Announcement of a Plan for the Peer Review of the U.S. Climate Change Science Program Synthesis and Assessment Report entitled

'Climate Models: An Assessment of Strengths and Limitations for User Applications'

Pursuant to Section V of the "Information Quality Bulletin for Peer Review" of the Office of Management and Budget (OMB), under the authority of the Information Quality Act of 2000 (P.L. 106-554), the U.S. Climate Change Science Program (CCSP) announces a plan for the peer review of its Synthesis and Assessment Report entitled 'Climate Models: An Assessment of Strengths and Limitations for User Applications'. The CCSP is an interagency research, planning, and coordinating entity that integrates federal research on climate and global change, as sponsored by thirteen federal agencies and overseen by the Office of Science and Technology Policy, the Council on Environmental Quality, the National Economic Council, and OMB. See http://www.climatescience.gov.

The U.S. Department of Energy (DOE) is the lead agency for the above-mentioned synthesis and assessment report. Details on the status of the prospectus that will be used to develop the report may be found at http://www.climatescience.gov/Library/sap/sap3-1/default.htm. Inquiries or comments regarding the peer review plan of this report may be submitted to:

Dr. Anjuli Bamzai
Program Manager
Climate Change Prediction Program
SC-23.3 Germantown Building
U.S. Department of Energy
1000 Independence Avenue S.W.
Washington, DC 20585-1290
E-mail: anjuli.bamzai@science.doe.gov
Tel: (301) 903-0294
Fax: (301) 903-8519

Computer simulation models of the coupled atmosphere–land surface–ocean–sea ice system are essential scientific tools for understanding and predicting natural and human-caused changes in the Earth's climate. Coupled climate system models (called "climate models" herein) provide scientists a way to integrate their knowledge about elements of the climate system in a mathematical framework so that they can conduct computer simulations of the system.

The report will address the strengths and limitations of climate models at different spatial and temporal scales. Its purpose is to provide the information in ways that will allow potential users of the information to evaluate how best climate models may be applied and when they should not be applied. The report will focus on natural and human-caused factors influencing climate variability and change for the historical period 1870–2000. It will seek to characterize all sources of uncertainties in climate models and the implication of these uncertainties on the use of climate model projections. Discussion of future climate projections will be limited in this report, because another CCSP Synthesis and Assessment Report that specifically addresses this topic is being planned.

The project is scheduled to start on October 1, 2005, and the estimated online dissemination date is April 30, 2007. The hard copy report is scheduled for June 30 2007. The estimated start date of the peer review is April 1, 2006. The review will be conducted through individual letters. The anticipated number of reviewers is 4 to 10. There will be opportunities for the public to comment on and peer-review the work product during a public review period, which will follow the expert peer review. DOE will not provide significant and relevant public comments to the peer reviewers before they conduct their review because the public comments will follow the expert peer review. DOE will seek from the National Research Council's Board of Atmospheric Sciences and Climate Research Committee a list of reviewers qualified to review the scientific assessment. DOE will select and approve the final list of reviewers. Scientific or professional societies will not be asked to nominate potential peer reviewers. They will, however, be alerted via e-mail to comment during the public review period.

The primary disciplines or expertise needed for the review are specified below:

(a) Atmospheric and Earth Sciences: Atmospheric sciences study the atmosphere, its processes, the effects other systems have on the atmosphere, and the effects of the atmosphere on other systems. Earth science (also known as geoscience, the geosciences, or the Earth sciences) is an all-embracing term for the sciences related to the planet Earth. As the only known life-bearing planet, Earth is arguably a special case in the planetary system. There are both reductionist and holistic approaches to Earth science. The major historic disciplines use physics, mathematics, chemistry, and biology to build a quantitative understanding of the principal areas.

(b) Climate Change Research: Climate science studies climates and investigates their phenomena and causes. The principal focus of climate science is atmospheric science and meteorology, but the subject is so complex that it involves many other areas of the earth sciences. The term climate change is used to refer to changes in the Earth's climate. In the most general sense, it can be taken to mean changes over all timescales and in all components of climate, including precipitation and clouds as well as temperature.

(c) Climate modeling: Climate models use quantitative methods to simulate the interactions of the atmosphere, oceans, land surface and ice. The models are used for a variety of purposes, from the study of the dynamics of the weather and climate system, to projections of future climate. Models can range from relatively simple to quite complex. Simple back-of-the-envelope calculations of the radiative temperature treat the Earth as a single point, which can be expanded vertically (radiative-convective models) or horizontally (energy-balance models). Finally, coupled atmosphere–ocean–sea ice global climate models discretize and solve the full equations for fluid motion.