scientific study of the earth's climate data, combined with the computer models developed to predict future climate, is extremely susceptible to abuse. What I mean by that is even minor data 'adjustments' or data cherry picking, can completely change the conclusions. If, for example, the observed data were to show clear, high-confidence trends, and the sensor systems were of high accuracy (un-affected by effects like urban heating, etc) and if the predictive computer models were shown to work, some preliminary conclusion could be drawn. However, even that scenario would continuously call out for more data, more analysis for increasing the confidence in the theory before a proof were claimed (i.e. use of the proper scientific method).

Further, I found that none of the climate models had predicted the 1999-to-2009 cooling until they were "adjusted", after the fact. I see "adjustments-after-test" all the time in aircraft development. The stress-analysis specialist can always accurately predict a wing failure after he adjusts his model, following a shop test of ultimate wing strength. Note, that wing design is relatively straight forward compared to the chaotic behavior of climate.

My most alarming finding was that many of the top climate scientists do not respect or use a proper scientific process. This finding was not just for the global warming issue, it was prevalent and pervasive back during the ozone hole scare, where the primary blame was attributed to human CFC release and the panic was alarmist-driven, not data driven. Based on available climate data, no respectable engineering study would accept the theory of human-caused GHG increase as proof to justify any new development or any large expenditure of funds to "fix the warming problem".

What is being shown by the Big Guys?

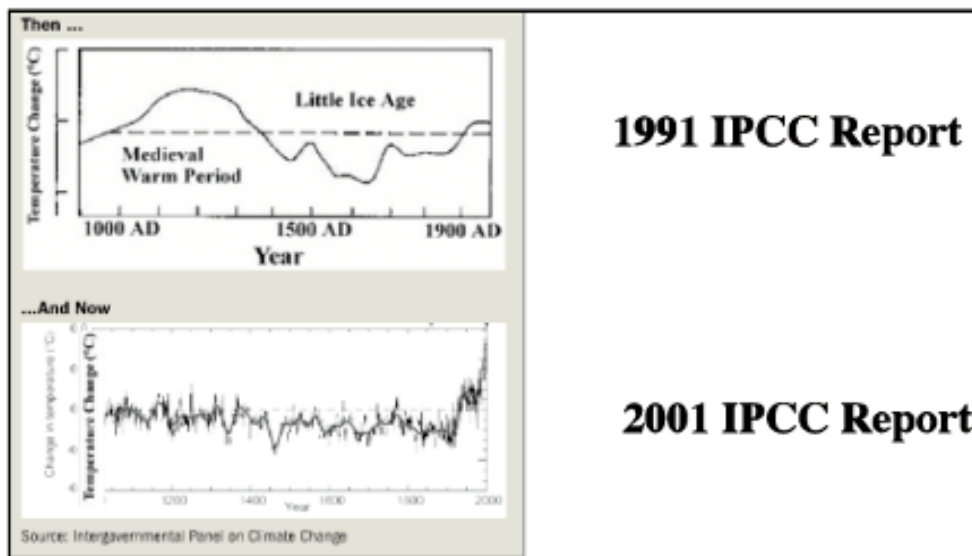
One has only to look at the two most notable charts (shown below; estimated average global temperatures for the last thousand years) from two United Nations IPCC summary reports, published a decade apart, to realize that something might be seriously wrong. The fact that the 2001

“hockey stick” chart was presented in color in several sections of the 2001 IPCC report, without explaining how the scientists managed to completely eliminate their earlier depiction of the Medieval Warm Period and the Little Ice Age (both are well covered in historical documents as well as scientific analysis - <http://www.co2science.org/data/mwp/mwpp.php>) is unacceptable behavior.

Noting that the “hockey stick” chart was removed in later editions of the IPCC “scientific” reports supports the conclusion that something is indeed wrong. It was removed because an outside investigation was conducted that resembled a proper engineering review as described above - with a finding of fraud. Specifically, the fraud was identified by showing that the critical data for the chart came from cherry picking just a handful of Siberian trees (tree ring proxy to estimate temperature), without evidence that the researcher applied the proper scientific method. Using all the data or any random selection of 10% of the tree ring data showed no significant correlation of planet warming to human CO2 emissions.

