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## CLIMATE CHANGE SCIENCE AND TECHNOLOGY

### *Research and Development Funding in the President's 2008 Budget*

#### **Climate Change Science Program**

The U.S. Global Change Research Program, authorized by the Global Change Research Act of 1990, and the President's Climate Change Research Initiative of 2001 are integrated in the comprehensive U.S. Climate Change Science Program (CCSP). The CCSP published the *Strategic Plan for the U.S. Climate Science Program* in 2003, describing a strategy for developing knowledge of climate variability and change and for application of this knowledge.

Based on the Strategic Plan, the CCSP has focused on nine key priority areas to accelerate the delivery of critical science-based information in support of decision making on climate change science issues:

- Aerosols-clouds-climate: Integrating new remote-sensing observations with expanded in situ observations to advance climate prediction capabilities
- Development of an integrated Earth system analysis capability
- Integration of water cycle observations, research and modeling: A prototype project
- Global Landsat data for answering critical climate questions
- North American carbon program integration
- Impacts of climate variability and change on ecosystem productivity and biodiversity
- Coping with drought through research and regional partnerships
- International Polar Year
- Integrated Ocean Observing System

CCSP has charted a set of 21 synthesis and assessment products (SAP) to provide technical summaries for policy makers. The first of these reports, *Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences*, was released in 2006. The next 15 reports are scheduled to be released in 2007, with the final five products due in 2008.

The FY 2008 CCSP budget request is \$1.6 billion, sustaining the existing overall level of effort in the Program after accounting for the NASA transfer of its Ground Network and Research Range assets out of its Earth Science Division (where CCSP programs reside), thereby no longer including them in the CCSP total. The CCSP comprises over 13 agencies, but nearly 90% of the CCSP funding is distributed among NASA, the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), and the Department of Energy. In fact, the 2008 CCSP Budget seeks to expand research from the existing 2006 enacted levels for NSF (6 percent) and NOAA (11 percent).

#### **Climate Change Technology Program**

The U.S. Climate Change Technology Program (CCTP) provide strategic direction, planning, and analysis to help coordinate and prioritize activities within the portfolio of Federally funded climate change technology research, development and deployment, in areas such as renewable energy, clean coal, nuclear energy, and carbon sequestration. In 2006, the CCTP published a Strategic Plan that describes its vision, goals, and next steps; the potential contributions of new technologies to address climate change under various global scenarios; and the role of basic research in accelerating the commercial feasibility of advanced energy technologies. The CCTP also identifies within its portfolio a subset of priority activities as the National Climate Change Technology Initiative (NCCTI). Defined as discrete R&D activities that address significant technical challenges, NCCTI seeks to advance technologies with the potential to dramatically reduce, avoid or sequester greenhouse gas emissions. In 2008, CCTP's focus will be on implementing the Strategic Plan.