

# IF THE IPCC WAS SELLING MANMADE GLOBAL WARMING AS A PRODUCT, WOULD THE FTC STOP THEIR DECEPTIVE ADS?

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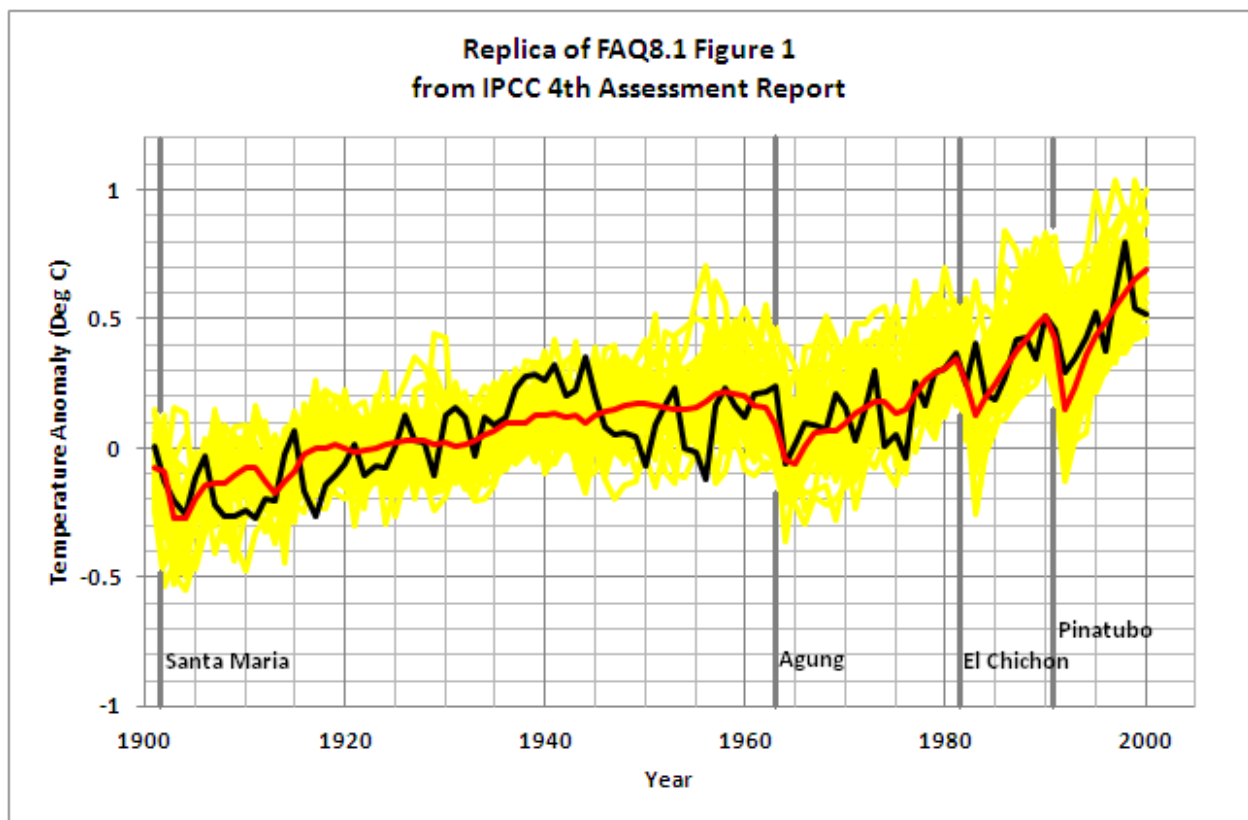
*An illustrated look at and discussion of the instrument-based surface temperature data and climate model outputs that support the hypothesis of anthropogenic, carbon dioxide-driven global warming — in layman terms.*



## INTRODUCTION

If the Intergovernmental Panel on Climate Change (IPCC) was selling the hypothesis of manmade global warming and climate change as a commercial product, would the Federal Trade Commission (FTC) stop their deceptive ads? You would hope the FTC would, if you understood how poorly the IPCC's climate models actually simulated global surface temperatures during the 20<sup>th</sup> Century.

Of course, the IPCC does not advertise on TV, radio, or in print, but hardly a day goes by without a reporter, meteorologist, or climate scientist attributing a weather event somewhere around the world to global warming or climate change caused by manmade greenhouse gases. Floods, droughts, tornados, snowstorms, heat waves, cold snaps, anything, and everything are all now said to be caused by increased levels of carbon dioxide. So, while there are no advertisements for the hypothesis of manmade global warming, the public is bombarded constantly with reminders of it—with climate models being cited as proof that man is responsible. In fact, the hypothesis of manmade climate change rests heavily on the shoulders of those computer models.



