

# Science in the Public Square: Global Climate Alarmism and Historical Precedents

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Though valuable as a process, science is always problematic as an institution. Charles Darwin often expressed gratitude for being able to be a gentleman scientist with no need for an institutional affiliation. Unfortunately, as a practical matter, the gentleman scientist no longer exists. Even in the 19th Century, most scientists needed institutional homes, and today science almost inevitably requires outside funding. In some fields, including climate, the government has essentially a monopoly on such funding.

Expanded funding is eagerly sought, but the expansion of funding inevitably invites rent-seeking by scientists, university administration, and government bureaucracies.

The public square brings its own dynamic into the process of science: most notably, it involves the coupling of science to specific policy issues. This is a crucial element in the climate issue, but comparable examples have existed in other fields, including eugenics and immigration, and Lysenkoism and agronomy.

Although there are many reasons why some scientists might want to bring their field into the public square, the cases described here appear, instead, to be cases in which those with political agendas found it useful to employ science. This immediately involves a distortion of science at a very basic level: namely, science becomes a source of authority rather than a mode of inquiry. The real utility of science stems from the latter; the political utility stems from the former.

For science to be politically useful, several features are involved:

- Powerful advocacy groups claiming to represent both science and the public in the name of morality and superior wisdom;
- Simplistic depictions of the underlying science so as to facilitate widespread “understanding”;
- “Events,” real or contrived, interpreted in such a manner as to promote a sense of urgency in the public at large;
- Scientists flattered by public attention (including financial support) and deferent to “political will” and popular assessment of virtue; and
- Significant numbers of scientists eager to produce the science demanded by the “public.”

These features are hardly independent. Moreover, they interact in important ways (see Figure 1). This tale illustrated in the figure is not meant to explain any particular abuse of science but rather to demonstrate why the system is vulnerable to abuse.

Scientists far removed from the climate-related sciences are encouraged to get a share in the funding. For example, a \$197,000 grant went to a psychologist who wrote: “Climate change represents a moral challenge to humanity, and one that elicits high levels of emotion. This project examines how

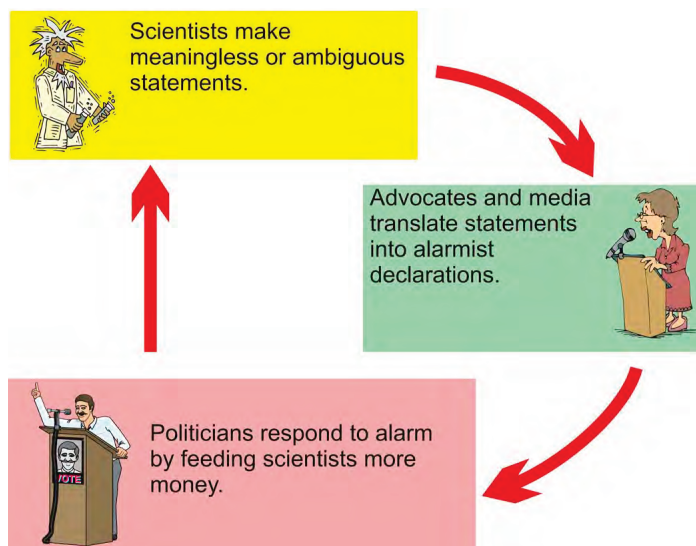


Figure 1. The Sad Tale of the Iron Triangle and the Iron Rice Bowl

emotions and morality influence how people send and receive messages about climate change, and does so with an eye to developing concrete and do-able strategies for positive change.” A grant for more than \$400,000 went to a political scientist who wrote: “Common sense says that claims about how social and political life ought to be arranged must not make infeasible demands. This project will investigate this piece of common sense and explore its implications for a number of pressing issues, such as climate change, multiculturalism, political participation, inequality, historical justice, and the rules of war.”

The consequences of the Iron Triangle<sup>1</sup> include ascendancy of politically correct mediocrities or incompetents such as T.D. Lysenko, which is inevitable given public inability to judge science. Unfortunately, this also often induces better scientists to join the pack in order to preserve their status. Advocates grossly exaggerate results in order to promote their cause. An obsessive focus on unimportant or irrelevant aspects of the issue develops. A profound dumbing down of the discussion (including the abdication of logic) interacts with the ascendancy of incompetents.

