

Satellite Data Show that there Was No Global Warming Before 1997

Subsequent warming was discontinuous and was
not caused by carbon dioxide

Arno Arrak

Part 2 of 2

Revised August 20th, 2009

Supersedes all previous versions..

Warning: This paper has been rejected by *Science*, by *Nature*, and by *PNAS*.

It may be hazardous to your research grant.

The “El Nino That Should Not Be There”

Along with the 1983 El Nino the 1998 warm peak has been characterized as a “super El Nino” by Hansen [25]. But when the two are compared there is nothing “super” about that 1983 peak: it is just another one of numerous ENSO peaks and is distinguishable mainly by its faster rise time. But the 1998 peak was twice as high as any other peak, rose cleanly in the middle of a La Nina phase of ENSO, and then subsided just as quickly. By the middle of 1999 its heat had already left the troposphere, presumably absorbed into the ocean, and late La Nina conditions prevailed. But within three years more warming was evident when the next regular El Nino climbed to a level approximately 0.2 degrees Celsius higher than that of any previous ENSO peaks and stayed there for the next six years to form the twenty-first century high. But if ENSO is a physical oscillation of ocean waters it could not possibly have produced the extra energy required for that 1998 super El Nino nor for the twenty-first century high. Speculating on where the energy could have come from, I was even willing to believe in a cosmogenic source for it. Gamma ray burst GRB 971214 just happened to coincide with its start and for a while I really thought it was the energy source. But as a scientific hypothesis this left much to be desired, not the least of which was that there was no way to test it. But then I realized that if its energy came as neutrinos as many believed, then neutrino detectors should have gone off as they did when a supernova exploded in the Large Magellanic Cloud. But they didn't. Where else could this energy have come from? I wondered. The answer finally came to me while contemplating the radar altimetry data I had just downloaded: its energy came from another ocean! In short, it is overflow from the Indian Ocean. And the place where it had to happen is between Borneo and New Guinea where there is an island-studded passage between the Pacific and the Indian Oceans – the Indonesian Passage. That area is just on the other side of the turnaround point of the Pacific ENSO system and if you get a rare confluence of Indian Ocean typhoons etc. in that area you should be able to raise the water level enough to create overflow into the Pacific. Typhoons, like hurricanes, are accompanied by a storm surge that can locally elevate sea level. Hurricane Katrina had a storm surge of 25 feet but the world record storm surge of 43 feet was recorded in 1899 at Bathurst Bay, Australia. It is located at the tip of northern Australia that juts out towards New Guinea, not too far from the possible source area of the El Nino that should not be there. As Figure 11 shows

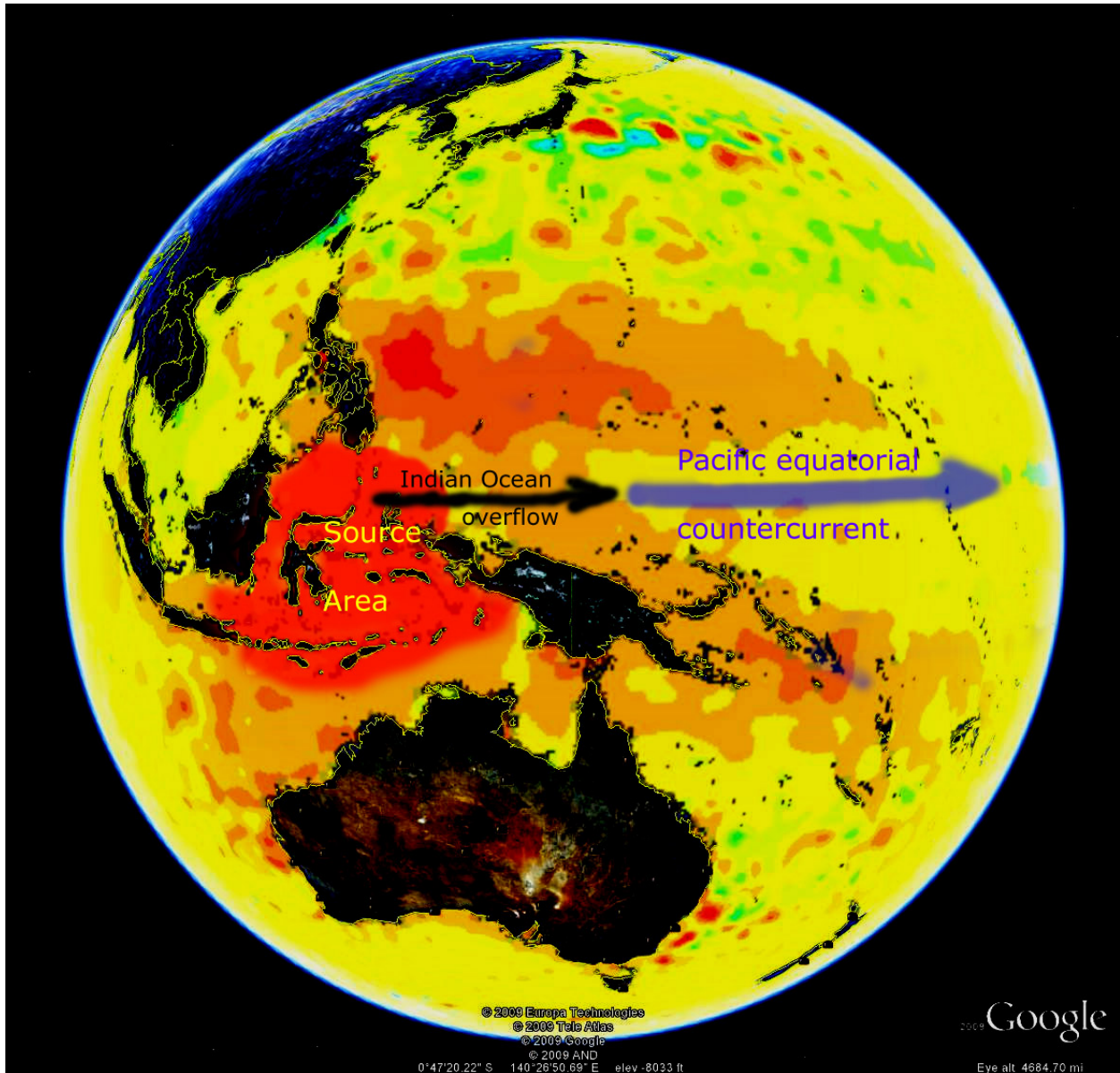


Figure 11. Origin of the “El Nino that should not be there.”

the geometry is just right too for joining that putative Indian Ocean overflow with the equatorial countercurrent. It would then follow the equator until it reaches South America and there act just like another El Nino would. The ENSO itself would not be affected because the flow would be confined to the already-existing equatorial countercurrent whose surface is lower than, and is walled in by, the two equatorial currents that are driven by trade winds. The first signs of temperature rise brought by this flow were noticeable in April 1997. Giving it two to three years to cross the

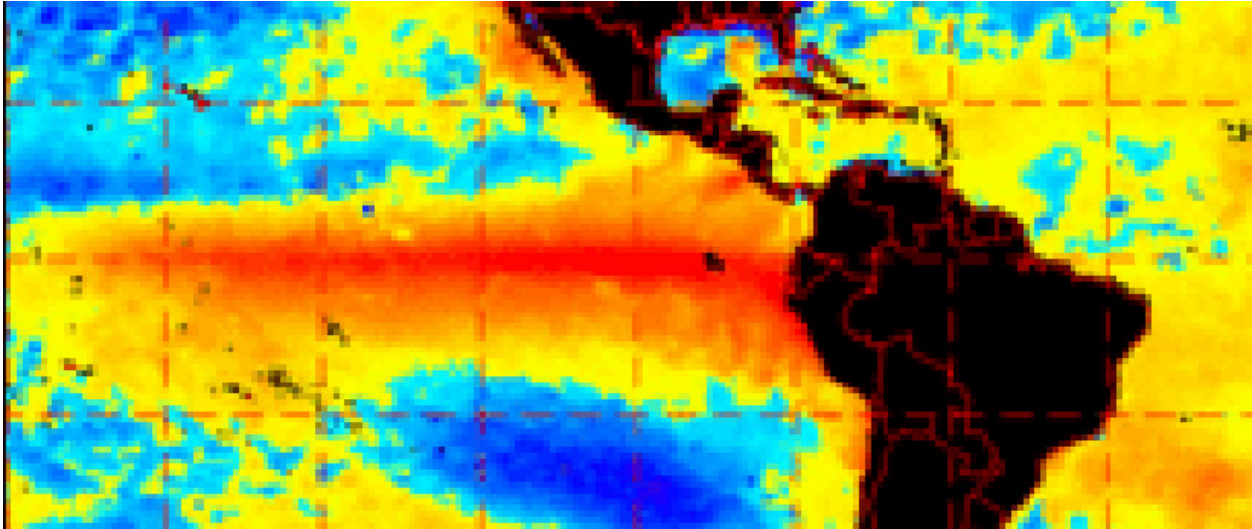


Figure 12. Arrival of the flow that created the “El Niño that should not be there” in South America. Recorded by NOAA satellites on February 27th 1998 using infrared techniques. Its path along the equatorial countercurrent is clearly visible.

