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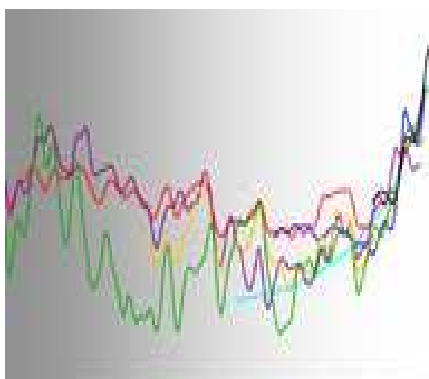


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## It Has Indeed Gotten Warm in Here

By Richard A. Kerr  
ScienceNOW Daily News  
22 June 2006

WASHINGTON, D.C.--The last decades of the 20th century were most likely warmer than any comparable period in the past 1000 years, a panel convened by the National Research Council (NRC) of the U.S. National Academies announced at a press briefing here today. The expert committee thus confirms the outlines of the near-iconic "hockey stick" temperature curve--cooling then sharp warming during the past millennium--that had become a favorite target of greenhouse contrarians. But the committee also says the evidence in parts of the stick is fuzzier than it might have seemed.

One story.  
An array of proxy temperature records (colored curves) support strong warming of late. (Black curve is the instrument record.)

Credit: NRC

The hockey stick arose from work published in 1998 and 1999 by statistical climatologist Michael Mann of Pennsylvania State University in State College and two colleagues. They compiled 12 Northern Hemisphere temperature records spanning the past millennium that were extracted from climate proxies such as the width of tree rings and the chemical composition of corals. The resulting temperature curve sloped gently downward for most of the millennium (the handle of the hockey stick), then rose sharply into the 20th century (the blade) until it topped the relative warmth of 800 to 1000 years ago. That turnaround would suggest that humans played a hand in the recent warming.

After the hockey stick appeared prominently in a 2001 international climate assessment, the critics rushed in. Skeptics said Mann and colleagues had erred badly in their statistical analysis, and some hinted at deliberate distortion.

The NRC committee, chaired by meteorologist Gerald North of Texas A&M University in College Station, generally supported Mann's work. Mann's group sometimes erred, particularly in applying one statistical technique, but the mistakes "didn't have a material effect on the final conclusion," said statistician and committee member Peter Bloomfield of North Carolina State University in Raleigh. And none of the three committee members at the press briefing--North, Bloomfield, and paleoclimatologist Kurt Cuffey of the University of California, Berkeley--had found any hint of scientific impropriety.

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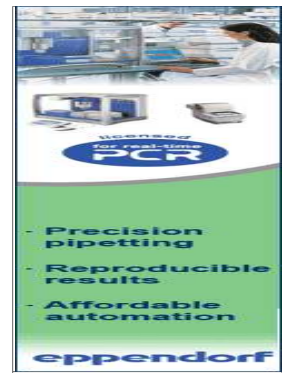
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The committee has "high confidence" that the late 20th century was the warmest period of the past 400 years--a time for which high-precision proxy records are abundant. That's consistent with the idea that recent warming was in large part human-induced, Cuffey noted. But the committee has "less confidence" in Mann's conclusion that recent temperatures have set records for the entire millennium. "The committee concluded that Mann and his colleagues underestimated the uncertainty" in the earlier part of the record, said Cuffey, when records are of lower quality and fewer in number. "In fact, these uncertainties aren't fully quantified," he said.

When pressed, statistician Bloomfield characterized the committee's lesser confidence in the millennial result as "more at the level of 2:1 odds" that Earth is now warmer than it has been in at least 1000 years. Whether those odds are strong or weak will be in the eyes of the beholder, but Cuffey, for one, argued staunchly that the case for human-caused global warming is compelling, with or without the hockey stick.

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