



PORTSMOUTH'S HISTORIC DISTRICT AND SEA LEVEL RISE

ME-NH Beaches Conference - June 14, 2019

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Consultants



Preparing Portsmouth's Historic District for Sea Level Rise

Portsmouth, New Hampshire

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Project 1702489

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Project Partners:



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Crafting a Participatory Process

- ❑ Collaborative stakeholder driven process
- ❑ Local Adaptation Committee (LAC) represented business, historic resources and city interests
- ❑ LAC informed assessment methods, products and outcomes
- ❑ LAC input through values based scoring process



Local Adaptation Committee

Assembled by City staff with >10 members from

- Historic District Commission
- Strawberry Banke
- Interested local businesses and residents
- City Departments

Five meetings through 2017

- Review project progress
- Evaluate results and how to use them
- Contribute to draft recommendations

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- ❑ Advisory Board represented business, historic resources and city interests
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Overview of Methods

1. Identify four strategy areas
2. Survey parcels for their **historic value** scores
3. Determine **cultural resource value** scores
4. Calculate **tax value** scores
5. Calculate historic/cultural/tax Composite score
6. Calculate **risk** scores
7. Calculate **composite risk and value score**

4 Adaptation Strategy Areas



Actionable Recommendations

- ❑ Adaptation strategies for building types transferable among focus areas
- ❑ Consideration of flood accommodation, prevention and retreat
- ❑ Regulatory (design specifications), non-regulatory (environment, buy out program, design guidelines) recommendations
- ❑ Supported in updated Master Plan
- ❑ Hazard Mitigation Plan weights importance historic district flood protection in prioritization
- ❑ Results aligned with recommendations from Coastal Resilience Initiative report

