
Foreword

The Heartland Institute is pleased to partner once again with the Center for the Study of Carbon Dioxide and Global Change and the Science and Environmental Policy Project to produce an authoritative and independent assessment of the latest science concerning the causes and consequences of climate change.

Many scientists, policymakers, and engaged citizens are concerned over the possibility that man-made greenhouse gas emissions, in particular carbon dioxide (CO₂), may be causing dangerous climate change. A primary reason for this public alarm is a series of reports issued by the United Nations' Intergovernmental Panel on Climate Change (IPCC). The IPCC claims to know, with apparent rising certainty over time, that "most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" (IPCC, 2007, p. 10). Is this conclusion based on sound science?

Climate change is a controversial topic because it is interdisciplinary: scientists and experts in widely divergent fields of study can rightfully weigh in on the debate with their insights and informed opinions. A historian of the global warming debate recently observed that "economists should be in a better position than others to make their own assessment of the science because much of it is about statistics and modeling" (Darwall, 2013, p. 239). He quotes Canadian economist Ross McKittrick as saying "the typical economist has way more training in data analysis than a typical climatologist," and "once they start reading climate papers they start spotting errors all over the place." Of course, economists also have their own blind spots.

What is necessary, and too seldom takes place, is a respectful debate on the causes and consequences of

climate change in which ideas and theories rise or fall on their merits rather than their pedigree or influence on public policy. A technique frequently used in industry, government, and law when dealing with complex or controversial matters is to deploy competing Green and Red Teams to pursue alternative approaches (e.g., Sandoz, 2001; Nemeth *et al.*, 2001). A Red Team provides a kind of "defense counsel" to verify and counter arguments mounted by the initial Green Team (the "prosecution") as well as discover and present alternatives the Green Team may have overlooked.

For many years, the Green Team of the IPCC has dominated the global debate over climate change. In 2003, however, at a meeting in Milan, a Red Team started to emerge composed of independent scientists drawn from universities and private institutions around the world. Since 2008 that team, the Nongovernmental International Panel on Climate Change (NIPCC), has been independently evaluating the impacts of rising atmospheric CO₂ concentrations on Earth's biosphere and evaluating forecasts of future climate effects.

NIPCC: A Brief History

The Nongovernmental International Panel on Climate Change, or NIPCC, is an international panel of scientists and scholars who came together to understand the causes and consequences of climate change. NIPCC has no formal attachment to or sponsorship from any government or governmental agency. It is wholly independent of political pressures and influences and therefore is not predisposed to produce politically motivated conclusions or policy recommendations.

NIPCC seeks to objectively analyze and interpret data and facts without conforming to any specific agenda. This organizational structure and purpose

stand in contrast to those of the United Nations' Intergovernmental Panel on Climate Change (IPCC), which is government-sponsored, politically motivated, and predisposed to believing that climate change is a problem in need of a U.N. solution.

NIPCC traces its beginnings to an informal meeting held in Milan, Italy in 2003 organized by Dr. S. Fred Singer and the Science and Environmental Policy Project (SEPP). The purpose was to produce an independent evaluation of the available scientific evidence on the subject of carbon dioxide-induced global warming in anticipation of the release of the IPCC's Fourth Assessment Report. NIPCC scientists concluded the IPCC was biased with respect to making future projections of climate change, discerning a significant human-induced influence on current and past climatic trends, and evaluating the impacts of potential carbon dioxide-induced environmental changes on Earth's biosphere.

To highlight such deficiencies in the IPCC's report, in 2008 SEPP partnered with The Heartland Institute to produce *Nature, Not Human Activity, Rules the Climate*, a summary of research for policymakers that has been widely distributed and translated into six languages. In 2009, Craig Idso and the Center for the Study of Carbon Dioxide and Global Change joined the original two sponsors to help produce *Climate Change Reconsidered: The 2009 Report of the Nongovernmental International Panel on Climate Change (NIPCC)*, the first comprehensive alternative to the alarmist reports of the IPCC.

In 2010, a Web site (www.nipccreport.org) was created to highlight scientific studies NIPCC scientists believed would likely be downplayed or ignored by the IPCC during preparation of its next assessment report. In 2011, the three sponsoring organizations along with a new co-author, Australian marine geologist Robert M. Carter, produced *Climate Change Reconsidered: The 2011 Interim Report of the Nongovernmental International Panel on Climate Change (NIPCC)*, a review and analysis of new research released since the 2009 report or overlooked by the authors of that report.

