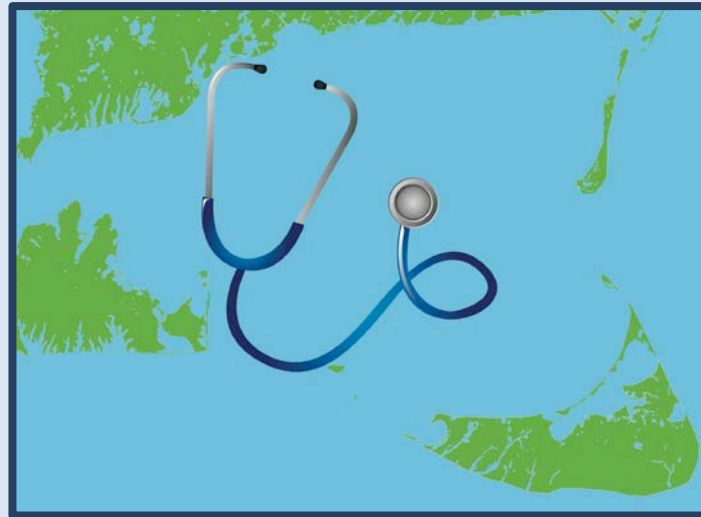


Overview of Nantucket Sound Water Quality Monitoring Program

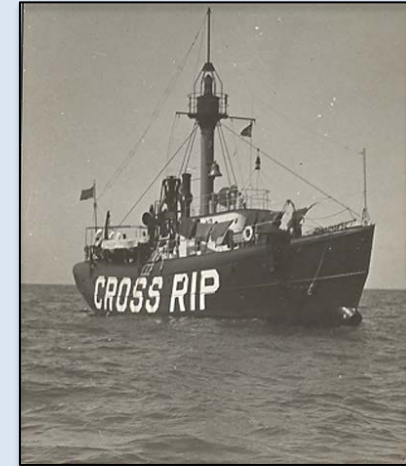
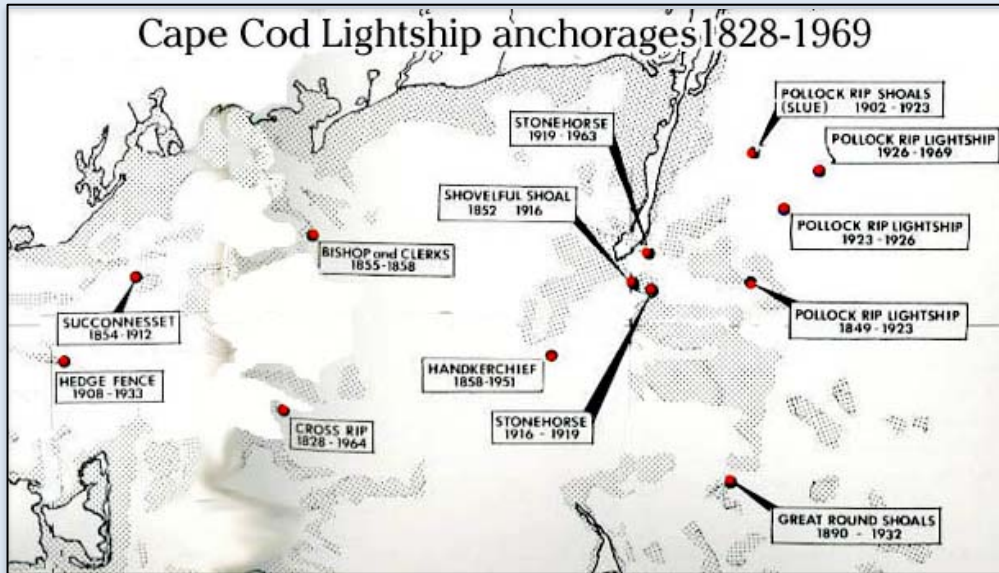


Amy Costa
Center for Coastal Studies

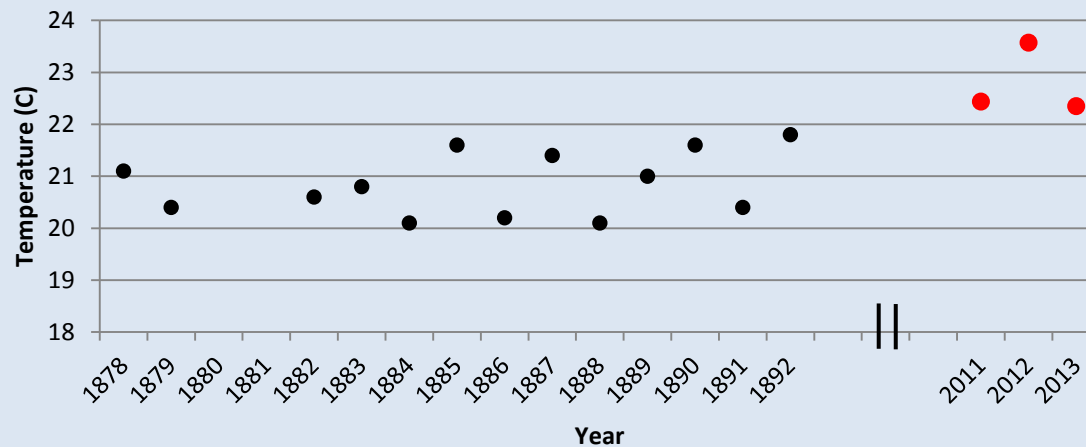
Monitoring Nantucket Sound: Previous and On-going Efforts