Pacific would put its starting event somewhere near the end of 1994. When the flow arrived we would not have perceived anything unusual and would have considered it simply another El Niño. But what was unusual was that the next scheduled El Niño did not go away but stayed to create the twenty-first century high. There were a few abortive downturns during this period but temperature pretty much stagnated near its peak value for six years. Carbon dioxide, however, kept on going up and so did Hansen’s scenarios and other predictions from climate models that are tied to atmospheric carbon dioxide values. This unusual warm period finally ended with reappearance of La Niña cooling in 2007 which bottomed out in 2008. Presence of La Niña cooling signifies restoration of normal ENSO operations which from now on should govern our climate.

This hypothesis, by the way, is quite easily testable and someone who does not know what to do with his share of that billion dollars in climate research money should take it upon himself to just sit down and record the next two or three ENSO cycles that are on the way.

And finally, before closing the subject, here is a sampling of El Niño lore by a world expert on climate, Hansen [25] of NASA:

“...when, by chance, the east-to-west trade winds slacken, ... a classical El Nino is born.” Trade winds are always east-to-west. And why classical? Why not jazz?

“Most climate models yield a more El Nino-like state or no clear change” They might, and then again they might not – it’s still super-GIGO from supercomputers.

“...during the early Pliocene...a permanent El Nino condition existed” I suspect he is lost in the early Pliocene or suffering from a permanent El Nino condition.

“...increased temperature swing from a La Nina phase to El Nino...is a consequence of global warming..” Stop that swing and stop that global warming!

“...’super El Ninos’ clearly were more abundant in the last quarter of the 20th century...” There was exactly one in that century.

“The origin and nature of El Ninos is affected by chaotic ocean and atmosphere variations...assuring that there will always be great variability of strength among El Ninos.” Invoke chaos if you are ignorant and don’t know anything about it.

“...slowing the growth rate of GHGs should diminish the probability of both super El Ninos and the most intense tropical storms.” But I want my super El Ninos and storms!

The source of these words of wisdom is Hansen’s article printed in PNAS - Proceedings of the National Academy of Sciences. If you still don’t get it you should read his take on ice sheets too [26].

The Cooling Mid-Troposphere

But a trace amount of carbon dioxide in the air cannot explain either the absence of warming in the eighties and nineties nor the warming events since 1998. Even more damaging are mid-tropospheric data. While lower troposphere shows no global warming in the eighties and nineties, mid-troposphere records show an actual global cooling for this period. Figure 13 shows this clearly. The plot itself looks pretty much like

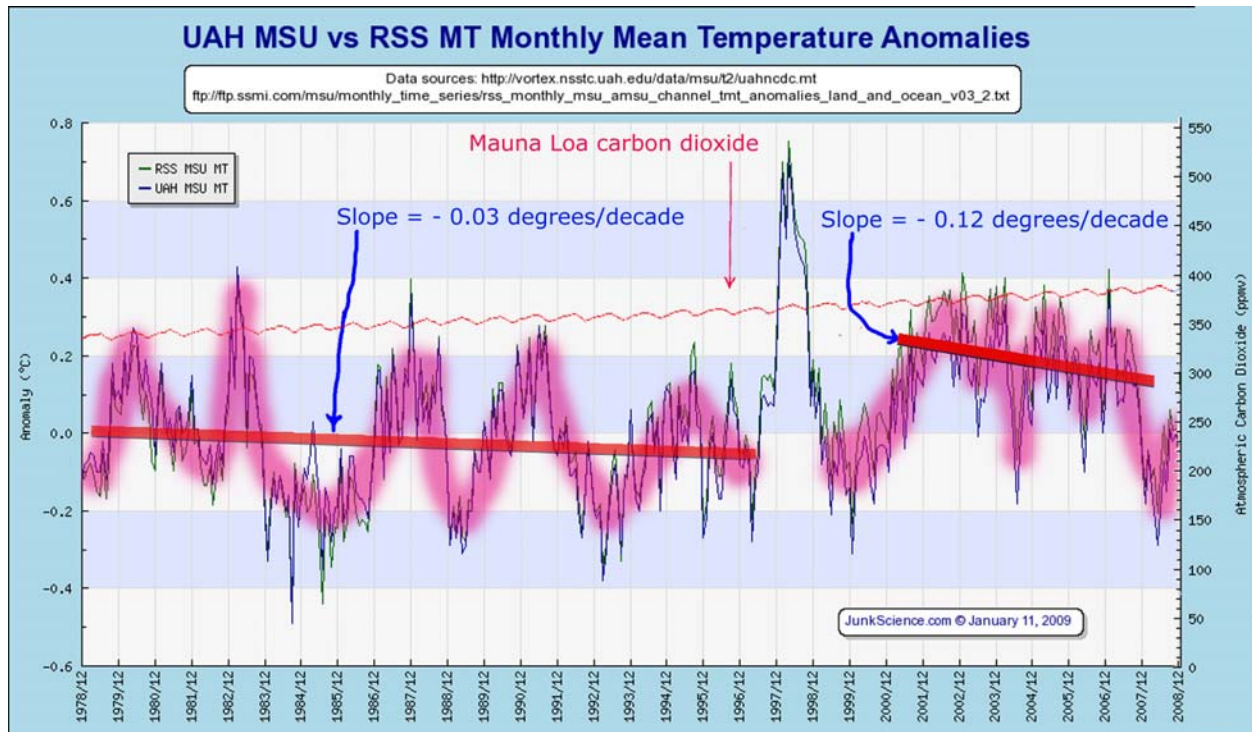


Figure 13. Mid-tropospheric temperature anomalies 1978-2008. Value of slope is cooling rate.

the lower troposphere graph did but on closer inspection that twenty first century high is not a plateau any more but slopes down, with a cooling trend of 0.12 degrees per decade. Such rapid cooling might dissipate the extra heat left over from the 1998 peak into space. Eventually this trend should show itself in lower troposphere records as well. But this still does not explain why the oscillations before 1998 also show a cooling trend, in this case 0.03 degrees per decade. We know of course that the earth is losing heat into space but why this heat loss is on the increase now is unclear. A twenty or thirty year satellite record is not long enough to make sensible hypotheses about it. For the longer term we need to look at theories involving solar and/or cosmic ray influences like Svensmark [16] and like Soon and Baliunas [17] have done.