**Figure I-1 (Replica of FAQ8.1 Figure 1 From IPCC AR4)**

A replica of the IPCC's presentation of climate model simulations versus instrument-based surface temperature measurements is shown in Figure I-1. The original graph is from the Frequently Asked Questions in Chapter 8 of the IPCC's 4<sup>th</sup> Assessment Report (AR4), which was published in 2007. The title of that AR4 chapter is "Climate Models and their Evaluation". Here's a [link to the original graph](#) and discussion.

If you're wondering why I recreated the IPCC's graph instead of using the one from the report, the answer is simple. Written permission from the IPCC is required when one wants to use one of their images in a commercial publication. And I could not see the point of writing to them to ask permission to use their graph in a book titled *If the IPCC was Selling Manmade Global Warming as a Product, Would the FTC Stop Their Deceptive Ads?* Permission was unlikely.

There are some minor differences between their original and the replica. Those differences are explained later in the book.

Their graph and the replica seem to demonstrate that climate models do a fantastic job of simulating surface temperatures over the 20<sup>th</sup> Century.

The black curve represents the global surface temperature anomalies. It's based on millions of land and sea surface temperature measurements since 1901, and, of course, thermometers in multiple forms were used to measure those temperatures around the globe.

The term "anomaly" is nothing to be concerned about. Anomaly is used to express the difference between a certain temperature and the average temperature for a selected period. More about why anomalies are used in Chapter 1.

The noisy yellow curves in the graph are the dozens of individual outputs of the climate simulations from 12 different climate models. That's a lot of conjecture-based number crunching from gazillion-dollar super computers. The more subdued red curve is the average of those individual model simulations. The x-axis (horizontal base line) is formatted as time in years. And the y-axis (vertical line to the left of the graph) is formatted as temperature in degrees Celsius. The data in the graph is presented on an annual average basis.

The IPCC's graph and the replica also include grey vertical lines to mark the years of the explosive volcanic eruptions of Santa Maria in Guatemala (1902), Mount Agung in Bali (1963), El Chichon in Mexico (1982), and Mount Pinatubo in the Philippines (1991). Explosive volcanic eruptions can send sun-blocking aerosols up into the stratosphere. The resulting decrease in sunlight reaching the Earth causes global surface temperatures to drop temporarily. The IPCC must be proud that the climate models can reproduce those volcano-caused

dips and rebounds in temperature.

While the graph presents lots of information, only two of the curves have any value in a discussion of manmade global warming, and those are the red curve of the model mean and the black curve of the instrument-based observations. The rest of what's presented draws your eyes from what's important.

A quick note: To those who are more familiar with the Fahrenheit scale, I will apologize for the use of Celsius in this book. But Celsius was adopted internationally and all of the scientific reports about global warming and climate change use it, including the IPCC's reports.

Again, the IPCC's comparison of climate models and observed surface temperatures shown in Figure I-1 seems to illustrate that the models do a great job of simulating the rise in surface temperatures during the 20<sup>th</sup> Century. But as we will see in Section 1, the climate models, in reality, perform very poorly when the 20<sup>th</sup> Century is broken down into the two warming periods and the two periods when global surface temperatures did not rise for two or three decades. We'll confirm how poorly the models perform in Section 2 with the data used by the IPCC for its 4<sup>th</sup> Assessment Report. That data is available to the public, and I'll show you where to find it, if you're interested in confirming my results. Not only are the IPCC's climate models not able to properly reproduce global surface temperatures over the 20<sup>th</sup> Century, their outputs, when compared to global surface temperature data, actually contradict the hypothesis of manmade global warming. What? Yup. They contradict it.

Since there isn't a nearby planet scientists can use for experiments, they rely on climate models to determine if manmade greenhouse gases **could** be the cause of the rise in global surface temperatures over the 20<sup>th</sup> Century. The word "could" was highlighted because many people have lost sight of that fact. Climate models only show that the rise in surface temperatures during the 20<sup>th</sup> Century **could** have been caused by anthropogenic greenhouse gases, not that it was. Climate models are very complex, very expensive tools, but the only thing they do confirm with certainty is the programming skills of the computer programmers. And you must always keep something else in mind: If the models produced outputs that did not agree with the scientists' beliefs, those simulations would be discarded and the models would be reprogrammed. To take the example one-step farther, if climate model simulations showed that temperatures could have risen without greenhouse gases, the climate scientists would discard the results because those simulations disagreed with the climate scientists' beliefs about manmade global warming.

The climate scientists/computer programmers, in their simulations of 20<sup>th</sup> Century global surface temperatures, have used what they believe to be good estimates of greenhouse gases and other factors that impacted global temperatures over that period. Contrary to what you've been told by the IPCC,



the climate models do a very poor job of reproducing the rates at which temperatures changed during one of the two warming periods and during both “flat temperature” periods that make up the 20<sup>th</sup> Century.

