

Hazard Mitigation Plan Update Public Presentation

Town of Carver
October 26, 2021



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Presentation Outline

- Overview of Hazard Mitigation Plan Process
 - What is a Hazard Mitigation Plan and why should Carver have one?
- Overview of HMP Chapters 3 & 4
 - Chapter 3: Hazard Identification
 - Chapter 4: Vulnerability Assessment
- Public Participation
 - Results of the public survey and future opportunities for participation

Overview of Hazard Mitigation Plans

- Hazard Mitigation Planning – understanding the risks from natural hazards and developing long-term strategies that will reduce the impacts of future events on people, property, and the environment
- Prevent property damage and loss of life associated with natural hazards and expedite disaster recovery
- Save money by instituting mitigation measures to protect against natural hazards
- Eligible for FEMA funding
 - Building Resilient Infrastructure and Communities (BRIC) Grants
 - Flood Mitigation Assistance Program
 - Hazard Mitigation Grant Program

Overall HMP Process



- Identify and describe hazards
- Identify community assets and critical facilities
- Conduct vulnerability assessment
- Develop mitigation actions

- Update every 5 years to keep it current and to remain eligible for FEMA funding

Overview of Carver's Hazard Mitigation Plan

- Chapter 1: Introduction
- Chapter 2: Local Profile
- **Chapter 3: Hazard Identification**
- **Chapter 4: Vulnerability Assessment**
- Chapter 5: Mitigation Measures
- Chapter 6: Plan Maintenance Process

Overview of HMP Chapters – Chapter 3: Hazard Identification

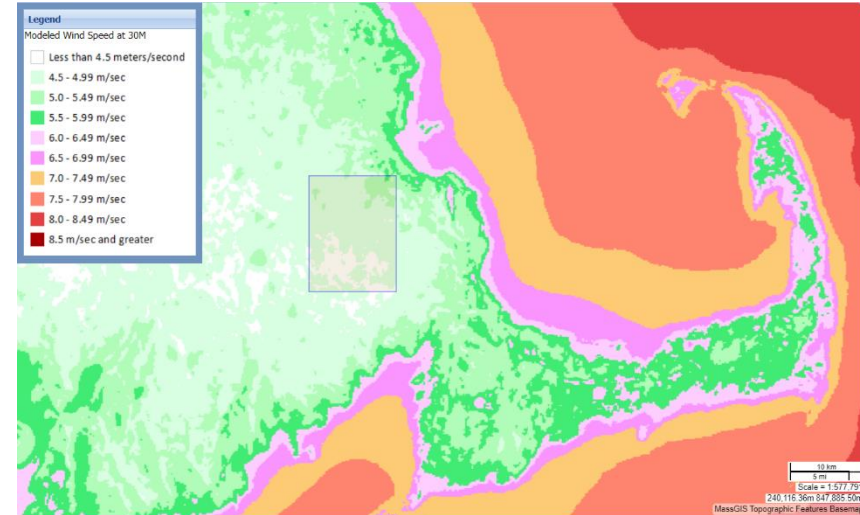
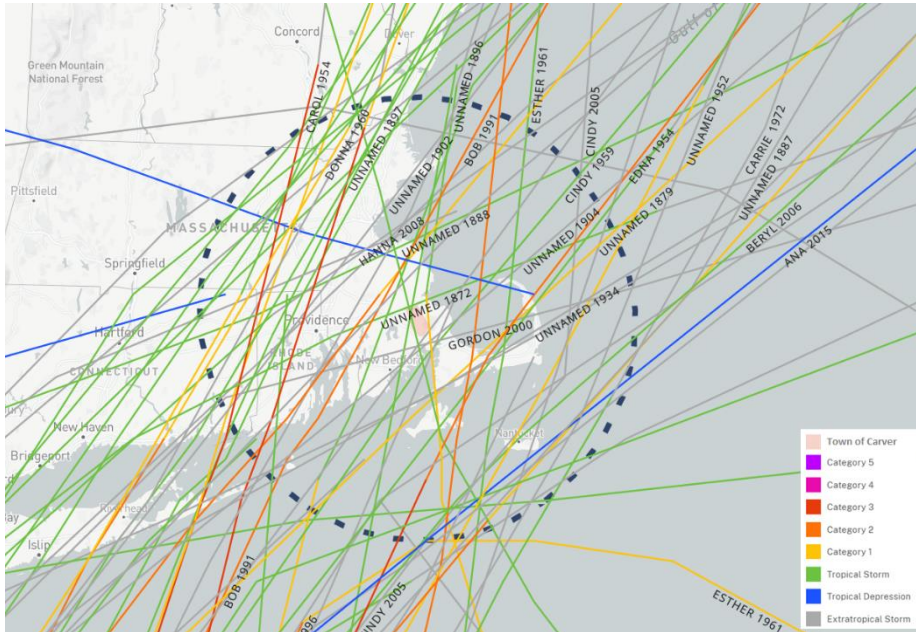
- Hurricane/Tropical Storm
- Other Severe Weather
 - Wind
 - Excessive Precipitation
 - Thunderstorms
- Severe Winter Storm
- Average/Extreme Temperature
- Wildfire
- Invasive Species
- Drought
- Tornado
- Inland Flooding
- Tsunamis
- Dam/Culvert/Flume Failure
- Earthquake
- Mosquito-borne Illness
- Landslides
- Coastal Flooding
- Coastal Erosion

For each hazard:

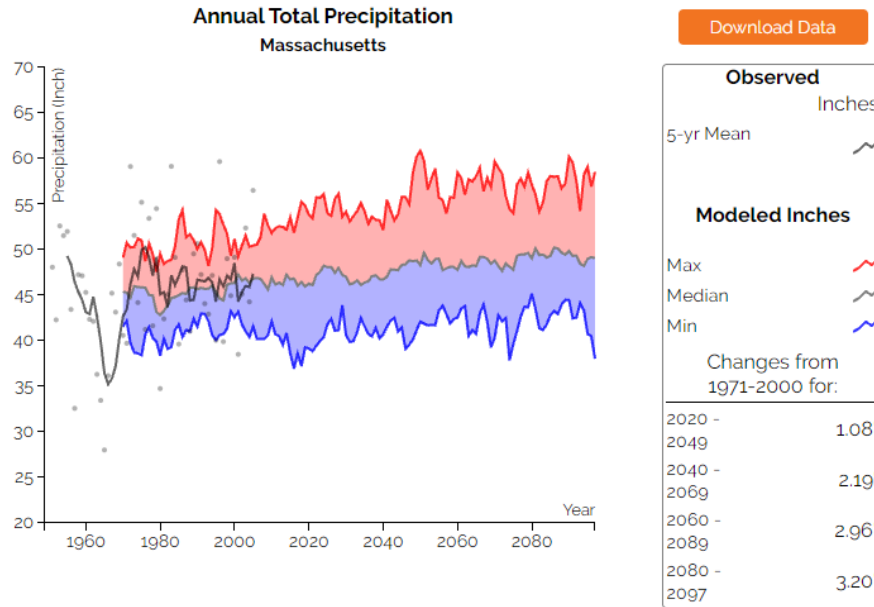
- Location(s) impacted
- Strength/magnitude
- Previous occurrences
- Probability of future events
- Potential impacts

