

Mapping Goals

Mapping NBS Opportunities for Adaptation

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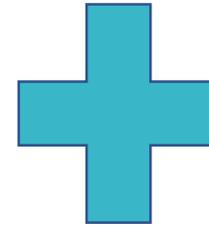
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Hazards



NBS Opportunities

Conservation



Restoration

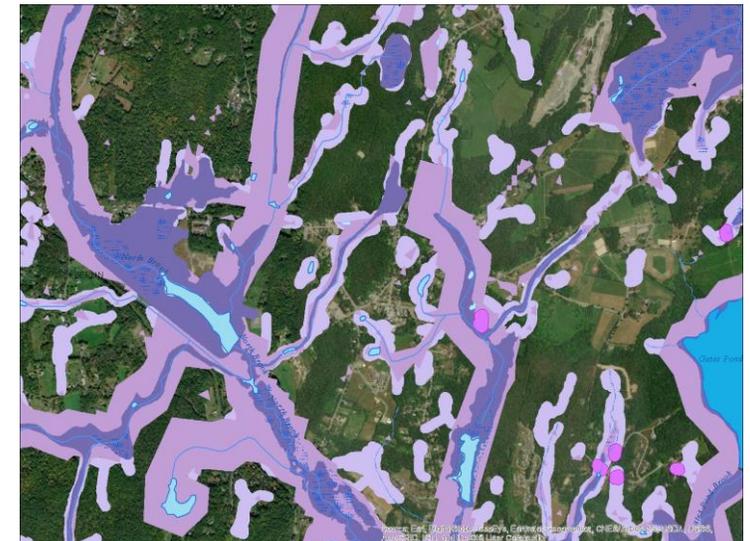
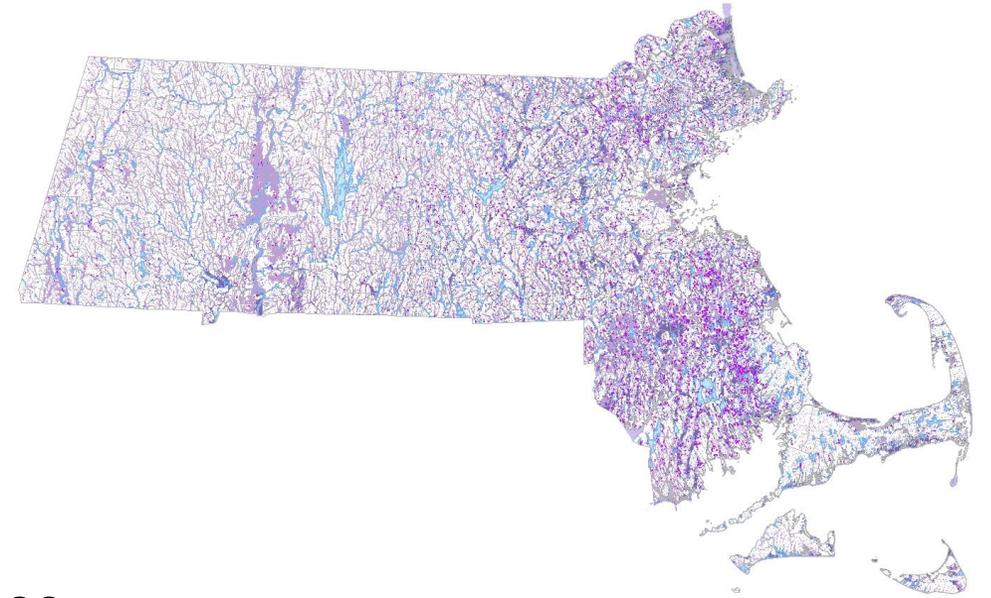
Management

Inland Flood Hazard

Areas at risk of riverine flooding due to precipitation and storm events

Criteria:

