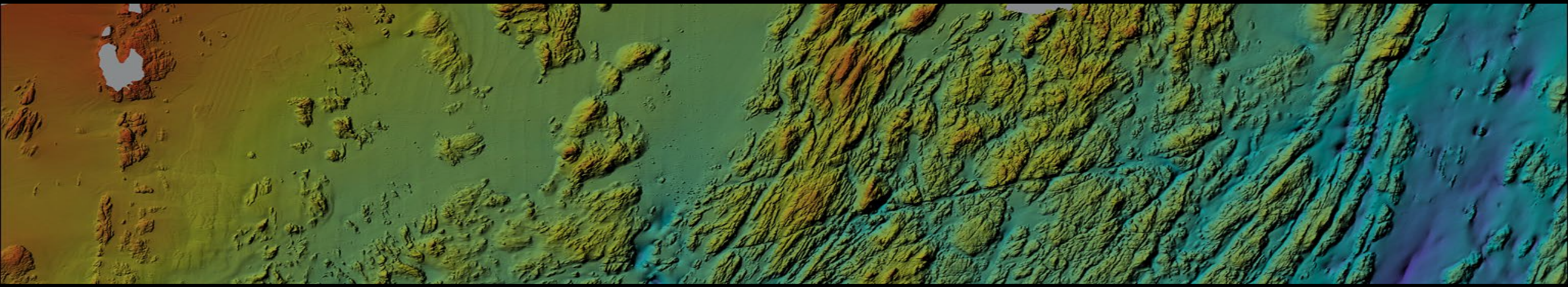
Maine Coastal Program's Mapping Initiative 2021 Season Update



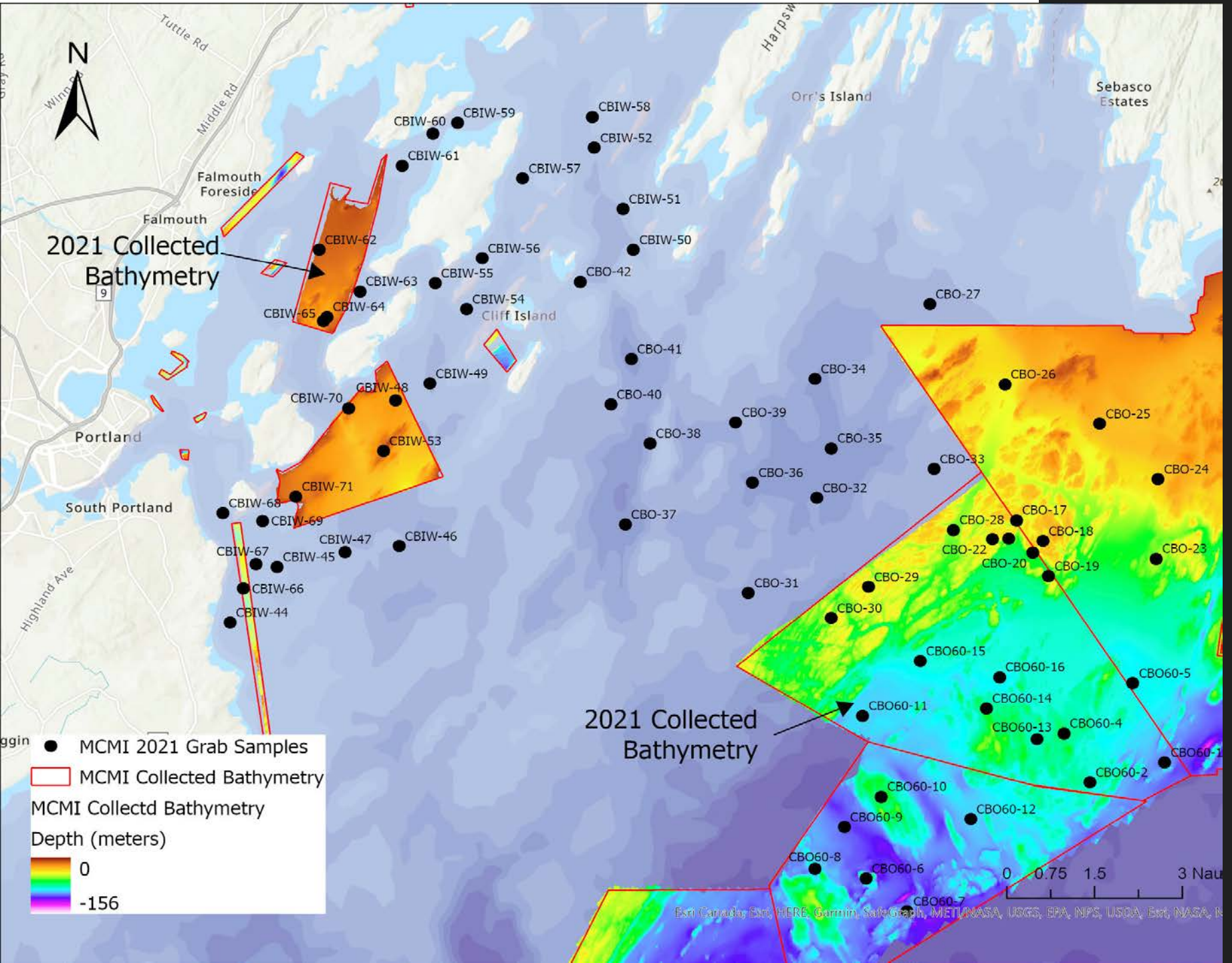
Maine Coastal Program and Maine Geological Survey

