2019 GREATEST FLOOD RISK:

SEVERE WINTER WEATHER

COASTAL EROSION

COASTAL AND INLAND FLOODING

NOR' EASTERS

HISTORICAL FLOOD EVENTS

- **9/1938 "The Great New England Hurricane"**
  10-17 inches of rain and 20-foot storm surge
- **2/1978 "Blizzard of '78"**
  30 inch snowfall, 30-foot waves off shore 24 RL claims
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  Blizzard, high wind and storm surge.
  FEMA DR-4372/ 4379

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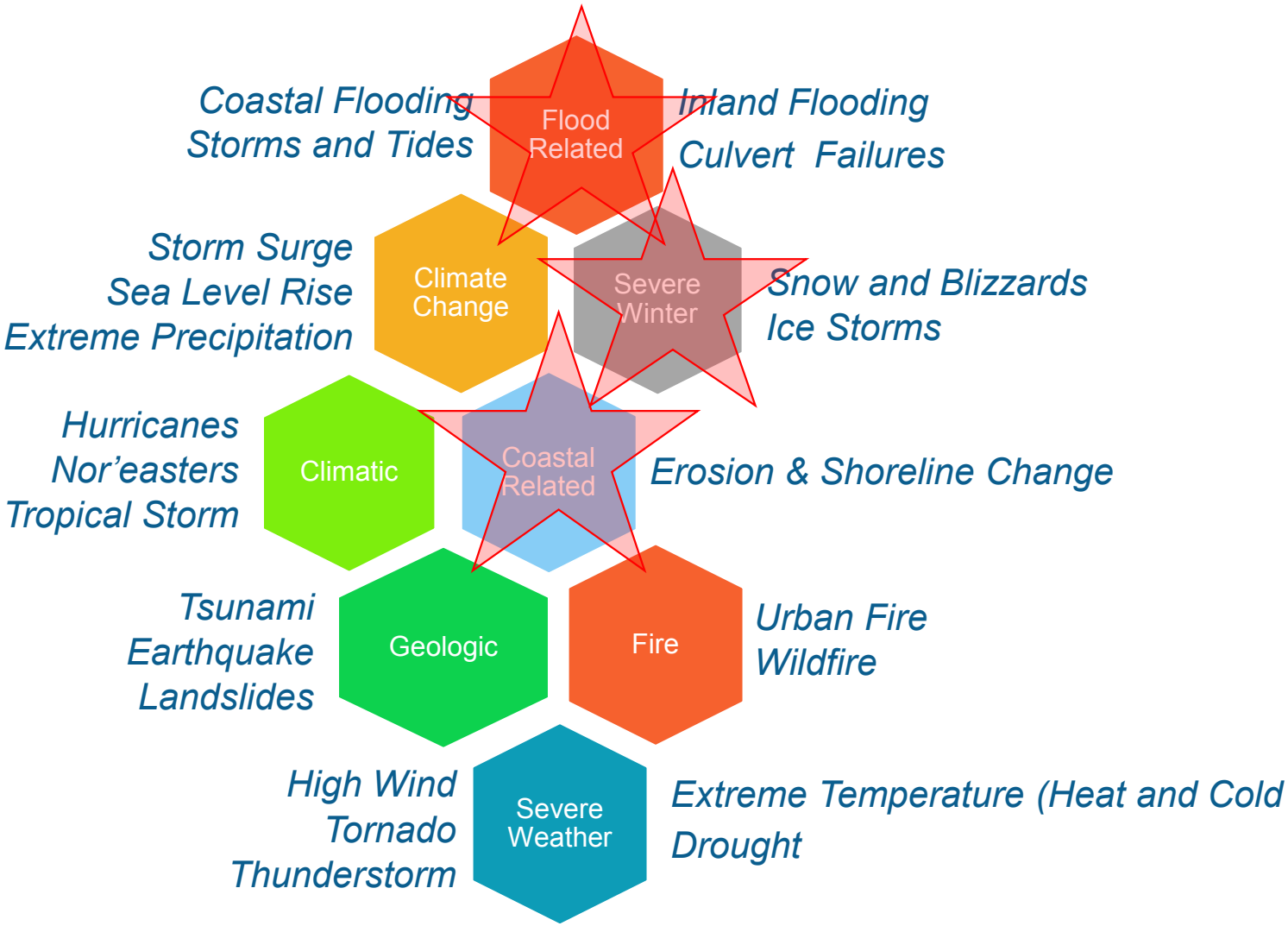
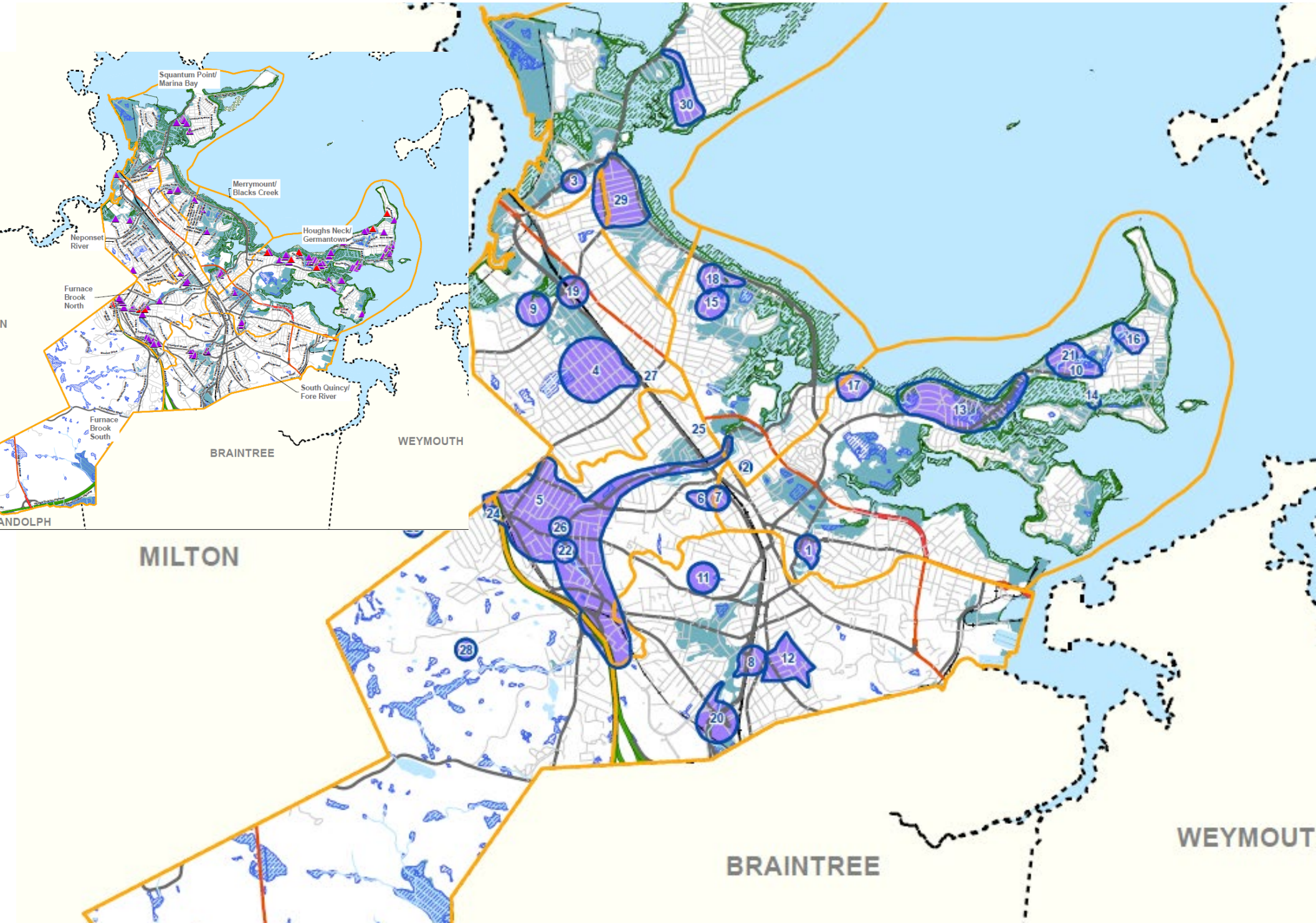
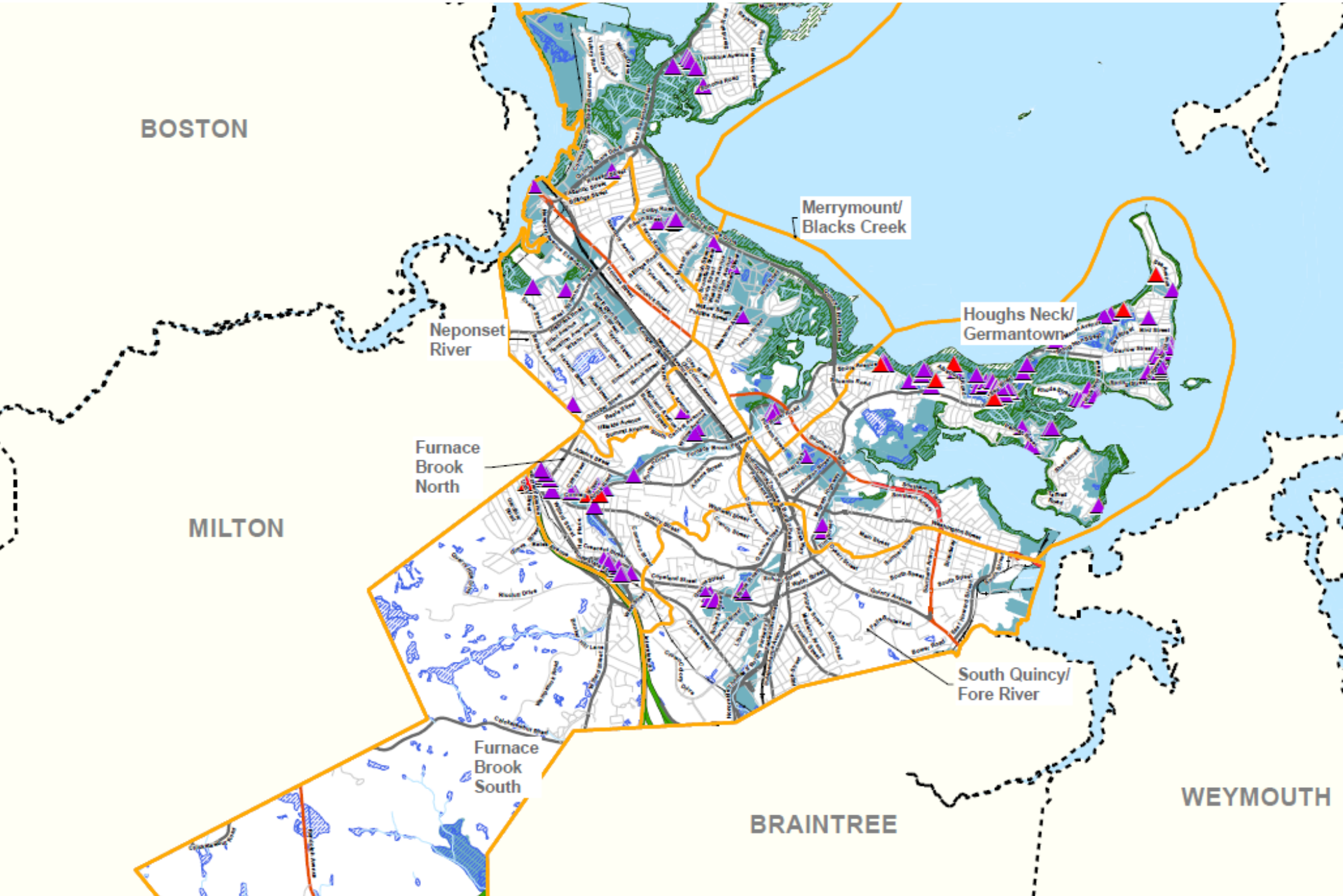
TOP NATURAL HAZARD RISKS FOR QUINCY



