

Storm Tide Pathways

Resources & Town Maps

Storm Tide Pathways – Final Report

<https://bit.ly/mvcstpreport>

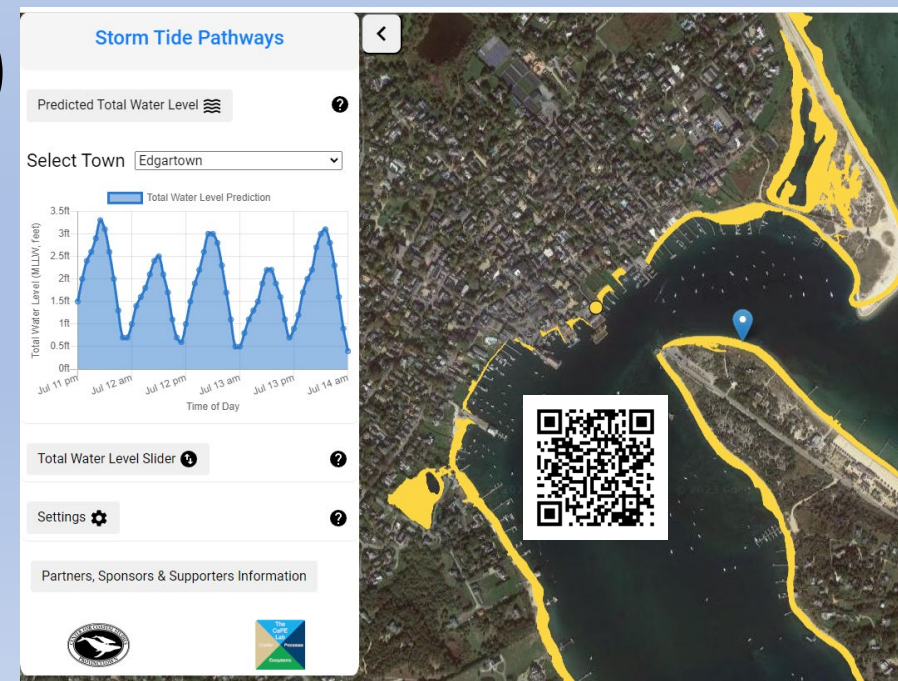


Storm Tides Interactive Map Site (CCS)