Hurricane/ Tropical Storm

Other severe weather: Wind

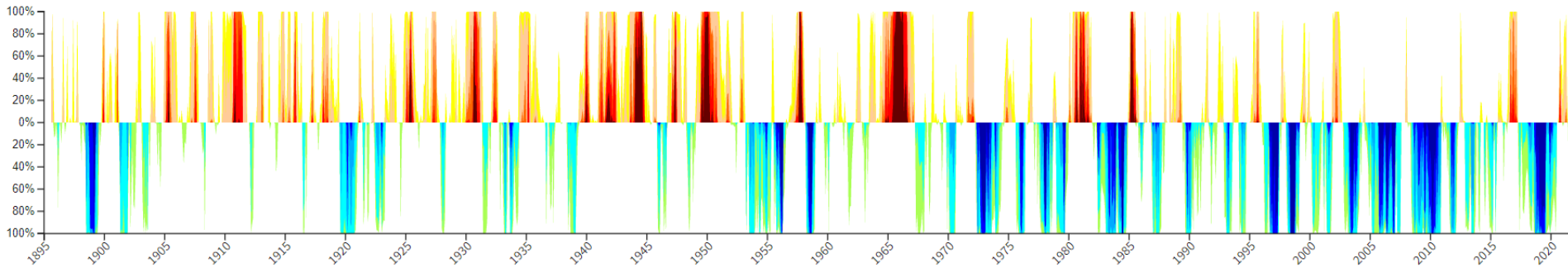
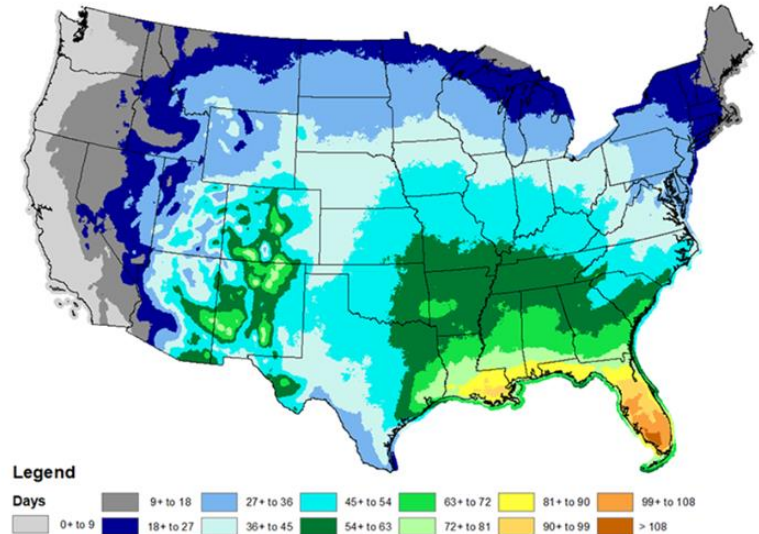


Other severe weather: Excessive Precipitation



Other severe weather: Thunderstorms

Annual Mean Thunderstorm Days (1993-2018)



Severe Winter Storm



- Nor'Easter
- low-pressure system that forms a storm with high winds and snow, travels along the eastern coast
- name comes from the fact that the winds blow from the northeast
- 1-2/year in MA



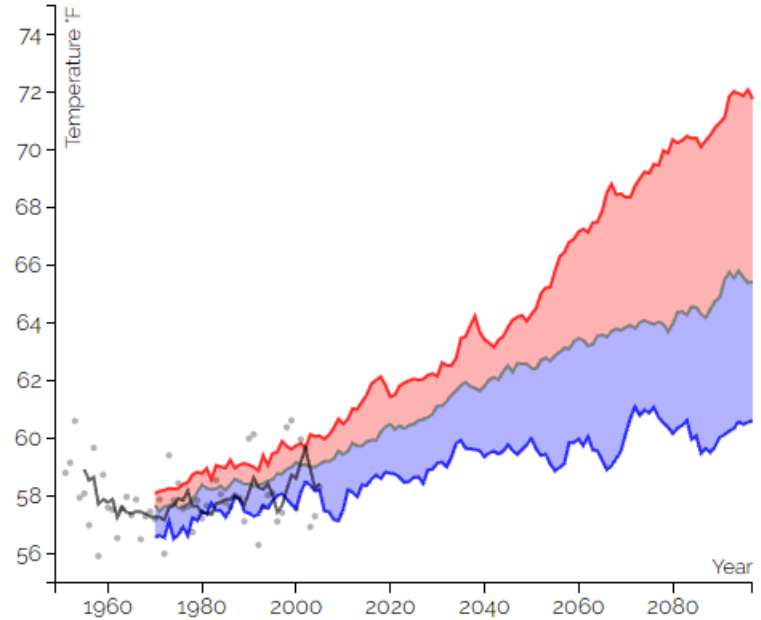
- Blizzard
- dangerous winter storms, blowing snow and wind resulting in very low visibilities
- 1/year in MA



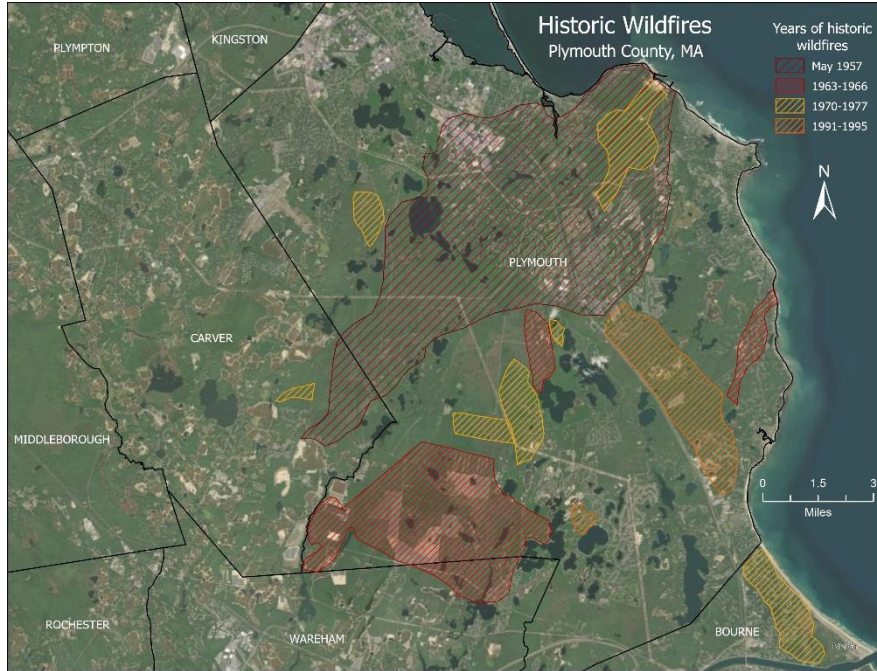
- Ice storm
- freezing rain accumulates on surfaces and the ground
- none in Carver in the past 5-6 years, common in central/western MA

