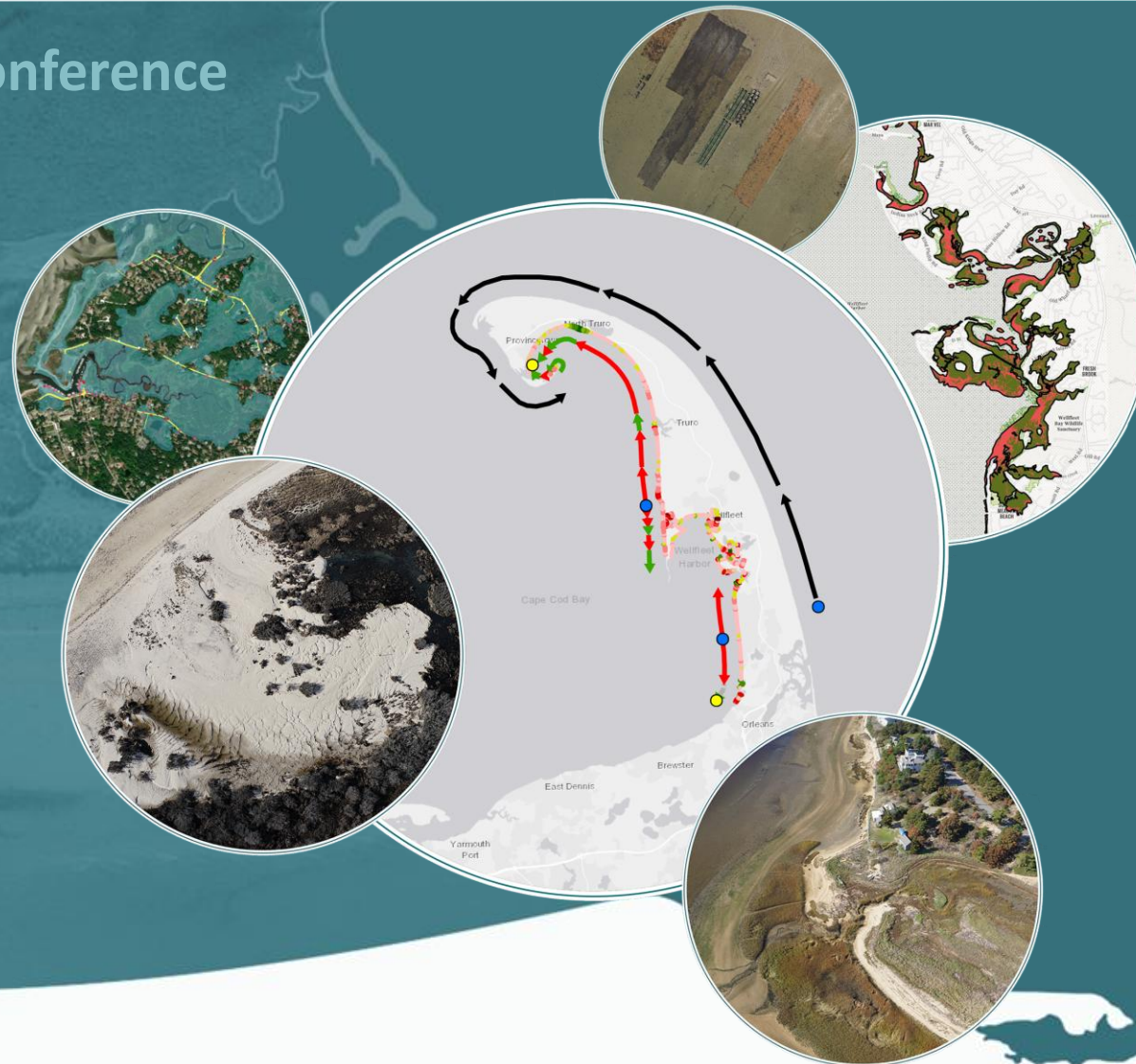


Connecting Coastal Communities – A Spatial Approach



Nantucket Coastal Conference
June 10, 2025

Steve Mague
SJ McFarland



Increasing Coastal Resiliency Through Intermunicipal Shoreline Management: Cape Cod Bay's Eastern Shoreline



