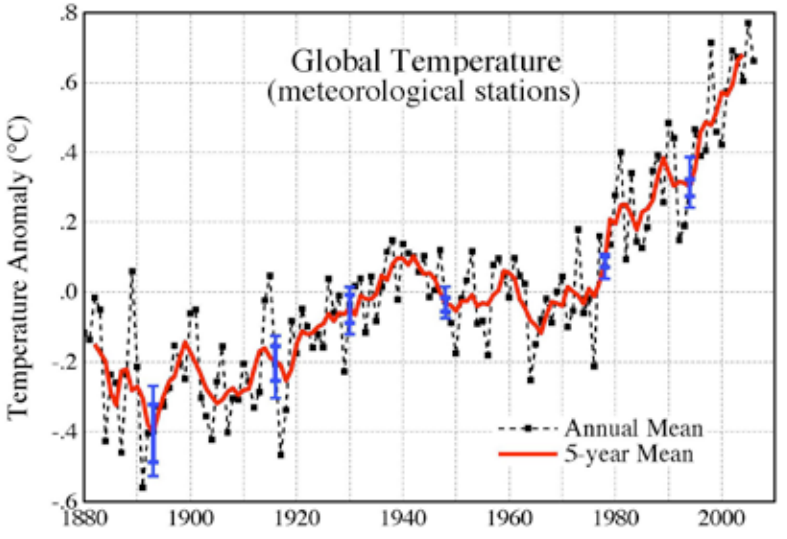
Computer Climate Models: Voodoo for Scientists

by Gregory Murphy

Gregory Murphy, who served in the U.S. Navy as a nuclear machinist mate on a nuclear submarine, is a researcher for EIR *and* 21st Century Science & Technology*, who has interviewed many people on both sides of the global warming debate. Interviews published in* EIR *include those with Dick Taverne, member of the House of Lords in Great Britain, former member of Greenpeace (*EIR*, May 6, 2005); Dr. Paul Reiter, medical entomologist at the Pasteur Institute in Paris (*EIR*, April 6, 2007); Dr. Piers Corbyn, astrophysicist and founder of Weather Action Long Range Forecasters (*EIR*, June 1, 2007); Dr. Nils-Axel Mörner, head of the Paleogeophysics and Geodynamics department at Stockholm University, and renowned expert on sea-level change (*EIR*, June 22, 2007).*

FIGURE 1



Goddard Institute of Space Studies/GISTEMP/Dr. Makiko Sato

Were any real (observed) temperatures used in compiling this graph?

Climate models are the "Bible" of global warming advocates. The problem is that these computer models aren't real. As one leading climate modeller told me, the models "*don't use any observed temperature data directly*." Another announced that "*the climate record is irrelevant*." In other words, the models are a deliberate fraud, and many people in the business of convincing the public of the "dangers" of alleged anthropogenic global warming, know that they are a fraud.

The latest Intergovernmental Panel on Climate Change report (entire report released May 4, 2007; "Summary for Policymakers" released Feb. 2, 2007) is based almost totally on computer modelling. One of the main problems with these models is that there is no control of their assumptions.

Modelling cannot be done as a controlled physical experiment, like an engineering experiment. You cannot take the climate, put it on a bench, and tune it up. All you can do, at the current rudimentary stage of our understanding of weather and climate, is have assumptions. If you were testing a fuel cell, for example, for a nuclear power plant, you could model it and judge where the hot spots would be, and where the radioactivity would be, and you could reconfigure it to be more effective. But in climate, you do not know how the atmosphere works, or how the ocean works, well enough to model them. They are multi-layered systems, with many nonlinear pressure variations and temperature inversions that are impossible to model.

When I worked on a nuclear submarine, for example, we used those temperature inversions in the ocean to hide in, to become invisible, because there were certain layers that were opaque to sonar equipment. Literally, you could be a few feet away from another sub, and it wouldn't sense you. Temperature changes make a difference in how the sonar equipment works, in a passive or active mode (sending or receiving).

