

Background Memo for May 15th Breakfast

The purpose of this meeting with environmental NGOs is twofold:

- To share views on climate science research priorities that will be most policy-relevant and best meet the needs of the full range of “end users.”
- To discuss potential areas for partnerships or less formal collaboration.

State of Play

The last two years has been a time of rapid change in the nexus between climate policy and science. Some key milestones include the release of the IPCC AR4, the change in Congressional leadership, and a huge increase in public awareness (epitomized by the Inconvenient Truth movie). The change in Administration is also likely to bring significant changes in both climate policy and science policy overall.

From the perspective of climate research, we see two particularly important trends:

- The most frequent one line summary of the science has moved from “Is it real?” to “The science is settled.” This is both encouraging and *unsettling* as we see much more science that needs to be done, to support increased understanding and mitigation and adaptation.
- A much greater focus on impacts, mitigation, and adaptation. A related aspect of this is a much wider range of end users in the private sector, state and local government, and federal agencies.

The changing and increased demands on climate science are also occurring at time when there is much bipartisan support for increased science and technology funding, but also severe budget pressures across the federal government and especially at NOAA and NASA.

New Climate Science Directions

Given the above changes, the following are key areas for climate science and related research:

- Model improvements in geographic resolution and elements (requiring much greater computing power and more complex models). This is both to improve overall modeling skill as well as to support impacts and adaptation focus.
- Climate models become earth system models, with collaboration needed across a much wider range of disciplines (e.g., hydrology).
- Human dimensions research, and basic and applied research on impacts and adaptation. Also, a greater demand for outreach and information transfer, and questions about what the right institutions are for this work.
- Maintaining and improving Earth observing systems.
- Annual to decadal prediction (as opposed to projection) and more policy-relevant scenarios.
- Improving understanding and prediction of high-impact weather and its changes as climate changes
- Discussions of updating the IPCC (and other assessments) structure and/or timing to improve timeliness, relevance, and workload issues.

Discussion Questions

- Do you agree with the direction for climate science as we have just described?
- What productive partnerships and collaborations might we be able to explore between UCAR leadership, NCAR scientists and your organizations?