

Climate Science: Observations versus Models

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Theme: [Environment](#)

In-depth Report: [Climate Change](#)

If a man is offered a fact which goes against his instincts, he will scrutinize it closely, and unless the evidence is overwhelming, he will refuse to believe it. If, on the other hand, he is offered something which affords a reason for acting in accordance to his instincts, he will accept it even on the slightest evidence. – Bertrand Russell, Roads to Freedom, 1918

Science and models

True science begins with observations and measurements. These lead to theories and models, which lead to predictions. The predictions can then be tested by further measurements and observations, which can validate or invalidate the theories and models, or be used to refine them.

This is the paradigm accepted by all scientists. But scientists being people, typically in an academic research community, within a political society, there can be many a slip between cup and lip in the practice of science. There are the problems of getting funding, of peer pressure and career considerations, of dominant political dogmas, etc.

In the case of models there is a special problem that typically arises. That is, researchers tend to become attached to their models, both psychologically and professionally. When new observations contradict the model, there is a tendency for the researchers to distort their model to fit the new data, rather than abandoning their model and looking for a better one. Or they may even ignore the new observations, and simply declare that their model is right, and the observations must be in error.

A classic example of this problem can be found in models of the universe. The Ptolemaic model assumed that the Earth is the center of the universe, and that the universe revolves around that center. Intuitively, this model makes a lot of sense. On the Earth, it feels like we are stationary. And we see the Sun and stars moving across the sky. “Obviously” the universe revolves around the Earth.

However, in order for this model to work in the case of the Moon and the planets, it was necessary to introduce the arbitrary mechanism of epicycles. If the universe really does revolve around the Earth, epicycles must exist, but there is no other reason to believe in epicycles. When Galileo and Copernicus came along, a much cleaner model was presented, that explained all the motions with no need for epicycles. But no longer would the Earth be the center.

In this case it was not so much scientists that were attached to the old model, but the Church, who liked the model because it fit their interpretation of scripture. We've all heard the story of the Bishop who refused to look through the telescope, so he could ignore the new observations and hold on to the old model. Galileo was forced to recant, and Copernicus, who wouldn't recant, was put to death. Thus can political interference hold back the progress of science, and ruin careers.

Climate models and public opinion

In the case of the climate models being used by the IPCC, the assumption is that CO₂ is a primary driver of climate. There is an intuitive basis for this assumption, given that CO₂ is a greenhouse gas, and both CO₂ levels and temperature have risen sharply in the past century. In addition, a strong correlation has been observed between temperature and CO₂ levels in long-term records revealed by ice-core samples. Furthermore, the burning of fossil fuels is continuing to pollute the atmosphere (and the oceans) with ever-higher levels of CO₂. This has led to the hypothesis that temperatures are likely to rise precipitously, endangering life on the planet. All of this was presented very dramatically by Al Gore in his famous documentary.

As with the Ptolemaic model however, there are many problems with the assumption that CO₂ drives climate, and with the prediction of dangerous warming. For one thing, the long-term records show that temperature has historically changed first, followed much later by changes in CO₂ levels. For another, there have been periods of significant cooling in recent years, even while CO₂ levels have continued to rise dramatically. In addition, long term records show that temperatures have been much higher than today in the past – including only a thousand years ago (the Medieval Warm Period) – and no bizarre disasters, such as the extinction of polar bears, or runaway feedback loops, occurred as a result.

As with the Ptolemaic model, there are politically powerful factions that have embraced the theory of dangerous, human-caused global warming for their own purposes. More about their purposes a bit further on. For now, suffice it to say that generous funding has been provided to CRU (East Anglia, Climate Research Unit) scientists who have been more than willing to 'refine' the model to deal with the 'uncomfortable truth' of the model's problems – even if it requires such things as "hiding the decline".

And those political factions, who happen also to be involved with the UN and the IPCC, and who are set to make trillions from cap-and-trade, and who own most of the Western mass media, have seen to it that the media continually hammers home the message that human-caused global warming is a threat to all life on Earth.

All of this has dovetailed with the objectives of the environmental movement, which for very good reasons is concerned about pollution of all kinds, and with society's over-dependence on non-renewable fossil fuels. With the studies generated by the 'coalition of willing scientists', plus the 'authority' of the IPCC, plus the 'objective' messages of the media, plus the naive enthusiasm of the environmental movement, a 'perfect storm' of global public opinion has turned the cause of 'stopping carbon emissions' into the equivalent of a religion.

Scientists who persist in exploring the problems of the model are labeled by environmental activists and the media as 'deniers'; their integrity is called into question, and their studies have difficulty being accepted by refereed climate-science journals. They are treated as heretics of this modern religion, and not given a fair hearing in public discourse.

However problems in the model do not automatically invalidate the model, nor does all of this non-scientific interference – even though these things do justify skepticism regarding the claims of the IPCC, and the CRU models those claims are based on. Let's make an attempt to investigate the actual science of the matter for ourselves.

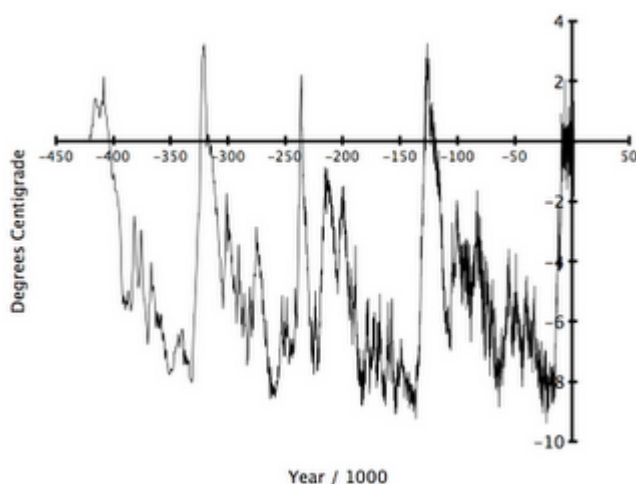
Question 1: *Compared to the historical record, are we facing a threat of dangerous global warming?*

Let's look at the historical temperature record, beginning with the long-term view. For long-term temperatures, ice-cores provide the most reliable data. Let's look first at the very-long-term record, using ice cores from Vostok, in the Antarctic.

