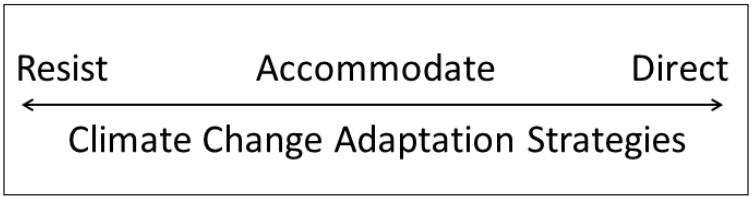
Adapting to Change

Background

Ongoing and future climate change will likely affect all aspects of national park management, including natural and cultural resource protection, operations and infrastructure, and visitor use and experience. In this context, adaptation is an adjustment in natural or human systems to moderate harm or exploit beneficial opportunities in response to climate change. Positioning the National Park Service (NPS) to adapt to rapid directional change and associated climate uncertainties is a central goal for the Climate Change Response Program. The ability of NPS managers to support and implement effective adaptation will influence the long-term structure, function, and viability of park resources and infrastructure. Adaptation to ongoing climate change often requires revising strategies to meet existing goals; increasingly it will require revising goals (and developing new strategies) as conditions shift beyond the historical range of variability. Coping with the landscape-scale impacts of climate change will often require collaboration across jurisdictions. Applying the best-available science and committing to adaptive management are critical components of an effective response.

Mainstreaming Climate Change Adaptation

Several objectives guide the NPS in achieving adaptation goals. To determine and sustain priority adaptation responses, managers need access to robust scientific assessments, policy guidance, trained personnel, and strong partnerships. The NPS is fostering climate change adaptation as a routine part of doing business within parks and working with our partners.



Climate change adaptation is about managing change and includes a spectrum of strategies (adapted from *Fisichelli et al. 2016*). Appropriate options will vary over time, across space, and among resources.

Status and Next Steps

The widespread nature of climate change amplifies ongoing resource impacts such as habitat fragmentation, water scarcity, pollution, invasive species, etc. Simultaneously, uncertainties regarding future conditions challenge efforts to determine appropriate adaptation actions. Collaboration across landscapes, partnerships, development of new tools, and planning for change will help to address these challenges.

Haleakalā and Hawai'i Volcanoes National Parks are collaborating with local scientists and neighbors to resist climate change impacts by establishing satellite populations of high-elevation endangered plant species within their modeled ecological ranges; NPS photo.

Activities underway in the NPS include:

- Providing analysis, synthesis, and translation of *management-relevant science* to support park planning at all levels.
- Developing guidance for including climate change in *planning and decision documents* (e.g., Resource Stewardship Strategies).
- Analysis of park resource and *facility issues* associated with climate change that may require policy guidance and/or new approaches to frame management goals and desired outcomes in the context of a rapidly changing environment.
- Advancing *adaptation guidance*, decision-support tools, and examples to support the NPS response to climate changev.
- Guiding and developing *vulnerability assessments* for parks, as well as collaborating with other agencies in vulnerability assessments and strategies for adaptation.

More Information

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