

## Global Warming, the Politicization of Science, and Michael Crichton's *State of Fear*

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**Abstract**—Michael Crichton's book *State of Fear* addresses the politicization of science, in particular the topics of climate change and global warming, through the vehicle of a novel. In the author's opinion, Crichton is correct: the field of climate research has become highly politicized. An example is provided by the revisionist efforts of some researchers to extinguish the existence of a Medieval Warm Period. The politicization of science is a threat to the process of free inquiry necessary for human progress.

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On December 26, 2004, a magnitude 9.0 earthquake occurred off the coast of Northern Sumatra. The massive temblor, the largest in 40 years, spawned tsunamis that killed more than 280,000 people. The next day, a colleague at a think tank emailed me to ask whether I had any opinions about the new Michael Crichton book, *State of Fear* (Crichton, 2004).

Although *State of Fear* is a fictional thriller about eco-terrorism, its real thesis is the politicization of science, in particular climate change and global warming. Because global warming is a highly-charged political subject, Crichton's book has received a lot of attention in the press, including a review by *Washington Post* columnist George Will (Will, 2004).

My colleague closed his email with a little joke:

P.S.—I'm also anxious to see if anyone blames this weekend's tsunami in Indonesia on global warming.

We didn't have long to wait. A few hours later, the CBS evening news broadcast did just that. Citing unnamed "climate experts", they put up a graphic that had only the words "global warming" and "tsunamis". News anchor Dan Rather then stated:

Climate experts warned today that tsunamis could become more common around the world and more dangerous. They cite a number of factors, including a creeping rise in sea levels believed to come from global warming and growing populations along coastal areas.<sup>1</sup>

A Russian politician was less circumspect. The Deputy Chairman of the Russian Duma (parliament), Artur Chilingarov, told the Russian news agency Ria Novosti:

The reason for the earthquake and a gigantic tsunami which killed several tens of thousands of people in South and Southeast Asia was probably a global climate change . . . scientists have registered lately a change of the average temperature, which is now growing at fantastic rates. These seemingly insignificant temperature changes allow the atmosphere and oceans to accumulate additional energy . . . (Anonymous, 2004a).

I have had my own experiences with the politicization of climate science. In 1995, I had a short paper published in the prestigious journal *Science* (Deming, 1995). I reviewed how borehole temperature data recorded a warming of about one degree Celsius in North America over the last 100 to 150 years. I closed the manuscript with what seemed to me to be a remarkably innocuous and uncontroversial statement:

A cause and effect relationship between anthropogenic activities and climatic warming cannot be demonstrated unambiguously at the present time. (Deming, 1995: 1577)

The week the article appeared, I came into my office one morning to find a voicemail message from a reporter for National Public Radio. He wanted to interview me concerning my article in *Science*. Visions of glory danced in front of my eyes. I was going to be on national radio. Surely, it was only a matter of time before I would be a regular guest on the McNeil-Lehrer news hour on PBS.

Excited, I called the reporter back. But all of my fantasies were immediately dispelled. The reporter focused in on the last sentence in the *Science* paper. He asked me, did I really mean to say that? Did I really intend to imply that the warming in North America may have been due to natural variability? Without hesitation, I said "yes". He replied, "Well then, I guess we have no story. That's not what people are interested in. People are only interested if the warming is due to human activities. Goodbye." And he hung up on me. It was my first realization that the media intentionally filter the information the public receives.

A year later, I received a telephone call from an author working on an article for *International Wildlife*, a magazine published by the National Wildlife Federation, an environmental advocacy group. We discussed some of my work, and talked about the implication of borehole temperature measurements for global warming. Subsequently, the editor of *International Wildlife* sent me a draft article for review. I was horrified. My work and comments had been taken out of context and used in such a way as to exaggerate the magnitude of climate change. I made some pointed comments, and the article was toned down a little.

I later learned that the author of the *International Wildlife* article was not a scientist, but a lawyer. I had been naive. I had assumed that everyone was like me—they were interested in the truth. But a lawyer's job isn't to discover truth, it's to win an argument. Neither is an advocacy organization interested in truth—they are committed to advocating a certain position regardless of the facts.

With the publication of the article in *Science*, I gained significant credibility in the community of scientists working on climate change. They thought I was one of them, someone who would pervert science in the service of social and political causes. So one of them let his guard down. A major person working in

the area of climate change and global warming sent me an astonishing email that said "We have to get rid of the Medieval Warm Period."

The Medieval Warm Period (MWP) was a time of unusually warm weather that began around 1000 AD and persisted until a cold period known as the "Little Ice Age" took hold in the 14th and 15th centuries. Warmer climate brought a remarkable flowering of prosperity, knowledge, and art to Europe. As the temperature increased, so did agricultural yields. Marshes and swamps dried up, removing the breeding grounds of mosquitoes that spread malaria. Former wetlands were converted to productive farmland. Infant mortality fell, and the population grew. From 1100 to 1300 AD, the population of Europe increased from about 40 to 60 million (Moore, 1995).

