

# Chapter 2. Planning Process

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## Abbreviations

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EOEEA	Executive Office of Energy and Environmental Affairs
FEMA	Federal Emergency Management Agency
MEMA	Massachusetts Emergency Management Agency
MVP	Municipal Vulnerability Preparedness
NGO	Non-Governmental Organization
OCIR	Office of Climate Innovation and Resilience
PMT	Project Management Team
RMAT	Resilient Massachusetts Action Team
SHMCAP	State Hazard Mitigation and Climate Adaptation Plan

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## 2.1 Introduction and Purpose

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This chapter provides an overview of the key agencies and partners involved in the development of the 2023 State Hazard Mitigation and Climate Adaptation Plan (2023 SHMCAP). This chapter also describes the stakeholder outreach, engagement strategy, and coordination with existing state hazard mitigation and planning efforts that were integrated into the 2023 SHMCAP development process. The 2023 SHMCAP is a living document that reflects the Commonwealth's ongoing commitment to comprehensive hazard mitigation and climate adaptation planning. In accordance with Federal Emergency Management Agency (FEMA) regulations, the Commonwealth updates its SHMCAP every five years, monitors and evaluates progress, and conducts limited updates on an annual basis. These updates and annual evaluations are crucial to ensuring the relevance, accuracy, and effectiveness of the plan to protect the state's population and provide a method for aligning, receiving, and utilizing funds appropriated by FEMA.

### 2.1.1 Overview and Lead Agencies

While the 2023 SHMCAP included robust participation from state agencies, those primarily responsible for developing and coordinating the implementation of the 2023 SHMCAP include the Massachusetts Emergency Management Agency (MEMA) and the Executive Office of Energy and Environmental Affairs (EOEEA). Both MEMA and EOEEA lead the Resilient Massachusetts Action Team (RMAT), an interagency steering committee responsible for the implementing, monitoring, evaluating, and updating the 2023 SHMCAP.

## 2.2 Key Partners and the 2023 SHMCAP Development Process

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The 2023 SHMCAP was created through a collaborative, multi-step planning process involving state agencies, subject matter experts, federal agencies, municipalities, regional planning organizations, community groups, nonprofits, and private entities. The Project Management Team (PMT), including members from MEMA and EOEEA, with their contractors (collectively referred to as project team) built on the 2018 SHMCAP to develop the 2023 SHMCAP and updated the content based on the consideration of additional hazards, a robust risk assessment, input from the 2022 MA Climate Change Assessment (MA Climate Assessment), and input from agencies, local jurisdictions, and partners. The 2023 SHMCAP complies with FEMA requirements, per the following rules, regulations, and guidance:

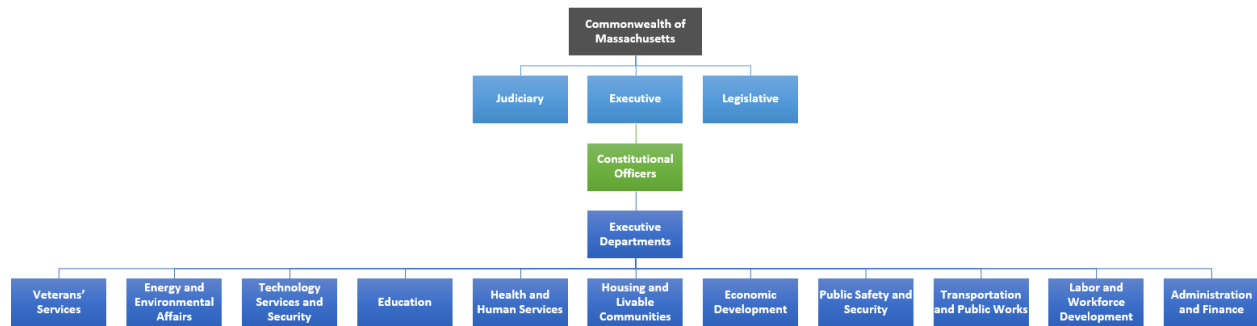
- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended by the Disaster Mitigation Act of 2000.
- Code of Federal Regulations, Title 44, Part 201 (§201.4 Standard State Mitigation Plans).
- FEMA State Mitigation Planning Policy Guide (FP 302-094-2, OMB Collection #1660-0062 2023).

### 2.2.1 Coordination with State Agencies

In leading the SHMCAP development process, MEMA and EOEEA coordinated closely with agencies across the Commonwealth through the RMAT, which is comprised of representative RMAT Climate Change Coordinators from each Executive Office, as depicted in Figure 2-1, as well as other agencies and organizations representing subject matter expertise (see Appendix 2.B for full list of participants). Specifically, regarding participation of subject matter experts for high hazard dams, the Director of the Flood Control Management and Navigational Operations Section Design and Engineering team participated in the RMAT meetings from January 24, 2023 onward and reviewed the related sections of the Risk Assessment.

