

Non-Aerospace Research Quests of a Designer/Flight Test Engineer

Things you probably do not know about Rutan



By Burt Rutan

Speaker Notes - Commentary for the previous slide

Note: (Presented at the Oshkosh convention on 29July09 and 1Aug09.
This PowerPoint file and PDF is posted at: <http://rps3.com/>

A summary Video of the 1Aug talk is in work and it will be distributed via several methods.)

Until recently, my talks have focused on Aerospace Research, or on Innovation, Creativity, Education and Motivation. However, I do occasionally dabble with Hobbies, and today I am going to share with you several of them.

Note, this pitch, without Q & A, takes about 39 minutes.

- Efficiency - Home and Automotive

Interest is technology, not tree-hugging.



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My Interest in efficient energy design started in College in the early 60s.

My house was the Nov 1989 Popular Science Cover story; “World’s Most Efficient House”. Its big advantage is in the desert summer. It is all-electric and it uses more energy in the relatively mild winters than in the harsh summers – just the opposite of my neighbors. It’s passive energy savings comes from super insulation, earth berms on most exterior walls and massive interior thermal mass. Its passive interior temperature (in the absence of any active cooling energy) runs at 82 degrees in the desert’s 117-deg F summer peak heat periods. Passive interior temps are the triple average of soil temp, day air temp and night air temp, and vary only 3.5 degrees day/night, while outside air varies 35 deg F day/night. The property has provisions for converting to self-sustaining (house and plug-in hybrid car) via adding wind generator and solar panels when it becomes cost effective to do so.

Testing Solar Water Heat in the 70s at RAF; the Rutan Aircraft Factory was converted to solar-heated water in the 70s, when others were only focused on gasoline costs.

My all electric EV-1 was best car I ever owned. It was my primary car for 7 years; all-electric with an 85 mile range on lead-acid batteries. I was very sad (just like the guy shown) when the leased cars were recalled and crushed by General Motors. I will buy a **real** hybrid when one becomes available (plug-in with elect-range>60 miles). The Prius “hybrid” is not a hybrid, since it is fueled only by gasoline. A Plug-in Hybrid can be fueled with both gas and electricity. You might even see a ‘plug-in hybrid airplane’ in my future.

- Anthropogenic Global Warming

- Rutan's focus is data analysis, interpretation and how it is used/miss-used.
- Complex data from disparate sources - similar challenge to the engineering Experimental Test experience.
- Not a Climatologist's study; more from the view of a flight test guy who has spent a lifetime in data analysis/interpretation.

Speaker Notes - Commentary for the previous slide

AGW is Global Warming due to Human activity.

Why did I study? An observation that there is something seriously wrong with this picture. When I graduated from College few were willing to take the many job offers in the Los Angeles area due to smog - it literally hurt your eyes to be outside much of the time. Now it is very clean, with 4 to 5 times the cars. Technology solved that horrific problem; could we really be facing a legitimate crisis now??

My interest is because I found the real picture is opposite of what you see on the Media.

My study is NOT as a climatologist, but from a completely different perspective in which I **am** an expert.

Complex data from disparate sources can be processed and presented in very different ways, and to “prove” many different theories.

For decades, as a professional experimental test engineer, I have analyzed experimental data and watched others massage and present data. I became a cynic; My conclusion - “if someone is aggressively selling a technical product who’s merits are dependant on complex experimental data, he is likely lying”. That is true whether the product is an airplane or a Carbon Credit.

Who are the 'Experts' on AGW?

Bias among the debaters

- Nearly impossible to find one without bias
 - 1. Climatologist; Academia or Government.
 - 2. Climatologist or spokesperson; Oil/coal/etc industry.
 - 3. Politician, Mainstream Media, Lawyer, Hollywood
 - 4. Those who plan to profit from the crisis.
 - 5. Those who demand a Socialist society.
 - 6. Those who fear expansion of Government control.
 - 7. Global Governance foreigners (UN and America's other global adversaries).
 - 8. Meteorologists

Speaker Notes - Commentary for the previous slide

This table is a lot about bias. For full disclosure, my father 'Pop' (now 93) raised his boys to be Republicans because he went to High School with Dick Nixon. Our Republican party dedication was stressed to the limit during the Nixon/Vietnam era and lasted only thru Reagan. Since Reagan I have voted only for Propositions, never for the inadequate list of major Candidates.

Nowadays, we both believe that the two US major parties need to be replaced - both are socialists; robbing our freedoms, destroying our security and stealing from our kids. Both seem beyond possible reform.

I put myself in the 6th group, and do not hide the fact that I have a clear bias on AGW. My bias is based on fear of Government expansion and the observation of AGW data presentation fraud - and not based on any financial or other personal benefit. I merely have found that the closer you look at the data and alarmists' presentations, the more fraud you find and the less you think there is an AGW problem.

The first group has the clearest bias. Who else protects, promotes and grows his own job by being an alarmist and loses it by being a skeptic? Examples of this abound.

More bias notes on next slide.

Speaker Notes - Commentary for the previous slide

Many see #2, the Big Oil industry as the biased villains since they make billions in profits and make more when energy costs rise. However, if they did not make huge profits they could not invest in producing new supplies and increasing efficiencies of existing facilities (~1 trillion\$ last decade). Oil companies profits add about 5% to the cost of our gasoline, while the Government adds more than 20% (The Government taxes on oil companies is 21%). The oil companies' 5.4% profit is 1/2 of Beverage/tobacco profits and 1/4 of Pharmaceuticals/medicines.

The energy Companies are the ones we have relied on to fuel our successful society, freedoms and quality of life. The Government taxes them four times their profits, takes the \$ and provides nothing we regard as valuable (Consider the Department of Energy, DOE, formed under Carter to "reduce our dependence on foreign energy". DOE has spent nearly a half trillion\$ and has not produced ANY energy, much less reduced dependence. Who then is the REAL villain?

American oil companies are tiny compared to the global Big Oil Groups and they have taken courageous risks to provide a critical and important service to assure America's success.

Speaker Notes - Commentary for the previous slide

Number 4 includes folks that are making 100s of millions of \$ selling a weird product based on perceived guilt; 'carbon credits' and other schemes.

While you can find hundreds of organizations when trying to access financial bias, some stick out like a sore thumb. Example: Cap and trade, if passed will be a boon for the appliance industry, since to sell your house you will likely have to replace the appliances. It is also a boon for wind generators, solar power systems and all the smart-grid components. A single corporation that sells all these things also owns a Major TV Network and a Cable TV network, used heavily to promote election of those who legislate requirements for its products. Many promotions are even veiled as 'News programs'.

Number 8, Meteorologists are an interesting group. Their main job is weather forecasting. However, they generally do not go to the scientist/climatologists, because those folks cannot tell them what will happen next week or next month. They mainly look at the present weather, note which way the wind is blowing and then tell everyone what weather is in our future. They **know** that no one can predict formation of clouds or precipitation short term nor, of course, long term. Thus, this group, by a factor of 20 to one, are not AGW alarmists; they simply do not believe the climate models or the rhetoric

Scares - Two Distinct Types

The Peoples' "Fault"

Population Bomb; starvation/crowding (1950s and 1960s)
Run out of Oil; (1950 to present)
Silent Spring; DDT (1960s 70s)
Global Nuclear War (1950s thru 1980s)
Global cooling; Ice Age/starvation (1895 to 1930 and 1956 to 1976)
Hole in the Ozone layer; CFC-cause? (1980s)
Acid Rain (1980s)
Nuclear Winter; nuke-caused ice Age (1980s 1990s)
Y2K; power/communication meltdown (1999)
Global Warming; earth burns & seas rise (1929 to 1969 and 1983 to 2003)
Climate Change; any change is catastrophic (2003 to present)

Not The Peoples' "Fault"

Flying saucer invasion (1940s)
Report from Iron Mountain; peace scare (1960s)
Volcano - Caused Atmospheric Pollution; crops die/ice age
Solar - Caused Climate Disaster; ice age, warming, radiation
Asteroid and Comet Strikes; climate crisis/mass extinctions

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Lately I have noticed that the big coverage and big focus seems to be only on those scares that can be blamed on us Humans. Thus, I have sorted my scare list into two tables.

Paul Ehrlich's "The Population Bomb" (1968), which warned: "In the 1970s, the world will undergo famine — hundreds of millions of people are going to starve to death in spite of any crash programs embarked on now."

His friend, our new science Czar, John Holdren; Holdren calculated in 1980 that famines due to climate change could leave a billion people dead by 2020. He championed "population control measures," and believed 280 million Americans would likely be "too many."

Like Ehrlich, Holdren forgot that **with bodies come minds**, minds that can innovate, invent, find ways to farm energy, find substitutes for scarce resources and find new ways to feed people. The next scare seems to be running out of water, a silly scare when you look at a photo of our planet.

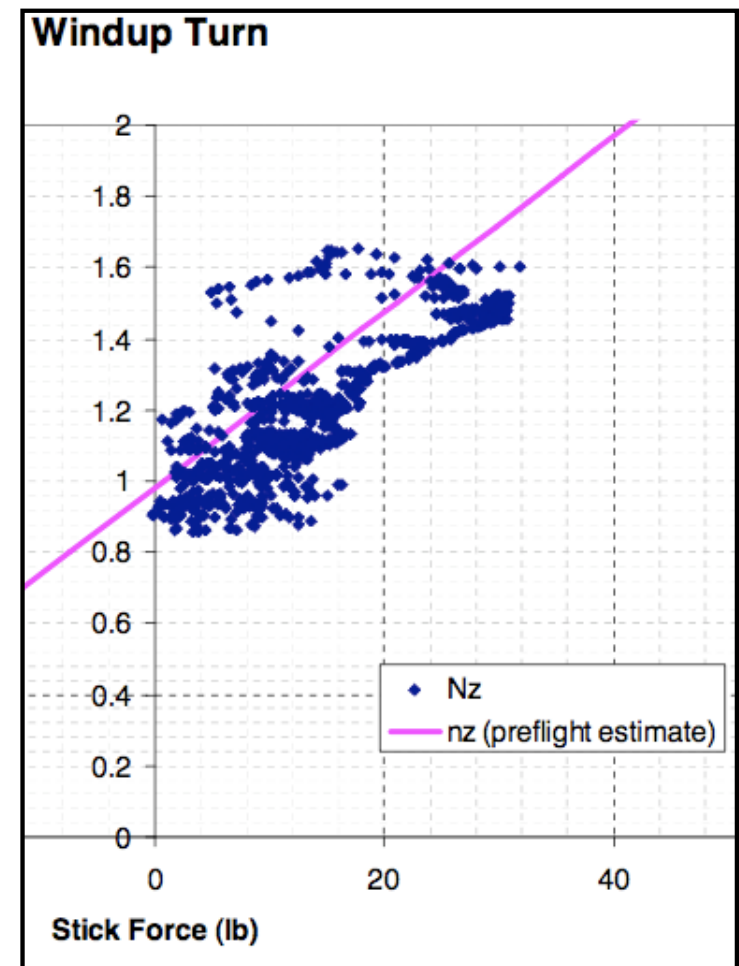
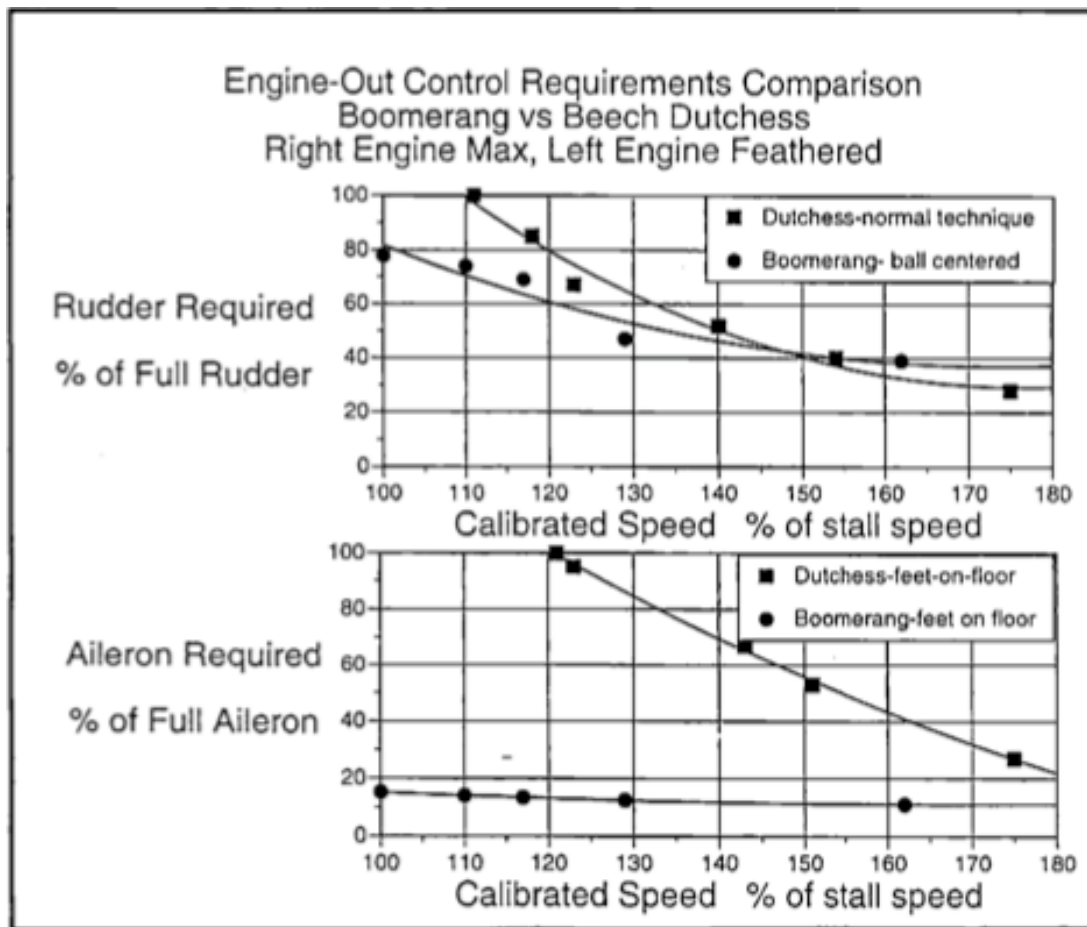
The DDT ban has resulted in the deaths of 10s of millions of people worldwide. It is only now being reversed in Africa.

The Ozone Hole scare ruined the CFC industries, killed the America's SST and resulted in inferior refrigeration. But we now know that the molecular transition requires a temperature 100 deg higher than found in the upper atmosphere. Alas, the Ozone hole does fluctuate; It always has and it has nothing to do with Air conditioning or hairspray cans. But, likely you were not told that Good News on the World News Tonight. In fact, if it means admitting that they were wrong about scaring you, we seem to never find out.

The last one; getting hit with very-fast Big Rocks, is the only real threat to make us extinct.

My Background - Flight Test Data Analysis

The more complex or uncertain the data, the more judgment is needed to interpret and the more susceptible the conclusions are to bias



Speaker Notes - Commentary for the previous slide

A quick snapshot at what kind of data I usually look at during a career of Flight Test Engineering.

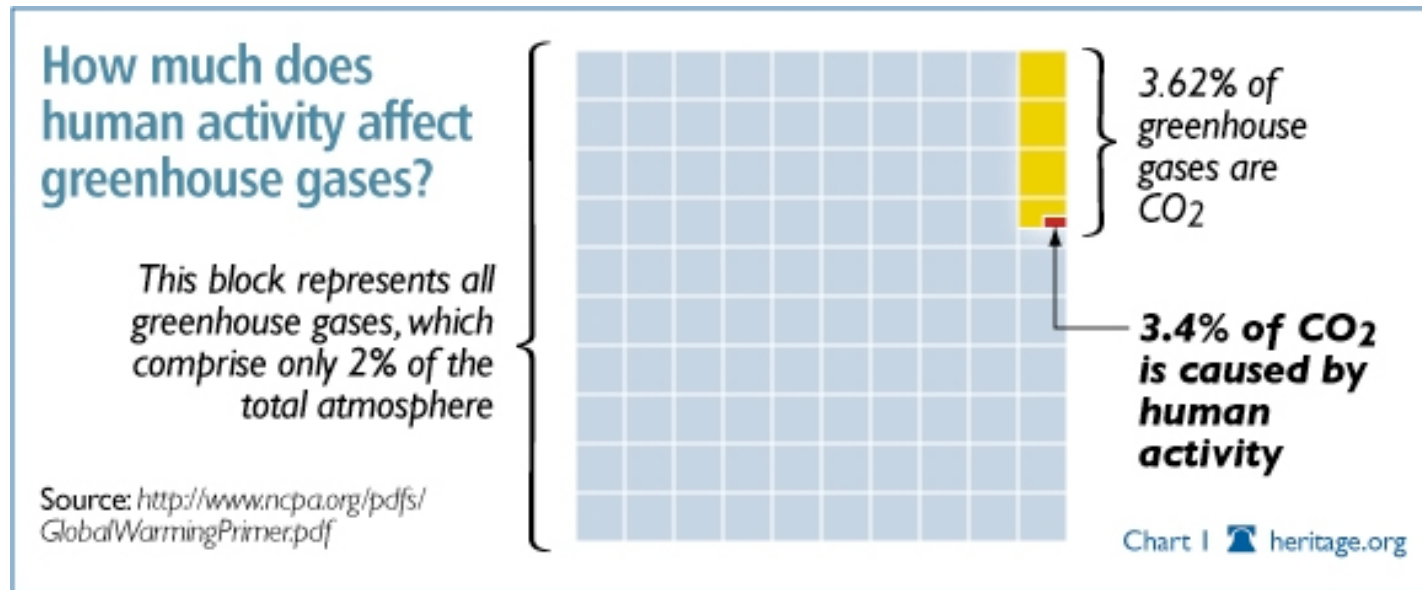
This slide shows two very different sets of typical Flight test data. The chart on the left is data that can be easily measured, the flight test has little test-induced errors and the results will be the same every time you re-test.

