

"The Hockey Stick and the Climate Wars"
by Michael E. Mann
Publisher: Columbia University Press

A Review and Commentary by Ray Weymann

Introduction

Any readers of this website who also follow recent political developments in this election year will be aware that accusations of "junk science", "hoaxes" and "conspiracies" regarding climate science have not abated--indeed they have increased. So too have concerted attempts by various think tanks and foundations to discredit and harass climate scientists and to propagate disinformation and spread doubt about climate change science.

None of this is new, of course, and such disinformation campaigns against a number of scientific results of great societal significance have been well documented, by for example, Naomi Oreskes and Erik Conway (Merchants of Doubt: Bloomsbury Press; June 2010).

Now we have a new and remarkable account of these disinformation and harassment campaigns: The Hockey Stick and the Climate Wars by *Michael E. Mann*: Columbia University Press.

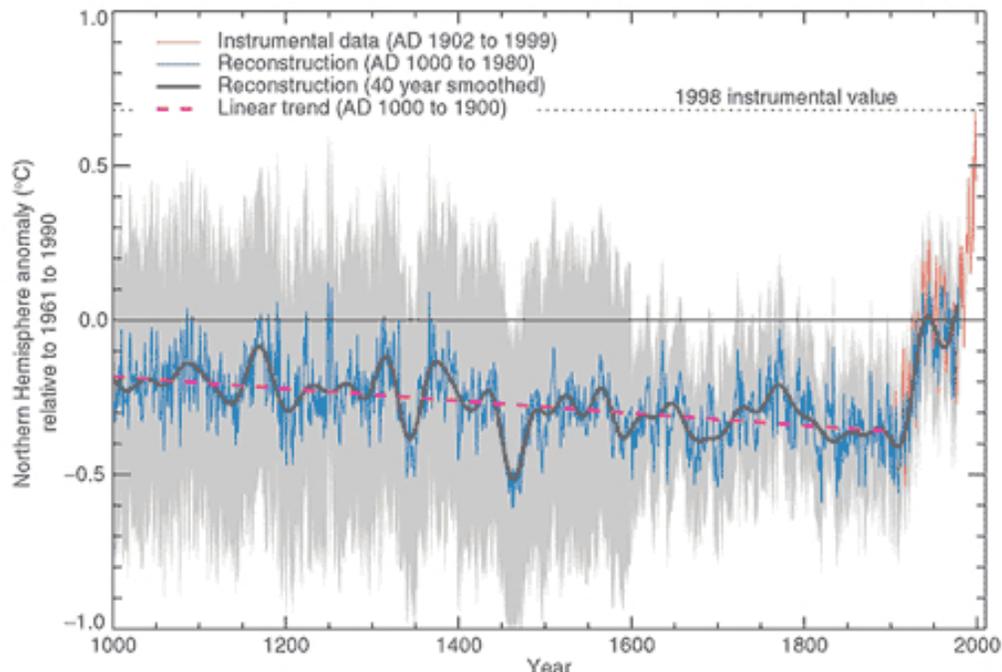
Given the present political climate noted above, the publication of this book is especially timely. What makes it especially distinctive however, is that it is written by one of the worlds most distinguished paleo-climatologists who has been at the very center of, and the target of, these disinformation and harassing campaigns for many years.

The Hockey Stick and its Genesis

Prof. Mann is no doubt best known for a landmark paper he and two colleagues published in 1998 in the premier science journal "Nature". In this paper they deduced how the temperature, averaged over the entire Northern Hemisphere, behaved for the last several hundred years. Since the number of accurate actual thermometers sufficient to generate such a record has only existed for somewhat over a century, these authors used natural indicators ("proxies") which are temperature-sensitive. A succeeding paper in 1999 by these same authors extended the record back to 1000 AD.

Mann gives a clear indication of how this work was carried out and the pitfalls that must be avoided if it is to be done correctly.

Averaged over the northern hemisphere there is a gentle decline in temperature but with periods of both warmer and cooler centuries compared to the long term trend-- until this century, and especially the last several decades--when a striking and unmistakable rise occurs. When this temperature is plotted against time the plot resembles a (slightly drooping) hockey stick, with the upturned blade of the hockey stick resulting from this recent rapid upturn in temperature.