- Lightships
 - water temperature data
 - 1878-1956
- Massachusetts Division of Marine Fisheries
 - Fish trawl surveys with concurrent bottom temperatures
 - 1978 to the present
- Cape Wind Energy Project
 - biological, physical and geological data
 - 2001-2005.
- Nantucket Soundkeepers Program
 - 2005-2010
- Barnstable County Bathing Beach Water Quality
 - 2002 to the present
- Estuaries/embayments/ponds studies
 - WEBNERR
 - Massachusetts Estuaries Project

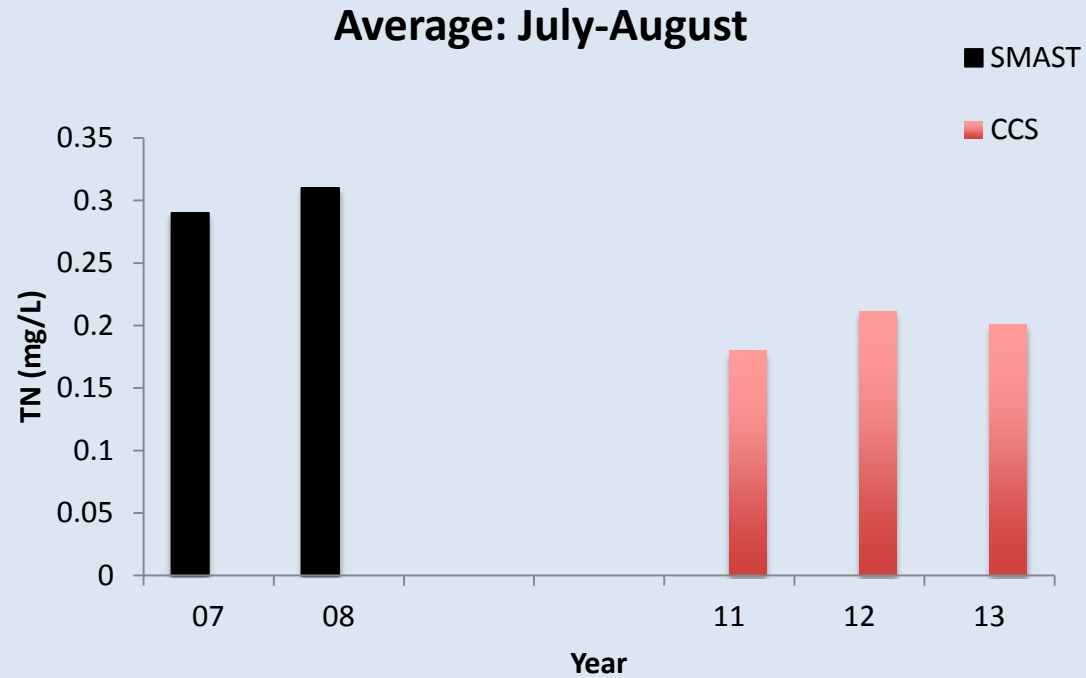
Cross Rip Lightship



August Water Temperature



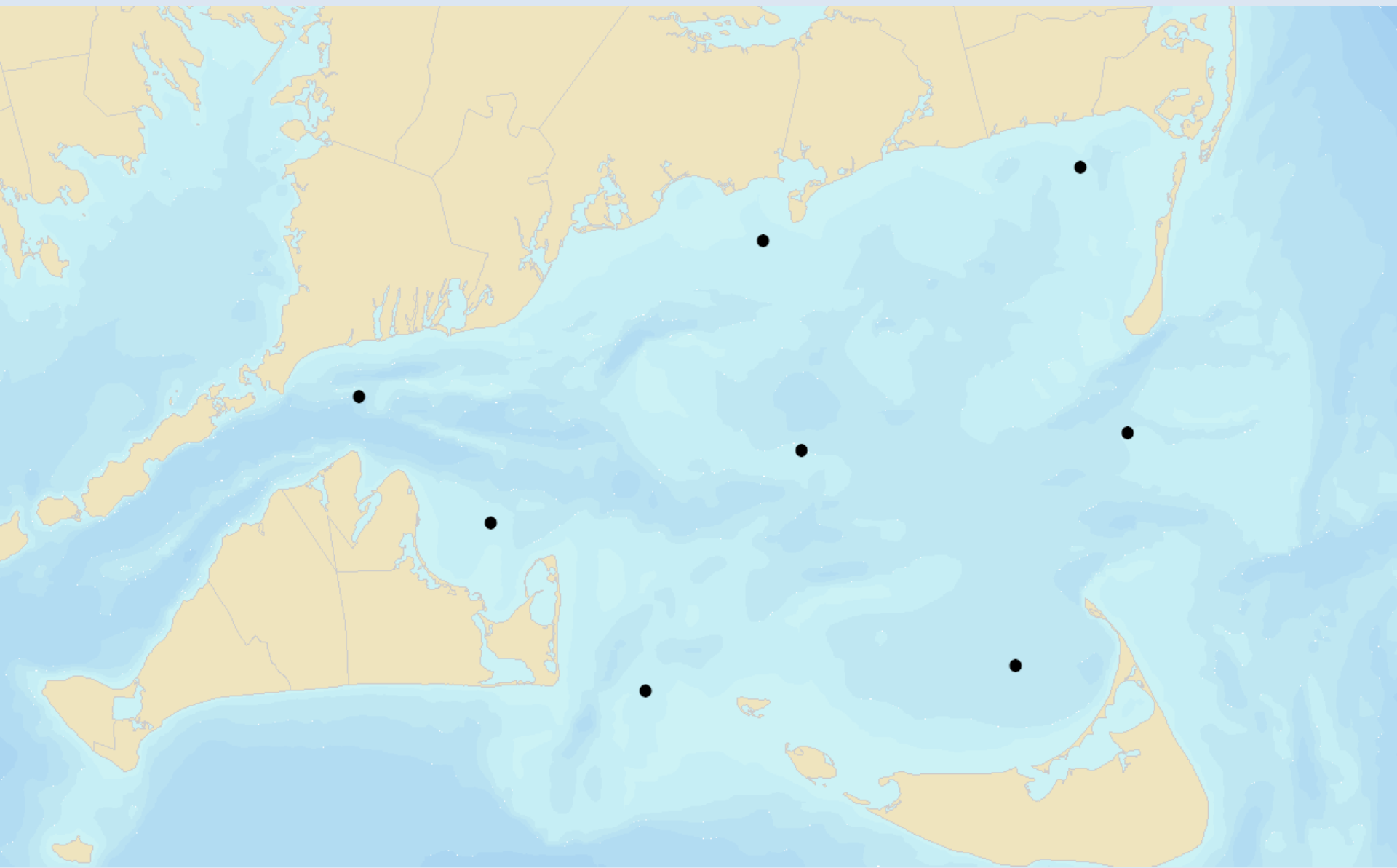
Total Nitrogen



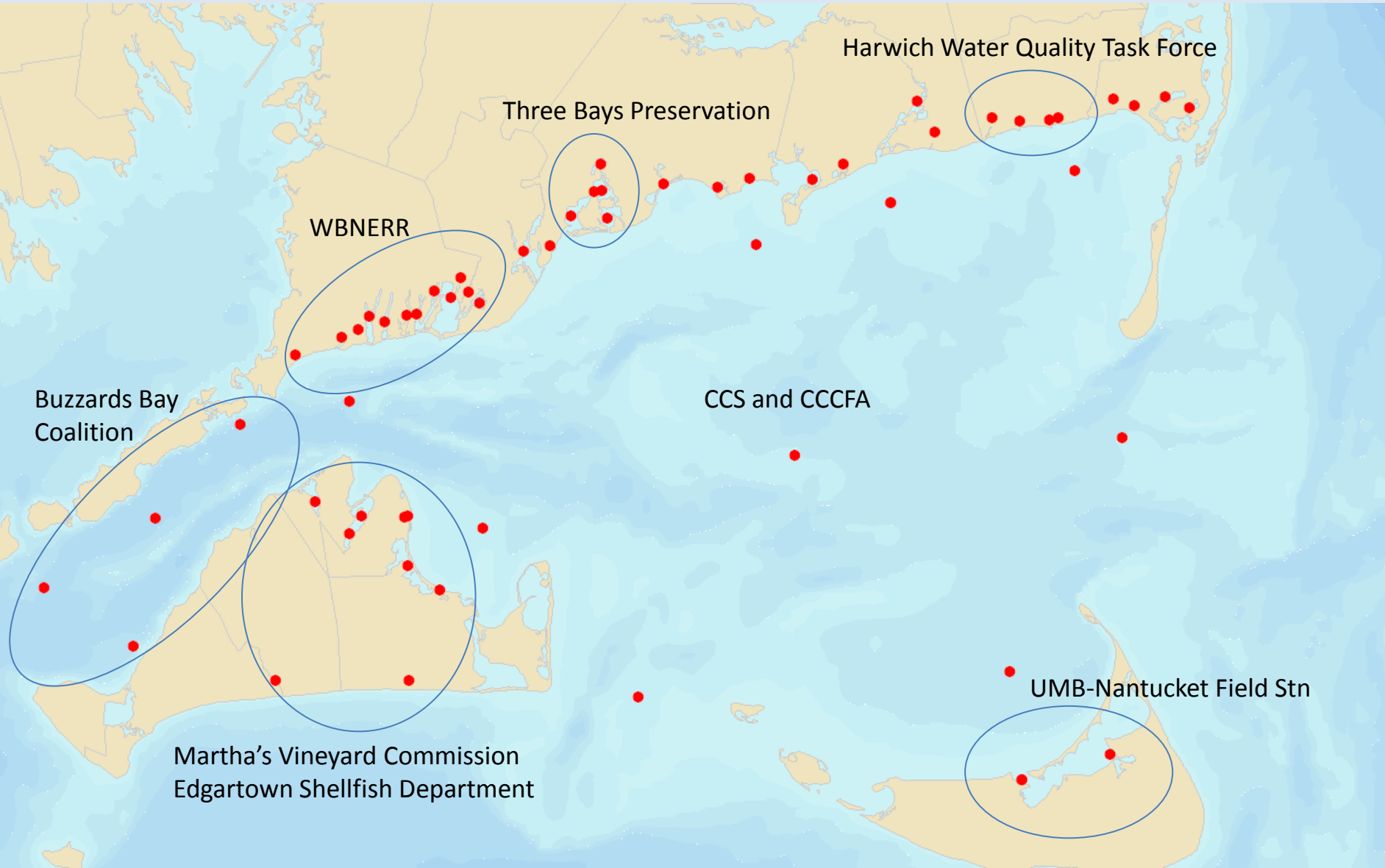
Partners

- Center for Coastal Studies
- Waquoit Bay National Estuarine Research Reserve
- Cape Cod Commercial Fishermen's Alliance
- University of Massachusetts, Boston
 - School for the Environment
 - Nantucket Field Station
- Martha's Vineyard Shellfish Group
- Three Bays Preservation
- Falmouth Associations Concerned with Estuaries and Saltponds
- Buzzards Bay Coalition
- Friends of Chatham Waterways
- EPA
- Underwriters Laboratories
- Silent Spring Institute
- Barnstable County Department of Health
- Cape Cod Commission
- Cape Cod Water Protection Collaborative
- Martha's Vineyard Commission
- Edgartown Shellfish Department
- Harwich Water Quality Task Force