Claire Enterline, Research Coordinator

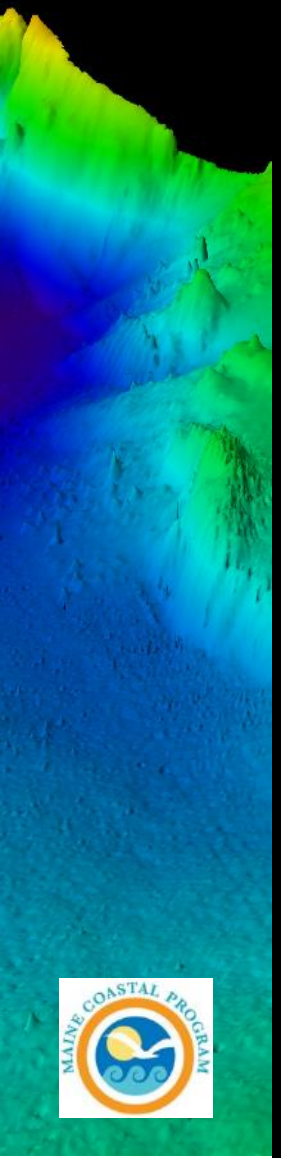
Dr. Thomas Trott, Benthic Ecologist

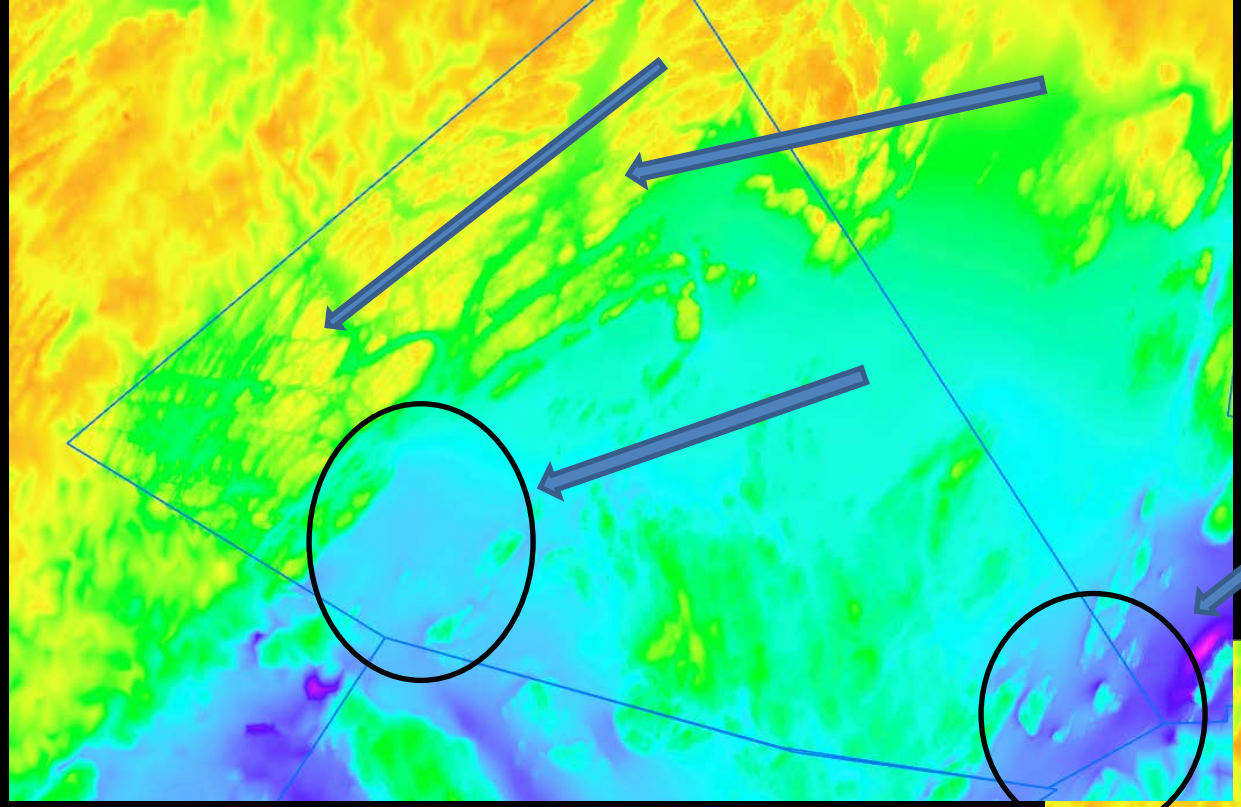
Peyton Benson, Hydrographer

Stephen Dickson, Marine Geologist



Casco Bay 2021 Surveys – Bathymetry and Grab Sample Locations

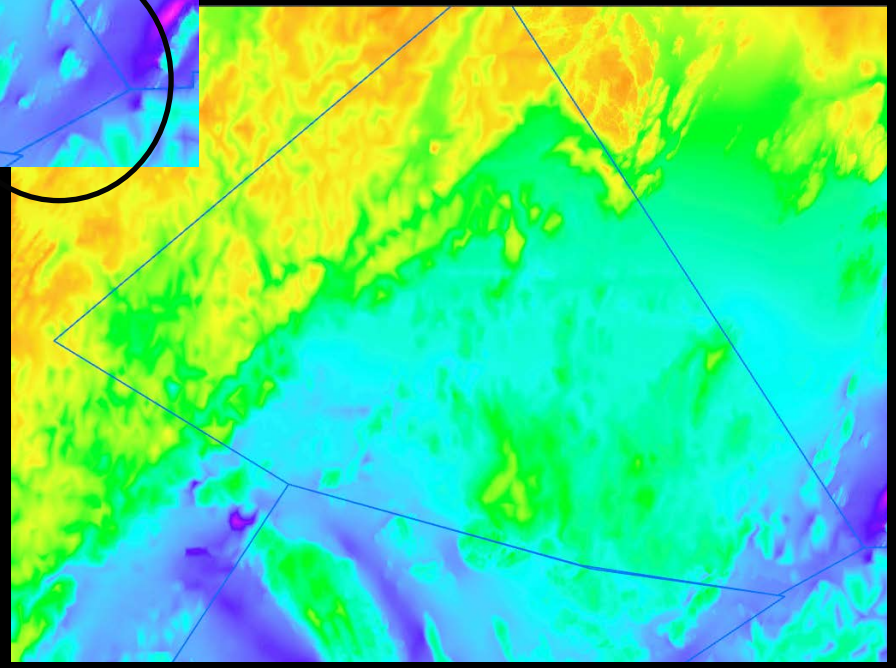




2021 High Resolution Bathymetry

Actual depths are deeper
by ~10m

1946 Single Point Derived Depths



Casco Bay 2021 Surveys – Bathymetry Comparison to Past Surveys

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Grab Sampling for Multiple Parameters

Physical Parameters

- Water Quality (ODO, Temperature, pH, Chlorophyll, Salinity, Depth)
- Sediment Grain Size

