Building Resilience and Adapting to Climate Impacts

Sustainable Growth Commission

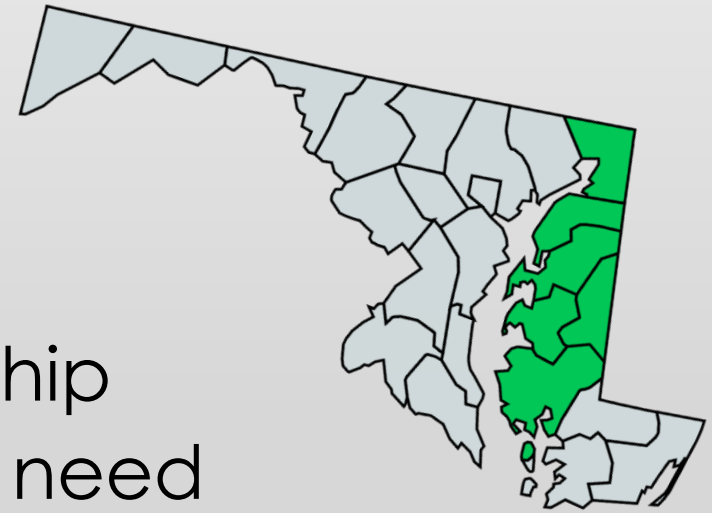
September 23, 2019

EASTERN SHORE
LAND CONSERVANCY


BENJAMIN JOHNSON
Died Sept. 6, 1828.

ESLC – Coastal Resilience Program

- Provide assistance and resources to communities for mainstreaming climate preparedness
- Hazard mitigation plans (Queen Anne's, Talbot, Dorchester)
- Participatory vulnerability assessments (St. Michaels, Kent, & multi-jurisdiction)
- Increase regional capacity for adaptation
- Eastern Shore Climate Adaptation Partnership
- Raise the visibility of rural communities and need for assistance and resources



Definition of Resilience

As one of the country's most vulnerable landscapes to flooding, erosion, and sea level rise, the Eastern Shore can become a national model for coastal resilience in rural communities. A resilient Eastern Shore will be prepared for immediate and long-term coastal hazards and able to survive, adapt, and prosper in the face of uncertainty and vulnerability.

ESCAP Overview

"Promotes learning and collaboration among Eastern Shore communities to prepare for changes in weather patterns, flooding, and other environmental conditions."

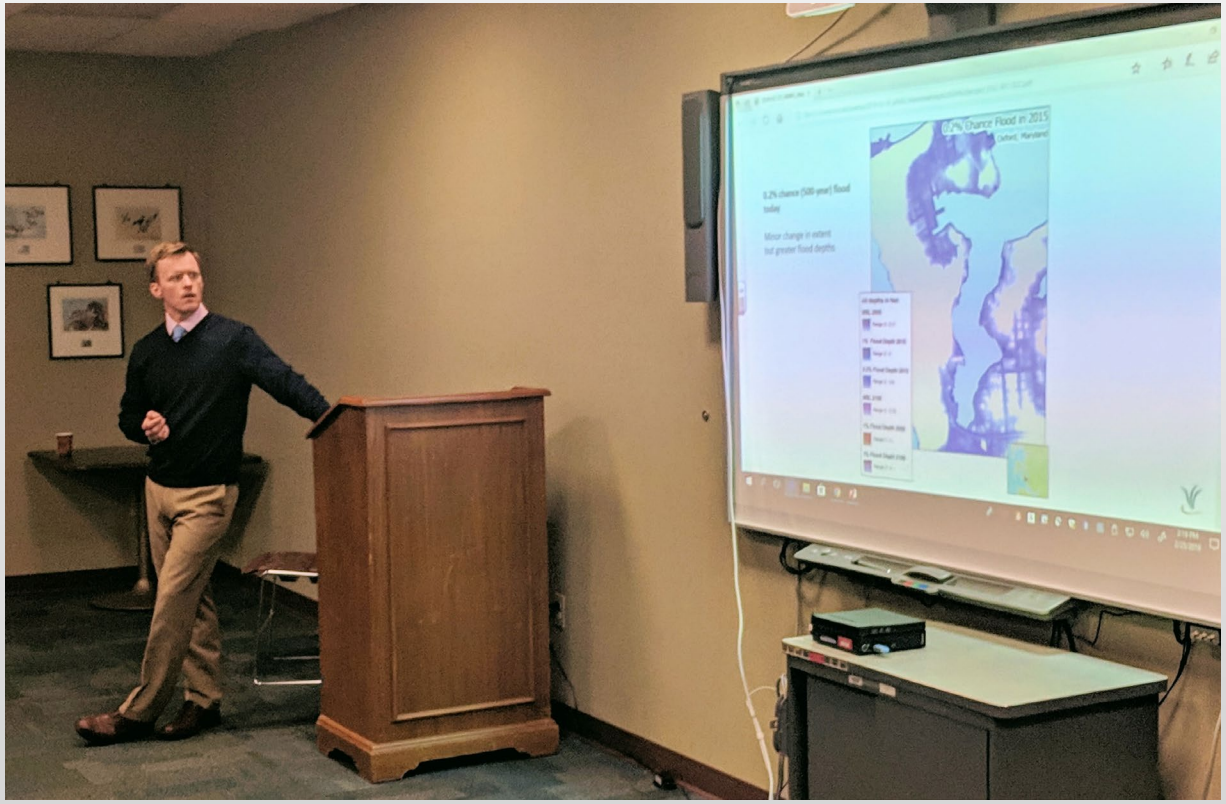
"A venue for partners to provide support, education, technical assistance, and resources to help communities build resilience."