2011-present



2014



Parameters Monitored

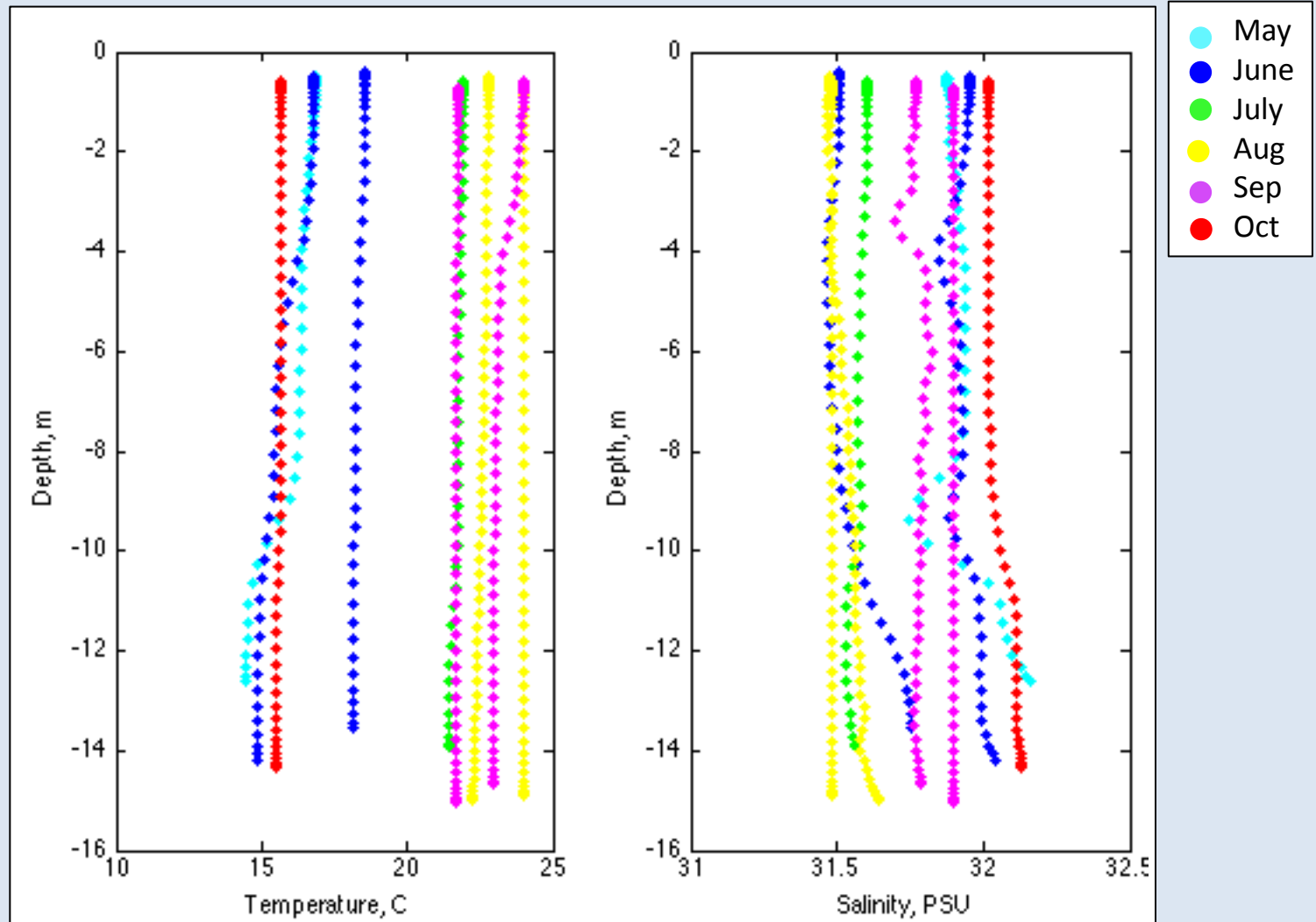
In Situ

- Temperature
- Salinity
- Dissolved Oxygen

Laboratory

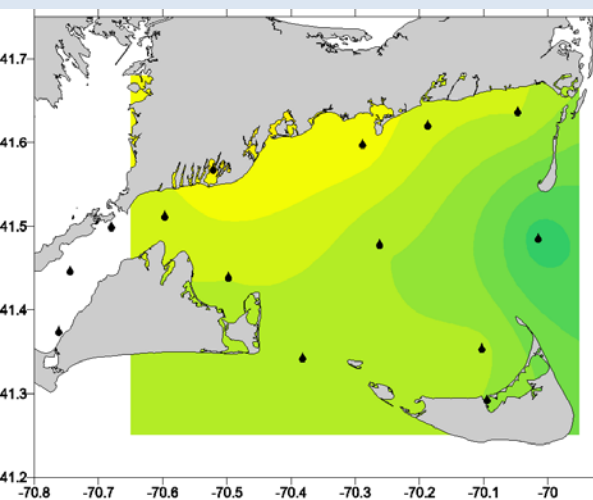
- Nutrients
 - Nitrate+nitrite
 - Ammonium
 - Ortho-phosphate
 - Silicate
 - Total nitrogen
 - Total phosphorus
- Plant Pigments
 - Chlorophyll a
 - Pheophytin
- Turbidity