In 2013, the Information Center for Global Change Studies, a division of the Chinese Academy of Sciences, translated and published an abridged edition of the 2009 and 2011 NIPCC reports in a single volume. On June 15, the Chinese Academy of Sciences organized a NIPCC Workshop in Beijing to allow the NIPCC principal authors to present

summaries of their conclusions.

For all its reports, NIPCC has worked with leading thinkers in the fields of statistics, physics, economics, geology, climatology, and biology. It has avoided the appeals to authority, assumptions, and circumstantial evidence that characterize the reports of the IPCC and other partisans in this debate. The result is a contribution to the debate that reveals some inconvenient truths based squarely on the best available research on climate.

CCR II: Physical Science

Climate Change Reconsidered II: Physical Science is NIPCC's latest report. Lead authors Craig D. Idso, Robert M. Carter, and S. Fred Singer have worked with a team of nearly 50 scientists to produce a report that is comprehensive, objective, and faithful to the scientific method. Despite its heft, it is only the first of two volumes that together mirror and rebut the IPCC's Working Group 1 and Working Group 2 reports. The second volume of *CCR II*, planned for release in 2014, will address impacts, adaptation, and vulnerabilities.

Like the IPCC's reports, NIPCC's reports cite thousands of articles appearing in peer-reviewed science journals relevant to the subject of human-induced climate change. NIPCC presents its findings in seven chapters:

- Global Climate Models
- Forcings and Feedbacks
- Solar Forcing of Climate
- Observations: Temperature Records
- Observations: The Cryosphere
- Observations: The Hydrosphere and Oceans
- Observations: Extreme Weather

In keeping with its Red Team mission, NIPCC authors paid special attention to contributions that were either overlooked by the IPCC or that contain data, discussion, or implications arguing against the IPCC's claim that dangerous global warming is resulting, or will result, from human-related greenhouse gas emissions. The Executive Summary beginning on page 1 summarizes NIPCC's principal findings. Most notably, its authors say the IPCC has exaggerated the amount of warming they predict will occur in response to projected increases in atmospheric CO₂. Any such warming that may occur is likely to be modest and will not pose a dangerous

threat to the global environment or to human well-being.

Policy Implications

Few scientists deny that human activities can have an effect on local climate or that the sum of such local effects could hypothetically rise to the level of an observable global signal. The key questions to be answered, however, are whether the human global signal is large enough to be properly measured and if it is, does it represent, or is it likely to become, a dangerous change outside the range of natural variability?

NIPCC's conclusion, drawn from its extensive review of the scientific evidence, is that the greenhouse gas-induced global climate signal is so small as to be embedded within the background variability of the natural climate system and is not dangerous. At the same time, global temperature change is occurring, as it always naturally does. A phase of temperature stasis or cooling has succeeded the mild twentieth century warming. It is certain that similar natural climate changes will continue to occur.

In the face of such facts, the most prudent climate policy is to prepare for and adapt to natural climate events and the threats they pose to society regardless of their origin. Adaptive planning for future hazardous climate events and change should be tailored to provide reasonable responses to their known rates, magnitudes, and risks. Once in place, these plans will provide an adequate response to any human-caused change that may or may not emerge.

Policymakers should resist pressure from lobby groups to silence those who question the authority of the IPCC as the sole gatekeeper and voice speaking in behalf of "climate science." *Climate Change Reconsidered II: Physical Science* reveals a scientific

community deeply uncertain about the reliability of the IPCC's computer models, its postulates, and its interpretation of circumstantial evidence. This criticism doesn't come from a "fringe" group of the climate science community: It is stated plainly and repeated in thousands of articles in the peer-reviewed literature.

The distinguished British biologist Conrad Waddington wrote in 1941,

It is ... important that scientists must be ready for their pet theories to turn out to be wrong. Science as a whole certainly cannot allow its judgment about facts to be distorted by ideas of what ought to be true, or what one may hope to be true (Waddington, 1941).

This prescient statement merits careful examination by those who continue to assert the fashionable belief, in the face of strong empirical evidence to the contrary, that human CO₂ emissions are going to cause dangerous global warming.

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