

Municipal Vulnerability Preparedness Program Listening Session



Welcome to the West Newbury climate change Municipal Vulnerability Preparedness (MVP) Listening Session

Presentations

- **Description of the MVP process and climate change overview—Ellie Baker**
- **West Newbury work, consensus development, and conclusions—Rick Parker**
 - **Key vulnerabilities and strengths**
 - **Priority action items**

Welcome to the West Newbury climate change Municipal Vulnerability Preparedness (MVP) Listening Session

This GoToMeeting Session

- Meeting is being recorded & will go on internet
- Please mute unless you're speaking (*6 on phone)
- Camera view control
- Type questions into chatbox, unmute if on the phone

Welcome to the West Newbury climate change Municipal Vulnerability Preparedness (MVP) Listening Session

*Those on the phone, please unmute (*6) & introduce yourself*

More information

- Town website
- Final Report & Workshop presentations, this Listening Session
- Submit additional comments by July 9, 2020.

Welcome and Thank You

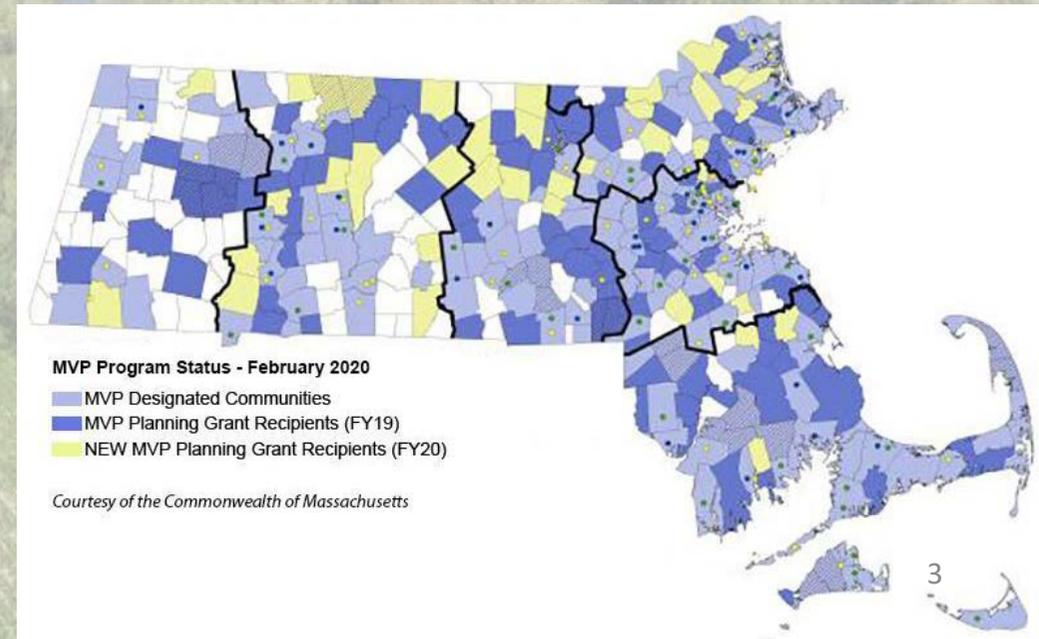
- West Newbury MVP Working Group
 - Elisa Grammer, Energy Advisory Committee, Historical Commission, River Access Committee
 - Paul Sevigny, Health Agent
 - Liz Callahan, Energy Advisory Committee
 - Richard Parker, Selectman, Energy Advisory Committee
 - Wendy Reed, Conservation Commission, Open Space, Planning Board
 - Patricia Reeser, Open Space Committee
 - Chip Wallace, Energy Advisory Committee
 - Nancy Pau, Resident, Parker River Wildlife Refuge Biologist



