



About the National Research Council:

The US Global Change Research Program (USGCRP) utilizes reports and discussions conducted by the [National Academies](#) as an important source of input to its planning and evolution. The USGCRP and its agencies fund many of these activities.

The National Research Council (NRC) functions under the auspices of [The National Academies](#), including the National Academy of Sciences (NAS), the National Academy of Engineering (NAE), and the Institute of Medicine (IOM).

The mission of the NRC is to improve government decision making and public policy, increase public education and understanding, and promote the acquisition and dissemination of knowledge in matters involving science, engineering, technology, and health.

Key Reports from the National Research Council:

The following recent reports from the NRC are particularly relevant to the USGCRP. However, many other NRC reports have been used to guide the USGCRP.

[Informing Decisions in a Changing Climate \(2009\)](#)

Informing Decisions in a Changing Climate provides a framework and a set of strategies and methods for organizing and evaluating decision support activities related to climate change. Based on basic knowledge of decision making; past experiences in other fields; experience with early efforts in the climate arena; and input from a range of decision makers, the book identifies six principles of effective decision support and recommends a strategy for implementing them in a national initiative to inform climate-related decisions.

[Restructuring Federal Climate Research to Meet the Challenges of Climate Change \(2009\)](#)

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At the request of the U.S. Climate Change Science Program, the National Research Council established a committee to evaluate the progress of the program and to identify future priorities. This, the committee's second and final report, proposes six priorities for restructuring the United States' Climate Change Research program to develop a more robust knowledge base and support informed responses.

[Evaluating Progress of the U.S. Climate Change Science Program: Methods and Preliminary Results \(2007\)](#)

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This report is the first review of the U.S. Climate Change Science Program's progress since the program was established in 2002. It lays out a method for evaluating the CCSP, and uses that method to assess the strengths and weaknesses of the entire program and to identify areas where progress has not met expectations.

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[Analysis of Global Change Assessments: Lessons Learned \(2007\)](#)

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Before scientists can convey their information, which usually appears in the peer-reviewed literature, to decision makers, it needs to be synthesized and integrated so that relevant facts can be communicated in a useful form. An assessment process is a key interface between science and policy and a crucial mechanism by which science informs policy making. At the request of the U.S. Climate Change Research Program, (CCSP) the Committee on Analysis of Global Change Assessments was charged with undertaking a comparative analysis of past global change assessments with goals similar to the CCSP to identify strengths and weaknesses in the process. Based on that analysis, the committee was asked to provide CCSP with advice on its approach to future assessment activities.

[Public Participation in Environmental Assessment and Decision Making \(2008\)](#)

This book concludes that, when done correctly, public participation improves the quality of federal agencies' decisions about the environment. Well-managed public involvement also increases the legitimacy of decisions in the eyes of those affected by them, which makes it more likely that the decisions will be implemented effectively. This book recommends that agencies recognize public participation as valuable to their objectives, not just as a formality required by the law. It details principles and approaches agencies can use to successfully involve the public.

[Earth Science and Applications from Space: National Imperatives for the Next Decade and Beyond \(2007\)](#)

This report is a "decadal strategy" survey of Earth science and applications from space that would develop the key scientific questions on which to focus Earth and environmental observations in the period 2005-2015 and beyond. It contains a prioritized list of space programs, missions, and supporting activities to address these questions. This report presents a vision for the Earth science program; an analysis of the existing Earth Observing System and recommendations to help restore its capabilities; an assessment of and recommendations for new observations and missions for the next decade; an examination of and recommendations for effective application of those observations; and an analysis of how best to sustain that observation and applications system.

[Ensuring the Climate Record from the NPOESS and GOES-R Spacecraft \(2008\)](#)

This book presents and recommends a prioritized, short-term strategy for recovery of crucial climate capabilities lost in the NPOESS and GOES-R program descopes. However, mitigation of these recent losses is only the first step in establishing a viable long-term climate strategy—one that builds on the lessons learned from the well-intentioned but poorly executed merger of the nation's weather and climate observation systems.

[Observing Weather and Climate from the Ground Up: A Nationwide Network of Networks \(2008\)](#)

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This report identifies short-term and long-term goals for federal government sponsors and other public and private partners in establishing a coordinated nationwide "network of networks" of weather and climate observations. This report was requested by the U.S. Departments of Commerce, Transportation, and Homeland Security, the U.S. Environmental Protection Agency, and the National Aeronautics and Space Administration.

[Completing the Forecast: Characterizing and Communicating Uncertainty for Better Decisions Using Weather and Climate Forecasts \(2006\)](#)

The National Weather Service and others in the prediction community have recognized the need to view uncertainty as a fundamental part of forecasts. By partnering with other segments of the community to understand user needs, generate relevant and rich informational products, and utilize effective communication vehicles, the National Weather Service can take a leading role in the transition to widespread, effective incorporation of uncertainty information into predictions. "Completing the Forecast" makes recommendations to the National Weather Service and the broader prediction community on how to do so.

[Understanding Multiple Environmental Stresses: Report of a Workshop \(2007\)](#)

This report examines the effects of multiple environmental stresses and their relationship to decision making, as discussed at an NRC workshop. An overarching lesson of the workshop is that society will require new and improved strategies for coping with multiple stresses and their impacts on natural and socioeconomic systems. Improved communication among stakeholders, increased observations (especially at regional scales), improved model and information systems, and increased infrastructure to provide better environmental monitoring, vulnerability assessment, and response analysis are all important parts of moving toward better understanding of and response to multiple-stresses situations.

[Thinking Strategically: The Appropriate Use of Metrics for the Climate Change Science Program \(2005\)](#)

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Metrics -- a system of measurement that includes the item being measured, the unit of measurement, and the value of the unit -- offer a tool for measuring such progress; improving program performance; and demonstrating program successes to Congress, the Office of

Management and Budget, and the public. This report lays out a framework for creating and implementing metrics for the CCSP. A general set of metrics provides a starting point for identifying the most important measures, and the principles provide guidance for refining the metrics and avoiding unintended consequences