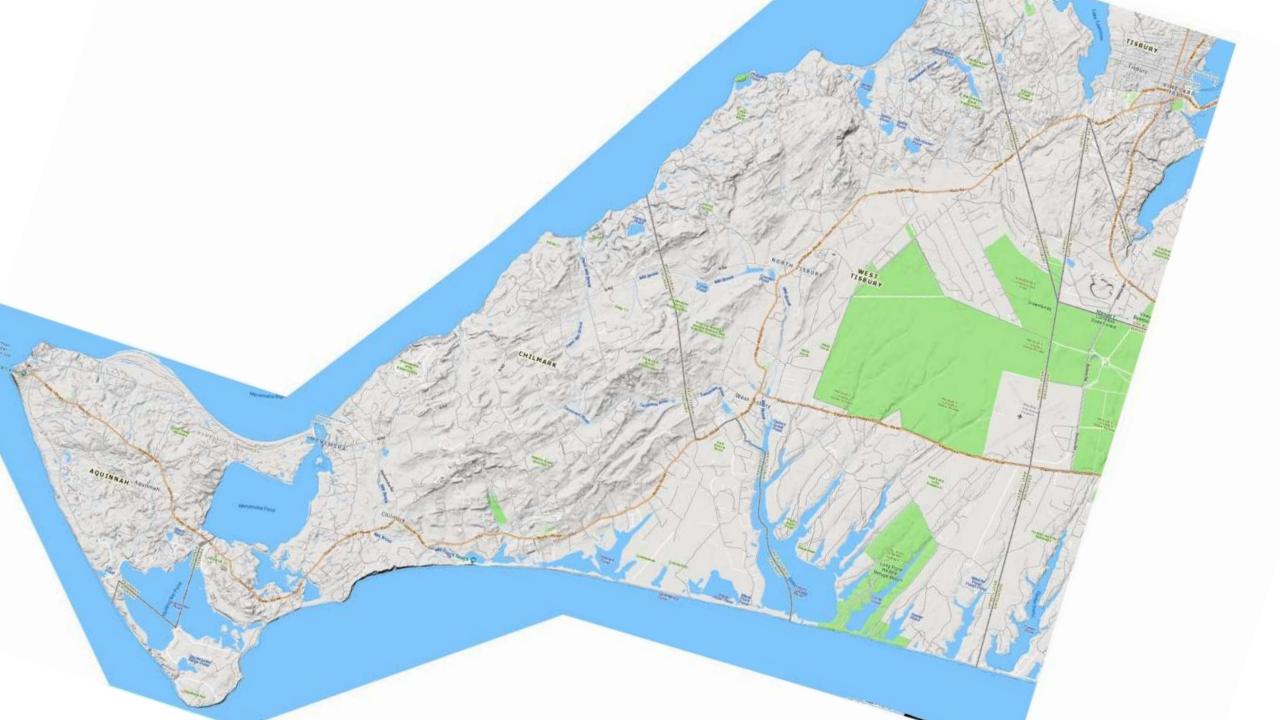
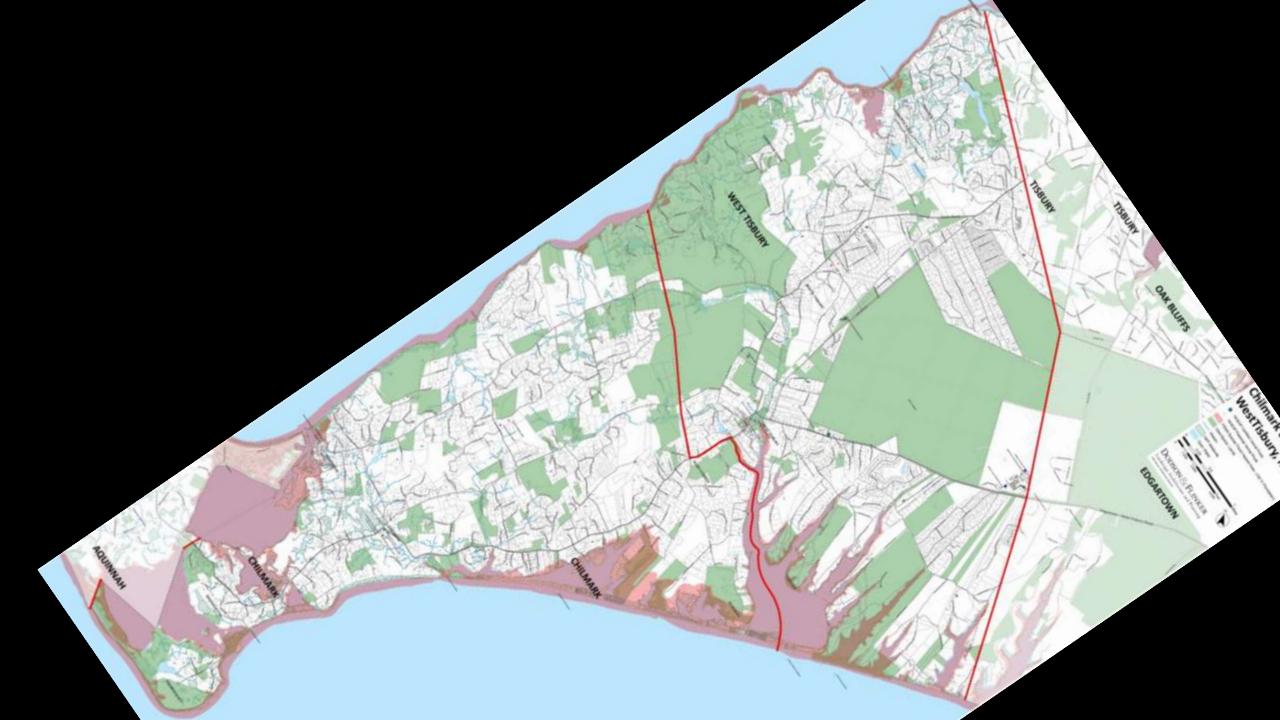
# The MVP Process in Chilmark and West Tisbury

