Average/Extreme Temperature

Annual Maximum Temperature
Massachusetts



Wildfire

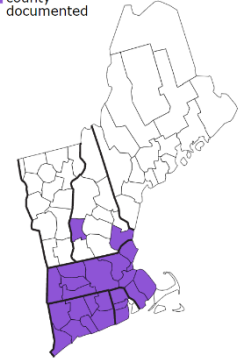


Invasive Species



"Foxtail" *Cabomba caroliniana*

Non-native
county documented



Common Reed
Phragmites australis



Japanese knotweed
Polygonum cuspidatum



Oriental bittersweet
Celastrus orbiculatus

Norway maple
Acer platanoides

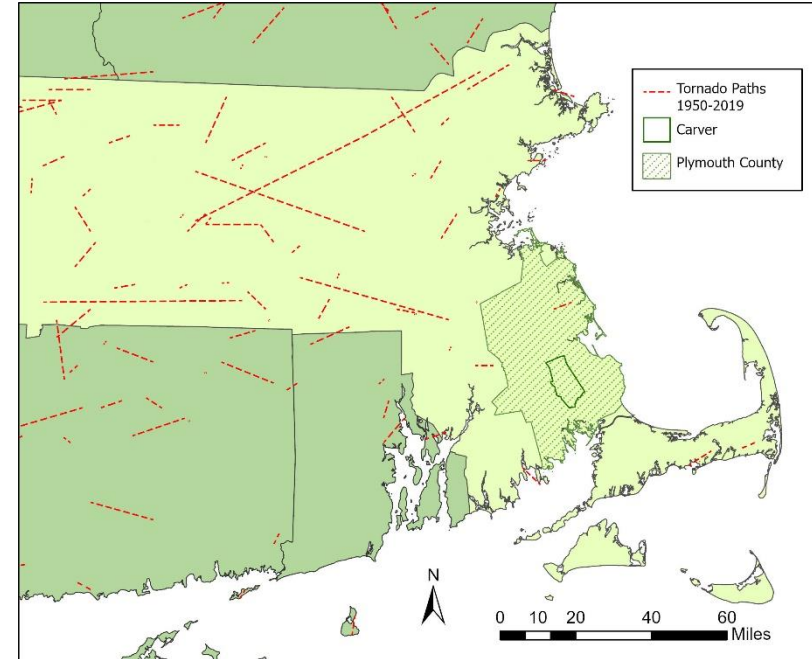


Norway spruce
Picea abies

Drought

Year	Begin Date	End Date	Southeast Status
2016	7/1/2016	7/31/2016	Advisory
2016	8/1/2016	8/31/2016	Watch
2016-2017	9/1/2016	2/28/2017	Warning
2017	3/1/2017	3/31/2017	Watch
2017	4/1/2017	5/31/2017	Advisory
2020	7/1/2020	8/31/2020	Significant
2020	9/1/2020	9/30/2020	Critical
2020	10/1/2020	10/31/2020	Significant
2020	11/1/2020	11/30/2020	Mild
2021	3/1/2021	6/30/2021	Mild

Tornado







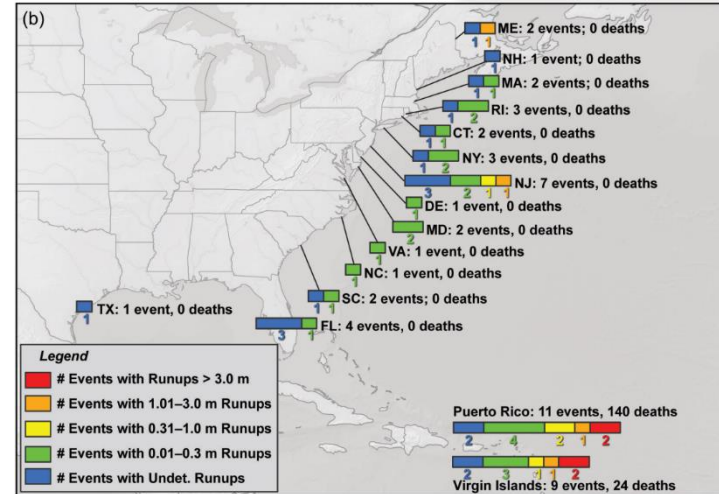
Inland Flooding

Tsunamis

Areas Flooded by Storms in 2010

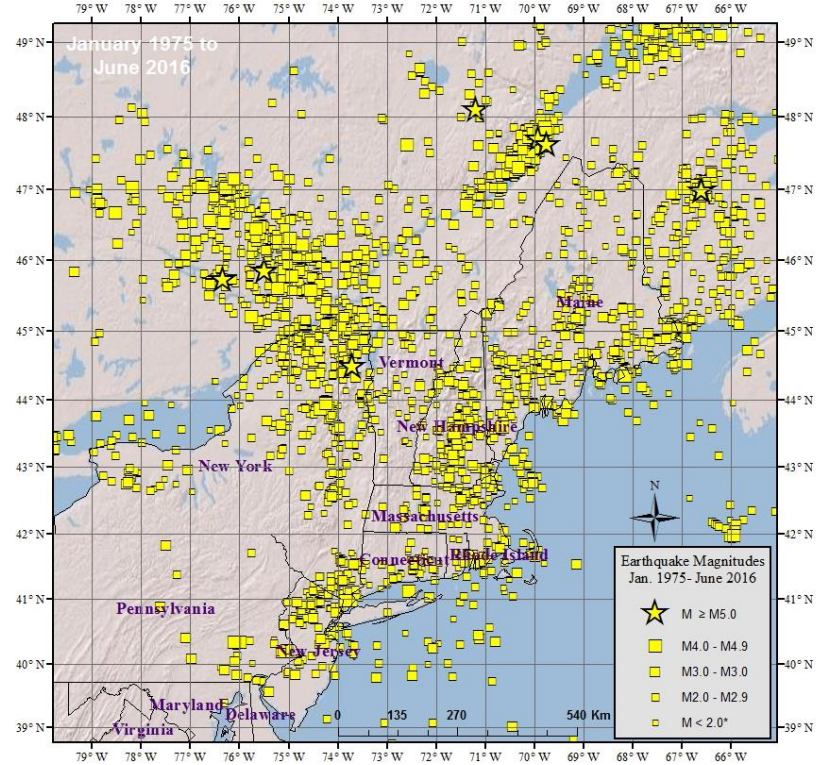
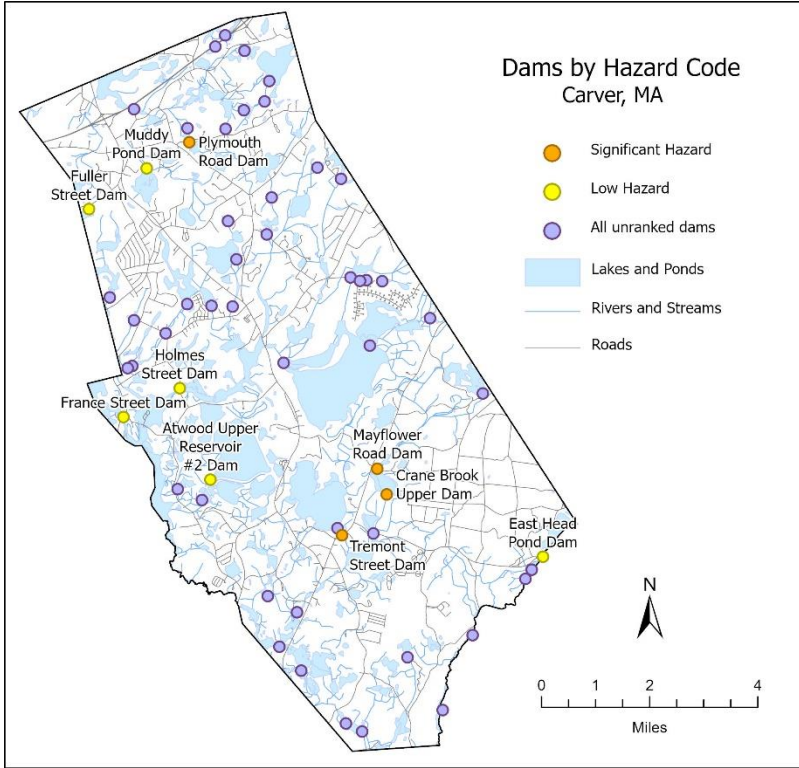
-  Flooded Areas 2010
-  Flooded Streets 2010

- FEMA Flood Zone Designations
-  A: 1% Annual Chance of Flooding, no BFE
 -  AE: 1% Annual Chance of Flooding, with BFE
 -  AE: Regulatory Floodway
 -  X: 0.2% Annual Chance of Flooding