Profiles

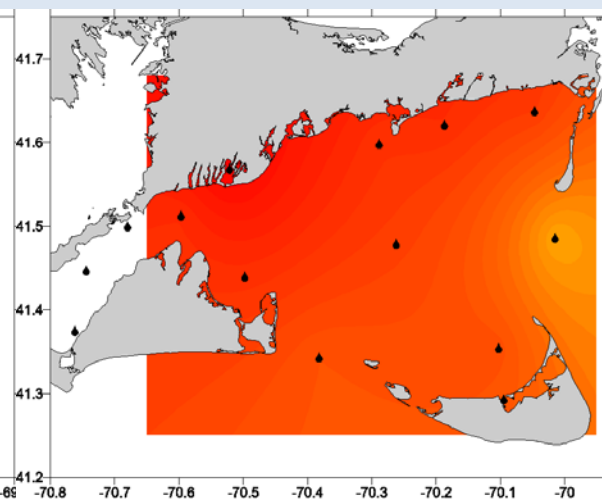


Temperature

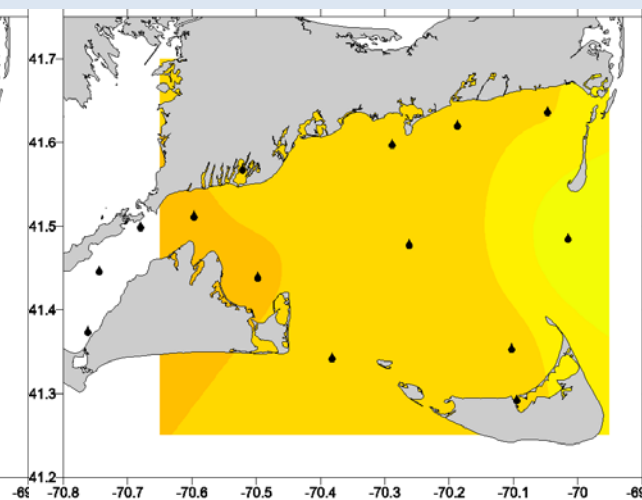
May



July

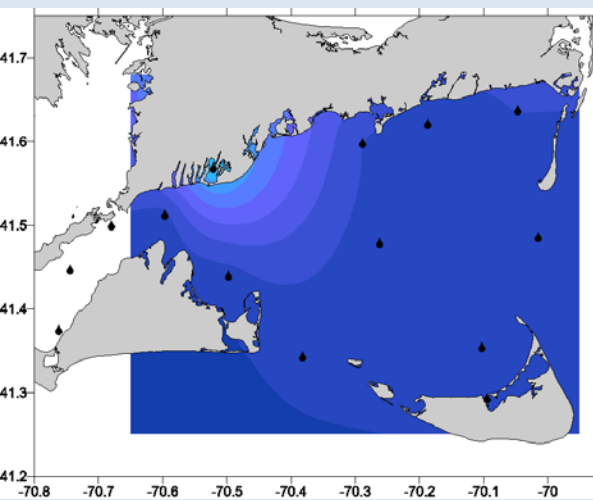


October

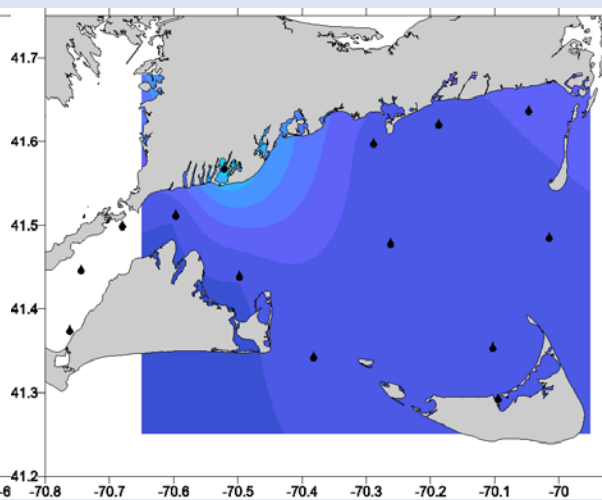


Salinity

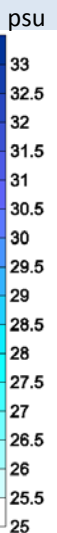
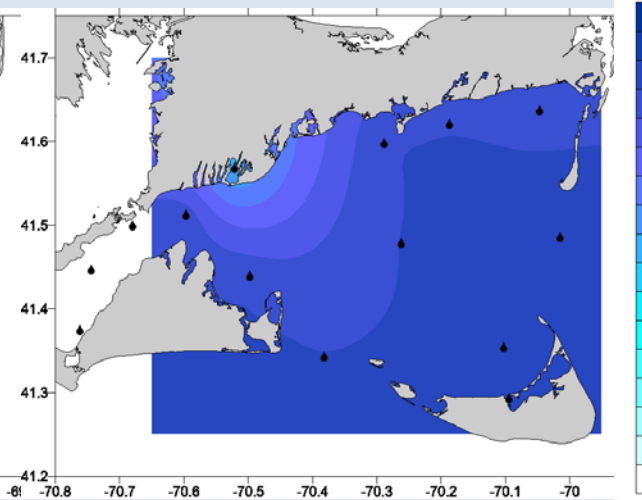
May