Comparison with Ground-based Data

But satellite observations cover only the last thirty years and claims are made that carbon dioxide has been active much earlier than that. Hence, we should take a longer look at what the climate scientists have been saying about climate history. And since we have identified a discontinuous warming event it would be interesting to go through the record to see if anything like that may have happened before. One such historical record is available from the Hadley Center in the UK [20] and goes by the name of HadCRUT3 [21]. It covers the period from 1850 to the present and comes in two flavors: monthly

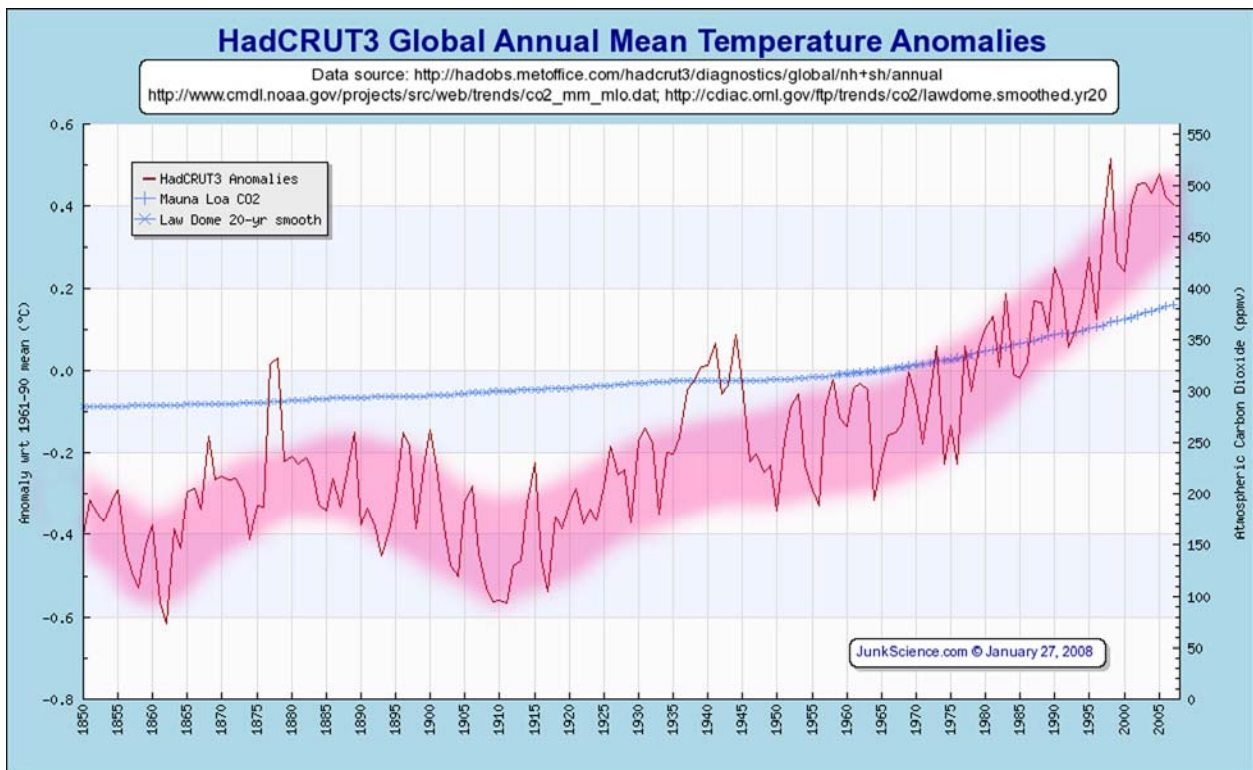


Figure 14. Hadley/University of East Anglia Climate Research Center global annual mean temperature anomalies, from 1850 to 2008. Note presence of climate oscillations interrupted by occasional irregularities. Upward slope in the eighties and nineties is spurious. Heat wave during World War II is misplaced, perhaps by ten years.

and yearly. When the yearly averages (Figure 14, actually bimonthly) are plotted, the pattern of climate oscillations that was identified in our satellite observations becomes visible and is seen to continue, with some irregularities, to the beginning of observations in 1850. They are obviously real and it is a mystery why NOAA has decided to erase

them from their chart in Figure 1. This curve also has an upward slope on the right, an expression of that mysterious late twentieth century warming. It forms the “tip” of the infamous hockey stick curve by Mann et al [21]. On the extreme right the super El Nino of 1998 and the twenty-first century high are visible. The two sides of that super El Nino are shown out of balance and make visible the severe bias in this data set. Historical irregularities that may be in the same class with the super El Nino are seen in 1877 and again from the late thirties to 1945. But HadCRUT3 somehow misses the warming in the thirties and the severe cooling that followed it during World War II. The latter is actually shown as a heat wave, but the problem is this: during that “heat wave” the Finnish Winter War was fought in the bitter cold of minus forty Celsius, arctic winters decimated the German invaders in Russia, and GIs fought their way from the Battle of the Bulge to the German frontier in the coldest winter that West Europeans could remember. If that “heat wave” had happened ten years earlier all these paradoxes would disappear. The warming shown on the right can also be directly compared with satellite observations where they overlap. Figure 15 shows it expanded for that

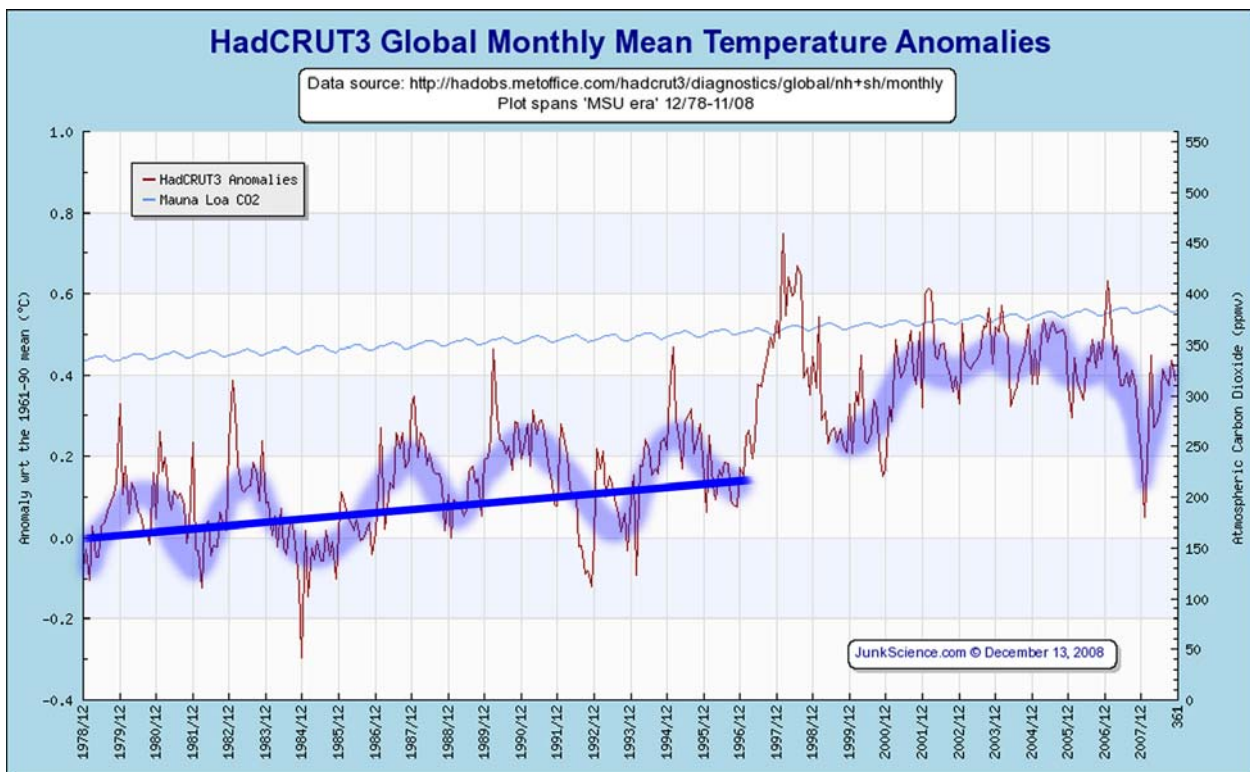


Figure 15. ENSO oscillations in HadCRUT3. Slope of center line is 0.1 degrees Celsius/decade. This is the land-based equivalent of Figure 7 above. Hansen gets a higher value for slope by including the 1998 peak and the twenty-first century high.

period. ENSO oscillations are visible and center line slopes up, indicative of warming. For direct comparison with satellites Figure 16 includes temperature curves for both HadCRUT3 (marked in blue) and UAH MSU LT (marked in red). They start out together but then diverge because HadCRUT3 shows warming while satellites do not.