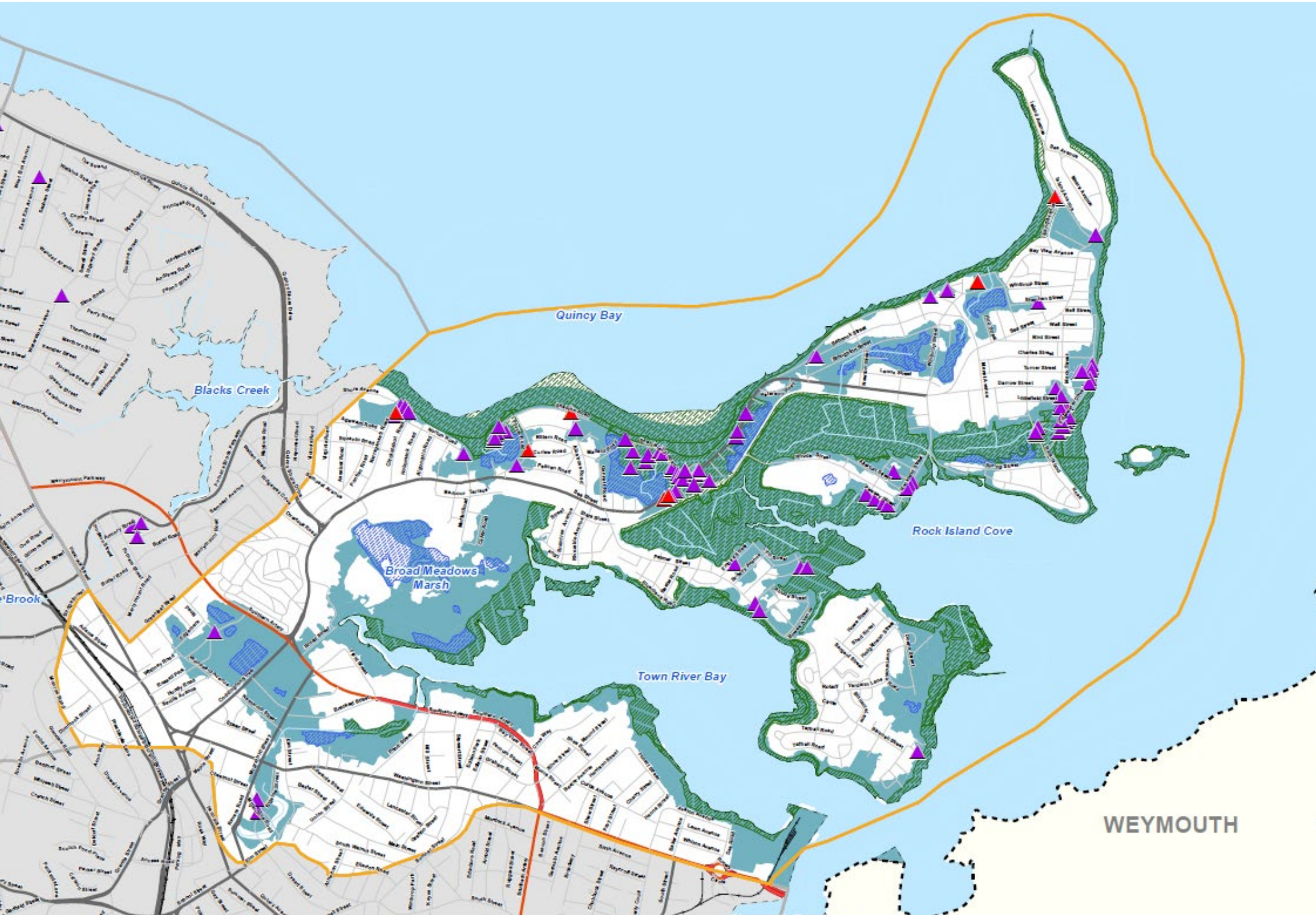
AREAS OF FLOODING CONCERNS



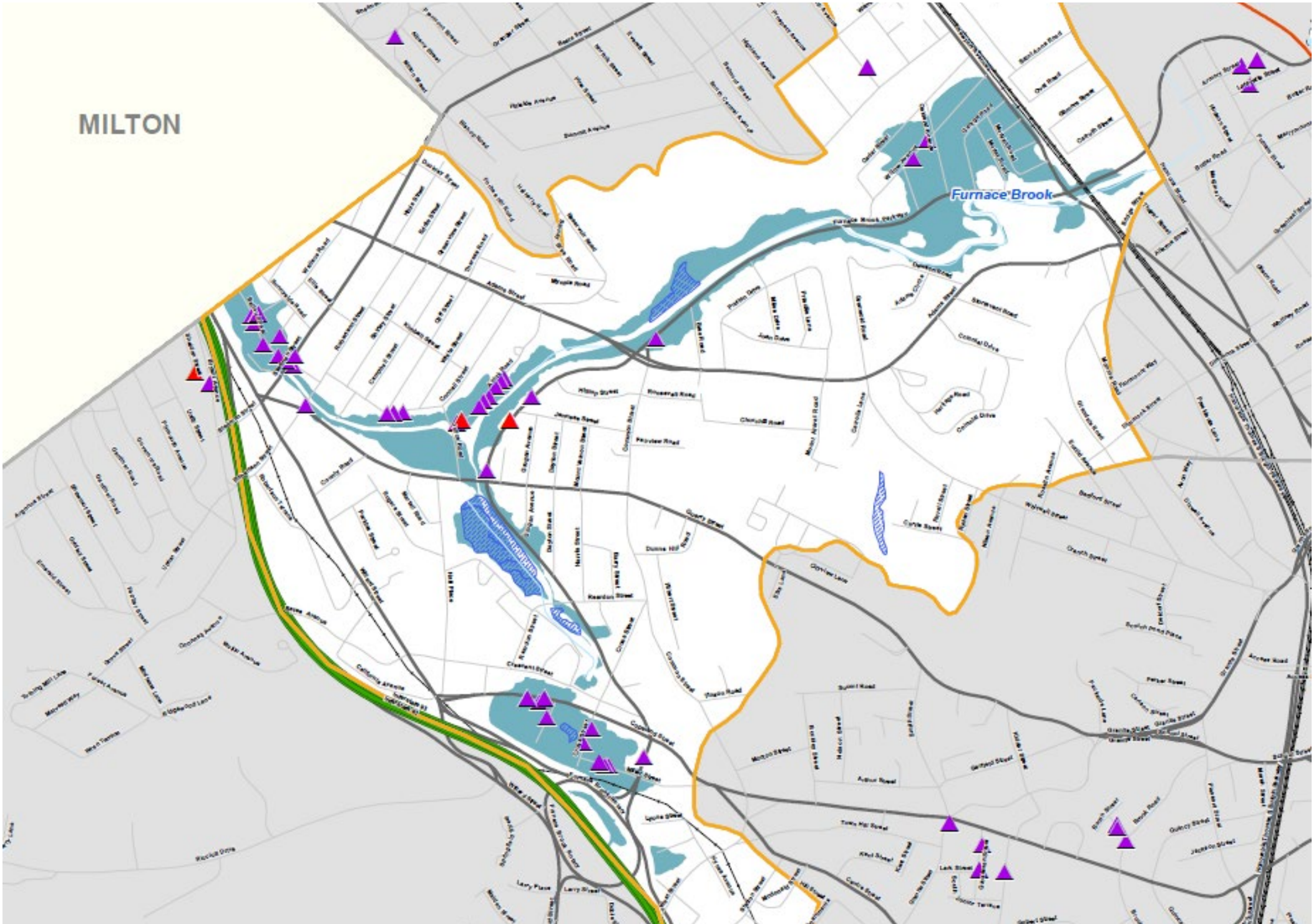
FEMA REPETITIVE LOSS CLAIMS



RL HOUGHS NECK GERMANTOWN



RL FURNACE BROOK



Identify extent & magnitude of flooding from tides, storm surge, and sea level rise…

CLIMATE CHANGE FLOODING IMPACTS

- **Recommended approach for sea level rise estimates for projecting future coastal flooding risk in Quincy MA**