- Regulatory floodmaps (FEMA floodplain, 100 and 500 year flood zone)
- Modeled floodplains
 - Natural riverine process model (Active River Area (TNC, 2008))
 - Fathom flood risk model (comprehensively modeled pluvial and riverine flood maps developed by Fathom, University of Bristol, and TNC)
- Current Wetlands and Surface Waters with 100' buffer
- Converted wetlands with 100' buffer



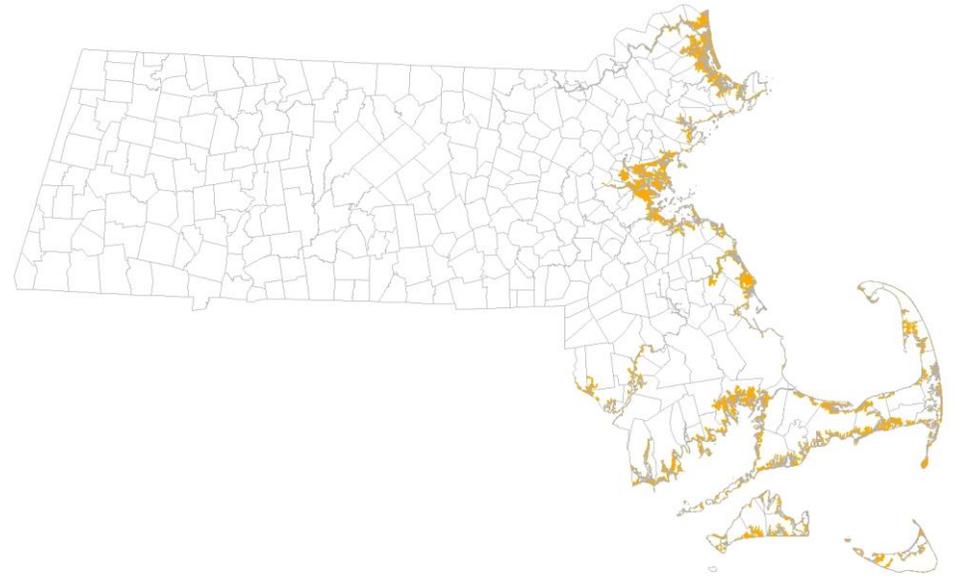
Coastal Flood Hazard

Areas at risk of flooding due to coastal storms

Criteria:

- NOAA SLOSH impacted areas for Category 1 & 2 Hurricanes*

* To be updated by ADCIRC model for probabilistic flooding areas likely to be flooded at 100 year return interval in 2070 for MA coast line.



Drought Hazard

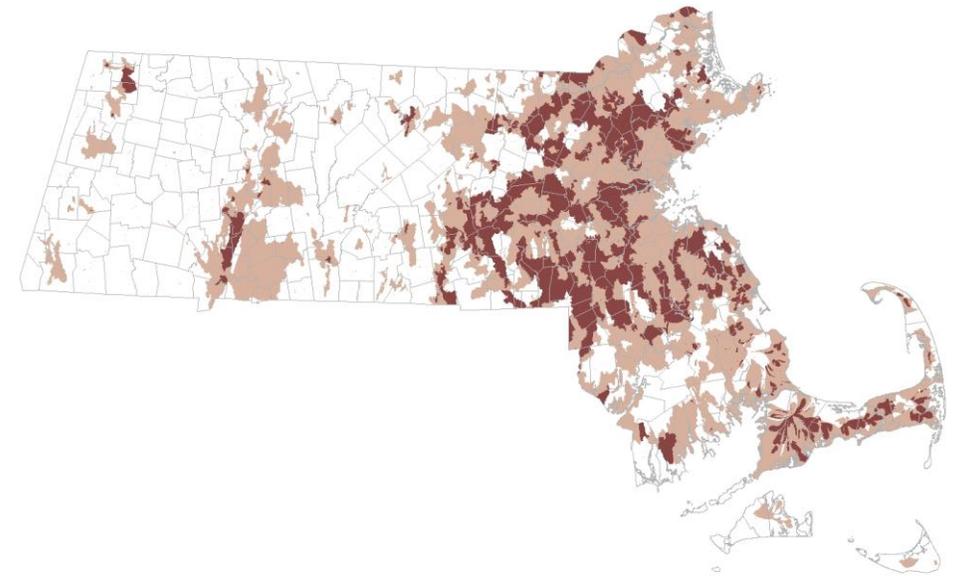
Areas vulnerable to the effects of drought, where groundwater recharge is compromised or where groundwater is in high demand for human use.

