



2023 State Hazard Mitigation and Climate Adaptation Plan:



The First 5-Year Update
of the SHMCAP



What is Hazard Mitigation and Climate Adaptation?

Hazard mitigation

Any sustainable action that **reduces or eliminates** long-term risk to people and property from future disasters.

Climate change adaptation

The process of **adjusting** to current or **expected effects of climate change**. Adaptation actions can be either incremental or transformative.

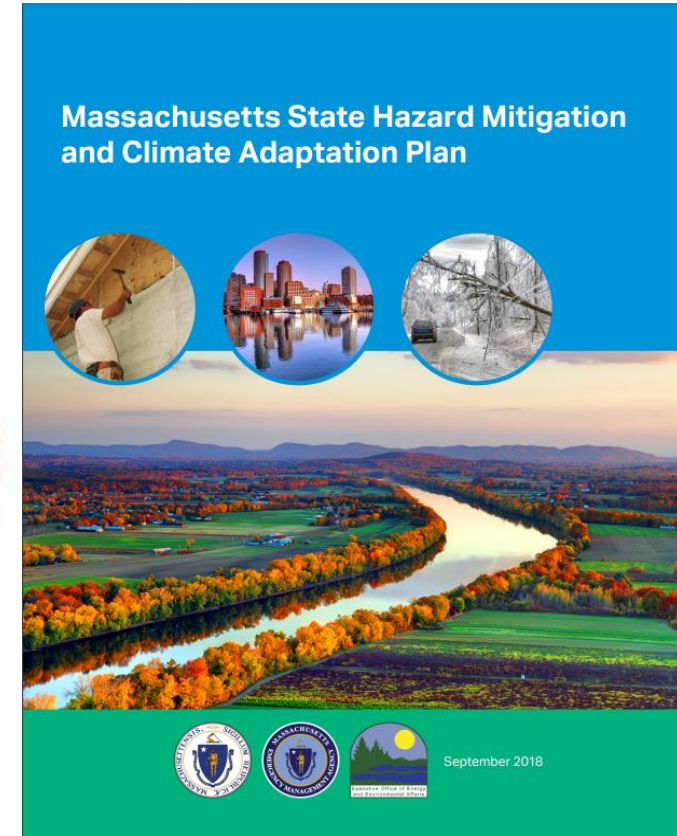
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September 2018

Benefits of Hazard Mitigation Planning and Climate Adaptation Plans

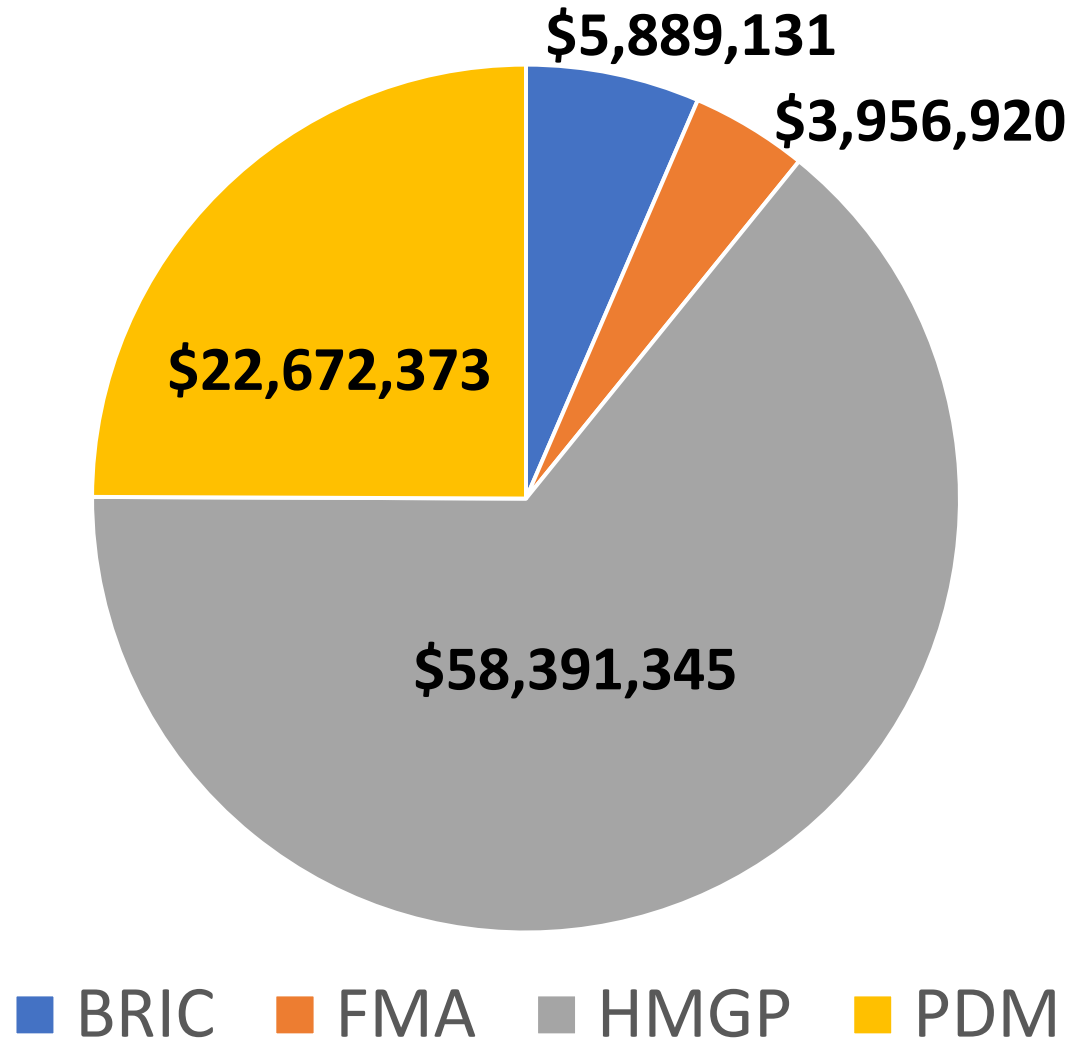


Photo: FEMA

- **Limits** damage, disruption, and loss
- **Reduces** risk
- **Increases** ability to bounce back after disasters
- **Provides** a shared understanding
- **Helps** obtain funding

Why do we need a state hazard mitigation and climate adaptation plan?

