

MULTI-HAZARD VULNERABILITY ASSESSMENT OF CAPE HATTERAS NATIONAL SEASHORE

Michael Flynn, Tom Allen, Burrell Montz, J.P. Walsh, and Tom Crawford, East Carolina University

A multi-hazard approach was taken to identify the risk level of historical and cultural resources located within Cape Hatteras National Seashore. Susceptibility to coastal erosion, storm surge, and sea-level rise was evaluated for 27 standing structures. Historical shoreline trends were used to simulate the future position of the shoreline. The most recent North Carolina Floodplain Mapping Program data was used to evaluate probability and magnitude of storm surge impact. Potential inundation from sea-level rise scenarios were modeled using different amounts of rise over a 30 year time-frame. In addition to evaluating vulnerability, researchers from East Carolina University estimated timelines for potential impacts and worked closely with National Park Service staff to identify mitigation strategies such as elevation or relocation of structures.