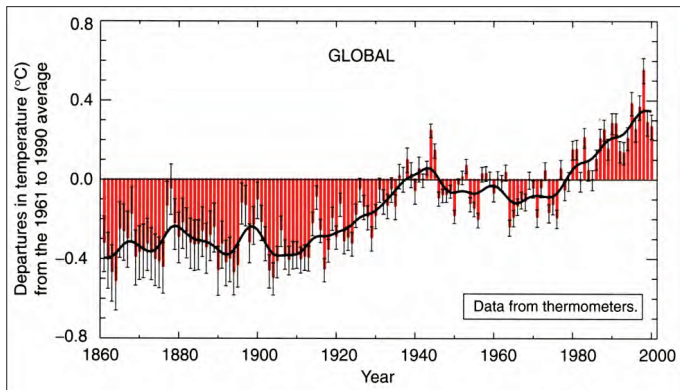
For example, in 2005, Elizabeth Kolbert wrote, in a three-part series entitled “The Climate of Man” in *The New Yorker*, which was later expanded into a book:

*All that the theory of global warming says is that if you increase the concentration of greenhouse gases in the atmosphere, you will also increase the Earth’s average temperature. It is indisputable that we have increased greenhouse gas concentrations in the air as a result of human activity, and it’s also indisputable that over the last few decades average global temperatures have gone up.*<sup>2</sup>

For this misreading of scientific logic, she received prizes and accolades.

### Some Aspects of Climate Science

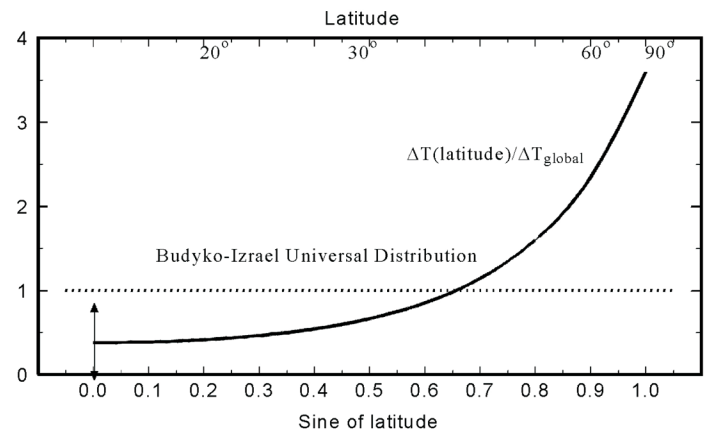
Climate science is, of course, a huge topic, but here I would like to focus on one matter: the very notion of the globally and annually averaged temperature anomaly (that is, departure from a reference value or long-term average) as a unique metric of climate. The graph in Figure 2 is, perhaps, the most famous graph in climate science.



**Figure 2.** Variations of the Earth's Surface Temperature for the Past 140 Years

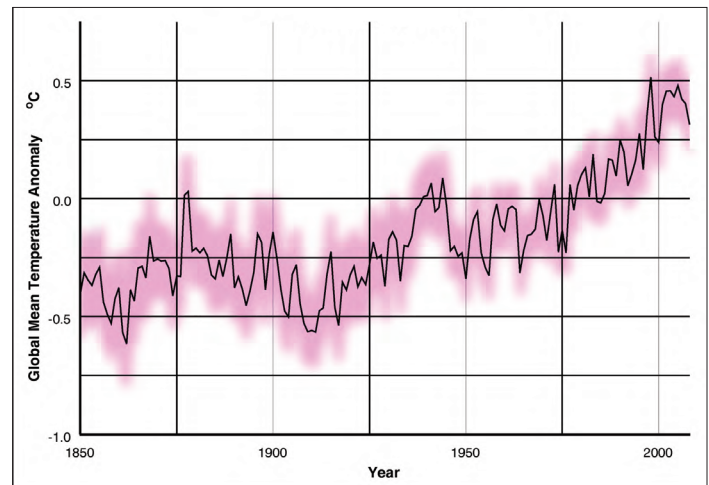
Enormous effort has been expended, by some very good scientists, in discussing and analyzing various aspects of this graph, and dissecting the numerous “adjustments” needed to produce it. Perhaps this is because people are so fascinated by similar looking graphs, such as the daily chart of stock indices.