Throughout the course of the 2023 SHMCAP development, the project team held six meetings with RMAT; one-on-one meetings between MEMA, EOEEA, and state agencies; meetings with municipalities, regional planning agencies, and non-governmental organizations; in addition to meetings with community focus groups. Summaries and descriptions of the meetings in addition to meeting materials are presented in Appendix 2.A and Appendix 2.C, respectively.

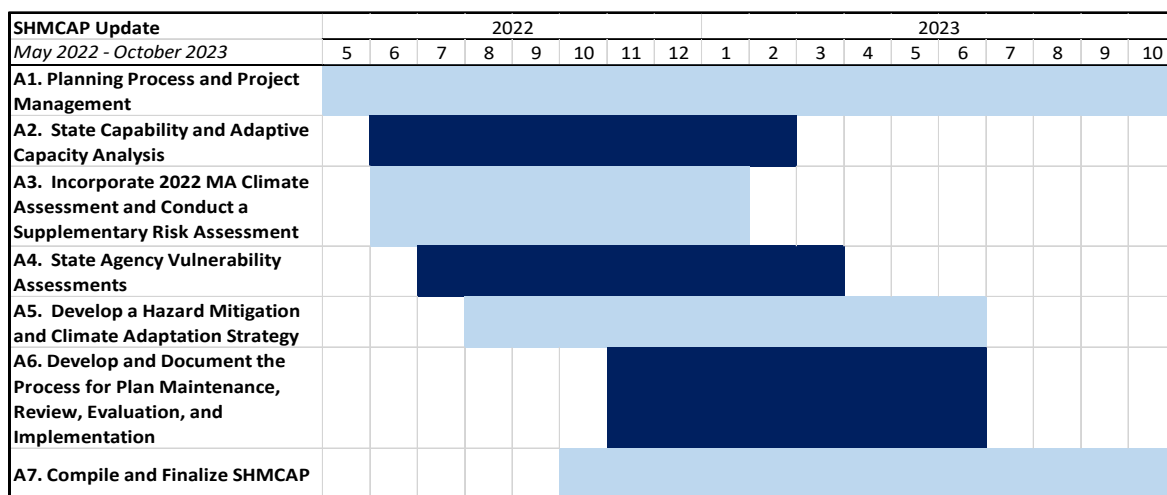




**Figure 2-1. Organizational chart of Executive Offices of the Commonwealth.**

## 2.2.2 2023 MA SHMCAP Development Process, Timeline, and Milestones

The Commonwealth’s planning activities included completing several key tasks over the course of 18 months from May 2022 to October 2023. Many of the project timelines overlapped and necessitated involvement, collaboration, and input from various participants, including RMA members, subject matter experts, federal partners, municipalities, community organizations, and others. To demonstrate that the 2023 MA SHMCAP and development processes complies with FEMA requirements, Figure 2-2 presents a high-level summary of the process steps and associated timelines for MA SHMCAP development, while Table 2-1 presents additional detail on related activities and milestones. Summaries and descriptions of the meetings and meeting materials used during development of the 2023 MA SHMCAP are presented in Appendix 2.A and Appendix 2.C, respectively.



**Figure 2-2. Gantt chart depicting timelines and various steps of the 2023 MA SHMCAP**

**Table 2-1. Summary of Project Activities and Milestones**

Activity	Date	Description	Approximate Attendance Count
<b>A.1, Kickoff Meeting</b>	May 23, 2022	Meeting to introduce project team and RMAT, as well as discuss goals, tasks, and timeline.	45-55
<b>A.2, A.3., A.4, RMAT Meeting 1</b>	July 26, 2022	Update on MA SHMCAP progress and overview of engagement approach; report outline and document review framework; and introduction to the Capability, Adaptive Capacity, and Vulnerability Assessment Survey.  Requested RMAT input on the Capability, Adaptive Capacity, and Vulnerability Assessment Survey	60-70
<b>A.2, A.3, A.4, RMAT Meeting 2</b>	Sept. 14, 2022	Recap and key findings regarding the Capability, Adaptive Capacity, and Vulnerability Assessment Survey, and discussion of mission statement and goals.  Requested RMAT input on mission and goals.	90-100
<b>A.2 and A.4, Office Hours</b>	Oct. 6, 19, & 26, 2022	The project team held two office hours sessions after the RMAT Meeting 2 to answer questions from RMAT regarding completing the Capability, Adaptive Capacity, and Vulnerability Assessment Survey.	10-20
<b>A.2, A.3, A.4, RMAT Meeting 3</b>	Nov. 8, 2022	Survey update; Risk Assessment introduction, including updates since the 2018 MA SHMCAP, new sources of data, findings from the MA Climate Assessment, and next steps.  Requested RMAT input on Risk Assessment questions, problem statements, and relevant priority impacts.	60-70