The Maneuvering stability graph on the right (magenta line is the pre-flight estimate) suffers from data noise, sensor friction/hysteresis and in flight it is hard to separate out corrections for other effects in order to arrive at a proper conclusion. The data shown could be faired as stable, neutral or unstable. This will require a bunch of additional flight testing and analysis in order to gain the needed confidence in meeting maneuvering stability requirements.

Greenhouse Gas Warming

The Alarmist' Key Ammunition;

Humans add CO₂ to Atmosphere
That 'pollution' drives temperatures to Catastrophe



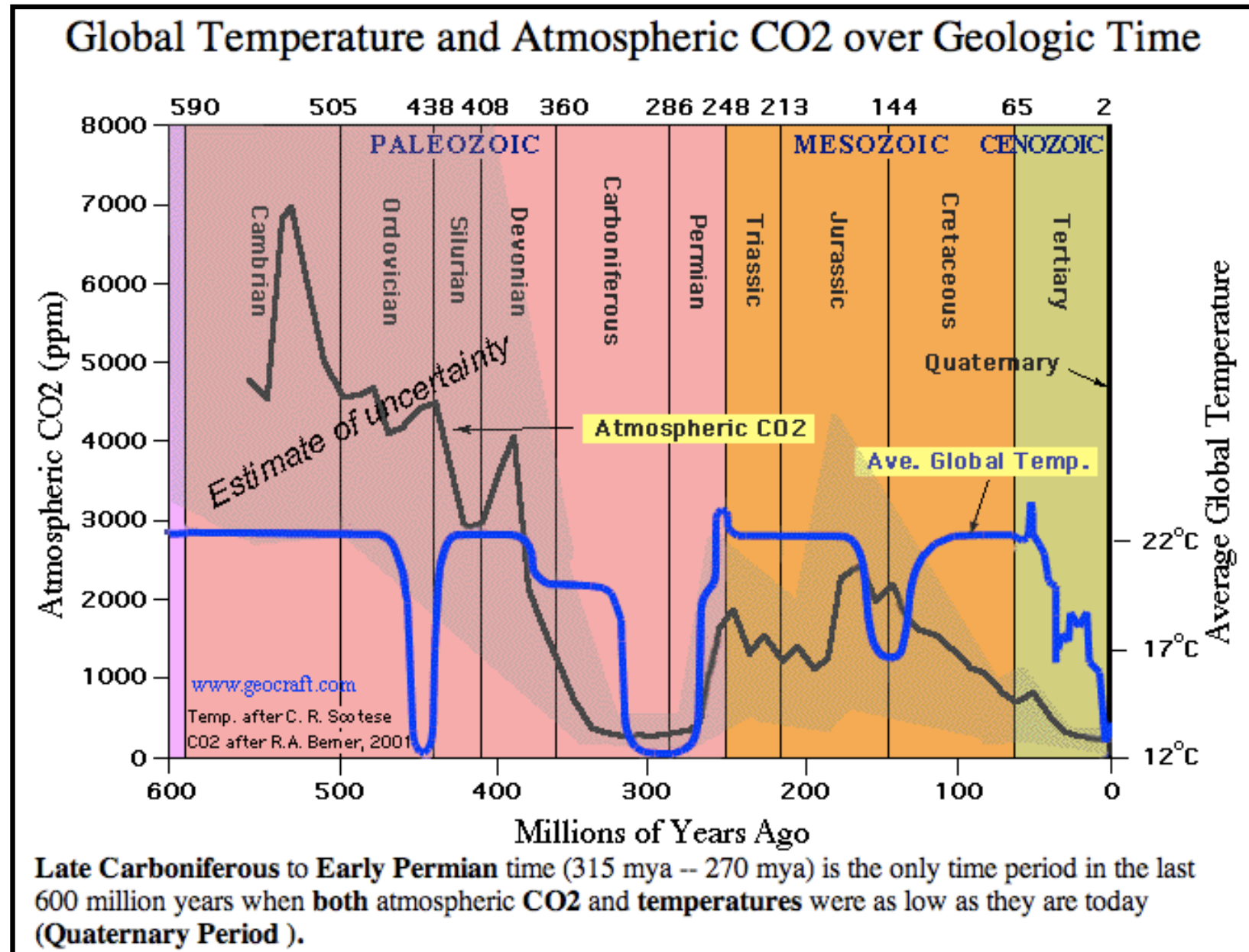
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Introducing the current AGW scare requires only a look at Greenhouse Gasses. The big block of 100 squares represents all the greenhouse gasses, dominated by water vapor. The Yellow is CO₂ that comes from natural sources (other than Man). The little Red block is CO₂ from Human emissions. Stare at this chart while you ask yourself; Why would the economies of the US and the world be threatened by this much of the greenhouse gas, even if the greenhouse were the only driver of planet warming?? It is not, and we will later see other, more powerful things that control the planet temperature.

There is an enormous push now to reduce the red block by a few % by 2020 - a difficult, expensive goal that will have a nil effect on planet temperature or any other climate “crisis”.

Those pushing the hardest to reduce man-caused CO₂ and those controlling the funds for research, actually worry little and care little about the threat of warming or flooding. If they did, they would not personally grossly emit carbon or buy homes at Sea Level in West Palm Beach, Florida.

Global Atmospheric CO₂ is now Very Low



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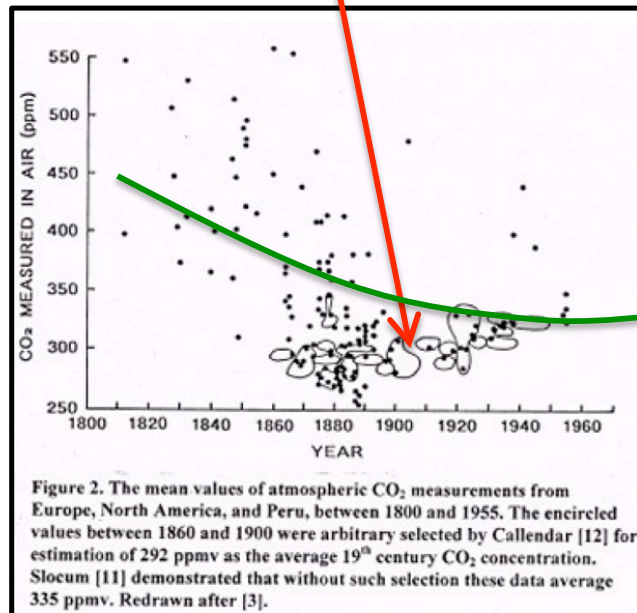
Scientific study of sedimentary rocks suggests the Earth's atmosphere in ancient times had considerably more CO₂ than today (black line). Current CO₂ % is similar to a similar lull, 300 million years ago.

From a long-term perspective, atmospheric CO₂ is now VERY LOW.

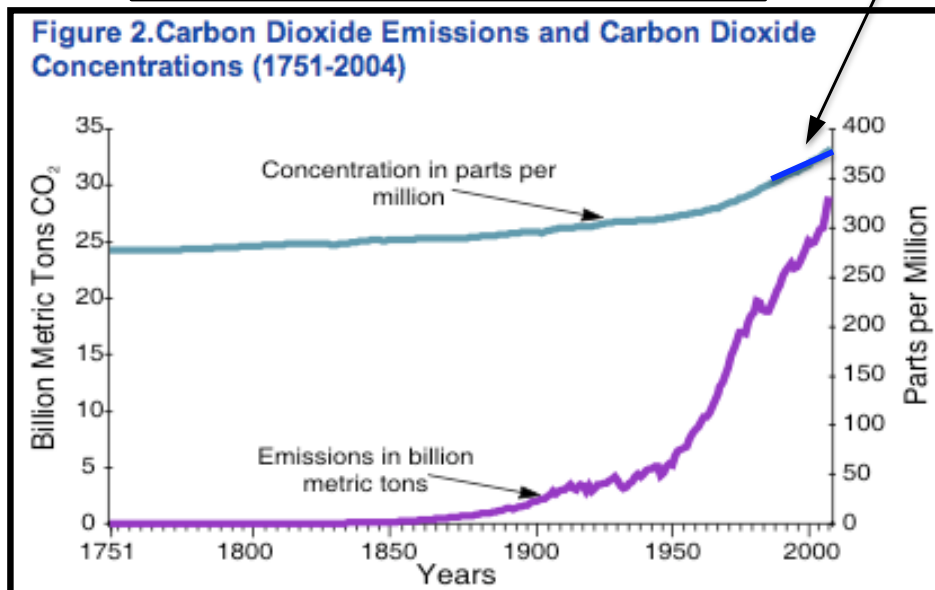
Selection of only the
circled data points that
support your theory

Measured Atmospheric CO₂ %

Manipulation of data



Blue line is modern, accurate data
Mauna Loa Observatory, Hawaii



Speaker Notes - Commentary for the previous slide

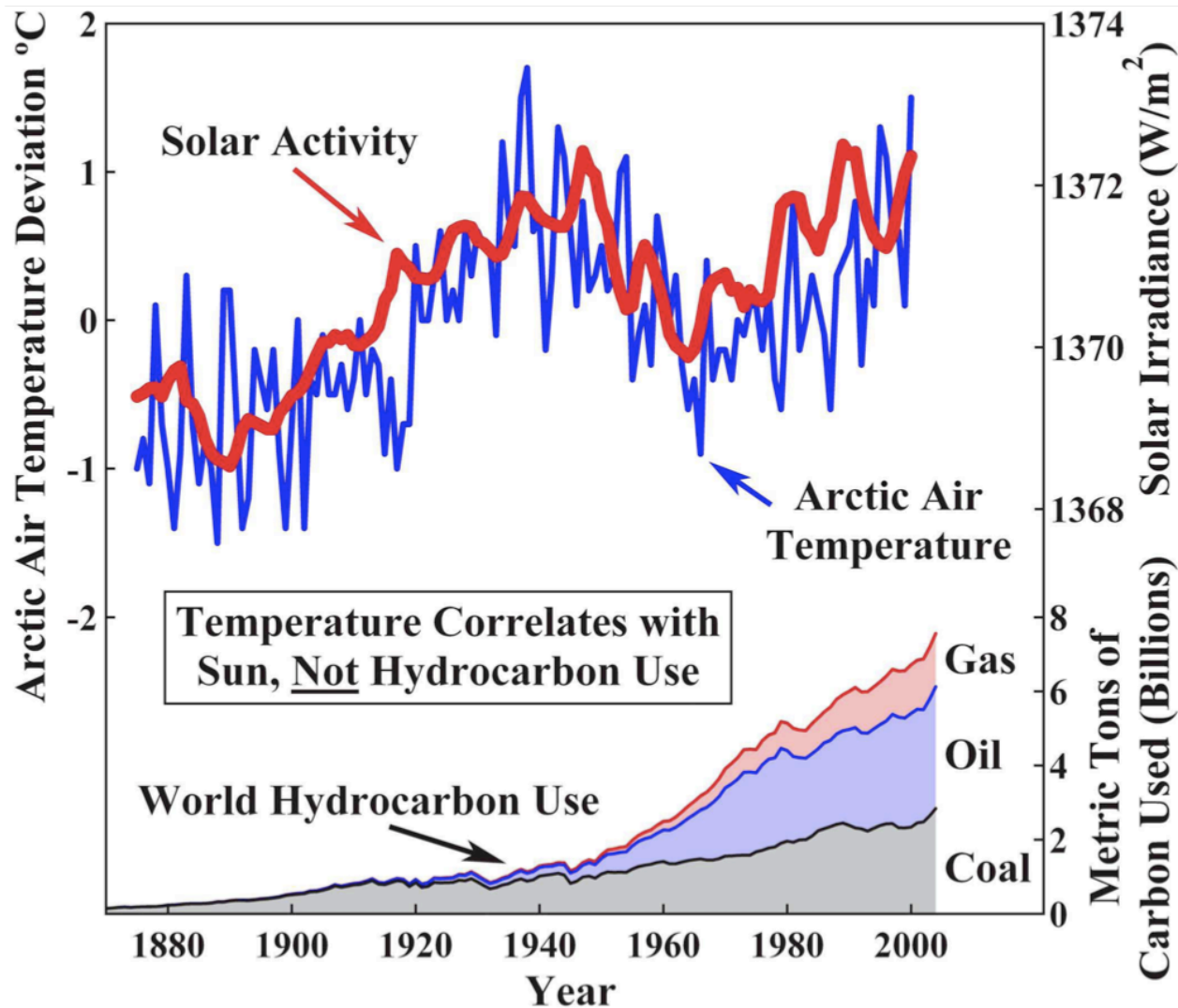
The top chart, without its faired lines, is the **measured** atmospheric CO₂ from Europe, North America and Peru from 1800 to 1955, using old methods with poor accuracy, with lots of scatter. The blue segments, that extend the data to present time (both charts) are modern accurate measurements of CO₂ from the observatory in Hawaii. These modern data have high precision and little scatter.

The presenters of the chart below (the chart is scaled and located to match the dates of the upper chart) somehow wanted to infer that all the measurements, back to 1751 also had low scatter and high accuracy, in order to make their point about the CO₂ correlation with human emissions. So they only used selected (circled) points from the early data so their chart shows a smooth line! Another, more supportable fairing of the scattered data (the green line in top chart) does not make their correlation “proof”.

Many experiments have demonstrated that the rate of plant growth is largely governed by the amount of CO₂ in the atmosphere. As atmospheric CO₂ increases, the growth rate of plants increases dramatically. Atmospheric carbon dioxide is the basic food for all plants, and since plants provide the food for animal life (including humans), CO₂ is the base of the food chain for all life forms on Earth. The present level of CO₂ in the atmosphere is low by historical standards. If atmospheric CO₂ is significantly reduced, it is more likely that slower plant growth could affect world food supplies while having little effect on global warming. The life of all plants and animals on Earth is dependent on CO₂ for food and oxygen. Carbon dioxide is not a pollutant. It is the staff of life for our planet.

Assessing the Blame for Warming

1960 to 2000 shows good correlation of warming and Carbon emissions.
Not true when you look at all the data.



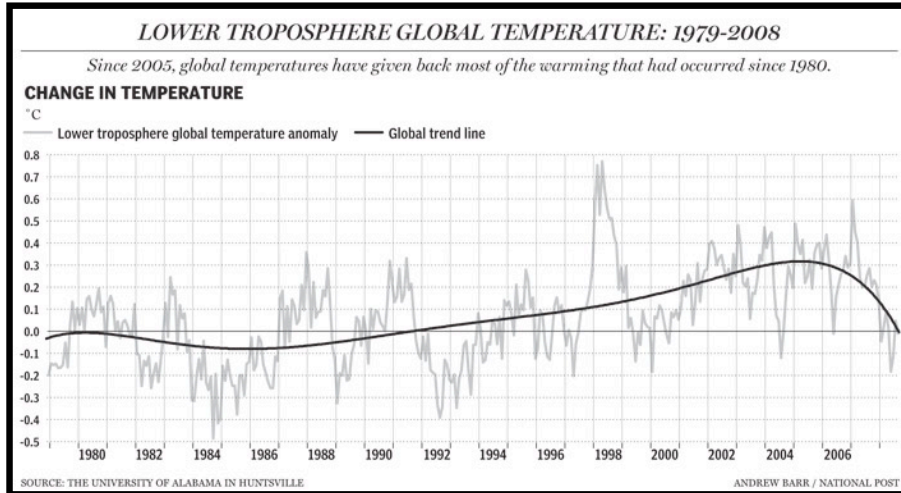
Speaker Notes - Commentary for the previous slide

You do not see this chart being presented by the Alarmists or by the UN summary report writers. Summary report writers are really political folk who cherry pick from the scientist's data.

