

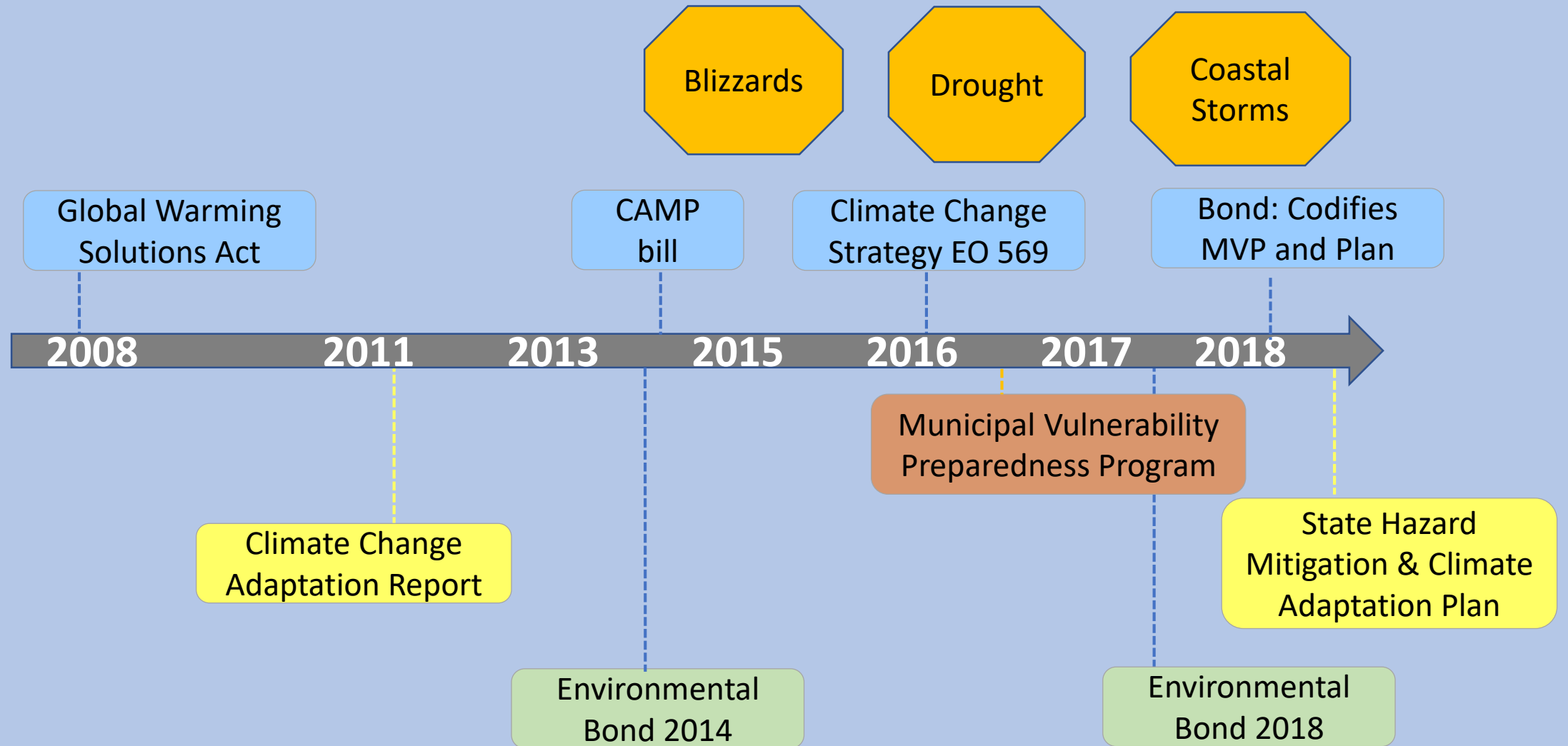


Municipal Vulnerability Preparedness Program, MA and Nature Based Solutions Oct. 23, 2019



The Nature Conservancy 
Protecting nature. Preserving life.
Sara.burns@tnc.org

Massachusetts Climate Adaptation History



2016: Executive Order 569: An Integrated Climate Change Strategy for the Commonwealth



- Reducing greenhouse gas emissions to combat climate change
- Protecting life, property, natural resources and our economy from the impacts of climate change
 - State Plan
 - Agency Vulnerability Assessments
 - Municipal Support
 - Climate Coordinators

2017: Statewide Resilience Planning Development and Implementation

- Resilient MA Clearinghouse: Science and Data
- Statewide Combined Hazard Mitigation and Climate Adaptation Plan
- Municipal Vulnerability Preparedness Program



