

**Statement of Anthony Veerkamp  
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For the  
U.S. House of Representatives Committee on Natural Resources  
Subcommittee on National Parks, Forests and Public Lands and the  
Subcommittee on Insular Affairs, Oceans and Wildlife  
On  
The Impacts of Climate Change on the Chesapeake Bay**

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The National Trust for Historic Preservation applauds the Committee on Natural Resources' leadership in considering the impacts of climate change on the Chesapeake Bay. A full understanding of the threats posed by climate change to natural and cultural resources in the Chesapeake Bay region and throughout the nation is essential if we are to develop appropriate mitigation and adaptation measures that minimize loss of our nation's heritage. Your attention to this important matter is especially timely in light of last week's historic passage of the American Clean Energy and Security Act of 2009 (H.R. 2454),

My name is Anthony Veerkamp. I am Program Director of the Western Office of the National Trust for Historic Preservation. Among my areas of expertise is the protection of cultural resources in parks and public lands. I have inventoried historic buildings in National Parks in the West, and last fall wrote an article in the National Trust's Forum Journal entitled "A Preservation Response to Global Warming."

The National Trust is the largest private, nonprofit membership organization dedicated to protecting the Nation's irreplaceable historic and cultural resources. Chartered by Congress in 1949 and recipient of the National Humanities Medal, the National Trust provides leadership, education, and advocacy to save America's diverse historic places and revitalize communities. Staff in our headquarters in Washington, D.C., nine regional and field offices, and 29 historic sites work with our 270,000 members and thousands of local community groups in all 50 states.

The Chesapeake Bay is the largest estuary in North America, incorporating a wide range of habitat and ecosystems that supports extraordinary biological diversity. The same characteristics that make the Chesapeake Bay so important for wildlife have also drawn humans to settle the shorelines and islands of the bay. Over thousands of years, human settlement has left a rich historical and cultural legacy. The Bay

is home to thriving historic communities in addition to numerous prehistoric and historic archaeological sites – many concentrated along shores and waterways. Many nationally significant sites in the Bay region, including Fort McHenry National Monument, George Washington Birthplace National Monument, and Colonial National Historical Park, and the nearby Assateague Island National Seashore are managed by the National Park Service and face climate change-related threats.

The U. S. Global Change Research Program recently produced a report titled “Global Climate Change Impacts in the United States.” The report states that the evidence that the world’s climate is warming is unequivocal, and the rate of warming is very likely to increase over this century. Impacts resulting from climate change are expected to become increasingly severe as warming increases.

The report summarizes advances in climate research that have enabled scientists to project future climate change with an increasing degree of confidence, and to predict effects with increasing specificity. It provides compelling and sobering evidence of the likely effects of climate change under a range of scenarios developed to reflect varying levels of future greenhouse gas emissions.

While the new report does a remarkable job at assembling the best scientific research and making it understandable to a layperson, it reflects a fundamental shortcoming in the numerous studies that it attempts to synthesize: that is, a lack of information and analysis regarding the impacts of climate change on cultural and historical resources.

The National Trust for Historic Preservation is keenly aware of the link between heritage, sustainability, and climate change. We have developed a robust Sustainability Program that promotes historic preservation as an important component of sustainable development. We believe that the conservation and improvement of our existing built resources, including reuse of historic and older buildings, greening the existing building stock, and reinvestment in older and historic communities, is crucial to combating climate change.

Much of our passion to combat climate change is based on our understanding of the profound threats it poses to our heritage. It is well understood that a rapid rate of climate change would severely affect the natural environment and that these impacts would be felt by humanity, which depends on natural ecosystems for our survival. What is less well understood and documented, especially here in the United

States, is the enormous threat posed by climate change to our historic and cultural resources.

Climate change presents two primary threats to our heritage. First, rapid changes in the environment physically threaten the historic built environment that represents humanity's cultural legacy. Second, these changes threaten the viability of many traditional practices—indeed, entire cultures—that have evolved in concert with their natural surroundings.

While climate change will manifest itself in many ways, including those not currently anticipated, perhaps the most basic and irrefutable change will be the loss of coastal land and ecosystems to rising sea levels. Indeed, it is this impact that poses the most immediate and direct threat to the irreplaceable heritage of the Chesapeake Bay region.

Many coastal historic sites, including those managed by the National Park Service, are vulnerable to the direct physical effects of sea level rise. Eventually, many sites will literally find themselves below sea level. Even without catastrophic rises in sea levels, many structures and archeological sites will be lost to severe weather and coastal erosion intensified by climate change.

On the islands of the Chesapeake Bay, humans have developed a rich culture in response to that area's particular environmental conditions. Sea level rise will threaten to destroy not only the physical manifestations of those cultures, but the cultures themselves. William B. Cronin's "The Disappearing Islands of the Chesapeake" documents the case of Holland Island. A century ago, Holland Island was five miles long and about a mile and a half wide, and was home to a thriving community of over 350 residents, served by a church schoolhouse, a community center, and a post office. Today, per Cronin, Holland Island is less than 100 acres, and the community that the island and the bay once sustained has disappeared.

While the focus of this hearing was the Chesapeake Bay, it is important to recognize that climate change is a global phenomenon, and no part of the planet is immune from its impacts. As a nation that stretches from the Arctic to the tropics, the United States will experience wide ranging effects. Indeed, the saga that played out over the course of the past century at Holland Island is happening right now in dozens of Native villages in Alaska. According to a just-released GAO report (GAO-09-551, "Alaska Native Villages; Limited Progress Has Been Made on Relocating Villages Threatened by Flooding and Erosion") Thirty-one

Alaska Native villages are facing imminent flooding and erosion threats related to climate change.