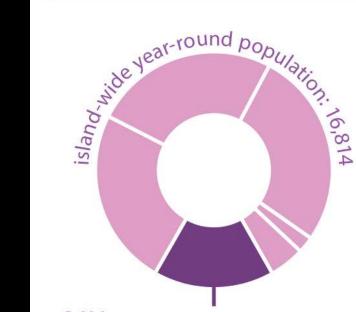






## WHO LIVES IN WEST TISBURY?

## WEST TISBURY HAS A MID-SIZED YEAR-ROUND POPULATION



16% of the year-round population of Martha's Vineyard (2,727 residents)

THE PROJECTED YEAR-ROUND POPULATION INCREASE IS COMPARABLE TO PROJECTED ISLAND-WIDE GROWTH

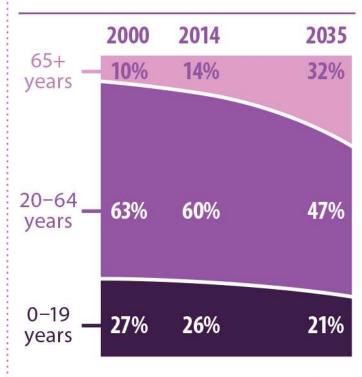
### PROJECTED YEAR-ROUND POPULATION FROM 2010 TO 2035:



West Tisbury's year-round population is expected to increase from 2,740 in 2010 to 3,108 in 2035.

Source: 2010 US Census and UMass Donahue Institute Population Projections

## SMALLER WORKING-AGE POPULATION WITH GROWTH OF OLDER ADULTS BY 2035

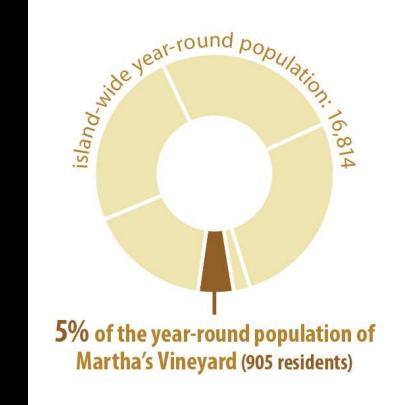


Source: 2000 US Census, 2010-2014 ACS, and UMass Donahue Institute Population Projections



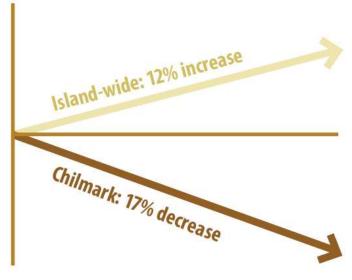
## WHO LIVES IN CHILMARK?