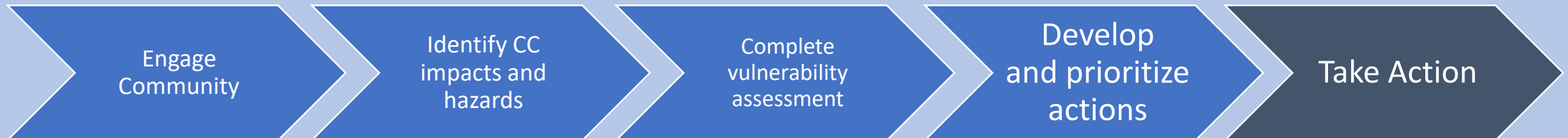
MVP: State and local partnership to build resiliency to climate change

Planning Grants & Certification

- Planning for climate impacts and changes in natural hazards
- Planning workshop and report consider strengths and vulnerabilities:
 - Society
 - Environment
 - Infrastructure

Action Grants - Implementation

- Implementation of MVP Plans
- Nature Based Solutions prioritized



Nature-Based Solutions

Nature-Based Solutions use natural systems, *mimic* natural processes, or *work in tandem with* traditional approaches to address natural hazards like **flooding**, **erosion**, **drought**, and **heat islands**.



Green Infrastructure

Engineered Solutions



Year One MVP Plan Summaries

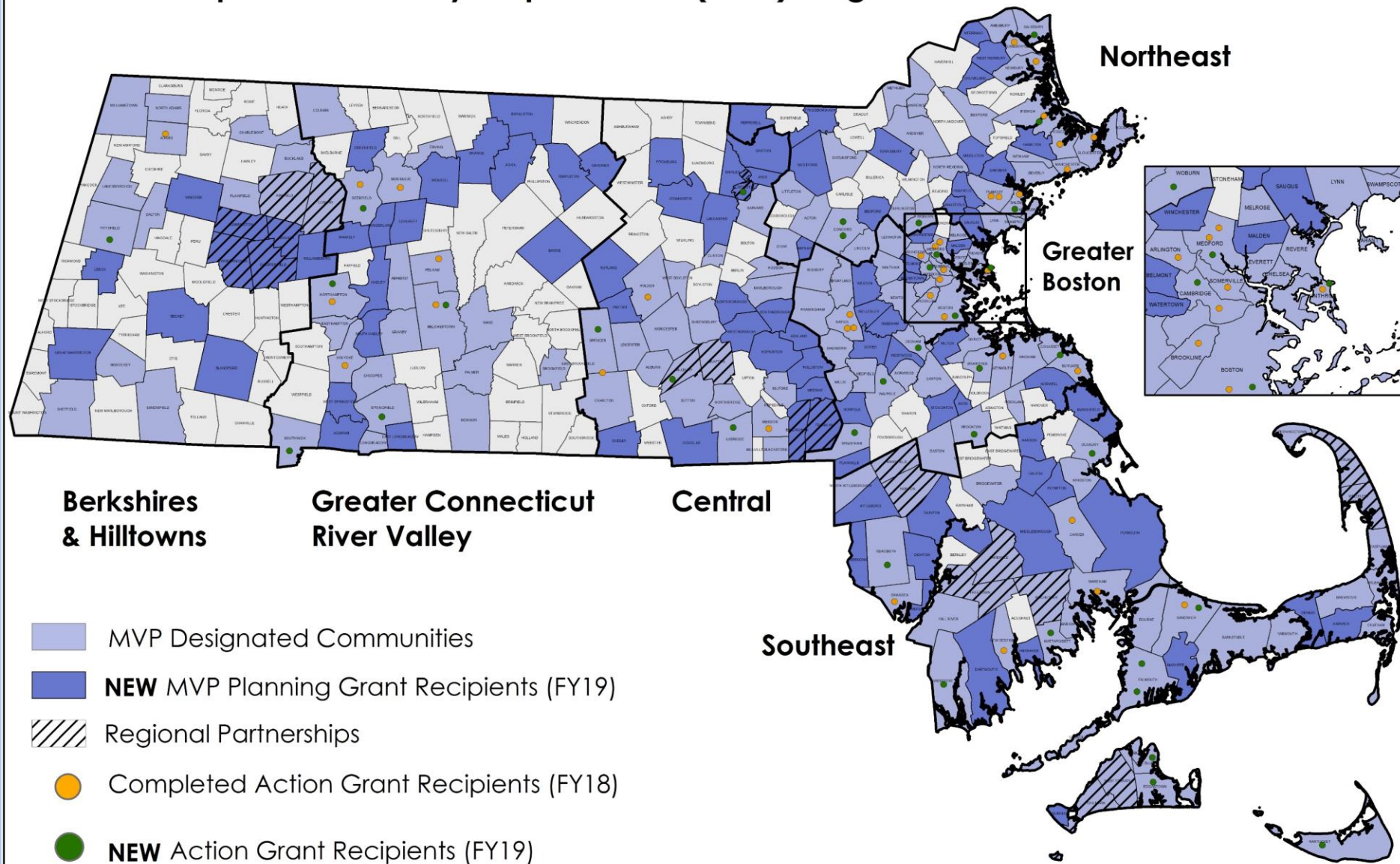
- Top Hazards (Year 1): Severe Storms, Inland Flooding, Heat, Wind
- Top Actions (Year 1): Emergency Management, Power Infrastructure, Stormwater Management, Regulations, Drinking Water