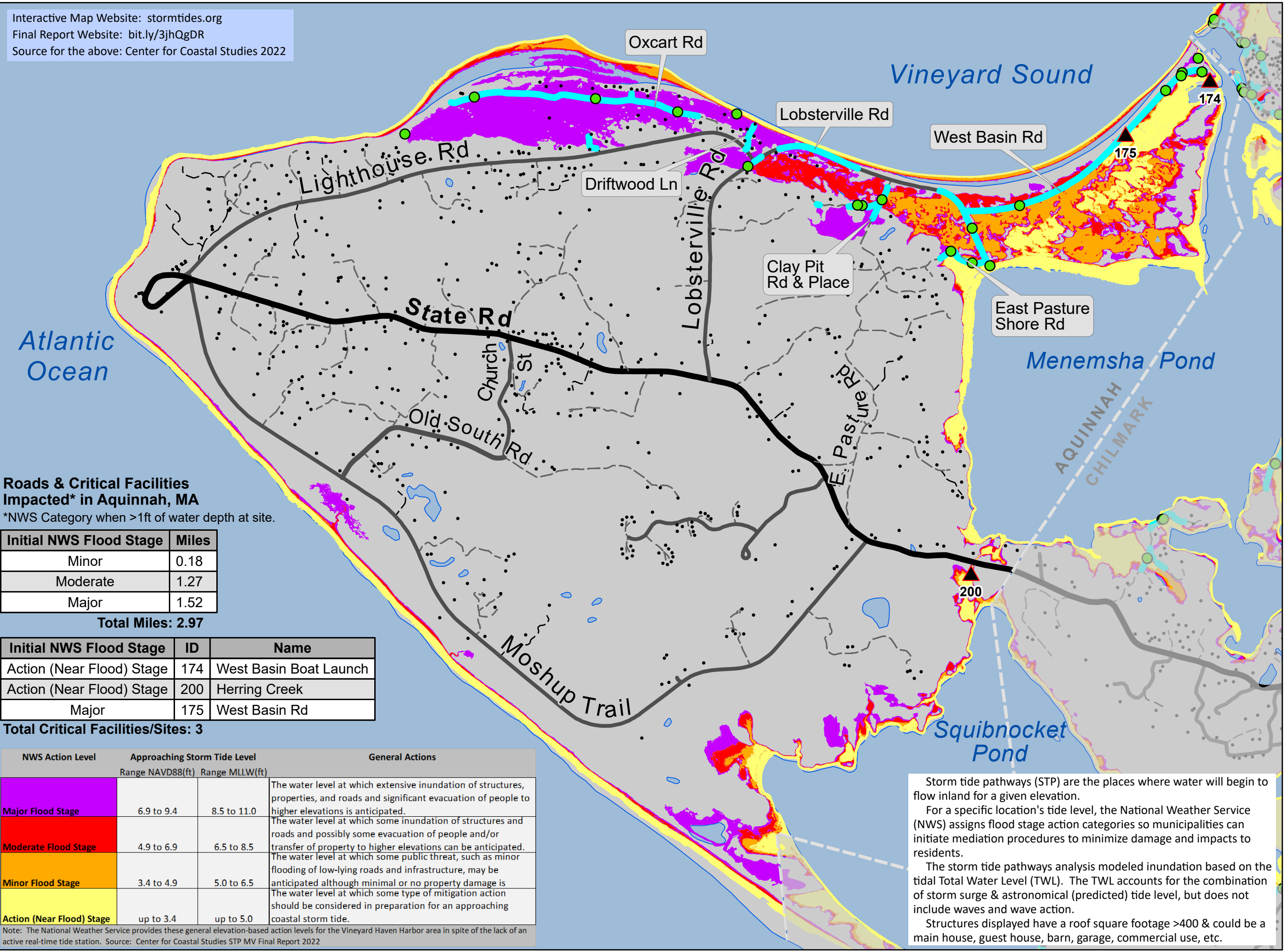
<https://bit.ly/stormtides>

How to Video (for interactive map) & Project Background

<https://bit.ly/stpapplaunch>



Interactive Map Website: stormtides.org
Final Report Website: bit.ly/3jhQgDR
Source for the above: Center for Coastal Studies 2022



Roads & Critical Facilities Impacted* in Aquinnah, MA

*NWS Category when >1ft of water depth at site.

Initial NWS Flood Stage	Miles
Minor	0.18
Moderate	1.27
Major	1.52

Total Miles: 2.97

Initial NWS Flood Stage	ID	Name
Action (Near Flood) Stage	174	West Basin Boat Launch
Action (Near Flood) Stage	200	Herring Creek
Major	175	West Basin Rd

Total Critical Facilities/Sites: 3

NWS Action Level	Approaching Storm Tide Level		General Actions
	Range NAVD88(ft)	Range MLLW(ft)	
Major Flood Stage	6.9 to 9.4	8.5 to 11.0	The water level at which extensive inundation of structures, properties, and roads and significant evacuation of people to higher elevations is anticipated.
Moderate Flood Stage	4.9 to 6.9	6.5 to 8.5	The water level at which some inundation of structures and roads and possibly some evacuation of people and/or transfer of property to higher elevations can be anticipated.
Minor Flood Stage	3.4 to 4.9	5.0 to 6.5	The water level at which some public threat, such as minor flooding of low-lying roads and infrastructure, may be anticipated although minimal or no property damage is anticipated.
Action (Near Flood) Stage	up to 3.4	up to 5.0	The water level at which some type of mitigation action should be considered in preparation for an approaching coastal storm tide.

Note: The National Weather Service provides these general elevation-based action levels for the Vineyard Haven Harbor area in spite of the lack of an active real-time tide station. Source: Center for Coastal Studies STP MV Final Report 2022

Storm tide pathways (STP) are the places where water will begin to flow inland for a given elevation. For a specific location's tide level, the National Weather Service (NWS) assigns flood stage action categories so municipalities can initiate mediation procedures to minimize damage and impacts to residents.

The storm tide pathways analysis modeled inundation based on the tidal Total Water Level (TWL). The TWL accounts for the combination of storm surge & astronomical (predicted) tide level, but does not include waves and wave action.

Structures displayed have a roof square footage >400 & could be a main house, guest house, barn, garage, commercial use, etc.