- **2018** ConCom agents for towns of Eastham, Wellfleet, Truro, & Provincetown explore regional management of shared Cape Cod Bay shoreline
 - Applied Sciences Program invited to participate & develop application for CZM Coastal Resiliency Grant
- **2019** Four towns awarded grant to explore an intermunicipal management approach to maximize resiliency of eastern Cape Cod Bay shoreline
- **2020 to 24** Strategy:
 - Implement with Regional Management Framework grounded in Existing Local Authorities
 - Develop Baseline Spatial Data Characterizing Natural & Human Shoreline Setting
 - Ensure Access to Data with Shoreline Management Data Portal: **Map that Cape Cod**

Benefits of Regional Shoreline Management



- ✓ More effective shoreline management results with uniform systems-based approach
- ✓ Application of regional geospatial and scientific data to emerging coastal management challenges facing local communities
- ✓ Increased Resiliency in Shoreline Infrastructure
- ✓ Improved Cost Efficiencies & Savings
- ✓ Greater Leveraging of Grant Opportunities with Multiple Towns

Regional Shoreline Management Framework



- Organized spatially around century-scale littoral cells
- Emphasizes interdependence of coastal resources and their dependence on sand
- Grounded in system-based management principles & policies applied uniformly along the Bay shoreline
- Focused on shoreline similarities in:
 - Coastal Resources
 - Human Uses and Alterations
 - Local Management Goals & Regulations
- Implemented using existing town authorities under:
 - MA Wetland Regulations (310 CMR 10.00)
 - Local Wetland Bylaws