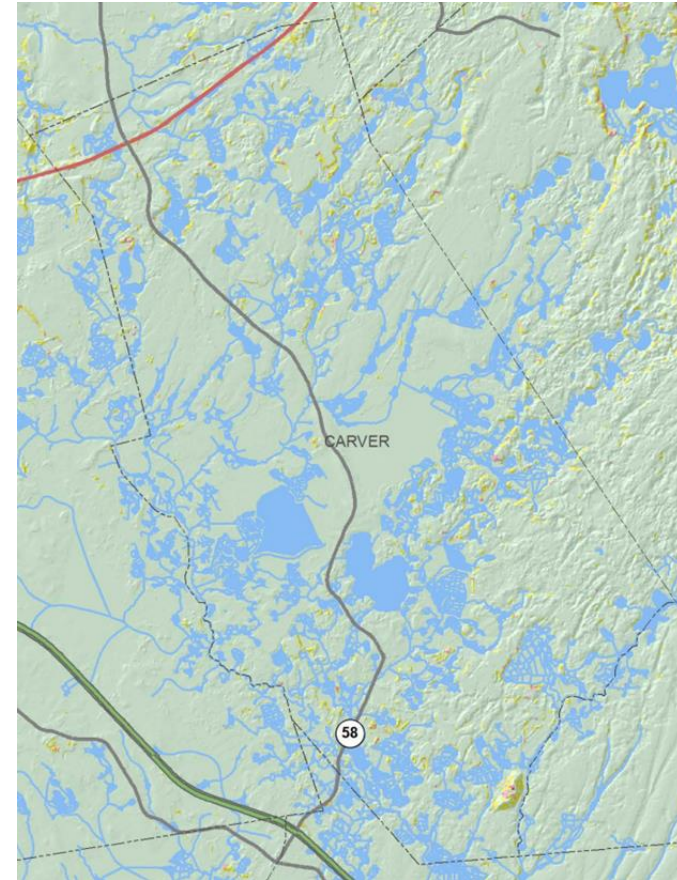
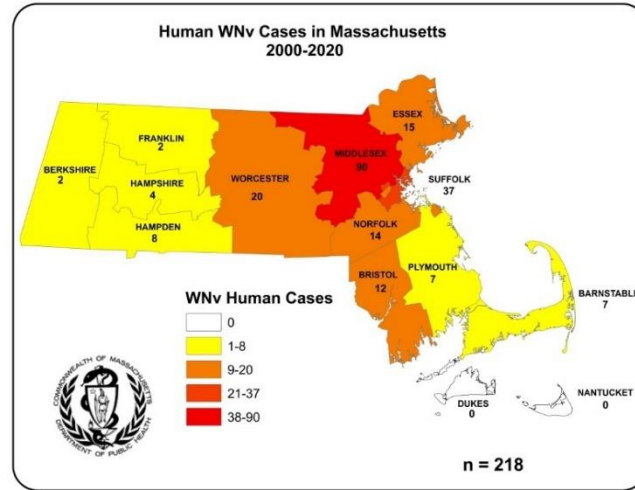
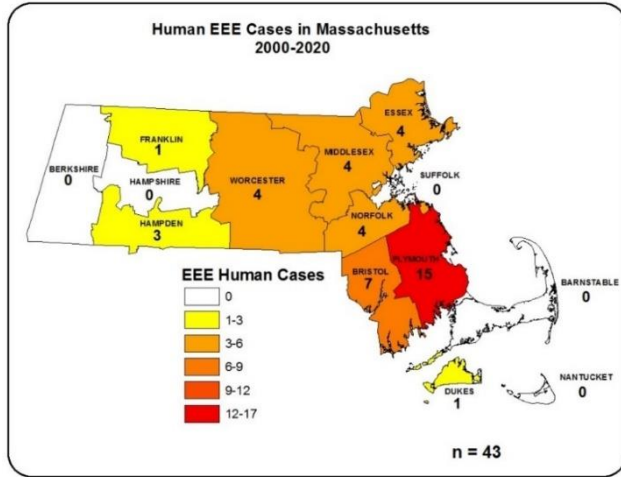
Dam/ Culvert/ Flume Failure

Earthquake

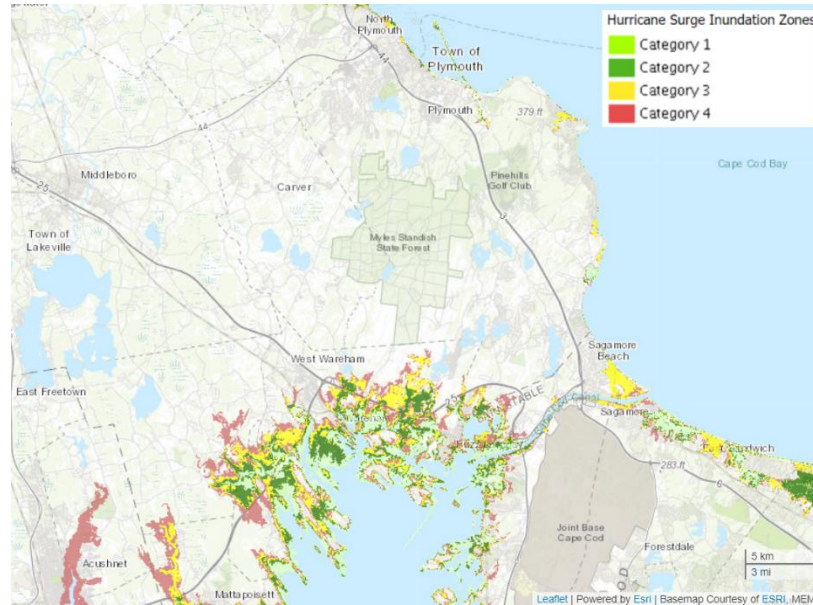


Mosquito-borne Illness

Landslides



Coastal Flooding & Coastal Erosion – do not apply to Carver

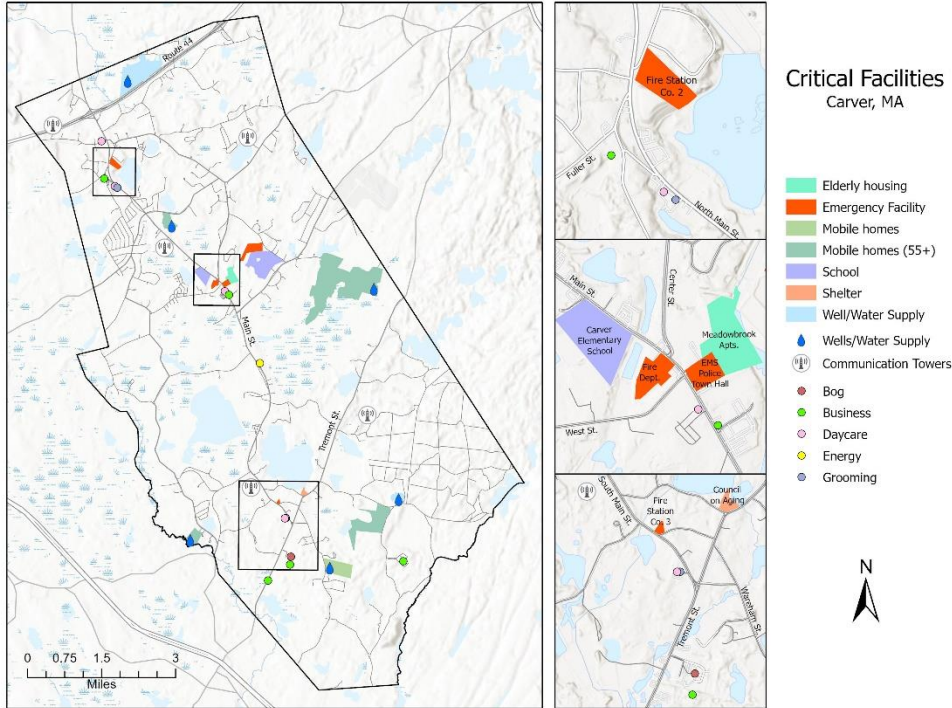


- Hurricane Surge Inundation Zones – even a category 4 hurricane will not cause coastal flooding to Carver

Overview of HMP Chapters – Chapter 4: Vulnerability Assessment



Identification of Critical Facilities



Tier 1

Emergency Response

Carver Police Department
 Carver Fire Department Co. 1/Municipal Comm. Tower
 Carver Fire Station Co. 2
 Carver Fire Station Co. 3
 Carver EMS Station
 Old Fire/Police Station
 Carver EOC/Town Hall
 Carver DPW Facility

Schools/Shelters

Carver Elementary School
 Carver Middle High School/Public Shelter
 Council on Aging (Shelter)