Inundated Areas by Flood Stage

Aquinnah, MA
Storm Tide Pathways Project 2022

Storm Tide Pathway

- Location at which water begins to flow inland

National Weather Service Flood Stage Categories*

- Action (Near Flood) Stage
- Minor
- Moderate
- Major

Existing Structure

- Existing Structure

Impacted Critical Facility

- Impacted Critical Facility

Roads

- Primary Road
- Secondary Road
- Neighborhood Road
- Local Road
- Impacted Road at one or more NWS Flood Stage

*The NWS's associated tidal elevation for each flood stage are based on the Vineyard Haven Harbor tide station (NOAA Sta #8448157).

Disclaimer: Data provided are for planning purposes only. These data are not adequate for regulatory interpretation. The MVC is not responsible for the end-user's interpretation of the data.

Compiled by: MVC, CL Seidel, www.mvcommission.org; 508-693-3453
Data: Storm Tide Pathways & NWS Inundation Planes by Flood Stage - Center for Coastal Studies (CCS) 2022; Critical Facilities - Location MVC 2020 & Impacted - CCS 2022; Roads - MassDOT 2018 & Impacted - CCS 2022; Town Line - MassGIS 2003/MVC 2020; Structures - MassGIS 2022 (source 2021)
Coordinate Reference: Stateplane MassMainland NAD83 meters

Folder: StormTidePathways
Project: STP_TownMaps_Aqu.aprx;
Export: 2/9/2023 STP_NWS_2022_*.pdf

N 0.2 0 0.2
Miles



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For a specific location's tide level, the National Weather Service (NWS) assigns flood stage action categories so municipalities can initiate mediation procedures to minimize damage and impacts to residents.

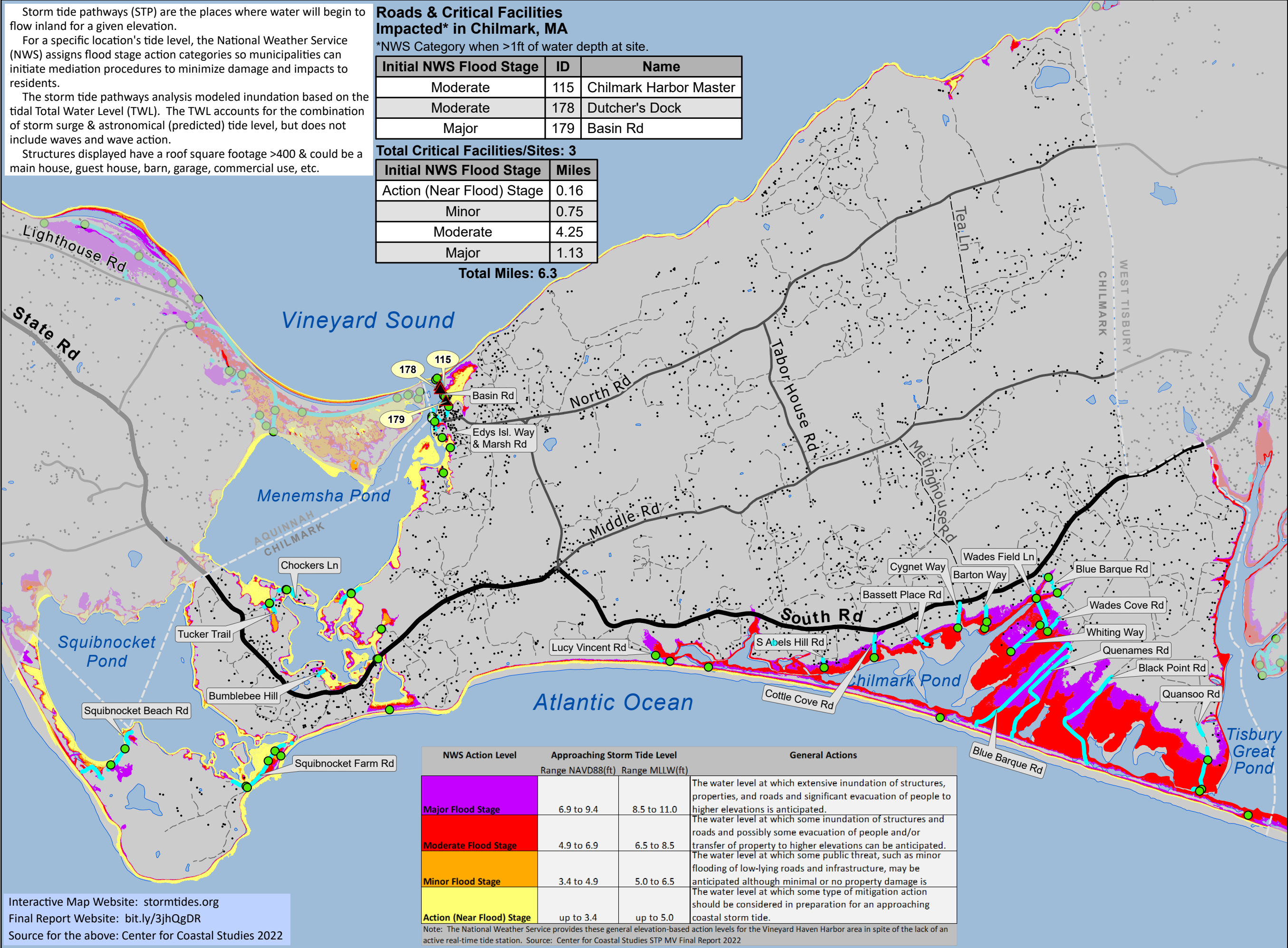
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Roads & Critical Facilities Impacted* in Chilmark, MA		
*NWS Category when >1ft of water depth at site.		
Initial NWS Flood Stage	ID	Name
Moderate	115	Chilmark Harbor Master
Moderate	178	Dutcher's Dock
Major	179	Basin Rd

