



## Climate Change Response and Cultural Landscape Preservation



# National Park Service Climate Change Response Strategy (Sept. 2010)

## *Preserving the Nation's Heritage*

The preservation and protection of cultural resources is a core part of the National Park Service mission. The 2006 *NPS Management Policies* define cultural resources as “archeological resources, cultural landscapes, ethnographic resources, historic and prehistoric structures, and museum collections.”





# National Park Service Climate Change Response Strategy

## *Preserving the Nation's Heritage*

The NPS fulfills its responsibility to preserve these resources by working beyond park boundaries with State Historic Preservation Offices, other preservation partnerships, and community assistance programs.



# National Park Service Climate Change Response Strategy

## *Preserving the Nation's Heritage*

Significant cultural resources are disappearing due to high rates of erosion, intense weather events, and other factors related to climate variability and change. Cultural resources are unique: once lost, they are lost forever.

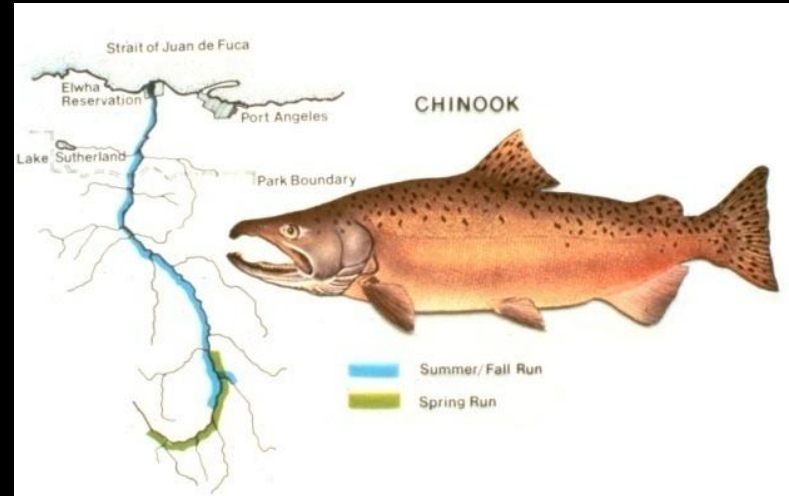


## Ethnographic Resources

Are integral to sustaining the cultures of traditional peoples associated with our parks – both natural and cultural

May include animal and plant species and the quality of air and water necessary to sustain these species

Include places of special significance





## Factors Influencing Strategic Response

- Multiple types of threats
- Diversity of cultural and natural resources
- Diversity of ecosystems within system
- Native peoples traditionally associated with park resources
- Opportunities for collaboration with public and private agencies, native groups, universities, and NGOs
- NPS commitment to sustainability of park facilities and operations
- Availability of Cultural Resource Preservation Program funds



# Diversity of Cultural Resources

## Archeological resources

- submerged historic shipwrecks to prehistoric alpine camp sites

## Cultural landscapes

- indigenous landscapes manipulated by native peoples to designed landscapes with ornamental plants

## Historic and prehistoric structures

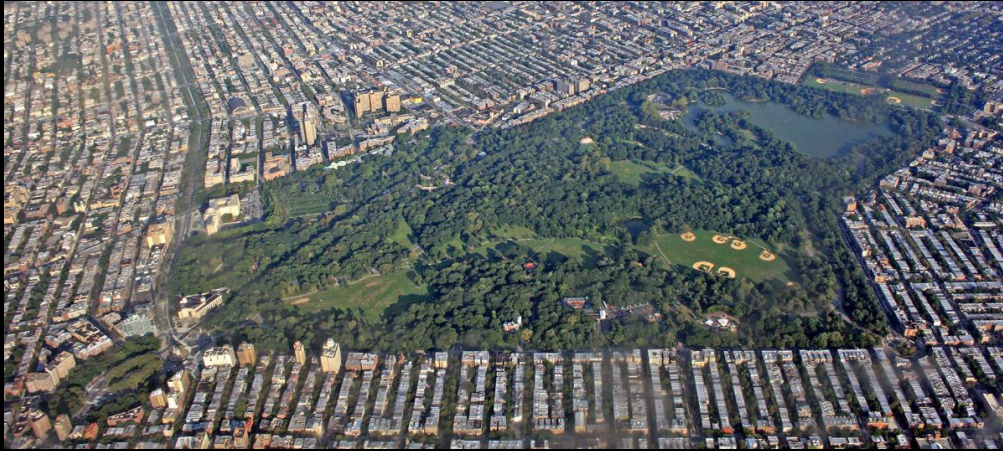
- rustic lodges to prehistoric rock shelters