Data source:

<ftp://ftp.ncdc.noaa.gov/pub/data/paleo/icecore/antarctica/vostok/deutnat.txt>

Vostok Temperatures: 450,000 BC — Present



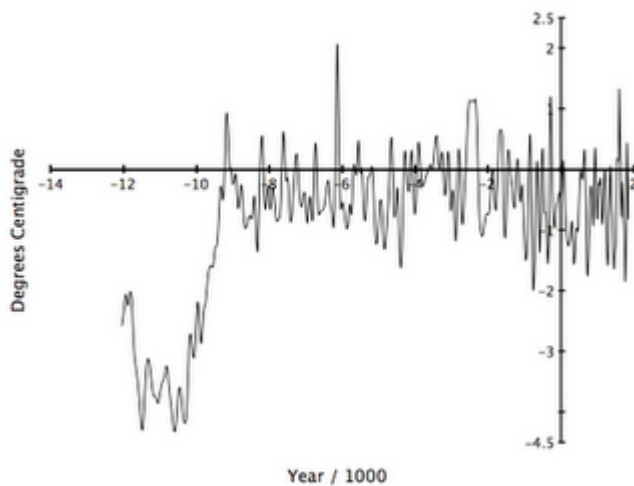
Here we see a very regular pattern of long-term temperature cycles. Most of the time the Earth is in an ice age, and about every 125,000 years there is a brief period of warm temperatures, called an *inter-glacial period*. Our current inter-glacial period has lasted a bit longer than most, indicating that the next ice age is somewhat overdue. These long-term cycles are probably related to changes in the eccentricity of the Earth's orbit, which follows a cycle of about 100,000 years.

We also see other cycles of more closely-spaced peaks, and these are probably related to other cycles in the Earth's orbit. There is an *obliquity cycle* of about 41,000 years, and a *precession cycle*, of about 20,000 years, and all of these cycles interfere with one another in complex ways. Here's a tutorial from NASA that discusses the Earth's orbital variations:

<http://www-istp.gsfc.nasa.gov/stargaze/Sprecess.htm>

Next let's zoom-in on the current inter-glacial period, as seen in Vostok and Greenland, again using ice-core data. Temperatures here are relative to the value for 1900, which is shown as zero:

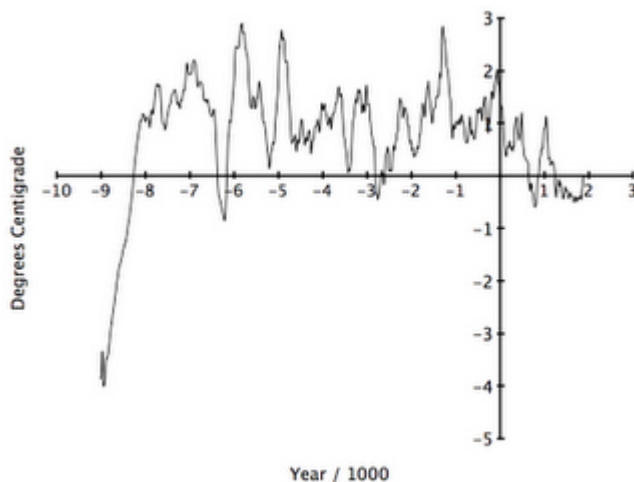
Vostok Temperatures: 12,000 BC — 1900



Data source:

<http://www.ncdc.noaa.gov/paleo/metadata/noaa-icecore-2475.html>

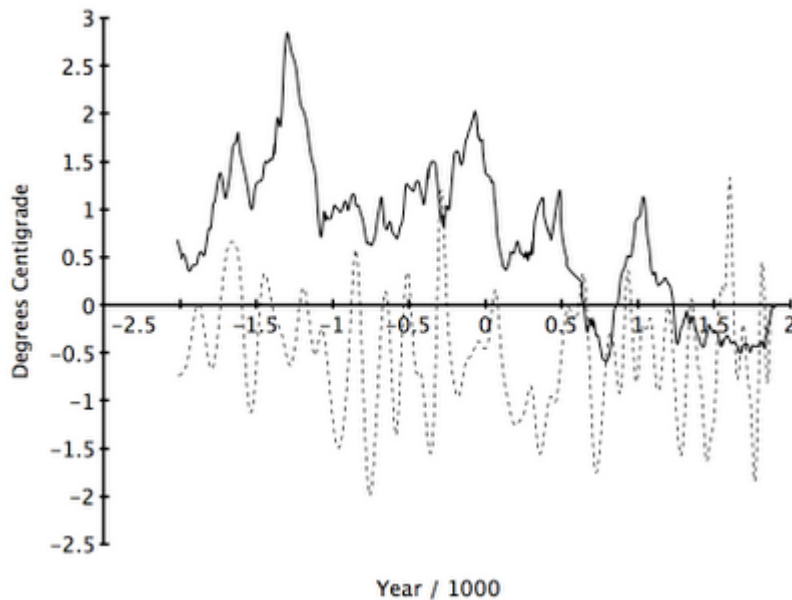
Greenland Temperatures: 9500 BC — 1900



Here we see that the Southern Hemisphere emerged from the last ice age about 1,000 years earlier than did the Northern Hemisphere. As of 1900, in comparison to the whole inter-glacial period, the temperature was 2°C below the maximum in Vostok, and 3°C below the maximum in Greenland. Thus, as of 1900, temperatures were rather cool for the period in both hemispheres, and in Greenland, temperatures were close to a minimum.

