

Committee on the Human Dimensions of Global Change
35th Meeting

November 28-29, 2007

Disclaimer: *This meeting recap was prepared by National Research Council (NRC) staff at the request of the Climate Change Science Program as an informal record of issues that were discussed during public sessions of the meeting of the NRC's Committee on the Human Dimensions of Global Change, held on November 28-29, 2007. This document was prepared for information purposes only and as a supplement to the meeting agenda. This document has not been reviewed and should not be cited or quoted, as the views expressed do not necessarily reflect the views of the National Research Council or the Committee on the Human Dimensions of Global Change.*

Committee members present: Thomas Wilbanks, Roger Kasperson, Linda Mearns, Edward Miles (phone), Alexander Pfaff, Cynthia Rosenzweig, Gary Yohe (phone)

Presenters: Maria Lemos and Charles Kolstad, members of the NRC Committee on Strategic Advice to the CCSP; James Jensen, NRC Congressional Liaison

Others present: Anne Grambsch, EPA; George Lubert, CDC; Luis Tapas, USDA

NRC staff present: Paul Stern, Committee Director, DBASSE; Jennifer Brewer, Program Officer, DBASSE; Linda DePugh, Administrative Assistant, DBASSE; Anne Linn, DELS

Major Topics of Discussion and Issues Raised

1. Update on CCSP Interagency Working Group on Decision Support and Human Contributions and Responses

The Interagency Working Group Chair Anne Grambsch has been joined by Cochair George Lubert of the Centers for Disease Control, who began in the role in September. Other members of the working group include Caitlin Simpson and Fiona Horsfall of NOAA, Bob Vallario of DOE, Bob O'Connor of NSF, and a representative from NASA.

Lubert reported that CDC had held a stakeholder workshop on response to heat waves, involving the Weather Service, NOAA, and EPA as well as CDC, to discuss what information decision makers need. Grambsch noted that CDC can provide models for successful decision support from which other CCSP agencies can learn. There are many decision support activities agencies undertake that are not defined or categorized as decision support.

Grambsch noted that *Our Changing Planet* made a major change in 2006, when several activities that had previously been treated as cross-cutting priorities, including observation and monitoring, communication, and decision support, were subsumed under "decision support and related human contributions and responses." She expressed concern that this change might narrow both human dimensions and decision support. She also noted the comment from the NRC Committee on Strategic Advice that this change made it hard to track investments in these parts of the program. For example, some Synthesis and Assessment Products are categorized as decision support, though they may be more relevant to biophysical modeling than to policy

implementation. Grambsch advocated distinguishing human dimensions from decision support, possibly with a chapter of *Our Changing Planet* for each.

Members of the committee and other participants offered their views on this issue, including the following comments:

(a) CCSP may be allowing its decision support component to “swallow” the entirety of human dimensions research, which could be avoided if the two topics were considered separate parts of the program.

(b) Decision support is not only an operational activity, but also a research topic—a narrower piece of the broader scope of human dimensions research, which also considers human components of integrated systems, including drivers and responses of global change.

(c) Both Decision Support and Human Contributions and Responses are cross-cutting topics, in that both arise in climate variability, the carbon cycle, ecosystems, and the other program elements—suggesting that every program element could have a decision support aspect and a human dimensions aspect, and that both could be discussed in each of the other chapters, in matrix fashion.

(d) Human Dimensions is a distinct research area that would benefit from research support and observational data, like other research components.

(e) The five CCSP research goals may need to be revised to be more coherent and systematic in approach.

(f) Scientific observation may need to be separated from service functions and communications.

(g) The topic of observing and monitoring may need to include a human dimensions component.

Participants noted that different agencies approach decision support differently. One comment was that NASA says it doesn't do decision support, only data generation. EPA is conducting decision support experiments. NOAA has some small decision support programs and is considering offering climate services. Some decision support roles may be taken up by private and non-governmental sectors. It was noted that many of these concerns are being addressed in the ongoing study on Strategies and Methods for Climate-Related Decision Support. Two other forthcoming CHDGC reports may also be of relevance: a review of Synthesis and Assessment Product 5.3 and a report on Public Participation in Environmental Assessment and Decision Making.

