



Responding to the Challenge of Climate Change

Background

Responding to climate change is the greatest challenge facing the National Park Service today. Our national parks contain some of the most treasured landscapes and important historical sites in this country. They are also among the most vulnerable. National parks have always helped us better understand the workings of our planet, the lessons of history, and our relationship to the world around us. Even under the threat of climate change, these natural and cultural resources can teach us how our planet is changing and show us a way to continue to preserve them for future generations.

Guiding Documents

Meeting the challenge of global climate change requires a scientific approach, innovative thinking and an unprecedented level of collaboration and communication. Released in September 2010, the **NPS Climate Change Response Strategy** describes a vision around four integrated climate change components: Science, Adaptation, Mitigation, and Communication. All four components consider the over arching legal and policy implications for climate change, as well as ways to incorporate this issue into long range planning.

In 2012, the NPS released several climate change initiatives. Director Jarvis issued a policy memorandum entitled, **Applying NPS Management Policies in the Context of Climate Change** that provides broad direction for decision making with respect to impairment and natural conditions. The **Green Parks Plan** provides a blueprint for reducing the operational footprint of NPS and illustrates best practices for sustainable operations.

In November 2012, the NPS released its **Climate Change Action Plan 2012–2014** that described high-priority actions to which the NPS is committed in the near term while providing a flexible road map for preparing for and adapting to the needs of the future. Many of these actions were accomplished in the two year period of the action plan. The NPS is currently developing a new set of action items for the next two year coverage period.

More Information

Leigh Welling, Ph.D.

Chief
Climate Change Response Program
ph: (970) 225-3513
email: Leigh_Welling@nps.gov

Ray Sauvajot, Ph.D.

Associate Director
Natural Resource Stewardship & Science
ph: (202) 208-3884
email: Ray_Sauvajot@nps.gov

Program website: <http://www.nps.gov/climatechange>

YouTube page: <http://www.youtube.com/channel/UCAeQ9FnOCPjG-KLXf47Xj9Q>



Low water levels in Lake Mead National Recreation Area are evident. Roughly 96 percent of the water in Lake Mead comes from snow melt in the Rocky Mountains. As the climate continues to change, less snow falling in the high Rockies translates to less water downstream.

About Us

The Climate Change Response Program (CCRP) includes a small staff who serve the National Park Service in climate change science and modeling, interpretation and education, resource management, landscape connectivity, monitoring, planning, coastal hazards, cultural anthropology, and renewable and efficient energy use.

The CCRP supports servicewide initiatives to implement the *NPS Climate Change Response Strategy* and *Climate Change Action Plan*, and to work with partners to develop methods for assessing resource vulnerability, monitoring change, developing adaptation strategies for natural and cultural resources and facilities in climate-sensitive areas, and including climate change in NPS planning frameworks. The 2012 priority actions addressed climate literacy and training, science-based planning and policy development, and collaboration across jurisdictions and organizations to promote shared conservation goals and values.

Ongoing projects include:

- Analyze and deliver observations and down scaled climate trends to every national park unit.
- Conduct inclusive strategic planning and training involving parks, regions, and national offices and links with partner organizations.
- Offer opportunities for youth and diverse audiences to be involved with climate change research and education in national parks.
- Integrate climate change into NPS planning processes.



Infrastructure in national parks is especially susceptible to issues from climate change. Runoff from melting snow can cause issues with erosion as well as traffic problems, as seen on Exit Glacier Road in Kenai Fjords NP.

Next Steps

- Revise the *Climate Change Action Plan* through the celebration of the National Park Service centennial in 2016.
- Support servicewide climate change training initiatives.
- Increase efforts to *plan for* and *communicate about* climate change.
- Emphasize adaptation actions at all levels of the NPS.
- Put a structure in place to employ the next generation of climate change stewards through a young leaders initiative.
- Incorporate climate change in all levels of NPS planning.

Recent NPS Climate Change Accomplishments

Science for Parks

- Provided spatial data on historical and projected climate and sea level to analyze vulnerability of resources, integrate climate change into resource management planning, and develop adaptation measures.
- The NPS, in collaboration with scientists from universities, the U.S. Geological Survey, USDA Forest Service, and other partners has completed climate change vulnerability assessments for selected resources in more than 144 national parks.
- The NPS monitored changes in climate and its effects of glaciers in Denali, Wrangel St. Elias, Katmai, Kenai Fjords, and Lake Clark NPs; melting permafrost and ground slumps in Noatak; and vegetation changes in parks from the Sonoran desert to the Alaska tundra.

Adaptation Planning & Implementation

- Assisted in the development of the National Landscape Conservation Cooperative (LCC) Council, consisting of federal and state representatives, tribes, and nongovernmental organizations that support LCC activity at the national level.
- Completed a task agreement with NOAA Climate Program Office to focus on streamlining the process of developing climate science at a management-relevant time scale to allow NPS professionals to re-use basic climate scenarios for a variety of management planning needs.
- The US Forest Service, Fish and Wildlife Service, and NPS produced “FLM Air Programs Potential Actions and Strategies to Influence and Achieve GHG Emissions Reductions,” a 10-page compilation of potential actions the FLM air programs can take to influence GHG reductions on a national level.

Engaging Youth and Their Families

- Staff engaged hundreds of students, volunteers, and visitors in hands-on activities about climate change, ocean acidification, and sea level rise through BioBlitz events at Golden Gate NRA and Jean Lafitte NHP.
- Ten students and one teacher from West Geauga High School in Chesterland, OH participated in an experimental learning program, in partnership with No Barriers, that helps students learn about climate change in a place-based setting.

Building Workforce Capacity

- The Interpreting Climate Change Competency provides interpreters and communicators training in climate science and climate change communication methodologies. This competency is offered as an online interactive training, or as a self study module.

Public Outreach & Communication

- The Climate and Culture Group provides a critical venue for identifying emerging issues and sharing best practices for addressing climate change in relation to cultural resources. .
- Twenty three interactive climate change wayside exhibits in 13 national parks stretching from the Everglades to Kenai Fjords NPs showcase topics such as sea level rise and phenology are being developed and installed.
- A National Climate Change Interpretation and Education Strategy is being developed by a diverse group of climate change communicators. This strategy will identify the ways sites can begin incorporating climate change, and provide support to do so.