July



October

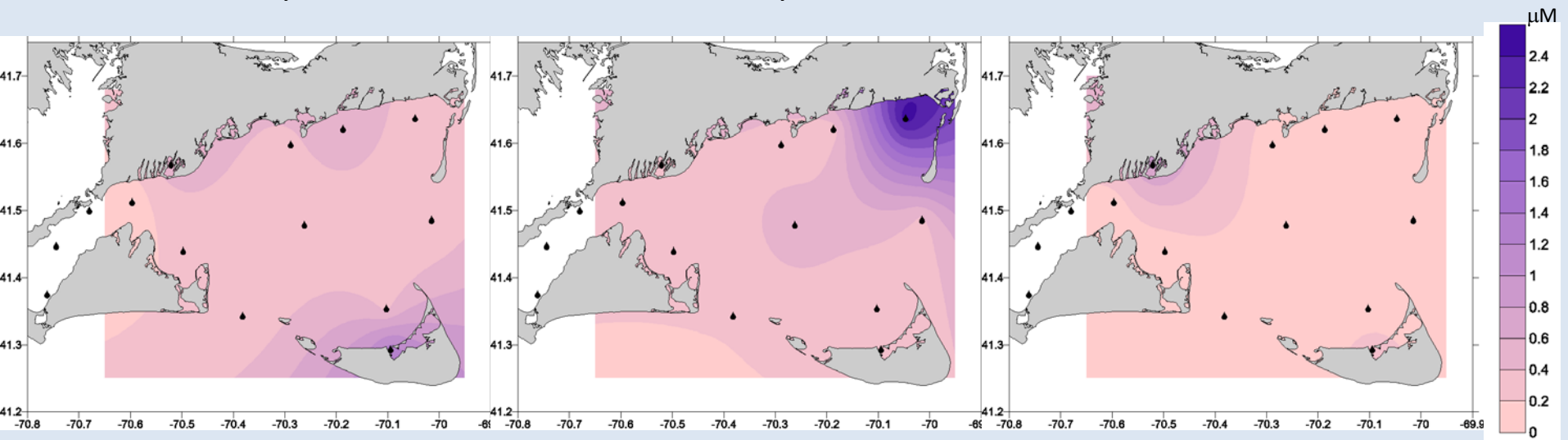


Nitrate+Nitrite

May

July

October

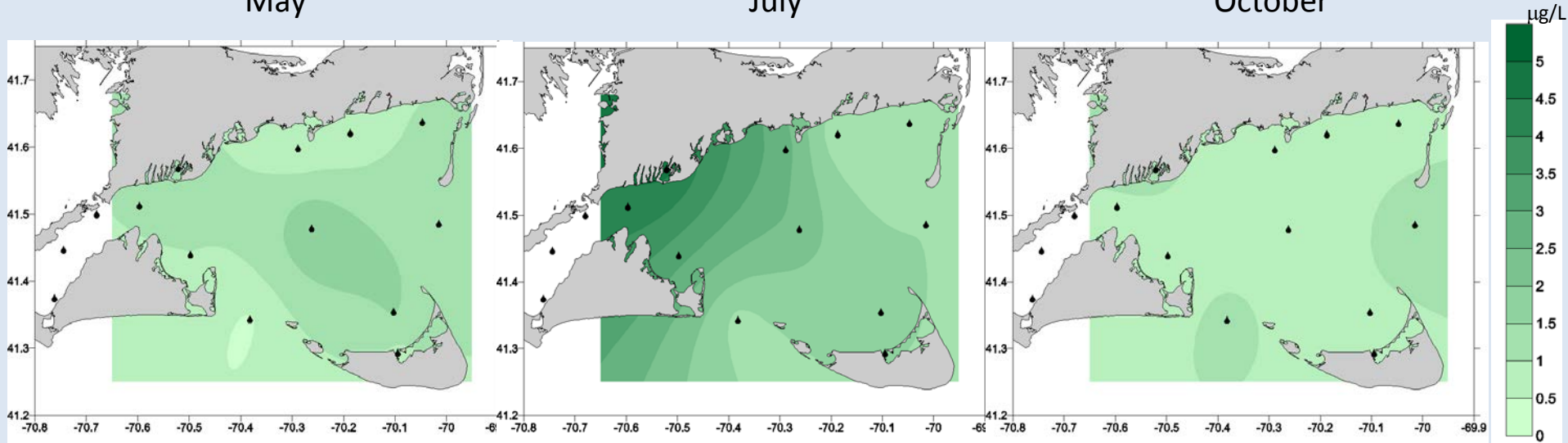


Chlorophyll

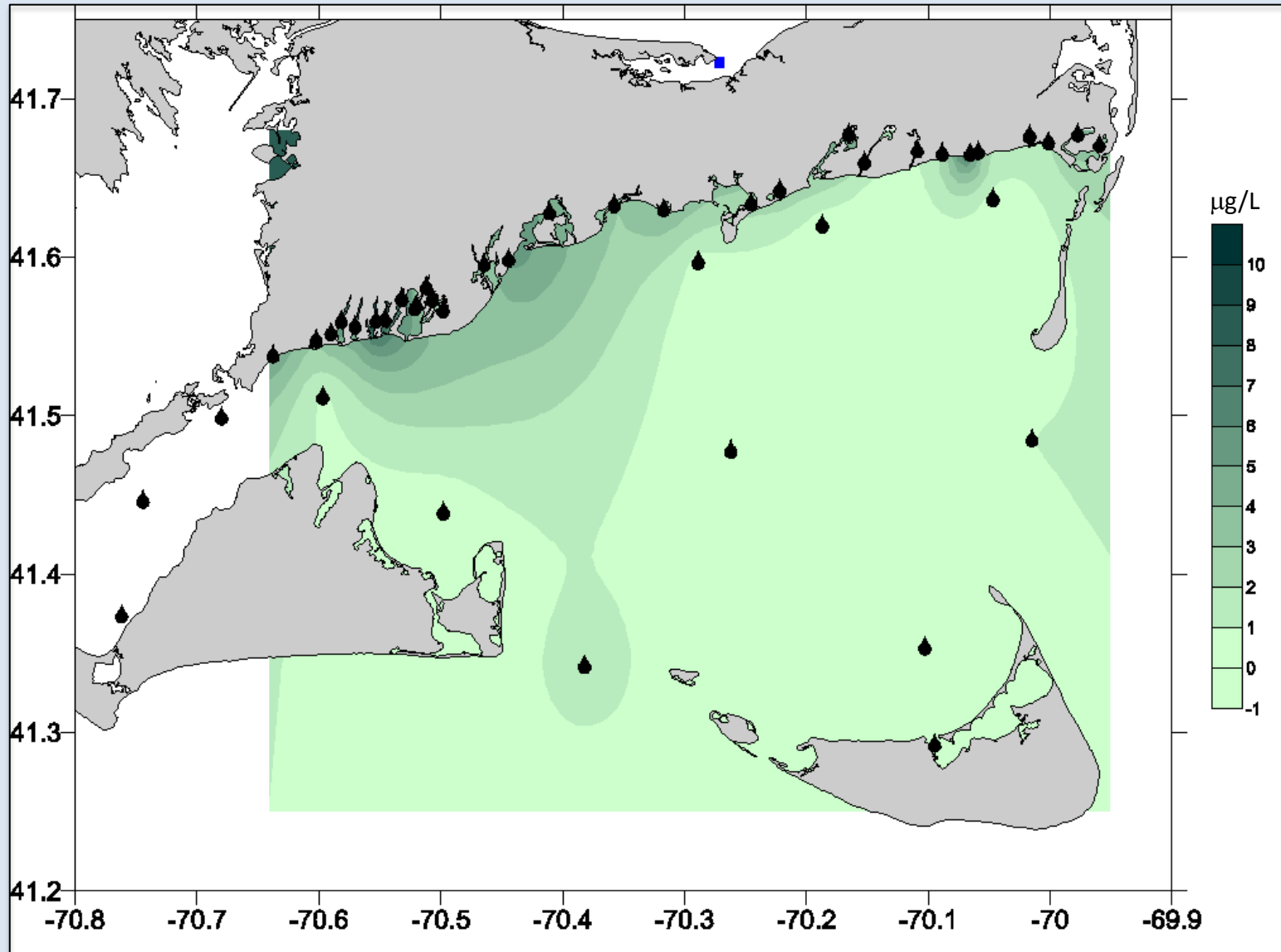