2. Symposium on Basic Research Needs for Human Dimensions/Social Sciences in the U.S. Climate Change Science Program

The Committee devoted half a day to a seminar discussion convened at the request of the Committee on Strategic Advice to the CCSP, to discuss “basic research needs” that that committee might consider in preparing the 2008 phase of its report. Maria Carmen Lemos and Charles Kolstad, members of that committee, noted the following in their initial brief presentations:

As discussed above, during the first phase of the committee's work, the NRC CCSP Strategic Advice Committee (SAC) found it difficult to track actual expenditures, such as on human dimensions, in the CCSP budget. Each participating agency follows different practices, and human dimensions research is often not distinguished from other kinds of research. The NRC Strategic Advice Committee in its Phase I report (2007) pointed out the need for both

natural and social science research. It rated CCSP progress as inadequate in assessing climate impacts on human well being and vulnerabilities, in providing knowledge to support decision making and risk analyses, and in communicating results and engaging stakeholders in two-way dialogue. That committee asked the CHDGC staff to produce a white paper on research priorities on human dimensions of climate change based on previous NRC work on these issues and other published studies.

The request was for a paper that would include attention to relevant basic social science, stakeholder needs, and prioritization criteria. The SAC requested: (a) advice on how to involve the social and behavioral science disciplines; (b) specific social science research needs as well as needs for multidisciplinary research; (c) recommendations for both basic and applied research, and (d) institutional recommendations for a long-term federal research program. The white paper is requested in draft form in time for the SAC's meeting January 10, 2008, with a final paper requested in time for a follow-up meeting on March 19.

CHDGC members noted that Human Dimensions incorporates both social and natural sciences, and that the Committee has a series of existing reports from which to develop the white paper. Tom Wilbanks agreed to lead the effort of drafting the white paper, with help from staff and possibly another CHDGC member. Several members noted that if the CCSP agencies are serious about doing good human dimensions research, it will require funding increases.

Wilbanks and other committee members shared the following preliminary thoughts on the white paper:

Human dimensions research can improve understanding of climate change causes/drivers, consequences, and responses. Doing this will require basic, disciplinary research; problem-driven, applied research; and testing through practice. Research areas that have been identified in previous NRC reports include the following:

- Research on human consumption, especially identifying links between resource use and quality of life, to inform policy decisions on greenhouse gas emissions.
- Research on core social values, to help identify less resource-intensive means to advance those values.
- Research on institutional and organizational change, and on the influences of incentives, "new tools" (e.g., education, information, and voluntary measures), and transformational changes in society.
- Research on understanding decision making under uncertainty.
- Research on technological change, including the effects of incentives for innovation.
- Research to monitor and understand transitions, which would include developing indicators and metrics, identifying system thresholds and limits, comparing and estimating the values of consequences and responses, noting scalar dependencies and interactions, and suggesting possible future pathways.
- Research on policy design for achieving desired results.
- Fundamental research on adaptation, which could help address weaknesses in some of the concepts underlying analyses by IPCC Working Group II.

Committee members and other participants engaged in a long discussion of significant constraints on research progress, as input to white paper. Some of the constraints that were mentioned included the following:

- Limits in research funding.

- Hesitation among federal agencies in funding research that they see as promoting “manipulation” of behavior.
- Lack of observational data and limitations on existing datasets on socioeconomic aspects of global change, especially a lack of long time series data on human-environment interactions. It was noted that CCSP makes huge investments in observations, but makes little or no investment in social observations, despite declarations that the development of human dimensions knowledge is a major goal of Earth observation systems. A participant suggested that human dimensions researchers be put on the teams that design space platforms, to make it more likely that they would produce useful data for human dimensions research.

Members of the committee and other participants also discussed questions about the relationships between basic research efforts and problem-driven research and between disciplinary and interdisciplinary research. A participant noted the need for new theory requiring transdisciplinary approaches, in addition to research rooted in the existing social science disciplines. There was discussion of the very specific suggestions in the Committee’s 1992 report, *Global Environmental Change: Understanding the Human Dimensions*, many of which were not implemented. The SAC members and staff asked that the white paper address some of the implementation issues for human dimensions research.