It's the same in industrial benchmarking, using computer models instead of building prototypes. When Mercedes-Benz relied on computer models to build a car, the Mercedes A-Class, without building a physical prototype, it was a failure.

Courtesy of Anthony Watts/surfacestations.org

A surface meteorological station in Tahoe City, Calif.: Is this what they mean by man-made global warming?

They found out when they drove the car, that if they took a hard right turn, it rolled over. But it worked fine in the computer model. The same with some SUVs, which have caused, and continue to cause accidents.

Computer modelling of the climate is an example of what Lyndon LaRouche has talked about as linearization in the small, trying to take a nonlinear dynamic system and model it with a linear model. The linear model negates human creativity and physical reality.

Climate models are out of sync with observational data. The last chapter of the latest IPCC report even discusses a couple of examples of this. For example, the temperature through the atmosphere modelled shows a steady rise, which would conform to a hypothesis of man-made global warming; but observational data show that there are several different inversion layers of temperature. In some spots, the tropospheric (ground level) atmosphere is a lot lower in temperature than the stratosphere (the next layer up), which is the opposite of the model results.

Another example is the model of global warming guru James Hansen, now at Goddard Institute of Space Studies. This was the first dynamic three-dimensional picture of climate, which came out in 1981. The model showed a steady increase in temperature through the 1980s into the 1990s. But observational data from Hansen's temperature data set showed no trend at all, just peaks and valleys.

At the time, today's leading global warming scientists said, in looking at the observational data, that this data showed *no anthropogenic warming*. But mysteriously, in 1990, these same scientists concluded that it was man-made CO_2 that caused the model trend. When questioned on this discrepancy, Tom Wigley, former director of the Climate Research Unit at East Anglia in Britain, said: "The climate record is irrelevant. What is important is the greenhouse effect."*

The Temperature Hype

We've all heard that world temperature over the past 100 years has risen 0.6°C. Where does that measure come from?

The temperature rise was calculated from three different data sets: 1) the world weather records, kept at the Smithsonian Institution in Washington; 2) the global historical climate network at Goddard Institute of Space Studies; and 3) the U.S. historic climate network at the National Oceanographic and Atmospheric Administration.

Here's where the voodoo comes in: They take the monthly means of the weather stations of the three data sets. (Some of the stations are the same.The World Weather Data Set covers 1850-1940; the Global Set covers 1950 to the present; and the U.S. Historic Climate Set is from 1896 to the present.)

After calculating the monthly means, they study the history of the stations—whether they are near airports, in cities, or whether they have been moved. And from that, the modellers decide how the data have to be "corrected" for the so-called heat island effect, missing years of data entry, and other methods of calculating means (because there is no uniform standard for collecting means; each country has its own way of doing it).

Then, the yearly mean temperature is calculated from the monthly means.

(A word about mean world temperature: Global mean temperature is meaningless in the study of climate change. For example, the currently alleged annual global mean temperature increase of 0.6°C doesn't mean anything if it's –21°C in St. Petersburg. Sure, you can calculate a mean temperature of, say, 25°C. Is that a heating trend, or a cooling trend? It depends on where you are located! Think of a man who has one foot in a bucket of ice water, and the other foot in a bucket of boiling water. On average, he's fine!)

The modellers take as much of the raw data that can be gathered for a 30-year period, which in the case of the Department of Energy Climate Research Unit Data Set for 1985, was 1951 to 1980. They calculate the mean from that as their "reference period" or yardstick, from which the entire data set is then judged, even for years that occur *before* the 30-year reference period. The differences, both positive and negative, of comparing the reference period to each yearly mean, give you a temperature anomaly, which is what is graphed.

So, a 0.6°C rise in temperature refers to a temperature anomaly, *not a real temperature*. You have used a buzz saw to average everything, and your result is a temperature anomaly

* Wigley was interviewed in "The Greenhouse Conspiracy," 1990, a video shown on Channel 4 in the U.K.