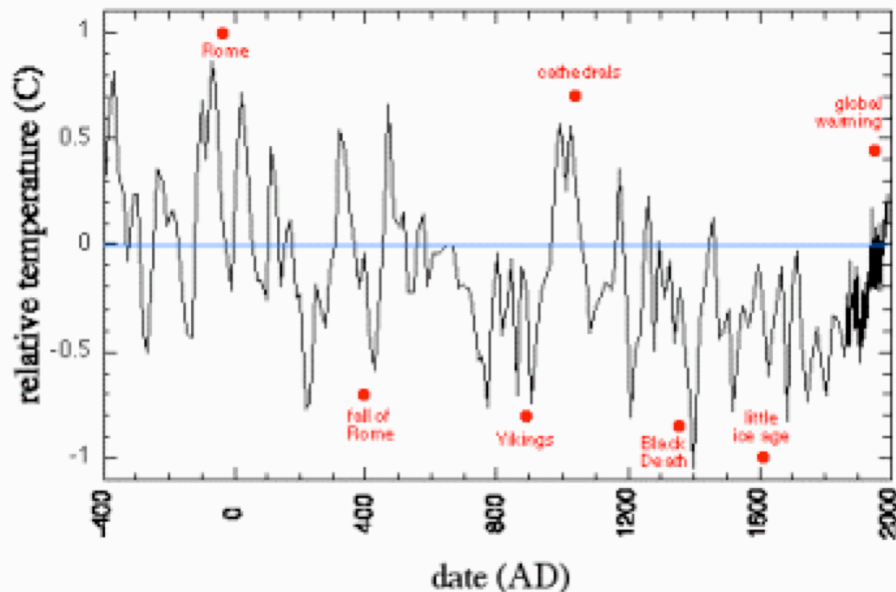
When addressing accurate data, they usually show just the data after 1960, without the solar data (red line), in order to illustrate a correlation of arctic temperature with human emissions, a correlation that is clearly not supported by the measurements.

No Intended Deception Here

One data source; Thirty-year
Temperature history

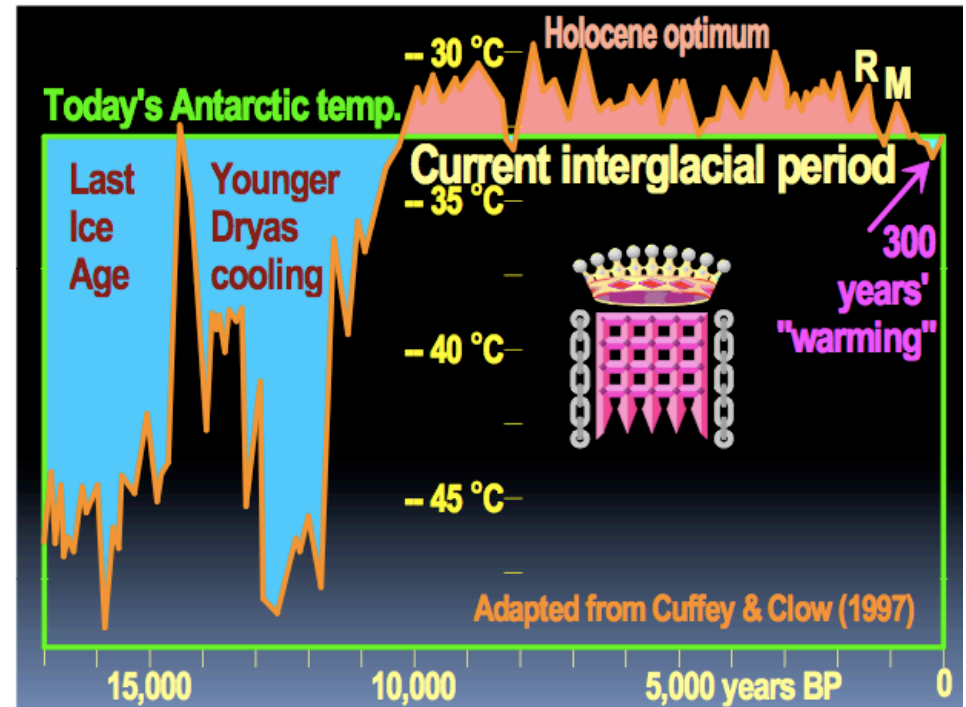


Data source mix without deception



Many data sources; 15k years
Roman and medieval Warming in
perspective.

You would never see this in a UN Report



"Global warming" in perspective: The recent 300-year period of "global warming", nearly all of which cannot have been anthropogenic, is insignificant in comparison with the Holocene climate record. Throughout much of the past 10,000 years, including the Minoan, Roman (R), and Medieval (M) warm periods, global temperatures were up to 5 Fahrenheit degrees warmer than the present. Today's temperatures are not unprecedented.

Speaker Notes - Commentary for the previous slide

Here we see 3 examples of data presentation that do not seek to deceive.

Plotting one data source generally gives the highest-confidence presentation; top chart, Troposphere Global temperature.

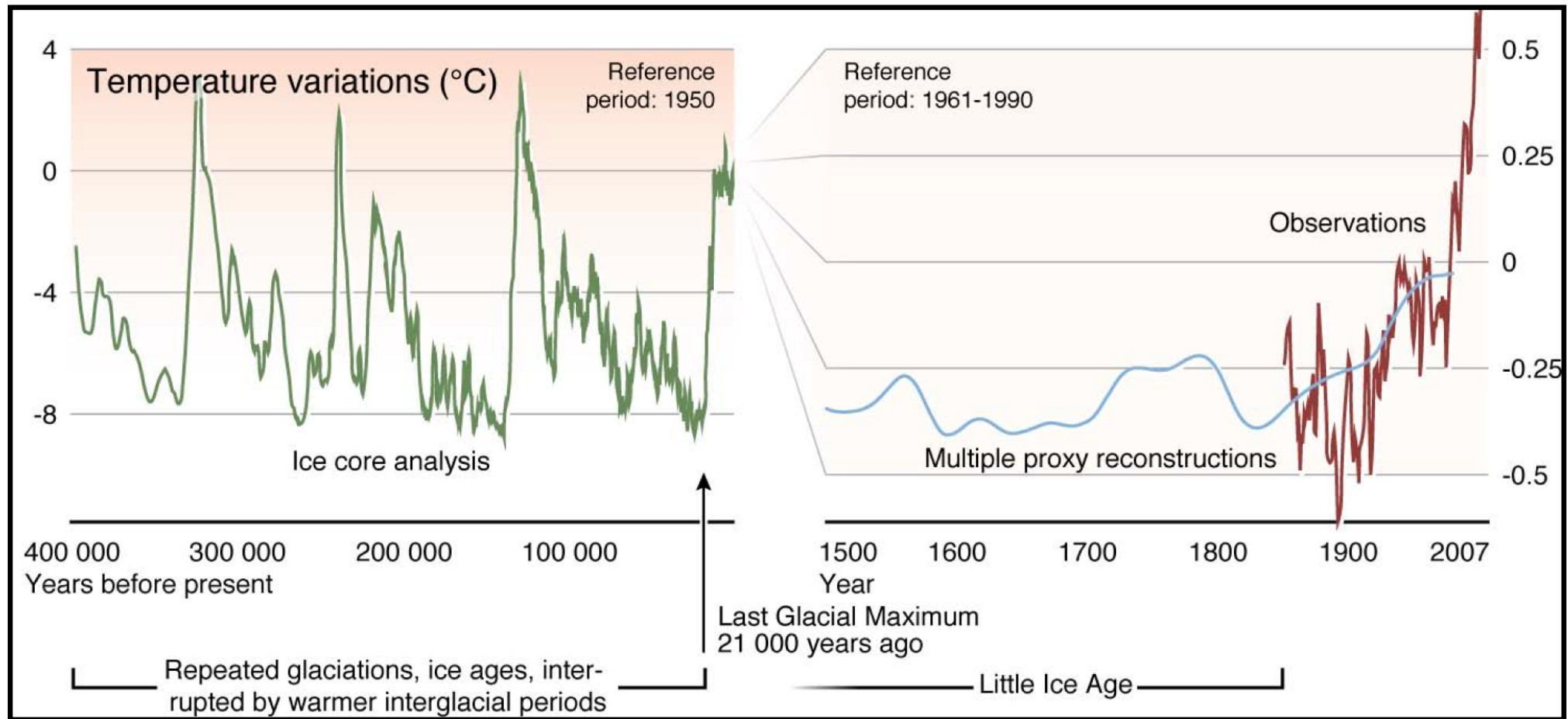
Data can be mixed and still not deceive, if the full extent is shown; lower left chart.

Deception would be showing only the last 250 years of the lower left chart. That is what the Alarmists do. That would show that two, agreeing sources are compelling to support a unique crisis.

The right chart. Many data sources. A full 15k years are shown. This chart puts the current warming in perspective with earlier climate extremes. The UN summary report would never show this chart since the recent “Global Warming” looks insignificant.

Two Types of Presentation Fraud

Scale changes and data source mixing



Speaker Notes - Commentary for the previous slide

This chart shows another example of data presentation fraud – a popular chart used by the Alarmists.

The most recent data on the right is temperature, inferred from several sources, including tree-ring growth. It is mixed with a bit of the ice-core data, using heavy filtering.

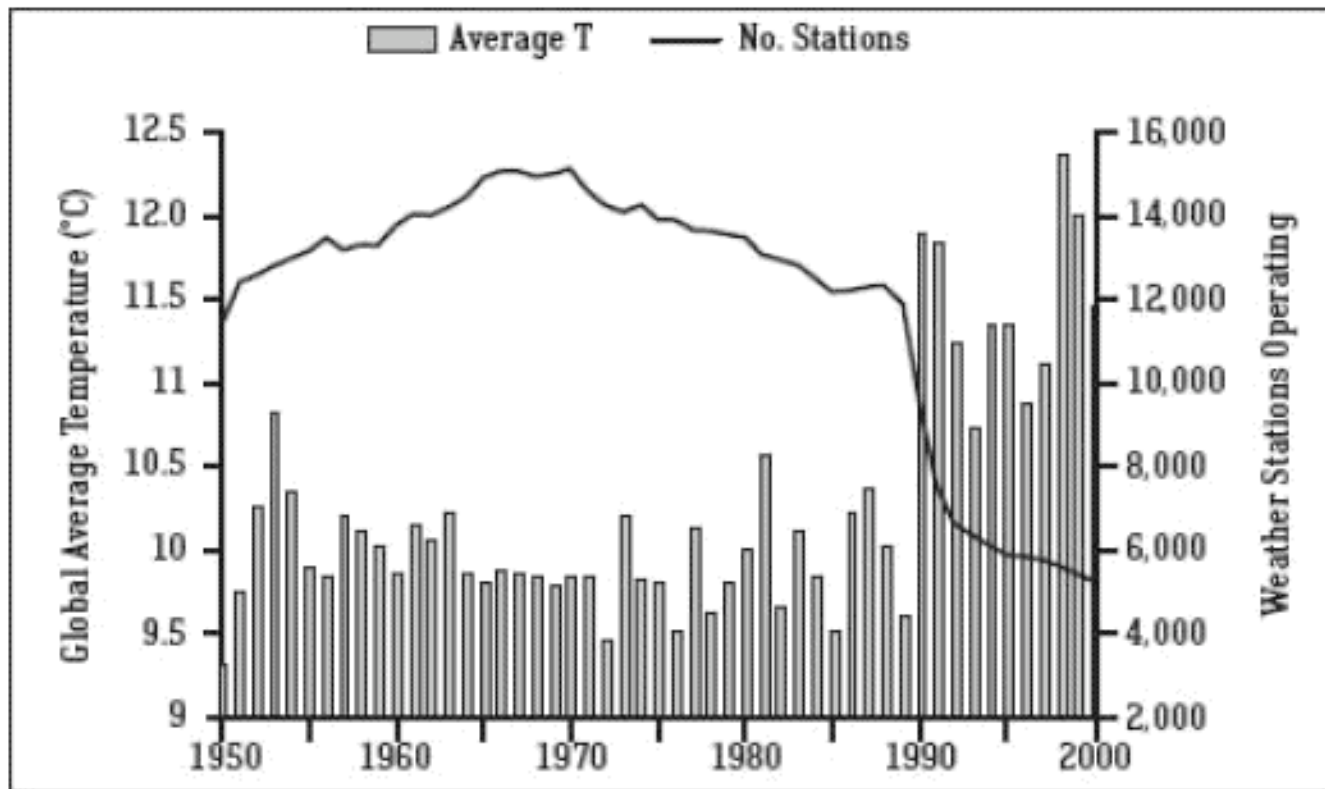
The magnitude of the ‘scare’ at right is actually similar to the many variances measured during last 12k years (refer to the relative scales and note that the “crisis” is merely another of the many small green ticks at the extreme right side of the green ice-core data).

Also, their scale cutoff eliminates the medieval warming, thus making 20th century GW look unique and scary, when it is not.

You can prove ANY point if you mix and match data and present it in a way to hide the truth.

Surface Temperature Measurement

Number of surface thermometer stations and global temperature vs. date (1950 to 1999)



When the Soviet Union rapidly collapsed in 1989/91 they did not maintain many of their surface temperature measuring stations. Thousands of the cold stations were closed.

Speaker Notes - Commentary for the previous slide

This chart plots global average temperature (the bars) and the number of active weather stations (the line), from 1950 to 2000.

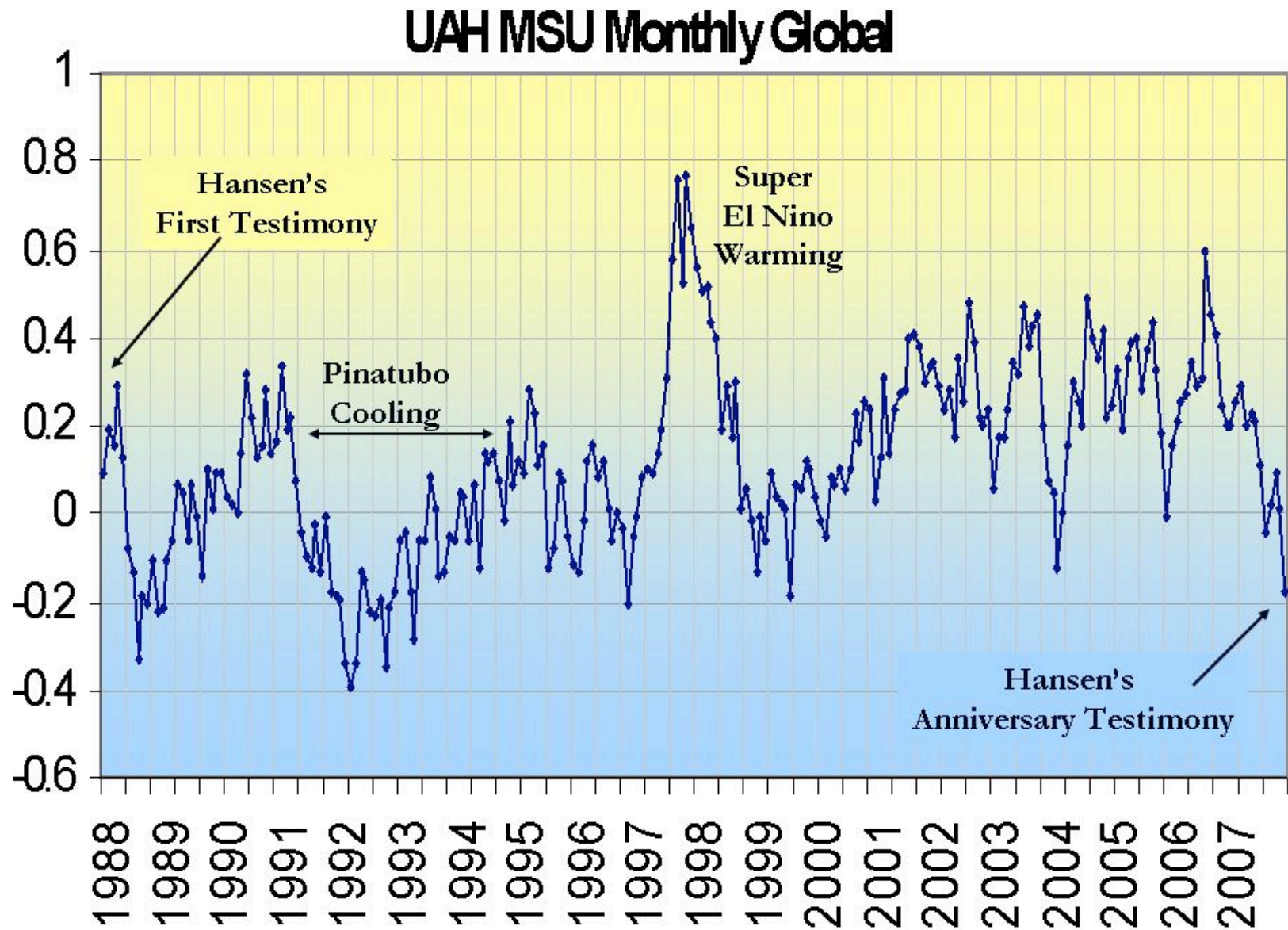
The collapsing Soviet Union (1989 to 1992) did not maintain many of their surface temperature measurement stations - Yep, mainly the cold ones.