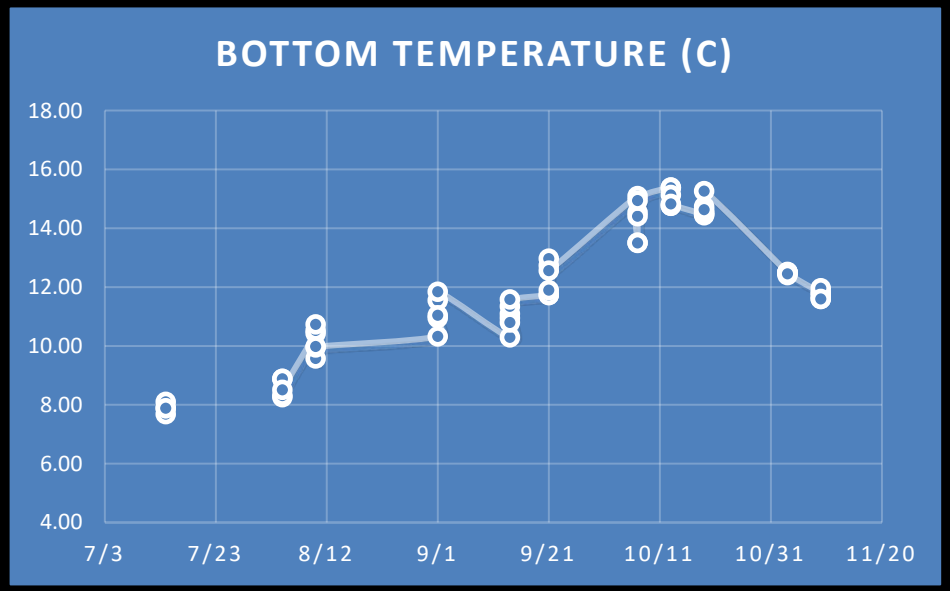
Biological Parameters

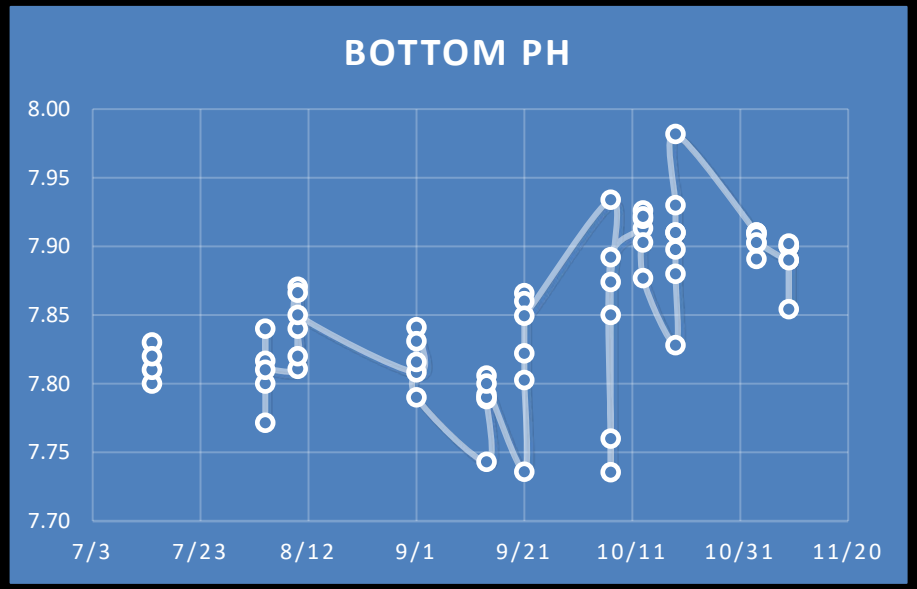
- Species Assemblage
- Species Diversity
- Preferred habitat