During this recent inter-glacial period, temperatures in both Vostok and Greenland have oscillated through a range of about 4°C, although the patterns of oscillation are quite different in each case. In order to see just how different the patterns are, let's look at Greenland and Vostok together, for the past 4,000 years. Vostok is shown with a dashed line.

Greenland & Vostok Temperatures: 2000 BC — 1900

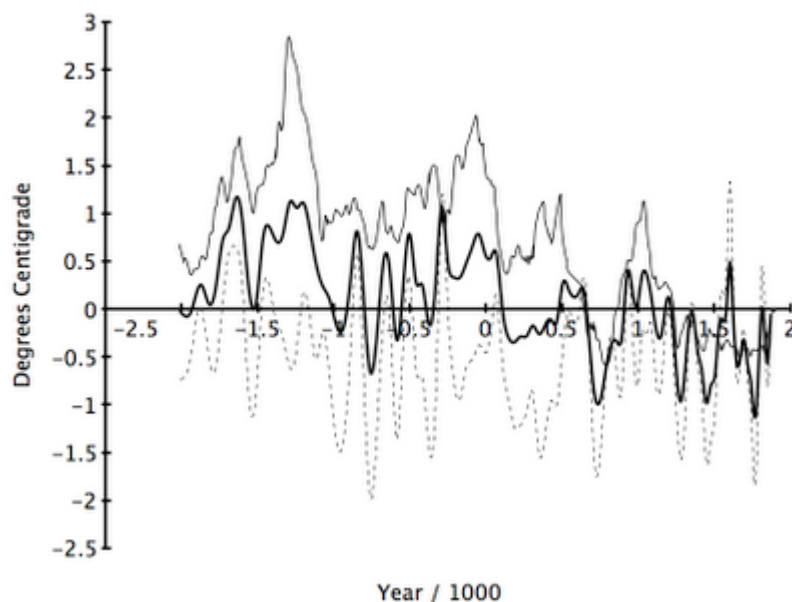


The patterns are very different indeed. In many cases we see an extreme high in Greenland, while at the same time Vostok is experiencing an extreme low. And in the period 1500—1900, while Greenland temperatures were relatively stable, within a range of .5°C, Vostok went through a radical oscillation of 3°C, from an extreme high to an extreme low.

These dramatic differences between the two arctic regions might be related to the Earth's orbit (See [NASA tutorial](#)). On the other hand, we may be seeing a regulatory mechanism, based on the fact that the Southern Hemisphere is dominated by oceans, while most of the land mass is in the Northern Hemisphere. Perhaps incoming heat, though retained by the northern continents, leads to evaporation from the oceans and increased snowfall in the Antarctic. Whatever the reasons, the differences between the two arctic regions are striking.

The IPCC emphasizes *average* global temperatures in its models. Let's look at Greenland and Vostok again, for the past 4,000 years, and let's add their average to the picture. The average is shown with a heavy black line:

Greenland, Vostok, & Average Temperatures: 2000 BC — 1900

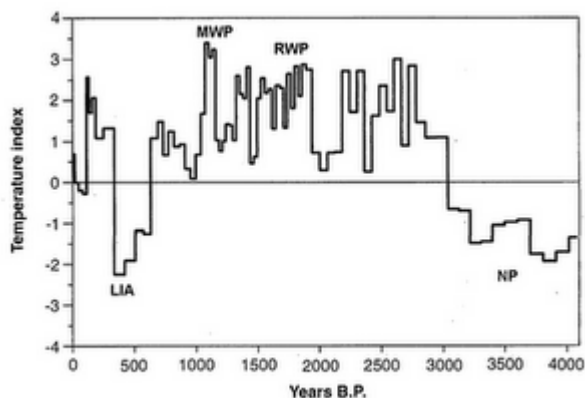


Here we see that the Antarctic has nearly always been below the average, while the Arctic has almost always been above the average. And while each of the arctic regions has oscillated through a range of 4°C, their average has always stayed within 1°C of the zero baseline. It does seem that the Antarctic is acting as a regulatory mechanism, keeping the average temperature always moderate, even when the Arctic is experiencing high temperatures. I don't offer that as a theory, but simply as an observation of a possibility.

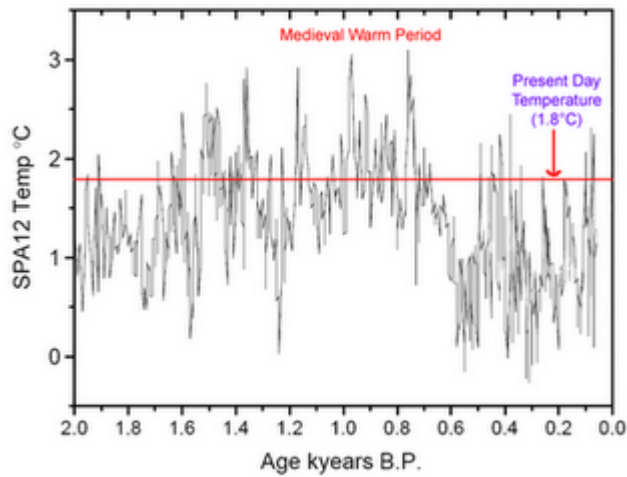
We can see that the average temperature tells us very little about what is happening in either arctic region. We cannot tell from the average that Arctic temperatures were 3° higher in 1500BC, and that glacier melting might have been a danger then. And the average does not tell us that the Antarctic has almost always been cool, with very little danger of ice-cap melting at any time. In general, the average is a very poor indicator of conditions in either arctic region.