HMA Funding History ~ \$91M since 2010

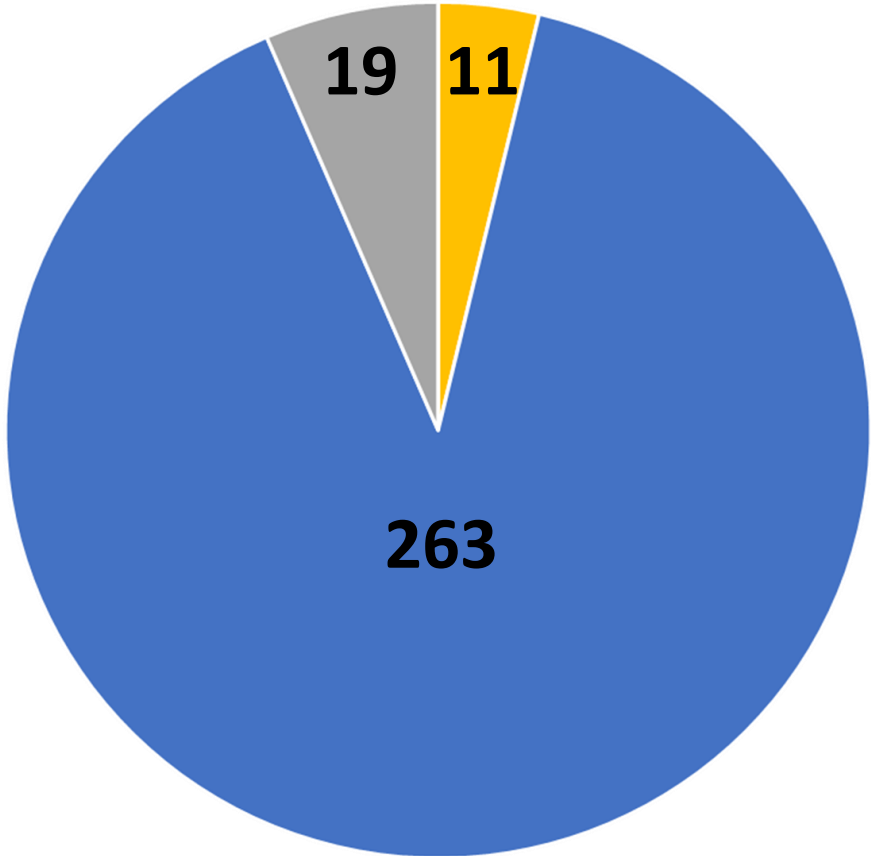


- Federal mandate to **maintain eligibility** for FEMA Hazard Mitigation Assistance (HMA)
- Plan must be **updated** every 5 years

Pending \$136,000,000 (\$100M COVID-related, under FEMA project review)

Subrecipients – 293 Total since 2010

Who
Receives
FEMA
Funding?