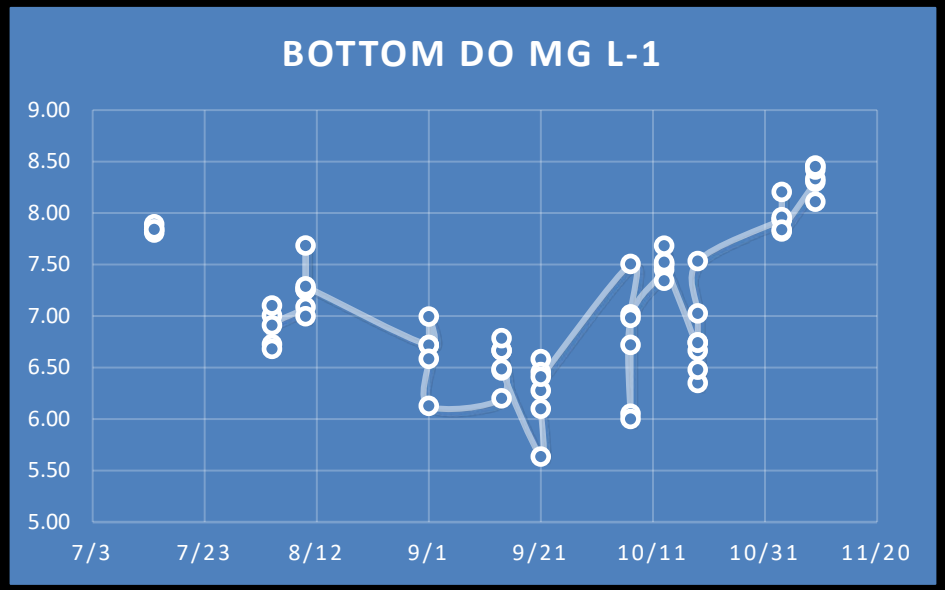
Spatial Parameters

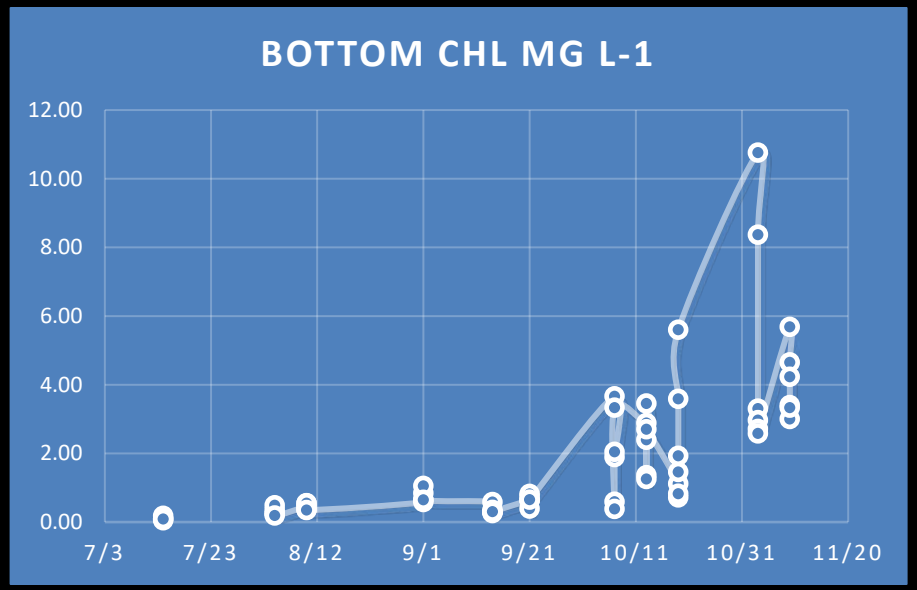
- Spatial Distribution
- Outer Bay vs. Inner Bay