So if the climate models can't simulate the past, how can it be assumed they will have skill at projecting future climate over the next few decades and through to the end of the 21st century? It can't. Any confidence in the models is basically a matter of faith in a hypothesis. And as we will see, the hypothesis isn't supported by the data in any time period, even the late warming period.

The late 20<sup>th</sup> Century warming period started in the mid-1970s. It is the only period the IPCC's climate models are able to simulate the actual rise in temperature with any consistency. So we'll take a closer look at sea surface temperature data and model simulations for the past 30 years.

Why look at sea surface temperature?

The oceans cover 70% of the surface area of the globe, and land surface temperatures mimic and exaggerate the changes in sea surface temperatures. The surface temperatures of the oceans have warmed over the past 30 years. Sea surface temperature measurements from satellites, buoys, and ships have been used to document that fact. Coincidentally, the sea surface temperature outputs of climate models rise in response to increased levels of carbon dioxide during that time. Using IPCC logic, the observed rise in sea surface temperature must therefore be caused by anthropogenic greenhouse gases, primarily carbon dioxide.

Unfortunately for the IPCC and their hypothesis, it's very easy to illustrate with the satellite-based sea surface temperature data that Mother Nature, not greenhouse gases, caused most, if not all, of the rise in global sea surface temperatures over the past 30 years. It's so obvious you'll wonder how the climate science community has managed to overlook it, or hide it, for so long.

Additionally, the book includes model-observations comparisons for a number of different surface temperature datasets and with the data subdivided into subsets. All of those comparisons show the climate models do a poor job of simulating surface temperatures over the 20<sup>th</sup> Century. In other words, it makes no difference if we use sea or land surface temperatures, or the combination of the two, and makes no difference how we divide up the globe, the models perform badly in their attempts to simulate those surface temperatures.

This book also includes a very detailed, well-illustrated Section on the natural climate phenomenon called El Niño-Southern Oscillation and all of its interrelated processes. It's a fascinating process Mother Nature devised. There are links to numerous animations so you can watch the interaction between

variables. Many of the animations include graphs that fill in as time progresses. This will help you to understand how that natural factor called El Niño-Southern Oscillation contributed to the rise in global sea surface temperatures over the past 30 years.

There is also a Section that documents the sources of the data. I did this to assure you that I haven't fabricated anything or presented the data in a misleading way. I'll also show you how to download the data and reproduce the graphs using a spreadsheet. I used Microsoft EXCEL for the graphs in this book, but other spreadsheets will work. This will allow you, if you have the time and inclination, to investigate the IPCC's claims that global warming is mostly manmade and to prove to yourself that it is not. And after you've shown yourself, you can show your kids or grandkids—or you can show your parents and grandparents and that friend who's always yakking about manmade global warming and anthropogenic climate change.

Sorry, IPCC, the instrument-based surface temperature record and the output data from your climate models contradict your well-marketed conjecture.

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## Section 10 – Closing

The global surface temperature data and the IPCC's climate model output data have confirmed what was noted in the Introduction of the book. And that is, the model mean of the climate models used by IPCC in their 4<sup>th</sup> Assessment Report (AR4) cannot reproduce the rates at which global surface temperatures warmed and cooled over multidecadal periods of the 20<sup>th</sup> Century—periods that are acknowledged by the IPCC. The model mean of those climate models does not capture the rate at which global surface temperatures cooled in the early decades of the 20<sup>th</sup> Century. During the early warming period that lasted from the late 1910s to the early 1940s, global surface temperatures warmed much faster than simulated by the model mean—in the neighborhood of 3 times faster. This indicates that global surface temperatures can rise without being driven by the radiative forcings that are used to force the warming of surface temperatures in climate models. This also suggests that much of the warming during the late warming period of the 20<sup>th</sup> Century could also be unforced; that is, it suggests the rise in surface temperatures since the 1970s could also be, primarily, the result of natural processes, not anthropogenic greenhouse gases. And depending on the dataset, the model mean of the climate models cannot simulate the rates at which global surface temperatures cooled from the early 1940s to the late 1970s.

The model mean of the climate models for most part can simulate the rate at which global surface temperatures warmed during the late warming period that began in the late 1970s. But as discussed above, the unforced rise in global surface temperatures during the early warming period suggests that models' ability to match the recent rate of warming has little value. In other words, the fact that global surface temperatures warmed 3 times faster during the early warming period than simulated by the models indicates that the forced component of the recent warming may only be one-third of the rate at which global surface temperatures warmed. And that suggests that the model projections into the 21<sup>st</sup> Century could be more than 3 times too high.