Total Critical Facilities/Sites: 3	
Initial NWS Flood Stage	Miles
Action (Near Flood) Stage	0.16
Minor	0.75
Moderate	4.25
Major	1.13

Total Miles: 6.3



Interactive Map Website: stormtides.org
Final Report Website: bit.ly/3jhQgDR
Source for the above: Center for Coastal Studies 2022

NWS Action Level	Approaching Storm Tide Level		General Actions
	Range NAVD88(ft)	Range MLLW(ft)	
Major Flood Stage	6.9 to 9.4	8.5 to 11.0	The water level at which extensive inundation of structures, properties, and roads and significant evacuation of people to higher elevations is anticipated.
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Action (Near Flood) Stage	up to 3.4	up to 5.0	The water level at which some type of mitigation action should be considered in preparation for an approaching coastal storm tide.

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Inundated Areas by Flood Stage

Chilmark, MA

Storm Tide Pathways Project 2022

Storm Tide Pathway

- Location at which water begins to flow inland

National Weather Service Flood Stage Categories*

- Action (Near Flood) Stage
- Minor
- Moderate
- Major

Existing Structure

- Impacted Critical Facility

Roads

- Primary Road
- Secondary Road
- Neighborhood Road
- Local Road
- Impacted Road at one or more NWS Flood Stage

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Project: STP_TownMaps_Chi.aprx;
Export: 1/31/2023 STP_NWS_2022_*.pdf

0.2 0 0.2 Miles



Roads & Critical Facilities Impacted* in Edgartown, MA

*NWS Category when >1ft of water depth at site.

Initial NWS Flood Stage	ID	Name
Action (Near Flood) Stage	110	Chappy Ferry Terminal - Edgartown
Minor	78	Patriot Ferry Dock
Minor	112	Edgartown Harbor Master
Moderate	95	Lily Pond Well
Moderate	111	Chappy Ferry Terminal - Chappy
Major	193	Dike Bridge

