



Bringing Historical Perspectives on Climate into Current Adaptation Practice

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The National Park Service (NPS) has undergone many changes over the years. Parks have been added to the system and management priorities have been expanded to include natural resources, cultural resources, collections, and even ships.¹ More recently, many park managers are being challenged by the impacts of anthropogenic climate change on their parks. In some cases, the projected impacts of climate change may increase the frequency and intensity of existing climate and weathering impacts on parks. In other cases, climate change may present managers with new challenges, such as sea-level rise or other new conditions caused by multiplying or combining weather effects. Although the speed, intensity, or combination of climate effects may be new, people have coped with and adapted to erosion, accretion, storms, and flooding in highly changeable coastal environments for as long as people have inhabited coastal spaces.

Within the NPS, the Climate Change Response Program has published guidance documents to support and enhance park efforts to plan for climate change impacts. The Cultural Resource Climate Change Strategy, released in 2016, identifies ways in which climate change will impact cultural resources, as well as ways in which cultural resources can provide information and inspiration, from how past societies adapted to changing climates, to our current adaptation efforts.² Within this framework, my research looks to the historical record, starting with the sixteenth century Spanish and early seventeenth century English colonial presence in the modern United States, seeking information on how responses to past change can inform or critique modern climate change adaptation. This longer-term perspective on climate volatility and change may enhance the view, scope, or context of adaptation today.

To better understand climate change adaptation in a historical context, I ask two questions: how have managers' perceptions of the coastal environment and climate volatility

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changed overtime, and how can historical patterns of use inform climate change adaptation planning for cultural heritage resources? Perspectives on the environment encapsulate cultural views and understandings of our environment. From European settlers' views of nature as commodities to be incorporated into old world economic systems, to European expansion across the continent, to twentieth century conservation and preservation that led to the creation of the NPS, and to today, environmental views have translated to policies and actions.

Historical perspectives are important and relevant because these perspectives contribute to how policies are written and implemented. To address my research questions, I take a case-study approach, focusing on three sites: San Francisco Maritime National Historical Park, Gulf Islands National Seashore, and Colonial National Historical Park. I selected these parks to represent different regions of the United States, different coastal morphologies, and different historic resource types. To understand how climate change perspectives have changed overtime, my research draws on park management archival materials and interviews with current managers. By looking at how our past views, policies, and adaptations to climate volatility manifested in these parks, we may be able to advise or take a critical lens to modern adaptation actions.

Starting in Pensacola, the northern coast of the Gulf of Mexico has long been an important strategic location. Gulf Island National Seashore, along the Gulf Coast of Florida and Mississippi, interprets a range of coastal defenses dating from the late eighteenth through the mid-twentieth century, in addition to managing beaches, islands, live oak reserves, bayous, and other sites. The area within Gulf Islands National Seashore has a long and sporadic history of European settlement, with the Spanish settling briefly, leaving due to hurricane damage, returning when the French were claiming more territory in the area, then moving from the barrier islands to the mainland due to further hurricane damage. However, the importance of the area as a strategic military location, and later for shipping and tourism, overrode the hurricane risk and damages.

After repeated political turnover in West Florida, the history of Pensacola in the nineteenth century is dominated by American military and industrial expansion. The site was advertised and expanded as an industrial center in the twentieth century in anticipation of a Nicaraguan or Panamanian Canal. As Pensacola writers continued to encourage industrial development and migration to Pensacola, they emphasized the international trade potential of the area, as well as the natural beauty and healthful environment. Early tourism in the area focused on the "ruins" of early Spanish colonial sites. In 1828, amidst his excitement about the potential for government protection of live oak resources in the area for Naval purposes, Brackenridge mentions the ruins. Tourist pamphlets from the early twentieth century emphasize the remains of Fort McRee. Today the fort has disintegrated further, but still serves as a point of interest for boaters.

In the 1940s, the areas that now comprise Gulf Islands National Seashore were transitioned out of military use and into the care of state parks before coming under the management of the NPS. This transition from active military site to tourist heritage site, as one would expect, accompanied an ongoing change in perspectives of the environment, but also brought a change in expectation for the cultural resources. As military sites, the

forts in Gulf Islands were frequently altered by weather conditions, neglect, updating, and even the explosion of Bastion D.³ The dry moat surrounding Fort Pickens was filled for air flow, arms storage was raised above flood levels, buildings were built at split levels to avoid earlier flood lines.

These examples of modifications could have applications today. The modification of these structures to improve airflow and hurricane resilience are authentic historic features with similar examples elsewhere in the historic record. These modifications suggest a flexibility to construct and change with environmental conditions. When the site was designated for its cultural heritage potential, and preservation work began, instead of being updated as needs arose, preservation goals instead became to maintain the historic character of these sites and their presentation at different periods of their military use. The recent plans for the acquisition of ferries to visit Fort Pickens represent an adaptation for the NPS, but also the return to an earlier situation, as the Army built and supplied Fort Pickens by boat, not road.