Criteria:

- Catchment has > 10% Impervious cover
- SWMI Groundwater Withdrawal Categories 4&5
- DEP Wellhead protection zones

Drought Hazard Present: meets any of the 3 criteria

Drought Hazard Great: catchment with > 10% Impervious cover, as well as Wellhead protection zone and/or GWC 4/5



Inland Flood Resilience

Conserve Inland Flood Resilience: areas that if conserved, can protect against the impacts of existing and future flooding

Restore Inland Flood Resilience and Connectivity: areas that if restored, contribute to ecosystem function as well as flood resilience

- Wetland restoration (converted wetlands)
- Riparian zone restoration (developed portions of riparian zones along DFW cold water fisheries)
- Dam removal (top 25% DER Restoration Potential Model)
- Culvert Upgrade or Removal (Culverts with poor aquatic passage according to Umass Critical Linkages)



Drought Resilience

Conserve for Drought Resilience: identifies areas that if conserved, can protect water resources for human use and ecosystem health

- **Best Drought Resilience** (unprotected and undeveloped lands within the drought hazard, type C soils, >100' from surface waters)
- **Good Drought Resilience** (unprotected and undeveloped lands within the drought hazard , type A & B soils, >100' from surface waters)



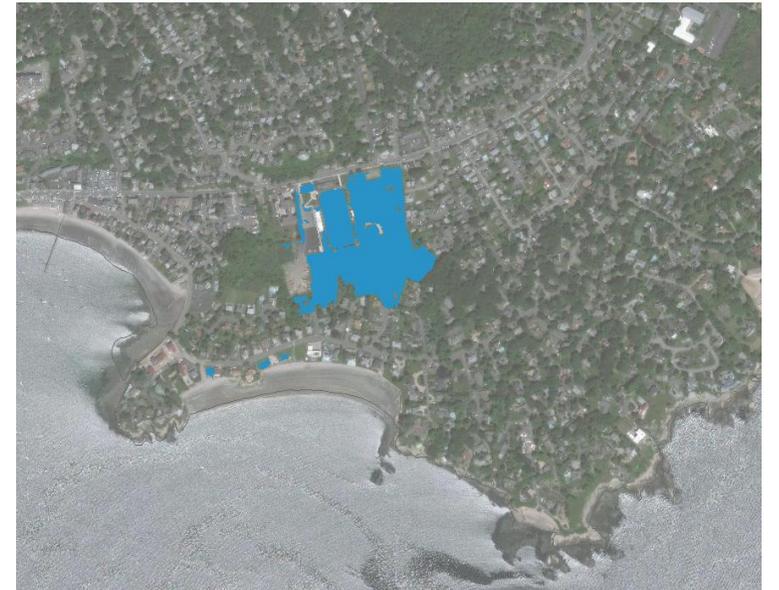
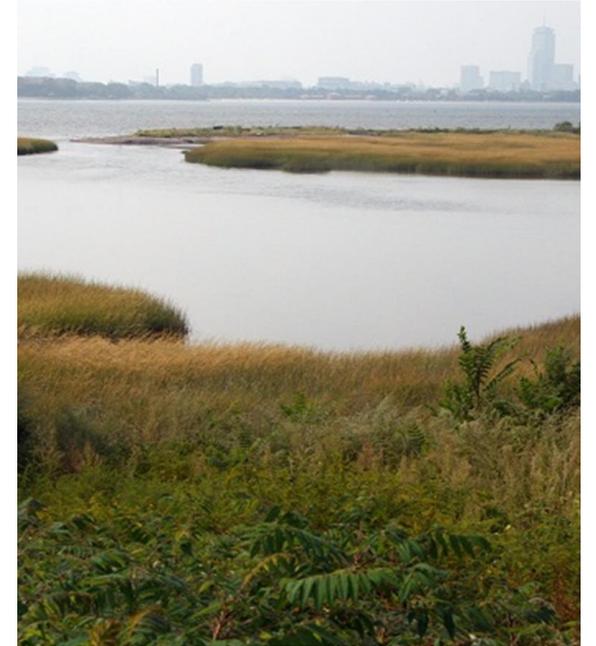
Coastal Flood Resilience