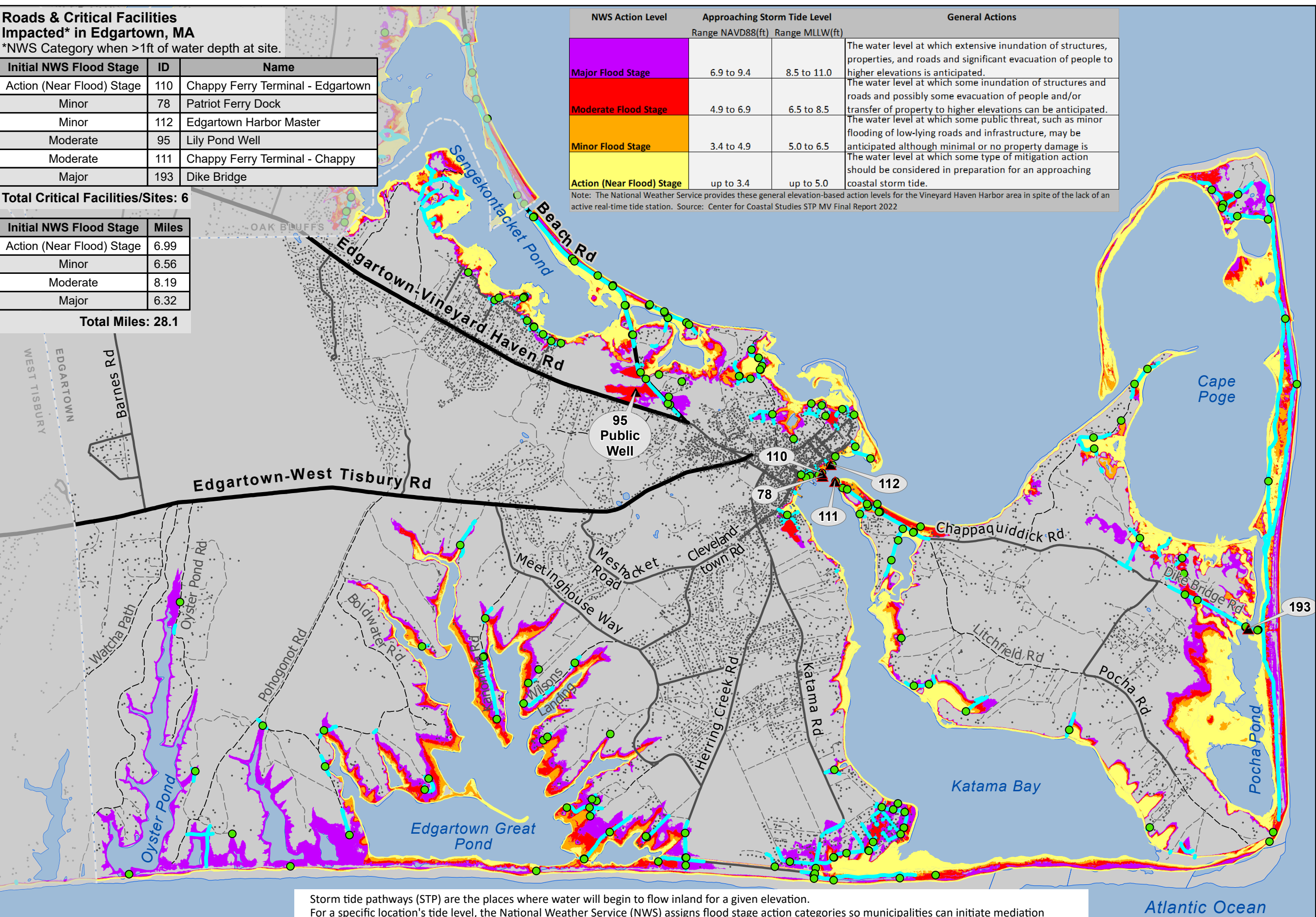
Total Critical Facilities/Sites: 6

Initial NWS Flood Stage	Miles
Action (Near Flood) Stage	6.99
Minor	6.56
Moderate	8.19
Major	6.32

Total Miles: 28.1

NWS Action Level	Approaching Storm Tide Level		General Actions
	Range NAVD88(ft)	Range MLLW(ft)	
Major Flood Stage	6.9 to 9.4	8.5 to 11.0	The water level at which extensive inundation of structures, properties, and roads and significant evacuation of people to higher elevations is anticipated.
Moderate Flood Stage	4.9 to 6.9	6.5 to 8.5	The water level at which some inundation of structures and roads and possibly some evacuation of people and/or transfer of property to higher elevations can be anticipated. The water level at which some public threat, such as minor flooding of low-lying roads and infrastructure, may be anticipated although minimal or no property damage is
Minor Flood Stage	3.4 to 4.9	5.0 to 6.5	anticipated although minimal or no property damage is
Action (Near Flood) Stage	up to 3.4	up to 5.0	The water level at which some type of mitigation action should be considered in preparation for an approaching coastal storm tide.