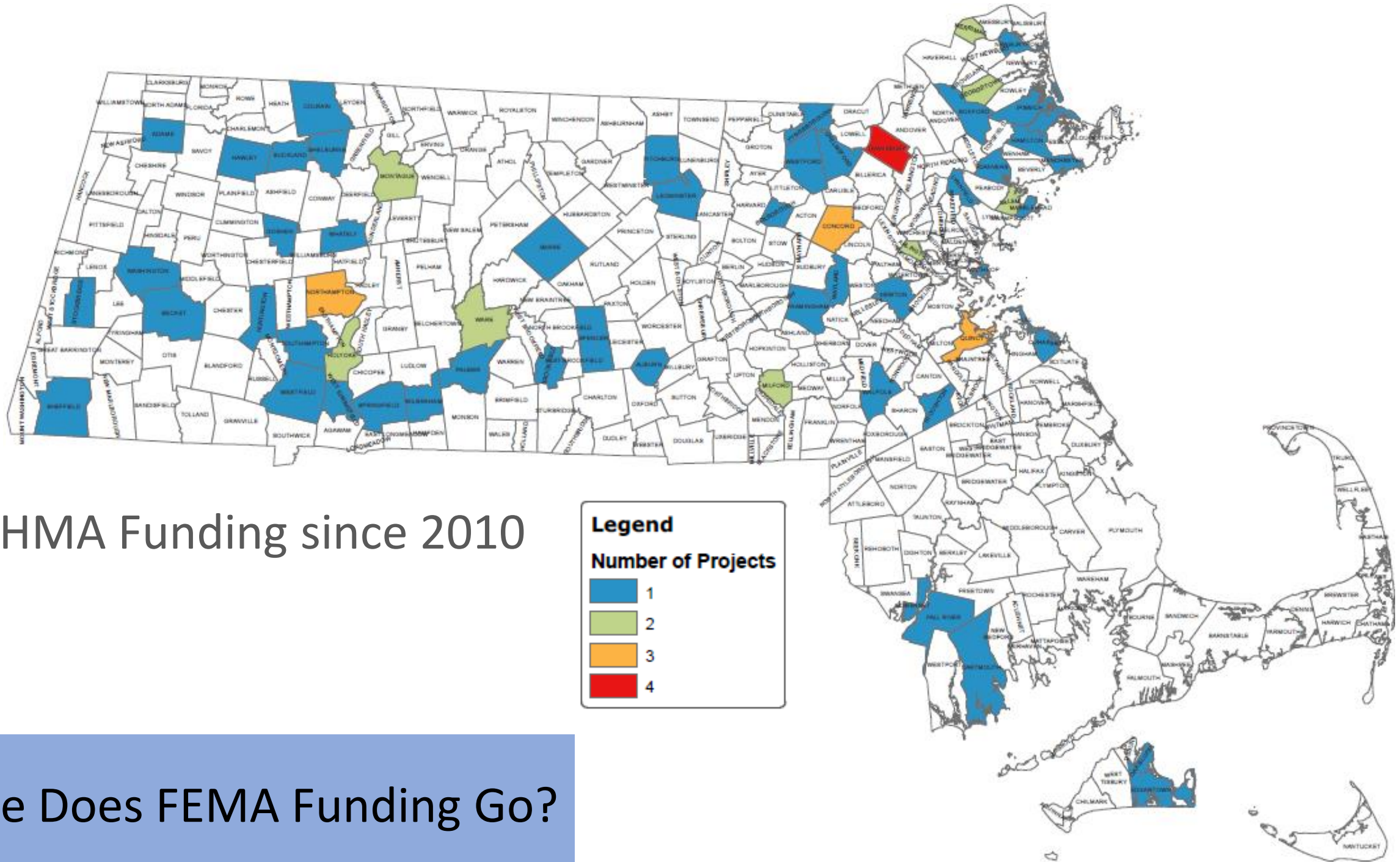


State Agencies

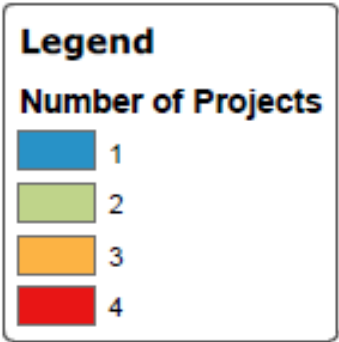
Municipalities

PNPs

- **MEMA serves as the pass-through** of FEMA Hazard Mitigation grants to eligible sub-recipients
- 2/3 of projects funded are **infrastructure projects**
- **Eligible project types** include construction and capacity-building

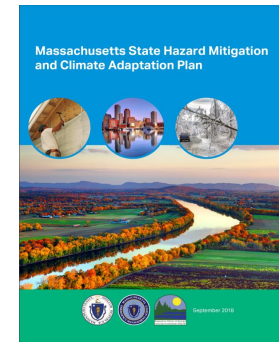


HMA Funding since 2010



Where Does FEMA Funding Go?

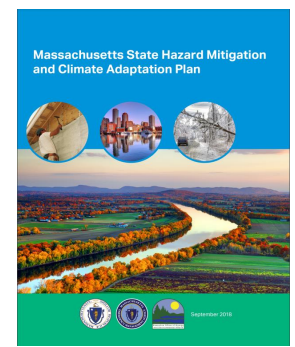
✓ **Update to the 2018 SHMCAP**



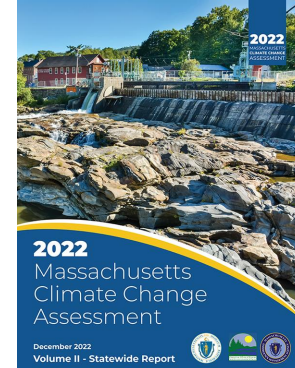
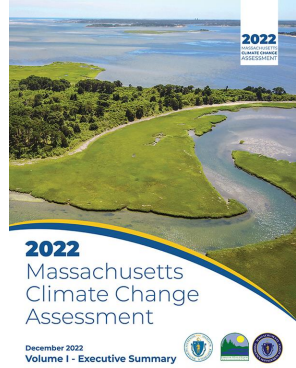
What is
the 2023
SHMCAP?

What is the 2023 SHMCAP?

✓ Update to the 2018 SHMCAP

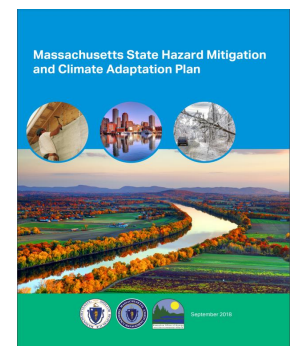


✓ Informed by the 2022 MA Climate Change Assessment

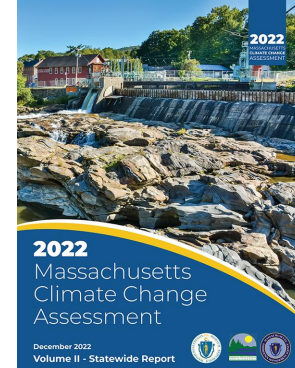
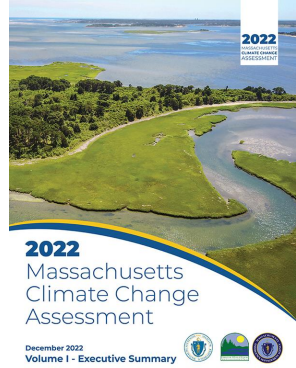


What is the 2023 SHMCAP?