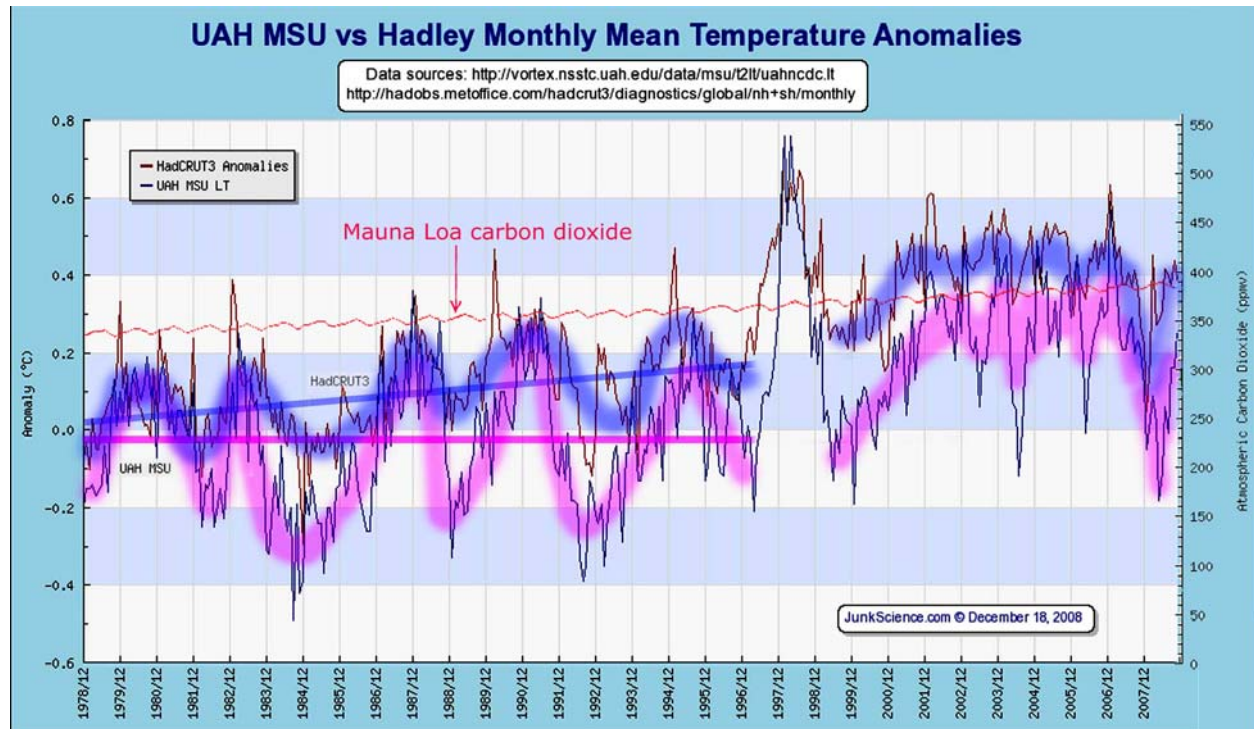


Figure 16. Comparison of satellite (UAH MSU LT, red) and land-based (HadCRUT3, blue) temperature anomalies. Slope of center line is indicative of warming/cooling. The two data sets start out together on the left and then diverge.

But both curves cannot be correct. When we examine them closely we notice that the first four El Ninos of HadCRUT3 are correctly shown but the intervening La Ninas are not. They are raised up and this is what gives this curve its upward slope. The fifth El Nino in 1995 would have been out of line, so it too was simply raised to line it up with the first four. And for good measure, the rest of the curve was lifted up by the same amount. The result is an entire fourteen-year segment of temperatures levitating 0.2 degrees Celsius above the real temperature curve beneath it. Plus, it is also distorted near the super El Nino. I can only call this a mysterious systematic deviation that cannot be explained by simple things like the urban heat island effect, etc. It is part of the mystery of that late twentieth century warming that is yet to be solved.

What Then Becomes of the “Late Twentieth Century Warming”?

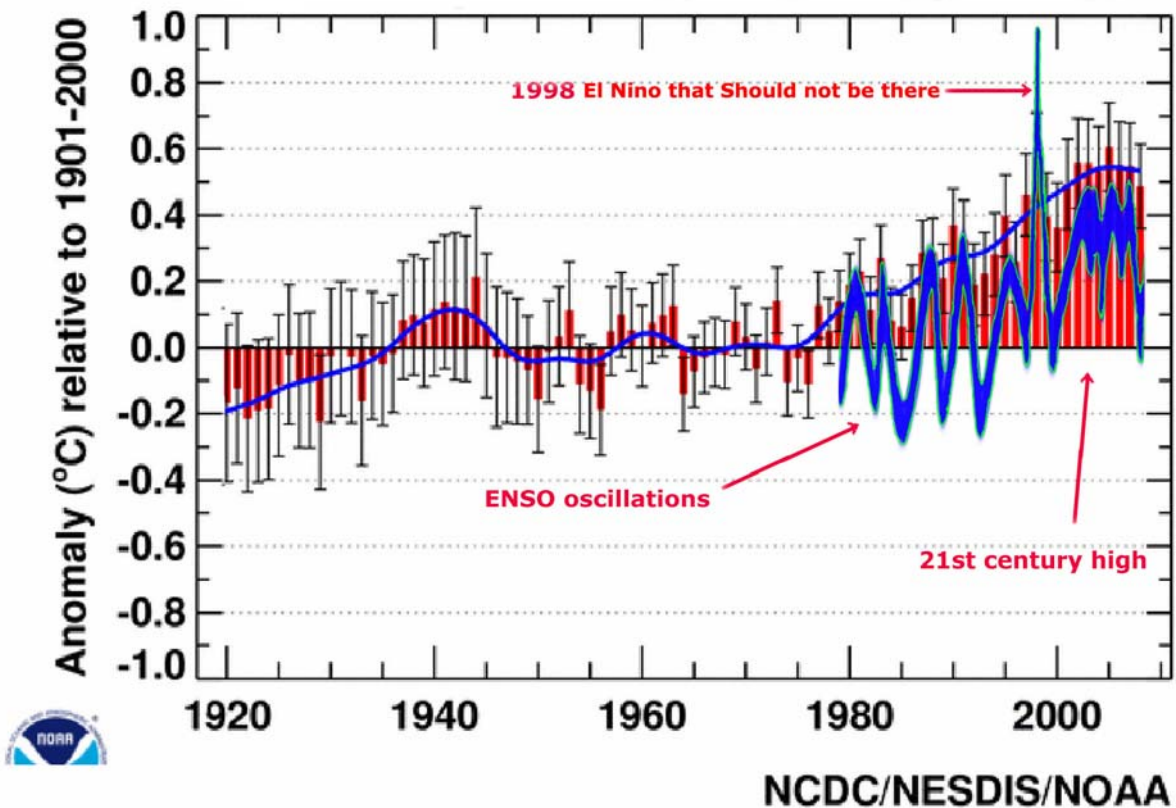


Figure 17. NOAA chart of late twentieth century warming from Figure 1 with overlay of real temperatures from satellite data in Figure 7. Center line of ENSO oscillations is lined up with NOAA’s “pre-warming” temperature average. There was no global warming at all, just ENSO oscillations until the 1998 “El Nino that should not be there” made its appearance.