The fraud was not limited to the tree cherry picking. The computer code for presentation had been tweaked such that a hockey stick shape is produced even if the data set is developed with a random number generator! Using tree rings to estimate global temperature trends has been shown to be a poor proxy method. However, it is useful to some climate “scientists” because careful selection of a small number of trees can produce any desired result.

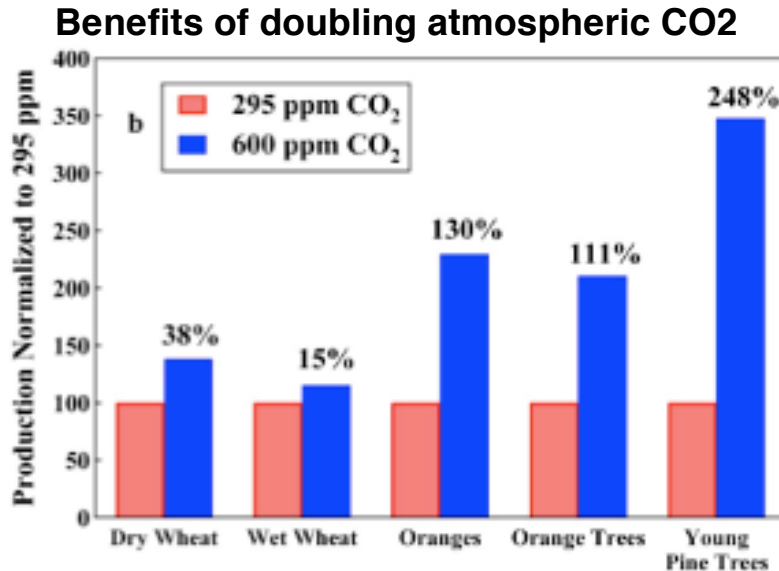
The horrific result of this scandal was that the 2001 UN hockey stick chart formed the very foundation of a non-scientific theory that resulted in the awarding of a Nobel Peace Prize, a movie Oscar and a best-selling book.



Is our modest warming bad?

As you will later see from this report’s chapters, the current ice-age-recovery warming slope is modest. This warming is beneficial to the

planet, its plants and its animals (including humans). This is true even if a doubling of the atmospheric CO₂ is added to assist the warmth. The chart below shows the effects of that additional CO₂ on agricultural crop production and the growth rate of young pine trees. This large increase of only the CO₂ component of GHG has very little effect on global temperatures, since the thermostatic effects of precipitation and cloud formation overwhelm the small GHG warming.



Warming alarmists continue to point to likely devastation in the next century by warming-caused increases in human deaths, floods, lightning, hurricanes, tornadoes, cyclones, drought, sea-ice extent, and land-borne ice fields. If they took the time to study the real data, they would find no cause for alarm in any of these items. This will be later shown in this report and was summarized in my July 2009 Oshkosh talk (referenced below).

What is a logical prediction?

In spite of a detailed look at reams of data and reading the rhetoric from both sides of the “catastrophic AGW” debate, this engineer sees nothing compelling enough to indicate strong support for any of the various global warming predictions on either side of the debate.