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Inundated Areas by Flood Stage
Edgartown, MA
Storm Tide Pathways
Project 2022

Storm Tide Pathway

- Location at which water begins to flow inland

National Weather Service Flood Stage Categories*

- Action (Near Flood) Stage
- Minor
- Moderate
- Major

Roads

- Primary Road
- Secondary Road
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- Local Road
- Impacted Road at one or more NWS Flood Stage

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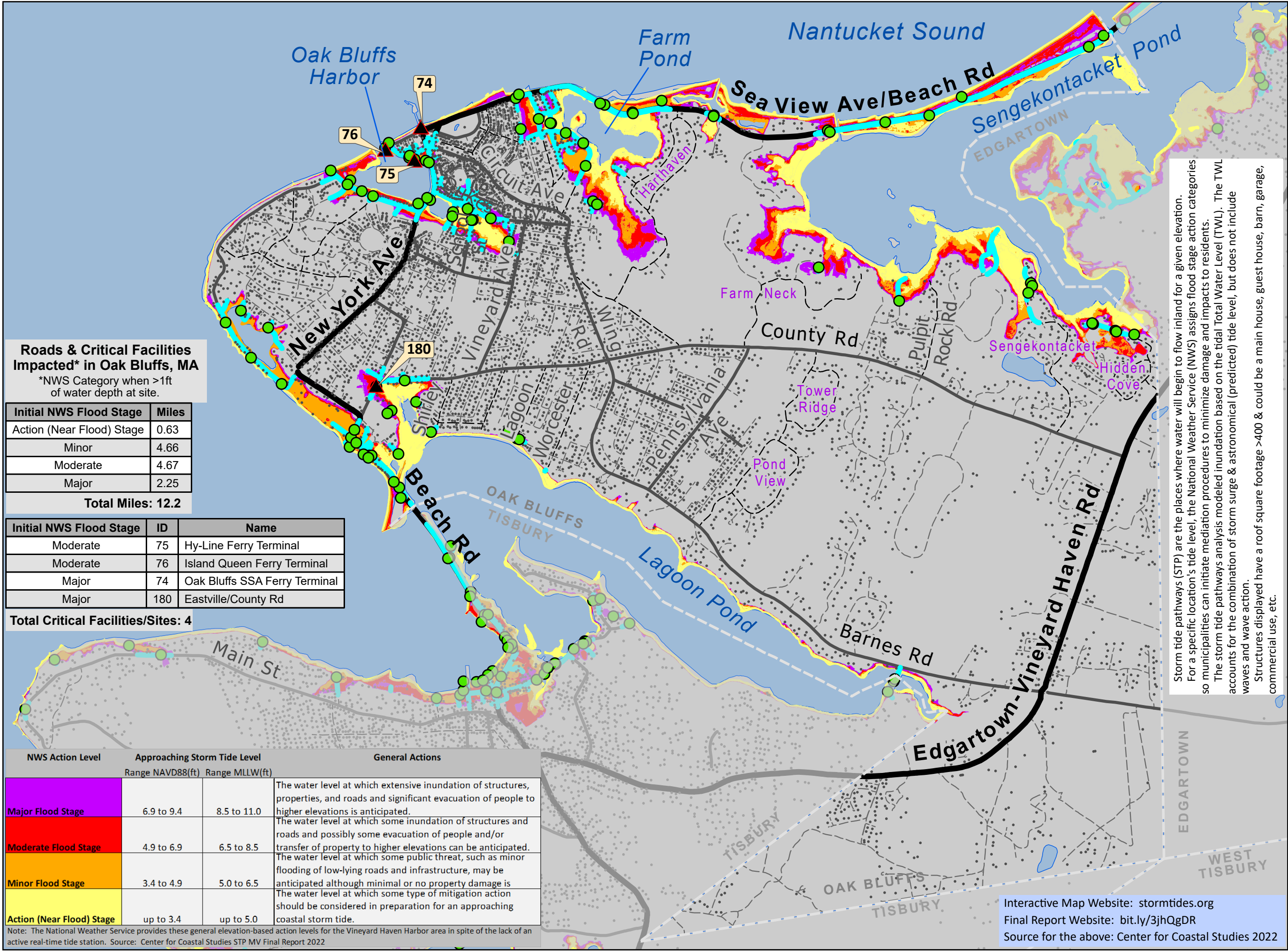
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Folder: StormTidePathways
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Export: 2/1/2023 STP_NWS_2022_*.pdf
N 0.2 0 0.2 Miles



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Source for the above: Center for Coastal Studies 2022

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Inundated Areas by Flood Stage

Oak Bluffs, MA

Storm Tide Pathways Project 2022

Storm Tide Pathway

- Location at which water begins to flow inland

National Weather Service Flood Stage Categories*

- Action (Near Flood) Stage
- Minor
- Moderate
- Major

Existing Structure

Impacted Critical Facility

Roads

- Primary Road
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Export: 2/9/2023 STP_NWS_2022_*.pdf