But to what extent is a globally averaged mean temperature anomaly a meaningful metric? (N.B. This is the average of the deviation of temperature at each station from the 1961-1990 average for that station; it is not based on some global average of temperature.) Consider the major climate changes of the past: major cool periods such as ice ages and warm periods such as the Eocene, about 50 million years ago. These episodes were primarily associated with changes in the equator-to-pole temperature difference (see Figure 3). This figure is based on the observation by Budyko and Izraeli<sup>3</sup> that past climate change was characterized by a universal distribution of temperature change with respect to latitude (or, equivalently, the sine of latitude) scaled by the change in global mean temperature, with relative constancy of equatorial temperatures, and spatially heterogeneous forcing, not global scale forcing. (For example, the cycles of ice ages appear to have been forced by changes in Arctic insolation during summer caused by cyclic variations in the earth's orbit; these orbital variations, however, produce almost no change in the annually and globally averaged radiative forcing.<sup>4</sup> Forcing refers to changes that affect the energy balance of the planet.) Changes in global mean temperature were simply the residue of such changes and not the cause.<sup>5</sup> During the Eocene, the temperature difference between the equator and the poles was about half of what it is today. Attempts to simulate this warming by assuming large increases in CO<sub>2</sub> lead to warming at all latitudes with little change in the temperature difference between the equator and the poles.

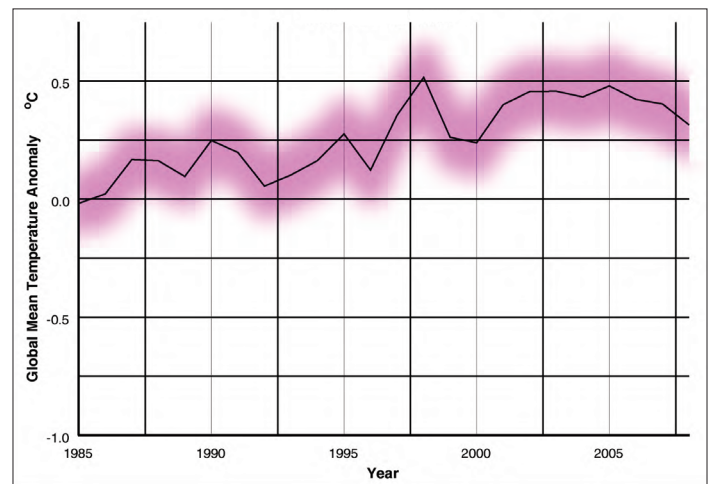


**Figure 3.** Universal Latitude Variation of Temperature for Past Climate Change

The global mean temperature anomaly between 1850 and 2008 is shown in Figure 4, and more detail from 1985 in Figure 5. Note the magnitude of the numbers: from a little less than - 0.5 °C to about 0.5 °C. The fuzzy area around the curve represents the 95% confidence interval. If the fuzzy area around two temperatures overlaps, the difference between the temperatures is not statistically significant.



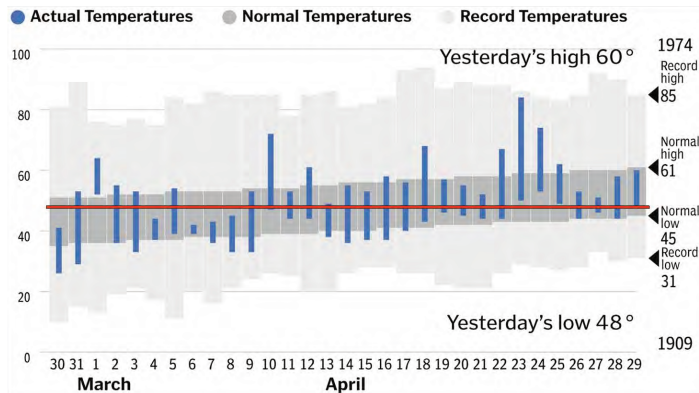
**Figure 4.** Global Mean Temperature Anomaly (1850-2008)  
Source: Hadley Centre



