# Climate Change Response Newsletter

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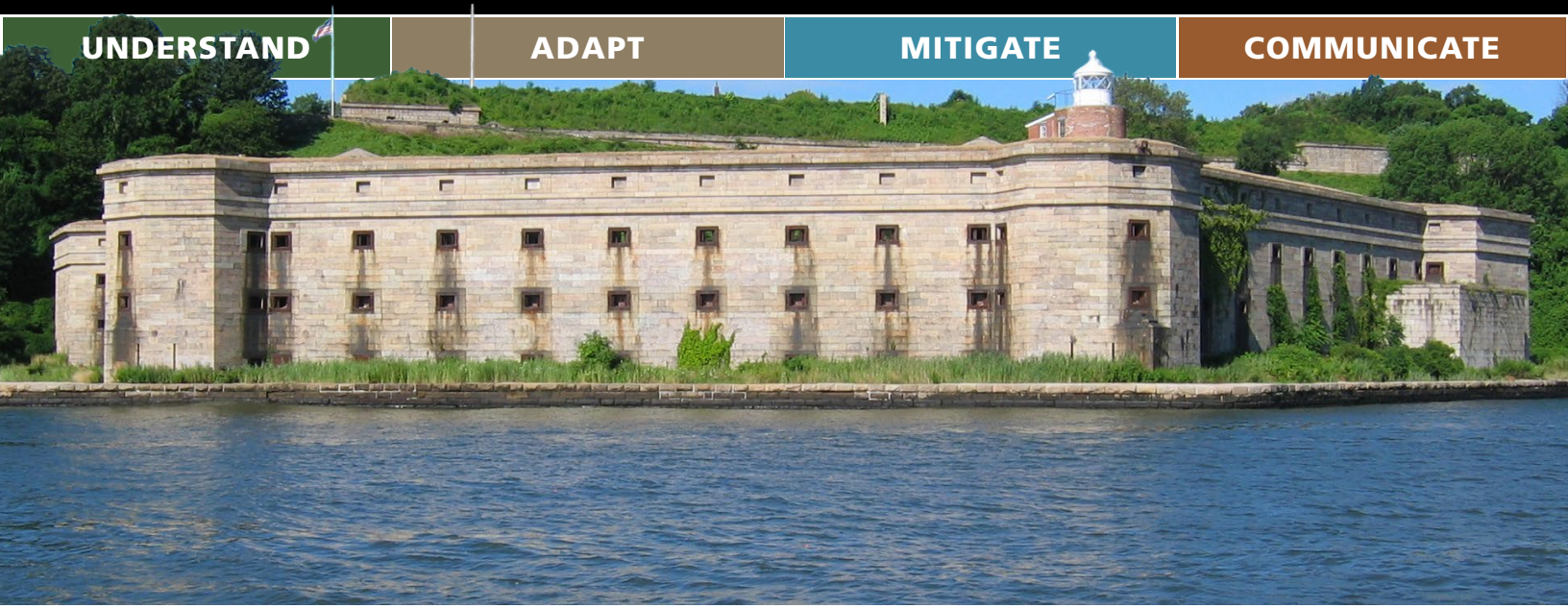
Climate Change Response Program
National Park Service
U.S. Department of the Interior


UNDERSTAND | ADAPT | MITIGATE | COMMUNICATE



## CLIMATE CHANGE AND DYNAMIC COASTLINES PRESENT UNIQUE CHALLENGES FOR CULTURAL RESOURCES

Coastal parks will face significant challenges from the effects of climate change, especially in finding and preserving archeological resources that can be lost to the sea.

At **Gateway National Recreation Area** (GATE), layers upon layers of history are increasingly threatened by erosion, sea level rise, and stronger storm surge. GATE Archeologist Holly Staggs and former GATE intern Cameron Shakespear recently developed the *Coastal Archeology and Planning for the Future* StoryMap to explore this critical management issue. Experts in the Northeast Region GIS and Coastal Landscape programs, the Northeast Archeological Resources Program, and the U.S. Geological Survey also contributed.

The StoryMap shares projections for the area and possible consequences for key cultural resources. It further details how the park utilizes datasets from the USGS Coastal Change Likelihood tool and the NOAA Coastal Flood Exposures Mapper to identify locations where irreplaceable archeological resources are most threatened by climate change stressors. With this data, the park can monitor impacts, gather data from sensitive sites, and determine appropriate adaptation efforts essential for park planning and management of these non-renewable resources.