The Massachusetts MVP Program



- **September 2016:** EO 569 directed the state to assist municipalities to reduce vulnerability and improve resilience to climate change
- **February 2020:** *Resilient MA* legislation filed to generate \$1.3B over 10 years for municipal resilience from real estate transfers
- **February 2020:** Latest MVP Awards
 - 38 Planning Grants and \$1.02M
 - 54 Action Grants and \$10.5M



MA Resiliency Resources

www.resilientma.org



resilient **MA**
Climate Change Clearinghouse for the Commonwealth

Maps Data Documents

Providing the most up-to-date climate change science and data

Climate Change Data

The Baker-Polito Administration is investing in the best science and data to understand how the climate is projected to change and to allow Massachusetts to plan and adapt for the future.

[More >>](#)

Massachusetts State Hazard Mitigation and Climate Adaptation Plan

September 2018



Climate Change at a Local Scale



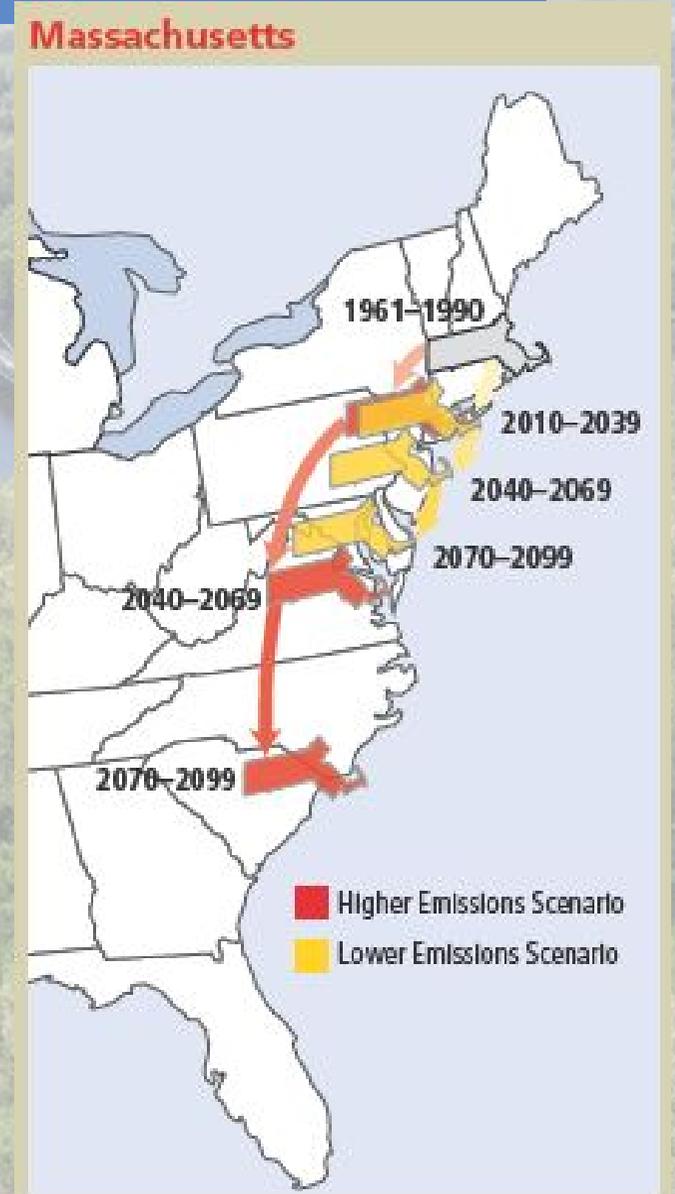
Projected Temperature Increases

Average Annual Temperature

increase 3-6 degrees F by 2050s

increase 4-11 degrees F by 2090s

Depending on the emission scenario, it could feel like Washington DC or South Carolina by the end of the century



Projected Precipitation Changes

Average annual precipitation expected to increase:

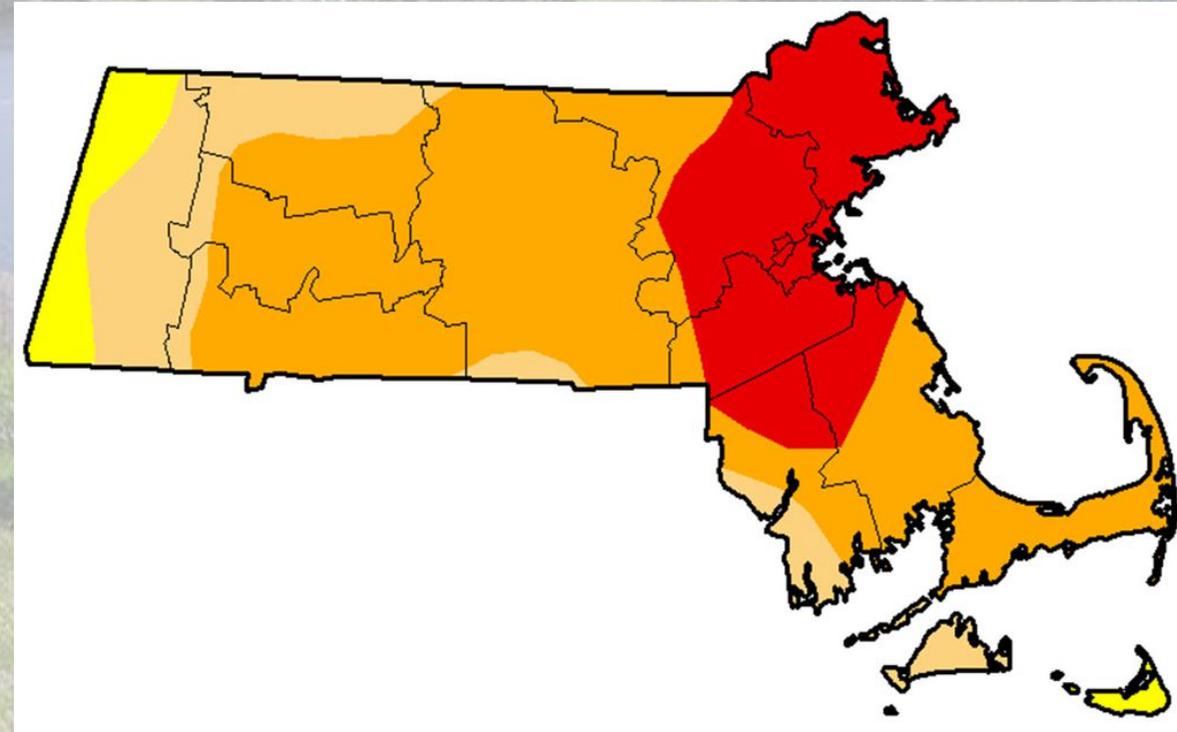
up to 22% by 2050

up to 35% by 2100

Largest increases in precipitation expected in winter.

Number of rain events decreasing while intensity of rain is increasing.

More consecutive dry days expected in fall, contributing to drought conditions.