Regional Shoreline Management

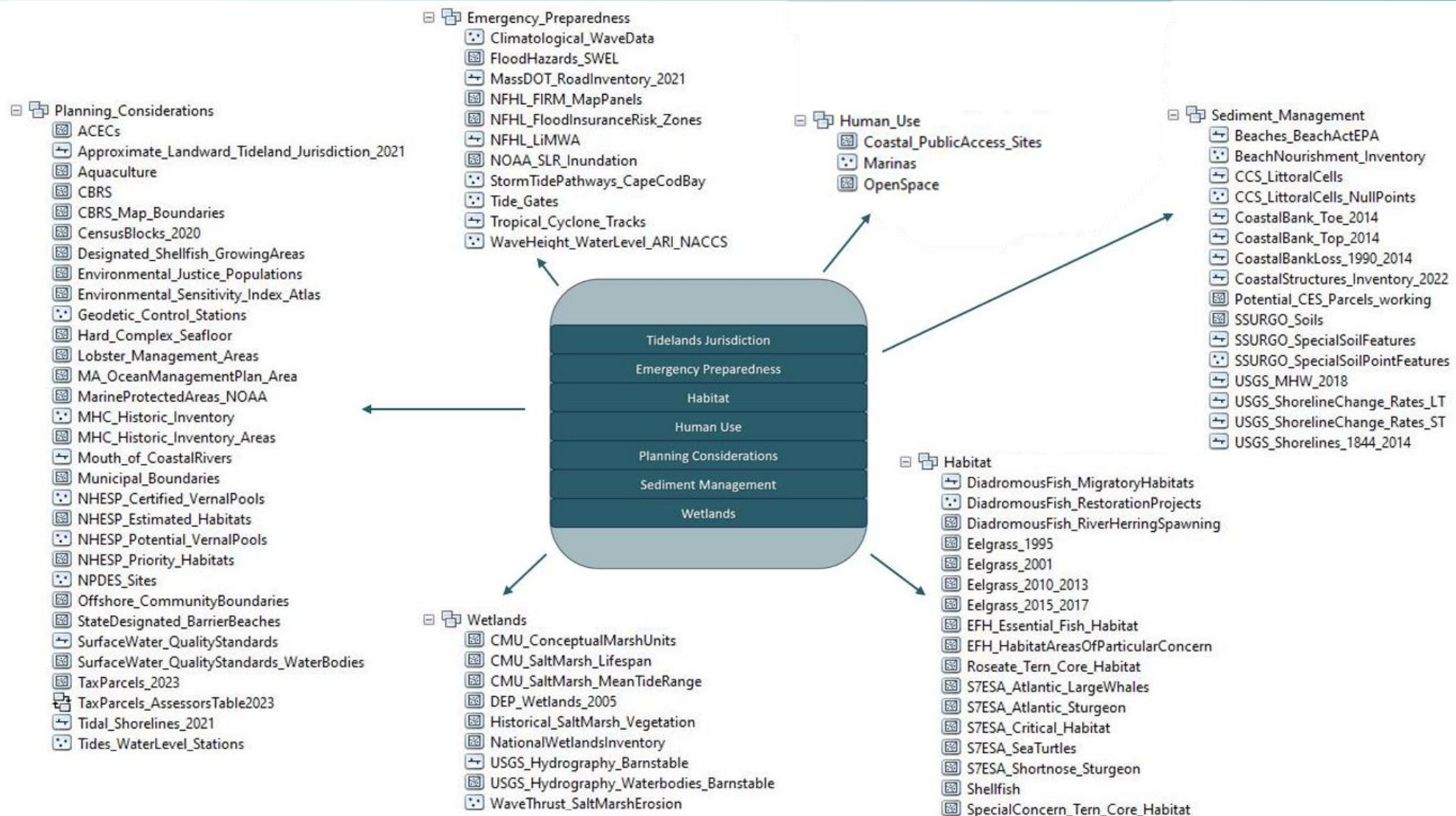


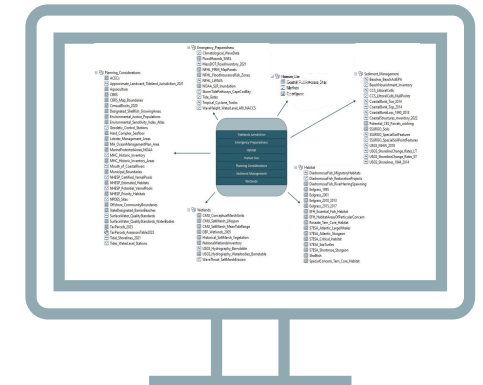
**Communities Responding to a Changing Climate Through
Responsible Stewardship of Shared Shoreline Resources**