Story Map Visualization Tool

Historic Properties Climate Change Vulnerability

Portsmouth Historic Vulnerability Assessment

Strategy #15



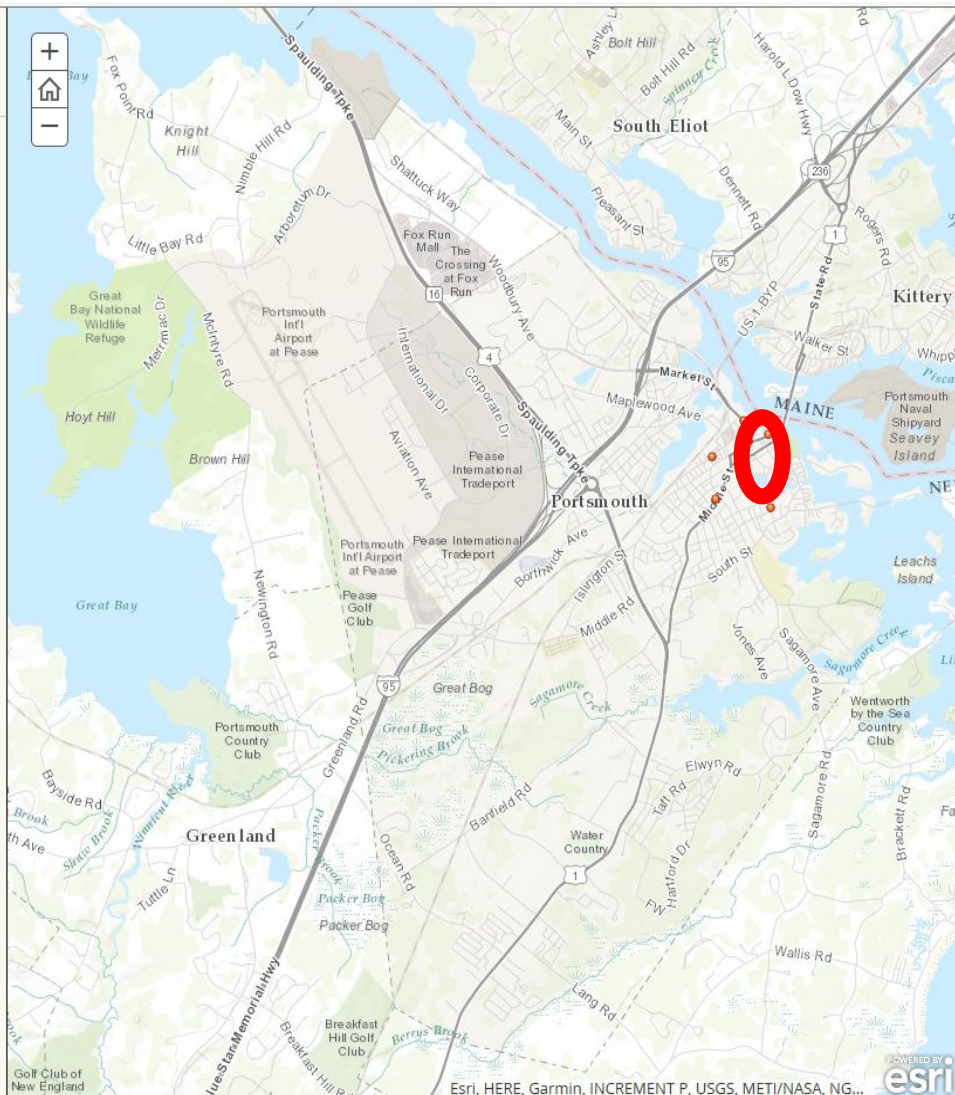
Market and Ceres Streets/Warehouses

Candidate Actions

Dry floodproof, abandon below grade space

Potential Feasibility

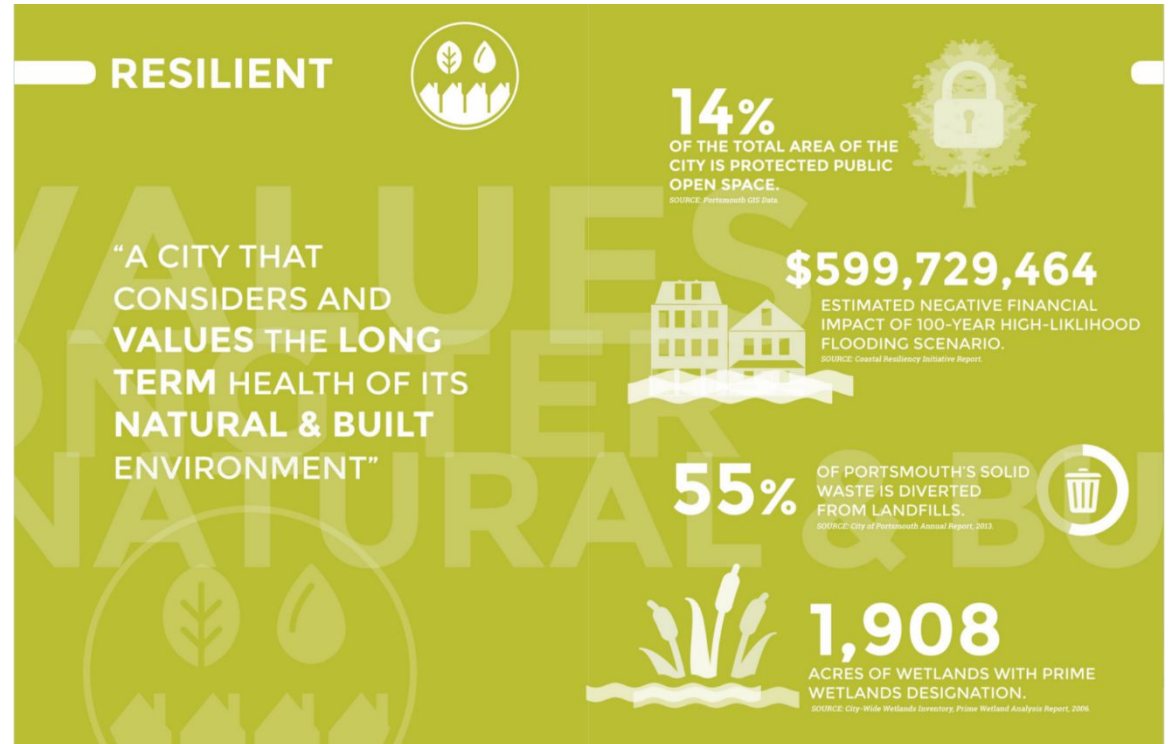
Dry floodproofing is a standard approach used in many commercial and residential coastal settings that involves keeping water out of the structure and away from its contents. It comprises a diverse set of possible activities including sealing exterior brick and concrete, closing basement openings, and arranging for immediate availability of temporary flood barriers over doors and windows. These buildings of masonry construction are good candidates for dry floodproofing. Openings around the perimeter of the buildings can be protected with removable flood coverings over doors and windows, which can be stored when flood conditions are not present. The first several feet of brick can be sealed with impermeable coating and recovered with false brick covering to eliminate the appearance of a modified structure. An additional strategy to consider is providing incentives to encourage abandonment of below grade space, including providing incentives for termination of all business activity there and moving objects to higher floors. Feasibility of these actions is often determined by cost, who would pay, and public or private acceptance of both the possible aesthetic changes and the reduction in business activity that might accompany abandonment of commercial space currently in use. Although these actions may be feasible in this location, firm conclusions would need to be further evaluated through additional engineering, and conversations with property