## Museum collections

- historic manuscripts, prehistoric objects to natural specimens



# Types of Cultural Landscapes: 1. Designed Historic Landscapes





## Types of Cultural Landscapes: 2. Vernacular Landscapes



## Types of Cultural Landscapes: 3. Historic Sites



## Types of Cultural Landscapes: 4. Ethnographic Landscapes





## Threats to PWR's Cultural Landscapes Include:

- Rising sea levels/inundation/coastal erosion
- Increased ocean temperatures and acidification
- Changes in precipitation/flooding/drought
- Increased frequency of extreme weather events
- Increased severity and frequency of wild fires
- Loss or migration of species
- Increased pests and exotic populations
- Changes in length of growing seasons





# National Park Service Climate Change Response Strategy

## *Preserving the Nation's Heritage*

### Goal 7:

*“Develop, prioritize, and implement management strategies to preserve climate-sensitive cultural resources.”*



# National Park Service Climate Change Response Strategy

## *Preserving the Nation's Heritage*

### Goal 7:

#### *Objective 7.1:*

*“Use the best available science to develop and apply a process to prioritize cultural resource adaptation projects that combine established management tools with newer methods, such as vulnerability assessments.”*

“Decision-making should consider long-term treatment options for archeological sites, historic structures, and other cultural resources to increase resilience and capacity.”



# National Park Service Climate Change Response Strategy

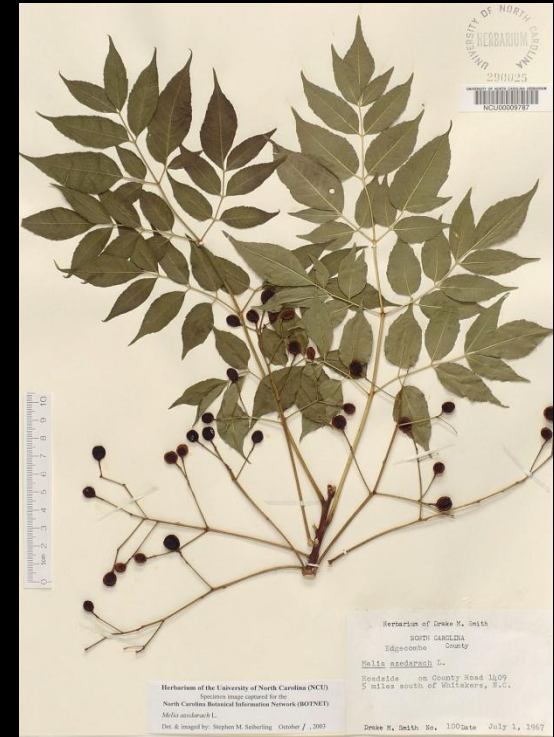
## *Preserving the Nation's Heritage*

### Goal 7:

#### Objective 7.2:

*“Increase the capacity and utility of the NPS Museum Program to preserve and protect resources.”*

“Museum collections provide unique data for understanding the genetic diversity of populations, past community and ecosystem structure, and past climate variability. Such information provides critical, cost-effective scientific evidence to guide management decisions.”



# National Park Service Climate Change Response Strategy

## *Preserving the Nation's Heritage*

### Goal 7:

#### *Objective 7.3:*

*“Strengthen partnerships with traditionally associated peoples through consultation and civic engagement to ensure the preservation of ethnographically significant resources and continued access to these resources.”*

“Federal law, executive orders, and NPS policy recognize certain resources have special significance for traditionally associated peoples, and the NPS response to climate change must include consultation and civic engagement regarding such cultural resources.”





# National Park Service Climate Change Response Strategy

## *Preserving the Nation's Heritage*

### Goal 7:

#### Objective 7.4:

*“Expand NPS capacity to conduct inventory and monitoring of archeological sites in anticipation of climate change impacts and support curation of artifacts and associated documentation.”*

“Archeological data provide insight into climatic changes over the long term as well as the human responses to such alterations. The NPS will work with partners to form strategies to document significant sites before their destruction and make the results available to a broad constituency.