Accessible Contemporary Shoreline Information

Regional Baseline Information





Map That Cape Cod



SUPPORT COASTAL RESOURCE MANAGERS

In proactive planning and the
decision-making process



FOSTER OPEN COLLABORATION

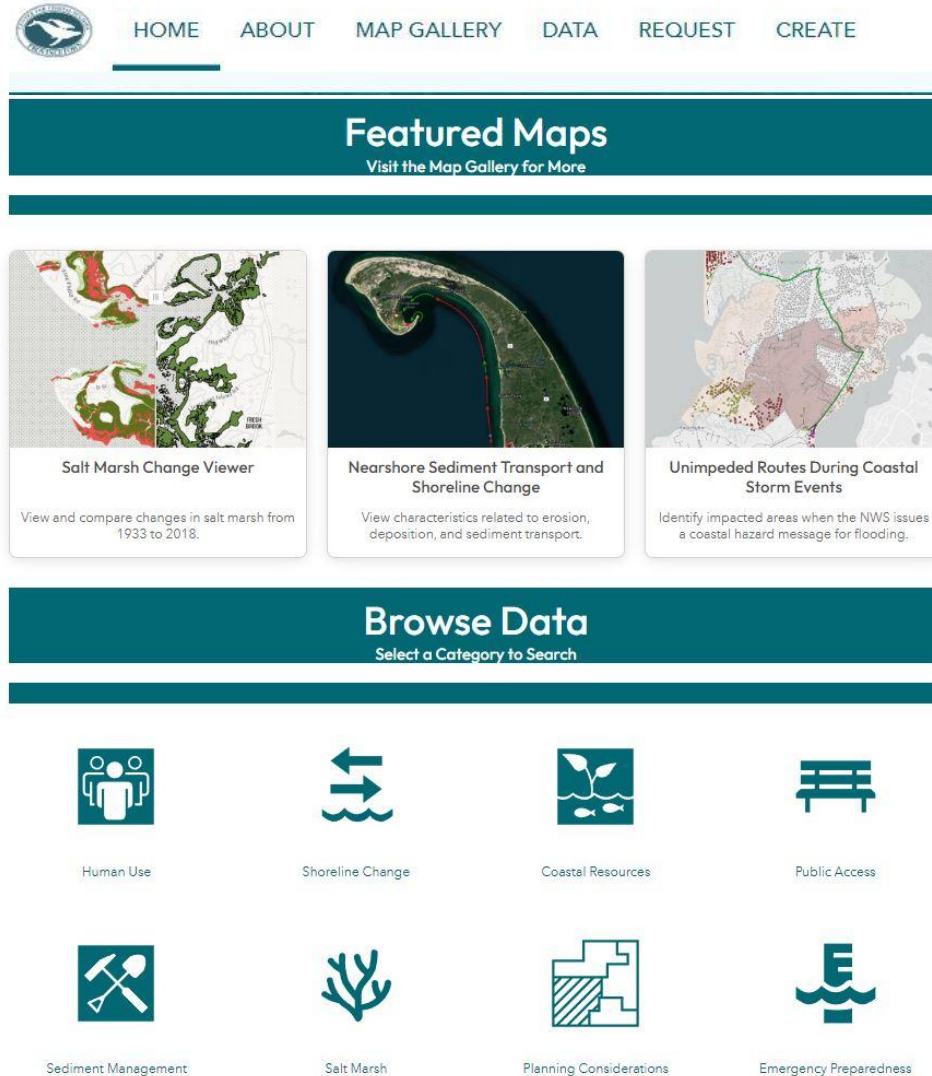
Between the town partnership,
organizations and the public



INCREASE PUBLIC AWARENESS

By ensuring access to coastal
data

A Regional Online Resource



- Explore, download and **share** regional shoreline management data
- **Discover** parcel and local level geo-applications
- **Engage** in a collaborative effort to better understand our shoreline
- Use open data products to **proactively plan** for those issues confronting our region

Expansion



- ❑ Public since January 2024
- ❑ 500 monthly site visits
- ❑ 60,000 content interactions
- ❑ Growth in 2026

Provincetown

Truro

Wellfleet

Eastham



Orleans

Brewster

Dennis

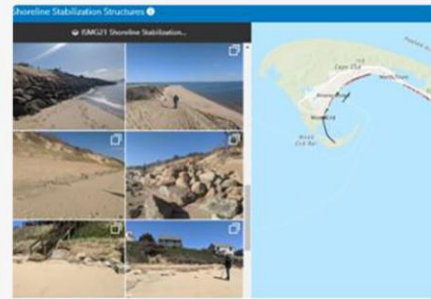


Visualizing Data Using Geo-Applications



Interactive Public Access Map

Map of public access areas including public beaches and other recreational space, conservation...



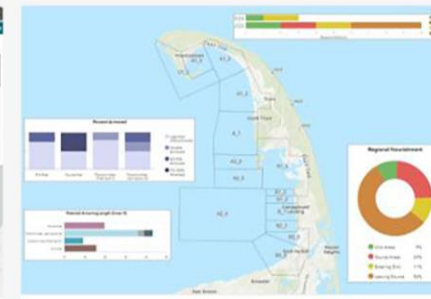
Shoreline Stabilization Structure Image Catalog

View imagery captured in 2020 for a given stretch of shoreline within the ISM planning area.



