

COSTEP MA Resilience Symposium for Cultural Institutions  
September 10, 2019

**Climate Change and Resilience for Cultural Institutions**  
**10:30am – 12:00pm**

**Presenters:**

Ben Haavik | Team Leader of Property Care for Historic New England  
Rodney Rowland | Director of Special Projects and Facilities, Strawberry Banke Museum  
Matthew Siegal | Chair, Conservation and Collections Management, Museum of Fine Arts, Boston

**Session Recap**

The morning panel emphasized climate change and resilience for cultural institutions with the goal of understanding how the physical impacts from climate change are rapidly causing museums, library/archive repositories, and historic properties to change how they care for their collections and facilities.

Benjamin Haavik, Team Leader of Property Care for Historic New England, began the morning session by introducing some of the common ways in which the earth's climate is changing and how those ways are affecting cultural institutions. Mr. Haavik went into specifics of climate change locally by discussing sea level rise and the intense rainstorms that are now being experienced in the Northeast. Mr. Haavik then presented the work that Historic New England has initiated to prepare their 37 historic sites for climate change. Their focus has been on mitigation of intense rainstorms with an emphasis currently on gutter systems. Mr. Haavik explained that he had come to a simple, yet eye-opening realization through calculating the capacity of these systems to carry water that most of the gutters systems on Historic New England properties were not capable of handling the increase in rainfall. As such, Mr. Haavik's take-away was that we need reframe our thinking when adapting to and mitigating impacts from climate change. Mr. Haavik also presented on additional initiatives including a partnership with Middlebury College in which a cohort of interns analyzed sea level rise, gutters and site drainage, and invasive plant management as part of a climate change project.

Rodney Rowland, Director of Facilities and Special Projects at the Strawberry Banke Museum in Portsmouth, New Hampshire, then presented on their work with sea level rise. This nine-acre living history museum that maintains thirty-seven historic houses is located four hundred feet from the banks of the Piscataqua River in downtown Portsmouth. Strawberry Banke began looking into sea level rise when one of their buildings exhibited rapid deterioration in both the structure and the house contents. Further investigation indicated that the basement frequently experienced standing water. In 2017, the museum took time-lapse photos of the basement during a King Tide (astronomical high tide) event and created this [video](#) of what occurred. It is clear that, for over a decade, this house has been impacted by sea water during times of storm surge and now, due to sea-level rise, at times of astronomically high tide cycles. During these tide cycles and historic winter storms (such as the ones that hit the region from November 2017 to March 2018), the basement filled with salt water to levels ranging from sixteen inches to twenty-seven inches. Strawberry Banke, in partnership with the City of Portsmouth's Climate Change Vulnerability Assessment Project, has been looking at ways to mitigate this impact. The museum has had to grapple with losing historic material in the basement of the structure in exchange for

securing the building against this water intrusion. Additional modifications around the site include modifying the construction of bulkheads.

The third panelist, Matthew Siegal, Conservation and Collections Management, Museum of Fine Arts, Boston, presented on how art museums nationally are responding to extreme weather events caused by climate change. Mr. Siegal focused on the Whitney Museum of American Art in New York City as a case study. The Whitney Museum, which was in the process of constructing a new facility on the Hudson River waterfront, redesigned their building after Hurricane Sandy struck New York and flooded the construction site. The redesign took into consideration new standards in storm surge in order to mitigate future flooding and water incursion. Changes included rethinking where collections would be stored and designating the upper levels of the building for art storage instead of the basement. Machinery located in the lower levels was built to stand above floor level and critical infrastructure was moved to the upper floors as well. Additionally, a system of stackable steel beams that could be assembled in a perimeter around the museum and watertight doors built into the infrastructure now allow for the museum to be completely sealed off with a ten foot wall to prevent flood waters (and possibly zombies) from getting into the museum. In the event that water does flood past the walls, the entry vestibule for the museum is designed to be intentionally flooded if necessary in order to prevent water from further entering the building.

*Written by Ben Haavik, with edits by Alejandra Dean.*