The “late twentieth century warming” in Figure 1 seems to bid ill for the future, a red triangle of relentless temperature increase for thirty years. But we have analyzed satellite data and shown it to be illusory. To show this graphically we can plot satellite data on the same graph with it and view the two sets of data together. I did this in Figure 17, which is taken from the NOAA chart in Figure 1, and placed the satellite temperature band from Figure 7 on top of it. Major parts of the satellite curve are labeled. In so doing I discovered that NOAA’s vertical scale was magnified by a factor of five relative to horizontal scale and had to do the same with satellite data. This is why they look squashed. It was easy and logical to line up the center line of the ENSO oscillations in the eighties and nineties with the starting temperature of that red

warming triangle on the graph. When this is done the El Nino peaks stick up above the center line of the graph and La Ninas jut down below the center line. But something is very wrong with this picture. There is really no resemblance at all between the real temperature curve and the official NOAA temperature curve. The warming they show in the eighties and nineties is entirely phony. You would have to do some major doctoring to get their curve from the oscillating real temperature record, so let us try to reverse engineer what they would have had to do. For one thing, they did get the first four El Nino peaks right. But to get a rising curve from an oscillating curve something had to give. I can imagine that it started by first cherry picking the four El Nino peaks and simply eliminating any sign of the intervening La Ninas. The fifth El Nino would have been out of line with that trend so they simply raised its temperature to get it in line and eliminated another La Nina. Super El Nino is next? No problem, wipe it out, also wipe out La Ninas on both sides of it. Twenty-first century high not high enough? Raise it up like you raised up the fifth El Nino. Curve still looks like nothing? Scale it up by five, you dummy. Now we are talking – that’s what real global warming should look like: a clean red triangle you can’t miss, no nonsense from strange peaks sticking up or La Ninas hanging down from it! I don’t actually know how this fantasy came to be but the foregoing reconstruction is one possible way. The fact that they did get the first four El Nino peaks right indicates that they did have real data available from somewhere but modified it to get that warming triangle we see. Thanks to such doctoring we get the illusion of a smoothly rising temperature curve that we are used to seeing. Unfortunately this curve is put out as the “world temperature” curve. It pops up everywhere, including the IPCC reports. If people can’t even see the super El Nino of 1998 it is impossible to talk to them about such climate features or their origin. What has been done is not what a climate scientist should be doing. Climate models that depend on such data for input are simply worthless and running them on supercomputers will just produce super-GIGO.

Prognostications

La Nina cooling that started in 2007 has put an end to the twenty-first century high. It is now highly probable that our future climate will again revert to ENSO oscillations as they existed before 1998. Hansen simply got lucky with his predictions when the 1998 super El Nino and the twenty-first century high gave his curves a temporary lift. Carbon dioxide of course will keep on increasing but its voodoo is lost and model-makers will go crazy when all their predictions of CO₂ warming come out wrong. We certainly don't know what will happen to the climate a hundred years from now but we do know that the ENSO oscillations will always be there. The average spacing between ENSO peaks in satellite data is a little over four years now but it is somewhat irregular and the actual peak to peak interval varies from three to six years. HadCRUT3 observations show an average of about five years but this also varies. What causes such variability is unknown which makes any attempt at predicting them uncertain. Nevertheless, to get an idea of what a future ENSO world would look like I took a chance and extrapolated some climate oscillations out to 2020 because Hansen had gone that far when he first came out in 1988. I thought that four peaks would be about right for the time remaining and assumed that their amplitude would be about the same. The result of this (very rough) prognostication is shown in Figure 18.

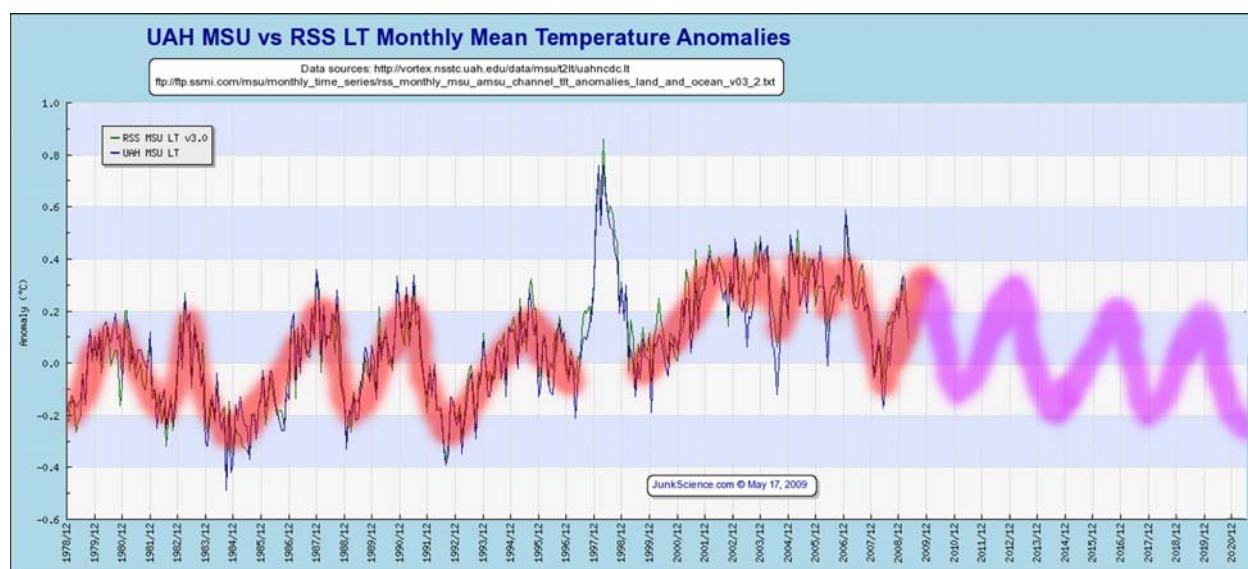


Figure 18. Extrapolation of possible ENSO phases out to the year 2020 (purple). Not guaranteed to be accurate but meant to show the general pattern.

This should be compared with Hansen's modeling based on CO₂ theory which produced his 1988 [24] scenarios. He kept adding observational data points in succeeding years and this way kept his predictions alive. His latest product [25] includes new data through