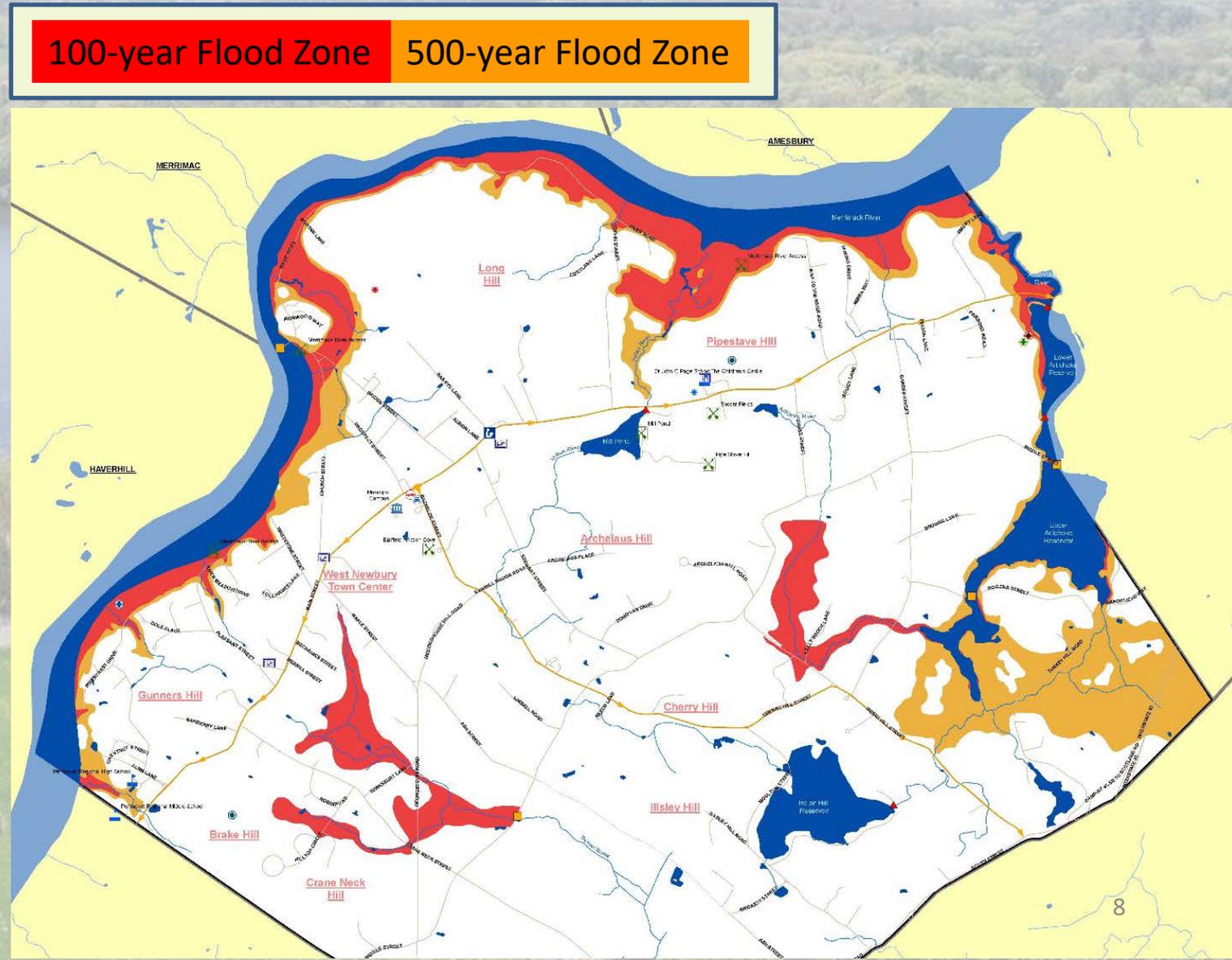
Sea Level Rise – Flood Zones as Projections

Up to 4 feet of SLR projected in Kittery by 2100

Today's flood zones are tomorrow's norm.

The 100-year flood is occurring more frequently.

The 500-year flood will become the 100-year flood.



Wind

Winds down trees, power lines across North Shore

By Arianna MacNeill Staff Writer Oct 30, 2017



Ken Yuszkus/Staff photo Robert LeBrun, of Peabody, walks near one of the trees at Salem Willows that fell during the high winds. Ken Yuszkus



Boston Globe

Health Impacts of Climate Change

Source: US Global Change Research Program, 2016.
https://matracking.ehs.state.ma.us/Climate-Change/climate_and_health_profile.html



Extreme Heat

Rising temperatures will lead to an increase in heat-related deaths and illnesses



Outdoor Air Quality

Rising temperatures and wildfires and decreasing precipitation will lead to increases in ozone and particulate matter, elevating the risks of cardiovascular and respiratory illnesses and death.