Members of the committee and other participants also discussed the potential value for fundamental research of providing an improved basis for more applied activities, such as the National Assessment. The First National Assessment, it was argued, contributed to knowledge (for example, by drawing scientists’ attention more to extreme events than to averages), and also helped prepare the entire country, particularly areas where there was no NOAA RISA center operating.

Members of the committee and other participants also discussed the potential value of a shift of emphasis in the CCSP to increase involvement of human dimensions science, now that the science policy focus has shifted toward the science of responding to climate change. Mearns cited Hurricane Katrina as an example: the hurricane forecasts were quite accurate, but the problems came on the social side. Kolstad noted that the climate science points to continuing climate change while the social science says it is “almost impossible” to change the trajectory of consumption. Rosenzweig pointed out that mitigation is impossible without changing behavior.

The committee chair and staff agreed to draft the white paper after soliciting input from past CHDGC members and consulting past relevant NRC reports, both from the Committee and other authoring bodies.

3. New Developments of Interest to the Committee

Increasing requests for input. Committee members noted an increasing rate of requests for scientific information about linked human-environment systems to assist in coping with climate change. Though the need for such information grows, funding has long been scant. As a result, key resource people are stretched thin, including committee members.

NRC ocean study. Miles reported on developments regarding a study of change in the oceans, which NOAA may request from the NRC early in 2008. He said that the study is expected to be framed broadly, in a way that integrates human dimensions issues (e.g., multiple stresses) along with natural science issues in ocean change.

Possible support for workshops from the Hewlett Foundation. The Hewlett Foundation has expressed interest in supporting the Committee to organize two workshops focused on

behavioral and social science approaches to responses to climate change. Possible topics include incentives for mitigation, incentives for adaptation, and issues of risk perception and risk management in relation to possible climate catastrophes. These workshops could be a first step toward developing more intensive work on some of these issues. Several members noted the need to look at mitigation and adaptation from the bottom up—at the individual and community levels.

Venture Fund meeting. The Committee has internal NRC funds to support a small meeting on a topic highlighting the role of the social, behavioral, and economic sciences in addressing the challenges of climate change. This meeting might address one of the topics suggested for a Hewlett workshop, leaving the other two to be supported by Hewlett.

New directions in Vulnerability, Impacts, Mitigation, and Adaptation Research. Rosenzweig proposed that the committee organize a meeting for the main U.S. contributors to the IPCC Working Group II (WGII) report and selected others to discuss new directions for WGII and for the associated research community. She had already raised the idea with some potential sponsors, and received encouragement. For most value, the meeting would happen in the first quarter of 2008.

Possible NRC study of adaptation. There has been discussion of plans to develop a study of adaptation to be drafted by a working group including members of CHDGC, CRC, and the SAC for consideration by the NRC Governing Board Executive Committee in early 2008. Several members expressed interest in being involved.

Other topics of interest. The Committee has prospectuses on hand for work in three additional areas: (a) building the scientific community for human dimensions research, (b) a study of vulnerability, resilience, and adaptation, and (c) a study on methods for estimating the costs of climate change. There was discussion of how to move these forward, but they ultimately fell behind other topics on the priority list.

4. Activities of Interest in Congress

James Jensen, the Academies' Congressional liaison officer, briefed the committee on recent developments of interest in Congress. On the policy side, he expected that a bill to increase CAFE standards would come out of Congress, but that landmark legislation may not pass until 2009. He noted several NRC-related projects that may be included in 2008 funding bills:

1. *An EPA appropriate for a \$50M commission to be headed by the NAS president.* If passed, about \$5M would come to the NRC for work, yet to be specified, on mitigation and adaptation.

2. *A bill that would provide for \$1M for a world climate summit at NAS, plus \$5M for a study to advise on response to climate change.* This is in a House bill but not a Senate bill. Jensen's expectation is that it will not pass right away.

Jensen expected that Congress will have assignments for the NRC, but that it might take a few more months.