MVP Planning Status: 71% of the Commonwealth/ 249 communities



Municipal Vulnerability Preparedness (MVP) Program



MVP Action Grant Status

Action Grant Amounts: \$15.3 million for implementation; 67 projects funded

- Eligible Projects Include:
 - Nature Based Solutions for storms, erosion, drought, water quality, heat island, air pollution
 - Ecological Restoration and Habitat Management to Increase Resiliency
 - Detailed Vulnerability and Risk Assessments
 - Bylaw Review
 - Education and Outreach
 - Redesign and retrofits
 - Energy Resilience
 - Chemical Vulnerability and Safety
 - Subsidized Low Income Housing Resilience
 - Mosquito Control Districts



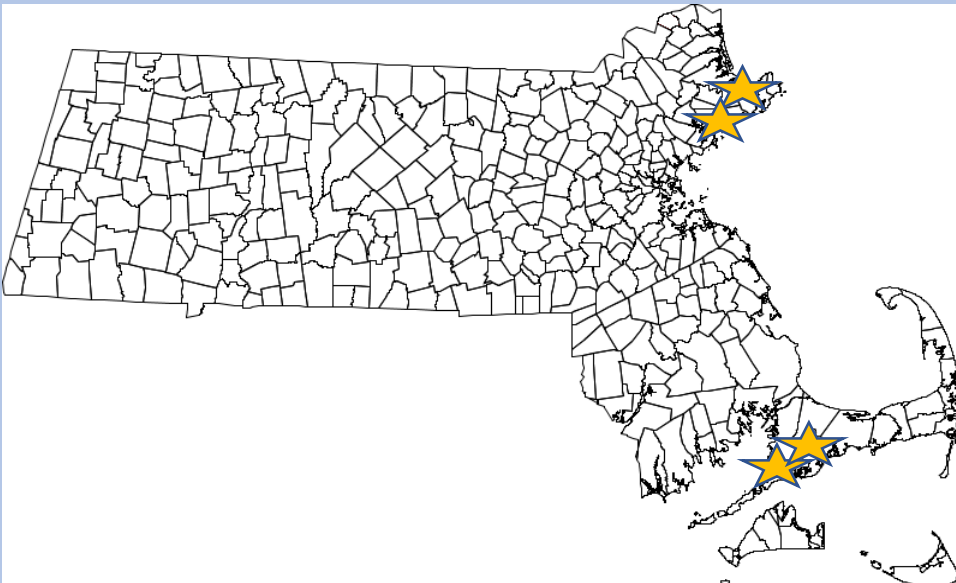
*Essex Causeway/Main Street and businesses showing inundation from the Essex River.
Photo credit: Abby Manzi, DeRosa Environmental*



Essex, Newbury, Falmouth, Mattapoisett

Nature Based Solutions for Resilience

- Living Shoreline Feasibility
- Cranberry Bog restoration
- Watershed Land Protection
- Salt Marsh Restoration