Time Period	Sea Level Rise Projection[2] (Feet)	Likely Range[3] (Feet)
Base (2000)	0	n/a
Near Term (2030)	0.6	0.5-0.8
Mid Term (2050)	1.1	0.8-1.4
Long Term (2070)	1.6	1.3-2.4

[2] 50% percentile, or median value
[3] Range = 66% percent confidence limits (>17% and <83%)

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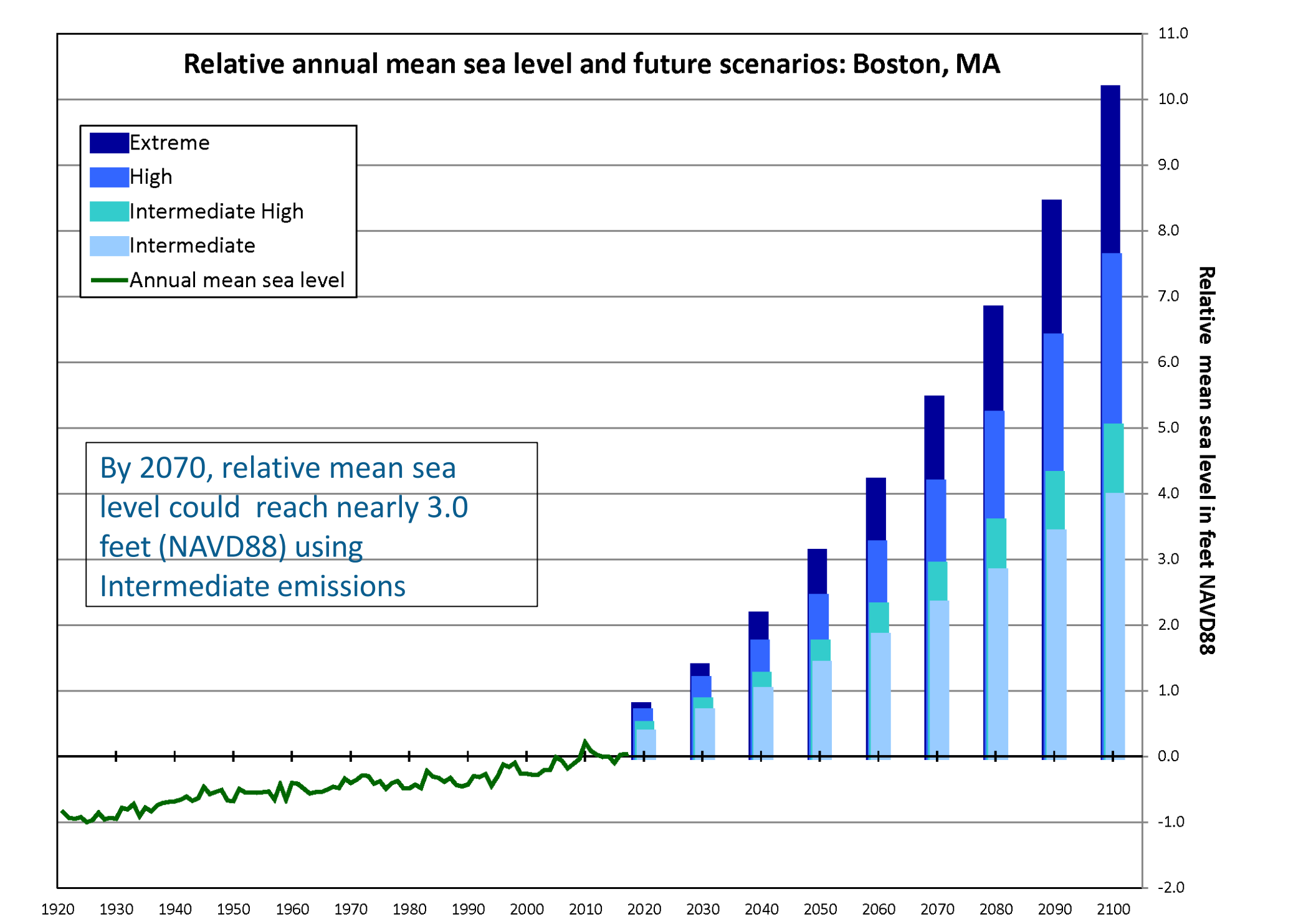