- 6 counties & 2 municipalities
- 3 state agencies
- 4 academic institutions
- 3 nonprofit organizations
- Emergency management, planning, health, public works, administration

Support Local Planning & Policy

- Hazard Mitigation Plans
- Comprehensive Plans
- Floodplain and Stormwater Ordinance
- Climate and Coastal Vulnerability Assessments

Support State Planning



- State workgroups
- Conferences and seminars
- New planning initiatives

National Coordination/Collaboration

- Land Trust Alliance
- Georgetown Climate Center
- Regional Collaboratives Forum
- LESCAN & RASCL

Land Trust Alliance
Together, conserving the places you love

GEORGETOWN CLIMATE CENTER
A Leading Resource for State and Federal Policy

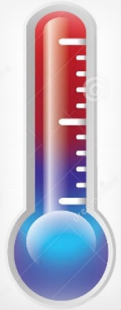
Projected Climate Impacts

Sea Level Rise

+1.5-2.0 feet by 2050
+5-6 feet by 2100

Faster erosion rates
Chronic coastal flooding
More damaging storm surges

Increased emergency response times
Disruption of public services



Temperature

+4-8 °F

Warmer nights
Longer heat waves

Heat-related health emergencies
Vector-borne diseases

Stress on HVAC & building systems
Wear on roadways

Precipitation

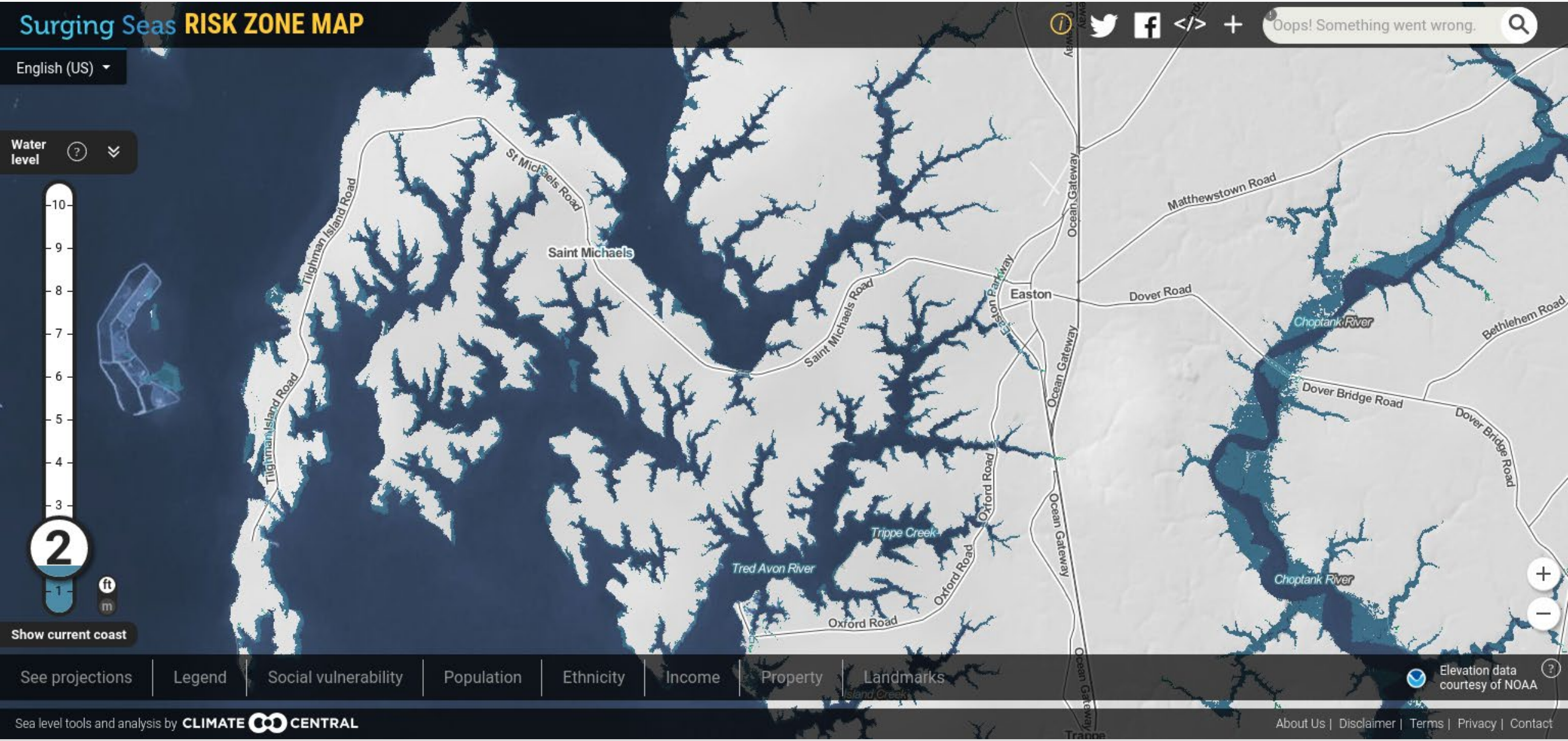
+10-20% annual precipitation

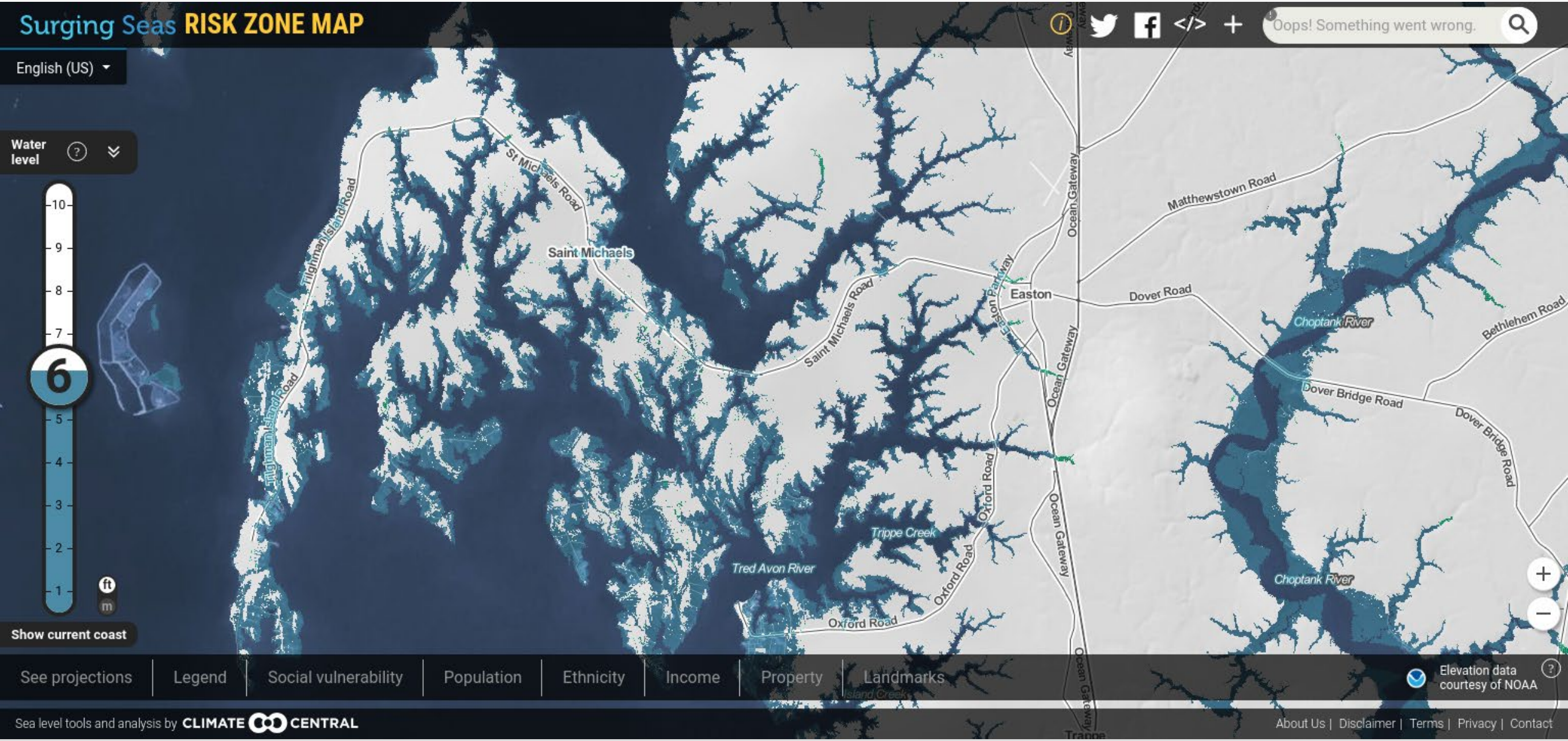
Heavier downpours

Wetter winter/spring
Drier summers

Degraded performance of stormwater infrastructure

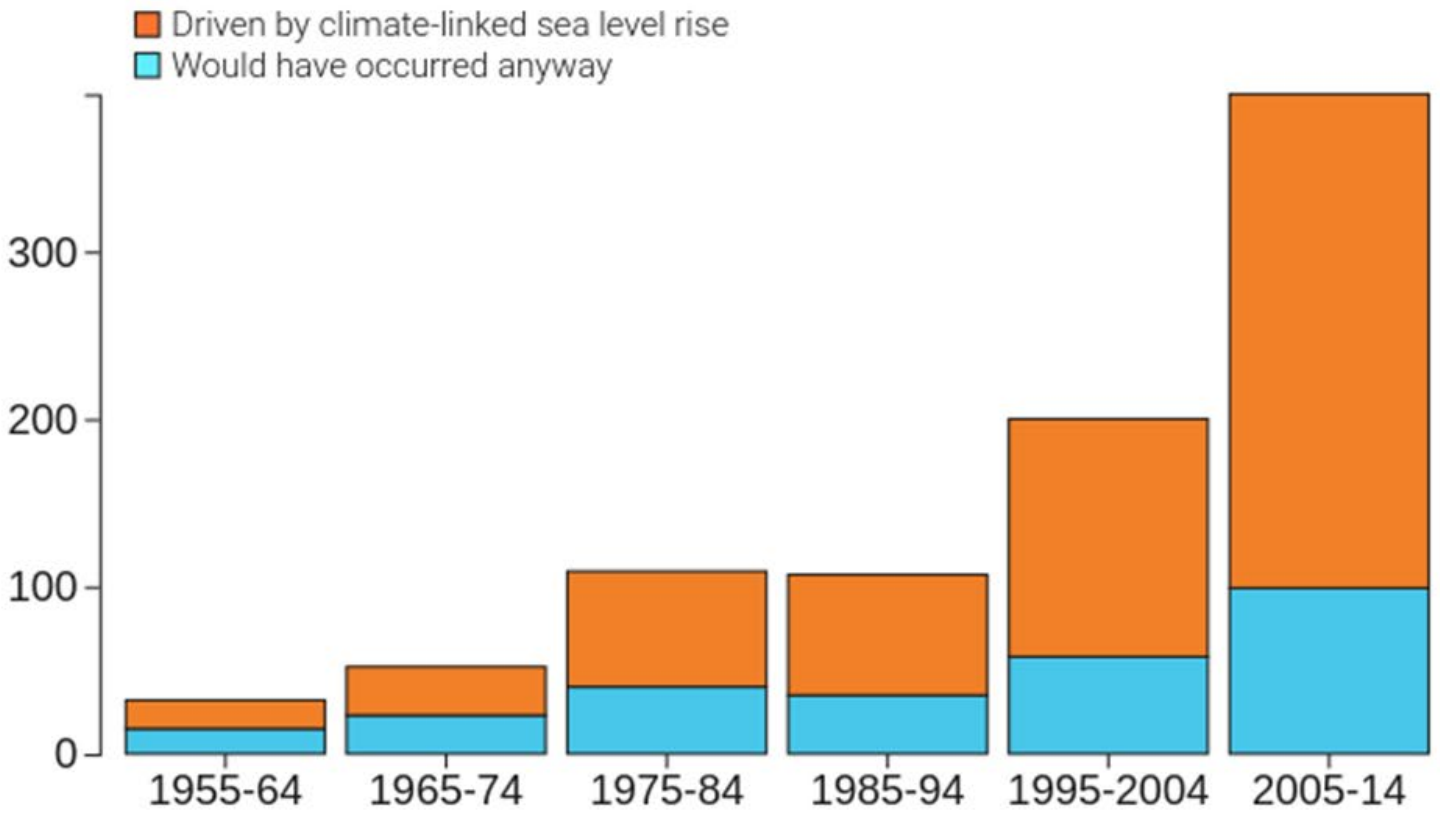
Boesch et al. 2018. *Sea Level Rise Projections for Maryland 2018*. University of Maryland Center for Environmental Science.
Boesch et al. 2008. *Global Warming and the Free State: Comprehensive Assessment of Climate Change Impacts in Maryland.* Maryland Climate Change Commission.