Courtesy of Kristen Byrnes/ponderthemaunder.com

Another surface temperature station, Eastport, Maine: More man-made global warming?

which corresponds to nothing in reality. This is uncritically accepted by policymakers, who do not question how this "rise" was calculated.

Unless you have the data sets, and the factors the modellers used to select the monitoring stations, it is not possible to replicate this figure. Before 1985, one could get the list of weather stations used in the technical literature, although not the formulas for weighting the stations used in the models. After 1985, as the global warming issue heated up, the modellers *refused to release the names and locations of the stations used*!

As for today's 1,200 U.S. weather stations: They are monitored by volunteers, some of whom are retired Weather Service officials. The stations are in disrepair, because of budget cuts at the National Weather Service. And many of them are located bizarrely between airport runways, or near air-conditioning exhausts, or near trash incinerators (see photos)—hardly representative locations for judging the temperature!

A volunteer group surveying these stations to try to improve the situation, has so far located about 300 of them. The results can be seen at www.surfacestations.org. Worldwide, there used to be 5,000 weather stations, but phase-outs have left only about 3,600. This is a sorry situation, especially given the level of hype for the cataclysmic nature of global warming.

This is not a very secure data base, even without the manipulations of the modellers. It should be noted that the modellers claim that they are using statistical correcting methods to compensate for the poor quality of the data, but they have not made their methods public, so it is not possible for other scientists to check this.

But as bad as the observational data are, these data aren't even used in the IPCC computer models! When asked about this, Gavin Schmidt, a prominent climate modeller at Goddard Institute for Space Studies, stated in writing to this author: "The computer models used for the IPCC projections do not use any observed temperature data directly. They are instead calculations from close to first principles just using the distribution of solar irradiation over seasons, the shape of the continents, and changes in atmospheric composition, i.e., greenhouse gases. Everything else is calculated."

Back to the Model Assumptions

Now, how does one get from a 0.6°C rise in the past 100 years to the model predictions of a 2-4° rise in the next 100 years? This comes back to the assumptions used in the computer models.

The predicted rise is based on the modellers' assumption that a doubling of CO_2 will produce an increase of 3.42 watts per square meter that will be radiated back at the surface of the Earth, causing an increase in temperature of 2-4°C. Right now, the CO_2 measured in the atmosphere barely produces 1 watt per square meter.

Most of the first chapter of the IPCC report deals with this so-called radiative forcing. The modellers assume that CO_2 will increase linearly, and that the effect will also be a linear progression. But researchers who have studied CO_2, such as Dr. Sherwood Idso, have said that the first 20% of the increase in CO_2 will be the most effective in sending radiation back to the surface, and as it keeps increasing, it will becomes less effective, because of the proportional relationship with other gases in the atmosphere.

The climate modellers say the increase will happen within 100 years because of man-made emissions. But the modellers assume that CO_2 is leading temperature. In reality, the temperature record for the last few million years shows that *temperature leads* CO_2; there is a 300-600 year delay between rising temperatures and rising CO_2 in the atmosphere.

Throwing the Baby Out With the Bathwater

The modellers massage their data, getting rid of anomalies; for example, a century of temperature data is smoothed out so that you can't see the computer model "drift." This drift is where the computer produces anomalous values during the processing of data. But how do you know that the drift that the model is producing is not actually what you are looking for as the trend? The modellers see it as computer error, and they "correct" for it. But it's the drift that might actually tell you something.

The basic climate models have not improved in the last 20-30 years, despite increased computer power. Models, however, are seen as infallible, calculating the future like clockwork. But the universe, climate, and human beings aren't clocks. Nevertheless, the U.S. Congress and many governments are willing to shut down their economies at a cost of billions of dollars and countless human lives, because of what the climate models tell them about "man-caused global warming."