NECSC Northeast Climate Science Center

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COMMUNITY ASSET INVENTORY

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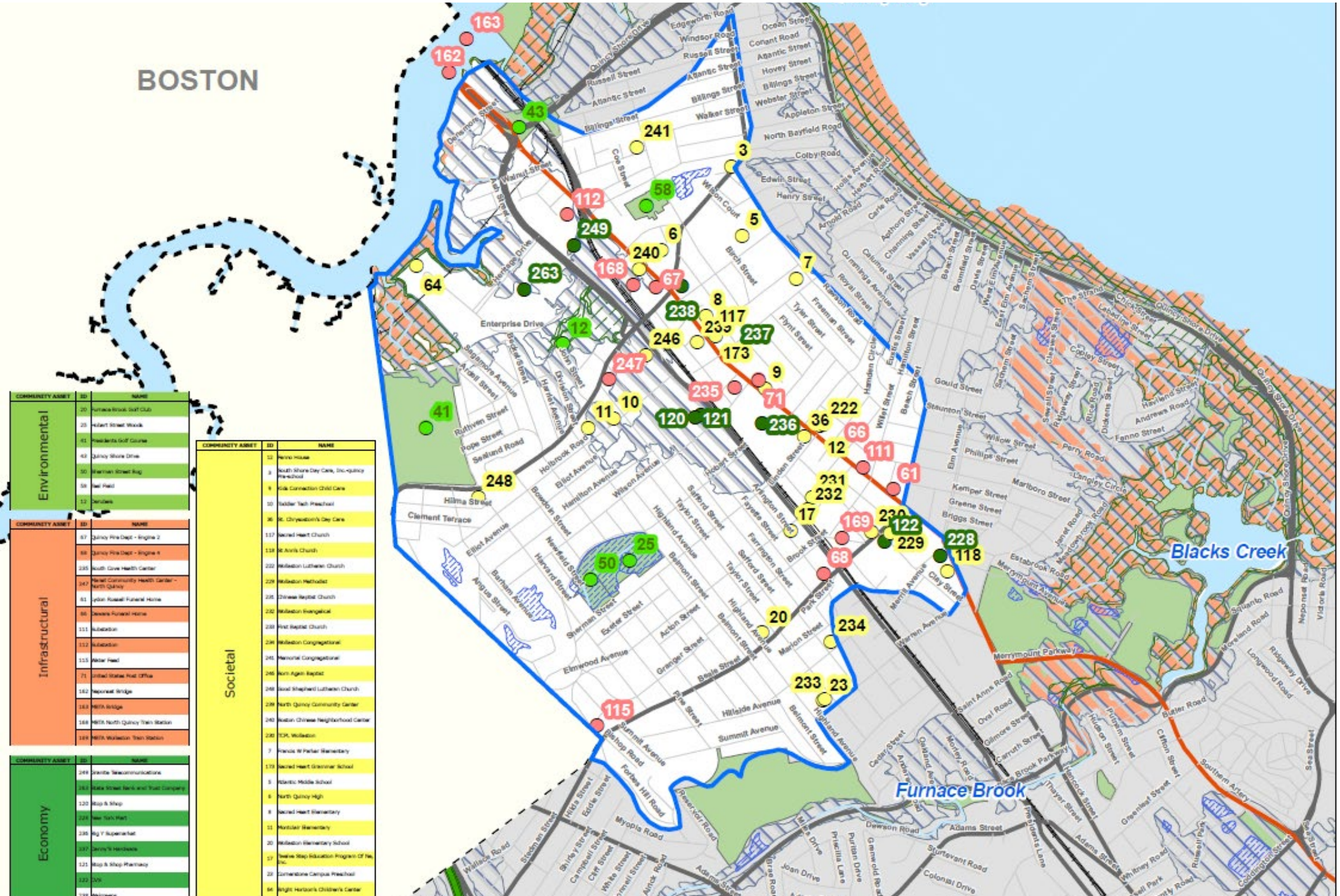
COMMUNITY ASSET INVENTORY

- People
- Built Environment
- Natural Environment
- Economy

Community Asset Organization

FEMA Community Asset Categories	Critical Sectors	Characteristics of Community Assets
People	Schools, Vulnerable Populations, Cultural Facilities	Areas of greater population density, or population with unique vulnerabilities or less able to respond and recover during a disaster.
Built Environment	Critical Municipal Facilities, Water, Wastewater, Energy, Stormwater, Transportation, Cultural Resources	Critical facilities necessary for a community's response to and recovery from emergencies, infrastructure critical for public health and safety, economic viability, or needed for critical facilities to operate.
Economy	Marinas, Downtown Business District	Major employers, primary economic sectors and commercial centers where loss or inoperability would have severe impact on the community and ability to recover from a disaster.
Natural Environment	Natural Resources	Areas that provide protective function to reduce magnitude of hazard impact and increase resiliency. Areas of sensitive habitat that are vulnerable to hazard events, protection of areas that are important to community objectives, such as the protection of sensitive habitat, provide socio-economic benefits, etc.