Surging Seas RISK ZONE MAP
English (US)
Water level
10
9
8
7
6
5
4
3
2
1
ft
m
Show current coast
Oops! Something went wrong.
Saint Michaels
St Michaels Road
Tilghman Island Road
Saint Michaels Road
Easton
Easton Parkway
Ocean Gateway
Matthewstown Road
Dover Road
Choptank River
Bethlehem Road
Dover Bridge Road
Oxford Road
Trippe Creek
Tred Avon River
Island Creek
Trappe
See projections
Legend
Social vulnerability
Population
Ethnicity
Income
Property
Landmarks
Elevation data courtesy of NOAA
Sea level tools and analysis by CLIMATE CENTRAL
About Us | Disclaimer | Terms | Privacy | Contact


Surging Seas RISK ZONE MAP
English (US)
Water level
10
9
8
7
6
5
4
3
2
1
ft
m
Show current coast
Oops! Something went wrong.
Saint Michaels
St Michaels Road
Pilgrimmans Island Road
Saint Michaels Road
Easton
Easton Parkway
Ocean Gateway
Matthewstown Road
Dover Road
Choptank River
Bethlehem Road
Dover Bridge Road
Oxford Road
Trippe Creek
Tred Avon River
Island Creek
Trappe
See projections
Legend
Social vulnerability
Population
Ethnicity
Income
Property
Landmarks
Elevation data courtesy of NOAA
Sea level tools and analysis by CLIMATE CENTRAL
About Us | Disclaimer | Terms | Privacy | Contact

TALBOT COUNTY AREA*

Coastal flood days



**Water level station "U.S. Naval Academy" is 23 miles from Talbot County and is the nearest station analyzed in the Climate Central study behind this figure.*

CLIMATE CENTRAL

What Can Residents Do?

Elevate houses and utilities

Convert to solar power

Use energy-efficient lights and appliances
- Energy Star

Heat and cool efficiently
- Seal and insulate

Manage water on your property
- Install a rain barrel & rain garden

Check your insurance coverage

Spread the word
- *Resilience Matters* newsletter – sign up at eslc.org

What Can Government Do?

1) Conduct a resilience assessment prior to undertaking new capital investment projects
2) Develop a multi-year maintenance and upgrade plan for infrastructure and other assets
3) Integrate resilience into capital improvement planning
4) Expand the regulatory floodplain
5) Enact three-foot freeboard requirements in all building codes
6) Regulate Coastal A zones as V zones
7) Participate in the Community Rating System

Funding Options

- State grants
  - DNR Chesapeake and Coastal Program
  - MEMA State Hazard Mitigation Grant Program/Flood Mitigation Assistance
- Federal grants
  - NFWF Resilient Communities Program
  - SBA Mitigation Loans
  - EPA Environmental Protection and Prosperity Programs
- Private grants
  - Chesapeake Bay Trust
  - Climate Resilience Fund
  - Kresge Foundation
  - Rockefeller Foundation