**Figure 5.** Global Mean Temperature Anomaly (1985-2008)  
Source: Hadley Centre

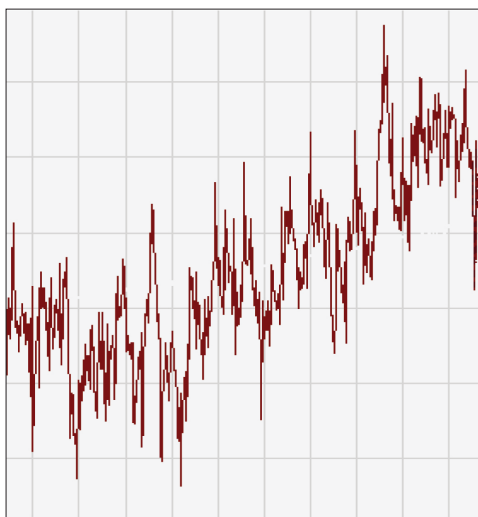
Here is the description from the BBC: “Sceptics disagree. They insist it is unlikely that temperatures will reach the *dizzy heights of 1998* [emphasis added] until 2030 at the earliest. It is possible, they say, that because of ocean and solar cycles a period of global cooling is more likely.” How silly the expression “dizzy heights” is can be seen by comparing changes in global mean temperature anomaly with temperature changes that all of us actually experience.

Figure 6 plots actual temperatures observed in Boston in 2008 compared with the range of normal and record temperatures for the day. The thickness of the heavy red horizontal line represents the range of global mean temperature anomaly over the past century.

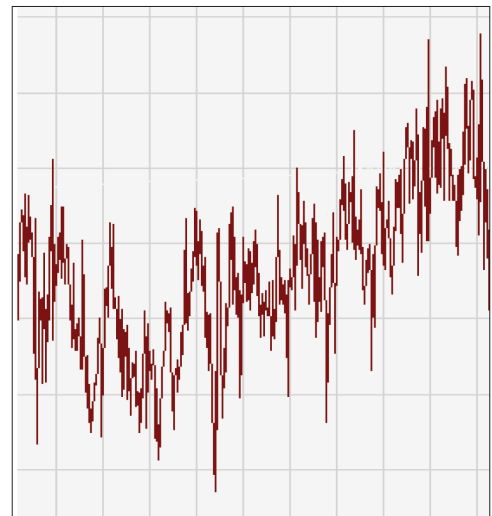


**Figure 6.** Daily Temperature Range in Boston during April, 2008, Compared with Historical Temperatures and the Global Mean Temperature Anomaly

While some scientists claim to be able to distinguish natural from human-caused changes, the reader is challenged to tell which of the records in Figure 7a and 7b is natural variation (1895-1946) and which is presumably anthropogenic (1957-2008). Data from the Hadley Centre are used to plot temperature on the y-axis and time on the x-axis, on identical monthly scales.<sup>6</sup> Clearly, there is little to distinguish these two periods. That said, we have already noted that we are talking about very small changes whose relevance (regardless of cause) is open to considerable question.



**Figure 7a.** Temperature vs. Time (see text)



**Figure 7b.** Temperature vs. Time (see text)

So, is there any use for the global and annually averaged temperature anomaly? It is probably relevant to the response to global forcing like that due to increasing well-mixed greenhouse gases and solar variations. However, if there is a change in the global temperature anomaly, it is not possible to attribute it to global forcing. Thus, it is difficult to use the mean anomaly record to identify whether there is a problem. Instead, I would suggest that we need independent evaluation of climate sensitivity. The issue of climate sensitivity is somewhat complicated, but the common measure is the equilibrium response of mean temperature to a doubling of CO<sub>2</sub>. Almost all observational approaches to this question have led to sensitivities less than about 1°C. However, the UN Intergovernmental Panel on Climate Change (IPCC), based on model outputs, still offers 3°C as the most likely value. Here we see another characteristic of the public discourse. In normative model development, models are judged according to the degree that they adhere to independent assessments of the behavior of actual systems. However, in the climate “debate” models are given a claim to validity independent of their adherence to nature.