Casco Bay 2021 Results – Water Quality

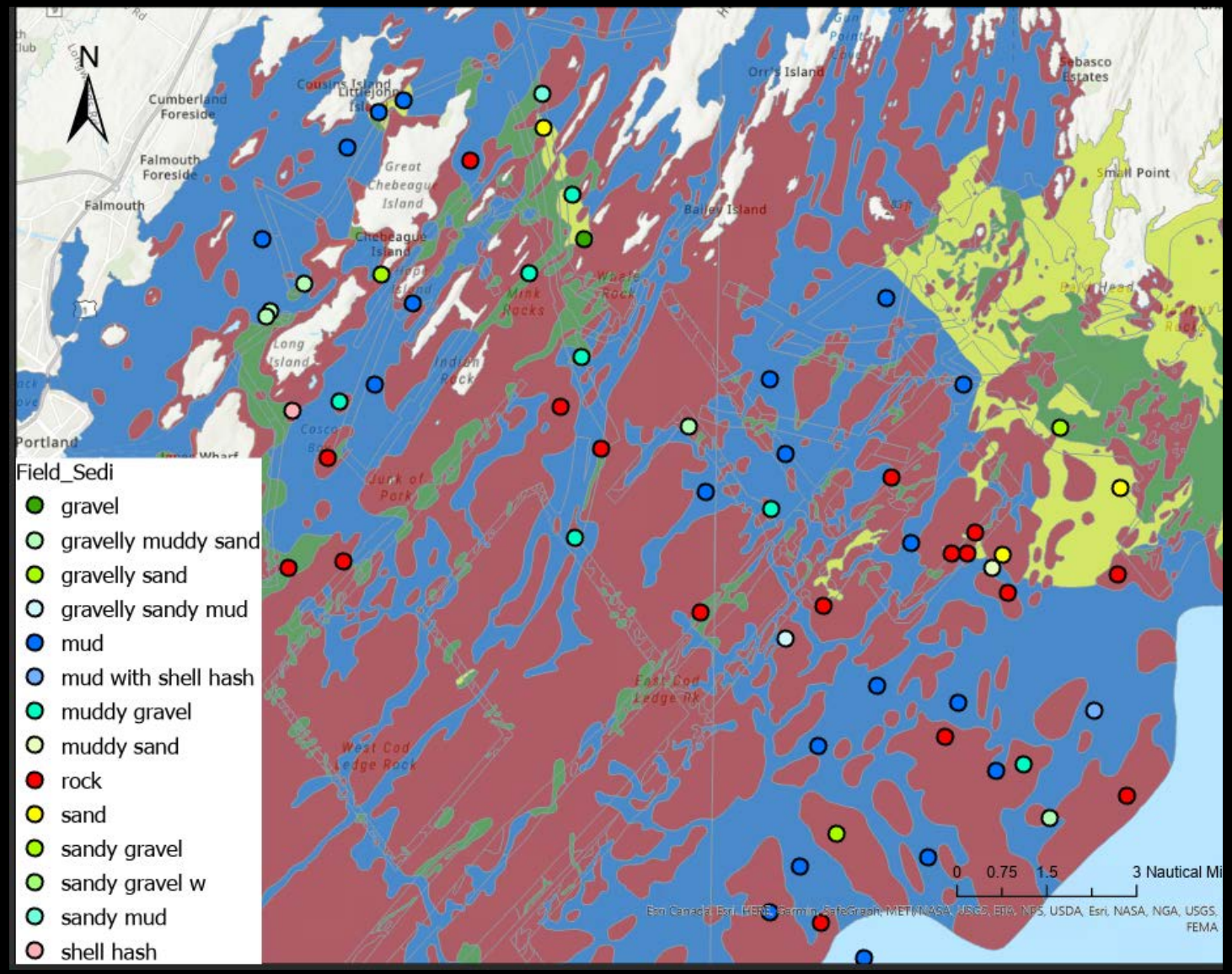








Casco Bay 2021 Results – Sediment Type



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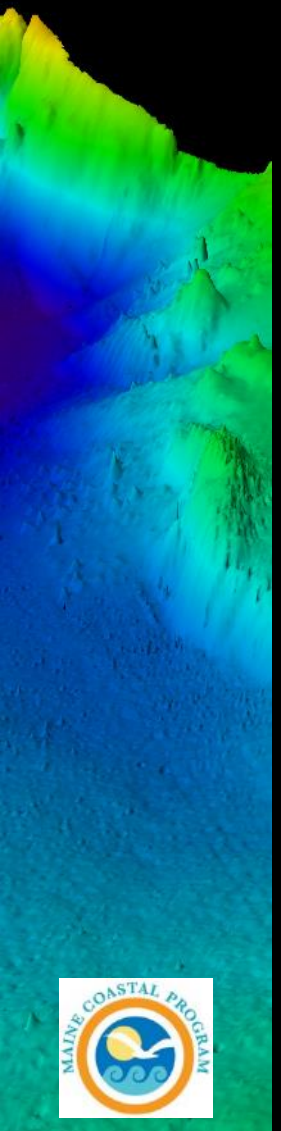
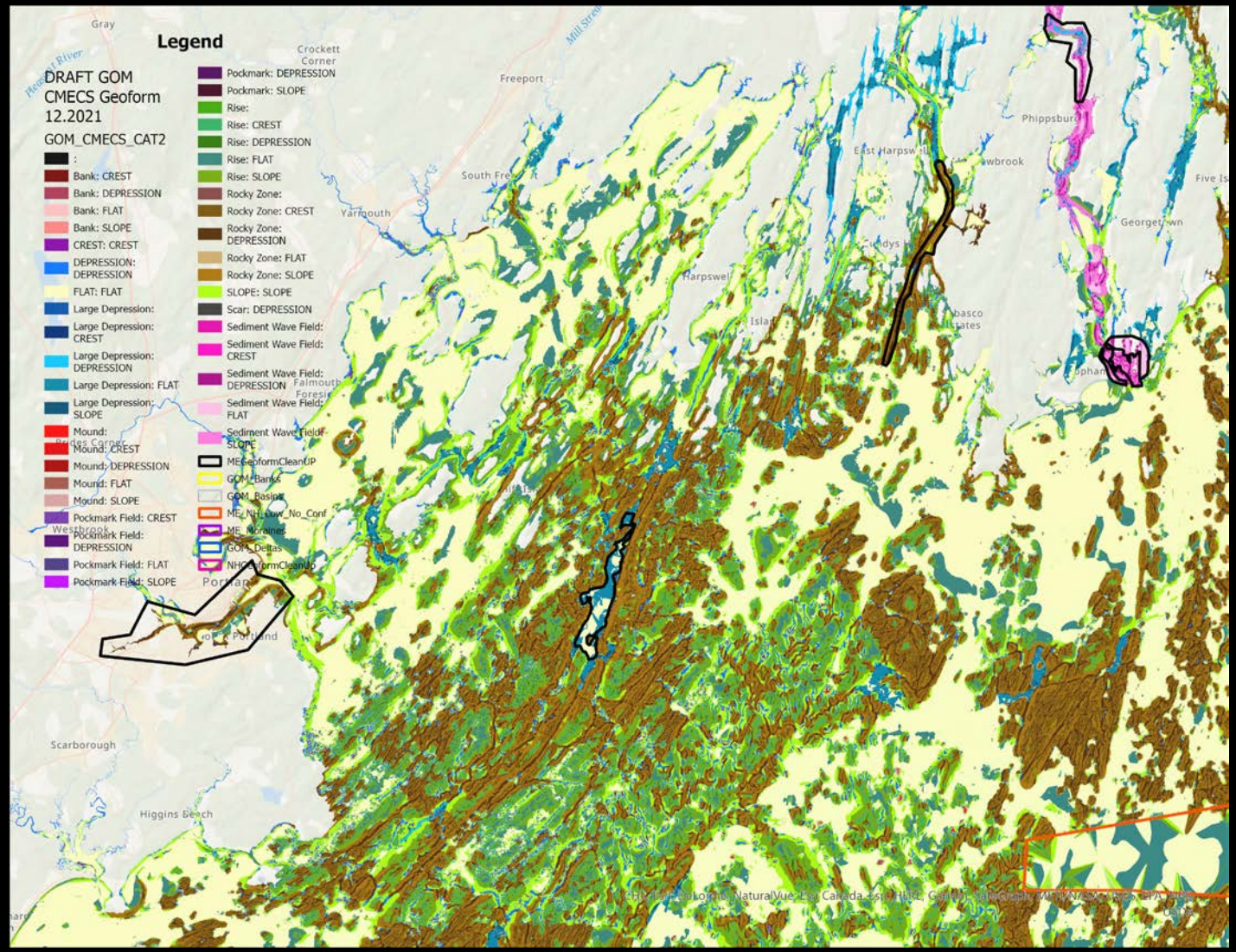
New Habitat Mapping Product: Gulf of Maine Seascape



Product Description –
Provides a regional view of the Gulf of Maine from the highest annual tide out to 24 nautical miles.

The Coastal and Marine Ecological Classification Standard and a consistent mapping approach were used, along with the best-quality data available to identify different bottom types, such as rocky areas, shoals, and moraines.

Will be available on the Northeast Data Portal spring 2022.



PARTNERS: NOAA's Office for Coastal Management, Maine Coastal Program, Maine Geological Survey, New Hampshire Coastal Program, Center for Coastal and Ocean Mapping, Massachusetts Coastal Zone Management, Tetra Tech

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Casco Bay 2022 Season Objectives

- Complete Multibeam Echosounder mapping (bathymetry, bottom hardness)
- Collect grab samples in western portion of outer Bay for sediment, benthic fauna, and water column/ seafloor water quality
- Combine all available data for updated complete benthic habitat characterization of Casco Bay out to 12nm

