



Subcommittee Mandate

The Subcommittee on Disaster Reduction (SDR) is an element of the President's National Science and Technology Council and facilitates national strategies for reducing disaster risks and losses that are based on effective uses of science and technology. Chartered in 1988, the Subcommittee provides a unique Federal forum for information sharing, development of collaborative opportunities, formulation of science- and technology-based guidance for policymakers and dialogue with the U.S. policy community to advance informed strategies for managing disaster risks.

Grand Challenges for Disaster Reduction

To develop a ten-year strategy for disaster reduction through science and technology, the members of the SDR collaborated with scientists and engineers worldwide to identify a suite of Grand Challenges for disaster reduction. Addressing the Grand Challenges will improve America's capacity and resilience to prevent and recover from disasters, thus fulfilling our Nation's commitment to reducing the impacts of hazards and enhancing the safety and economic well-being of every individual and community. (See reverse side for additional information.)

Climate Change Adaptation

"Given the relationships between climate change and extreme events, the community of researchers, engineers, and other experts who work on reducing risks from natural and human-caused disasters will have an important role to play in framing climate change adaptation strategies and in providing information to support decision-making during implementation."

- *Congressional testimony of Dr. John Holdren, Director, White House Office of Science and Technology Policy, July 20, 2009*

The SDR is well positioned to connect climate change policymakers to a national network of researchers, engineers, and other disaster risk reduction experts both within and beyond the Federal government.

International Activities

By agreement with the Department of State, the SDR serves as the National Platform to the United Nations International Strategy for Disaster Reduction. In this role, it led the U.S. delegation to the Second, Third, and Fourth Global Platforms for Disaster Risk Reduction (2009, 2011, and 2013) and participated in the Copenhagen Climate Change Conference in 2009. The Subcommittee also convened a workshop of leading scientists and engineers to develop recommendations for Haiti's reconstruction in 2010.

Represented Agencies (Official Designees in Bold)

Department of Commerce

National Oceanic and Atmospheric Administration
National Institute of Standards and Technology

Department of Defense

National Geospatial-Intelligence Agency
National Guard Bureau
U.S. Army Corps of Engineers

Department of Energy

Department of Homeland Security

Federal Emergency Management Agency
U.S. Coast Guard

Department of Housing and Urban Development

Department of the Interior

Bureau of Land Management
National Park Service
U.S. Geological Survey

Department of Health and Human Services

Centers for Disease Control and Prevention
National Institutes of Health
U.S. Public Health Service Commissioned Corps

Department of State

Department of Transportation

Federal Highway Administration

Environmental Protection Agency

Federal Energy Regulatory Commission

National Aeronautics and Space Administration

National Science Foundation

U.S. Agency for International Development

U.S. Department of Agriculture

U.S. Forest Service

U.S. Nuclear Regulatory Commission

Leadership

David Applegate (Co-Chair) applegate@usgs.gov

Margaret Davidson (Co-Chair) margaret.davidson@noaa.gov

Dennis Wenger (Co-Chair) dwenger@nsf.gov

Tamara Dickinson (OSTP Liaison) tdickinson@ostp.eop.gov

Executive Secretary

Bret Schothorst bret.schothorst@mantech.com; 703-388-0312



Grand Challenges for Disaster Reduction Overview

Subcommittee on Disaster Reduction

Grand Challenges for Disaster Reduction

Developed by Federal agency representatives participating in the National Science and Technology Council's Subcommittee on Disaster Reduction, the Grand Challenges in science and technology outlined below, if met, will enhance community resilience and thus enhance disaster resilience in America.

Grand Challenge #1 - Provide hazard and disaster information where and when it's needed.

To identify and anticipate the hazards that threaten communities, a mechanism for real-time data collection and interpretation must be readily available to and useable by scientists, emergency managers, first responders, citizens, and policymakers.

Grand Challenge #2 - Understand the natural processes that produce hazards.

To improve forecasting and predictions, scientists and engineers must continue to pursue basic research on the natural processes that produce hazards and understand how and when natural processes become hazardous. New data must be collected and incorporated into advanced and validated models that support an improved understanding of underlying natural system processes and enhance assessment of the impacts.

Grand Challenge #3 - Develop mitigation technologies and strategies.

To reduce and prevent damage, scientists and engineers must invent—and communities must implement—more affordable and effective hazard mitigation technologies such as disaster resilient building materials and architecture and smart structures that respond to changing conditions.

Grand Challenge #4 - Recognize and Reduce Vulnerability of Interdependent Critical Infrastructure.

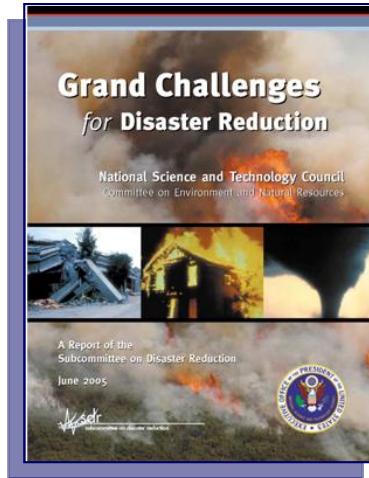
Protecting critical infrastructure systems, or lifelines, is essential to developing disaster-resilient communities. To be successful, scientists and communities must identify and address the interdependencies of these lifelines at a systems level (e.g., communications, electricity, financial, gas, sewage, transportation, and water).

Grand Challenge #5 - Assess Disaster Resilience Using Standard Methods.

Federal agencies must work with universities, local governments, and the private sector to identify effective standards and metrics for assessing disaster resilience. With consistent factors and regularly updated metrics, communities will be able to maintain report cards that accurately assess the community's level of disaster resilience.

Grand Challenge #6 - Promote Risk-Wise Behavior.

To promote "risk-wise" behavior, develop and apply principles of economics and human behavior to enhance communications, trust, and understanding within communities.



Implementation Plan Topics

Coordinated among 28 Federal departments and agencies, the *Grand Challenges for Disaster Reduction Implementation Plans* list actions that agencies, in collaboration with individuals, organizations and all levels of government, must take in order to meet the Grand Challenges for each hazard.