Densely Populated Residential Areas & Water Resources

Carver Elementary School
 Meadowbrook Apartments/Elderly Housing
 So. Meadow Village & Well Site
 Cranberry Village & Well Site
 Water View Village & Well Site
 Meadow Woods & Well Site
 Pine Tree Village & Well Site
 No. Carver Water District Pumps

Carver Municipal Well

Communications

Carver Emergency Radio Tower
 Communication Tower (American Towers LLC)
 Communication Tower (Cingular Wireless)
 Communication Tower
 Communication Tower

Tier 2

Large Day Cares

Capt Pal Pre School
 Cranberry Crossing Day Care
 Kidstop Early Childhood Center
 Little Crusaders

Animals

Curry's Grooming Shop
 The Country Groomer & Kennels

Hazardous Materials

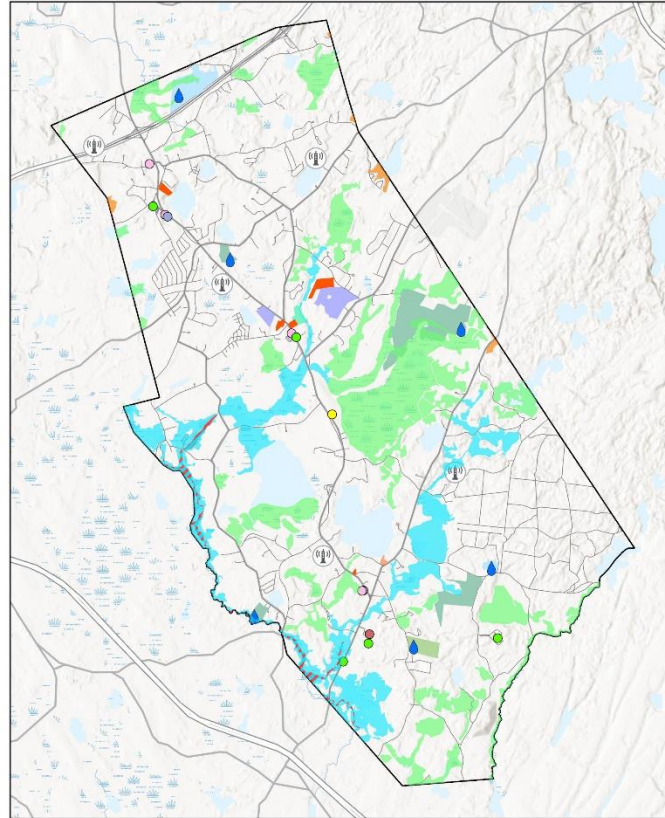
Agway

Cape Cod Ready Mix (Lakeville Redi-Mix Inc.)
 Communication Tower (Cingular Wireless)
 Decas Cranberry Co.

Eversource

Ocean Spray
 Verizon Wireless
 Wrightingtons Gas

Vulnerability Assessment



Vulnerability Assessment
Carver, MA

- Elderly housing
- Emergency Facility
- Mobile homes
- Mobile homes (55+)
- School
- Shelter
- Well/Water Supply
- Wells/Water Supply
- Communication Towers
- Bog
- Business
- Daycare
- Energy
- Grooming

FEMA Flood Zone Designations

- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- X: 0.2% Annual Chance of Flooding

Overview of HMP Chapters – Chapter 4: Vulnerability Assessment

Tier 1		
Emergency Response		
Carver Police Department	No	
Carver Fire Department Co. 1/Municipal Comm. Tower	No	
Carver Fire Station Co. 2	No	
Carver Fire Station Co. 3	No	
Carver EMS Station	No	
Old Fire/Police Station	No	
Carver EOC/Town Hall	No	
Carver DPW Facility	No	
Schools/Shelters		
Carver Elementary School	No	
Carver Middle High School/Public Shelter	No	
Council on Aging (Shelter)	No	
Densely Populated Residential Areas & Water Resources		
Meadowbrook Apartments/Elderly Housing	Yes	AE: 1% annual chance of flooding, with BFE
So. Meadow Village & Well Site	Yes	A: 1% annual chance of flooding, no BFE
Cranberry Village & Well Site	Yes	AE: 1% annual chance of flooding, with BFE
Water View Village & Well Site	No	
Meadow Woods & Well Site	Yes	AE: 1% annual chance of flooding, with BFE; Regulatory floodway
Pine Tree Village & Well Site	No	
No. Carver Water District Pumps	Yes	A: 1% annual chance of flooding, no BFE
Carver Municipal Well	Yes	A: 1% annual chance of flooding, no BFE
Communications		
Carver Emergency Radio Tower	No	
Communication Tower (American Towers LLC)	No	
Communication Tower (Cingular Wireless)	No	
Communication Tower	No	
Communication Tower	No	

Tier 2	
Large Day Cares	
Capt Pal Pre School	No
Cranberry Crossing Day Care	No
Kidstop Early Childhood Center	No
Little Crusaders	No
Animals	
Curry's Grooming Shop	No
The Country Groomer & Kennels	No
Hazardous Materials	
Agway	No
Cape Cod Ready Mix (Lakeville Redi-Mix Inc.)	No
Communication Tower (Cingular Wireless)	No
Decas Cranberry Co.	No
Eversource	No
Ocean Spray	No
Verizon Wireless	No
Wrightingtons Gas	No

Public Participation

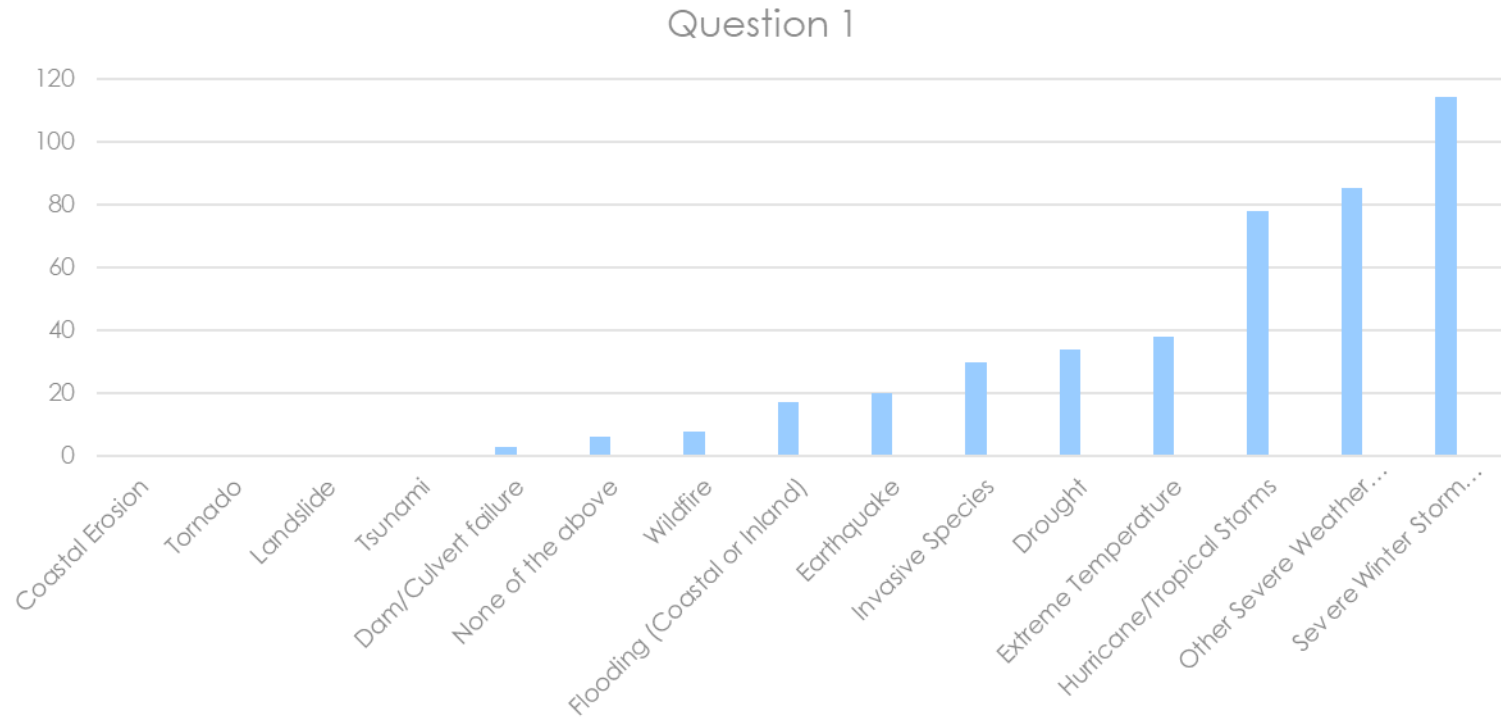
- Results of Public Opinion Survey
- Future Opportunities to Participate in the HMP Process