Flooding

Increased coastal and inland flooding exposes populations to a range of negative health impacts before, during, and after events



Vector-Borne Infection
(Lyme Disease)

Ticks will show earlier seasonal activity and a generally northward range expansion, increasing risk of human exposure to Lyme and disease-causing bacteria.



Water-Related Infection
(*Vibrio vulnificus*)

Increases in water temperatures will alter timing and location of *Vibrio vulnificus* growth, increasing exposure and risk of water-borne illness.



Food-Related Infection
(*Salmonella*)

Rising temperatures increase *Salmonella* prevalence in food, longer seasons and warming waters increase risk of exposure and infection.



Mental Health and Well-Being

Changes in exposure to climate- or weather-related disasters cause or exacerbate stress and mental health consequences, with greater risk for certain populations.

West Newbury's MVP Planning Process

Designed to answer these questions in view of expected climate change:

- What are the Town's key vulnerabilities and strengths?
- What priority actions should the Town be taking to reduce vulnerabilities, increase resilience and promote adaptation?

Vulnerability, Resilience & Adaptation

Vulnerability: the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes

Resilience: the ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions

Adaptation: the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.

What Types of Actions Could We Take?

- Engineering/Construction
- Protection/Conservation
- Retreat/Avoidance
- Preparations/Planning
- Policy/Regulatory Changes



<https://streamprojects.wordpress.com/2007/05/15/dingle-road-culvert-replacement-bronson-brook-worthington-ma/>

Actions can be short-term, long-term, ongoing

Gathered Info Prior to the Workshop

The Core Team and Consultant:

- Reviewed climate change data and existing Town planning documents
- Surveyed townspeople
- Interviewed key stakeholders ranging from public health and safety to schools to senior citizens and more
- Identified priority hazards associated with climate change in West Newbury

Identified Priority Hazards

- **Severe Storms** –increase in number and intensity of wind/nor'easters /hurricanes
- **Changing Precipitation Patterns** –changes in intensity, volume, flooding, drought
- **Diseases and Invasive Species**–increase in ticks, mosquitos, Lyme, EEE, knotweed, bittersweet, etc.
- **Temperature Extremes**–warmer winters, warming trends, increased volatility

February 29 MVP Workshop

1) Examined Town's climate change Vulnerabilities & Strengths

Some examples ...

Infrastructure

Vulnerability: Power outages

Strength: Undeveloped land & open space

Environment

Vulnerability: Insect-borne diseases

Strength: River, streams, ponds, wetlands

Society

Vulnerability: Spotty cellphone & communications

Strength: Strong public safety & emergency services

2) Developed actions that the Town could take to address vulnerabilities and protect/enhance strengths

3) Prioritized actions for West Newbury

The background of the slide features a close-up view of a window pane covered in numerous water droplets of varying sizes. The droplets are in sharp focus, reflecting light and creating a textured, shimmering effect. Through the window, a blurred view of an outdoor scene is visible, including what appears to be a brick building and some greenery, suggesting a rainy day setting.

Final Recommended Priority Actions

West Newbury's MVP process has been designed to answer these questions in view of expected climate change

- What are the Town's key vulnerabilities and strengths?
- What priority actions should the Town be taking—and using MVP Action Grants to accomplish?