**View the StoryMap**

The National Park Service (NPS) Climate Change Response Strategy provides a servicewide blueprint for meeting the challenge of climate change. This monthly newsletter captures notable developments, publications, and successes to inform and inspire similar action across the National Park System and beyond.


This newsletter is published by the NPS Climate Change Response Program. If you experience any difficulty accessing the information in this newsletter, please contact us at:
climate_change@nps.gov



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Above: Battery Weed is an outstanding example of a late Third System casemated masory fort. But with four feet of sea level rise (the intermediate amount projected to occur by 2100), the grounds of the fort would be largely submerged. NPS Image.

# NOW AVAILABLE: NEW CLIMATE CHANGE TRAINING

A new one-hour Climate Change 101 online training module is now available to all Department of Interior (DOI) employees. This introductory training covers the basics of how the Earth's climate system is changing, what it means for the work of DOI, and how we can work together to address the challenge. The training was designed to be accessible to employees at any level of climate knowledge. Start exploring how you can help the Department be climate-ready.

For more information, contact noah_vangilder@ios.doi.gov.


The new Climate-Smart Recovery for Field Coordinators online course provides training on the importance of taking a climate-informed approach to disaster recovery efforts. Field Coordinators play a key role in helping develop more resilient and forward-thinking recovery strategies.

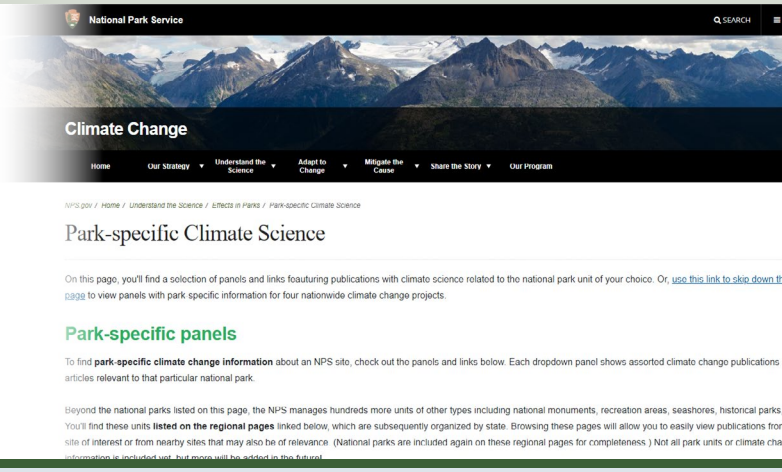
Not a Field Coordinator? That's okay! The self-paced training is appropriate for anyone supporting natural and cultural resource disaster recovery efforts, regardless of your role or title.

*Left: Warming oceans contributed to the increased size and intensity of Hurricane Harvey in 2017. NOAA Photo.*

# FIND PARK-SPECIFIC CLIMATE SCIENCE

Interested in finding climate-related science for your park? The climate change subject site on NPS.gov can help. The park-specific climate science page provides easy access to a curated collection of resources for every unit of the National Park System. Collections are searchable by unit name and region.

Additional climate-related information can be found by searching the NPS Data Store and third-party academic search engines, such as ResearchGate and Google Scholar.




# PROFILES IN GREENHOUSE GAS EMISSIONS REDUCTIONS

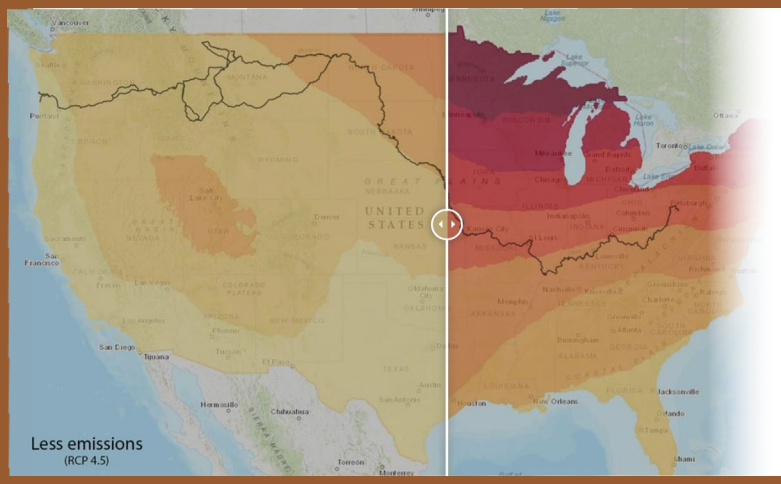
Across the country, national parks are making climate-friendly investments that save money, improve air quality, and provide enhanced visitor services—all while reducing operational greenhouse gas (GHG) emissions. Today's investments build on a surprisingly long legacy of pioneering and novel sustainability projects, including large solar arrays at Cape Cod National Seashore, hybrid passenger ferries at Golden Gate National Recreation Area, to the first NPS net-zero building at Santa Monica Mountains National Recreation Area.