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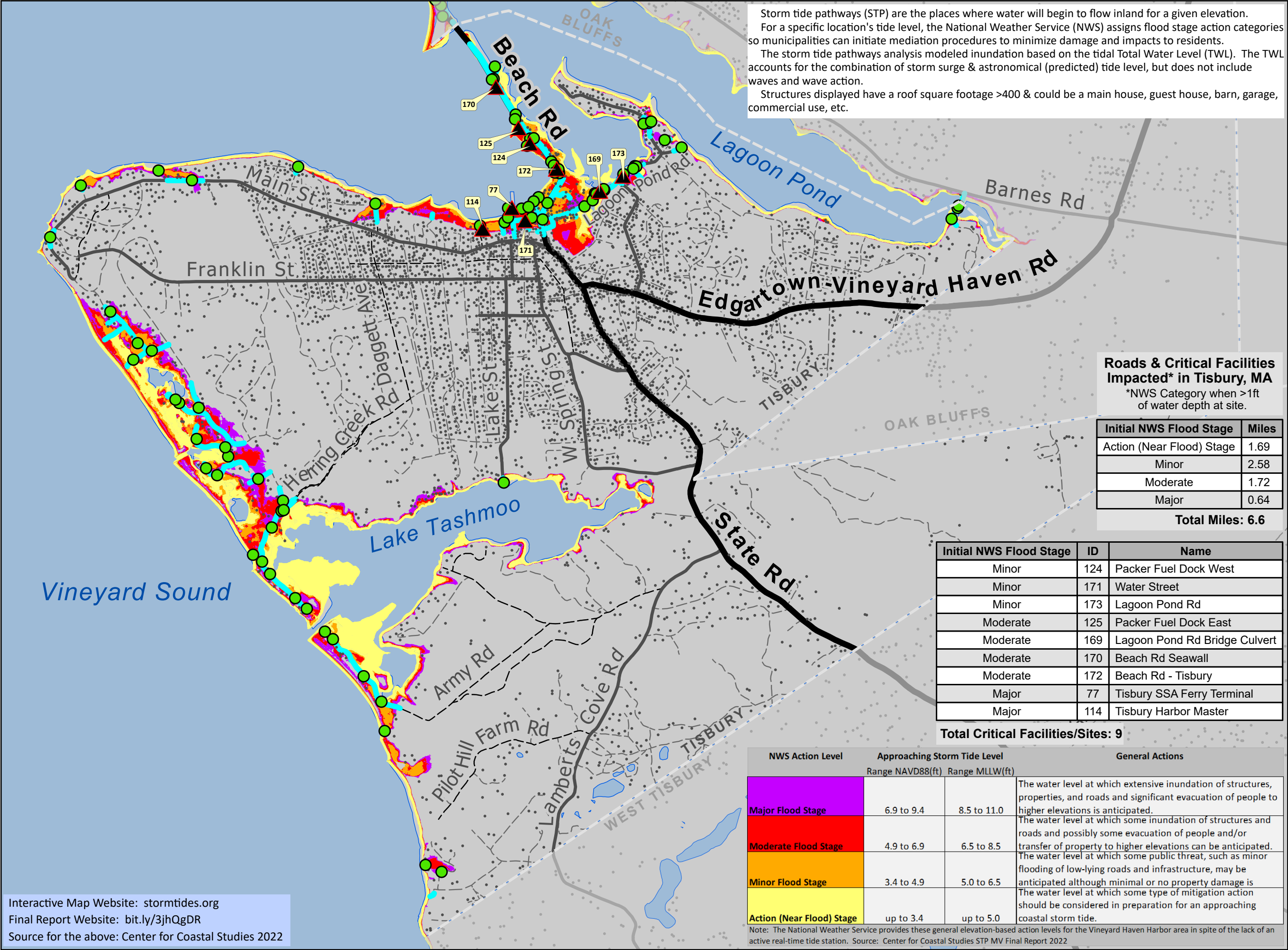
Center for Coastal Studies Provincetown