The decade that followed is now known as the “hottest decade ever” - not really, but the thermometer global-averaging helped with the hoax. The scientists did do some tiny “corrections” for failed thermometers, but not nearly enough to show an accurate global average.

In general, surface measurements are so scattered, have issues with localized industrial encroachment and deal with such a tiny amount of the earth's surface that their conclusions are suspect at best.

Also, later, when Russia did not deliver their October data, NASA's scientist, James Hansen merely substituted the warmer September data, thus showing a widely-reported “surge” in Global Warming. He was caught with this deception, but we did not find that out from our sleeping Media.

A Note About Gore's hero, NASA's Chief Alarmist



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Speaking of Hanson; Note when Jim Hanson first raised alarm; 1988. Later, before the pre-Pinatubo cooling, he complained that his alarms were being censored. He got a lot of attention and support from the alarmists in 97/98 (El Nino buildup).

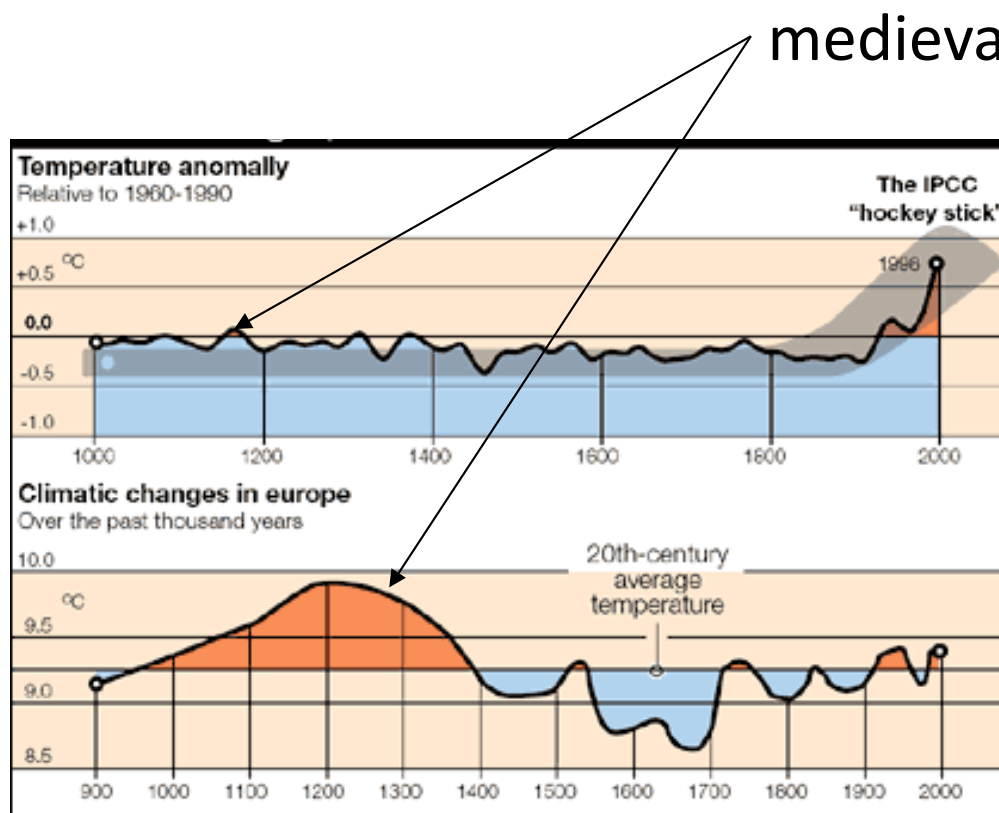
The shock is that his 2008 Anniversary Testimony demands trial and jailing of Corporate CEOs that do not agree with his GW alarms, at a time following one of the largest ever measured temperature drops, when we actually were cooler than his first testimony 20 years earlier. Who should be jailed? A better question is who will do the indictment when Hanson is a hero of the majority of Congress and every new Presidential Czar. Frankly, what is needed is for Hanson to actually bring them to trial, so the raw data will get public exposure. Sue me Hanson, go ahead.

From Dissing Hansen, by Peter C Glover.... "NASA is becoming just another agency caught up in the politics of global warming, or worse, politicized science. Advocacy is replacing objective evaluation of data, while scientific data is being ignored in favor of emotions and politics."

In November, Harrison 'Jack' Schmitt, the only Scientist to walk on the moon and former chair of the NASA Advisory Committee, resigned from the Planetary Society. Schmitt's resignation letter identified the Society's new 'roadmap' that attempted to link space exploration and climate change research on earth. In his resignation letter Schmitt states: "You know as well as I, the 'global warming scare' is being used as a political tool to increase government control over American lives, income and decision making. It has no place in the Society's activities."

Honest Presentation?

"Nobody is interested in solutions if they don't think there's a problem. Given that starting point, I believe it is appropriate to have an over-representation of factual presentations on how dangerous (global warming) is, as a predicate for opening up the audience to listen to what the solutions are. "Al Gore, *Grist Magazine*, May 9, 2006



medieval Warming

Gore Presentation

Actual European
Temperatures, same time
period

Speaker Notes - Commentary for the previous slide

In his movie, Al Gore did indeed refer to the medieval warming, by pointing to the tiny orange blip on his “Hockey stick” chart. How could he present unchanging temperature data for the last 1000 years, before Humans caused this crisis? His 2006 quote gives a hint.

What is “an over-representation of factual presentations”? Do we dare call that a “lie”?

Gore was also recently heard in London saying the important goal of all this is to bring about Global Governance. Is this the reason he cherry-picks the data?

But, Gore does not 'Manufacture' Data

He has lots of help

- His 'Hockey Stick' graph is from UN/IPCC, 2001 (now discredited)
- Cherry Picking Data
 - Present only data that supports 'The Cause'
 - Focus on Katrina, but ignore thunderstorm statistics
 - Show only melting ice, but ignore ice growth
 - Quote only the highest-possible crisis predictions
 - Focus on CO2 fears; ignore its benefits
 - Never discuss any climate good news
- "Statistics are like a bikini. What they reveal is suggestive, but what they conceal is vital."

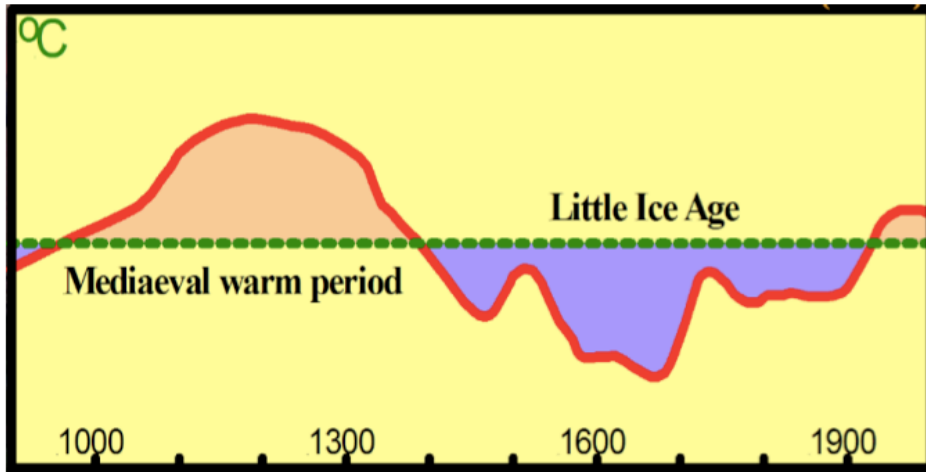
Speaker Notes - Commentary for the previous slide

Gore actually shows his compelling story **without** specifically faking his data.

Others do that; he selects only the scary stuff - and his bias is rarely questioned from most media and the Government Climatologists.

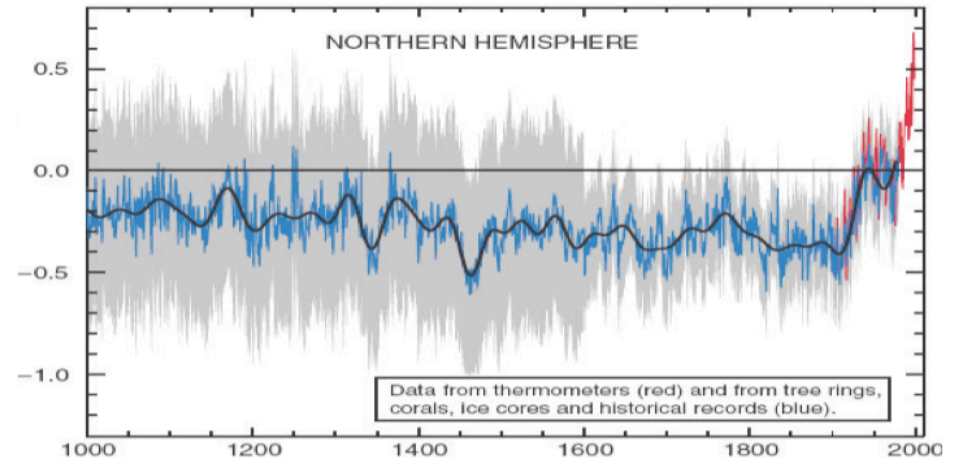
UN IPCC Data Manipulation

Now you see it (IPCC, 1990) ...



Medieval warm period? Yes. This drawing of a graph in the IPCC's 1990 report shows it clearly.

... now you don't (IPCC, 2001)



Medieval warm period? Not any more: the UN purported to abolish it in its 2001 assessment report. The above graph appeared six times, in full color, and at large scale, in the 2001 report, the only graph to be so favored.

1990 to 2001; a complex, lengthy path of data manipulation, driven by non-scientific political goals.

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The two charts, with the same time period, were both presented by UN summary reports, 11 years apart.

The path between the two is a mix of pseudo-science and political goals. Their famous “hockey stick” chart on the right is a mix of ground thermometers, tree rings, corals, ice cores and other historical records. It was generated by many processes; all sufficient to abolish the appearance of Medieval warming, and to indicate that the current warming is unique. Their full process is too complex to present here.

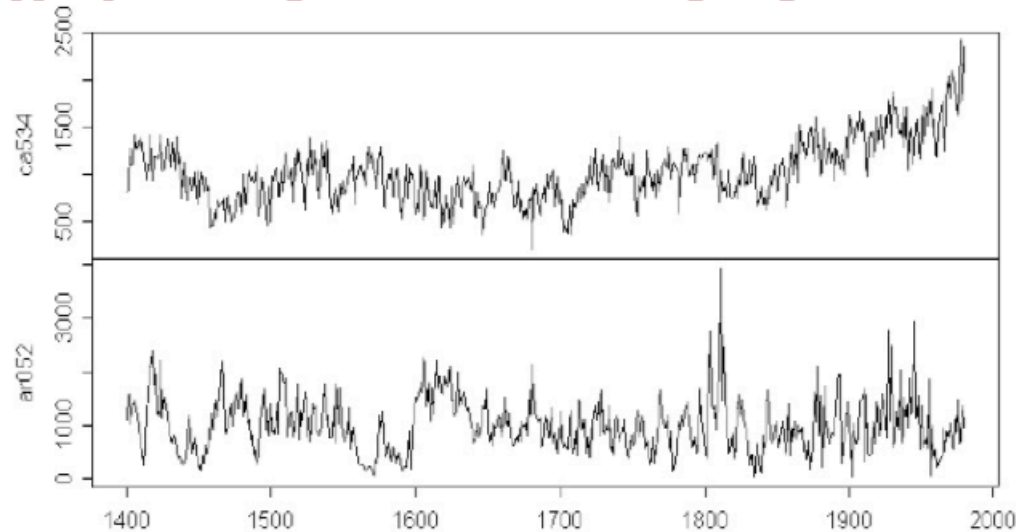
The link below refers to a detailed analysis of how the IPCC got from the Left chart to the Right chart.

Refer to the link, or the book “Politically Incorrect Guide to Global Warming” for an analysis of the UN process.

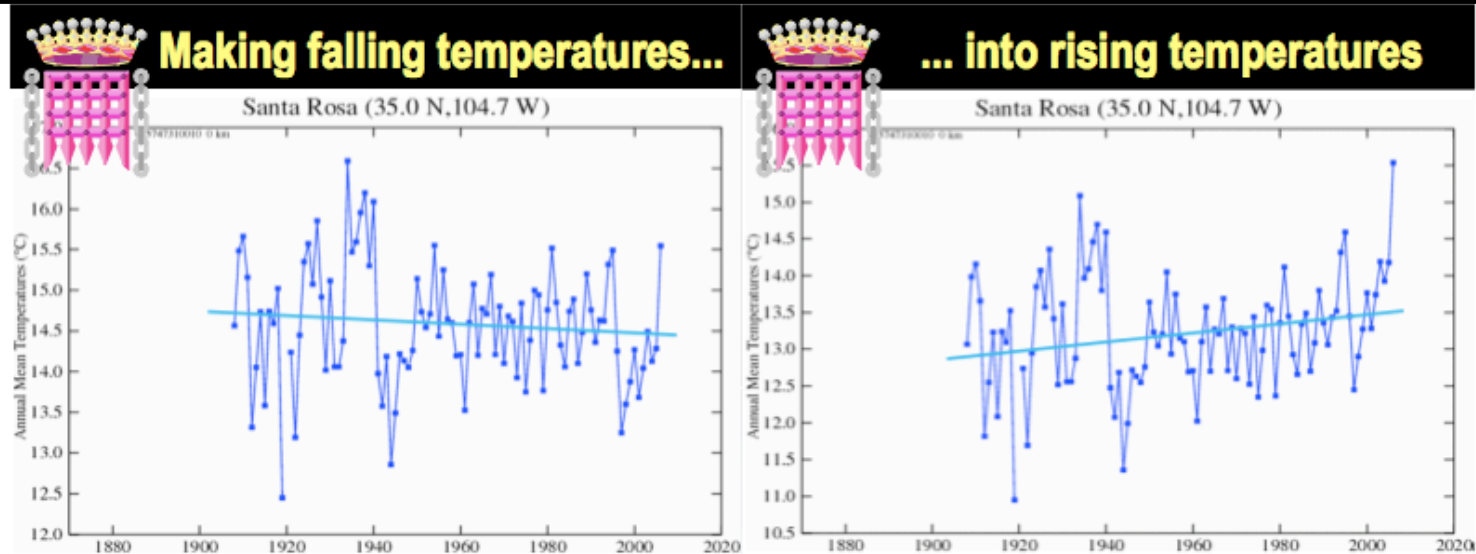
http://scienceandpublicpolicy.org/images/stories/papers/reprint/markey_and_barton_letter.pdf

UN Data Manipulation

The upper panel was given 390 times the weighting of the lower panel



A false balance is abomination to the Lord: In the compilation of the UN graph purporting to abolish the medieval warm period, the upper data, showing the present day to be warmer than the previous 600 years, was given 390 times the weight of the lower data, showing the Middle Ages as warmer than the present.



Prestidigitation: The raw temperature data (left) show cooling. The data after adjustment by GISS show warming, because data from the 1930s have been altered. The reason for this alteration of historical data is unclear and requires investigation.

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One step in the UN's manipulation process to abolish the medieval warm period is shown in the top chart. Upper and lower data are separate sources; they weighted the upper 39,000 percent higher than the lower! The UN report writers somehow **really** like data that show present temperatures are unusually warming. As long as they are un-opposed, they will continue the fraud.

The bottom chart shows data from a single thermometer station located in Santa Rosa NM. The raw data is on the left. The right data has alteration, primarily of the 1930s data.