✓ Update to the 2018 SHMCAP



✓ Informed by the 2022 MA Climate Change Assessment

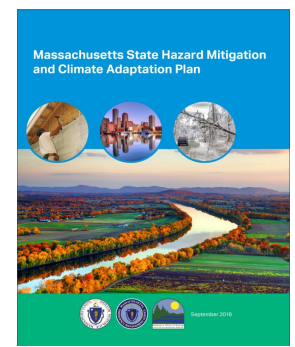


✓ Includes hazard mitigation and climate adaptation

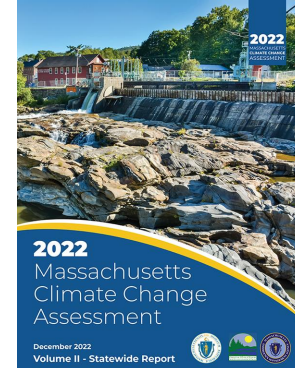
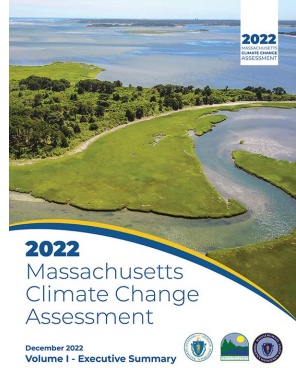


What is the 2023 SHMCCAP?

✓ Update to the 2018 SHMCCAP



✓ Informed by the 2022 MA Climate Change Assessment



✓ Includes hazard mitigation and climate adaptation



✓ Responsive to latest FEMA Planning Policy Guide



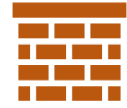
2023 SHMCAP Goals



Collaboration, Communication, Funding, and Engagement



Science-based and Informed Decision-Making



Resilient State Assets and Services



Implementation of Adaptation Actions for Communities and Ecosystems



Consideration of Climate Mitigation



Resilient and Equitable Infrastructure, Ecosystems, and Communities

Main components of the SHMCAP

- State Capabilities and Capacities
- State Vulnerability Assessment
- Risk Assessment
- Action and Strategy Development
- Plan Implementation and Maintenance

2023 SHMCAP: Risk Assessment Hazards



Coastal Erosion



Coastal Flooding
and Storm Surge



Hurricane and
Tropical Cyclone



Flooding from
Precipitation



Dam Overtopping



Other
Severe
Weather



Tsunami



Winter
Storms /
Nor'easter



Average and
Extreme
Temperatures



Drought



Invasive
Species



Landslide
and
Mudflow



Tornado



Wildfire



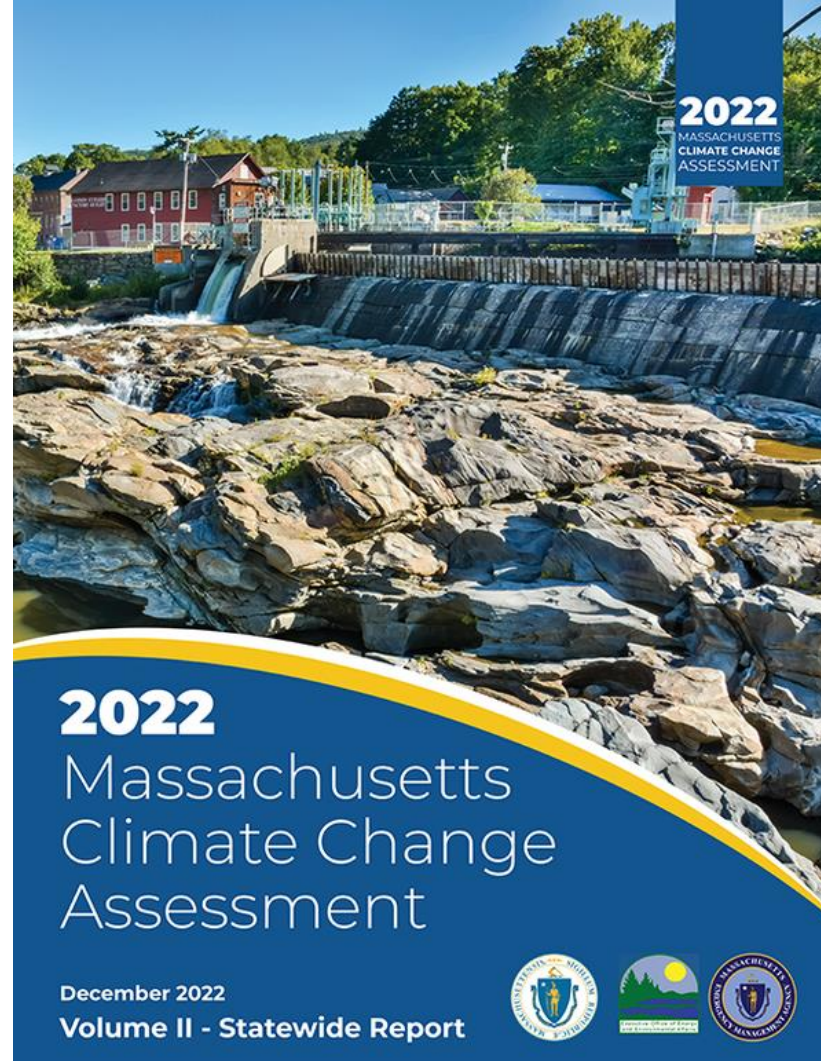
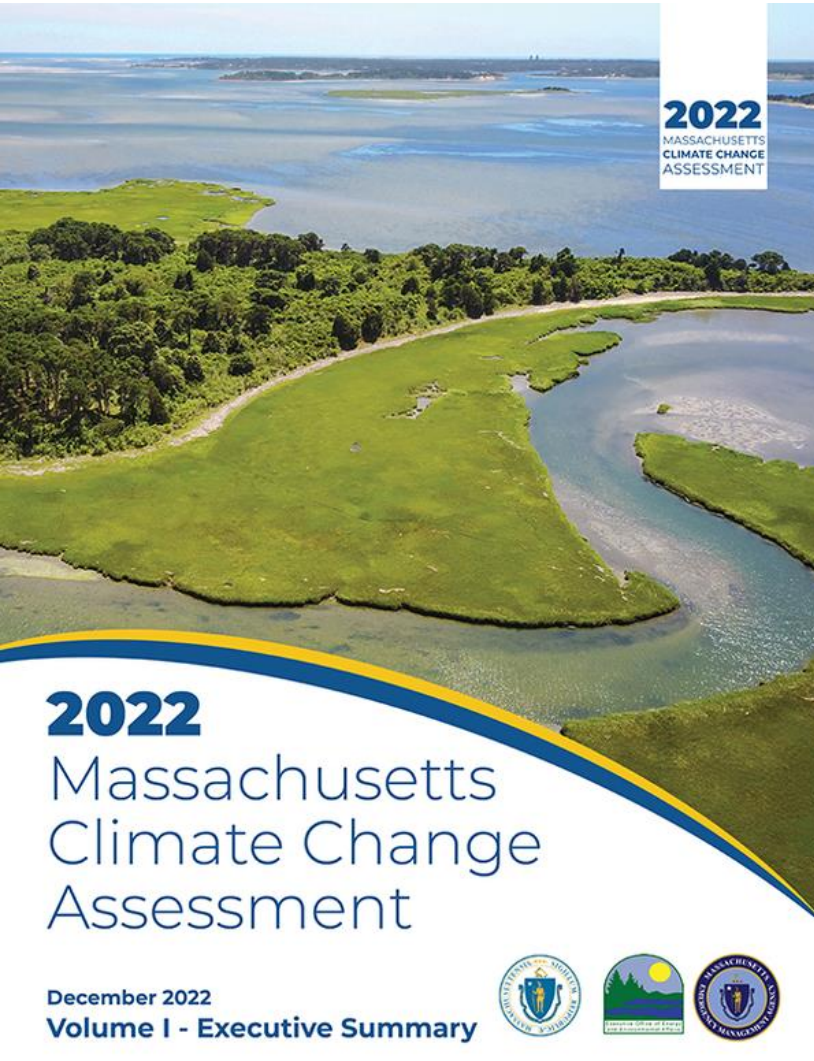
Earthquake