Activity	Date	Description	Approximate Attendance Count
<b>A.2, A.3, A.4, A.5, RMAT Meeting 4</b>	Jan. 24, 2023	<p>Overview of RMAT responsibilities for reviewing chapters, high-level findings from the Risk Assessment, presentation of final goals, overview of connection between priority impacts and actions, and introduction to framework and process for action development and next steps.</p> <p>Requested RMAT review of Capabilities and Capacities chapter and draft Risk Assessment chapter in addition to completing a survey to identify which actions agencies should lead to address specific priority impacts; requested input on Round 1 actions for the 2023 MA SHMCAP.</p>	60–70
<b>A.5, Office Hours</b>	Feb. 9 & 15, 2023	The project team held two office hours sessions after the RMAT Meeting 4 to answer questions from RMAT regarding populating the 2023 MA SHMCAP Action Worksheet during Round 1 of action development.	10–15
<b>A.5 and A.6, RMAT Meeting 5</b>	Mar. 14, 2023	<p>Synthesis of 2023 Action Development Worksheet, recap of qualitative findings, review of proposed cross-government actions, and next steps for action development.</p> <p>Requested RMAT input on Round 2 of action development to refine proposed 2023 actions.</p>	50–60
<b>A.5, One-on-One Agency Meetings with MEMA and EOEEA</b>	Mar. 2023	MEMA and EEA held 13 one-on-one meetings with state agencies to support action development with a focus on closing gaps on priority impacts, refining actions, coordinating actions among agencies, increasing the level of detail, and supporting agencies who had questions or needed additional assistance with the process.	13 agencies, approximately 26 individuals

Activity	Date	Description	Approximate Attendance Count
<b>A.5, Office Hours</b>	Mar. 23, 2023	The project team held an office hours session after the RMAT Meeting 5 to answer questions from RMAT regarding populating the 2023 MA SHMCAP Action Worksheet during Round 2 of action development.	5–10
<b>A.5, Series 2 Stakeholder Meetings</b>	April 4 & 6, 2023	The project team held two meetings with municipalities, regional government, and others to provide an overview of the 2023 MA SHMCAP and action development process. The team held interactive sessions with participants to solicit feedback on proposed cross-government actions.  Recommendations received at the meetings were shared with the agencies for consideration during Round 3 of action development and in the hazard mitigation and climate adaptation strategy.	45–85
<b>A.5 and A.6, Community Focus Group Meetings</b>	April 2023	The project team held meetings with nine community organizations and non-governmental organizations to obtain feedback on community needs and their alignment with the 2023 MA SHMCAP.	20
<b>A.5, Office Hours</b>	April 14 & 25, 2023	The project team held two office hours sessions to answer questions from RMAT regarding populating the 2023 MA SHMCAP Action Worksheet during Round 3 of action development.	10–15
<b>A.5 and A.6, RMAT Meeting 6</b>	May 31, 2023	Presentation to RMAT members on the final strategy and plan implementation and maintenance, and presentation of next steps for plan approval and adoption.	50–60

### 2.2.2.1 Development of Mission and Goals

The project team requested input from the RMAT on their mission and goals during the RMAT Meeting 2 on September 14, 2022. The project team went through several rounds of

development for the mission and goals, obtaining input from RMAT members, Office of Climate Innovation and Resilience (OCIR), FEMA, and others. These goals were presented to FEMA during February 2023. The project team updated and finalized the mission and goals based on FEMA's input.

### **2.2.2.2 State Capability, Adaptive Capacity, and Vulnerability Assessment Survey**

The project team developed a state agency survey to evaluate the Commonwealth's capabilities and capacities in responding to hazards, climate change, and associated vulnerabilities given their impacts. The project team requested that a single member from each Executive Office complete the survey. The objectives of the survey included:

- Assist in updating agencies' vulnerability assessments.
- Assess the capability and adaptive capacity of each agency to implement actions to reduce risks from hazards and climate change impacts, which are increasing in intensity, duration, and frequency.
- Determine the vulnerabilities of each agency's physical and nonphysical assets, functions, programs, policies, and other services.

The project team introduced the survey to the RMAT during Meeting 1 on July 26, 2022, including a description of the survey's purpose and a training on the survey. The survey provided definitions of key terms and included two sets of questions: a longer set of questions for agencies that had not recently conducted a vulnerability assessment and a shorter survey that included only the questions related to capacities and capabilities. The Commonwealth utilized the responses to the survey to analyze and inform where Massachusetts has the greatest vulnerabilities to hazards and climate change, actions necessary to improve state capability and adaptive capacity, and innovative and strategic actions to improve coordination and implementation across sectors, agencies, and jurisdictions. The information from the survey informed both Chapter 2 (Capabilities and Capacities) and Chapter 6 (Vulnerability Assessment) of the 2023 SHMCAP.