MASS GIS

Oak Bluffs Tisbury

West Tisbury

Martha's Vineyard Commission



Inundated Areas by Flood Stage

Tisbury, MA

Storm Tide Pathways Project 2022

Storm Tide Pathway

- Location at which water begins to flow inland

National Weather Service Flood Stage Categories*

- Action (Near Flood) Stage
- Minor
- Moderate
- Major

Existing Structure

Impacted Critical Facility

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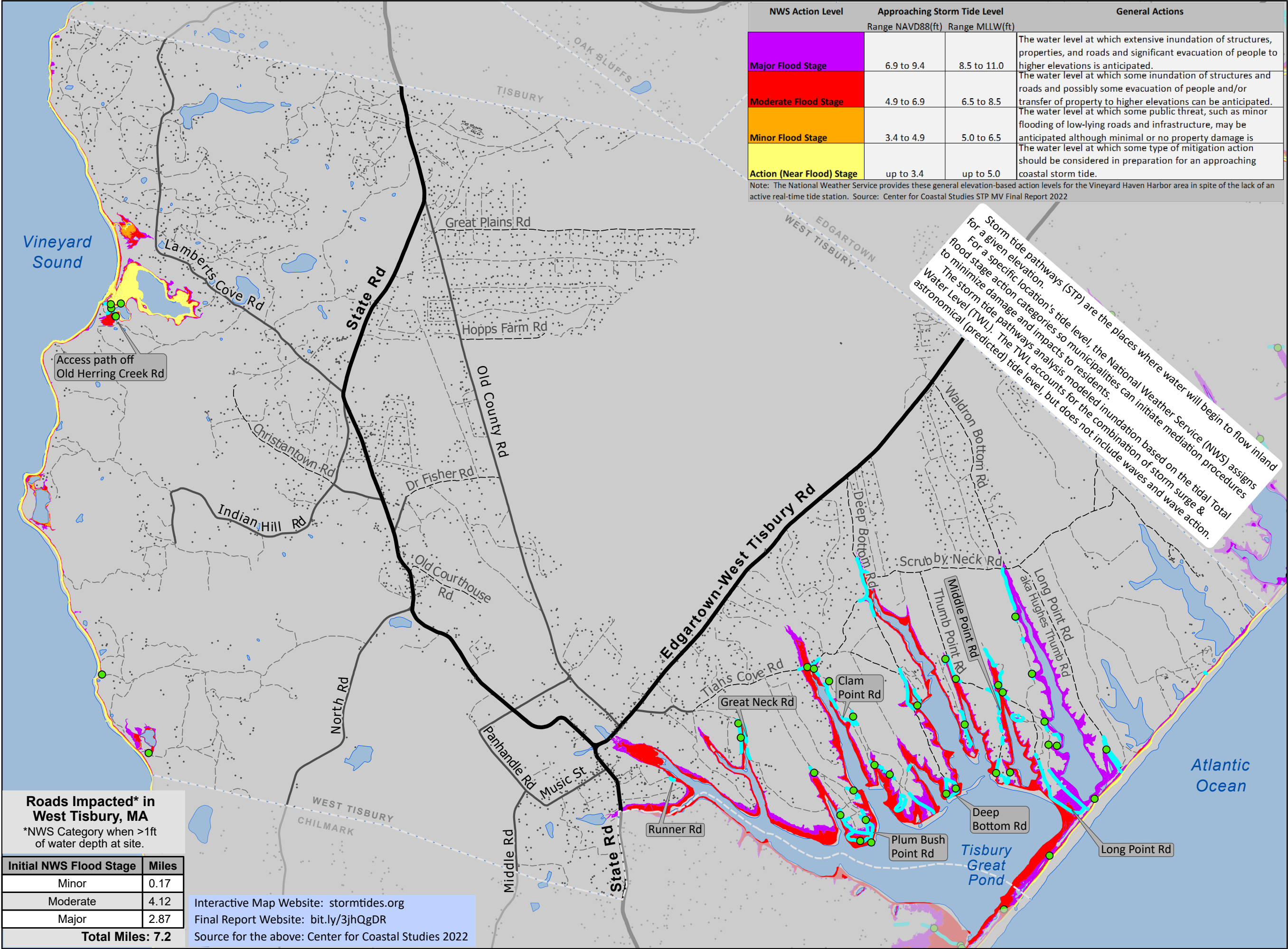
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Export: 2/9/2023 STP_NWS_2022_*.pdf

0.2 0 0.2 Miles

Center for Coastal Studies
Provincetown
MassGIS
Seal of Tisbury, Massachusetts
Martha's Vineyard Commission



Inundated Areas by Flood Stage

West Tisbury, MA

Storm Tide Pathways Project 2022

Storm Tide Pathway

- Location at which water begins to flow inland

National Weather Service Flood Stage Categories*

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