Public Participation: Public Opinion Survey

- Active August 9 – 23, 2021 but survey remained open for several more days
- Survey link was available online through the town website and several Facebook pages – Town of Carver, Sarah Hewins, Carver Fire Department
- Hard copies were also available at the Town Hall, the Central Fire Station Dispatch, and at the clubhouses at both South Meadow Village and Cranberry Village
- 129 total responses
- Received several write-in comments that were discussed during working meeting #3

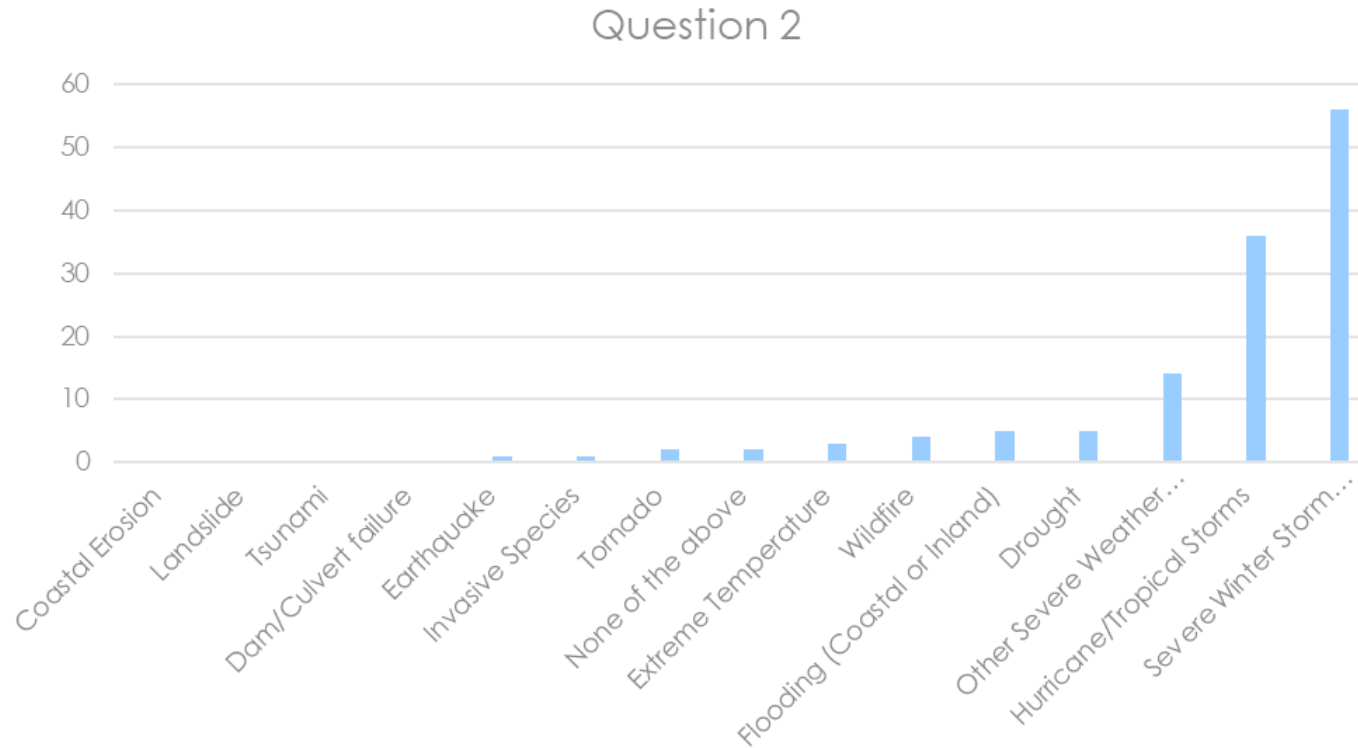
Public Participation: Public Survey

- 1. Which of the following natural hazards have you experienced while in Carver? *(Multiple choice & can select more than 1 response)*



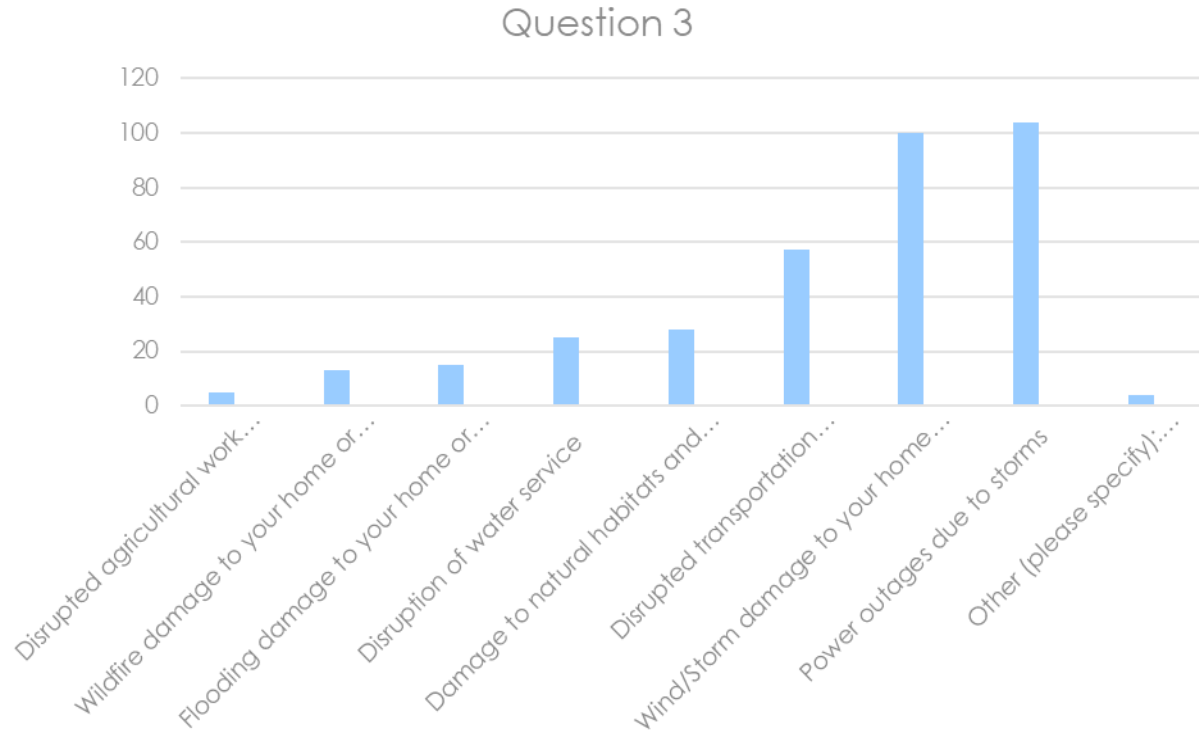
Public Participation: Public Survey

- 2. Which of the following natural hazards are you most concerned about causing damage or disrupting daily life in Carver? *(Multiple choice & can select JUST ONE response)*