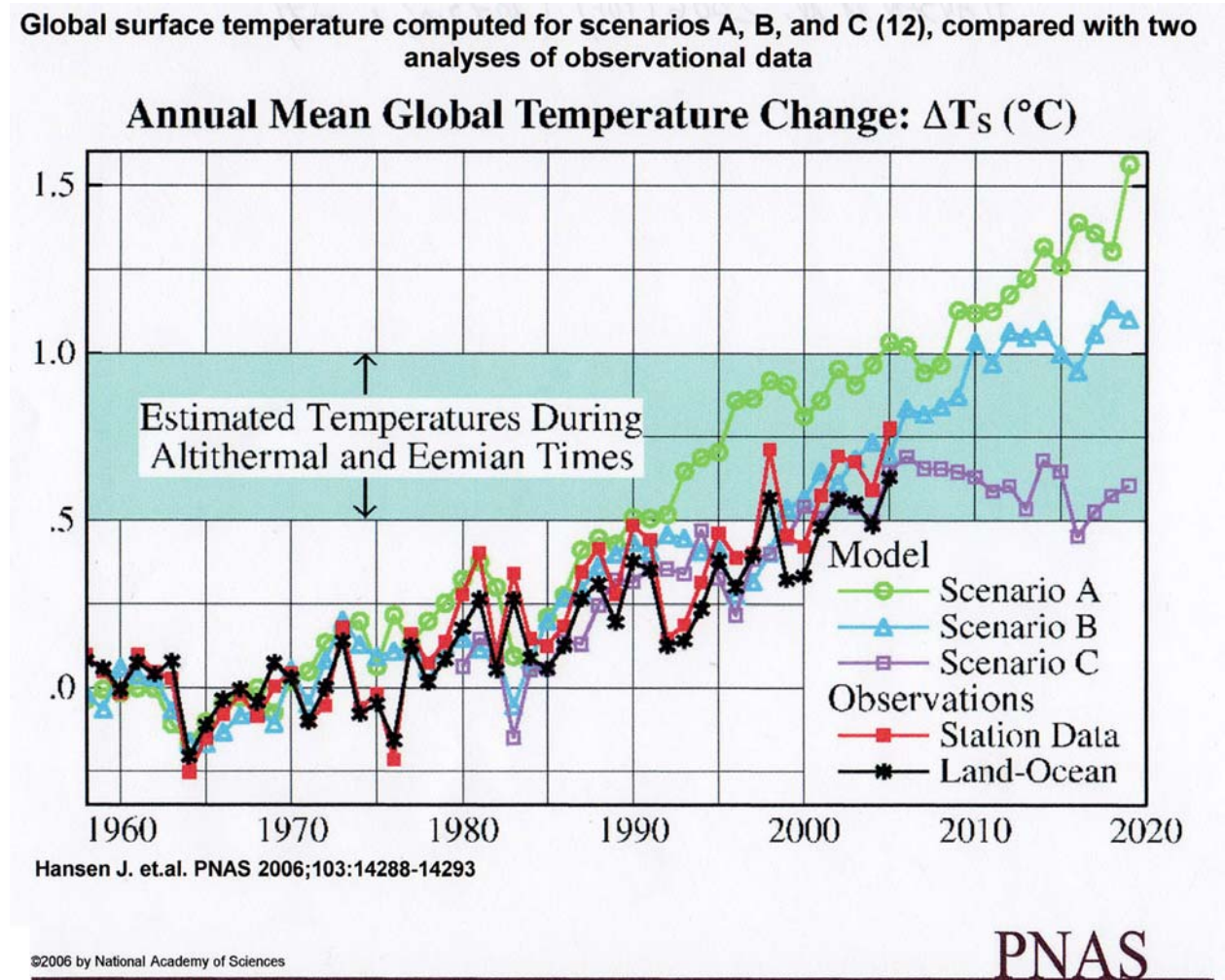


Figure 19. Hansen's "Scenarios" A, B, and C of 1988 demonstrate how varying the rates of carbon dioxide addition to atmosphere can influence our climate. He claims that Scenario B, moderate addition, is the one that best fits observations since 1988.

2005 and is shown in Figure 19. He gives us three "Scenarios," A, B, and C to demonstrate the varying influence of carbon dioxide concentration on global temperature. And with them he also shows two sets of temperature measurements called "station data" and "Land-Ocean" on the chart for reasons not explained. But since they are there it gives us a chance for detailed comparison with satellites. To do this I lifted the temperature band from Figure 18, scaled it, and put it on top of his graph as

shown in Figure 20. For us it is important to see the actual data points that Hansen claims fit his scenario B predictions. Surprisingly, when his Land-Ocean (black)

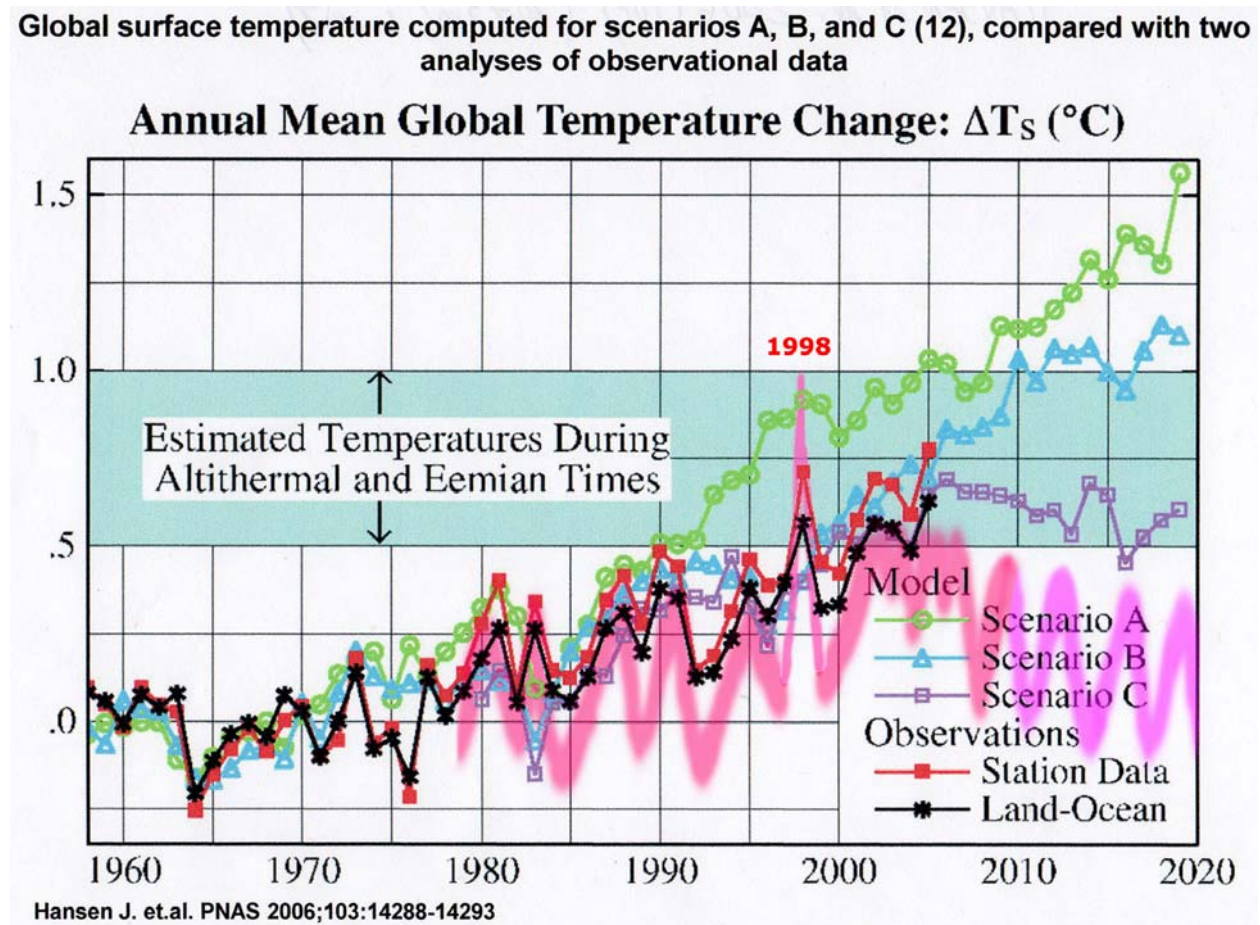


Figure 20. Hansen’s slide again, with an overlay of real (red) and projected (purple) ENSO temperature ranges that are taken over from Figure 18.

temperature curve is compared to the satellite band the El Nino peaks and the twenty-first century high show up quite well. Only the super El Nino (which is low) and the very last data point (which is too high) are off. But where the data differ from reality is in the temperatures between his El Nino years. This shows up as the curtain-like pink La Ninas in Figure 20 that seem to hang down from a clothesline made up of the El Nino peaks. It is very hard to believe that if these people have accurate figures for the El Nino phases they do not have data of the same quality for the La Nina phases. Which leaves open the possibility that this curve was massaged by progressively raising the bottoms of La Ninas from left to right until they lined up nicely with the super El Nino and the twenty-first

century high. We have already observed similar distortion in NOAA and HadCRUT3 temperature curves. To show this effect more clearly Figure 21 displays only the relevant curves from Figure 20. Perhaps there is a natural phenomenon that knows how to selectively raise La Nina phase temperatures without raising the El Nino phase too