Conserve for Coastal Flood Resilience: areas that if conserved, can protect against the impacts of existing and future flooding

- Unprotected and undeveloped lands within the coastal flood hazard

Adapt for Coastal Flood Resilience: areas that if restored contribute to flood resilience

- **Capture Flood Waters:** “developed open spaces” (ball fields, playgrounds, etc) that could with modifications, provide opportunities for above ground flood storage



Manage

Stormwater management for Resilience Areas suitable for stormwater remediation that alleviate inland flooding and/or drought

Agricultural Best Management Practices Areas suitable for agricultural BMPs that alleviate inland flooding and/or drought

Areas for Salt Marsh Migration Areas forecast to be resilient tidal marshes that help to alleviate coastal flooding



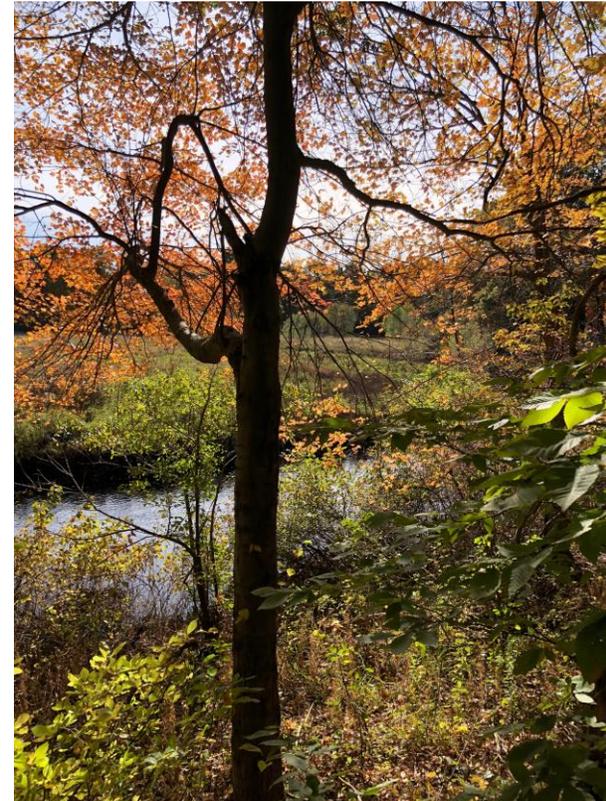
Conserve for Biodiversity

High Quality Habitat

- BioMap 2 Core and Critical Natural Landscape
- TNC Resilient Sites for Conservation
- High integrity wetlands (Umass CAPS IEI)

Habitat Connectivity

- TNC Regional Flow Dataset (2016)



Coastal Resilience Massachusetts

Find address or place

Get Started

Massachusetts

The Nature Conservancy has worked with the Massachusetts Executive Office of Environment and Energy Affairs (EEA) to create a set of maps that help communities identify where nature-based solutions (NBS) can most effectively address natural hazards and contribute to resilience planning at a local level. This project leverages existing statewide datasets and analyses to create easily understandable layers that highlight a range of potential actions and next steps. The results are intended as a high-level screening tool to identify places where conservation and restoration can help combat drought susceptibility, inland and coastal flooding hazards, and contribute to ecosystem co-benefits.