We should note that 1900 represents one of those occasional times when temperatures in both hemispheres happen to be going up at the same time. In neither case is that alarming, as both hemispheres have been much warmer in the past 4,000 years. With both going up at the same time, we truly have been experiencing global warming since 1800, not just warming in one hemisphere. This global warming, however, began long before human-caused CO2 was significant.

Let's now look at some other records from the Northern Hemisphere, to find out how typical the Greenland record is of its hemisphere. This first record is from Spain, based on the mercury content in a peat bog, as published in *Science*, 1999, vol. 284, for the most recent 4,000 years. Note that this graph is backwards, with present day on the left:



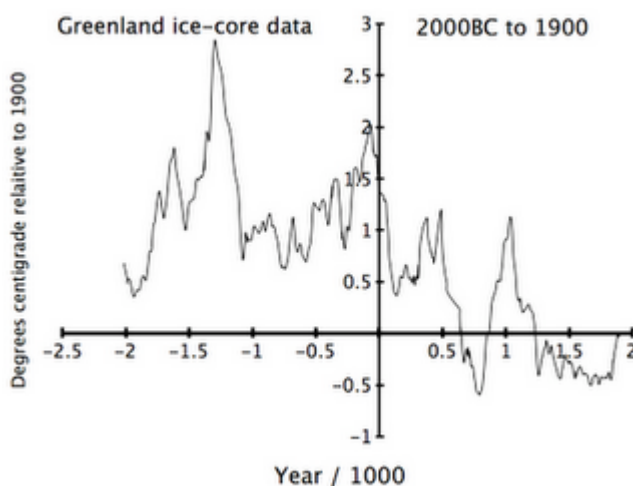
This next record is from the Central Alps, based on stalagmite isotopes, as published in *Earth and Planetary Science Letters*, 2005, vol. 235, for the most recent 2,000 years:



Spannagel Cave temperature reconstruction showing the MWP was warmer than present day temperatures (1995-1998). Adapted from Mangini et al. 2005.

And finally, let's include our Greenland record again for the most recent 4,000 years:

Greenland Temperatures: 2000 BC — 1900



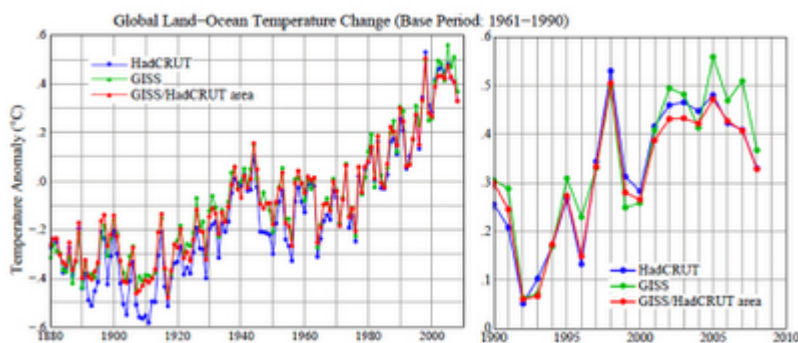
While the three records are clearly different, they do share certain important characteristics. In each case we see a staggered rise, followed by a staggered decline — a long-term up-and-down cycle over the period. In each case we see that during the past few thousand years, temperatures have been 3°C higher than 1900 temperatures. And in each case we see a gradual descent towards the overdue next ice age. The Antarctic, on the other hand, shares none of these characteristics.

If we want to understand warming-related issues, such as tundra-melting and glacier-melting, we must consider the two hemispheres separately. If glaciers melt, they do so either because of high northern temperatures, or high southern temperatures. Whether or not glaciers are likely to melt cannot be determined by global averages. In this article we will concern ourselves with the Northern Hemisphere.

In the Northern Hemisphere, based on the shared characteristics we have observed, temperatures would need to rise at least 3°C above 1900 levels before we would need to worry about things like the extinction of polar bears, the melting of the Greenland ice sheet, or runaway methane release. We know this because none of these things have happened in

the past 4,000 years, and temperatures have been 3°C higher during that period.

However such a 3°C rise seems very unlikely to happen, given that all three of our Northern Hemisphere samples show a gradual but definite decline toward the overdue next ice age. Let's now zoom in the temperature record since 1900, and see what kind of rise has actually occurred. Let's turn to Jim Hansen's latest article, published on realclimate.org, [2009 temperatures by Jim Hansen](#). The article includes the following two graphs.



