



## Responding to the Challenge of Climate Change

### Background

Climate change presents significant risks and challenges to park resources, infrastructure, and visitor experience. While some effects of climate change are known and are already visible on the landscape, many are just beginning to be understood. Most climate change impacts are complex and far-reaching. Some of the known and future effects include:

- warming temperatures
- accelerated melting of mountain glaciers, permafrost, and sea ice
- sea level rise
- changing weather patterns
- expanded fire seasons
- species range and migration shifts
- more frequent precursor conditions for pests, pathogens, disease, and exotic species invasion

To effectively respond to the challenge of rapid climate change and its impacts, the NPS is undertaking a collective and coordinated strategy that involves parks, regions, and national program offices. The purpose for developing a Climate Change Response Program is to provide guidance, recommendations, and information that support NPS actions to preserve the natural and cultural resources and values of the National Park System from detrimental impacts due to rapid climate change.

### Approach

Building the capacity to respond to climate change involves identifying, prioritizing, and implementing a range of short and long term objectives. The initial approach is to define the overarching goals of the program and to create a series of Working Groups designed to explore and articulate specific needs and issues.

Climate Change Response Program Goals:

- Develop and implement a coordinated strategy for understanding, communicating, and coping with the effects of climate change to park resources, resource values, and infrastructure
- Collaborate with partners in other agencies and entities, and across NPS programs, to build understanding and coordinate landscape-scale adaptation and mitigation actions

Climate Change Response Working Groups:

Six Working Groups have been created to foster communication, explore the needs and issues of parks, and begin to define both servicewide and park level strategies for moving forward on this



**As climate warms, species will be under adaptive pressure to shift their current ranges toward more northerly and higher elevation environments. Some species, such as the Joshua Tree, may be reduced or even eliminated in parks established specifically for their protection.** Photo Credit: Paul DePrey, Joshua Tree National Park.

critical issue. The six groups are: 1) Law & Policy, 2) Planning, 3) Science, 4) Resource Stewardship, 5) Greenhouse Gas Mitigation & Sustainable Operations, and 6) Communication.

Representatives from parks, regions and national programs are participating in the Working Groups, which are outlined in more detail on the following page. Climate change will impact all of our operations in the NPS and the interdisciplinary structure of the Working Groups is meant to encourage collaboration and leadership at all levels of the organization. The ideas that emerge from this process will be brought together to form a Climate Change Response Strategy, the implementation of which will be guided by an intra-agency Steering Committee.

### More Information

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Climate Friendly Parks site:

<http://nrpcsharepoint/climatechange/>  
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## The Six Climate Change Response Working Groups

| Working Group                                      | Purpose   |
|--|---|
| Law & Policy                                       | provide guidance on basic policy issues emerging as a result of climate change and ensure consistency and adherence to the NPS mission and legal mandates                 |
| Planning   | incorporate climate change into all planning processes and documents  |
| Science  | identify and meet needs for scientific data, evaluations, and assessments to support resource stewardship and encourage the use of parks as “listening posts” for science |
| Resource Stewardship                               | identify natural and cultural resources most at risk to climate change and develop management strategies to protect them  |
| Greenhouse Gas Mitigation & Sustainable Operations | promote leadership by example through reducing greenhouse gas emissions and promoting sustainable operations  |
| Communication                                      | connect park staff, partners, and the public to the impacts and significance of climate change in National Parks and engage them in solutions                             |

### Status and Next Steps

A number of activities have been initiated in response to the challenge of climate change and impacts to park resources. Numerous workshops have been organized over the last several years for national, regional, and park managers and staffs to promote the translation of climate change knowledge into management action. Parks are beginning to implement a range of sustainable operational practices, including reduced energy and water use, sustainable planning design and construction of facilities, and intelligent transportation management. These actions are being encouraged and reinforced by park superintendents and regional directors and some regions have initiated climate change actions plans. Messages about the impacts of climate change and steps that can and are being taken to mitigate and adapt to these changes are being communicated to park staffs, partners, and the public.

The development of a coordinated Climate Change Response Program is bringing focus to these efforts and activities by providing a common vision and structured mechanism for sharing information and best practices. Working Groups began to meet in June 2008. Four of the six groups (Policy, Science, Greenhouse Gas Mitigation & Sustainable Operations, and Communication) have developed goals and objectives and are in the process of identifying and prioritizing actions. The Planning and Resource Stewardship Working Groups have just begun to meet in fall 2008. An initial draft for the Climate Change Response Strategy, with input from all six groups, is expected to be completed by the end of 2008.

### Next Steps

- Create a Climate Change Response Steering Committee to facilitate service-wide coordination
- Develop a long-range strategy and some short range goals for effectively responding to climate change
- Assess needs to support staff and field-based projects for responding to climate change



Resources and structures in coastal parks are especially vulnerable to climate change as rising seas bring impacts such as increases in erosion, salt water intrusion, and storm surges. Photo Credit: Stephanie Toothman, Kaloko-Honokohau National Historic Park.