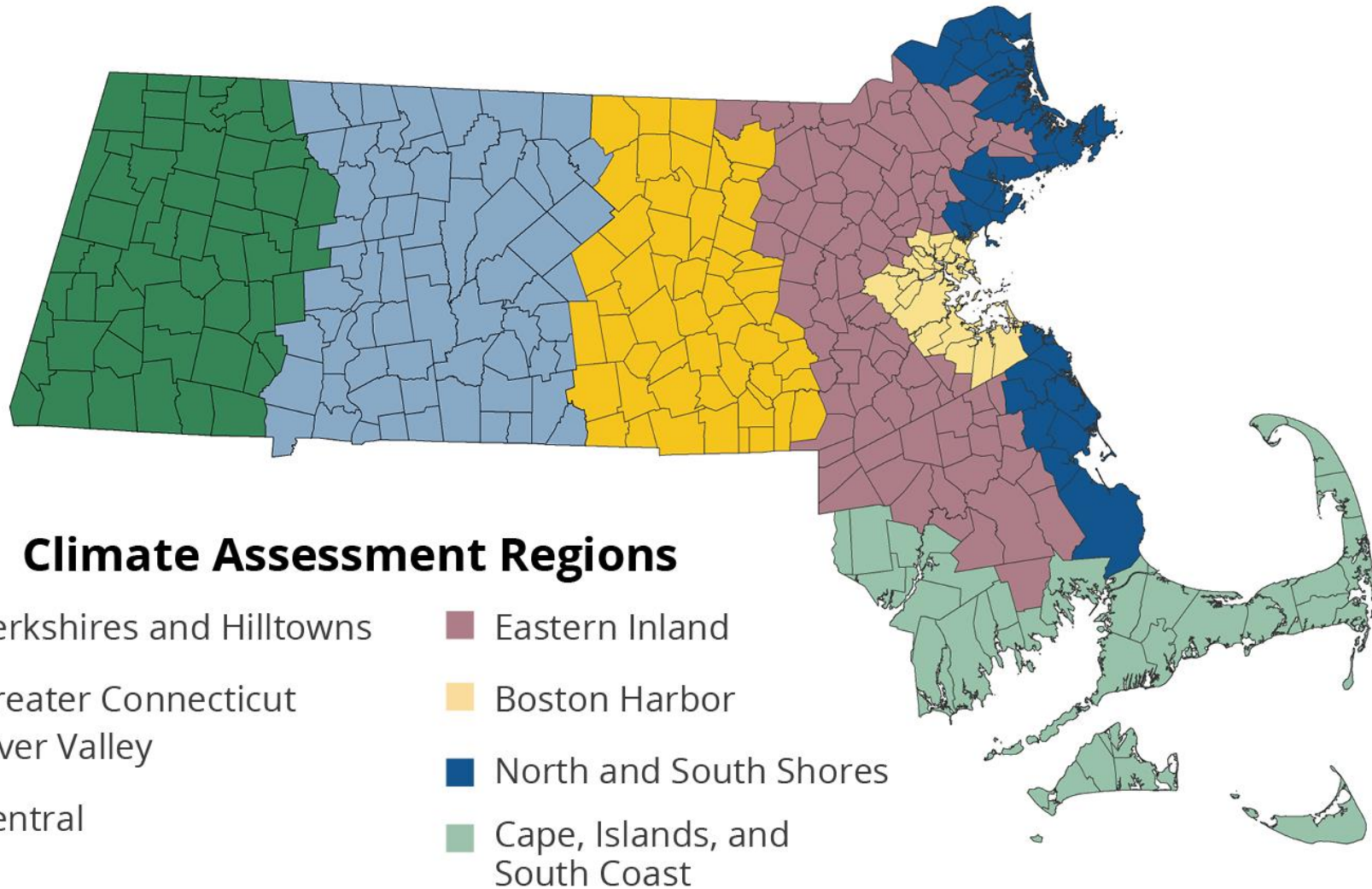
Changes in
Groundwater

*New to 2023

2023 SHMCAP: Leveraging the MA Climate Change Assessment



2023 SHMCAP: Leveraging the MA Climate Change Assessment



- Human
- Infrastructure
- Natural Environment
- Governance
- Economy

MA Climate Change Assessment: Regional Priority Impacts

*Green boxes highlight
impacts not in top 3
statewide*

Human



- Increase in Vector Borne Diseases Incidence and Bacterial Infections

- Health and Cognitive Effects from Extreme Heat
- Health Effects of Extreme Storms and Power Outages
- Emergency Service Response Delays and Evacuation Disruptions
- Reduction in Food Safety and Security
- Damage to Cultural Resources