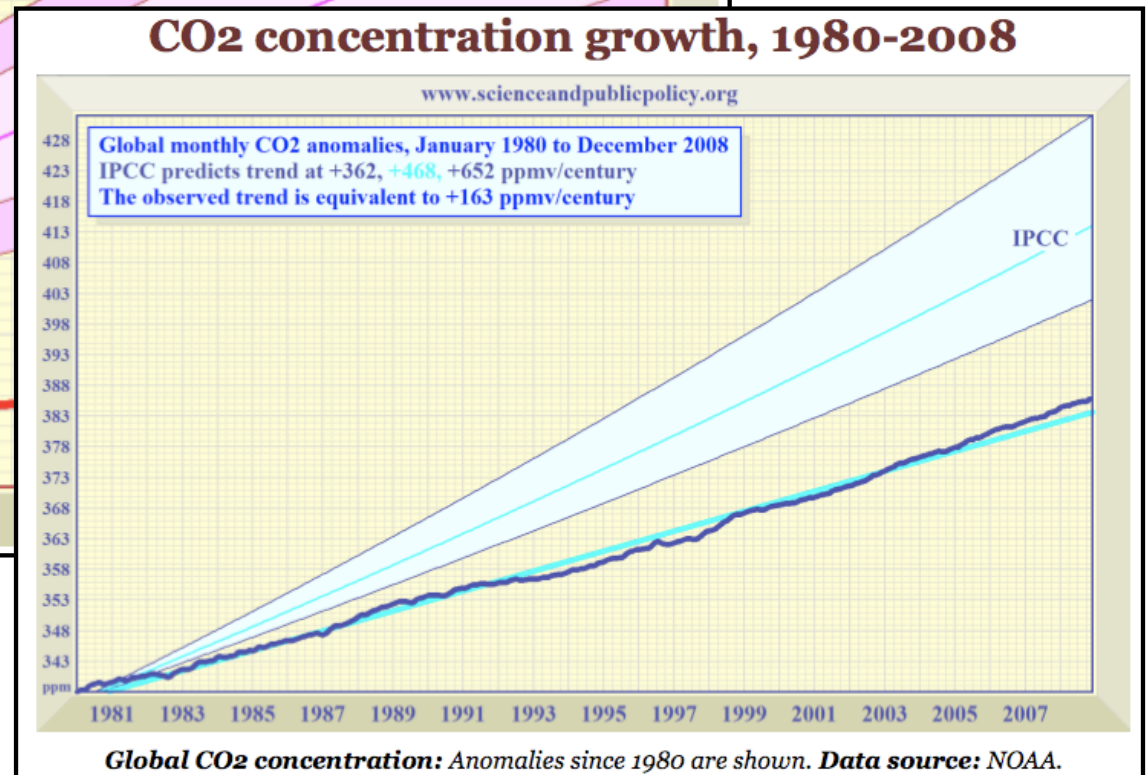
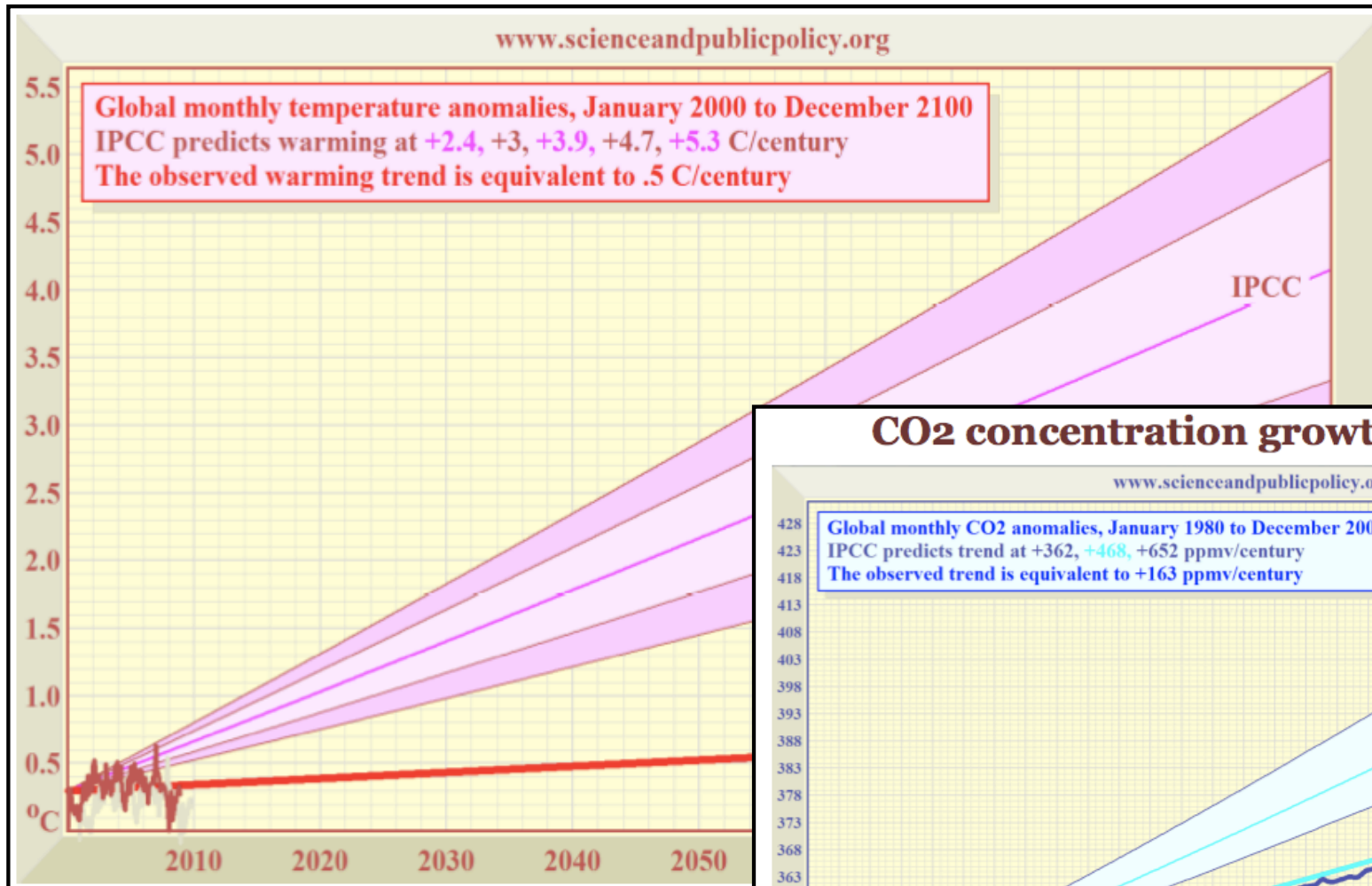
Note how a 'small tweak' completely changes the trend slope, the impact and the conclusion on warming/cooling.

Note also the "ominous" rise of the last data point. However, photos show that an outdoor barbeque was recently added, only 4 meters from the measuring station; a probably cause of the one half degree rise.

The scientists sometimes do provide a justification for data alteration, but it is interesting that almost all the tweaks are to force their pre-conceived conclusion of crisis warming.

The Media Does Not Investigate

They just listen to the Alarmists and then report that GW is “worse than the UN predictions”



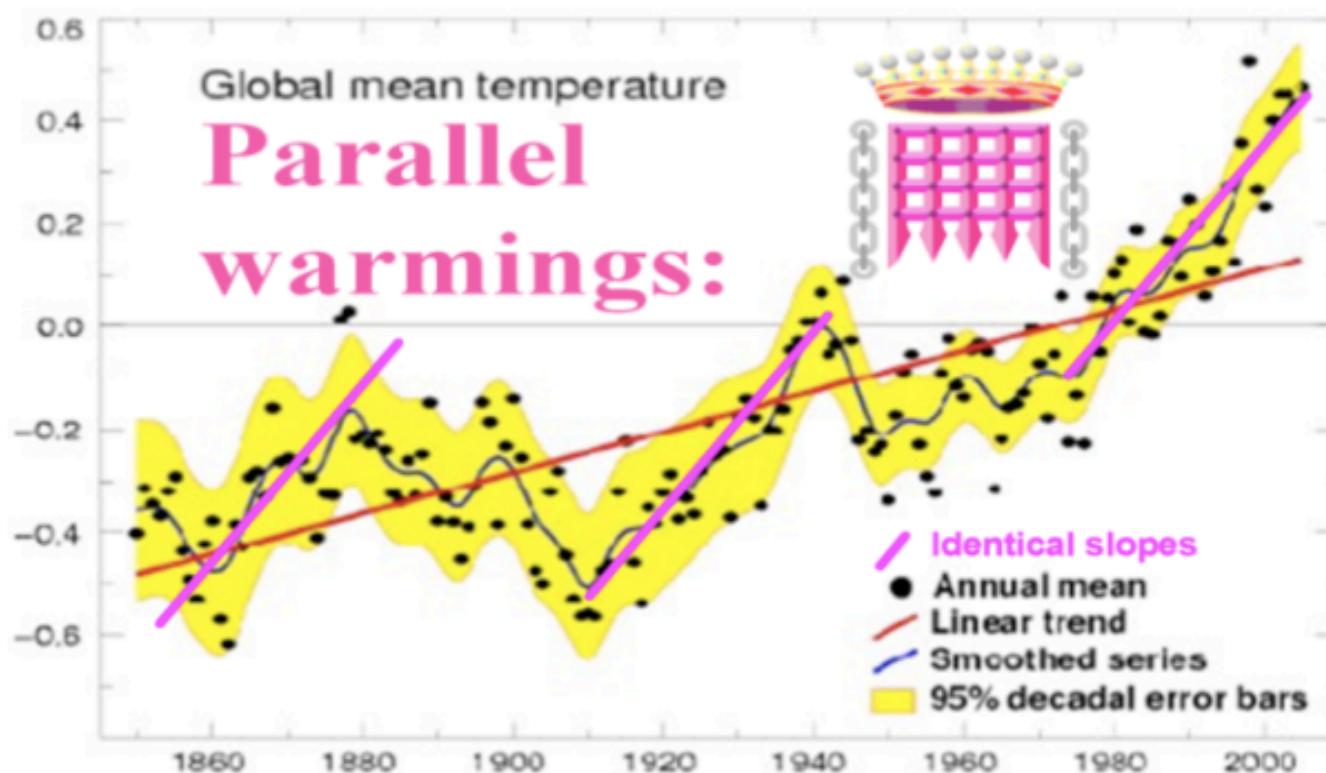
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Is it honest when Gore, the Progressives and the Media report that the Climate Crisis is actually **worse** than the UN predictions?

Shown here is temperature for 11 years and CO2 for 28 years, along with the UN predictions.

High-slope, 20-year Periods are Not Unique

The truth: 1860-1880 and 1910-1940 warmed just as fast as 1975-1998



No anthropogenic signal: The world warmed at the same rate from 1860-1880 and from 1910-1940 as it did from 1975-1998 (see the three parallel magenta trend-lines). The former two periods occurred before humankind can possibly have had any significant influence on temperature. Therefore there is no anthropogenic signal in the global temperature record, and no basis for the IPCC's assertion that the warming rate is accelerating.

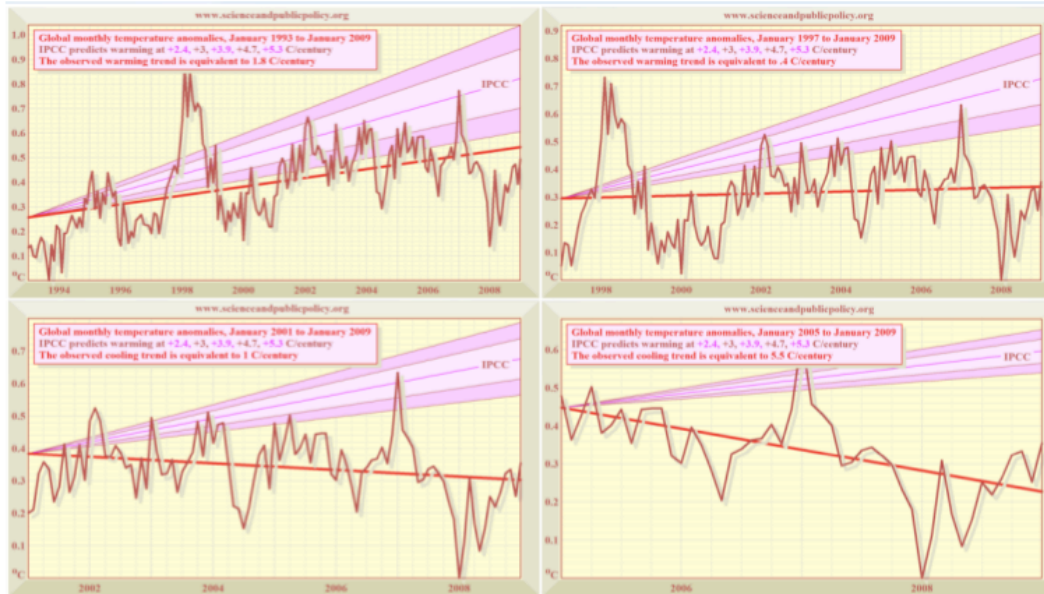
Speaker Notes - Commentary for the previous slide

The alarmists love to focus on the “Crisis” - the high-slope blade section of their hockey stick, saying it is unique and then they extrapolate it for the next century and beyond.

Here, we see the 1980s/1990s “blade” is not unique - someone must have been driving their SUVs in the 1920s/1930s period and the 1860s/1870s period.

Note: these data are truncated, hiding the recent cooling.

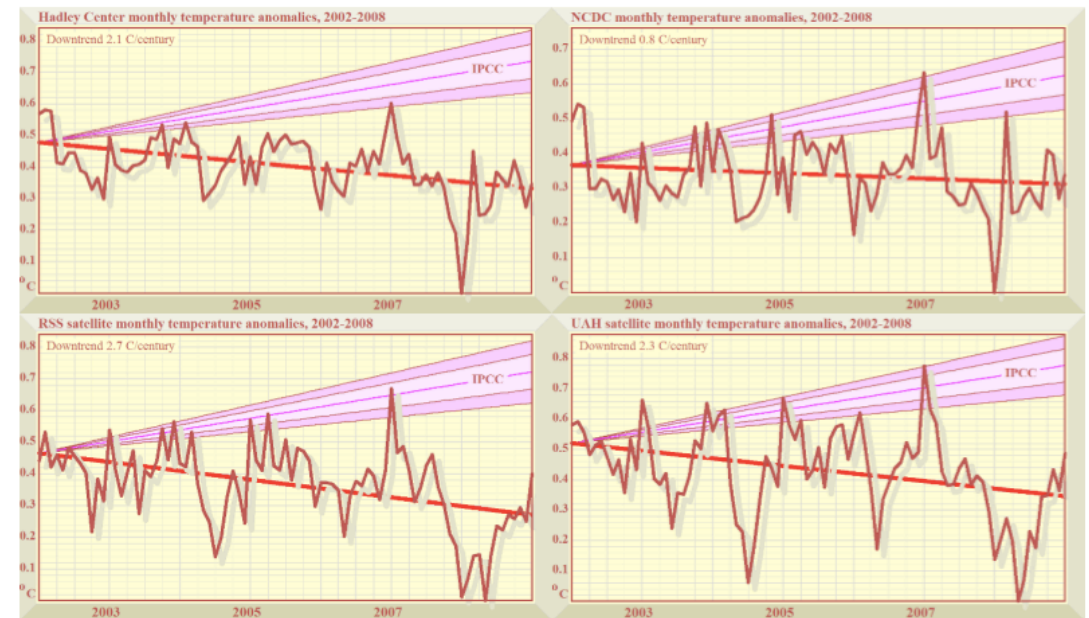
Heading for a new Ice Age? "Global warming" becomes cooling



Any result you want: Beginning in 1993 (top left) and advancing the start-date successively by 4 years at a time, the IPCC's own data show the world heading for an Ice Age. Using the same data as the IPCC, we reach a diametrically opposite (and equally unjustifiable) conclusion, proving the IPCC's abuse of statistical method.

Opposite conclusion, same data, thus it might be low confidence.

7 years' global cooling confirmed by Hadley, NCDC, RSS, and UAH



Unanimity: Each of the four separate datasets used in the compilation of the composite global-temperature index shows seven years' rapid global cooling. Each of the four individual graphs is generally similar to the graph of the combined datasets. Therefore use of the composite index was reasonable, fairly reflecting the underlying datasets.

Confidence restored by four sets of separate, reliable data - Hadley, Goddard, U of Alabama and Remote Sensing

Speaker Notes - Commentary for the previous slide

What you see in a picture depends on how you focus. Note the 16-year satellite atmosphere temperature data (upper-left of top chart) shows that temps did indeed somewhat follow the IPCC forecast. Each of the 4 data sets are merely a truncation of the earliest data. Looking only at the last 8 years, we clearly see significant cooling.

The cooling is an opposite conclusion for the same data, showing how easy it is to abuse the statistical method by a closer focus.

But, the 8-year focus is on only a short interval, so is it high confidence?

As mentioned before, it could be deception, so more data are needed.

The bottom chart provides the data to give confidence (Last 7 years, four **different, reliable** data sets. Hadley Britain, NASA Goddard, Christy group U of Alabama & Remote Sensing - all have the same cooling result).