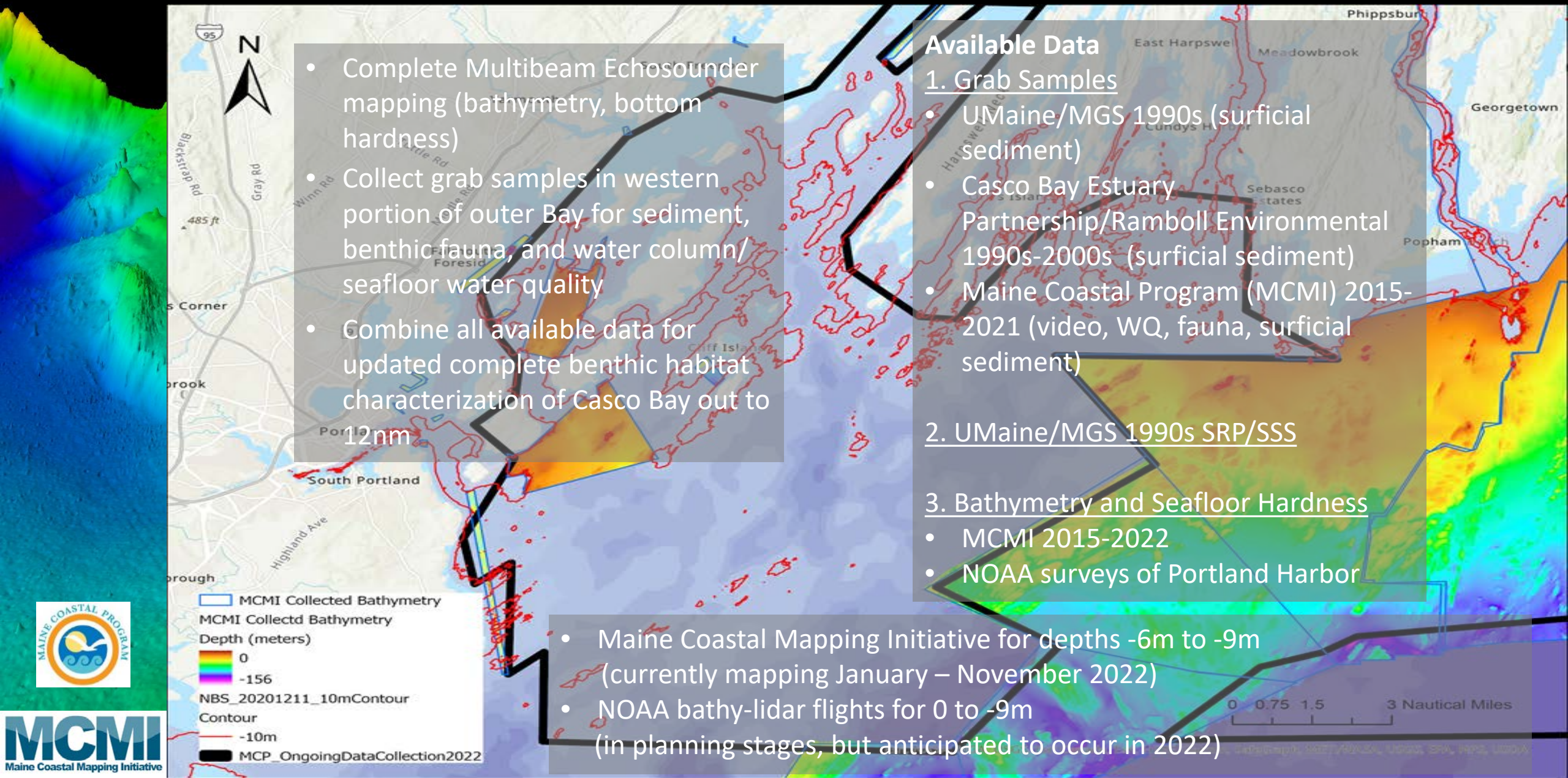
Available Data

1. Grab Samples
   - UMaine/MGS 1990s (surficial sediment)
   - Casco Bay Estuary Partnership/Ramboll Environmental 1990s-2000s (surficial sediment)
   - Maine Coastal Program (MCMI) 2015-2021 (video, WQ, fauna, surficial sediment)

2. UMaine/MGS 1990s SRP/SSS

3. Bathymetry and Seafloor Hardness
   - MCMI 2015-2022
   - NOAA surveys of Portland Harbor

- Maine Coastal Mapping Initiative for depths -6m to -9m (currently mapping January – November 2022)
- NOAA bathy-lidar flights for 0 to -9m (in planning stages, but anticipated to occur in 2022)



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