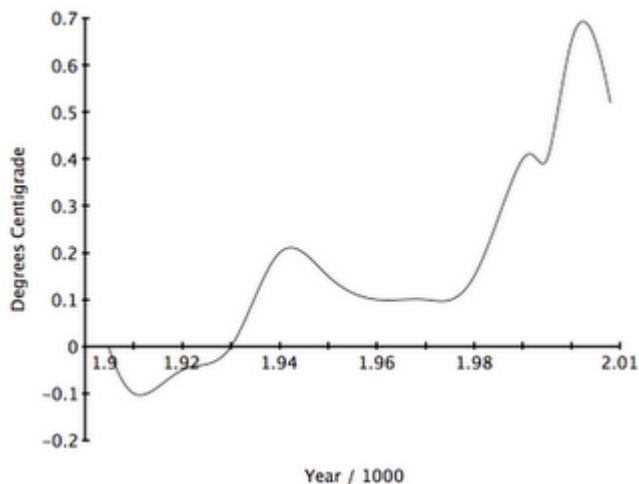
Jim Hansen is of course one of the primary proponents of the CO₂-dangerous-warming theory, and there is considerable reason to believe these graphs show an exaggerated picture as regards to warming. Here is one article relevant to that point, and it is typical of other reports I've seen:

[Son of Climategate! Scientist says feds manipulated data](#)

Nonetheless, let's accept these graphs as a valid representation of recent temperature changes, so as to be as fair as possible to the warming alarmists. We'll be using the red line, which is from GISS, and which does not use the various extrapolations that are included in the green line. We'll return to this topic later, but for now suffice it to say that these extrapolations make little sense from a scientific perspective.

The red line shows a temperature rise of .7°C from 1900 to the 1998 maximum, a leveling off beginning in 2001, and then a brief but sharp decline starting in 2005. Let's enter that data into our charting program, using values for each 5-year period that represent the center of the oscillations for that period. Here's what we get for 1900-2008:

IPCC Global Temperatures: 1900 — 2008

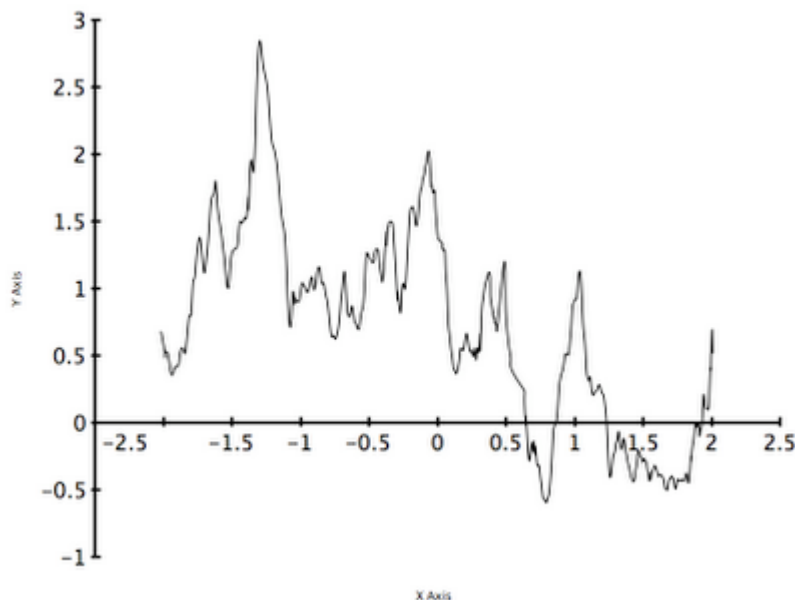


Consider the downward trend at the right end of the graph. Hansen tells us this is very

temporary, and that temperatures will soon start rising again. Perhaps he is right. However, as we shall see, his arguments for this prediction are seriously flawed. What we know for sure is that a downward trend has begun. How far that trend will continue is not yet known.

Next, let's append that latest graph to the Greenland data, to get a reasonable characterization of Northern Hemisphere temperatures over the past 4,000 years up to present day:

Extended Greenland Temperatures: 2000 BC — 2008



This graph shows us that the temperature rise in the Northern Hemisphere from 1800 to 2005 was not at all unnatural. That rise follows precisely the long-term pattern, where such rises have been occurring approximately every 1,000 years, with no help from human-caused CO₂. Based on the long-term pattern of diminishing peaks, we would expect the recent down-trend to continue, and not turn upward again as Hansen predicts. If the natural pattern continues, then the recent warming has reached its maximum in the Northern Hemisphere, and we will soon experience about two centuries of rapid cooling, as we continue our descent to the overdue next ice age.

So everything depends on the next decade or so. If temperatures turn upwards again, then the IPCC may be right, and human-caused CO₂ emissions may have taken control of climate. However, if temperatures continue downward, then climate has been following natural patterns all along in the Northern Hemisphere. In this case there has been no evidence of any noticeable influence on climate from human-caused CO₂, and we are now facing an era of rapid cooling. Within two centuries we could expect temperatures in the Northern Hemisphere to be considerably lower than they were in the recent Little Ice Age.

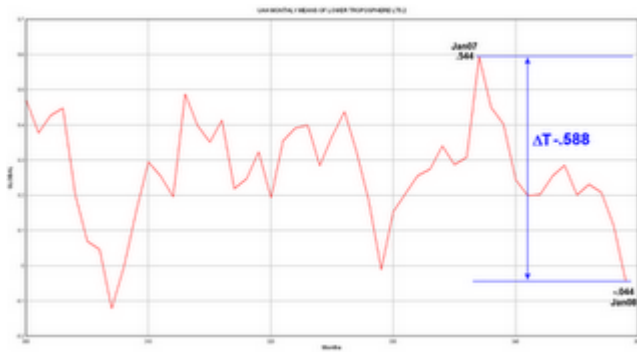
We don't know for sure which way temperatures will go, rapidly up or rapidly down. But I can make this statement:

As of this moment, based on the long-term temperature patterns in the Northern Hemisphere, there is no evidence that human-caused CO₂ has had any effect on climate. The rise since 1800, as well as the downward dip starting in 2005, are entirely in line with the natural long-term pattern. If temperatures turn sharply upwards in the next decade or so, that will be the

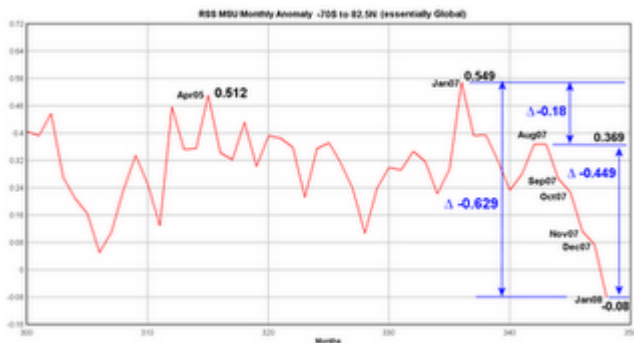
first-ever evidence for human-caused warming in the Northern Hemisphere.

