**Undeniable Global Warming**

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Many people have the impression that there is significant scientific disagreement about global climate change. It's time to lay that misapprehension to rest. There is a scientific consensus on the fact that Earth's climate is heating up and human activities are part of the reason. We need to stop repeating nonsense about the uncertainty of global warming and start talking seriously about the right approach to address it.

The scientific consensus is clearly expressed in the reports of the Intergovernmental Panel on Climate Change (IPCC). Created in 1988 by the World Meteorological Organization and the United Nations Environmental Program, the IPCC is charged with evaluating the state of climate science as a basis for informed policy action. In its most recent assessment, the IPCC states unequivocally that the consensus of scientific opinion is that Earth's climate is being affected by human activities: "Human activities . . . are modifying the concentration of atmospheric constituents . . . that absorb or scatter radiant energy. . . . [M]ost of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas concentrations."

The IPCC is not alone in its conclusions. In recent years all major scientific bodies in the United States whose members' expertise bears directly on the matter have issued similar statements. A National Academy of Sciences report begins unequivocally: "Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise." The report explicitly asks whether the IPCC assessment is a fair summary of professional scientific thinking, and it answers yes. Others agree. The American Meteorological Society, the American Geophysical Union and the American Association for the Advancement of Science have all issued statements concluding that the evidence for human modification of climate is compelling.

Despite recent allegations to the contrary, these statements from the leadership of scientific societies and the IPCC accurately reflect the state of the art in climate science research. The Institute for Scientific Information keeps a database on published scientific articles, which my research assistants and I used to answer that question with respect to global climate change. We read 928 abstracts published in scientific journals between 1993 and 2003 and listed in the database with the keywords "global climate change." Seventy-five percent of the papers either explicitly or implicitly accepted the consensus view. The remaining 25 percent dealt with other facets of the subject, taking no position on whether current climate change is caused by human activity. None of the papers disagreed with the consensus position. There have been arguments to the contrary, but they are not to be found in scientific literature, which is where scientific debates are properly adjudicated. There, the message is clear and unambiguous.

To be sure, a handful of scientists have raised questions about the details of climate models, about the accuracy of methods for evaluating past global temperatures and about the wisdom of even attempting to predict the future. But this is quibbling about the details. The basic picture is clear, and some changes are already occurring. A new report by the Arctic Climate Impact Assessment -- a consortium of eight countries, including Russia and the United States -- now confirms that major changes are taking place in the Arctic, affecting both human and non-human communities, as predicted by climate models. This information was conveyed to the U.S. Senate last month not by a radical environmentalist, as was recently alleged on the Web, but by Robert Corell, a senior fellow of the American Meteorological Society and former assistant director for geosciences at the National Science Foundation.

So why does it seem as if there is major scientific disagreement? Because a few noisy skeptics -- most of whom are not even scientists -- have generated a lot of chatter in the mass media. At the National Press Club recently, Massachusetts Institute of Technology professor Richard Lindzen dismissed the consensus as "religious belief." To be sure, no scientific conclusion can ever be proven, absolutely, but it is no more a "belief" to say that Earth is heating up than it is to say that continents move, that germs cause disease, that DNA carries hereditary information or that quarks are the basic building blocks of subatomic matter. You can always find someone, somewhere, to disagree, but these conclusions represent our best available science, and therefore our best basis for reasoned action.

The chatter of skeptics is distracting us from the real issue: how best to respond to the threats that global warming presents.

Source:<http://www.washingtonpost.com/wp-dyn/articles/A26065-2004Dec25.html>

For more information:

<http://www.realclimate.org/index.php/archives/2004/12/a-statistical-analysis-of-the-consensus/>