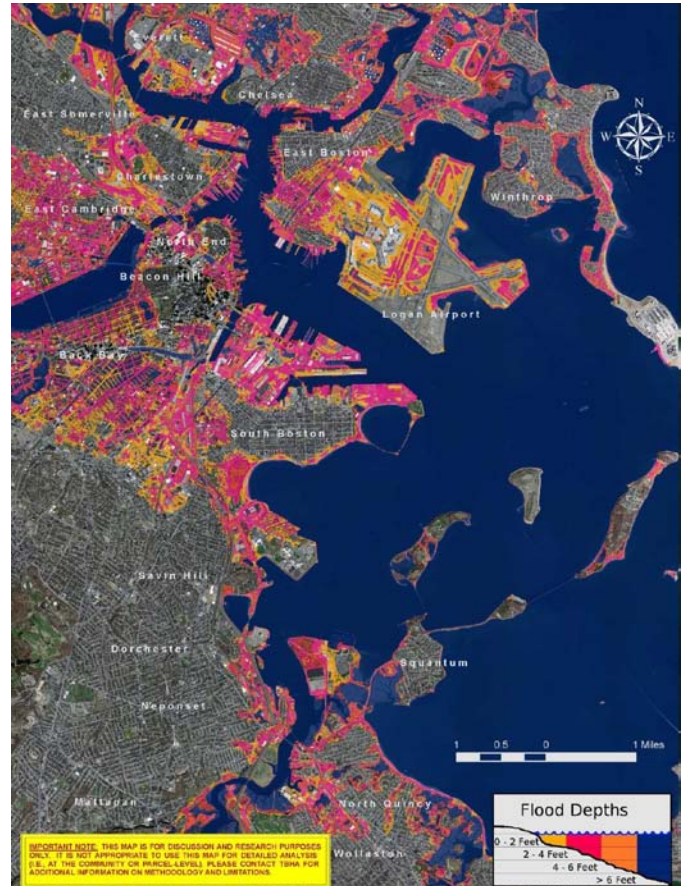


# Preparing for the Rising Tide: Climate Change Preparedness and Engineering Adaptations The Boston Harbor Association, Boston, MA

## Project Characteristics:

- *Sea Level Rise Assessment and Predictions*
- *Return-Period Storm Surge Evaluation*
- *Combined Sea Level Rise and Storm Surge Risks critical infrastructure*
- *Sustainable Coastal Engineering Alternatives*
- *Costs Estimations for Engineering Alternatives*
- *Recommended, Phased Adaptations for Sea Level Rise*

Woods Hole Group worked with a team of climate change experts from the University of New Hampshire and the University of Massachusetts, Boston to evaluate potential risk due to rising tides and extreme weather events. The project, completed in conjunction with The Boston Harbor Association, provides policy makers, planners and property owners with site-specific examples of how to assess vulnerability and increase resilience to coastal flooding over time. The analysis found that up to 6 percent of Boston could have been flooded had Superstorm Sandy hit Boston at high tide on October 29, 2012, rather than at low tide, 5½ hours later. Add another 2.5 feet of sea level rise to that and our analysis predicts a possibility that over 30 percent of Boston could be flooded. Boston's potential vulnerability to flooding was assessed for present day, in 2050, and in 2100.



Results of the potential vulnerability assessments were used to develop sample preparedness plans for two sites in Boston: 1) Long and Central Wharves, located in downtown Boston; and 2) UMass Boston, located on Columbia Point in Dorchester. The preparedness plans developed were designed to be implemented over time as sea level increases. Woods Hole Group then developed engineering adaptations and costs estimates for specific time frames geared toward reducing both the flooding risk and associated cost for adaptation. These actions were integrated into maintenance plans to lower overall costs.