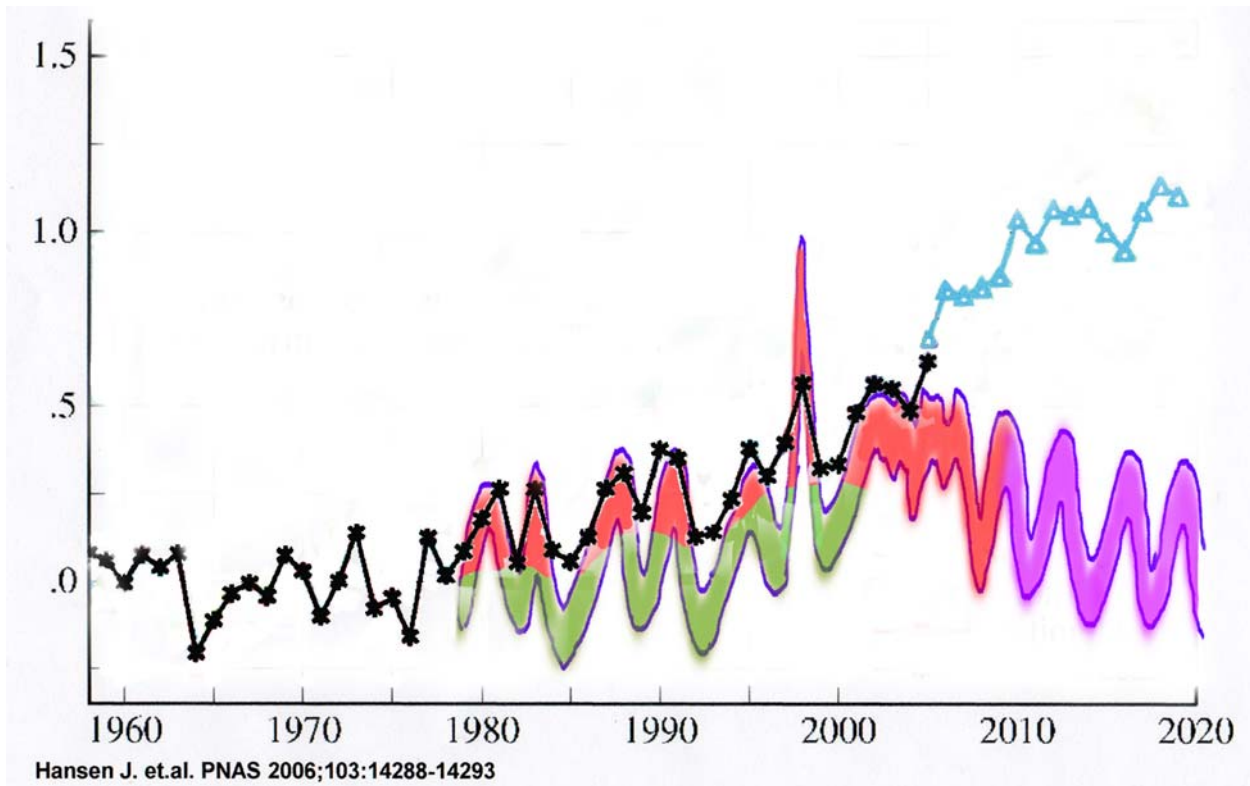


Figure 21. Three curves from previous slide, freed of clutter. Black – Land-Ocean; Green – satellite data that must be erased to create Land-Ocean; Purple – satellite prognostications; Blue – Hansen’s Scenario B prognostications.

but I am not aware of it and have no idea how it could operate. Sections of satellite data marked in green, amounting to more than fifty percent of the total, had to be eliminated to produce that black curve of his. But other than that all the peaks except for the super El Nino are reasonably well represented. As a result, an oscillating curve becomes a rising curve. And this is vital if Hansen’s 1988 testimony is to be believed. The manipulation required to achieve this is different from what was done with HadCrut3, for those people raised up an entire 14-year section of the curve. As a result, Hansen’s Land-Ocean curve gets the twenty-first century high right where HadCRUT3 floats

happily above it (Figure 16). Yet the upward slope in both cases comes from distorting or eliminating the La Nina phase temperatures of the eighties and nineties. All this puts a cloud over the actual existence of that mysterious “late twentieth century warming” upon which Hansen’s original testimony and prognostications of IPCC modelers rest. But leaving all that aside, the La Nina cooling of 2007 has eliminated any hope that their predictions of anthropogenic greenhouse warming will ever come true. A glance at Figure 21 will show how far Hansen B has already deviated from reality. If a scientific theory predicts warming and we get cooling instead then it has failed as a scientific theory and must be abandoned. And all actions predicated upon the truth of that faulty theory must likewise be abandoned. There is no AGW in our future and ENSO oscillations will again take control of our climate as they did before 1998. And people will wonder how Hansen got away with his nonsense as long as he did.

Conclusions

If we can draw one firm conclusion from satellite data it is simply this: carbon dioxide is innocent! There are many reasons to say this but the one that counts most is that temperature predictions of carbon dioxide theory today are plain wrong and as a scientific theory it is simply false. There is no Anthropogenic Global Warming (AGW) caused by carbon dioxide emissions, and no disastrous global warming is about to overtake us. But much misinformation has been spread by warming advocates that needs to be cleared up. Starting with Hansen's warming of 1977 the signals we have been given were all wrong. In 1988 there was no warming when Hansen testified that there was – his temperature curve was wrong and his argument that CO₂ caused it required us to suspend the laws of physics to believe it. All attempts to relate carbon dioxide to geologic history have failed. When Greenland and Antarctic ice cores were first analyzed there was an apparent correspondence between warm periods and increase of atmospheric carbon dioxide. But when these same ice cores were analyzed at higher resolution it turned out that in every case the warming *preceded* instead of *following* the increase in carbon dioxide. Another attempt to involve carbon dioxide with geology tried to relate Oligocene Antarctic glaciation [28] to reduction of atmospheric carbon dioxide. The authors claimed that they knew this because their model predicted it! But this also turned out to be a case of reverse timing: there really was a reduction of atmospheric carbon dioxide – but a good two million years after the start of that glaciation. Daniel Rothman [27] has made the most thorough and technically impressive study of the behavior of carbon dioxide for the last 500 million years. His conclusion is: "The resulting CO₂ signal exhibits no systematic correspondence with the geologic record of climatic variations at tectonic time scales." And neither is it doing anything now as the satellite record shows. But despite all this there is an abundant literature about the consequences of carbon dioxide warming that take AGW as a given and work out imaginary futures based upon that unproven, and now clearly false, premise. The editorial process of scientific publications also is grievously at fault for allowing such nonsense to be printed. They are doubly at fault for routinely suppressing contrary opinions. This is tantamount to Lysenkoism, reminiscent of the former Soviet Union. Lack of carbon dioxide warming today means that there is clearly no justification either for the Kyoto Protocol or for such things as cap and trade laws or carbon tax that are built on faith in such defective science. And even less justification is

there for negotiating yet another climate treaty to replace Kyoto. Nevertheless, these policies have become a part of the Nobelists' faith now and are vigorously pushed by greens worldwide. Plus, we have good reason to believe that the so-called "hockey stick" temperature curve by Mann et. al [21] did not describe the true temperature history of the world and was faked [18]. There are also other problems with land-based temperature histories used by Hansen and others. The apparent manipulation required to produce Hansen's Land-Ocean curve, the complete incredibility of NOAA's late twentieth century warming curve, and similar dubiousness of late twentieth century warming in HadCRUT3 records was discussed above. And now NASA has admitted that not 1998 but 1934 which brought us the dust bowl was the warmest year of the twentieth century - all thanks to Steve McIntyre of Toronto [22] who unearthed errors in their data! But in view of all this, how can we be sure of the integrity of any of the data they throw at us now? Data integrity seems to be a sacred cow that should have been questioned from the start. It is even more important now because huge government contracts and international agreements may depend upon conclusions drawn from such data. Satellites simply cannot see that alleged late twentieth century warming that we are supposed to fight by reducing our carbon footprints. Part of the data problem derives from the existence of the non-carbonaceous 1998 super El Nino and the twenty-first century high. They did not fit in very well with the warming curve and the temperatures in the eighties and nineties had to be manipulated to line up with them. This is the case with Hansen's revised temperatures from 2006 [25] and it raises the very real possibility that satellites don't see the warming simply because the data were cooked. A similar cloud hangs over the other temperature records analyzed. It is very hard to believe that nature is deceiving us in some way but maybe not impossible. This is the true mystery of the late twentieth century warming that needs to be explained. But whatever the cause, manmade or not, but especially if manmade, it must be rooted out before any serious science can be done. Let's get back to the drawing boards and fix it, fellows!