The Mann, Bradley and Hughes 1999 version of the Hockey stick

Subsequent work by Mann and his co-authors, as well as many others working independently have extended this work to the global scale as well as extending it back 1500 years and beyond. A consistent picture emerges:

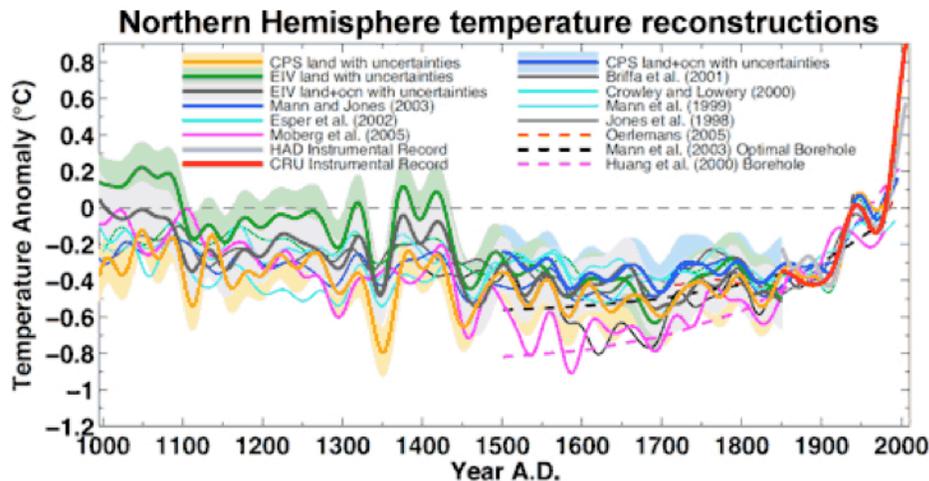


Figure 6: Composite Northern Hemisphere land and land plus ocean temperature reconstructions and estimated 95% confidence intervals. Shown for comparison are published Northern Hemisphere reconstructions (Mann 2008).

This figure, taken from a discussion by John Cook in his invaluable website <http://www.skepticalscience.com/broken-hockey-stick.htm> comes from a 2008 paper by Mann and colleagues published in the Proceedings of the National Academy of Sciences. (<http://www.pnas.org/content/early/2008/09/02/0805721105.full.pdf+html>) Some of the reconstructions shown in this paper extend back to 200 AD.

Public and Political Reaction to the Hockey Stick

All of this work might have passed unremarked upon outside the scientific community had not the initial hockey stick graph been prominently displayed in the Intergovernmental Panel on Climate Change (IPCC) Third Assessment report in 2001. This was well into the era in which the politicization of climate science was underway in much the same vein that attacks against the science establishing the severe danger to human health posed by smoking were carried out decades earlier. Mann's work has been interpreted by some to be the principal evidence supporting a conclusion of the IPCC 2001 report (which was more strongly stated in the Fourth Assessment report in 2007), namely that warming on a global scale has been occurring over the past 100 years or so, and especially during the last four decades, and moreover that this warming is very likely largely driven by human activities--in particular the combustion of fossil fuels.

This sparked an extremely hostile reaction on the part of much of the fossil fuel industry and by those in and out of public office whose political ideology views as anathema government action to reduce the use of fossil fuels and promote the development of alternative energy sources.

At this point Mann takes us through the long and sorry chronicle of the misrepresentation of his work as well as his harassment by those, including members of Congress, seeking to discredit both him and his work.

As Mann notes, the irony of this attack is that the hockey stick is a rather minor component comprising the mountain of evidence which has been assembled and which continues to further strengthen the conclusion of the most recent IPCC report (and, it should be noted, the same conclusion of many other scientific bodies including the United States National Academy of Sciences.) This is hardly the only ironic incident pointed out in the book, and it is clear that Mann has well-developed appreciation for irony.

Mann's exposition of this whole tale and his refutation of the attacks on his work is spirited and compelling. If this were all there were to the book, it might be seen as another "my word against his word" story. In fact however, the reader will, along the way, learn a great deal about basic climate science which is told in a careful and understandable way, though some readers may have to take several deep breaths and reread a few pages as they are introduced to the idea behind the statistical technique of Principal Component Analysis.

I ordered the Kindle version of this book and assumed that I was only about 60% through it when I came to the epilogue to the book. The reason for this turned out to be that the body of the book is followed by copious notes for all the chapters which meticulously document all the material in the body of the book. This is what is demanded by, and what is expected of, a scientist of Mann's caliber.

The "Climate Wars" and the current public and political "climate"

I have not included in this review some of the vileness and viciousness to which Mann and other climate scientists have been subjected. It is shameful and disgusting. I believe that much of this behavior is encouraged by well-known media personalities and conservative columnists and bloggers. Elected officials, both inside of and outside of Congress, have tried to intimidate and bully Mann and these episodes are also documented in detail.

What is at stake here goes well beyond the career and reputation of one scientist, important as that is for anyone with a sense of fair play. Indeed it goes beyond even the need for elected officials and the general public to understand what climate scientists are telling us.

A disturbingly large number of those in positions of media or political influence now seem to wear as a badge of honor the denigration of the value of real scientific

expertise and rational analysis. Considering the fundamental role that scientific thought and research has played and needs to play if our nation is to remain a world leader this attitude needs to be combated, and vigorously. Badly needed improvement in science education at all levels must be a high priority, but speaking out publicly against the dumbing down of the public discourse in areas where science has crucial things to teach us must be an equally high priority.

A good place to start is to read Mann's book.