The surest sign of the warming climate in Europe was the settlement of Greenland by Vikings from Iceland. The Greenland settlements reached a height of prosperity in the 12th and 13th centuries when 3,000 colonists occupied 280 farms.<sup>2</sup> The settlements came under duress in the late 14th century due to the onset of Little Ice Age cooling; they finally perished in the 15th century.

The existence of the MWP was recognized in the climate textbooks for decades. But now it was a major embarrassment to those maintaining that the 20th century warming was truly anomalous. It had to be "gotten rid of".

During the early 1990s, an important reference book for those working in the area of climate change was *Climate Change: the IPCC Scientific Assessment* (Houghton et al., 1990). The IPCC, the *Intergovernmental Panel on Climate Change*, was the major international organization concerned with the dangers of global warming. And yet a skeptic could open the IPCC's own reference text and see that 20th century warming was dwarfed by the MWP (Houghton et al., 1990: 202). When the 20th century warming was placed into the context of a thousand years of history, it appeared to be virtually insignificant. If people were going to be convinced of the danger of global warming, the MWP clearly needed to be erased from history.

In 1998, Michael Mann, a climate researcher at the University of Massachusetts, published a paper in *Nature* where he and his colleagues claimed that temperatures in the late 20th century were warmer than any time since the year 1400. A year later, the same authors extended their analysis back to the year 1000 (Mann et al., 1999). In the Mann et al. (1999) reconstruction of temperature, the MWP simply vanished.

The analyses by Mann et al. (1998, 1999) resulted in graphs of mean global temperature over the last 1000 years that had the shapes of hockey sticks. The graphs showed that mean global temperatures were uniformly monotonic over the last millennium, abruptly rising in the 20th century.

Mann et al. (1999: 759) concluded that "the latter 20th century is anomalous in the context of at least the past millennium". This conclusion was greeted like the triumphal return of Jesus Christ. Decades of work was overturned by one journal article. The MWP had been reinterpreted out of existence.

Within a few days, the research by Mann and his colleagues passed from analysis to fact. On March 3, 1999, the University of Massachusetts issued a press release with the headline "1998 Was Warmest Year of Millennium . . ." On March 22, 1999, the *Atlanta Journal-Constitution* published an editorial titled "The Facts about Global Warming" wherein they stated:

The 10 warmest years on record have occurred in the past 15 years. . . Clearly something is happening to Earth's climate, and according to the scientific consensus, that "something" probably has two arms, two legs and two or three cars in every garage. (Anonymous, 1999)

Four years later, Willie Soon & Sallie Baliunas (2003) reviewed more than 200 previous studies and concluded that the evidence for the existence and global extent of both the Medieval Warm Period and the Little Ice Age was well established. It was hardly a controversial result, yet the Soon & Baliunas (2003) paper was greeted by a firestorm of controversy. Three editors of the academic journal in which the study had been published resigned in protest (Regalado, 2003).

Writing in the June 24, 2003, internet version of *Scientific American*, reporter David Appell explained Soon & Baliunas' sin.

. . . the consensus view among paleoclimatologists is that the Medieval Warming Period was a regional phenomenon, that the worldwide nature of the Little Ice Age is open to question and that the late 20th century saw the most extreme global average temperatures.<sup>3</sup>

Soon & Baliunas had committed the cardinal sin of violating the new consensus. They were not the first scientists to get in trouble for violating consensus. In the 17th century, an irascible Italian mathematician made people even angrier. When asked if he didn't have to honor his enemies objections, he explained:

The conclusions of Natural Science are true and necessary, and the judgment of men has nothing to do with them. (Galilei, 1953: 63)

When he was in a less temperate mood (his normal state), Galileo made a more pointed criticism of human consensus.

The crowd of fools who know nothing is infinite. (Drake, 1957: 239)

A direct attack on Mann et al. (1999) appeared later in 2003. Two Canadian scientists, Stephen McIntyre and Ross McKittrick, tried to replicate the results of Mann et al. (1998), but were unable to do so. In a paper published in *Energy & Environment*, they claimed:

The data set of [Mann et al., 1998] . . . contains collation errors, unjustifiable truncation or extrapolation of source data obsolete data, geographical location errors, incorrect calculation of principal components, and other quality control defects. (McIntyre & McKittrick, 2003: 751)

McIntyre and McKittrick also found that Mann et al.'s (1998) results could not be supported by the data.

The particular "hockey stick" shape derived in the [Mann et al., 1998] proxy reconstruction . . . is primarily an artifact of poor data handling, obsolete data and incorrect calculation of principal components. (McIntyre & McKittrick, 2003: 751)

An even more serious critique of the Mann et al. (1998, 1999) climate reconstructions appeared in *Science* in October, 2004. Von Storch et al. (2004)