Planning Area Parcels Data Filter

Search for and filter parcels with specific characteristics and within relevant jurisdictional boundaries.



Management Cell Dashboard

Summarize characteristics of each Management Cell within the ISM planning area.



Potential Salt Marsh Migration Parcels Map

Summarize parcel characteristics and view spatially linked charts.



Dredge Locations Map

Dredge project locations in Provincetown, Truro, Wellfleet and Eastham.



Salt Marsh Change Viewer

View and compare changes in salt marsh from 1933 to 2018.



Unimpeded Routes During Coastal Storm Events

Identification of unimpeded access to the local emergency evacuation route

Shoreline Stabilization Inventory



Inventory

Details

Potential CES

PRIMARY TYPE is

- All -

TOWN is

Brewster

PRIMARY HEIGHT is

- All -

CONDITION is

D

Apply

Cancel

Find Shoreline Properties

< 11 of 62 >

88

PRIMARY TYPE	Revetment
PRIMARY MATERIAL	Stone
PRIMARY HEIGHT	Under 5 feet
CONDITION	D
ASSESSMENT	Dumped bank toe revetment
YEAR BUILT	Unknown
YEAR RECONSTRUCTED	2015
TOWN	Brewster
OWNERSHIP	Private
EASTING 1	408961.86
NORTHING 1	4624462.59
ELEVATION 1	2.79
EASTING 2	409010.26
NORTHING 2	4624487.91
ELEVATION 2	2.91
NOTE	
SECONDARY HEIGHT	
SECONDARY MATERIAL	
SECONDARY TYPE	
STR_ID	041-050-000-00920-001
SOURCE	SCS
PHOTO ID	041-050-000-00920-001-p01