As regards the the recent downturn, here are two other records, both of which show an even more dramatic downturn than the one shown in the GISS data:

University of Alabama, Huntsville (UAH)
Dr. John Christy
UAH Monthly Means of Lower Troposphere LT5-2
2004 - 2008



Remote Sensing Systems of Santa Rosa, CA (RSS)
RSS MSU Monthly Anomaly - 70S to 82.5N (essentially Global)
2004 - 2008



Based on the data we have looked at, all from mainstream scientific sources, we are now in a position to answer our first question with a reasonable level of confidence:

Answer 1

Temperatures, at least in the Northern Hemisphere, have been continuing to follow natural, long-term patterns — despite the unusually high levels of CO₂ caused by the burning of fossil fuels. There have indeed been two centuries of global warming, and that is exactly what we would expect based on the natural pattern. Temperatures now are more than 2°C cooler than they were only 2,000 years ago, which means we have not been experiencing dangerously high temperatures in the Northern Hemisphere.

The illusion of global warming arises from a failure to recognize that global averages are a very poor indicator of actual conditions in either hemisphere.

Within the next decade, or perhaps sooner, we are likely to learn which way

the climate is going. If it turns again sharply upwards, as Hansen predicts, that will be counter to the long-term pattern, and evidence for human-caused warming. If it levels off, and continues downwards, that is consistent with long-term patterns, and we are likely to experience about two centuries of rapid cooling in the Northern Hemisphere, as we continue our descent toward the overdue next ice age.

Question 2

Why haven't unusually high levels of CO₂ significantly affected temperatures in the Northern Hemisphere?

One place to look for answers to this question is in the long-term patterns that we see in the temperature record of the past few thousand years, such as the peaks separated by about 1,000 years in the Greenland data, and other more closely-spaced patterns that are also visible. Some forces are causing those patterns, and whatever those forces are, they have nothing to do with human-caused CO₂ emissions. Perhaps the forces have to do with cycles in solar radiation and solar magnetism, or perhaps they have something to do with cosmic radiation on a galactic scale, or something we haven't yet identified. Until we understand what those forces are, how they interfere with one another, and how they effect climate, we can't really build useful climate models, except on very short time scales.

We can also look for answers in the regulatory mechanisms that exist within the Earth's own climate system. If an increment of warming happens on the surface, for example, then there is more evaporation from the oceans and more precipitation. While an increment of warming may melt glaciers, it may also cause increased snowfall in the arctic regions. Do these balance each other or not? Increased warming of the ocean's surface may gradually heat and expand the ocean, but the increased evaporation acts to cool the ocean and reduce its mass. Do these balance one another?

Vegetation also acts as a regulatory system. Plants and trees gobble up CO₂; that is where their substance comes from. Greater CO₂ concentration leads to faster growth, taking more CO₂ out of the atmosphere. Until we understand quantitatively how these various regulatory systems function and interact, we can't even build useful models on a short time scale.

In fact a lot of research is going on, investigating both lines of inquiry. However, in the current public-opinion and media climate, any research not related to CO₂ causation is dismissed as the activity of *contrarians*, *deniers*, and *oil-company hacks*. Just as the Bishop refused to look through Galileo's telescope, so today we have a whole society that refuses to look at many of the climate studies that are available.

I'd like to draw attention to one example of a scientist who has been looking at one aspect of the Earth's regulatory system. Roy Spencer has been conducting research using the satellite systems that are in place for climate studies. Here are his relevant qualifications:

[http://en.wikipedia.org/wiki/Roy_Spencer_\(scientist\)](http://en.wikipedia.org/wiki/Roy_Spencer_(scientist))

Roy W. Spencer is a principal research scientist for the University of Alabama in Huntsville and the U.S. Science Team Leader for the Advanced Microwave Scanning Radiometer (AMSR-E) on NASA's Aqua satellite. He has served as senior scientist for climate studies at NASA's Marshall Space Flight Center in

Huntsville, Alabama.

He describes his research in a presentation available on YouTube:
<http://www.youtube.com/watch?v=xos49g1sdzo&feature=channel>

In the talk he gives a lot of details, which are quite interesting, but one does need to concentrate and listen carefully to keep up with the pace and depth of the presentation. He certainly sounds like someone who knows what he's talking about. Permit me to summarize the main points of his research:

When greenhouse gases cause surface warming, a response occurs, a 'feedback response', in the form of changes in cloud and precipitation patterns. The CRU-related climate models all assume the feedback response is a positive one: any increment of greenhouse warming will be amplified by knock-on effects in the weather system. This assumption then leads to the predictions of 'runaway global warming'.

Spencer set out to see what the feedback response actually is, by observing what happens in the cloud-precipitation system when surface warming is occurring. What he found, by targeting satellite sensors appropriately, is that the feedback response is negative rather than positive. In particular, he found that the formation of storm-related cirrus clouds is inhibited when surface temperatures are high. Cirrus clouds are themselves a powerful greenhouse gas, and this reduction in cirrus cloud formation compensates for the increase in the CO₂ greenhouse effect.