COMMUNITY ASSETS



VULNERABILITY ASSESSMENT

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VULNERABILITY ASSESSMENT

- **Hurricanes**
- **Earthquakes**
- **Flooding**
  - Exposure Assessment for Building Flood Risk
  - Vulnerability of Community Assets
  - Vulnerability of Future Development

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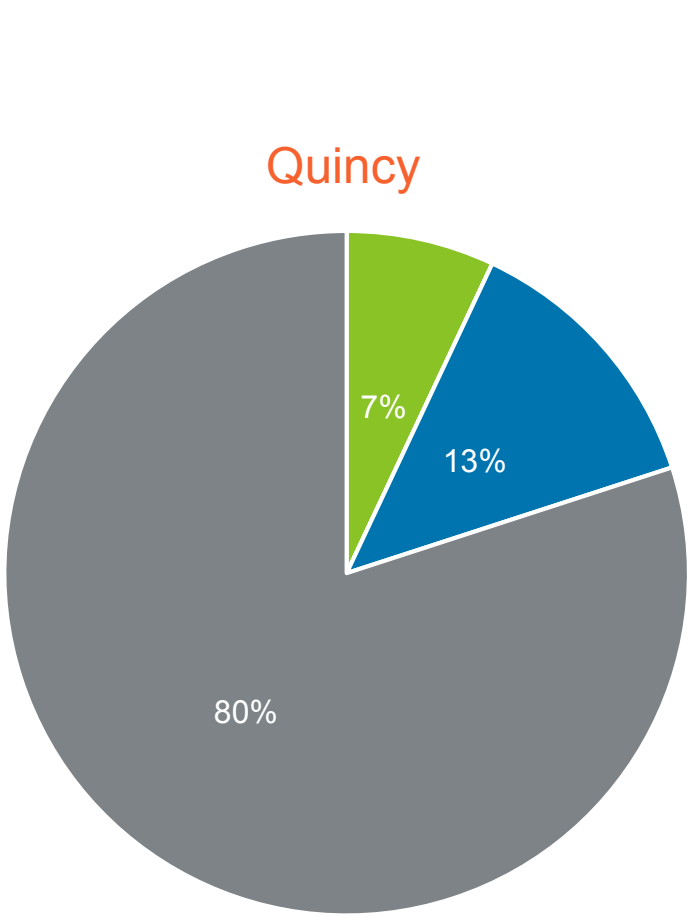
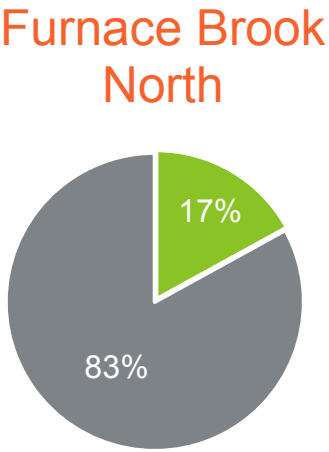
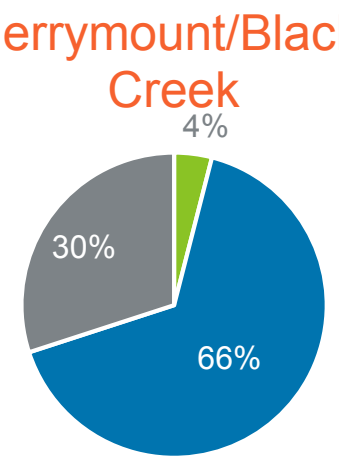
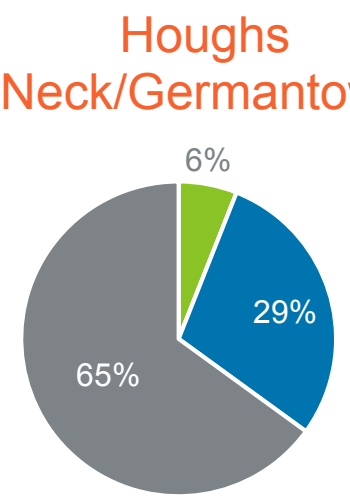
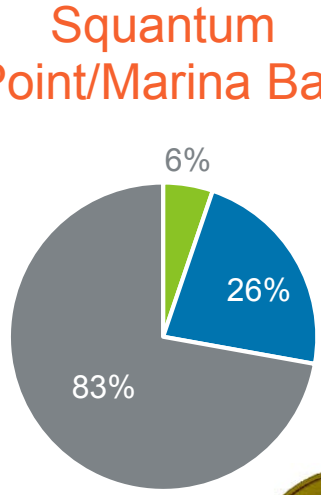
SUMMARY OF EXISTING FLOOD RISK- PROPERTIES











Inland Parcels in Flood Zone Coastal Parcels in Flood Zone Paracels Not in Flood Zone