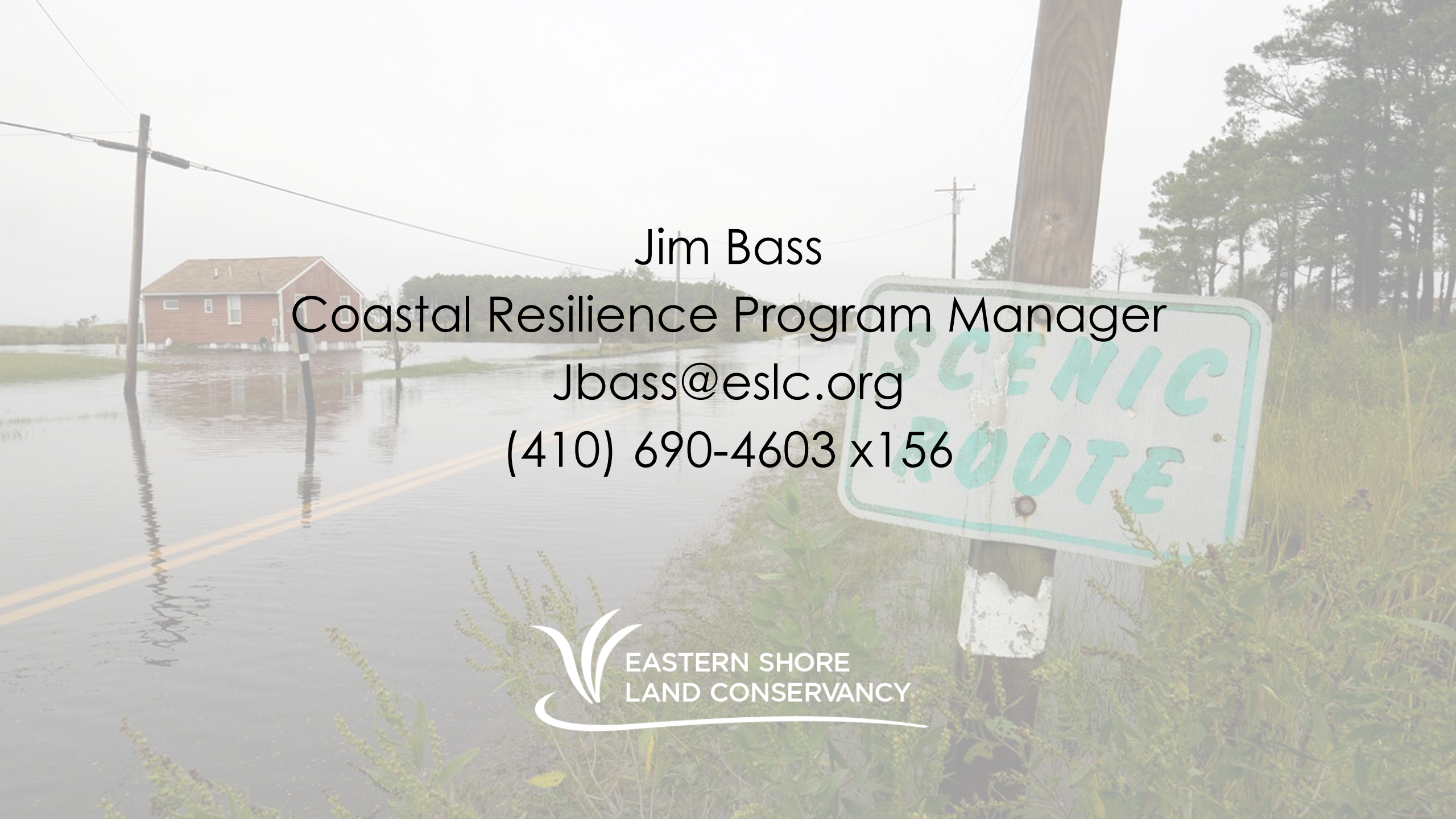
In Conclusion

Support planning and policy at the local and state level

Build climate awareness among residents across the Eastern Shore

Consider impacts to businesses, residents, public infrastructure, and the environment

Challenges vs. Opportunities



Jim Bass
Coastal Resilience Program Manager
Jbass@eslc.org
(410) 690-4603 x156

EASTERN SHORE
LAND CONSERVANCY