## CHILMARK HAS A SMALL YEAR-ROUND POPULATION



## THE YEAR-ROUND POPULATION MAY SIGNIFICANTLY DECREASE

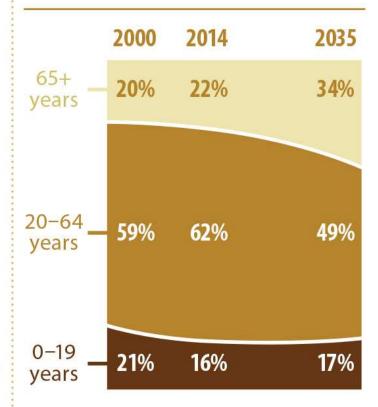
### PROJECTED YEAR-ROUND POPULATION FROM 2010 TO 2035:



Chilmarks's year-round population is expected to drop from 866 in 2010 to 718 in 2035.

Source: 2010 US Census and UMass

## FEWER WORKING-AGE ADULTS AND MORE OLDER ADULTS BY 2035



Source: 2000 US Census, 2010-2014 ACS, and UMass
Donahue Institute Population Projections

## Workshop 1: Hazards and Vulnerabilities



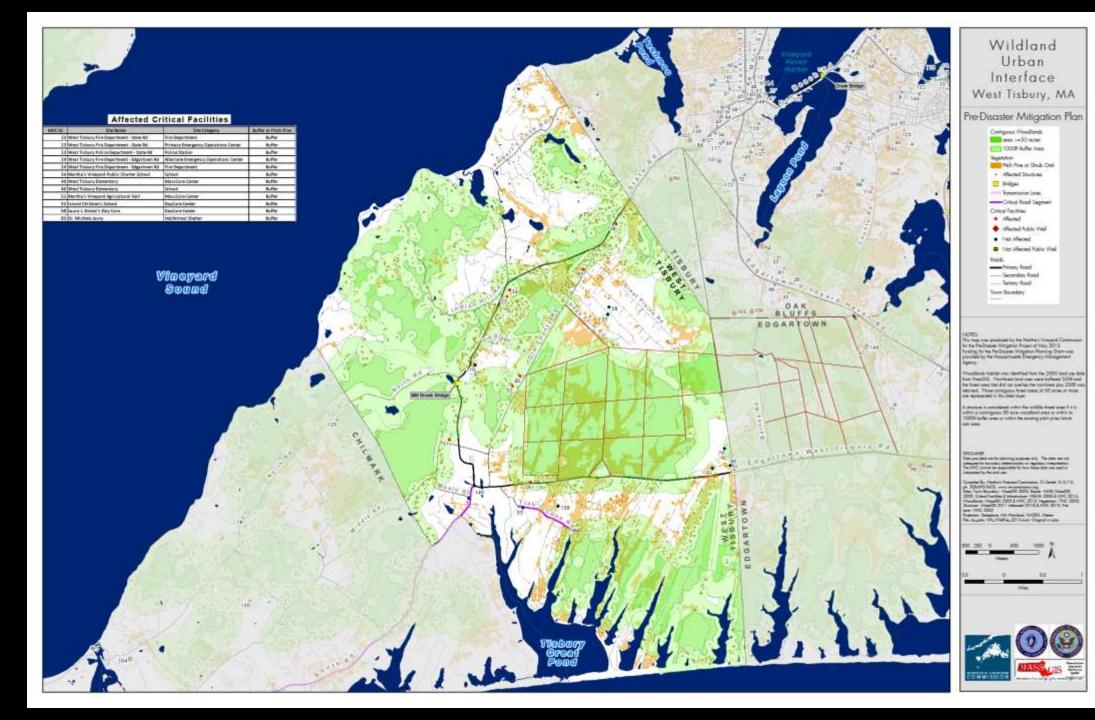






## Workshop 1: Hazards and Vulnerabilities

- Sea level rise
- Flooding and wind from hurricanes and nor'easters
- Ecosystem change resulting in increased vector borne diseases (such as Lyme)
- Wildfire
- Drought