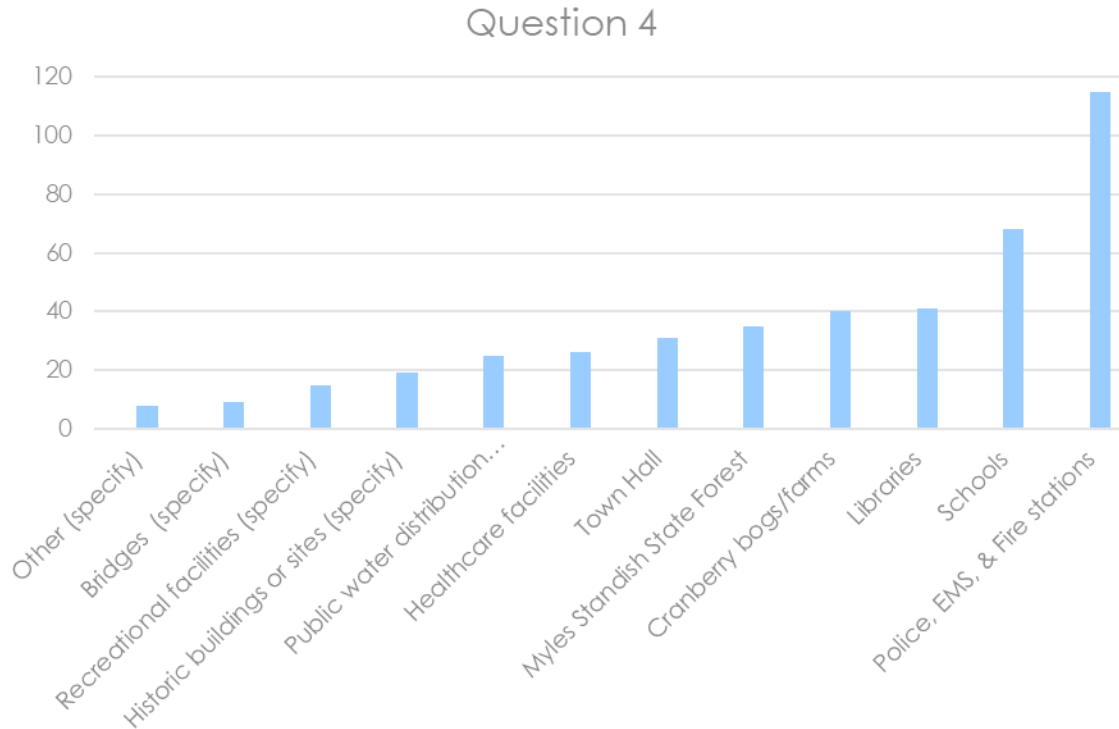
Public Participation: Public Survey

- 3. What are your biggest concerns related to natural hazards impacting Carver? *(Multiple choice & can select more than 1 response)*



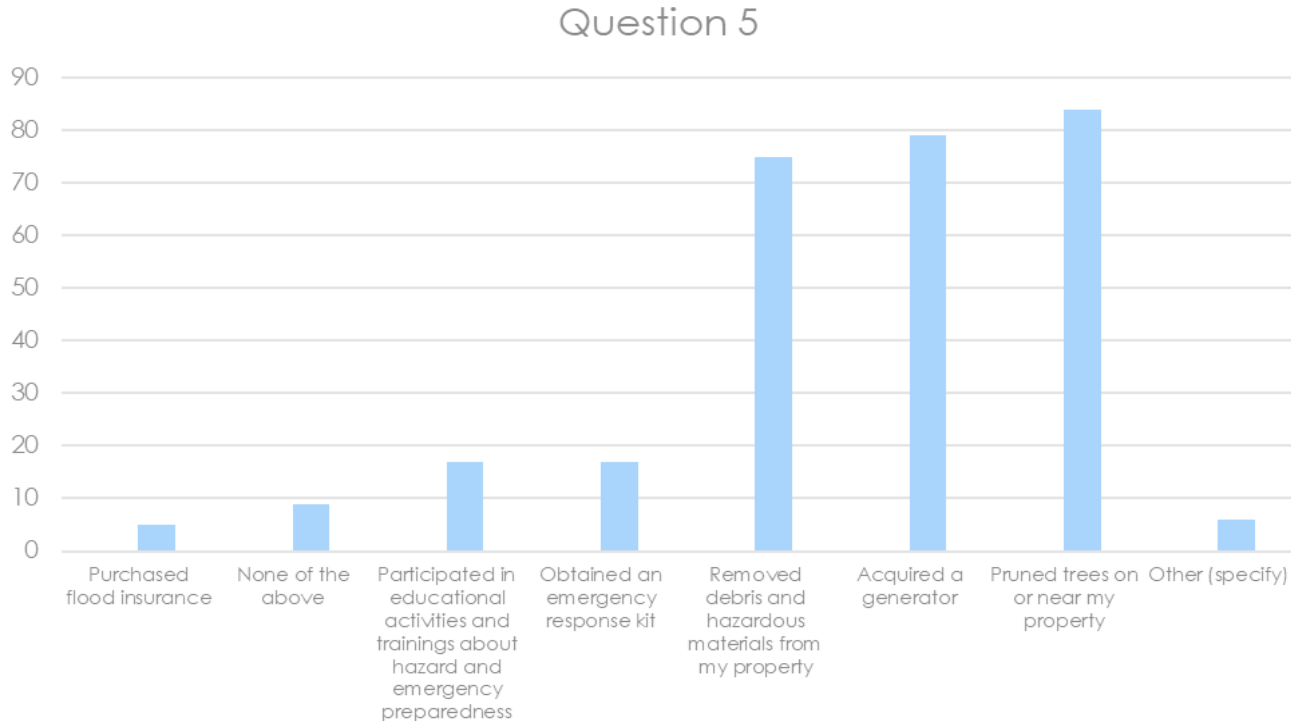
Public Participation: Public Survey

- 4. What specific community assets are most important to you?
(Multiple choice & can select more than 1 response)



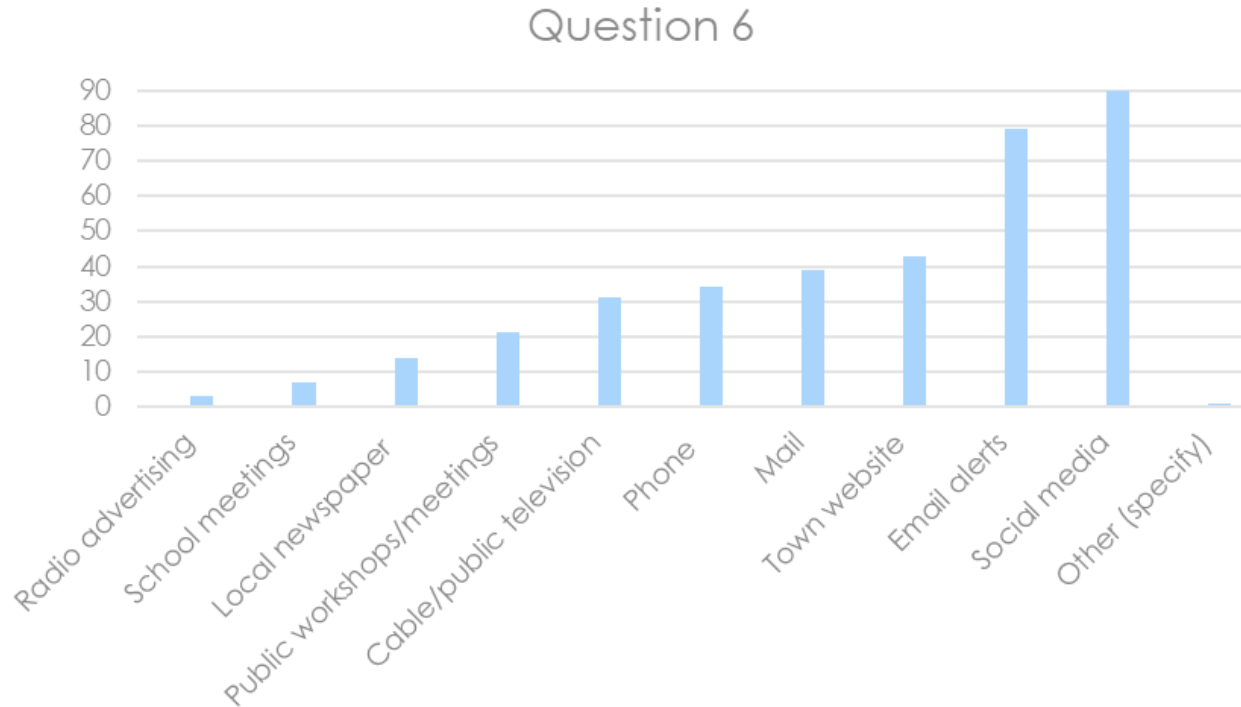
Public Participation: Public Survey

- 5. Which of the following actions have you taken to make you or your property more hazard resistant? *(Multiple choice & can select more than 1 response)*