Much of the IPCC's argument about greenhouse gas-driven global warming has been based on climate models. The IPCC acknowledges that climate models that are not driven by greenhouse gases cannot simulate the rate at which global surface temperatures warmed in the latter part of the 20<sup>th</sup> Century. And they show that climate models driven by greenhouse gases can simulate that warming. The IPCC's logic has been, if the models that aren't forced by greenhouse gases can't simulate the late 20<sup>th</sup> Century warming, while the models forced by greenhouse gases can, then greenhouse gases must be the cause of the warming. It apparently never occurred to the IPCC that the climate models may have no basis in reality. Maybe they should have investigated the sea surface temperature record. As clearly illustrated in this book, satellite-era sea surface temperature data shows that much if not all of the warming for the past 30 years resulted during, and was caused by, the

major El Niño events of 1986/87/88 and 1997/98. It's still too early to determine the long-term effect of the 2009/10 El Niño.

Sea surface temperatures for about 33% of the global oceans (the East Pacific Ocean: 90S-90N, 180-80W) have warmed very little over the past 30 years, and the sea surface temperature anomalies for the other 67% of the global oceans (the Atlantic, Indian, and West Pacific Oceans: 90S-90N, 80W-180) clearly rose in response to the 1986/87/88 and 1997/98 El Niño events and remained at new levels, because the La Niña events that followed those El Niño events contributed to the warming as well. In the animations linked to this book, one can actually watch the 1997/98 El Niño and 1998/99/00/01 La Niña events cause the upward shift in sea surface temperatures.

Some websites (blogs) run by proponents of anthropogenic global warming have presented very weak arguments against those apparent upward shifts in sea surface temperatures. We've addressed those arguments in the respective sections and chapters. Basically, the anthropogenic global warming proponents attempt to use statistical arguments against the upward shifts in sea surface temperatures—shifts that are caused to the processes of ENSO. Their arguments never address the processes of ENSO, and they never explain why the sea surface temperatures of the East Pacific Ocean have not warmed in 30 years.

Further to this, the proponents of anthropogenic global warming cite climate science papers that treat ENSO as noise, not as a process. Those papers attempt to remove the linear effects of ENSO by subtracting the values of a scaled ENSO index from global surface temperatures and claim the rise in the ENSO-adjusted surface temperature data is proof that anthropogenic greenhouse gases have caused the rise in surface temperatures. The processes of ENSO were discussed in great detail in this book, and those discussions showed the errors in treating ENSO as noise. The papers cited by the anthropogenic global warming proponents assume La Niña events are the opposite of El Niño events, and they clearly are not. The papers cited use a single ENSO index and assume that global surface temperatures respond linearly to it. In other words, they assume the ENSO index represents all of the processes associated with ENSO, when clearly the ENSO index does not.

The proponents of anthropogenic global warming also fail to cite papers that discuss the problems that result when researchers assume that ENSO is simply noise. Compo and Sardeshmukh (2010) "[\*\*Removing ENSO-Related Variations from the Climate Record\*\*](#)" seems to be a step in the right direction. They write (my boldface):

An important question in assessing twentieth-century climate is to what extent have ENSO-related variations contributed to the observed trends. Isolating such contributions is challenging for several reasons, including

ambiguities arising from how ENSO is defined. **In particular, defining ENSO in terms of a single index and ENSO-related variations in terms of regressions on that index, as done in many previous studies, can lead to wrong conclusions. This paper argues that ENSO is best viewed not as a number but as an evolving dynamical process for this purpose.**

Note: While Compo and Sardeshmukh have made a step in the right direction, they missed a very important aspect of ENSO. They overlooked the significance of the huge volume of warm water that is left over from certain El Niño events, and they failed to account for its contribution to the rise in global Sea Surface Temperature anomalies since about 1975/76.

And sometimes the anthropogenic global warming proponents actually cite a paper that includes a disclaimer. Trenberth et al (2002) [Evolution of El Niño–Southern Oscillation and global atmospheric surface temperatures](#) includes such a disclaimer in the second paragraph of their Conclusions, (their paragraph 52, my boldface):

The main tool used in this study is correlation and regression analysis that, through least squares fitting, tends to emphasize the larger events. This seems appropriate as it is in those events that the signal is clearly larger than the noise. Moreover, the method properly weights each event (unlike many composite analyses). **Although it is possible to use regression to eliminate the linear portion of the global mean temperature signal associated with ENSO, the processes that contribute regionally to the global mean differ considerably, and the linear approach likely leaves an ENSO residual.**

The ENSO “residuals” are significant contributors to the rise in Global sea surface temperatures during the satellite era as we have illustrated and discussed in this book. And since land surface temperatures mimic and exaggerate the variations in sea surface temperatures, those residuals also explain much of the warming on land.

In closing, if you have any questions, please feel free to ask them at my blog [Climate Observations](#) in the post named for the title of this book.

Regards