### **2.2.2.3 State Capability and Adaptive Capacity Analysis**

The State Capability and Adaptive Capacity Analysis chapter for the 2023 SHMCAP was developed based on the findings from the Capability, Adaptive Capacity, and Vulnerability Assessment Survey, interviews with state agency staff and Municipal Vulnerability Preparedness (MVP) grant program representatives, RMAT meetings, analysis of information available in documents including the MA Climate Assessment and the 2018 SHMCAP, and analysis of other existing programs. High-level findings from the survey were shared during RMAT Meeting 3 on November 8, 2022. The chapter identifies existing state capacities, new updates to state-supported climate adaptation and hazard mitigation initiatives since 2018, and an overall capacity rating based on the agencies' capacity and capability to reduce impacts from current and future hazards and future needs. Several

drafts of the State Capability and Adaptive Capacity Analysis chapter were provided to PMT, RMAT, and FEMA for review. Additional information is presented in Chapter 4 (State Capability and Adaptive Capacity Analysis).

#### **2.2.2.4 Vulnerability Assessment**

Similar to the Capabilities and Capacities chapter, the Vulnerability Assessment was developed based on the findings from the Capability, Adaptive Capacity, and Vulnerability Assessment Survey. Additional information to inform the Vulnerability Assessment included interviews with state agency staff and MVP program representatives; RMAT meetings; analysis of information available in documents including the MA Climate Assessment, the 2018 SHMCAP, and agency vulnerability assessments; and analysis of other existing programs. The purpose of the Vulnerability Assessment is to identify areas where state agency physical and nonphysical assets and functions are likely to be most vulnerable to the hazard and climate vulnerabilities and consequences identified in the 2023 SHMCAP. The project team provided a high level of findings to RMAT during RMAT Meeting 5 on March 14, 2023. Several drafts of the Vulnerability Assessment were provided to PMT, RMAT, and FEMA for review. Additional information is presented in Chapter 6 (State Agency Vulnerabilities).

#### **2.2.2.5 Risk Assessment**

The Risk Assessment is a critical component of the 2023 MA SHMCAP and improves on the information in the 2018 MA SHMCAP Risk Assessment by incorporating new analysis and updated data, expanding vulnerability and consequence findings across all five sectors, and including information from the MA Climate Assessment. The 2023 Risk Assessment identifies risks, consequences, and impacts associated with the hazards and climate change influences that have already affected and will continue to affect Massachusetts. It considers the existing and future long-term climate, land use, and population stressors for each hazard, along with the exposure and vulnerability of populations, geographic areas, assets, and services from each hazard. The information in the Risk Assessment includes the underlying causes of the hazards, the best available data and information for the Commonwealth, the historical context of these hazards in Massachusetts, and the projected impacts of climate change, population projections, and other trends that will influence the risks posed by these hazards. The Risk Assessment provides the empirical basis for the actions and activities prioritized by the 2023 MA SHMCAP.

An introduction to the Risk Assessment was provided during RMAT Meeting 3 on November 8, 2022, and high-level findings from the Risk Assessment were discussed during RMAT Meeting 4 on January 24, 2023. The first draft of the 2023 MA SHMCAP Risk Assessment was shared with FEMA while the initial and final drafts of the Risk Assessment were shared with the RMAT and subject matter experts. The project team incorporated and addressed comments provided by RMAT and FEMA, accordingly.

### 2.2.2.6 Action Development

The project team worked with RMAT through three rounds of action development, described as follows:

- **Round 1 Action Development.** The project team introduced the RMAT to the action development process and framework during RMAT Meeting 4 on January 24, 2023. During this meeting, the project team asked the agencies to complete a brief survey to identify which priority impacts the agencies would develop actions to address. The project team also introduced the 2023 action development worksheet, which was the primary tool used to develop, coordinate, and refine actions throughout the three rounds of action development.

The purpose of Round 1 of action development was to review the actions from the 2018 MA SHMCAP Action Tracker and provide an updated status for the action, as well as brainstorm new actions for priority impacts and vulnerabilities identified by the MA Climate Assessment and the 2023 Risk Assessment. Agencies were asked to identify actions as completed, in progress, modified or deferred, or not started, as well as provide an explanation of the reasoning. RMAT members were also asked to review the 2023 MA SHMCAP goals, modify 2018 actions to better align with the 2023 goals, and develop new actions for 2023 to be consistent with the 2023 goals.

- **Round 2 Action Development.** The project team requested that the RMAT review and refine actions presented during Round 1 to specifically incorporate feedback from MEMA and EOEEA and assign a category to the action, in addition to addressing identified priority impacts, concerns with specific assets, and impacts on populations. RMAT members also considered funding, timeline, alignment with FEMA requirements, and barriers to action implementation.

The project team also reviewed actions that would best be implemented at the statewide level and tagged these as cross-government actions. The project team solicited feedback from RMAT on a series of cross-government actions during RMAT Meeting 5 on March 14, 2023. The project team then revised the cross-government actions and shared them more broadly with stakeholders and community groups. The project team also shared the feedback with RMAT for consideration and refinement.