Moving north, Colonial National Historical Park encompasses Jamestown, Yorktown, and the scenic Colonial Parkway that serves to connect these historic capitals. A major theme in the ongoing history and change of Colonial National Historical Park is memorializing the American nation. This has contributed to physical changes to structures and landscapes, as well as much of the preservation work. The tercentennial (300th anniversary) exposition at Jamestown commemorated the landing of English settlers, but also defined the country by the naval, military, and industrial development that took place in the 300 years since through attaching these stories to a place of origin. The construction of Colonial Williamsburg in the early twentieth century, with the support of the Rockefellers, soon became an example for reconstruction and living history and during World War II was used to teach patriotism.⁴

Structure restoration has also been prompted by anniversaries relating to the birth of the nation. Moore House was restored before Colonial National Historical Park came under NPS purview for centennial celebrations. Slabtown was removed and relocated before bi-centennial celebrations. Until recently, James Fort was believed to be in the James River (due to erosion). James Fort may be threatened with inundation in the future through a combination of sea level rise and erosion.⁵ The discovery of the fort on land has been a great opportunity for archaeological study and discovery. However, while the interpretation of erosion and changing environmental conditions was accepted before, now that James Fort has been discovered on the island, the conversation has changed to one of preservation.

Heading west, San Francisco also has a history of promotion and presentation through expositions, including the 1915 Panama-Pacific exhibition. The environmental history of American San Francisco starts during a period of technological expansion, which continued in the area into the twentieth century. The American history of San Francisco is one of massive environmental changes almost from the beginning, with the filling of waterfront lots beginning within a few years of the American take-over of the city in 1846. The poetic idea popular in the city now is that the places that were reclaimed will likely revert to bay with climate-change-induced sea level rise. Another key feature in the San

Francisco environment and landscape is the fog, which has transitioned from an annoying maintenance nuisance for the Spaniards, who were constantly challenged to maintain the adobe and roofing within the Presidio in the damp climate, to a navigational hazard that stalled entry into the bay. Today, cultural resource managers face the similar challenges from the salty, damp air. The maintenance of guns at Fort Cronkite, perhaps even more so than the firearm itself, may tell the legacy of the bay.

Another important aspect of the history of San Francisco is commercial fishing. The history of commercial fisheries in San Francisco Bay is almost more of a history of aquaculture than fishing. From as early as the 1860s oysters were shipped into the bay from Washington State and Mexico, as the native oysters were not to people's taste, and the native oyster population declined. Beginning more consistently in 1875 with train access, eastern oysters were shipped to San Francisco and planted in the bay.⁶ Non-native fin fish species were also introduced to the bay. As the fisheries declined for various reasons, and the tourist economy saw an increase in the mid-twentieth century, the conservation and preservation ideals saw a transition from a focus on technological superiority over nature to the desire to protect human history alongside undeveloped space.

In an environmental statement from 1977, the Army Corps suggested that “with improved conditions for the local cultural attraction, commercial fisherman at work, tourist activity would be enhanced.”⁷ This plan suggests there was an intent to preserve a human use of natural resources (fishing), but recommended doing so through development and construction along the shoreline. The shoreline use that is motivating planning, in this case, is tourism rather than fishing. To attract tourists, city managers restored fishing infrastructure, reconstructing a human use rather than a natural setting.⁸ Residents started to become concerned about increasing the portion of the bay that was filled. Today, some of the recreational spaces that are popular, including along the maritime museum and trails in Golden Gate National Recreation Area, are at risk of coastal erosion and sea level rise.

Past social adaptations to climate volatility, and modern adaptation to climate change, are all a part of an ongoing historical legacy of people interacting with nature through alteration and creation. These brief examples suggest that managers of these spaces have taken adaptive action throughout the recent history of the sites. The examples I provided of adaptive actions at Gulf Islands National Seashore, changing interpretation at Colonial National Historical Park, and the now over 50-year history of shoreline conservation in San Francisco Maritime National Historical Park suggest that our views of these parks, including the effects of climate change, are part of a longer history of shifting interpretation. But what information can these adaptive actions provide?

Sites or structures that have a history of being moved, modified, repaired, or used for alternate purposes may present additional adaptation options and may need to be considered. Past alterations may inspire current preservation work and ideas. If sites have been altered in the past, such as the ongoing fog repairs in San Francisco or ongoing hurricane repairs in Gulf Islands, even before they were preserved as heritage sites, to withstand climatic conditions, site modification and change, as much as original material, are a part of the integrity of site structures and stories. Standards for site or structure authenticity and integrity may need to be updated to accommodate relocation or regular replacement due to climate change impacts.⁹

San Francisco Maritime, Gulf Islands, and Colonial National Parks all interpret climatic change for visitors. Gulf Islands displays flood lines from Hurricane Ivan and interprets the impacts of Hurricane Katrina on park resources through both interpretive panels and ranger talks. However, communicating climate change, climate science, landscape change overtime, and change in the resources overtime, is different than communicating modern actions, choices or decisions that parks are making or will be making about what to let go or protect. The management of cultural resources, given the reality of climate change, is currently framed as a decision point where managers will need to choose between protecting and preserving resources, as opposed to storms, erosion, repurposing, fire or other instances of past change. In addition to communicating observed and projected changes and economic processes that brought about those changes, cultural resources may serve as a focal point for discussing the creation of heritage through preservation choices that have and will be made.

Finally, the planned removal or adaptive alteration of structures in the historic past may provide instructive lessons on coping with loss. Sites without physical remains can tell stories—we've all heard them from relatives and likely we've told them ("When I was a kid this used to be..."). Cultural resource managers will need to consider research potential of sites as they prioritize the protection or recovery of archaeological artifacts and contexts. However, as resource loss takes place, we may need to recognize the importance of transitions, made visible through the gradual loss of historic sites, in our understanding of place. In conclusion, climate change adaptation may be incompatible with the current approach to cultural resource preservation. Climate change adaptation for historical resources and stories may require a re-framing of the idea of static structures and sites. It may demand a re-framing of the idea of any object or site as static and may require the explicit recognition that preservation choices are some in a long series of management decisions made in living landscapes.

Endnotes

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