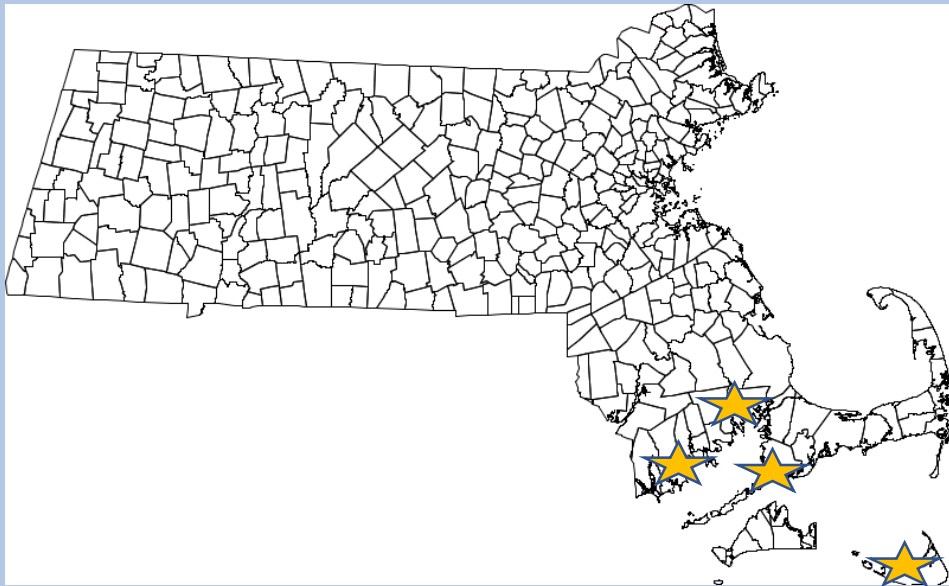




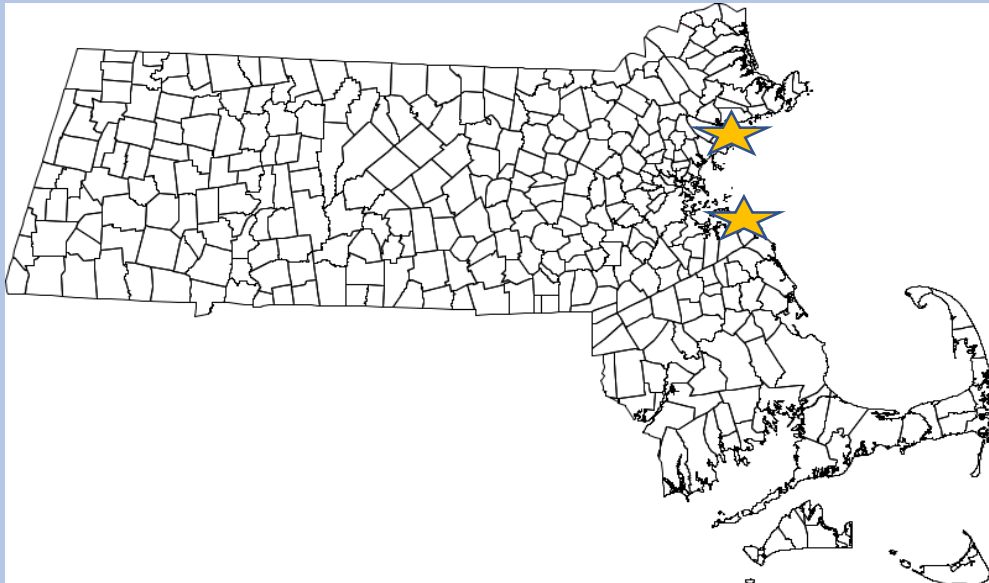
Falmouth, Wareham, Westport, Nantucket

Coastal Resiliency Planning for Road Corridors and Infrastructure

- Barrier Beaches
- Road is a few feet above sea level
- Long term road planning
- Building design, public education



<https://www.capeandislands.org/post/climate-change-creates-uncertain-future-falmouths-surf-drive#stream/0>



Scituate, Salem

- Comprehensive Wastewater Treatment Resilience Feasibility
- Sanitary Sewer Trunk Line Relocation Assessment
- Green Infrastructure for Stormwater Management in City Projects

Funding Infrastructure Resilience Federally

- PROTECT grants can help other states replicate the MA funding program
- Incorporate PROTECT grants, as proposed by America's Transportation Infrastructure Act of 2019 (ATIA), a part of final surface transportation bill passed by Congress



*Essex Causeway/Main Street and businesses showing inundation from the Essex River.
Photo credit: Abby Manzi, DeRosa Environmental*

An aerial photograph of the Chesapeake Bay Bridge-Tunnel, a long suspension bridge with two tall white towers, spanning across the blue water of the Chesapeake Bay. The sky is bright blue with scattered white clouds. In the foreground, a small red boat is moving across the water, leaving a white wake. The text "Thank You" is centered in the lower half of the image.

Thank You

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