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Portsmouth 2025 Master Plan: Vibrant, Authentic, Diverse, Connected, Resilient



Theme 2 Authentic: A CITY THAT TREASURES ITS UNIQUE CHARACTER, NATURAL RESOURCES AND HISTORIC ASSETS - Action 2.1.1 Implement standards and guidelines to protect community character and assets, including factors such as mass, scale and resilience.

Theme 5 Resilient: A CITY THAT CONSIDERS AND VALUES THE LONG-TERM HEALTH OF ITS NATURAL & BUILT ENVIRONMENT - Action 5.5.1 Incorporate sea level rise projections based on up-to-date state of the art dynamic models into adaptation planning and land use regulations.

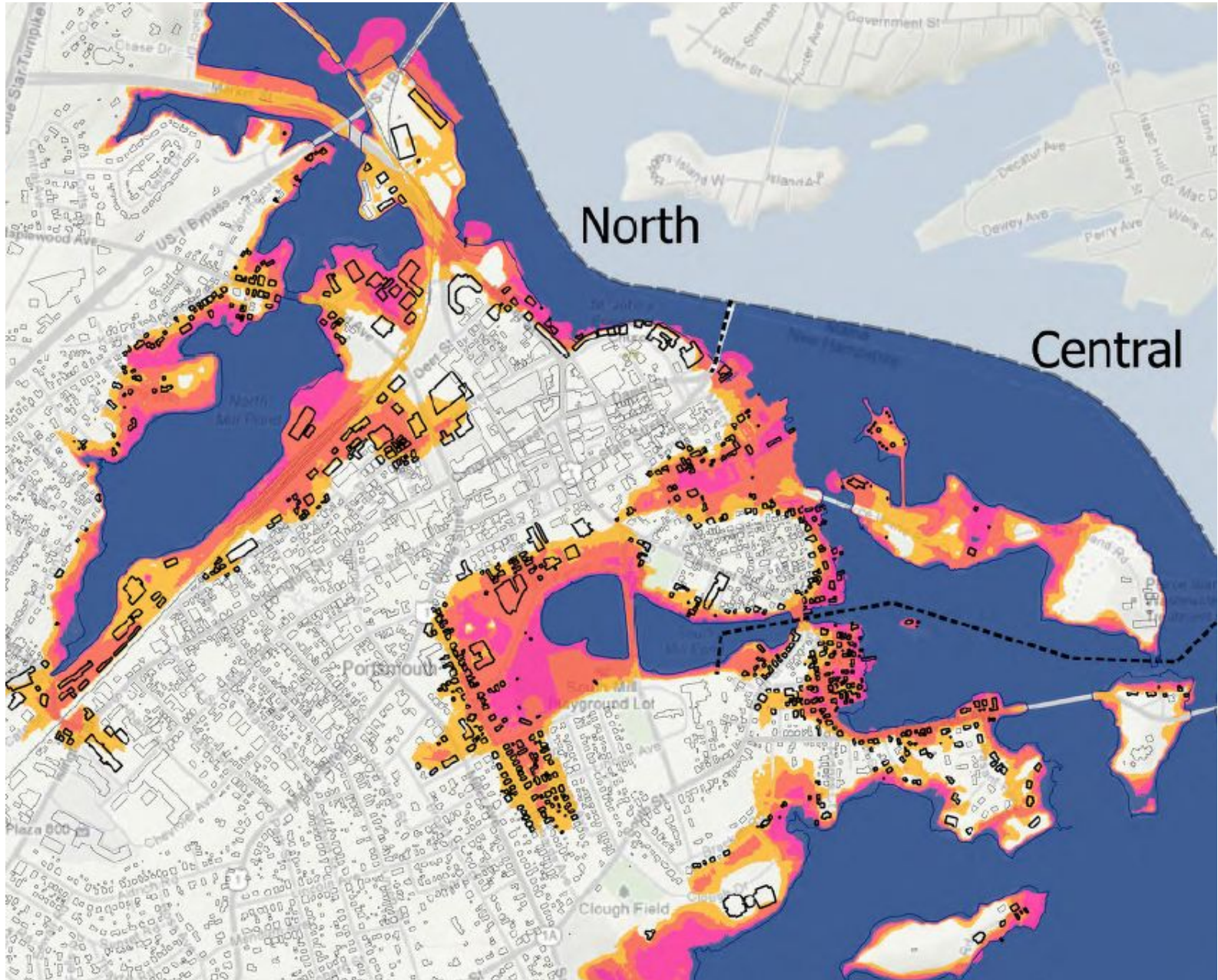
Mechanic Street flooding impacts function of historic district resources



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CRI - 13.5 feet coastal flood elevation – Impacted Building Footprints



Innovative Approaches

- ❑ Delineation of strategy areas by historic, cultural and land use pattern
- ❑ Composite scoring methodology – historical, cultural, flood risk, tax value
- ❑ Story Map Visualization Tool
- ❑ Not reliant on Historic District Commission action or their regulations to facilitate adaptation actions through incentives
- ❑ Collaborative Monitoring – local data collection to benchmark conditions

**PREPARE.
PROTECT.
PORTSMOUTH.**



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Historic District 3-D Model

[HOME](#) [3D MAPS](#) [MAJOR PROJECTS](#) [PLAN PORTSMOUTH](#)



3D Maps of Portsmouth, New Hampshire

These 3D maps are available for the public to explore and review the buildings in the Portsmouth Historic Downtown area. To view all the areas in 3D please [click here](#).