Start exploring

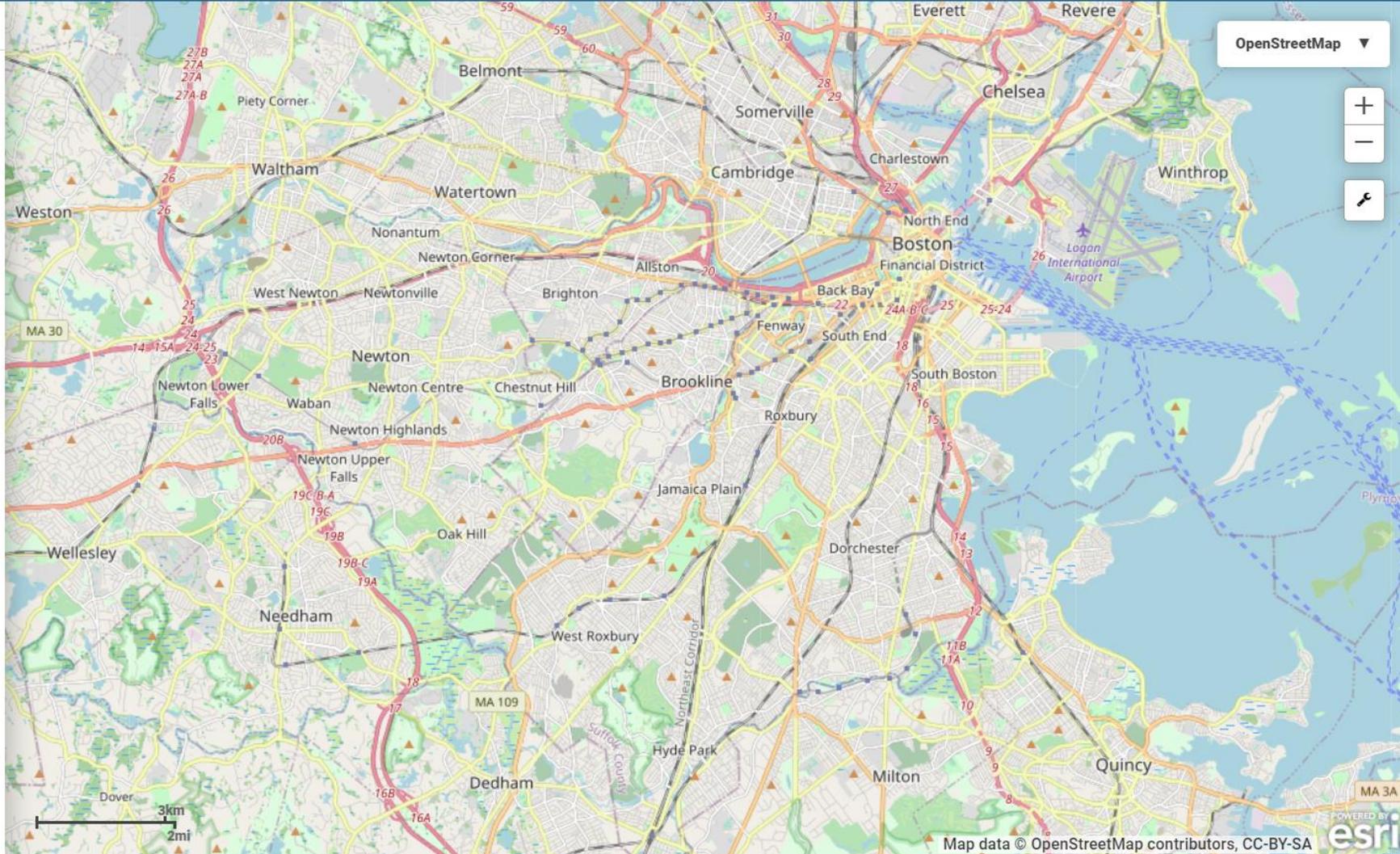
 **Regional Planning**

Explore regional datasets across Massachusetts.

Partners



Tour



OpenStreetMap

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