# Climate Change and Cultural Resource Management PWR Strategic Response

## PWR Strategy Components:

- Research
- Inventory
- Evaluation of Threat
- Planning
- Treatment
- Mitigation



# Climate Change and Cultural Resource Management PWR Strategic Response

## Research

Historical, archeological and ethnographic research e.g.

- Paleoenvironmental studies: how past environmental change has affected cultures *and* how cultures have affected their environment
- Environmental histories: the interaction of humans and their environment from the past to the present
- Ethnographic studies: what resources traditional peoples value, and how they perceive and react to changes in those resources





# Climate Change and Cultural Resource Management PWR Strategic Response



## Inventory

- To identify all cultural resources, including those of significance to traditional cultural groups
- To collate and project all CR data sets into GIS platforms compatible with other climate change data sets for scenario planning
- To locate the cultural resources most vulnerable to climate change effects
- To monitor change to resources over time

# Climate Change and Cultural Resource Management PWR Strategic Response

## Evaluation of Threat and Urgency of Response

*Prioritize resources based on:*

- Severity of threat
- Significance of threatened resource
- Uniqueness of threatened resource
- Relationship of threatened resource to park's enabling legislation



# Climate Change and Cultural Resource Management PWR Strategic Response

## Planning

**Park Planning:** address climate change in all park GMPs and major planning efforts



**Scenario Planning:** conduct at the network level to identify the cultural resources most threatened by climate change

**Triage Criteria:** use triage criteria and management categories for managing climate change-threatened CR resources identified in GMPs and other park plans



# Climate Change and Cultural Resource Management PWR Strategic Response

## Planning (contd.)

Triage Criteria – weigh feasibility of intervention to manage threat or treat resource and cost of treatment options



## Management Categories—

- High priority cultural resources with low feasibility for protection or management
- High priority cultural resources with high feasibility for protection or management
- Low priority cultural resources with low feasibility for protection or management

# Climate Change and Cultural Resource Management PWR Strategic Response

## Treatment

Develop treatment with respect to management category, such as:

Documentation

Monitoring

Stabilization

Preservation

Removal from threat

Restoration or rehabilitation treatments

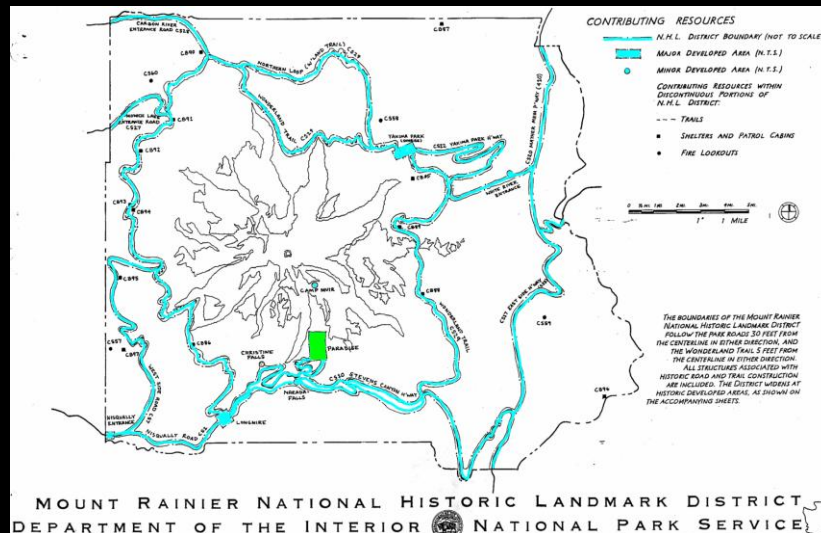




# Climate Change and Cultural Resource Management PWR Strategic Response

Example:

**High** priority cultural resources with **high** feasibility for protection or management could receive a series of treatment interventions to attempt to manage the effects of climate change or slow the rate of change



# Climate Change and Cultural Resource Management PWR Strategic Response

Example:

**High** priority cultural resources that have **low** feasibility for protection or management may receive thorough documentation, monitoring and stabilization, but may ultimately be released from management, as an adverse effect, determined through the Section 106 process





# Climate Change and Cultural Resource Management PWR Strategic Response

## Example:

**Low** priority cultural resources with a **low** feasibility for protection or management may receive thorough documentation and monitoring, but may ultimately be released from management, as an adverse effect, determined through the Section 106 process