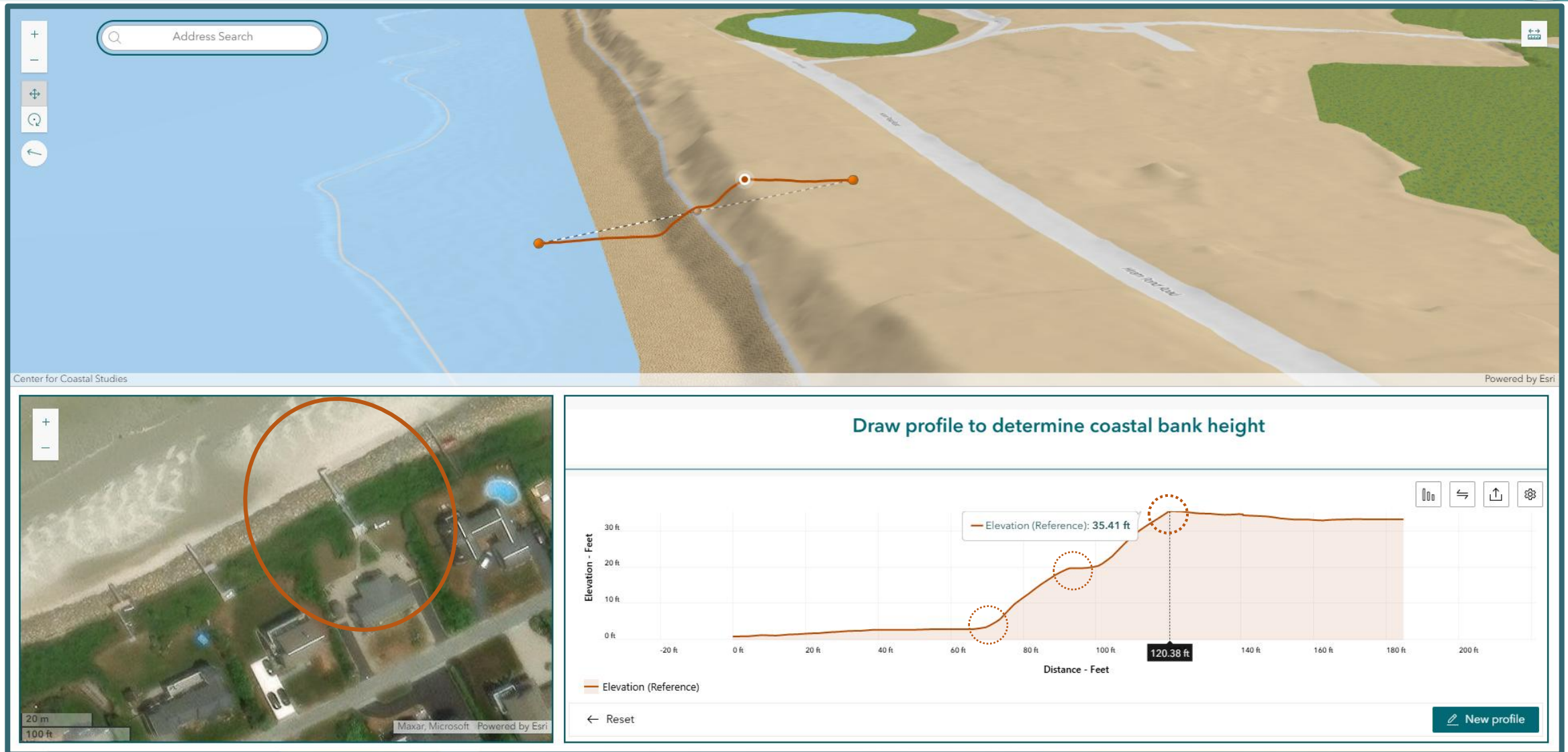
1 km

5,000 ft

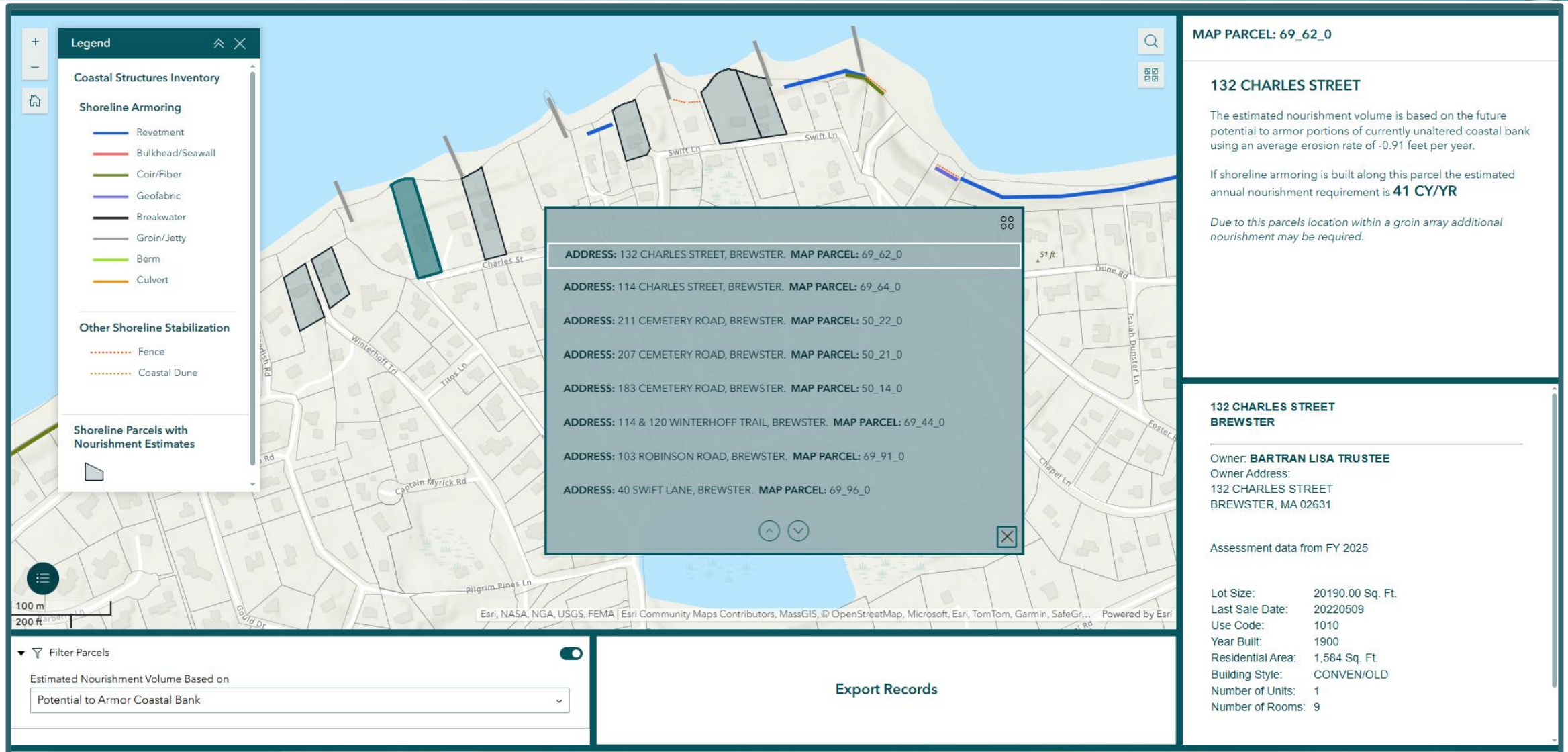
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, MET/NASA, USGS, EPA, NPS, USDA, USFWS | Center for Coastal Studies, MassGIS | Center for Co... Powered by Esri