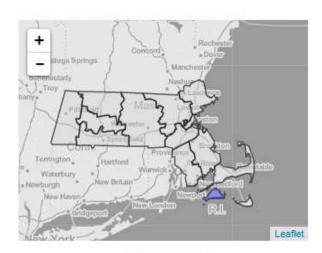


County ▼ Dukes County, MA ▼

Calculated Variable:

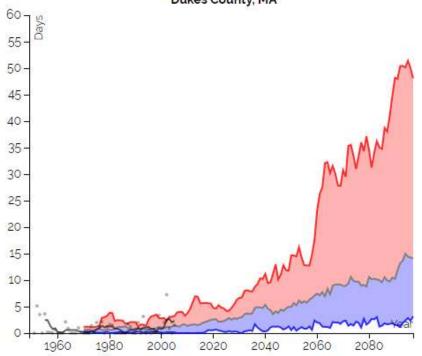
Days with Maximum Temperature Above 90°F ▼

Season: Annual ▼



Add Chart

### Annual Days with Maximum Temperature Above 90°F Dukes County, MA



#### Download Data

Obser	ved		
	days		
5-yr Mean	~		
Modeled	d days		
Max	~		
Median	~		
Min	~		
Changes 1971-200			
Changes			
Changes 1971-200	oo for:		
Changes 1971-200 2020 -	00 for: 3.48		
Changes 1971-200 2020 - 2049	00 for: 3:48 days		
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Changes 1971-200 2020 - 2049 2040 - 2069	oo for: 3.48 days 5.70 days		
Changes 1971-200 2020 - 2049 2040 - 2069 2060 -	3.48 days 5.70 days 9.09		

About the Source



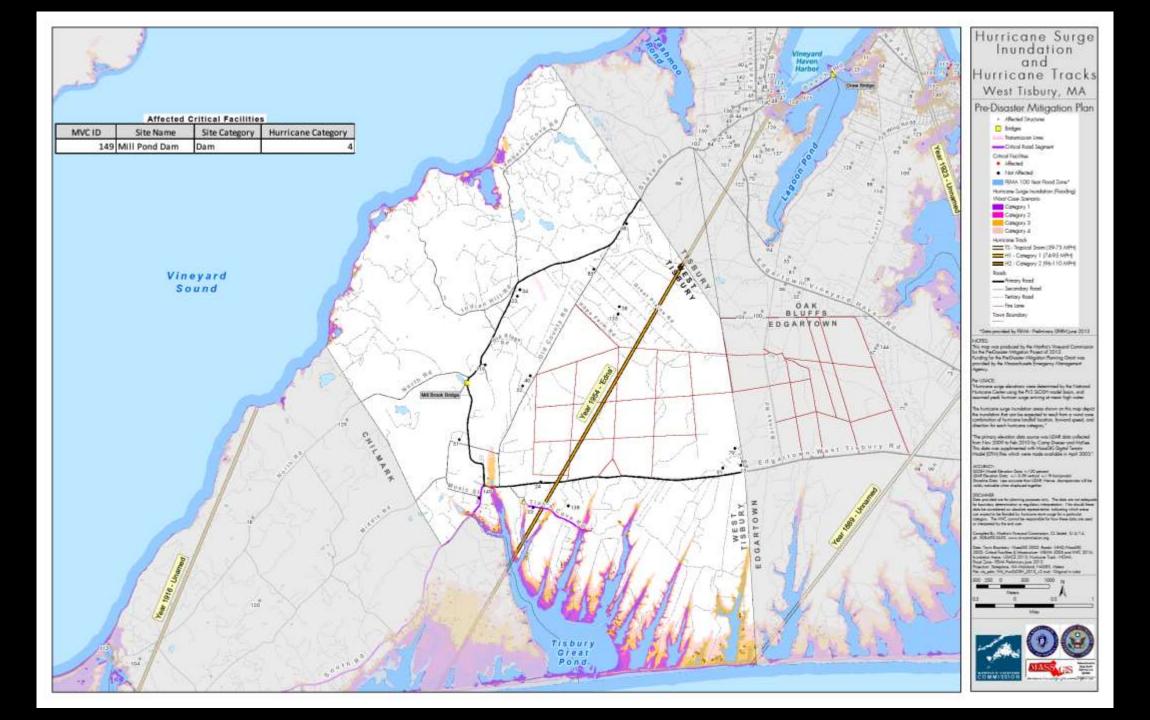
Land Development Status (in acres)									
	AQ	CH	ED	ОВ	TI	WT	Total		
Developed land	703	3,361	4,284	2,157	1,752	4,226	16,483		
Protected open space	832	3,336	7,257	1,273	944	7,078	20,720		
Wetland	389	520	710	119	163	269	2,170		
Available land	1,494	4,406	4,965	1,131	1,340	4,479	17,815		
Total Area	3,418	11,623	17,216	4,680	4,199	16,052	57,188		