Infrastructure



- Damage to Electric Transmission and Utility Distribution Infrastructure

- Reduction in Clean Water Supply

Natural Environment



- Marine Ecosystem Degradation

- Coastal Wetland Degradation

- Coastal Erosion

Governance



- Increase in Demand for State and Municipal Government Services

- Reduction in State and Municipal Revenues

Economy



- Reduction in the Availability of Affordably Priced Housing

- Decrease in Marine Fisheries and Aquaculture Productivity

How is the SHMCAP used by the State?



- **Identifies** critical assets and services
- **Identifies** hazards that pose the greatest threat
- **Includes** a mitigation strategy
- **Sets** statewide priorities to implement at multiple geographic scales
- **Assists** local municipal hazard mitigation and climate adaptation planning
- **Implements** projects to reduce risks

2023 SHMCAP Action Approach



- **Responsive** to priority impacts and vulnerabilities
- **Evaluated** for consistency with 2023 SHMCAP Goals

2023 SHMCAP Action Categories

**Administrative
support**

**Assessment,
research,
analysis, science,
and mapping**

Capital planning

**Changes to
maintenance
and operations,
replacements**

**Funding and
financing**

**Natural systems
protections &
enhancements**
(e.g., conservation, restoration,
and management)

**Outreach and
education**

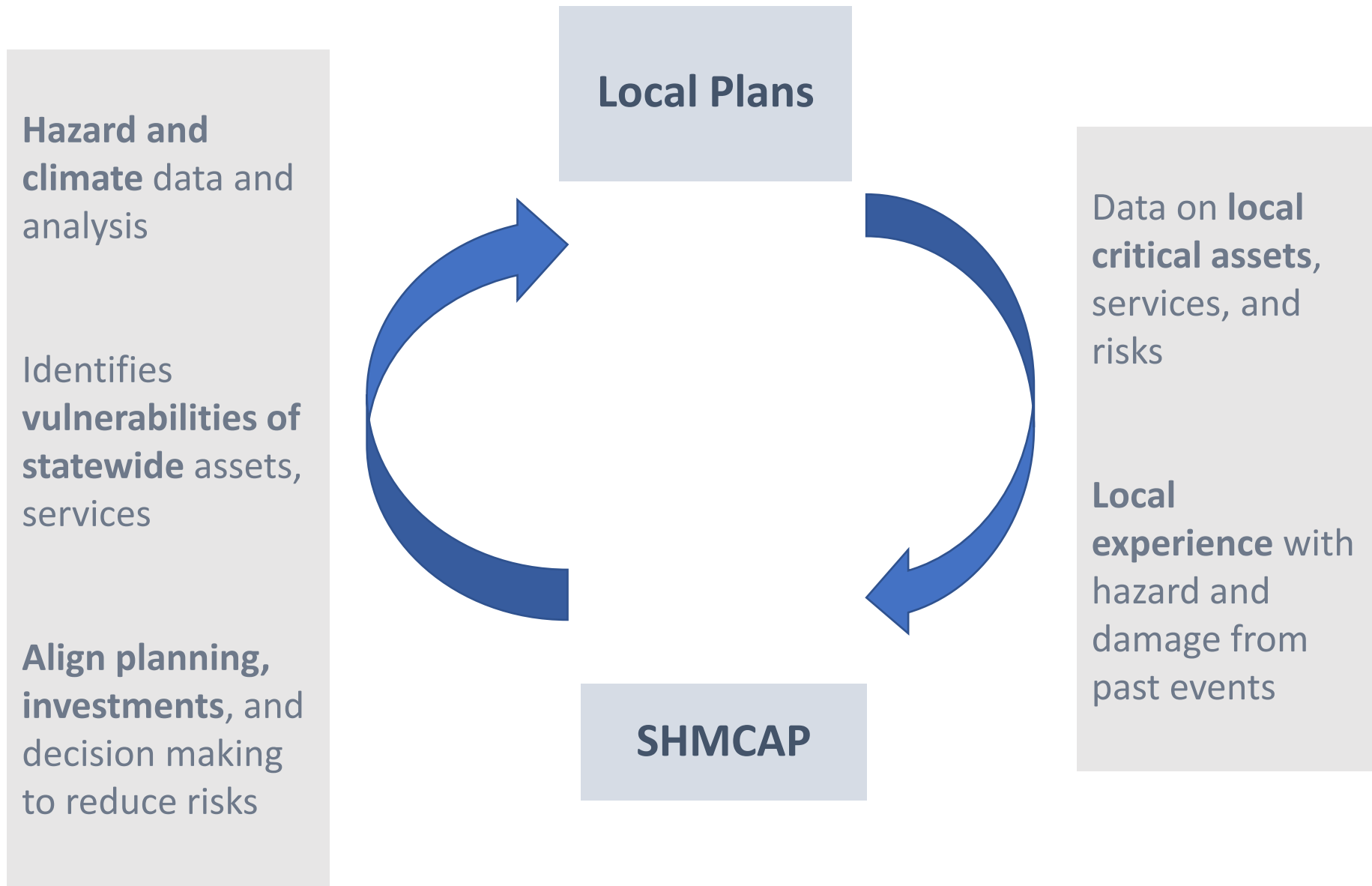
**Planning and
policy**

**Regulations,
codes, and
zoning**

**Structure and
infrastructure
retrofits/new
projects**

**Technical
support and
assistance**

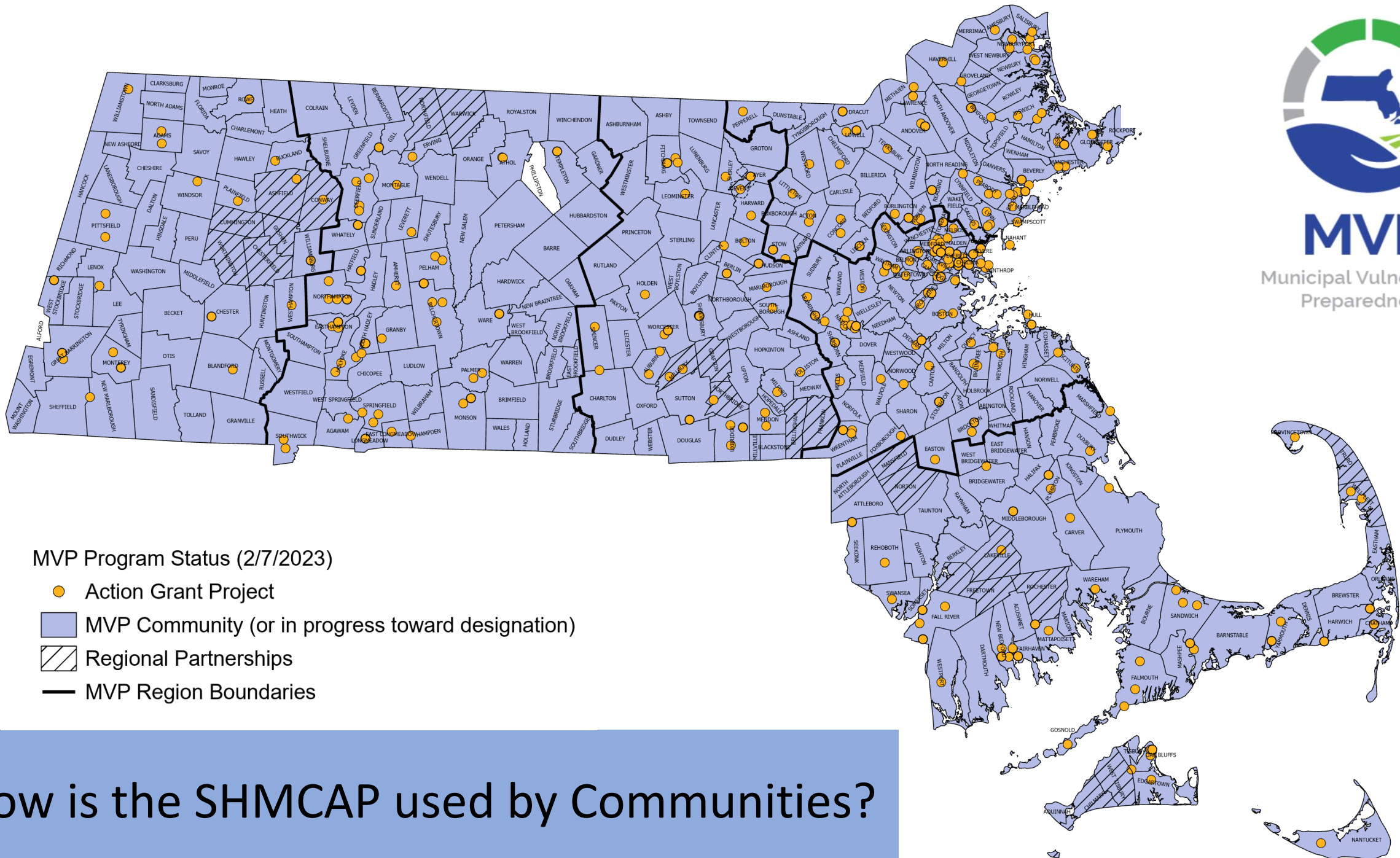
How is the SHMCAP used by Communities?





MVP

Municipal Vulnerability
Preparedness



MVP Program Status (2/7/2023)


- Action Grant Project
- MVP Community (or in progress toward designation)
- ▨ Regional Partnerships
- MVP Region Boundaries


How is the SHMCAP used by Communities?



Resilient MA

Climate Change Clearinghouse for the Commonwealth

TOOLS & DATA 

LEARN 

TAKE ACTION 

HELP 



Supporting the Commonwealth with Climate Change Science



Climate Resilience Design Standards Tool

Apply statewide data to assess the climate resilience of your project site.

[LEARN MORE >](#)



Resilient MA Map Viewer

Explore the latest statewide climate data and projections.

[LEARN MORE >](#)



Climate Resilience Funding

Learn about EEA's municipal grants supporting climate resilience.