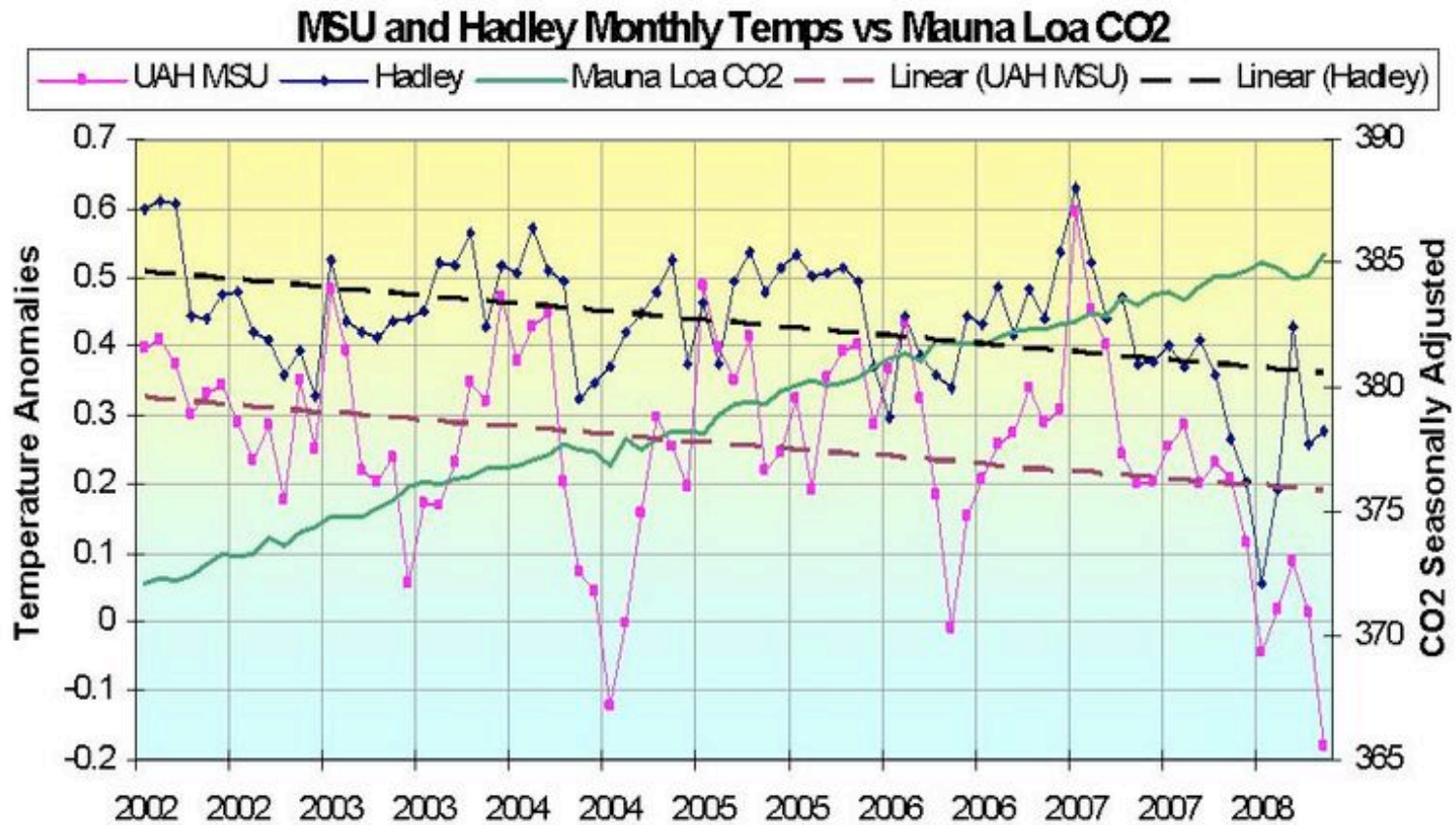
Thus, we have high confidence that the planet has indeed cooled since before 2002.

Note the failure of the IPCC model predictions.

These data, along with other scientific sources, confirm that the planet has cooled over the last 8 years, in spite of the continuous rise of human emissions of CO₂.

Conclusion: Bias in the GHG model prediction/presentation can show a WORTHLESS result; yet it is all the alarmist climate “scientists” depend on and it is what drives the whole ‘Crisis’ Political initiatives.

Recent Global Warming has **NEGATIVE** correlation with CO2
(two sources of the best data)



Negative correlation since 2002

R= - 0.42 with Hadley, - 0.26 with MSU

Speaker Notes - Commentary for the previous slide

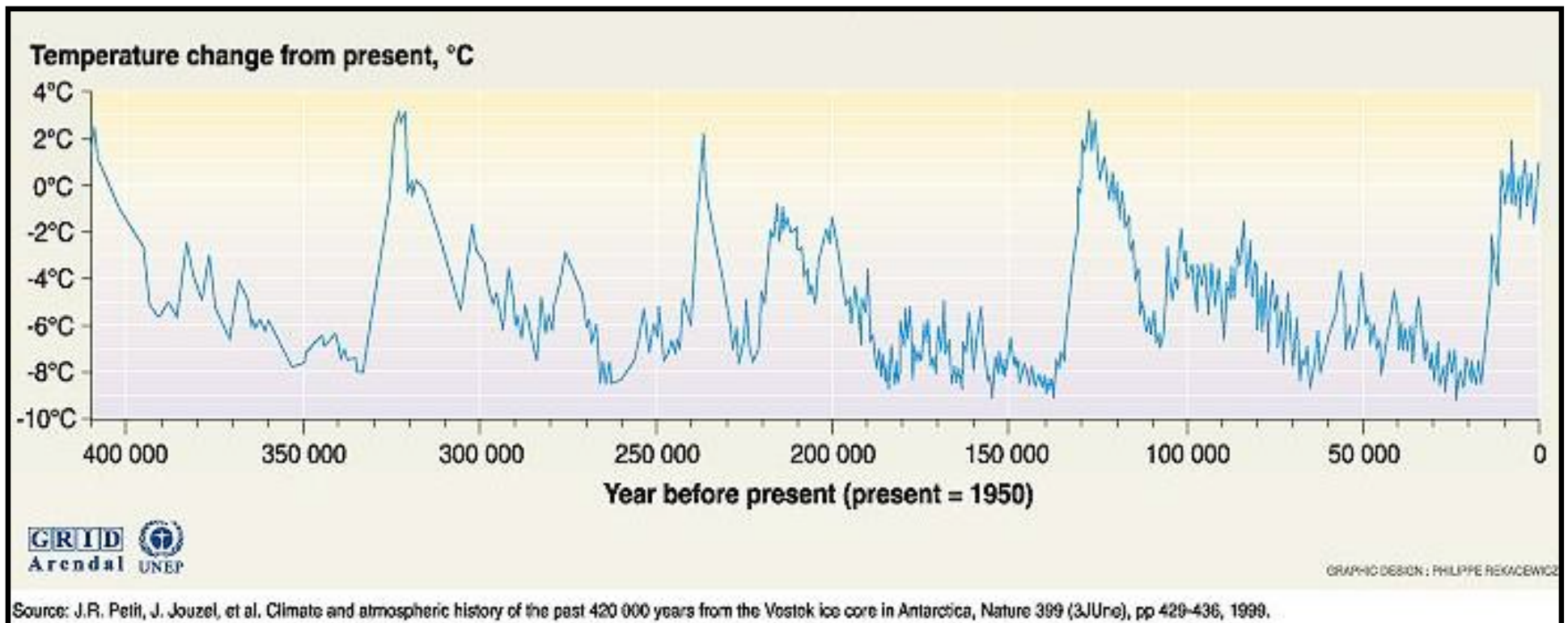
The Alarmist Book “Basic Physics of Climate Change”, by David Hafemeister and Peter Schwartz concludes: “Earth is getting warmer. Basic atmospheric models clearly predict that additional greenhouse gasses will raise the temperature of Earth. To argue otherwise, one must prove a physical mechanism that gives a reasonable alternative cause of warming. This has not been done. Sunspot and temperature correlations do not prove causality”.

This chart has the most accurate data available; Satellite measurement of atmospheric temperature and CO₂ from the Hawaii observatory. A better argument for Hafemeister/Schwartz would be that the physical mechanism of CO₂ causing temperature increase is **not** supportable.

Atmospheric Temperature over 410,000 years

Data from the Vostok ice cores

- Total historical variance is less than today's day-night delta.
- Time period encompasses tens of thousands of severe volcano events with greenhouse gas issues swamping any human emission capability.
- The 'norm' is lengthy ice ages; warm periods are brief.
- The recent warm period is the most stable; 12k years at a pleasant temperature.



Speaker Notes - Commentary for the previous slide

Here we see 410kyr of ice core data.

If you throw a dart, then show the previous 100 yrs data, and then correlate that with something you want to eliminate, you can always claim “we have a serious crisis and we **know** the culprit”.

Looking at the last 12kyr data, earth’s temp has been more stable than any previous warm period in the last 0.4 million years.

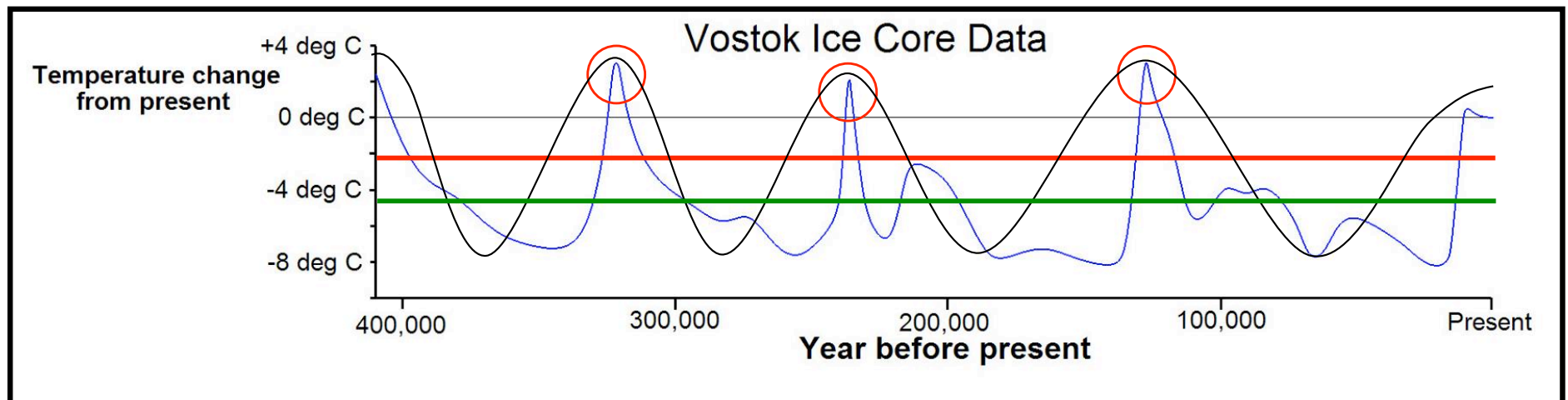
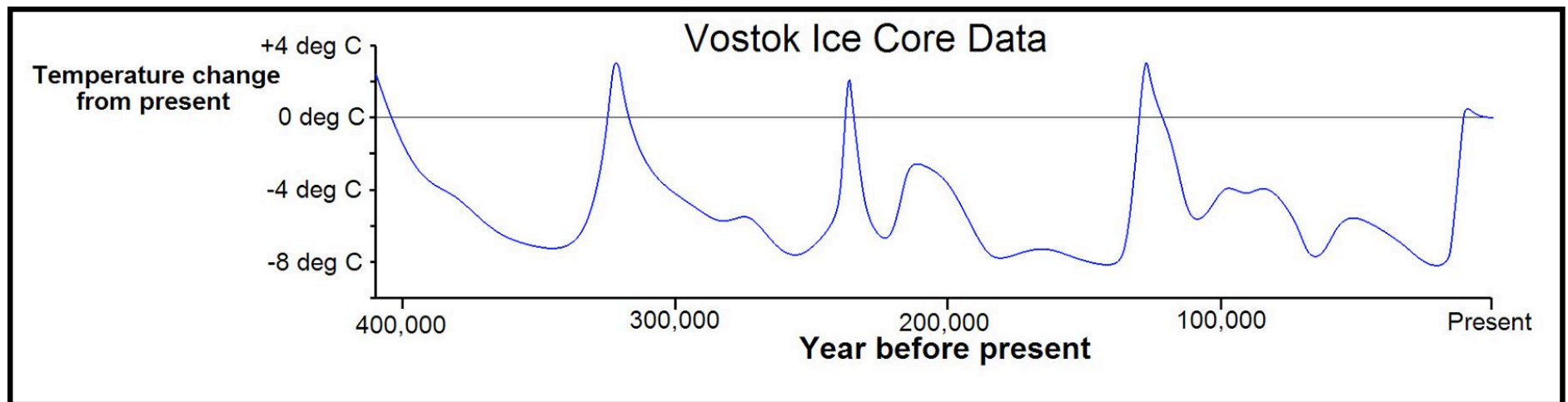
There is a very strong modulator, consistent for the entire time; in spite of high-slope changes, the total range of Global average temperature varies by **only** the current day-night change (12 deg C)!

Is hot or cold bad?? The Alarmist warns that a third of Florida could again be flooded like it was many years ago. However, most of North America and Europe have had a mile-thick ice sheet, most of the time.

Therefore, if you have a of crisis, is it the rescue of those in Disney World or the need for everyone move to Panama/Sahara to keep from freezing?

Analysis of the Vostok Ice Core Data

- Encompassing sinusoid is 2 deg C cooler than present (red line).
- Average real temperature is 5 deg cooler than present (green line).
- Aggressive second-derivatives are at warm peaks (red circles).
 - The planet naturally avoids over-temp in a robust, aggressive way.
- The Big Risk is too cold (the planet's natural preference is severe ice ages with massive extinctions).



Speaker Notes - Commentary for the previous slide

The Vostok ice core data are crying out for some analysis. I faired the data and added a line at the current temperature. The consistent cold/warm cycles are about 84k years.

If the temperature up-down forcing were uniform, the data would look like the added black sinusoid. However, the real data are grossly different. The planet is naturally robust to avoid over-temp - an unknown, very strong, non-man correction - away from the warm periods (aggressive second-derivative at top of warm periods). The planet preference is the ice age, where the fossil record shows extinction prevalence.

Note that all the previous warm periods were significantly warmer than the current temperature – opposite of what the ‘Save the Planet’ alarmists claim is a “unique present warming”.

Why should we worry about too hot, when clearly our **real** risk is too cold?

Hurricanes, floods, lightning, tornados, sea ice, glaciers, weather deaths, rising seas - Alarmists Claim Crisis Without showing Data.