May

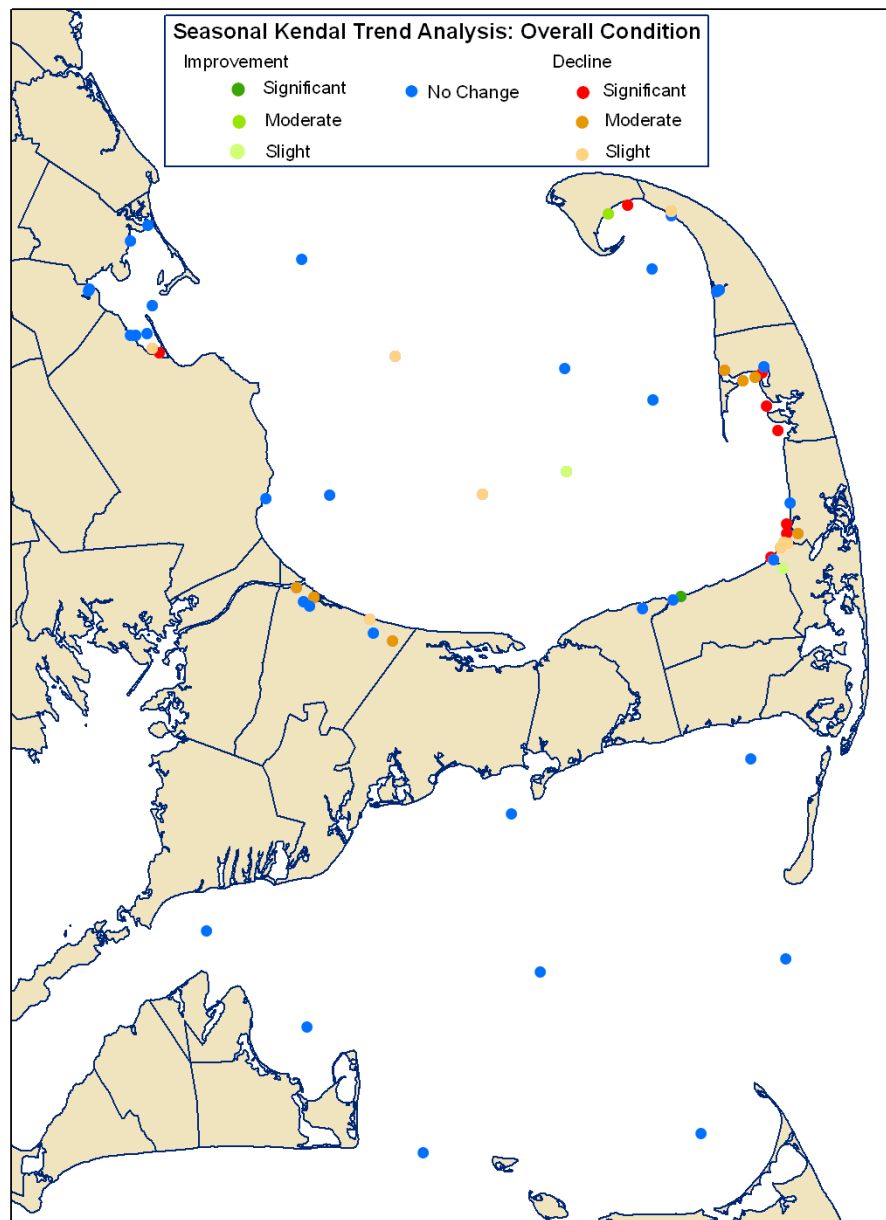
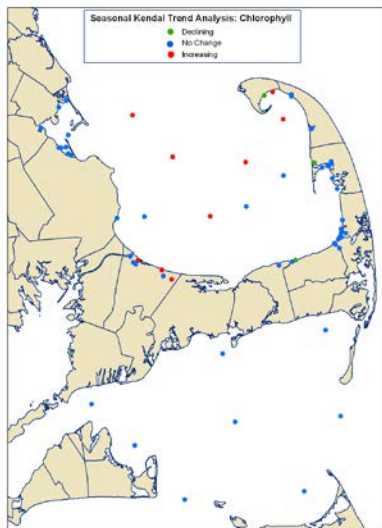
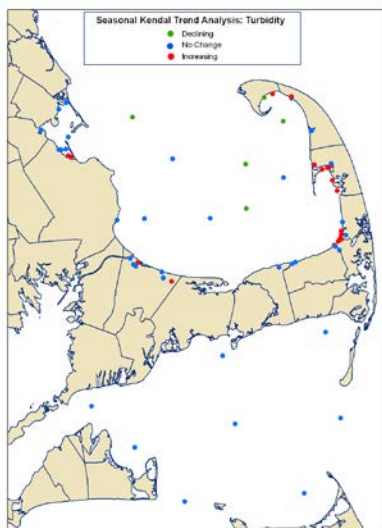
July

October



May 2014: Chlorophyll a





Acknowledgements

- Massachusetts Environmental Trust
- Cape Cod Water Protection Collaborative
 - Commonwealth of Massachusetts
 - Partners and Collaborators