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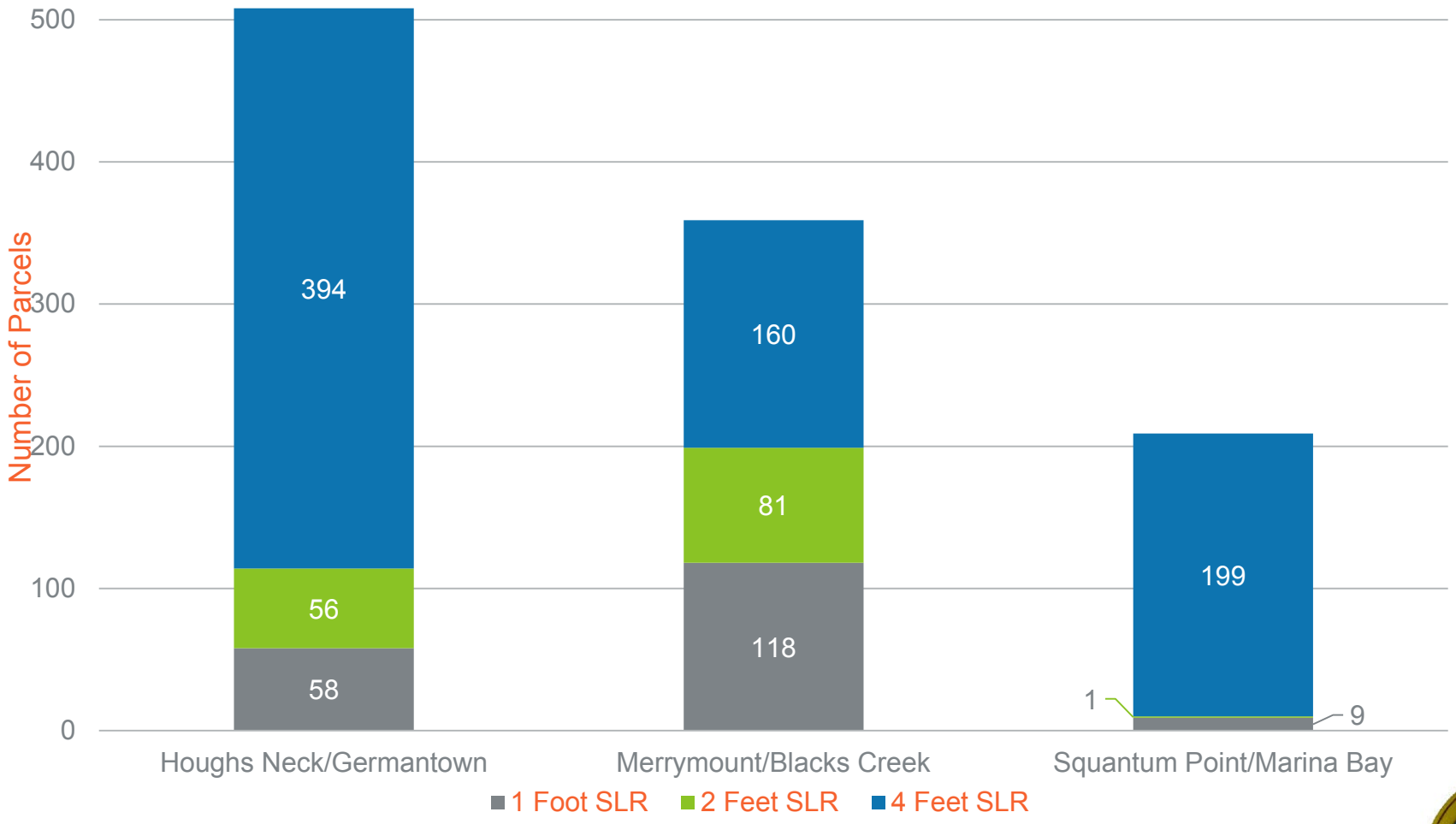
SUMMARY OF FUTURE FLOOD RISK- PROPERTIES

Parcels in Coastal Flood Hazard Area Subject to SLR



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MITIGATION STRATEGY

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HIGH PRIORITY MITIGATION ACTIONS

Mitigation Action	Timeframe	Geographic Area
Public Education	1 year	Citywide
Emergency Power Generators	1 year	Citywide
Quincy's Emergency Communication System	1 year	Citywide
Faxon Park Outreach	1 year	South Quincy/Fore River
Building Inspections Records System	1-2 years	Citywide
Tide Gate Management Plan	1-2 years	Citywide
Tree Removal Equipment	1-2 years	Citywide
Stormwater Control Station	1-2 years	Furnace Brook North
Stormwater Pumping Station	1-2 years	Houghs Neck/Germantown
High Capacity Mobile Pumps	1-2 years	Houghs Neck/Germantown
Pump Station Rehabilitation	1-2 years	Merrymount/Blacks Creek
Drainage Hydraulic Model	1-2 years	Squantum Point/Marina Bay
Hurricane Barrier Evaluation	1-3 years	Citywide
Costal Buffer Maintenance	1-3 years	Houghs Neck/Germantown
Invasive Species Removal Program	1-5 years	Citywide
Drainage Improvements	1-5 years	Houghs Neck/Germantown
Tide Gate Modernization	1-5 years	Houghs Neck/Germantown, Merrymount/Blacks Creek
Salt Marsh Restoration	1-5 years	Merrymount/Blacks Creek
Seawall Construction	2-3 years	Houghs Neck/Germantown
Tide Gate Construction	2-3 years	Houghs Neck/Germantown
Hydraulic Model and Tide Gate Updates	2-4 years	Houghs Neck/Germantown
Drainage Improvments	2-4 years	South Quincy/Fore River
Seismic Impact Evaluation and Gas Utility Study	3-5 years	Citywide
Flood Protection	3-5 years	Houghs Neck/Germantown
Sewer System Rehabilitation	3-5 years	Merrymount/Blacks Creek, Furnace Brook North
Sewer Interceptor Relief	3-5 years	South Quincy/Fore River
Slope Protection and Infrastructure Hardening	3-5 years	Squantum Point/Marina Bay
O'Rourke Field Conversion	5 years	Furnace Brook North

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Slope Protection and Infrastructure Hardening	3-5 years	Squantum Point/Marina Bay

Quincy MVP
Workshop Schedule

8:30 AM	**Sign in, Refreshments**	
9:00 AM	Welcome, Introductions	Core Team- Lead
9:10 AM	Climate Change Projections and Implications for Quincy	Tighe & Bond
9:25 AM	Workshop Instructions Presentation	Tighe & Bond
9:40 AM	Discussion #1 Identifying Risk Area and Community Strengths	Table groups
10:20 AM	Short Break	
10:30 AM	Discussion #2 Identify Actions to address vulnerabilities or protect strengths.	Table groups
11:10 AM	Short Break	
11:20 AM	Discussion #3 Prioritize Climate Actions	Table groups
11:45 PM	Short Break	
12:00 PM	Discussion #4 Small group report out to full group Report out top 5-6 actions	Table groups report out
12:45 PM	Wrap up and closing remarks	
1:00 PM	Adjourn	

QUINCY MVP
WORKSHOP TOOLS

1) Quincy HMP Summary & Neighborhood Summaries
2) Quincy Community Assets Maps
3) Community Asset GIS Viewer
4) Mitigation Strategy Table
5) Risk Matrix

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Session #1

Identify Risk Areas and Community Strengths

9:40- 10:20

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Session #2

Identify Actions to address vulnerabilities and protect strengths

10:30- 11:10

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Session #3

Prioritize Climate Actions

11:20- 11:45

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Session #4

Table Groups report out to Full Group

12:00- 12:45

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Community Resilience Building
WORKSHOP GUIDE

www.**CommunityResilienceBuilding**.org

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Community Resilience Building
WORKSHOP GUIDE