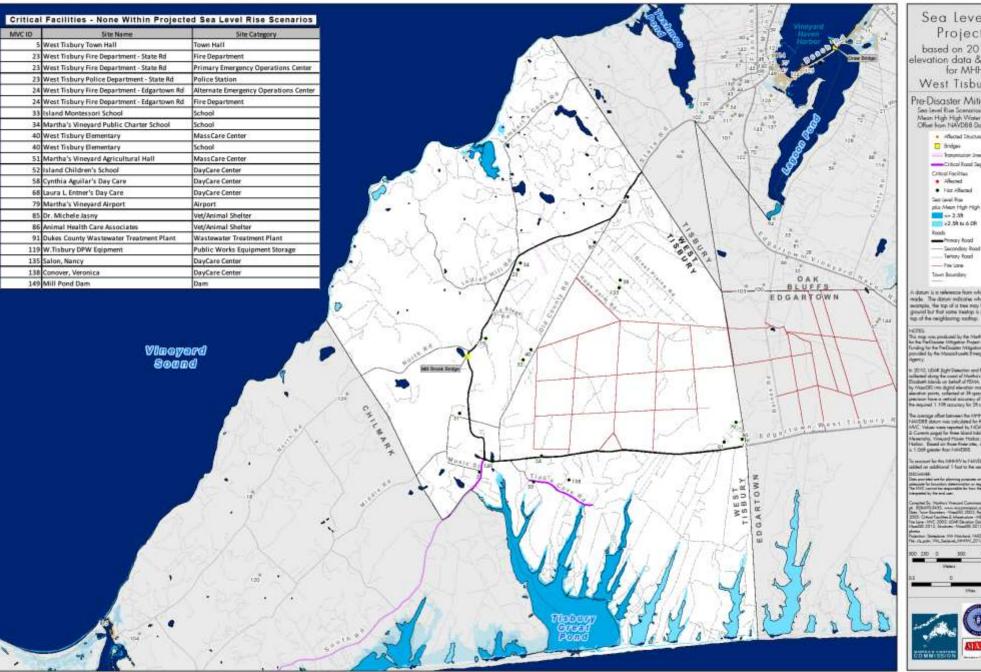


**Buildings Today:** Houses and other buildings.



**Buildings 50 Years From Now:** Possible new houses and other buildings (red) based on available land and current zoning.





#### Sea Level Rise Projection

based on 2010 LIDAR elevation data & accounting for MHHW

West Tisbury, MA

Pre-Disaster Mittigation Plan Section Rise Scenarios 1.5th and 5th Mean High High Water Fresent Average Officer from NAVD88 Datum = +1.0th



made. The datum indicates where part is. For ascerpto, the top of a tea way be 30% high from the pround but that same treation is only 10th high from the

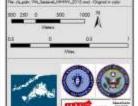
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#### Massachusetts Sea Level Rise and Coastal Flooding Viewer

Interactive maps of coastal flooding areas and community facilities and infrastructure based on: sea level rise scenarios, Federal Emergency Management Agency coastal flood zones, and hurricane surge models.

Intro

Sea Level Rise

FEMA Coastal Flood Zones

**Hurricane Surge** 

This map includes four worst-case scenarios of storm surge based on thousands of modeled combinations of hurricane intensity (Category 1-4), forward speed, track or direction, and other factors not including sea level rise. The National Oceanic and Atmospheric Administration (NOAA) National Hurricane Center, in partnership with the U.S. Army Corps of Engineers (USACE), uses the Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model to calculate the storm surge heights and map coastal areas with the highest degree of exposure.