My presentation will share the answers that stakeholders representing a wide array of interests in Town developed in a February 29 all-day workshop

1. Emergency communications & communication infrastructure

- Improve cellular wireless and radio infrastructure
- Maintain lists of vulnerable populations for outreach and communication by citizens to Town of their needs in emergencies
- Code Red service – evaluate what is currently in place and what is needed

➤ *Vulnerabilities addressed by this action: emergency preparedness*

2. Open space preservation (open space, agriculture, & forests)

- Continue implementing Open Space and Recreation Plan (OSRP)
- Encourage open space acquisition, based on criteria
- GIS analysis, evaluate open space distribution across Town for equity of access
- Maintain CPA as a priority
- Green infrastructure
- Invasive species--map problem species/areas & work with DPW, Open Space Comm. & other to use Best Management Practices to prevent spread/eradicate new invasions



2. Open space preservation (open space, agriculture, & forests) *continued...*

- Improve land use controls & bylaws/policies
 - Tree/tree canopy preservation
 - Wetland protection
 - Forests/Trees/Fields Management
- Develop comprehensive plan that considers development growth (conversion of open space) in relationship to available town resources and services

➤ *Vulnerabilities addressed by this action: protecting open space, emergency preparedness, insect-borne diseases, water quality impacts from flood events and water supply security, power outages*

3. Water Supply Development & Water Supply Protection Planning

Including but not limited to:

- potential dam modification
 - reduce CSO potential for contamination
 - Develop/Implement notification system for downstream residents (consider possibly incorporating it into Code Red)
 - Coordinate with upstream wastewater treatment plants to reduce occurrence
 - Work with adjacent towns (e.g., Newburyport, Haverhill, Amesbury) on water quality monitoring, notification and education
 - Educate about CSO health impacts, including from fishing, recreation
- *Vulnerabilities addressed by this action: emergency preparedness, water quality impacts from flood events and water supply security*

4. Municipal microgrid with back-up storage (green energy) for emergency shelter and senior housing

- Create island of continuous power supply in the event of outages
- Encompassing police & fire complex, Town Offices & Annex, senior housing

➤ *Vulnerabilities addressed by this action: Power outages*

5. Improved educational communications around climate change impacts & preparedness

- Outreach through libraries, school curriculum, senior services
- Education on climate awareness, disease vectors, disease prevention and detection

➤ *Vulnerabilities addressed by this action: emergency preparedness, insect-borne diseases*

6. Vulnerable populations (elder, disabled, etc.)

- Conduct outreach to increase participation in Code Red
- Include communications and outreach regarding emergencies/maintenance (water breaks, fire hydrant cleaning, etc.)
- Increase functions and resources for Council on Aging
 - *Vulnerabilities addressed by this action: power outages, emergency preparedness*

7. Stormwater and flood management, operation & maintenance

- Develop/improve/enforce stormwater Operation & Maintenance plan
- Map locations of all drainage/flooding issues & prioritize them to be addressed
- Perform a culvert analysis, and map and prioritize improvements
- Assess vulnerable neighborhoods & plan to address vulnerabilities, such as erosion and flooding
 - Priority area is River Rd. erosion
 - Other areas include, but are not limited to: Rte. 113 Bridge, Crane Neck, Meadow River Drive

➤ *Vulnerabilities addressed by this action: flooding and erosion of roadways due to heavy rains, and water quality impacts from flood events and water supply security*

8. Promote Town-owned electric vehicles & equipment, reduce waste, and increase composting

- *Vulnerabilities addressed by this action: general environmental and public health protection and improvement*

Next Steps ...

- 1) Gather feedback from Listening Session
- 2) Add appendix summarizing Listening Session in the Final Report
- 3) Submit Final Report to the State
- 4) Receive State MVP certification
- 5) Pursue MVP Action Grants and take action on our own to build West Newbury's resilience to climate change

Ways to provide feedback ...

- If you are participating in the Listening Session LIVE (June 25, 2020)
 - Type your name in the box, or Type your Question into the box.
 - If you're on the phone, please unmute *6 when prompted to ask your question.

Ways to provide feedback ...

- If you are viewing this presentation after the LIVE Listening Session or would prefer to submit comments later.
 - You can leave a voice mail message at
978-363-1100, x 141
 - You can send an email to: WNMVP.listen@gmail.com

Please comment by July 9, 2020