*Left: Solar arrays at Cape Cod National Seashore help reduce GHG emissions. NPS Photo.*

# CLIMATE CHANGE: IN PRINT AND ONLINE

The 2023 Climate Change in National Parks brochure provides a servicewide overview of park impacts and how the NPS is responding to the challenge. It is an easy way to engage curious visitors on this priority management topic.

The NPS Climate Change Response Program has a limited supply of brochures available for distribution. Interested parks can request a box at climate_change@nps.gov. In your request, please provide a preferred address for FedEx delivery (no P.O. boxes please).


More than one-third of NPS units currently use their websites to interpret the site-specific relevance of climate change. This month, we're shining a spotlight on **Lewis and Clark National Historic Trail**. The park team recently published this excellent page exploring the implications of climate change along the historic path of the Corps of Discovery. The park joins a steadily growing list of units with dedicated climate change web pages.

# CLIMATE-RELATED NEWS OF INTEREST

Since the **Inflation Reduction Act** became law two years ago, the National Park Service has invested $210 million into the health of parks, building climate resiliency and benefiting local economies. That's pretty Insta-worthy!

A new climate change adaptation effort kicked off this month at **National Mall and Memorial Parks**, as work began on the rehabilitation and heightening of sea walls along the Tidal Basin.

In a new paper by Yoder et al., crowdsourced imagery from in and around **Joshua Tree National Park** was analyzed to reveal surprising insights about how climate change influences the flowering and recruitment of Joshua trees.

Climate change is already affecting bird populations at **Bandelier**, **Canyon de Chelly**, and **Wupatki National Monuments**, and **Grand Canyon**, **Mesa Verde**, and **Petrified Forest National Parks**. But recent work by Jones et al. suggests the nature of impact is generally linked to habitat affiliation.

*Right: National Park Service Director Chuck Sams and National Mall and Memorial Parks Superintendent Jeff Reinbold observe the driving of the first 88-foot-long piling of the Tidal Basin seawall restoration project. NPS photo.*

# IN FOCUS: ALONG THE COAST

Roughly one-third of all National Park System units are situated along the coast. These sites are vulnerable to impacts from rising sea levels, saltwater intrusion, ocean acidification, changing temperatures and precipitation, and flooding from coastal storms and king tides.

The peak of hurricane season is a worrisome time for many coastal parks. But NOAA projections for an above-normal 2024 Atlantic hurricane season—fueled in part by warmer-than-average ocean temperatures—are extra cause for concern. Similarly, a notable poleward shift in the occurrence of "maximum intensity" tropical cyclones means even our northernmost parks must stay vigilant.

Understanding anticipated sea level rise projections, storm surge and flood inundation, and coastal change is an important first step in proactively preparing for possible impacts. And understanding the relative vulnerability of coastal resources and assets can help parks prioritize efforts for protection.

Inevitably, powerful storms will impact many of our coastal parks in the years ahead. The actions we take *before* a storm can help minimize damage. In addition, the actions we take *after* can similarly hedge against damage from future storms. Recovery and rebuilding efforts often provide valuable opportunities to think differently and take bold steps to adapt to future conditions. And, fortunately, many parks are already doing just that!

The NPS Coastal Adaptation Strategies Handbook explores servicewide policy, guidelines, tools, and approaches used to address coastal vulnerabilities and climate change impacts. And the accompanying Coastal Adaptation Strategies: Case Studies report details 24 individual coastal adaptation efforts in 15 states across the country.

Additional guidance and resources are available through the Coastal and Ocean Advisory & Support Team (COAST) SharePoint site (internal only) and the climate change subject site on NPS.gov.

*Right: The Bayside Picnic Area at Assateague Island National Seashore sustained significant damage from Hurricane Sandy in 2012. NPS image.*

# GOT CLIMATE-RELATED NEWS?

**Do you have a climate-related project, publication, or update you'd like to share? Email your suggestions to climate_change@nps.gov.**

**Submissions received by the 15th of each month may be published the following month, or held for future newsletters as necessary to meet our editorial calendar. Submissions may be edited to meet length requirements or adhere to editorial style.**

**This newsletter is distributed primarily—but not exclusively—to employees, volunteers, and partners of the National Park Service.**