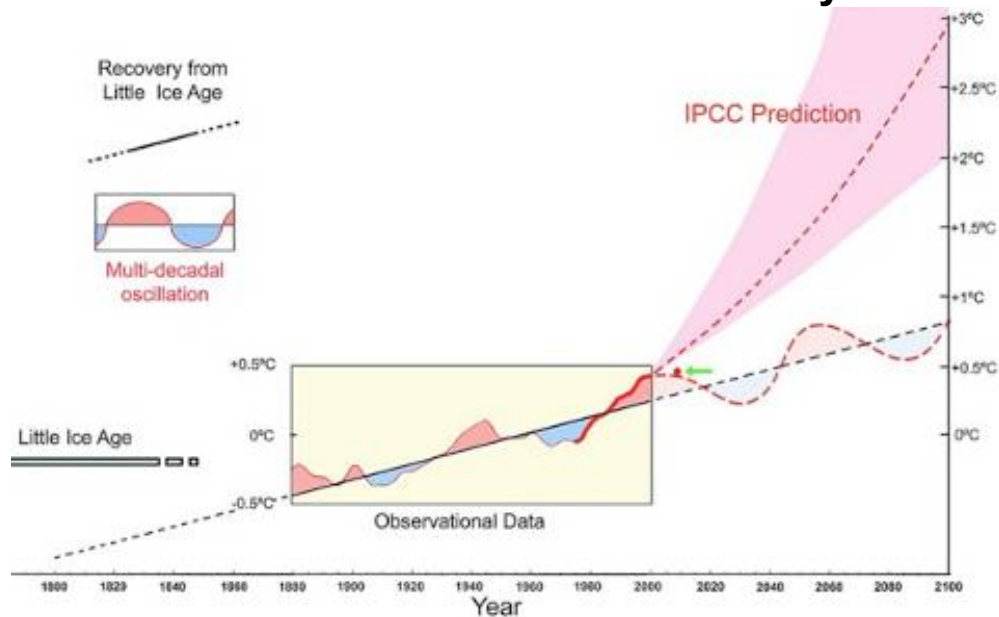
However, I found one prediction that, to me makes the most common sense. The graph below (by Dr Syun Akasofu, IARC Founding Director and Professor of Physics, Emeritus UAF) shows a 320-year time period. The long, straight dashed line shows the accepted long-term trend - a modest 0.6 deg C per 100-year warming, i.e. the continuing recovery from the Little Ice Age, extrapolated for the next century.

The Observational Data box shows the measured, previous 120-year history of global temperature anomaly, ending in the year 2002. The wiggly red line within this box illustrates the most reliable data; the last 25

years that include satellite atmospheric measurements. Note how the recent decade of cooling (green arrow pointing to the 2009 temperature point) fits in fine with the observed mild temperature oscillations over the last 100 years. This all supports a logical prediction that the next 100 years should mimic the last 100 years; supporting a beneficial warming trend and a sea level increase by 2100 of only 6 to 8 inches.

Of course, the thing that stands out on the Akasofu chart is the overlaid IPCC prediction for the next 100 years. This politically driven "forecast" is not supported by any careful analysis of past or present climate data, including predicted human CO2 emissions. It has been rejected by the vast majority of the scientific community. I found no justification to be afraid of the IPCC 'doomsday' predictions of warming. I will bet that, like earlier scares, these predictions will quietly disappear over the next few years. IPCC has already made large downward corrections to their previous sea-level forecasts.

Dr. Akasofu Prediction Summary



Other information

The recent findings of science fraud (memos and computer codes regarding lost, hidden or intentionally-fudged data - and the censoring of critics) at CRU, NZ NIWA and NASA GISS, as well as findings of science fraud dating back to the ozone hole scare, has not only raised my belief that something is very wrong with the media-driven "catastrophic AGW theory", but has ignited my resolve to do further research. Thus, this report is not a static reference; it will be updated as more information becomes available.

While this is my first publication on AGW data presentation fraud, some of my conclusions were originally presented on July 19th 2009 at the

Pasadena Art Center College of Design (when I accepted their lifetime achievement award).

I presented a lecture on Predictions and AGW Data Fraud at the Oshkosh Wisconsin Air Venture event (the world's largest convention) on July 31st 2009. A search on YouTube for "rutan global warming" or a Google "Videos" search for "rutan global warming" will bring up 9 videos of my 80-minute Oshkosh presentation. The slides are posted at <http://rps3.com/>.

This Introduction and the complete report (when available) are posted for downloading at <http://rps3.com/>.