This is the kind of research we need to look at if we want to build useful climate models. Certainly Spencer's results need to be confirmed by other researchers before we accept them as fact, but to simply dismiss his work out of hand is very bad for the progress of climate science. Consider what the popular website [SourceWatch](#) says about Spencer.

We don't find there any reference to rebuttals to his research, but we are told that Spencer writes columns for a free-market website funded by Exxon. They also mention that he spoke at conference organized by the Heartland Institute, that promotes lots of reactionary, free-market principles. They are trying to discredit Spencer's work on irrelevant grounds, what the Greeks referred to as an *ad hominem* argument. Sort of like, "If he beats his wife, his science must be faulty".

And it's true about 'beating his wife' — Spencer does seem to have a pro-industry philosophy that shows little concern for sustainability. That might even be part of his motivation for undertaking his recent research, hoping to give ammunition to pro-industry lobbyists. But that doesn't prove his research is flawed or that his conclusions are invalid. His work should be challenged scientifically, by carrying out independent studies of the feedback process. If the challenges are restricted to irrelevant attacks, that becomes almost an admission that his results, which are threatening to the climate establishment, cannot be refuted. He does not hide his data, or his code, or his sentiments. The same cannot be said for the warming-alarmist camp.

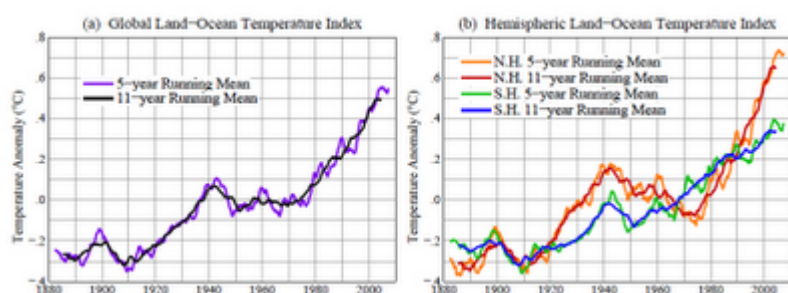
Question 3

What are we to make of Jim Hansen's prediction that rapid warming will soon resume?

Once again, I refer you to Dr. Hansen's recent article, [2009 temperatures by Jim Hansen](#). Jim explains his prediction methodology in this paragraph, emphasis added:

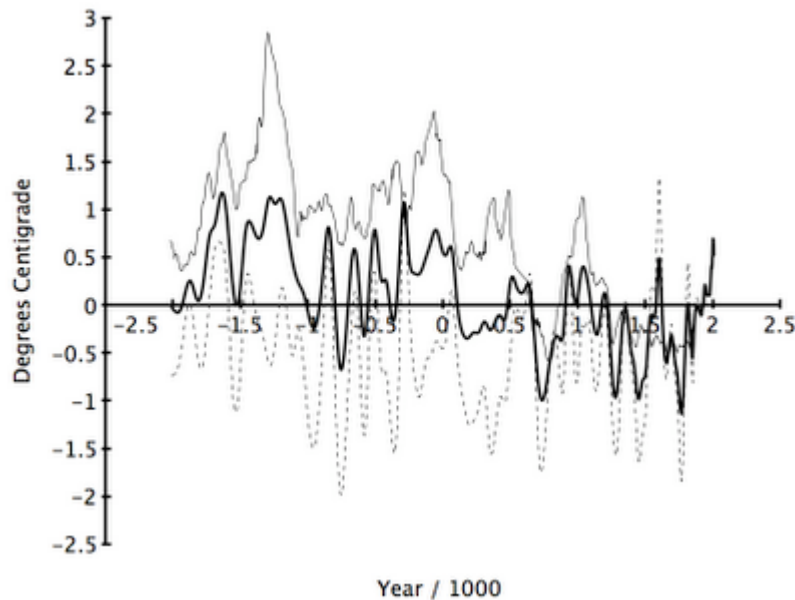
The global record warm year, in the period of near-global instrumental measurements (since the late 1800s), was 2005. Sometimes it is asserted that 1998 was the warmest year. The origin of this confusion is discussed below. There is a high degree of interannual (year-to-year) and decadal variability in both global and hemispheric temperatures. Underlying this variability, however, is a long-term warming trend that has become strong and persistent over the past three decades. The long-term trends are more apparent when temperature is averaged over several years. The 60-month (5-year) and 132 month (11-year) running mean temperatures are shown in Figure 2 for the globe and the hemispheres. The 5-year mean is sufficient to reduce the effect of the El Niño – La Niña cycles of tropical climate. The 11-year mean minimizes the effect of solar variability – the brightness of the sun varies by a measurable amount over the sunspot cycle, which is typically of 10-12 year duration.

As I've emphasized in bold, Jim is *assuming* that there is a strong and persistent warming trend, which he of course attributes to human-caused CO2 emissions. And then that assumption becomes the justification for the 5 and 11-year running averages. Those running averages then give us phantom 'temperatures' that don't match actual observations. In particular, if a downward decline is beginning, the running averages will tend to 'hide the decline', as we see in his alarmist graphs with their exaggerated 'hockey stick':



Let's now look at the actual temperature record of the arctic regions, along with their average, for the past 4,000 years up to present day:

Greenland (light solid line)
Vostok (dashed line)
extended from 1900 using GISS anomalies
Average (heavy solid line)
2000 BC — 2008



Here we can see that the average curve gives us the illusion that temperatures are higher now than they have been at any time in the past 2,000 years. In fact, temperatures have been much higher in both hemispheres during this period. Even the average has been higher in the past, if we look at the whole 4,000 year record. Jim exploits this illusion in the following paragraph, where he makes statements which may be close to the truth, about averages, but which are totally misleading as regards the alleged dangers of global warming:

The past year, 2009, tied as the second warmest year in the 130 years of global instrumental temperature records, in the [surface temperature analysis](#) of the NASA Goddard Institute for Space Studies (GISS). The Southern Hemisphere set a record as the warmest year for that half of the world. Global mean temperature, as shown in Figure 1a, was 0.57°C (1.0°F) warmer than climatology (the 1951-1980 base period). Southern Hemisphere mean temperature, as shown in Figure 1b, was 0.49°C (0.88°F) warmer than in the period of climatology.