[LEARN MORE >](#)

Feedback

TOOLS & DATA

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HELP

- [2022 Massachusetts Climate Change Assessment](#)
- [2018 State Hazard Mitigation and Climate Adaptation Plan \(SHMCAP\)](#)

Supporting the Commonwealth with Climate Change Science

Climate Resilience Funding
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[LEARN MORE >](#)

Feedback

2022 MASSACHUSETTS CLIMATE CHANGE ASSESSMENT

2022 Massachusetts Climate Change Assessment

December 2022
Volume I - Executive Summary

2022 MASSACHUSETTS CLIMATE CHANGE ASSESSMENT

2022 Massachusetts Climate Change Assessment

December 2022
Volume II - Statewide Report

2022 MASSACHUSETTS CLIMATE CHANGE ASSESSMENT

2022 Massachusetts Climate Change Assessment

December 2022
Volume III - Regional Reports

- [MVP Program](#)
- [Resilient MA Action Team \(RMAT\)](#)
- [2018 SHMCAP Action Tracker](#)

Supporting the Commonwealth with Climate Change Science

CONTACT

the MVP team



CONTACT THE MVP TEAM

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and grants supporting climate

Feedback

TOOLS & DATA

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Resource Clearinghouse

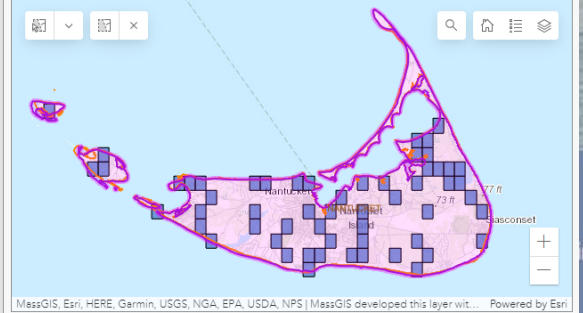
Maps and Data Center

Climate Resilience Design Standards & Guidance

Supporting
the Commonwealth with
Resilience

Climate Change Projections Dashboard

HOW TO USE THIS DASHBOARD
Use the **filter data** options below to view **projections of climate metrics** for specified areas of interest under a future warming scenario. Select either a **Watershed** or **Town**. Next, select the **Target decade** and **Season**. Toggle between tabs to view climate metrics at the bottom of the dashboard.
Use the locator map to view **projections of extreme precipitation frequency estimates** across Massachusetts. Click on the layer icon (stacked squares) in the top right corner and click on **"IDF Sites"**. Zoom with mouse to desired area or use search icon to zoom and click on blue box and then click **"Select"** in the pop-up box (box with plus sign). Click on the **"Precipitation Frequency Table"** tab at the bottom of the dashboard to view precipitation depth values (inches) for various future design storms.



FILTER DATA

Climate Projections by Watershed:
Cape Cod

Climate Projections by Town:
None

Target Decade:
2030

Season:
Annual

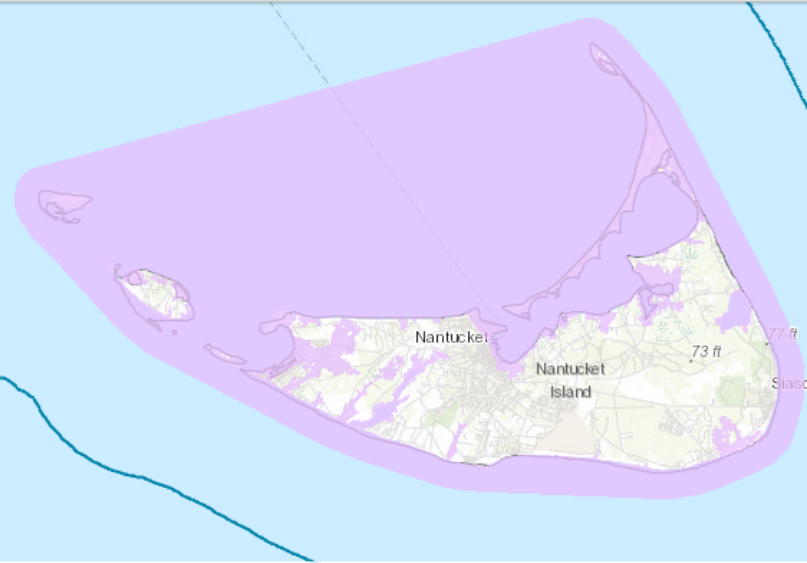
Site	Year	Duration	RI_1yr_50th	RI_2yr_50th	RI_5yr_50th	RI_10yr_50th
Site 1	2030	05m	0.4 (0.3 - 0.4)	0.4 (0.4 - 0.5)	0.5 (0.5 - 0.6)	0.6 (0.6 - 0.7)
Site 1	2030	10m	0.5 (0.5 - 0.5)	0.6 (0.6 - 0.7)	0.8 (0.7 - 0.8)	0.9 (0.9 - 1.0)
Site 1	2030	15m	0.6 (0.6 - 0.6)	0.7 (0.7 - 0.8)	0.9 (0.9 - 1)	1.1 (1.1 - 1.2)
Site 1	2030	60m	1 (1 - 1.1)	1.3 (1.2 - 1.3)	1.6 (1.5 - 1.7)	1.9 (1.8 - 2)
Site 1	2030	02h	1.4 (1.3 - 1.5)	1.7 (1.5 - 1.8)	2.1 (2 - 2.3)	2.5 (2.3 - 2.7)
Site 1	2030	03h	1.6	1.9	2.5	2.9

MAP LAYERS

Filter layers

Visible Layers Only

- Precipitation
- Temperature
- Sea Level Rise
- Coastal Vulnerability
- Massachusetts Coast Flood Risk Model (MC-FRM)
 - 2030 Coastal Flooding (1% Annual Exceedance Probability)



Feedback



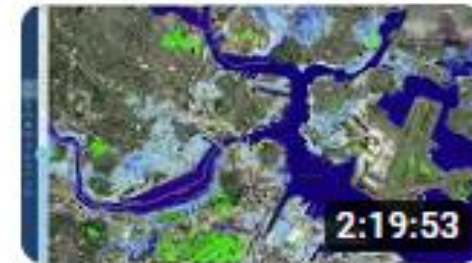
2023 Massachusetts Coast Flood Risk Model (MC-FRM) Trainings

MassEEA

1



2



3



NEW TRAINING SERIES!

Resilient MA
Climate Change Clearinghouse for the Commonwealth

MAP LAYERS

Filter layers

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2030 Coastal Flooding (1% Annual Exceedance Probability)

THANK YOU

For any additional questions, please contact:

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