One of these villages is Kivalina, located north of Nome on the Chukchi Sea. Kivalina's 400 residents face severe erosion resulting from melting permafrost and loss of protective sea ice, leaving the village vulnerable to coastal storms. In the words of the Colleen E. Swan, Tribal Administrator of the Native Village of Kivalina:

“Ever since the first influx of outsiders came to our village, our people have struggled to maintain our identity...The idea of dispersing our Tribal members to other communities is not only an insult to our integrity as a Tribe, but threatens the very essence of our existence as a people. The land we live on and what it provides is another very important element of our identity: it is who we are.”

Northern Alaska and the Chesapeake Bay are among the regions of the United States most vulnerable to sea level rise, and should serve as a warning of the fate that may await other coastal regions if significant mitigation and adaptation measures aren't taken to reduce the scale of climate change or lessen its intensity.

Nor are sea level rise and coastal erosion the only manifestations of climate change that threaten our heritage—they are simply among the most readily apparent. Indeed, nearly all of the manifestations of climate change that are described in “Global Climate Change Impacts in the United States,” will have direct or indirect effects on our historic and cultural resources.

To cite a few examples:

- ✓ Increased wildfires threaten both isolated rural historic structures and densely developed urban areas; these fires also destroy archeological sites and leave them vulnerable to theft and vandalism;
- ✓ Loss of species and ecosystems may threaten sacred sites, or the viability of traditional cultural practices, disproportionately affecting Native peoples;
- ✓ Loss of naturally occurring or cultivated species would directly impair culturally significant landscapes such as Sugar Maple woodlands and cranberry bogs. This, in turn, could indirectly result in the loss of historic structures and communities associated with or dependent upon the harvest of those species;

- ✓ Increased precipitation especially in the Northeast and Midwest, will result in more frequent and severe “100-year” floods, resulting in the destruction or loss of economic viability of historic resources, especially those located along river floodplains;
- ✓ Many historic coastal fishing and resort communities, especially those on coastal barrier islands and peninsulas on the Atlantic and Gulf coasts, are at risk from significant coastal erosion; likewise, historically significant and iconic coastal structures such as lighthouses and forts are at risk from sea level rise;
- ✓ Major Atlantic and Gulf coast cities, many that are rich in historic resources (Boston, Providence, New York, Baltimore, Washington, DC, Charleston, Savannah, Miami and New Orleans, to name a few), will be increasingly vulnerable to major or catastrophic damage due to the combined effects of sea level rise and more intense storms.

Perhaps the clearest indication of the vulnerability of our heritage due to climate change was the devastation wrought by Hurricane Katrina to New Orleans and the surrounding Gulf coastal region. While no single weather event can be blamed specifically on climate change, and some of the adverse effects of Katrina are directly attributable to manmade alterations in the local landscape, there is no doubt that severe storms like Katrina are consistent with climate change, and that rising sea levels make low-lying areas even more vulnerable to flooding and permanent inundation.

Hurricane Katrina also illustrated how ill-prepared we are as a nation to address threats to our historic and cultural resources posed by climate change. Thousands of historic buildings in New Orleans were damaged or destroyed by Hurricane Katrina, but since then many more have been destroyed through demolition. In the absence of pre-existing hazard mitigation and disaster response plans that fully considered and integrated historic and cultural resource protection, countless historic resources have been needlessly lost on an ad hoc basis.

A serious commitment on the part of the Federal government to address climate change will require the active participation of the agencies within the Department of the Interior, as well as other agencies such as the U.S. Forest Service, FEMA, and the U.S. Army Corps of Engineers. We are pleased that the Administration’s proposed FY 2010 DOI budget includes a commitment to “Tackling Climate Impacts” and provides funding to analyze climate change-related impacts. Such

analysis is essential to the development of sound and strategic adaptation strategies.

Unfortunately, none of the proposed \$133 million in funding for the Climate Impact Initiative targets cultural heritage resources. The narrative description in the Interior Department Highlights how these funds will be targeted focuses almost exclusively on natural resources. The \$10 million requested for NPS is relatively modest, especially in light of the centrality of cultural resource stewardship to the NPS mandate and the extraordinary collection of historic properties that the NPS manages. The only clear opportunity for cultural resource impact assessments is \$1.5 million that would “allow NPS to establish an office that would develop and implement a coordinated strategy to understand, communicate, and cope with the effects of climate change on park resources and structures.”

The National Trust recognizes that the threats posed to cultural heritage resources are real and already occurring. We furthermore recognize that even with aggressive international action to mitigate climate change, the global climate will continue to warm for decades to come. As is the case with natural resources, the loss of some historic and cultural resources is as tragic as it is inevitable, but there are numerous adaptation measures that could lessen the adverse effect on these resources. Unfortunately, we currently lack the baseline data to determine which strategies would be most effective and efficient, or even which resources are simply too significant to lose.

America’s historic and cultural treasures help define us as a nation. We are fortunate to have many of these important places are under federal stewardship. The Department of the Interior is uniquely positioned to lead the effort to minimize the losses to our heritage that result from climate change, but urgent action is required. Therefore, the National Trust recommends that Congress work with federal land management agencies to insure historic and cultural resources are fully integrated in analyses of climate change related impacts to federal lands including those funded with Climate Impact Initiative funding. We furthermore recommend the development of adaptation strategy pilot projects focusing on historic and cultural resources known to be at greatest risk.

The National Trust appreciates the opportunity to provide written testimony to the Subcommittee on National Parks, Forests and Public Lands and the Subcommittee on Insular Affairs, Oceans and Wildlife. We are happy to assist the Committee should you have any questions about our recommendations.