

Issue 1: Evaluating the State of Climate Science

The 2007 Intergovernmental Panel on Climate Change (IPCC) reports (and associated reports by the US Climate Change Research Program (CCRP)) incompletely assessed the role of humans in the climate system, as well as natural variations in global and regional climate. A 2005 NRC report [National Research Council, 2005: Radiative forcing of climate change: Expanding the concept and addressing uncertainties], for example, wrote:

“Despite all these advantages, the traditional global mean TOA [top of the atmosphere] radiative forcing concept has some important limitations, which have come increasingly to light over the past decade. The concept is inadequate for some forcing agents, such as absorbing aerosols and land-use changes, that may have regional climate impacts much greater than would be predicted from TOA radiative forcing. Also, it diagnoses only one measure of climate change—global mean surface temperature response—while offering little information on regional climate change or precipitation. These limitations can be addressed by expanding the radiative forcing concept and through the introduction of additional forcing metrics. In particular, the concept needs to be extended to account for (1) the vertical structure of radiative forcing, (2) regional variability in radiative forcing, and (3) nonradiative forcing.....”

Issue 2: The Institutional Structure of the IPCC

The 2007 IPCC reports (and associated CCSP reports) selectively chose research papers to present and ignored peer reviewed papers which conflicted with their conclusions [e. g. as documented in the appendix of <http://www.climateosci.org/publications/pdf/Testimony-written.pdf>]. The IPCC structure has a small group of lead authors who dictate the focus of each chapter, as well as what research to cite. In the November 27, 2005 issue of EOS, the news report “[Meeting Updates Progress of U.S. Climate Change Program](#)” there is a quote by Antonio Busalacchi, Professor and Director of the Earth System Science Interdisciplinary Center at the University of Maryland;

“Busalacchi...called for the inclusion of a wider range of scientists, including international scientists, in developing these reports. In addition, he warned that some small scientific communities had become ‘incestuous’ with report authors reviewing their own work.”

This in bred arrangement permeates the climate assessment reports and leadership of climate science professional organizations (e. g see also <http://pielkeclimatesci.wordpress.com/2009/01/13/protecting-the-ipcc-turf/>). With respect to the IPCC, it managed by a relatively small group of individuals who are using the IPCC process to control what policymakers and the public learn about climate on multi-decadal time scales.

Issue 3: Translating Climate Science for Use by Policymakers

The IPCC provides a top-down global climate model approach to assess the risk from changes in climate. This approach, however, inappropriately limits the communication to policymakers of the actual threats that we face. A more inclusive approach is a bottom-up, resource-based perspective. With this method of risk assessment there are at least 5 broad areas that should be evaluated in order to define their vulnerability to variability and change: water, food, energy, health and ecosystem function. Each area has societally critical resources. The vulnerability concept requires the determination of the major threats to these resources from climate, but also from other social and environmental issues. After these threats are identified for each resource, then the relative risk from natural- and human-caused climate change (estimated from the GCM projections, but also the historical, paleo-record and worst case sequences of events) can be compared with other risks in order to adopt the optimal mitigation/adaptation strategy.