Zoom in until the hurricane surge scenarios come into view. Community facilities and infrastructure are identified with an icon and facility outline. Click the icon for a pop-up box displaying the facility name, type, town or city, and the water level associated with the hurricane surge scenarios. Flood levels represent water depth in feet above 0 NAVD 88, rather than above the ground surface. Coastal flood data can be directly compared for each facility by switching viewer tabs.

For planning purposes only, Hurricane surge data courtesy of USACE, October 2013. These data were mapped using current sea level. Please see the <u>technical report</u> (PDF, 272 KB) for data sources and processing steps.

#### **Hurricane Surge Scenarios**

Category 1

Category 2

Category 3

Category 4

#### Public Facilities and Infrastructure

+ Airport

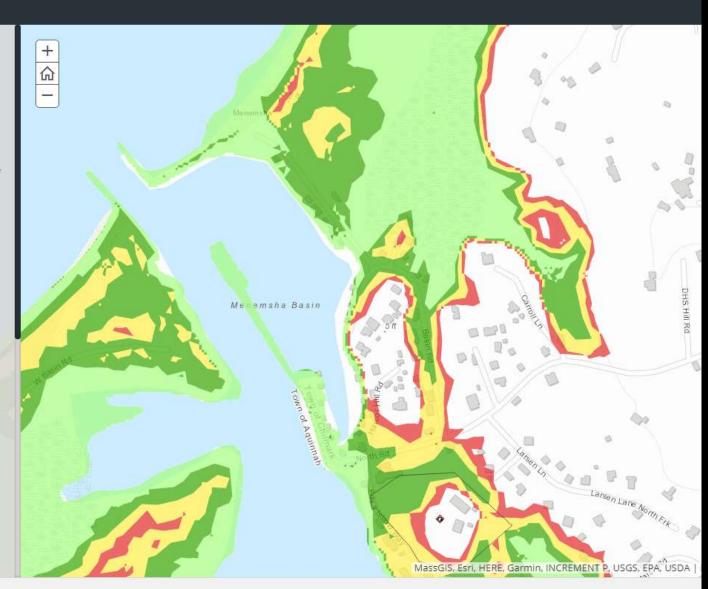
Community Health Center

Electrical Generation Facility

Fire Station

Harbormaster

Hospital



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Intro

Sea Level Rise

FEMA Coastal Flood Zones

Hurricane Surge

This map displays coastal areas with a <u>1% annual chance of flooding</u> (A and V zones). These highrisk flood zones are determined by the Federal Emergency Management Agency (FEMA) using models and historical data for storm tides and frequency. This map does not account for sea level rise.

Zoom in until the FEMA coastal flood zones come into view. Community facilities and infrastructure are identified with an icon (zoom in further, if necessary, to view the facility outline). Click the icon for a pop-up box displaying the facility name, type, and town or city. Water levels are provided for AE and VE zones under the FEMA coastal flood zone labels on the map when zoomed in to the appropriate extent. Flood levels represent water depth in feet above 0 NAVD 88, rather than above the ground surface. Coastal flood data can be directly compared for each facility by switching viewer tabs.

For planning purposes only, Flood zone data courtesy of FEMA. These data represent the effective flood zones mapped using current sea level. Please see the <u>technical report</u> (PDF, 272 KB) for data sources and processing steps.

#### **FEMA Coastal Flood Zones**



1% Annual Chance Flood Hazard (includes both A and V zones; zoom in to view zone labels)

#### Public Facilities and Infrastructure

- + Airport
- Community Health Center
- Electrical Generation Facility
- Fire Station
- # Harbormaster
- Hospital
- Landfill
- Library
- MBTA Commuter Rail Station



#### Massachusetts Sea Level Rise and Coastal Flooding Viewer

Interactive maps of coastal flooding areas and community facilities and infrastructure based on: sea level rise scenarios, Federal Emergency Management Agency coastal flood zones, and hurricane surge models.