A primary point of the above discussion has been to note the richness of climate phenomena, and the fact that placing this subject into the public sphere because of policy objectives has forced a highly oversimplified definition of the terms of reference, which largely exclude the most interesting examples of historical climate change. The heavy intellectual price of the politicization of science is rarely addressed.

### Societal Consequences and Historical Precedents

Global climate alarmism has been costly to society, and it has the potential to be vastly more costly. It has also been damaging to science, as scientists adjust both data and even theory to accommodate politically correct positions.<sup>7</sup> How can one escape from the Iron Triangle when it produces flawed science that is immensely influential and is forcing catastrophic public policy?



There are past examples. In the U.S. in the early 20th century, the eugenics movement had coopted the science of human genetics and was driving a political agenda. The movement achieved the Immigration Restriction Act of 1923, as well as forced sterilization laws in several states. The movement became discredited by Nazi atrocities, but the American consequences survived well into the 1960s.<sup>8</sup>

In the Soviet Union, Trofim Denisovich Lysenko (1898-1976) promoted the Lamarckian view of the inheritance of acquired characteristics. It fit with Stalin's megalomaniacal insistence on the ability of society to remold nature. Under Communism, the state was its own advocacy organization. However, opposition within the Soviet Union remained strong, despite ruthless attempts to suppress dissenters, and was consistently supported by scientists outside of the Soviet Union. Eventually, it was able to assert itself after Stalin's death. But even then, Lysenko and his supporters continued in their formal positions. This may have facilitated ending the dominance of Lysenko since they weren't defending their jobs.<sup>9</sup>

Global warming differs from the preceding two affairs: Global Warming has become a religion. A surprisingly large number of people seem to have concluded that all that gives meaning to their lives is the belief that they are saving the planet by paying attention to their carbon footprint. There may be a growing realization that this may not add all that much meaning to one's life, but, outside the pages of the *Wall Street Journal*, this has not been widely promulgated, and people with no other source of meaning will defend their religion with jihadist zeal.

In contrast to Lysenkoism, Global Warming has a global constituency, and has successfully coopted almost all of institutional science. However, the cracks in the scientific claims for catastrophic warming are, I think, becoming much harder for the supporters to defend. Despite official whitewashes, the Climategate scandal was a clear manifestation of pathology. Opposition to alarm is having some impact among certain groups including physicists. Official reports from several countries (including Norway and India) have taken distinctly un-alarming positions. And even Ralph Cicerone, president of America's National Academy of Sciences, has publically eschewed climate catastrophism.<sup>10</sup>

Human society, like the climate system, has many degrees of freedom. The previous cases lasted from 20 to 30 years. The global warming issue is approaching 30 years since its American roll-out in 1988 (though the issue did begin earlier). Perhaps such issues have a natural lifetime, and come to an end with whatever degrees of freedom society

affords. This is not to diminish the importance of the efforts of some scientists to point out the internal inconsistencies. However, this is a polarized world where people are permitted to believe whatever they wish to believe. The mechanisms whereby such belief structures are altered are not well understood, but the evidence from previous cases offers hope that such peculiar belief structures do collapse.

Indeed, we are currently seeing what may be one such possible route whereby the mutual support illustrated in Figure 1 may be breaking down. The scientific community is clearly becoming less ambiguous in separating views on warming from totally unreasonable fears for both the planet and mankind. Environmental advocates are responding by making increasingly extreme claims. Politicians are recognizing that these claims are implausible, and are backing away from both the issue and support for climate science. The incentive is then for scientists to look elsewhere for support. Regardless of whether this will be sufficient, one can only hope that some path will emerge that will end the present irrational obsession with climate and carbon footprints.

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