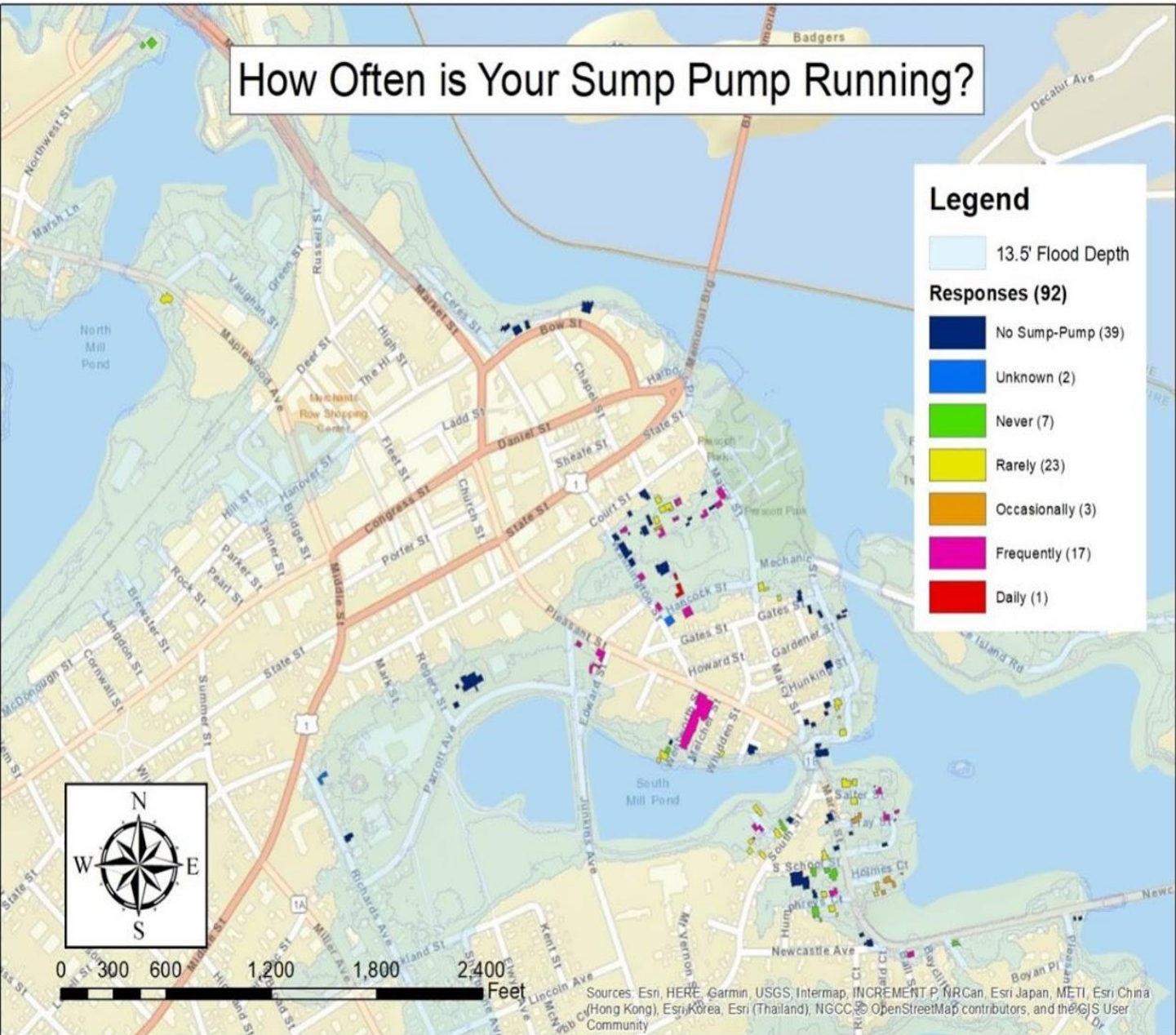
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Story Map - Groundwater Flooding in Historic Portsmouth



Thank you! Questions?



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Preparing Portsmouth's Historic District for Sea-Level Rise

<http://files.cityofportsmouth.com/files/planning/ClimateChangesPresentation2.22.18.pdf>

Portsmouth Master Plan <https://www.cityofportsmouth.com/planportsmouth/master-plan>

Coastal Resilience Initiative <https://www.cityofportsmouth.com/planportsmouth/cri>

Historic District 3-D Model <http://planportsmouth.com/3d/index.html>

Groundwater Flooding Story Map

<https://portsmouthnh.maps.arcgis.com/apps/MapJournal/index.html?appid=47dc2ffcdd084a9a8b9d2c3a77680f5d>