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Sea Level Rise

FEMA Coastal Flood Zones

Hurricane Surge

This map shows the National Oceanic and Atmospheric Administration (NOAA) modeling of coastal flooding above Mean Higher High Water (MHHW, the average height of daily highest tide) with six increasing levels of sea level rise (1-foot increments up to six feet). This map does not account for storm surge, waves, erosion, and other dynamic factors. Future updates to the viewer will include maps that depict water levels from storm-driven flooding under sea level rise scenarios. See CZM's <u>Sea Level Rise Guidance</u> (PDF, 3.0 MB) for more information on sea level rise rates and projections, as well as general advice in the selection and application of scenarios for coastal vulnerability assessments.

Zoom in until the mapped extents of the sea level rise scenarios come into view. Community facilities and infrastructure are identified with an icon and facility outline. Click the icon for a pop-up box displaying the facility name, type, town or city, and water levels under the sea level rise scenarios. Flood levels represent water depth in feet above 0 NAVD 88, rather than above the ground surface. See the Sea Level Rise Scenario figure (PDF, 155 KB) for a visual representation of the information depicted on the map. Coastal flood data can be directly compared for each facility by switching viewer tabs.

For planning purposes only. Sea level rise data courtesy of NOAA, January 2013. Please see the <u>technical</u> report (PDF, 272 KB) for data sources and processing steps.

#### Potential Extent of Mean Higher High Water (MHHW) with Sea Level Rise

MHHW

MHHW + 1 ft Sea Level Rise

MHHW + 2 ft Sea Level Rise

MHHW + 3 ft Sea Level Rise

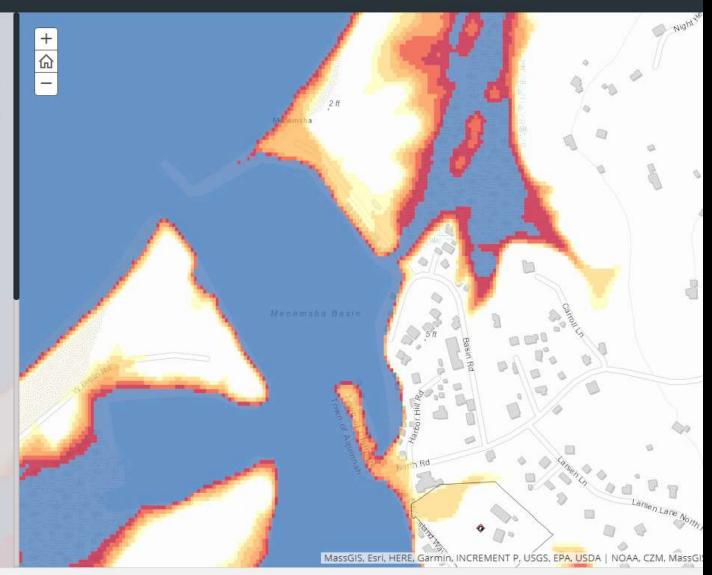
MHHW + 4 ft Sea Level Rise

MHHW + 5 ft Sea Level Rise

MHHW + 6 ft Sea Level Rise

#### Public Facilities and Infrastructure

+ Airport













## **Build on Strengths:**

- Community Spirit
- Self-sufficiency
- Vulnerable Population Plan
- Public Water Supply Backup
- Low Density Development
- Resilient Natural Systems



## **Enhance Transportation Infrastructure:**

- Enhance ferry system
  - Improve Roads to reduce storm and flood damage.



## Reduce Flood and Stormwater Impacts

- Update Zoning and Development Regulations
- Manage Road Runoff to control erosion.
- Replace culverts
- Monitor and improve dams.



### Reduce Wildfire Risk

- Forest Fuel Reduction
- Forest Management Plan
- Install Dry Hydrants
- Plan for Climate Impacts



## **Enhance Water Supply**

- Menemsha Storage Tank
- Expand Water Infrastructure
- Install Dry Hydrants
- Expand emergency sources
- State Forest system backup.



## **Prepare for Sea Level Rise**

- Masterplan for Menemsha
- Manage Beach, Pond and Dune Systems



## **Public Health and Well-being**

- Tick Testing Equipment
- Elder Services
- Mental Health

# The MVP Process in Chilmark and West Tisbury