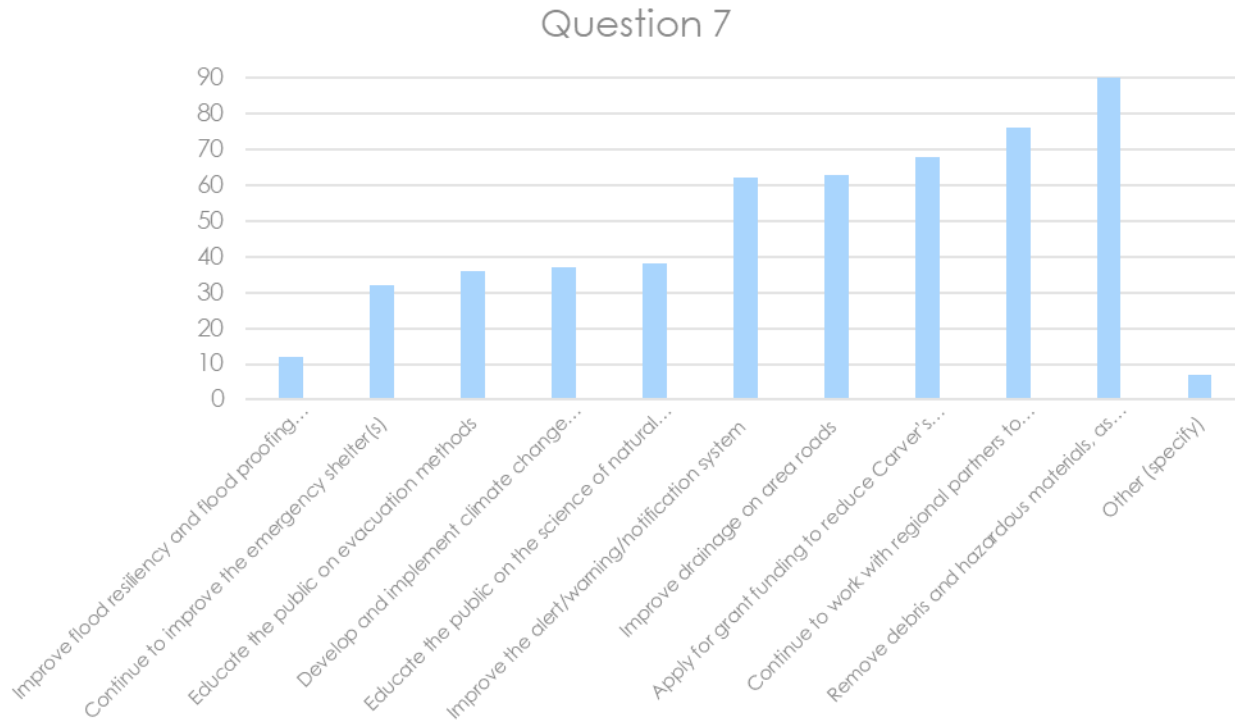
Public Participation: Public Survey

- 6. What is the most effective way to engage you in hazard planning and emergency preparedness activities? *(Multiple choice & can select more than 1 response)*



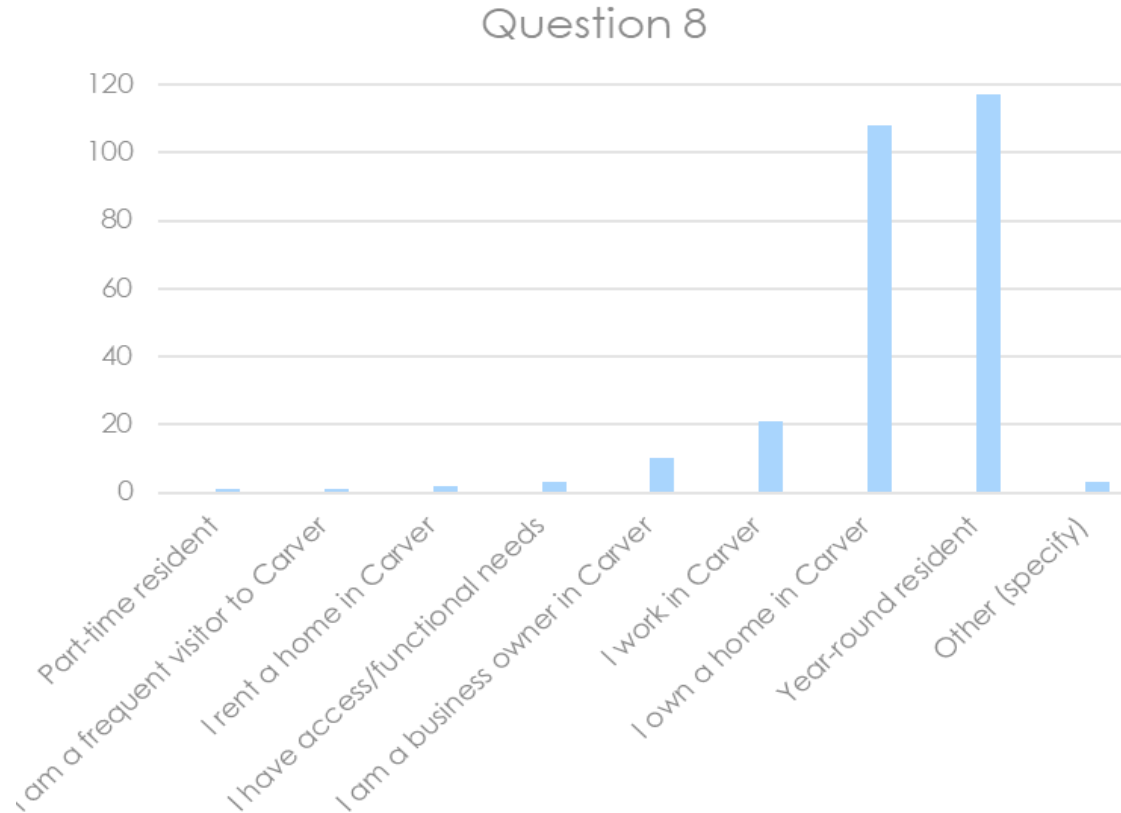
Public Participation: Public Survey

- 7. What steps can your local government take to reduce its risk from natural hazards and protect the buildings and people of Carver?
(Multiple choice & can select more than 1 response)



Public Participation: Public Survey

- 8. Please tell us about yourself. *(Multiple choice & can select all that apply to you)*



Public Presentation: Future Opportunities to Participate in the HMP Process

- Provide comments or feedback to Tom Walsh, Emergency Management Director at anytime in the process:
thomas.walsh@carverma.gov
- 2nd Public Presentation: December 16th 2021
 - More details to come
- Review and comment on the Draft Hazard Mitigation Plan document: December 2021

Questions?