Pg 1

Figure 1 Global death and death rates due to extreme events, 1900–2006

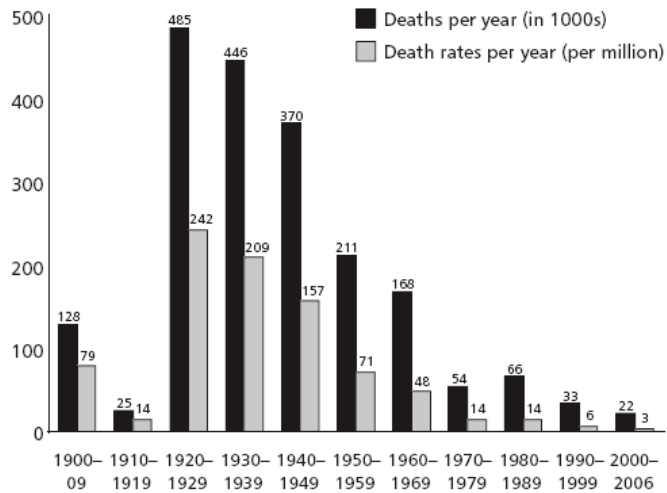
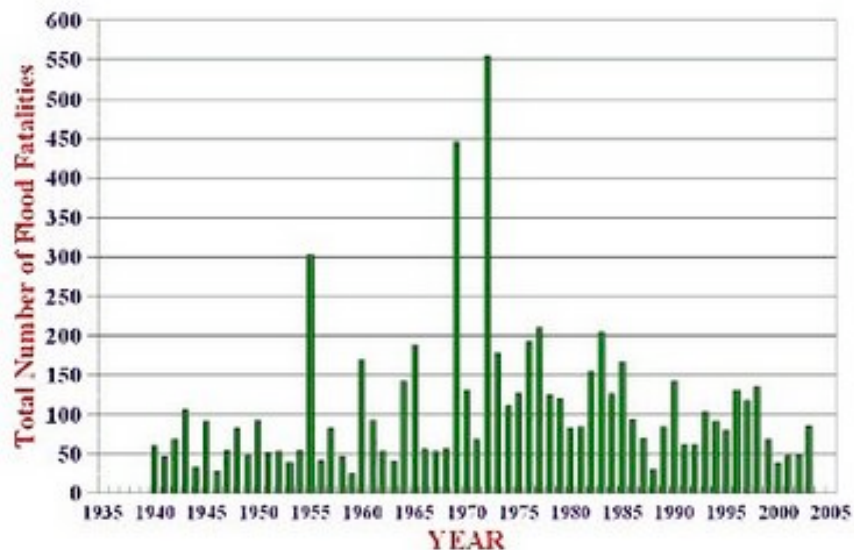


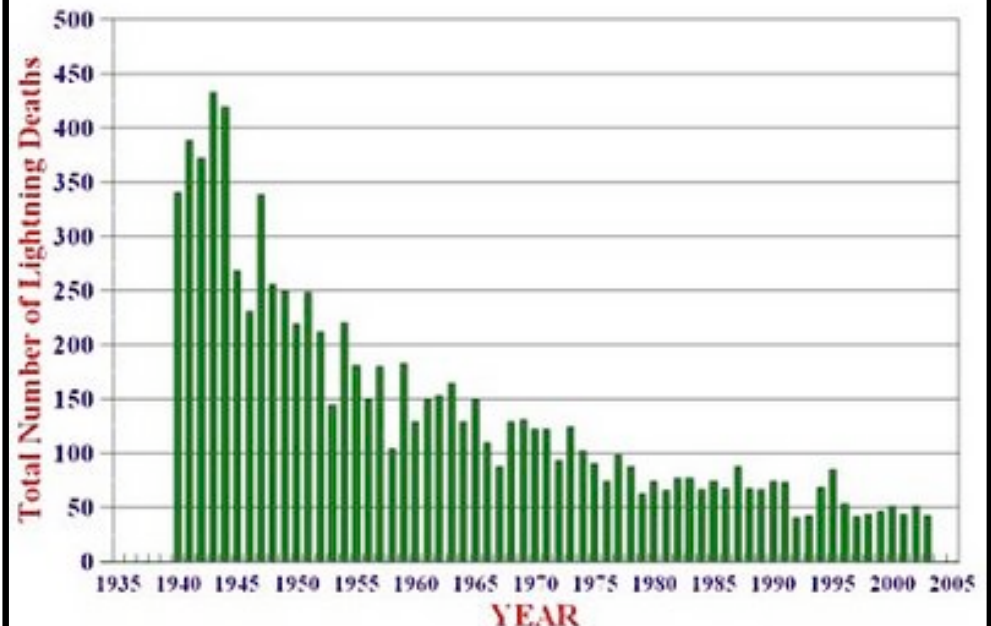
Table 3 US deaths due to weather-related events, 1979–2002. Sources: for extreme events, see text; for total all-cause mortality, USCB (2004).

	Cumulative deaths	Deaths per year	Percent of annual all-cause deaths
Extreme cold (XC)	16,313	680	0.031%
Extreme heat (XH)	8,589	358	0.016%
Flood (F)	2,395	100	0.005%
Lightning (L)	1,512	63	0.003%
Tornado (T)	1,321	55	0.003%
Hurricane (Hu)	460	19	0.001%
Sum	30,590	1,275	0.058%
Total deaths, all causes, 1979–2002 average		2,189,000	100.000%

U.S. Flood Fatalities
1940-2003



U.S. Lightning Deaths
1940-2003



Speaker Notes - Commentary for the previous slide

To read the news, one would think **everything** is catastrophe, all being accelerated after 1970 when we greedy humans started driving SUVs and dumping greenhouse gas.

One should be asking “why do they say this” and why does the Media parrot them?

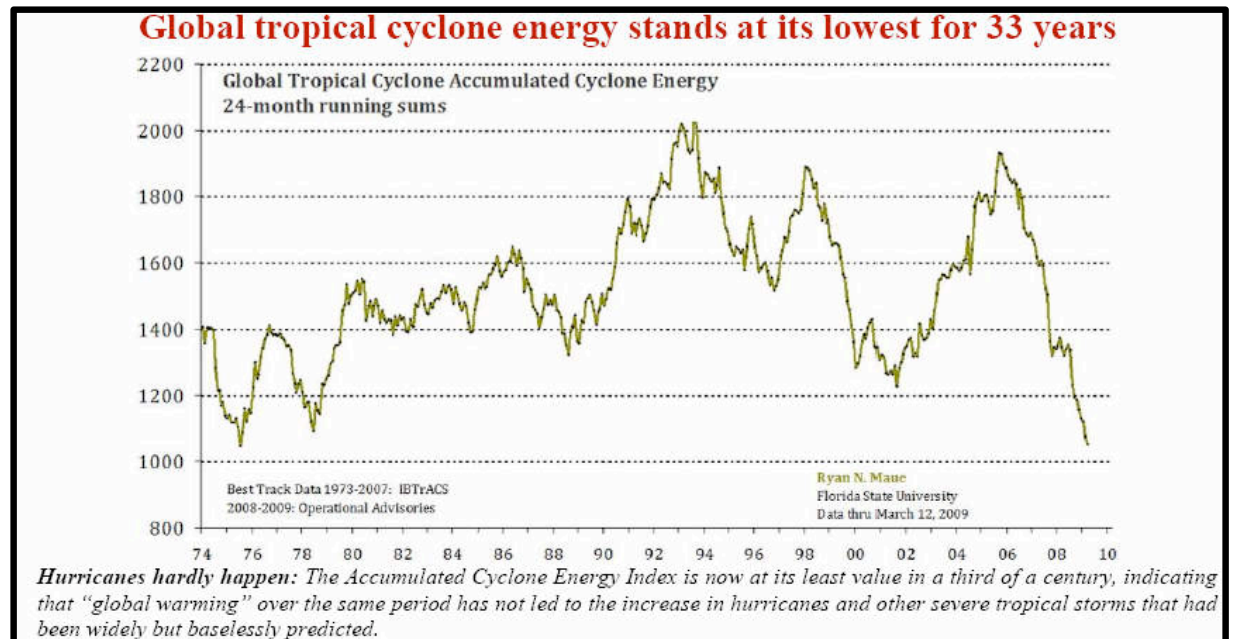
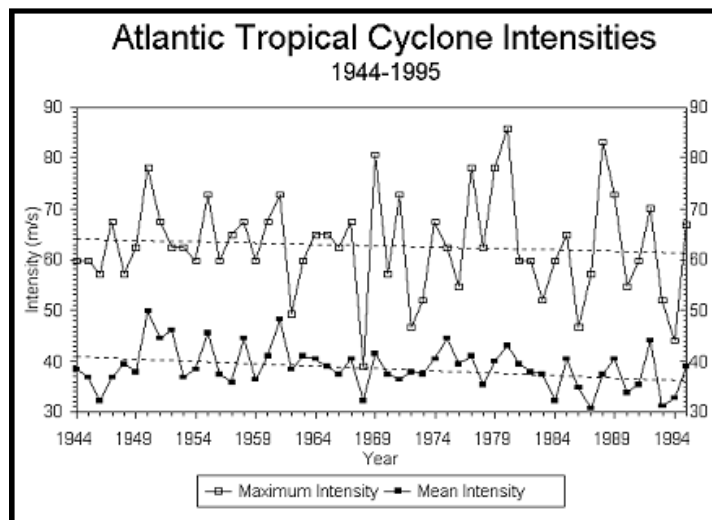
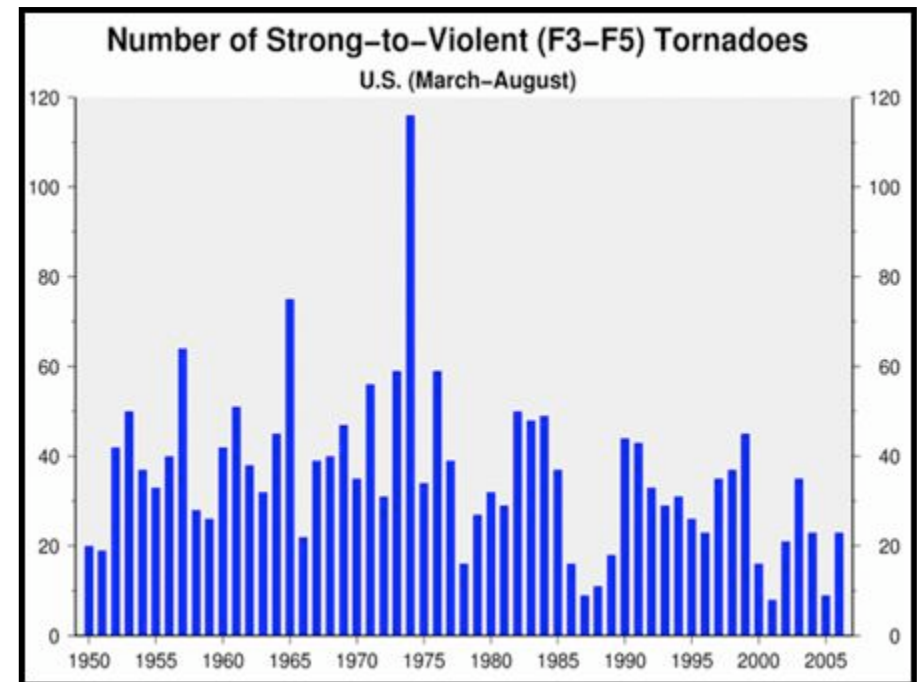
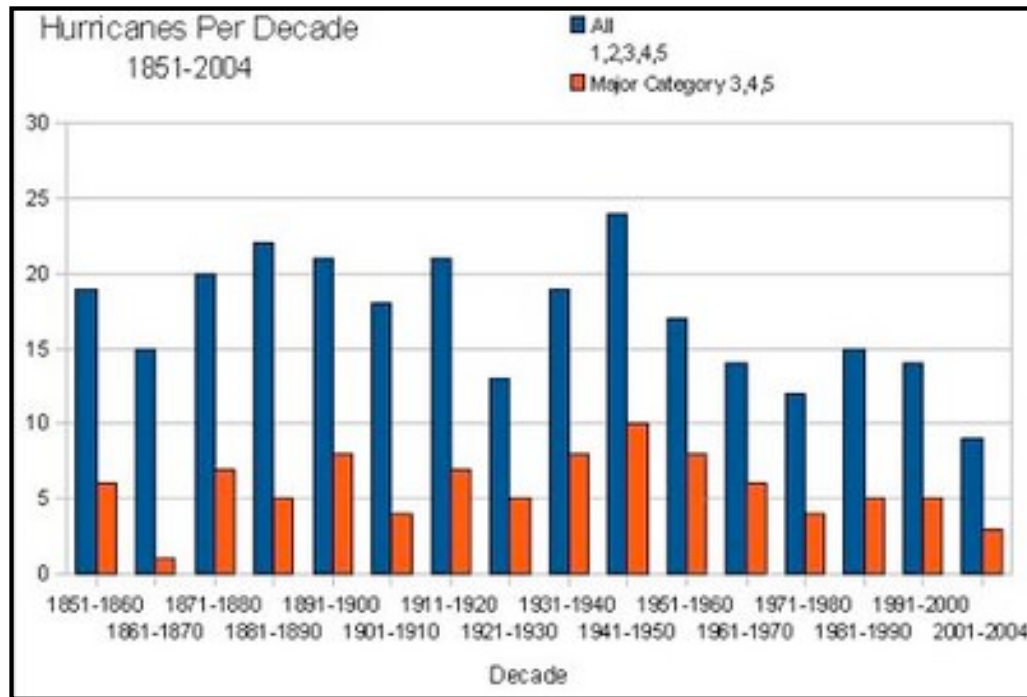
Lets check some **real** data:

Deaths due to extreme weather; big declines, the last 100 years.

The table shows extreme cold always kills twice as many as extreme heat. This is not unique to the US, it is true globally. Human kind would be rewarded if we got warmer than present.

Flood and lightning deaths are both down; 60 year period.

Show Me the Data Pg2



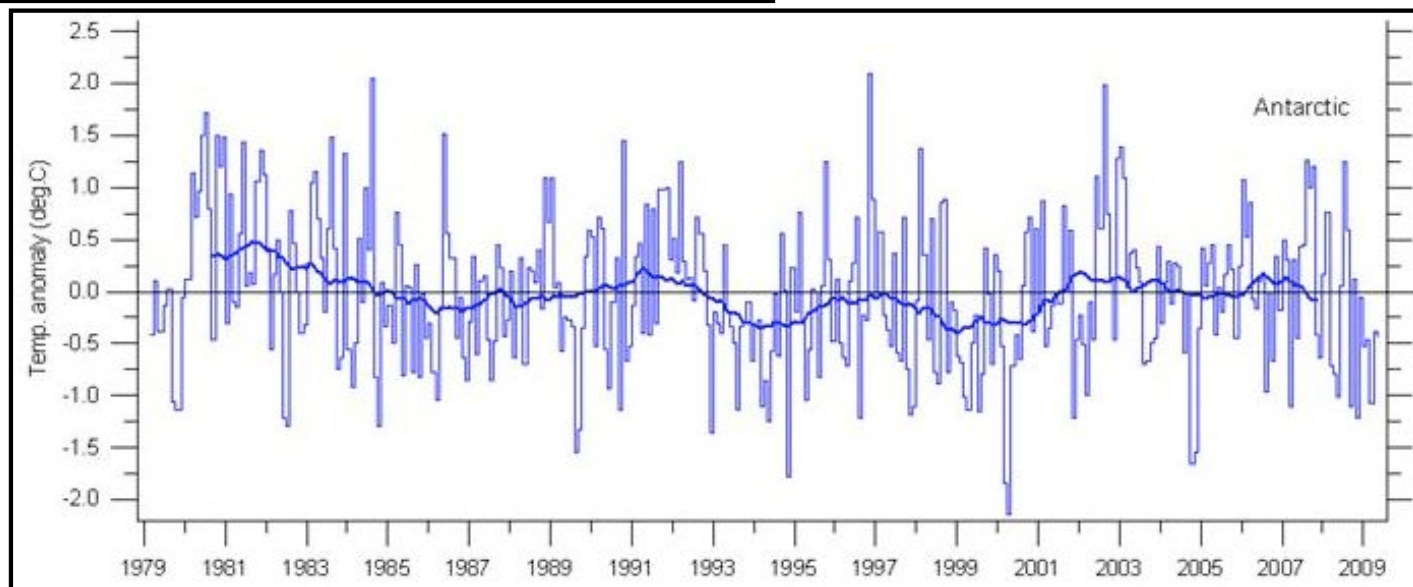
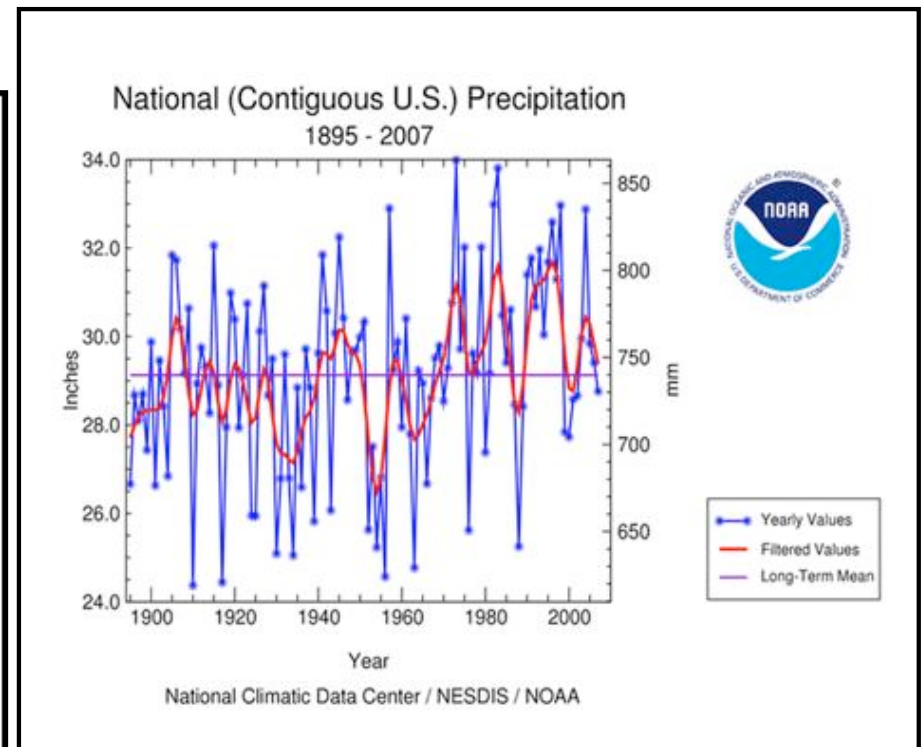
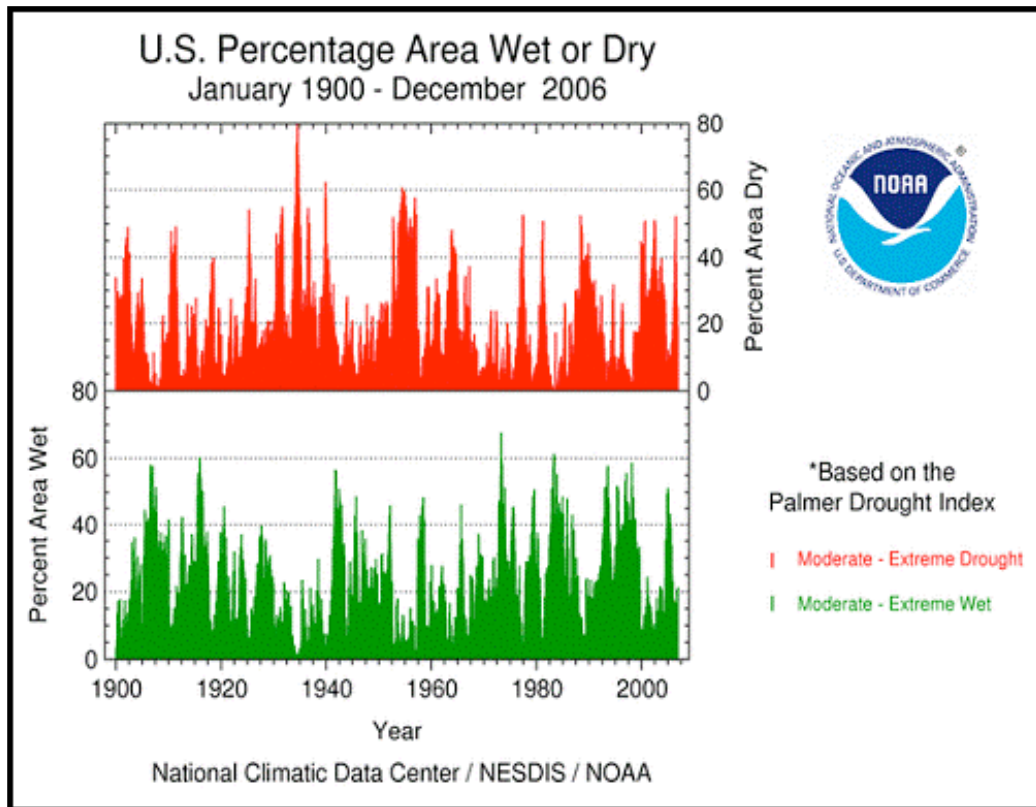
Speaker Notes - Commentary for the previous slide