- **Round 3 Action Development.** The goal of Round 3 of action development was to refine and combine similar actions, identify partners for action collaboration, prioritize actions based on the outputs of the Action Score Card, and remove proposed actions that may no longer be relevant. Round 3 also served as an opportunity to identify lead and partner agencies for proposed cross-government actions and to finalize those actions accordingly.

The project team then asked the RMAT to review the finalized actions with and obtain sign-off from the appropriate Executive Office. Additional detail is available in Chapter 7 (State Strategy, Actions, and Implementation Plan).



### 2.2.2.7 Strategy Development

The 2023 MA SHMCAP Strategy (as presented in Chapter 7) pulled from all steps in the process, beginning with the updated 2023 mission and goals, which were reviewed by the RMAT in RMAT Meeting 2. The mission and the goals were updated to ensure that the 2023 MA SHMCAP prioritized the following issues:

- Follow a whole community approach emphasizing collaboration among state agencies, regional organizations, and local municipalities.
- Prioritize risk reduction for environmental justice and other priority populations.
- Focus on risks to people and the environment from the highest consequence hazards and impacts.
- Provide best available science and information to support planning and implementation at regional and local levels.
- Consider greenhouse gas effects of hazard mitigation and climate adaptation strategies.

Based on comments received from RMAT members, FEMA, and other participants between RMAT meetings 2 and 4, the 2023 MA SHMCAP mission and goals were revised to simplify the language, ensure consistency with FEMA requirements, and reflect the priorities of the Commonwealth.

The Strategy includes a summary of key themes that were used to guide action development. The themes were identified through the RMAT meetings and a review of existing programs and planning processes. They were based on the priority impacts and vulnerabilities identified in the MA Climate Assessment, the 2023 Risk Assessment, and the 2023 Capability and Capacity Assessment. These themes, which are also reflected in the goals, are:

- Collaboration and support for a whole state approach.
- Focus on flooding and extreme heat.
- Risk assessment and reduction for cultural resources.
- Resilience building through conservation, restoration, and management.

The Strategy also includes the action development process, which is described above and was designed to ensure that actions are responsive to priority impacts and include benefits to people and the environment. The Strategy also considers disproportionate impacts, advances sustainability principles, leverages partnerships, and promotes effectiveness. The actions were developed over RMAT meetings 4 and 5, one-on-one agency meetings with MEMA and EOEEA, and office hours sessions. They were informed by two meetings and nine focus groups designed to obtain municipal, regional, stakeholder, community, non-governmental organization (NGO), and private organization input.



Using three rounds of development for actions was intended to provide a lower bar to entry during the first round and allow for brainstorming and creativity. Providing two more rounds to add detail, consider additional factors, add costs and partners, and rank and prioritize actions provided agencies the ability to refine the actions over time and build upon their initial ideas in the first round.

Both the cross-government actions and the state agency actions were developed through the same process but are organized in the Strategy in two different ways. The cross-government actions are organized by 2023 MA SHMCAP goals and the state agency actions are organized by priority impacts and vulnerabilities. The reason for the difference is that most of the cross-government actions broadly address many of the priority impacts and vulnerabilities, while the state agency actions were designed to address specific priority impacts and vulnerabilities.

During Round 3 of action development, state agencies were responsible for ranking and scoring their actions based on a scorecard developed for the 2023 SHCMAP. The scoring process included the following factors:

- Alignment with 2023 MA SHMCAP goals.
- Engages environmental justice and other priority populations.
- Advances partnerships and supports robust engagement.
- Continuity of critical services.
- Sustainability, conservation, and nature-based approaches.
- Leveraging funding.
- Timing of initiation.

Upon receipt of the final actions from the state agencies, the project team organized the actions by considering the 2023 MA SHMCAP goals, the priority impacts and vulnerabilities, and the key themes to develop the 2023 SHCMAP Strategy. As presented in Chapter 7 (State Strategy, Actions, and Implementation Plan), similar actions are organized together under Action Topics in order to highlight that multiple agencies are intended to coordinate on these actions in order to increase the effectiveness of the individual actions and the strength of state agency partnerships. Examples of Action Topics include assessing and reducing the risks of heat on human health, providing state support for local and regional actions, prioritizing action dams and culverts to reduce risks and improve water quality and habitats, assessing and reducing risks to cultural resources, and undertaking conservation and restoration actions to improve natural and community resilience. Within each of these Action Topics are individual state agency actions that will be implemented by each agency, and that will also be coordinated with the other agencies that have actions under the same Action Topic.

Instead of simply providing a list of individual state actions, the outcome of the Strategy provides a focused approach intended to address the most urgent and consequential priority impacts and vulnerabilities and ensure that the risk reduction and resilience benefits are felt by the people, communities, and resources that are most at risk.

Based on this approach—which was built in collaboration with the RMA, reflecting the comments received during engagement at the local and regional level, and presented at the final RMA Meeting 6—the project team developed a hazard mitigation and climate adaptation strategy for the 2023 MA SHMCA, as presented in Chapter 7 (State Strategy, Actions, and Implementation Plan).