It seems we are looking at a classic case of over-attachment to model. What began as a theory has now become an assumption, and actual observations are being dismissed as “confusion” because they don’t agree with the model. The climate models have definitely strayed into the land of imaginary epicycles. The assumption of CO₂ causation, plus the preoccupation with an abstract global average, creates a warming illusion that has no connection with reality in either hemisphere.

The Southern Hemisphere may be experiencing warming, but that has nothing to do with the Northern Hemisphere, where temperatures have been declining recently, not setting records for warming. This mathematical abstraction, the global average, is characteristic of nowhere. It creates the illusion of a warming crisis, when in fact no evidence for such a crisis exists. In the context of IPCC warnings about glaciers melting, runaway warming, etc., Jim’s global-average presentation serves as deceptive and effective propaganda, but not as science.

As with the Ptolemaic model, there is a much simpler explanation for our recent era of warming, at least in the Northern Hemisphere: long-term patterns are continuing, from natural causes, and human-caused CO₂ has so far had no noticeable effect. There is no

reason to believe that CO2 has been affecting the Southern Hemisphere either, given the natural record of rapid and extreme oscillations.

This simpler explanation is based on actual observations, and requires no abstract mathematical epicycles or averages, but it removes CO2 from the center of the climate debate. And just as powerful forces in Galileo's day wanted the Earth to remain the center of the universe, powerful forces today want CO2 to remain at the center of climate debate, and global warming to be seen as a threat.

Question 4

What is the real agenda of the politically powerful factions who are promoting global-warming alarmism?

One thing we always need to keep in mind is that the people at the top of the power pyramid in our society have access to the very best scientific information. They control dozens, probably hundreds, of high-level think tanks, able to hire the best minds, and carrying out all kinds of research we don't hear about. They have access to all the secret military and CIA research, and a great deal of influence over what research is carried out in think tanks, the military, and in universities.

Just because they might be promoting fake science for its propaganda value, that doesn't mean they believe it themselves. They undoubtedly know that global cooling is the real problem, and the actions they are promoting are completely in line with such an understanding.

Cap-and-trade, for example, won't reduce carbon emissions. Rather it is a mechanism that allows emissions to continue, while pretending they are declining — by means of a phony market model. You know what a phony market model looks like. It looks like Reagan and Thatcher telling us that lower taxes will lead to higher government revenues due to increased business activity. It looks like globalization, telling us that opening up free markets will "raise all boats" and make us all prosperous. It looks like Wall Street, telling us that mortgage derivatives are a good deal, and we should buy them. And it looks like Wall Street telling us the bailouts will restore the economy, and that the recession is over. In short, it's a con. It's a fake theory about what the consequences of a policy will be, when the real consequences are known from the beginning.

Cap-and-trade has nothing to do with climate. It is part of a scheme to micromanage the allocation of global resources, and to maximize profits from the use of those resources. Think about it. Our 'powerful factions' decide who gets the initial free cap-and-trade credits. They run the exchange market itself, and can manipulate the market, create derivative products, sell futures, etc. They can cause deflation or inflation of carbon credits, just as they can cause deflation or inflation of currencies. They decide which corporations get advance insider tips, so they can maximize their emissions while minimizing their offset costs. They decide who gets loans to buy offsets, and at what interest rate. They decide what fraction of petroleum will go to the global North and the global South. They have 'their man' in the regulation agencies that certify the validity of offset projects. And they make money every which way as they carry out this micromanagement.

In the face of global cooling, this profiteering and micromanagement of energy resources

becomes particularly significant. Just when more energy is needed to heat our homes, we'll find that the price has gone way up. Oil companies are actually strong supporters of the global-warming bandwagon, which is very ironic, given that they are funding some of the useful contrary research that is going on. Perhaps the oil barons are counting on the fact that we are suspicious of them, and assume we will discount the research they are funding, as most people are in fact doing. And the recent onset of global cooling explains all the urgency to implement the carbon-management regime: they need to get it in place before everyone realizes that warming alarmism is a scam.

And then there's the carbon taxes. Just as with income taxes, you and I will pay our full share for our daily commute and for heating our homes, while the big corporate CO2 emitters will have all kinds of loopholes, and offshore havens, set up for them. Just as Federal Reserve theory hasn't left us with a prosperous Main Street, despite its promises, so theories of carbon trading and taxation won't give us a happy transition to a sustainable world.

Instead of building the energy-efficient transport systems we need, for example, they'll sell us biofuels and electric cars, while most of society's overall energy will continue to come from fossil fuels, and the economy continues to deteriorate. The North will continue to operate unsustainably, and the South will pay the price in the form of mass die-offs, which are already ticking along at the rate of six million children a year from malnutrition and disease.

While collapse, suffering, and die-offs of 'marginal' populations will be unpleasant for us, it will give our 'powerful factions' a blank canvas on which to construct their new world order, whatever that might be. And we'll be desperate to go along with any scheme that looks like it might put food back on our tables and warm up our houses.

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