Hurricanes; down, last 160 years.

Tornadoes; down, last 60 years.

Cyclones and cyclone energy; Down, last 50 years.

Show Me the Data Pg3

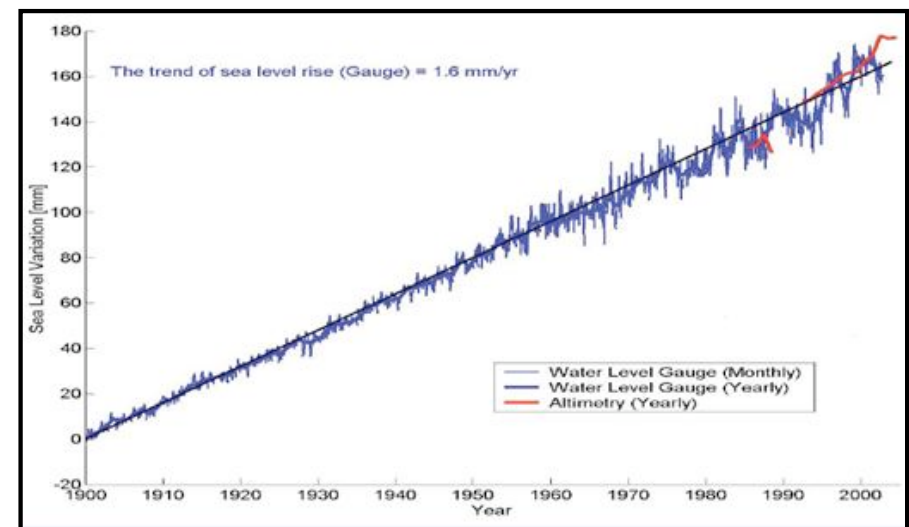
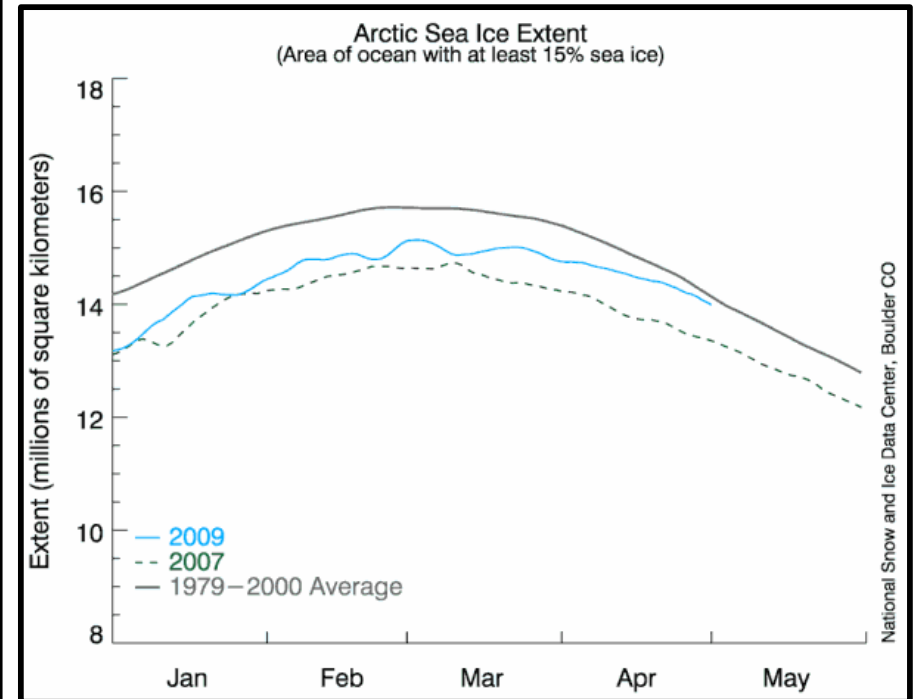
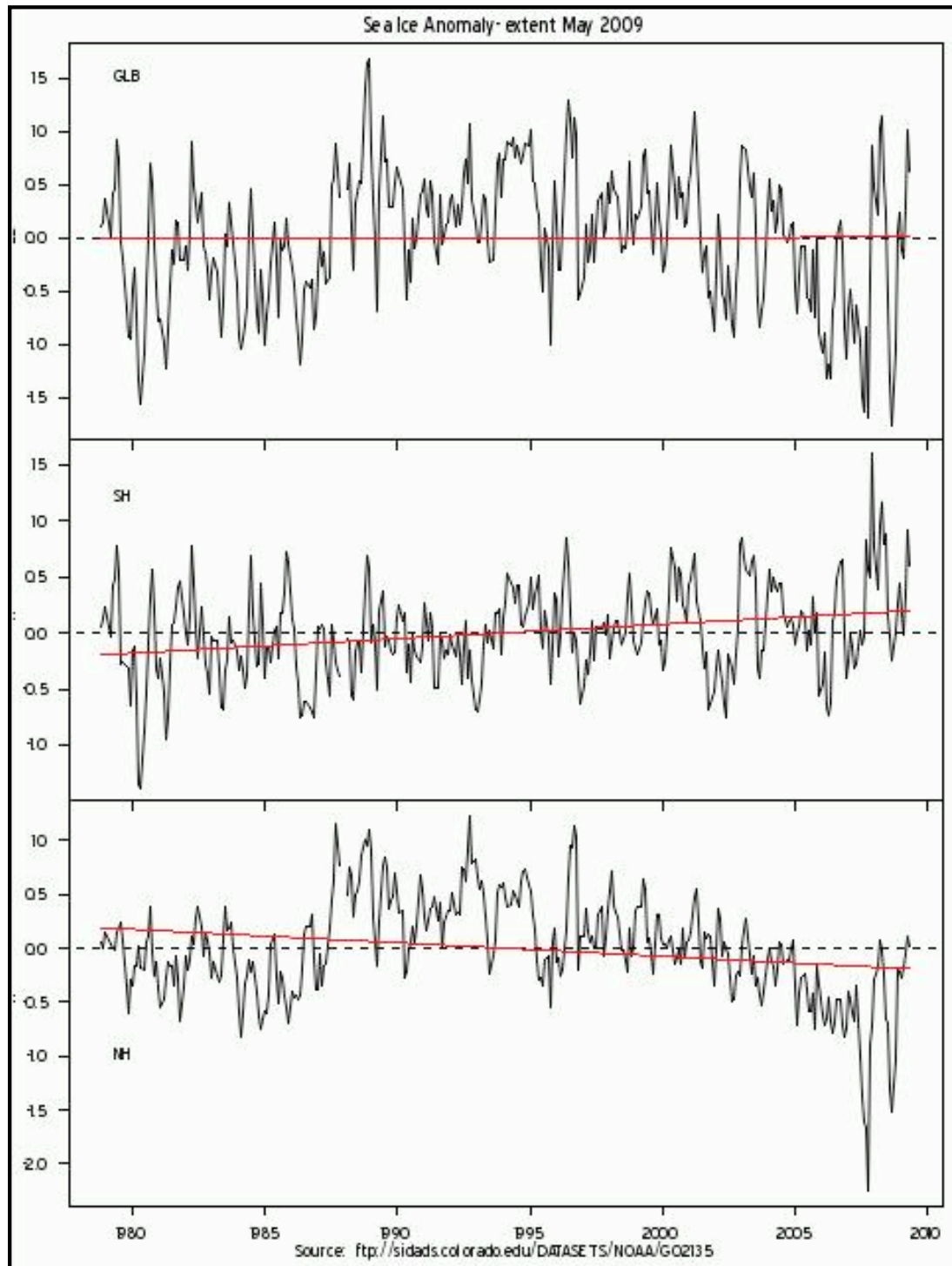


Speaker Notes - Commentary for the previous slide

Drought and Extreme-Wet; stable, last 105 years.

Precipitation; stable cycles, last 110 years. Note how precip seems to react to the warming rate - high in 1970 to 2000, and lower now (a thermostat).

Antarctic temperature; stable, last 30 years.



Speaker Notes - Commentary for the previous slide

Re the big alarmist' cries about Arctic Sea ice melting and polar bear extinction due to our recent human habits:

Last 30 years; Global average sea ice is stable (top data, left chart). Southern Hemisphere sea ice increase offsets Northern Hemisphere decrease (middle and bottom data). The current 2009 data show that Arctic sea ice has nearly returned to the 1979-2000 average, after falling lower in 2007 (top right chart).

The "endangered" polar bears have doubled in 40 years, despite hunting.

Lower-right chart: Sea level has been rising for 8,000 years in response to the natural global warming that followed the end of the last big Ice Age. It has risen 400 feet in that time, at a mean rate of 4 feet per century. However, in the 20th century sea level rose worldwide by less than 8 inches, (1.8 mm/year).

Moerner, the world's foremost expert on sea level, who has been studying it for 30 years, says that there is little reason to suppose that sea level will rise faster in the 21st century than it did in the 20th, because most of the land-based ice that once covered North America and northern Eurasia melted long ago, and most of the remaining land-based ice is at high altitudes and also at high latitudes close to the Poles, where there is no danger that it will melt any time soon. The sea ice in the Arctic and Antarctic, even if it had been diminishing (which it has not), would not add even a thousandth of an inch to sea level, because it is already floating. Data show **no** sea-level acceleration due to carbon emissions. Be happy the sea is still rising - it means the next ice age might not be too close.

Yes, ~ 6 inches next Century, not Al Gore's 20 feet. I have a bet with Richard Branson and Miles O'Brien on Florida Flooding and am happy to sign up any other takers.

Why “Global Warming” is now called “Climate Change”

- The quiet realization that the new data does **not** fit the model predictions.
 - No Greenhouse Gas Model predicted the recent cooling. No model could have predicted the medieval warming or the ‘little ice age’.
 - The branding change coincided with the end of real “scientific consensus”*.
- ‘Climate Change’ is the world’s safest bet. It always has changed and always will change. To call Climate Change a Crisis is silly.

* Of course, Consensus has nothing to do with Science and Science has nothing to do with Consensus.

Speaker Notes - Commentary for the previous slide

Read the slide.

The Alarmist, if honest, would have openly celebrated the recent cooling and all the **good news** (like the failure of the Models to predict the recent cooling). But instead, they panicked and quietly changed the name of their crisis. However, they did not revise their real agenda.

Definition of a charlatan - one who will energetically try to sell you something that he would not buy with his own money.

History will show that many of the original GW alarmists were honest, but when they changed the branding to CC, instead of backing away from the crisis, they **became** charlatans.

The More Important Natural Global Warming/Cooling Controls

- The important climate thermostats are too chaotic to model:
 - **Precipitation and Cloud formation**; A <2% precipitation change more than offsets a **doubling** of CO₂, but it cannot be predicted, even short term.
 - **The Pacific heat vent**; observed and powerful, but cannot be modeled. It is also a stable, temperature control thermostat.
- Only the trace greenhouse gas (CO₂) can be blamed on human behavior.
- Water vapor is the primary greenhouse gas, overwhelming CO₂, but even the EPA will not call water a “pollutant”.

Speaker Notes - Commentary for the previous slide

This is probably the most important slide of the whole pitch.

The **real** Inconvenient Truth is that other effects are much stronger than Human carbon emissions' effect on greenhouse gas; And these effects are stable “control thermostats”, not “tipping points”. They are too chaotic to model.

These effects will easily control global temperatures until we drop toward an ice age, in spite of us adding huge amounts of Plant Food to the atmosphere. This is why **most** scientists now do **not** think our emissions will cause a climate catastrophe* (recent pronouncements from Russia, Czechoslovakia, India, China, Australia and many other countries).

Why then the continuing focus on human-caused greenhouse gas? It is the only one that can be modeled to show a reliable affect on global temperatures, short and long term (abet in the **absence** of other effects, of course, i.e. assuming there are no other effects). It is not cause for alarm, but it is the only man-caused effect that can be supported by scientific calculation.

* This pitch does not detail the “science consensus” issue, but a quick Google search will find what you will not get from the Media.

Observations

- Man **can** measure the past, but **cannot** code a computer model to predict future global temperatures.
- Man has **not** demonstrated a reliable ability to himself change global temperatures.
- Warm periods are good, not bad. It would be beneficial to have more warming than present.
- CO2 is **not** a pollutant.
- Warm periods have been brief and they are not the 'normal' planet state.
- Oil/coal are called 'non-renewable'; but every decade shows an estimated **increase** in reserves. We will **not** run out; we will merely switch when costs force a move to cheaper alternatives.
- If Man, in the future, achieves a capability to change global temperatures, he will most certainly use that new technology to **warm** the planet, **not** to **cool** it.
- Is the debate over?

Speaker Notes - Commentary for the previous slide

Read the chart.

Is the debate over? - The loudest Alarmist says the debate is over. However, **"It is error only, and not truth, that shrinks from inquiry"**.

Recommendations

- Drop the CCC (Climate Change Crisis) and all Cap & Trade legislation. CCC is naive, non-scientific, irrelevant, hopeless and oxymoronic. Its alarmists can use it to destroy US global competitiveness through Cap and Trade taxes.
 - As proposed, most new jobs are for Government regulation/oversight bureaucracies. The process is already ripe with fraud (85% of permits would be free, 15% auctioned).
 - As proposed, the huge spending would result in no measureable benefit to the planet.
- If the Government really wants to protect citizens from a possible planet catastrophe, then it should fund commercial R&D on systems to defend against Asteroid Strikes - the only real extinction threat the planet has ever had and the only one in which Man can indeed use his intelligence and sweat to successfully defeat.
 - Commercial R & D jobs would grow the economy, encourage science/engineering education and have other lasting benefits (like Apollo).

Speaker Notes - Commentary for the previous slide

Read the chart

Re permit fraud – “giving free permits to polluters is the same as handing the proceeds of a tobacco tax to the shareholders of Philip Morris!” (http://www.economist.com/world/unitedstates/displaystory.cfm?story_id=13702826)

To defeat an Asteroid threat, the **SOLUTION** can be **credited to** Man, giving clear benefits. This is far better than the **PROBLEM** being **blamed on** Man, resulting in damage, not benefits and the destruction of human motivation and the economy.

Each new Commercial job created for R & D costs the taxpayer 150 K\$, whereas each ‘Stimulus-Package’ commercial job costs 3.2 M\$ and merely grows Government or provides personal temporary dependence.

These PowerPoint and PDF files are posted at: <http://rps3.com/>