### **2.2.2.8 Plan Implementation and Maintenance**

The 2023 SHMCA Plan Implementation and Maintenance approach was built on the existing architecture that has been implemented by the Commonwealth since 2018. The process, activities, and schedule for implementing and maintaining the 2023 Strategy was presented to the RMA at Meeting 6 and is further described in Chapter 7 (State Strategy, Actions, and Implementation Plan).

## **2.3 Integration and Coordination with Other Planning and Climate Adaptation Efforts**

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Development of the 2023 MA SHMCA involved robust engagement and participation that increased awareness and enthusiasm for its implementation, facilitating coordination and integration of related state planning efforts. To further increase effectiveness and efficiency, the 2023 MA SHMCA planning process considers and is integrated with other planning efforts including but not limited to the MA Climate Assessment, the MVP program, local hazard mitigation plans, the work of regional planning agencies, issues and priorities of community organizations and stakeholders. Some of these efforts are highlighted in the following subsections.

### **2.3.1 Statewide Assessments, Coordination, and Planning Efforts**

Successful adaptation and hazard mitigation planning in Massachusetts depends on intentional and consistent collaboration between state-level leadership and agencies, in addition to federal entities, local jurisdictions, and local communities. Since the 2018 MA SHMCA, the Commonwealth has undertaken significant efforts to ensure collaborative processes are executed between and among state agencies to increase resilience and develop and implement projects to achieve common goals. The following subsections present summaries of several of these initiatives.

### **2.3.1.1 Executive Order 604: Establishing the Office of Climate Innovation and Resilience Within the Office of the Governor**

Executive Order 604, issued during 2023, created the OCIR, which will direct and advance climate innovation, mitigation, adaptation, and resilience policies. The Executive Order also created the appointment of a Climate Chief to lead this office and serve as a climate officer within the governor's cabinet, providing advice on climate-related policy, regulations, legislation, and initiatives, as well as guidance on potential funding or capital investment opportunities. The establishment of the OCIR and appointment of a Climate Chief are critical to continuing to foster collaboration among agencies and to integrate adaptation and hazard mitigation planning statewide.

### **2.3.1.2 MA Climate Assessment**

The [MA Climate Assessment](#) was released during 2022 and involved a statewide analysis detailing how Massachusetts' people, natural environments, economy, infrastructure, and governance may be affected by climate change and its related hazards through the end of the century. The assessment directly informed the 2023 MA SHMCA update. The MA Climate Assessment includes updated statewide climate change projections to identify climate impacts across the Commonwealth's regions and sectors, as well as data-driven climate risk consequence and urgency ratings. The project was informed by local planning through the Commonwealth's MVP program plans as well as FEMA-approved Local Hazard Mitigation Plans and was guided by a stakeholder working group, an equity advisory group, and a series of regional conversations and workshops.

### **2.3.1.3 Metropolitan Area Planning Council's Report on Stormwater Flooding in Greater Boston**

The Metropolitan Area Planning Council published a report [Water, Water, Everywhere: The Increasing Threat of Stormwater Flooding in Greater Boston](#) in 2023. This report is the result of an extensive research effort to understand the risks of flooding associated with extreme precipitation events. The Council analyzed 27,000 flood claims that followed a historic series of storms in March 2010. The storms brought 18 inches of rain across Eastern Massachusetts in a short period of time, resulting in \$59 million in disaster assistance payouts. This report is one of the first comprehensive reviews of flooding in areas outside FEMA flood zones that have been impacted by flooding from precipitation from storm events.

### **2.3.1.4 Massachusetts Drought Management Plan**

The [Massachusetts Drought Management Plan](#) was updated in 2019 and was developed to maximize the Commonwealth's ability to effectively prepare for and respond to drought conditions. The plan aims to minimize drought impacts to the Commonwealth by improving agency coordination; enhancing monitoring and early drought warning

capabilities; and outlining preparedness, response, and recovery activities for various state agencies, local communities, and other entities affected by drought. The plan lays out an integrated, multiagency approach to managing drought, with an emphasis on state-led preparedness and response actions as drought conditions change.

### **2.3.1.5 Massachusetts Department of Transportation Capital Investment Plan**

Released in June 2022, the 2023–2027 [Capital Investment Plan](#) includes a plan for investing a total of \$14.9 billion in capital improvement projects over the next five years.

Approximately 52 percent of investments focus on improving the reliability and resilience of the existing core transportation system, in addition to greenhouse gas mitigation approaches.

### **2.3.1.6 Model Building Codes**

The Commonwealth requires local governments to use a nationally applicable model building code that addresses hazards (including wind, flood, snow, seismic, and other hazards) as a basis for design and construction of new buildings and any state-sponsored mitigation projects. The Ninth Edition of the State Building Code became effective October 20, 2017 and is based on modified versions of the 2015 International Codes, as published by the International Code Council. Under the Ninth Edition, the design and construction of buildings and structures located in flood hazard areas must be in accordance with American Society of Civil Engineers standards, which are consistent with, and in some cases exceed, minimum National Flood Insurance Program requirements. As of November 2022, the Commonwealth is in the process of adopting the 2021 International Code Council model codes as the Massachusetts Tenth Edition, which has further improvements for design and construction requirements for buildings and structures in flood hazard areas.