- ✓ **Tried, tested and trusted by over 100 communities…**

- ✓ **"Anywhere at Any Scale" approach…**
  - ➢ Large/Small; Urban/Rural; Wealthy/Disadvantaged
  - ➢ Local/Clusters/Region(s); State/Federal Agencies

- ✓ **Unique community-driven process…**
  - ➢ Partners/Stakeholders – Municipalities, Businesses, Academia, NGOs, etc.
  - ➢ Wildfire, drought, flooding, heat, hurricanes, tornado, earthquakes, etc.
  - ➢ Safety, Health, Sustainability, Equity, etc.

www.**CommunityResilienceBuilding**.org

Workshop #2 May 14, 2019

CITY OF QUINCY

COMMUNITY RESILIENCE BUILDING WORKSHOP

May 14, 2019

Tighe&Bond

WORKSHOP
PROCESS AND OUTCOMES

Build Resilience and Preparedness:

- Plan for more frequent and intense weather events
- Improve pre-event planning, response & recovery, and long-term actions
- A prepared and resilient Quincy will be able to maintain functions, protect its residents, and be ready for future storm events and a changing climate

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HAZARD MITIGATION PLANNING PROCESS vs MVP

1) Define potential risk due to natural hazards including impacts of climate change

2) Identify key community assets and vulnerability to risk

3) Define mitigation projects to improve resiliency

4) Prioritize projects for areas most at risk

MASSACHUSETTS' CHANGING CLIMATE

Changing Weather

- Higher Temperatures
- Shorter Winters
- More frequent and intense storms
- Sea Level Rise
- Droughts

Amplifies existing risks

- Community and regional infrastructure
- Local and regional economies
- Public Health
- Natural resources and our environment

Goal for Building Resilience to a Changing Climate:

Protect life, property, natural resources, and the economy

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QUINCY WORKSHOP GOALS

- Complete the requirements to become a certified Municipal Vulnerability Preparedness Community.
- Examine how to integrate climate change planning into other City plans and programs identified in the Hazard Mitigation Plan Capabilities Assessment.
- Provide community outreach opportunity for Quincy Hazard Mitigation Planning.

Hazard Mitigation and MVP Core Team

NATURAL HAZARD RISK ASSESSMENT

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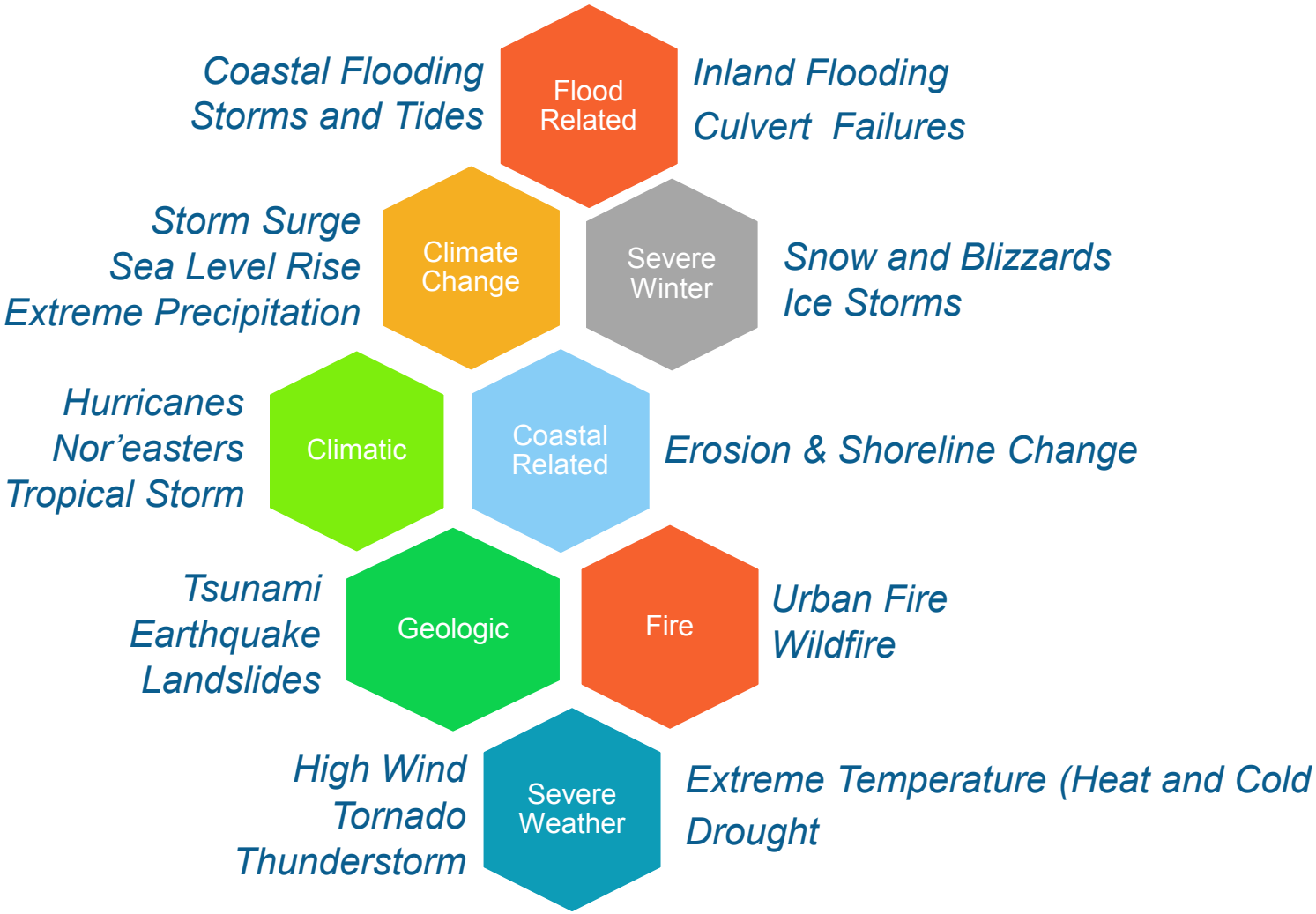
WHAT ARE THE NATURAL HAZARD RISKS FOR QUINCY?



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