References

1. New York Times, May 21, 1975
2. *Frontline* interview with Senator Wirth, January 17th, 2007
3. Roy Spencer, John Christy & John Horack, "Global Climate Monitoring: The Accuracy of Satellite Data" NASA Marshall Space Flight Center March 12, 1997, http://science.nasa.gov/NEWHOME/headlines/essd12mar97_1.htm
4. Sally Baliunas interview by Virginia Postrel & Steven R. Postrel, *Reason Magazine*, October 1998
5. UAH MSU = University of Alabama Huntsville Global Hydrology and Climate Center http://junkscience.com/MSU_Temps/Warming_Look.html#UAH%20MSU
6. RSS = Remote Sensing Systems http://junkscience.com/MSU_Temps/Warming_Look.html#RSS
7. From "'Global Warming' at a Glance" http://junkscience.com/MSU_Temps/Warming_Look.html
8. Fred Goldberg, Proceedings 2008 Global Warming Conference, New York March 2 - 4, 2008
9. According to the U.S. Climate Change Research Program for Fiscal Year 2009 (A Supplement to the President's Fiscal Year 2009 Budget) the total amount of research money allocated for this year is 1,157.5 million dollars. This is divided up among the Federal agencies as follows: USDA 52.8 million; DOC 280.5 million; DOE 122.3 million; HHS 46.8 million; DOI 31.4 million; USAID 6.0 million; EPA 16.5 million; NASA 399.9 million; NSF 195.6 million; and SI 5.7 million.
10. Orrin H. Pilky & Linda Pilkey-Jarvis, *Useless Arithmetic: Why Environmental Scientists Can't Predict the Future* (Columbia University Press, 2007), pp. 183 – 204
11. James Hansen, Andrew Lacis, Reto Ruedi & Makiko Sato, "Potential Climate Impact of Mount Pinatubo Eruption" *Geophys. Res. Lett.*, **19**(2), 215-218 (1992)
12. M. Patrick McCormick, John Anderson, & Michael Hill, "An Historical Perspective of the 1991 Pinatubo Eruption and its Climate Effects," NOAA-CREST/NASA-EPSCoR Joint Symposium for Climate Studies, University of Puerto Rico – Mayaguez Campus, January 10-11, 20

13. Richard Monastersky, Climate still reeling from Pinatubo blast – Mt. Pinatubo, *Science News*, January 29, 1994
14. “The Atmospheric Impact of Mount Pinatubo Eruption” in Newhall & Puongbayan (eds.), *Fire and Mud: Eruptions and Lahars of Mount Pinatubo, Philippines* (University of Washington Press, 1996)
15. Satellite Eye – Galathea 3, http://www.satelliteeye.dk/index_uk.htm
16. “Astronomers Astounded by Enormous Explosion in Deep Space” by Ann Kellan. CNN Space, May 6, 1998, <http://www.cnn.com/TECH/space/9805/06/space.explosion/>
17. Henrik Svensmark & Nigel Calder, “The Chilling Stars” (Icon, 2007)
18. Willie Soon & Sallie Baliunas, “Proxy climatic environmental changes of the past 1000 years” *Climate Research* **23**:89-110 (January 31, 2003); Stephen McIntyre & Ross McKittrick, “Hockey sticks, principal components, and spurious significance” *Geophys. Res. Lett.*, 32,L03710, doi: 10.1029/2004GL021750
19. Hadley Centre for Climate Prediction and Research in UK
20. Combined global land and sea surface temperature anomalies from Hadley/University of East Anglia Climate Research Unit.
21. Michael E. Mann, Raymond S. Bradley & Malcolm K. Hughes, “Global-scale temperature patterns and climate forcing over the past six centuries” *Nature* **392**:779-787 (1998)
22. Randy Hall, “NASA’s Backtrack on Warmest Year Is Being Ignored, Critic Says” CNSNews.com, August 16, 2007
23. PDF - Is the U.S. Temperature Record Reliable? – Anthony Watts http://icecap.us/index.php/go/joes-blog/is_the_us_temperature_record_reliable/
24. J. Hansen, I. Fung, D. Rind, S. Lebedeff, N. Ruedy, and G. Russell, *J. Geophysical Research* **93**:9341-9364 (August 20, 1988)
25. James Hansen, Makiko Sato, Reto Ruedy, Ken Lo, David W. Lea, and Martin Medina-Elizade, “Global Temperature Change” *PNAS* **103**:14288-14293 (2006)
26. You asked for it. Here is Hansen’s take on ice sheets: “Multiple positive feedbacks, including reduced surface albedo, loss of buttressing ice shelves, dynamical response of ice streams to increased melt-water, and lowered ice

surface altitude would assure a large fraction of the equilibrium sheet response within a few centuries, at most.” The source of this drivel is reference [25].

27. Daniel Rothman “Atmospheric carbon dioxide levels for the last 500 million years” PNAS **99**:4167-4171 (No. 7) (April 2, 2002)
28. Robert M. DeConto, David Pollard, Paul A. Wilson, Heiko Pälike, Caroline H. Lear & Mark Pagani “Thresholds for Cenozoic bipolar glaciation” Nature **455**:652-656 (2008)

Acknowledgement: The author is indebted to Junk Science.com, Inc. for permission to use their excellent graphs without which this work would not have been possible. They retain the copyright but have no other input to this work. All of the original graphs are available on “Global Warming” at a glance’ Web site http://junkscience.com/MSU_Temps/Warming_Look.html where they are periodically **updated**.

Appendix: On Trying to Publish This Paper

When I saw Al Gore, Nobelist, show a map of Florida under water and talk about a twenty foot sea level rise by the end of the century I was amazed. I did know some geology but this just did not fit in, so I decided to find out more. And lo and behold, last April I found a paper by three Chinese guys (1A) in *Science* proving that the rise in sea level had been linear for the last eighty years, and that the rate at which water rose was 2.46 millimeters a year. You don't need to be a rocket scientist to calculate that for a century this comes out as a little under ten inches, not twenty feet. Something was not right and I had to dig further. But I was entirely out of touch with current research and had not published anything since Nixon came in and canceled the last three moon shots. That is when my then employer, prime contractor for the Apollo Lunar Lander module, had to lay off ten thousand people, I among them. And that is when I became a science teacher. But by the time I learnt of this "Al Gore" discrepancy I was already retired from teaching and was not ready for the work ahead. But I was sufficiently intrigued to persist even though it turned out to be much more of a challenge than I had anticipated. There were also rewards, for as the work progressed entirely new phenomena appeared that had to be explained. That I was able to do the work at all is strictly due to the existence of the internet. Formerly it would have required the resources of a great university library and even then it would probably have taken much longer. But luck also played a role. You have to outline the main oscillations in color like I did before you can even start to make sense of it and luckily no one had done this before. This was basically an intelligence test but making sense of the pattern revealed this way was the hard part. I still had to speculate, however, and I state that clearly when I do. I offered the paper both to *Science* and to *Nature* but got turned down quickly, not even a chance for peer review. These editors are now so important that even to submit a paper you have to prove to them that you are not some kind of a computer virus, to be kept out by a firewall. In the fifties and sixties you corresponded with the editor, even talked to them or met them at a conference. I also tried submitting it to PNAS (Proceedings National Academy of Sciences). They published two papers this year that were outrageously biased and totally without scientific merit (2A) and I decided to submit mine as an antidote. But their web submission site required filling nine pages of computer forms with many restrictions on format and length, plus exorbitant page charges. I wasn't going to do any of this and simply told them to download it from ICECAP if they want it. But don't expect to get page charges – you pay them to me I told them. The editor did answer – but the answer consisted of the self-same forms I had told him he was mad to expect me to fill. They are so full of this publish or perish crap that science is merely a minor by-product of their office routine. Because, you see, they already know the outcome and there is no reason to actually puzzle through a manuscript from a Denier. What would these guys tell a patent office clerk who says that waves are actually particles? Just dump it, I guess, do what Lysenko did to genetics.

(1A) B. F. Chao, Y. H. Yu, and Y. S. Li, *Science* **320**: 212-214 (April 11th, 2008)

(2A) "Irreversible climate change due to carbon dioxide emissions" (February 10th 2009); "Assessing dangerous climate change through an update of the Intergovernmental Panel on Climate Change (IPCC)'reasons for concern' " (March 17th 2009)

Table of Contents

Executive Summary	1
Abstract	2
Is the World Warming?	3
Introduction to Satellite Data	6
Previous Analyses of Satellite Data	8
Making Sense of Observations	10
Pinatubo Cooling	12
What is ENSO?	13
The “El Nino that should not be there”	16
The Cooling Mid-Troposphere	20
Comparison with Ground-Based Data	21
What Becomes then of the “Late Twentieth Century Warming”?	24
Prognostications	26
Conclusions	31
References	33
Appendix: On trying to publish this paper	36
Table of Contents	37