### **2.3.1.7 Climate Resilience Design Standards and Guidance Tool**

The [Climate Resilience Design Standards and Guidance Tool](#) is advancing prioritized cross-agency actions included in the MA SHMCAP. This effort has developed climate resilience design standards and guidance, as well as a Design Standards Tool for state agencies in order to incorporate climate resilience into the Commonwealth’s capital planning process and grant-making for local capital projects. The Tool outputs are generated using available climate science data for Massachusetts, and the Tool can be enhanced over time to incorporate new science, additional or changing climate hazards, and ongoing stakeholder feedback.

### **2.3.1.8 Department of Energy Resources Leading by Example Program**

Established by Executive Order 594 in 2021, the Department of Energy Resources [Leading by Example Program](#) requires state agencies to prioritize practices and programs that

address resource use at state facilities, including a reduction in energy consumption derived from fossil fuels and emissions associated with such consumption. The Executive Order also mentions the MA SHMCAP: “whereas, the Massachusetts Integrated State Hazard Mitigation and Climate Adaptation Plan directs the Commonwealth to continue to prioritize investments in clean energy resilience infrastructure projects at state facilities.”

### **2.3.1.9 EOEEA’s Resilient Lands Initiative**

The 2023 [Resilient Lands Initiative](#) guides actions that aim to conserve, restore, and care for the land to help nature and people. The initiative planning effort incorporates input from community members, nonprofits, government, and farm and forest residents. The Resilient Lands Initiative recognizes that the economy and human sectors are dependent on the services and products that natural systems offer. It approaches implementation and visioning through (1) justice, equity, diversity, and inclusion, and (2) climate change. The 2023 MA SHMCAP aligns with the goals of the Resilient Lands Initiative in that they both aim to help residents understand, address, and cope with climate change impacts.

## **2.3.2 Local and Regional Assessments, Coordination, and Planning Efforts**

The Commonwealth has assisted municipalities and communities with integrated planning by providing technical assistance and funding for more than 20 years. MEMA also engages with Regional Planning Agencies, which include staff of professional planners and are typically consulted to prepare hazard mitigation plans. MEMA’s webpage on [Local Hazard Mitigation Planning](#) provides resources for communities and regional planning agencies to consult when developing or updating hazard mitigation plans. MEMA and other state agencies also provide technical assistance to communities through workshops, trainings, site visits, templates, and other resources, and coordinate to ensure that each jurisdiction is provided with new templates, examples, and current information when plans are updated and new plans are developed. The Commonwealth provides funding to eligible communities through the MVP program, in addition to grants awarded by FEMA through the Hazard Mitigation Grant Program, Hazard Mitigation Assistance, and Building Resilient Infrastructure and Communities programs. The Commonwealth also provides funding through several other grant funding opportunities, including the Office of Coastal Zone Management’s Resilience Grant Program and Coastal Pollutant Remediation Grant Program, EOEEA’s Planning Assistance Grant Program, the Parkland Acquisitions and Renovations for Communities Grant Program, and others presented in the [Massachusetts Executive Office of Energy and Environmental Affairs Climate Grant Viewer](#).

### **2.3.2.1 Local Hazard Mitigation Planning**

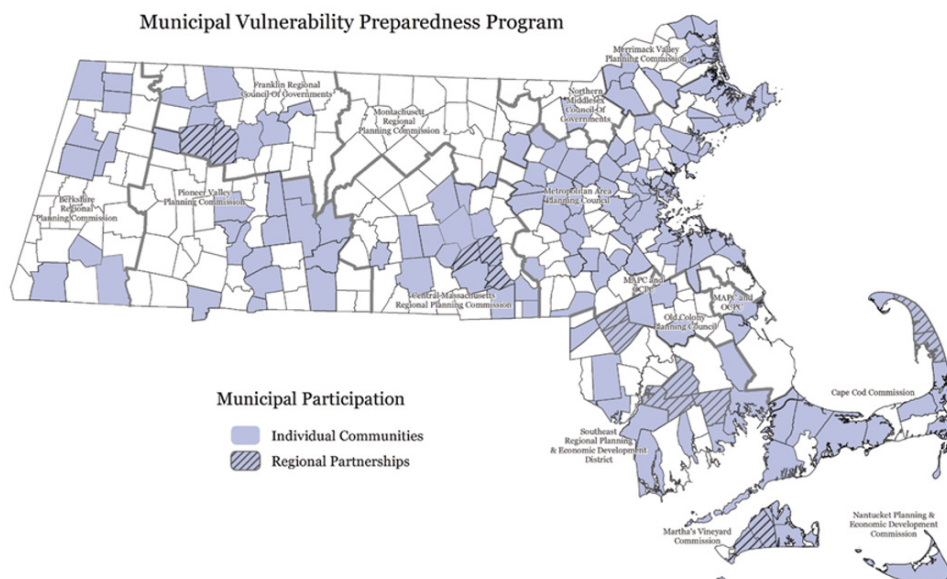
As further described in Chapter 5 (Risk Assessment) the analysis used to inform the 2023 SHMCAP included a systematic review of local hazard mitigation plans to evaluate consistency with hazard exposure, vulnerability, damages, and other relevant local