Center for Coastal Studies | Coastal Geographic Research and Applied Sciences Program

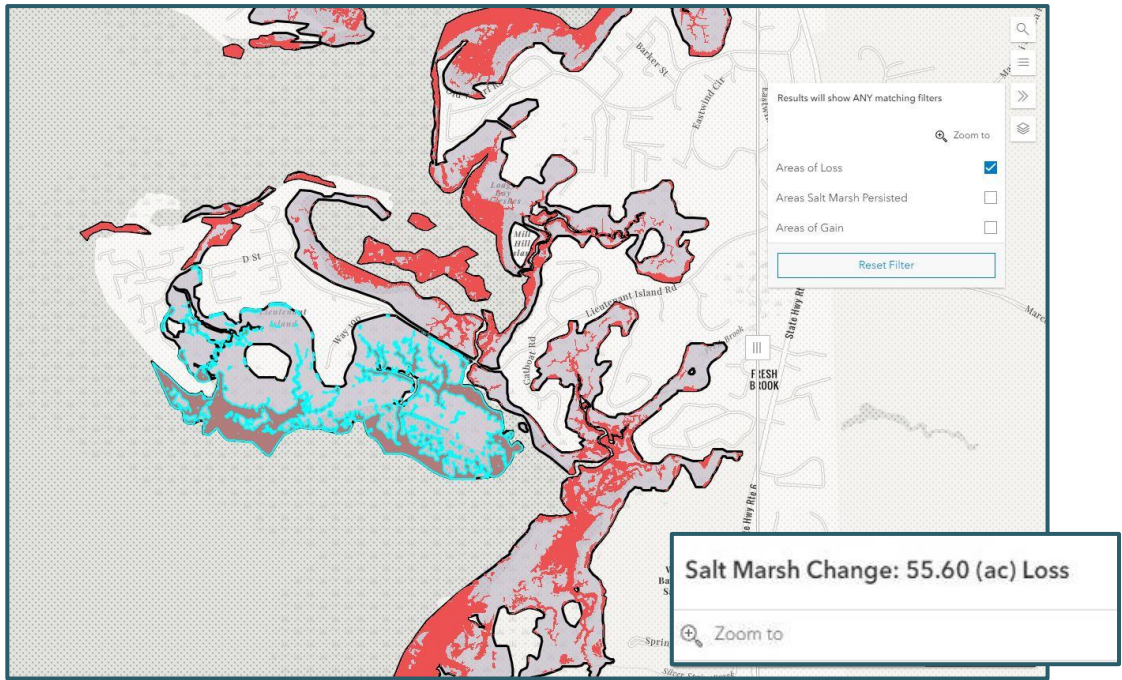
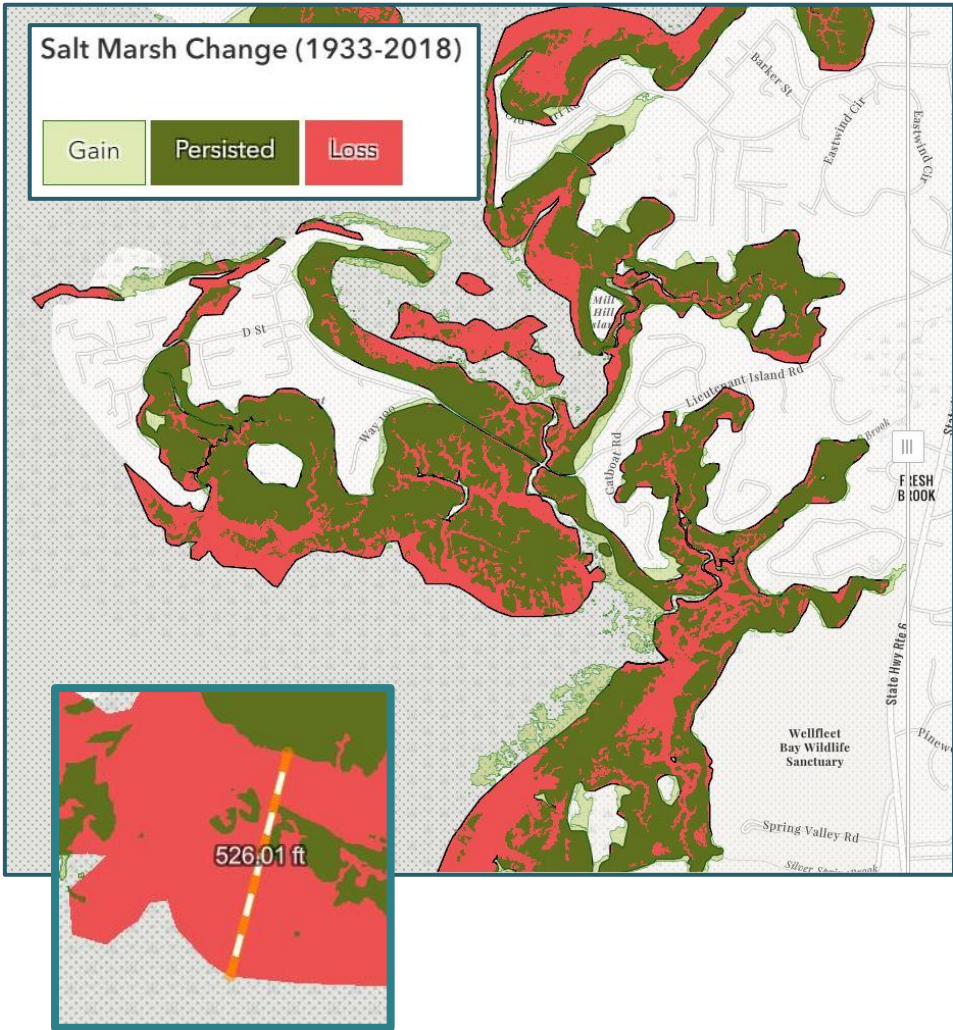
Coastal Bank Viewer



Beach Nourishment



Salt Marsh Change Viewer



Questions



Contact Information:

SJ McFarland:

smcfarland@coastalstudies.org

Steve Mague:

smague@coastalstudies.org