conditions. The effort included a review of 37 local plans selected to provide a range of local characteristics throughout the Commonwealth and to assist with aligning local and statewide efforts in hazard identification, risk assessment, and mitigation strategy development. Refer to Chapter 5 (Risk Assessment), for additional detail and examples regarding specific integration of local hazard mitigation planning and the 2023 MA SHMCAP.

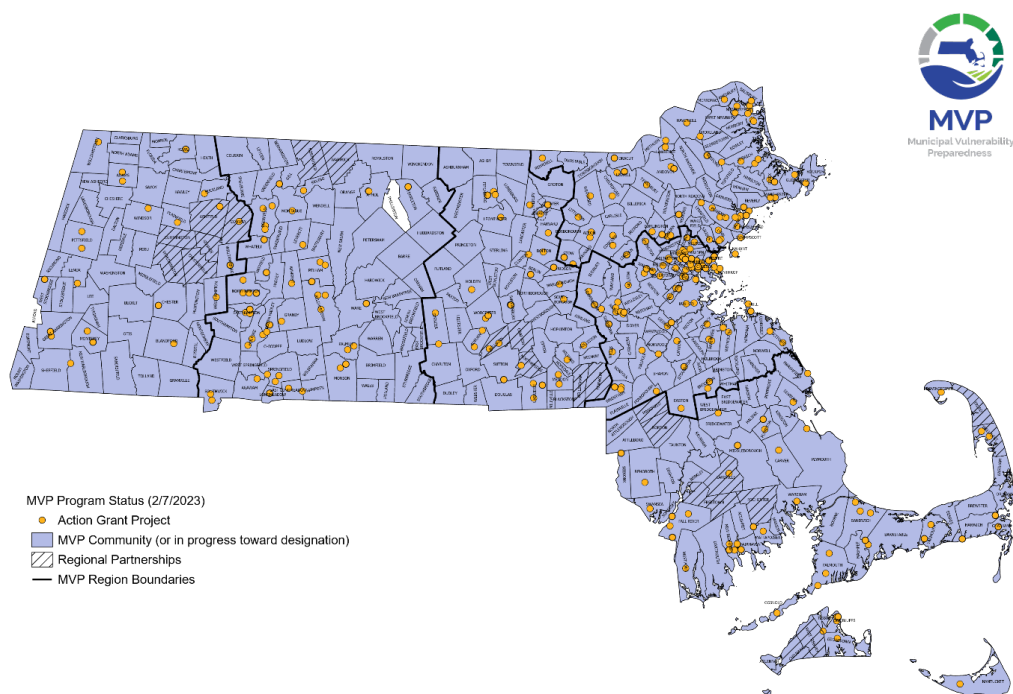
In 2022, EOEEA and MEMA launched a pilot Local Hazard Mitigation Planning Equity Program, which is now administered annually and provides funding to develop or update Local Hazard Mitigation Plans for Massachusetts cities and towns with vulnerabilities and disproportionate impacts to environmental justice and other priority populations. One goal of the program is to demonstrate increased equity in mitigation planning and participation, and to prepare communities to apply for federal Hazard Mitigation Assistance pre- and post-disaster funding allocated to the Commonwealth.

### **2.3.2.2 MVP Grant Program**

The Commonwealth's [MVP grant program](#) supports city and town climate change and resilience planning by providing funding for conducting vulnerability assessments and developing resiliency plans using The Nature Conservancy's Community Resilience Building [workshop guide](#). The Community Resilience Building process for completing local hazard mitigation plans also fulfills certain FEMA Local Mitigation Plan Review Guide regulatory checklist requirements, as documented in this [crosswalk](#). After completing the MVP program, communities are MVP certified and therefore have increased standing in state grant programs and are eligible for MVP Action Grant funding, which funds priority action implementation. The Commonwealth has made significant strides in increasing resilience throughout Massachusetts by implementing the MVP Grant Program. Figure 2-3 shows the number of individual communities and regions participating in the MVP program as of 2018. Figure 2-4 shows the updated map as of February 2023, with additional communities and regions (349 total) participating in the MVP program, as significant increase from 2018.



**Figure 2-3. MVP Planning Grant Communities and Regional Partnerships (2018).**



Source: [MA MVP Program](#).

**Figure 2-4. MVP Planning Grant municipalities and MVP Action Grants (2023).**