

Habitat Classification and Ocean Mapping Sub- Committee

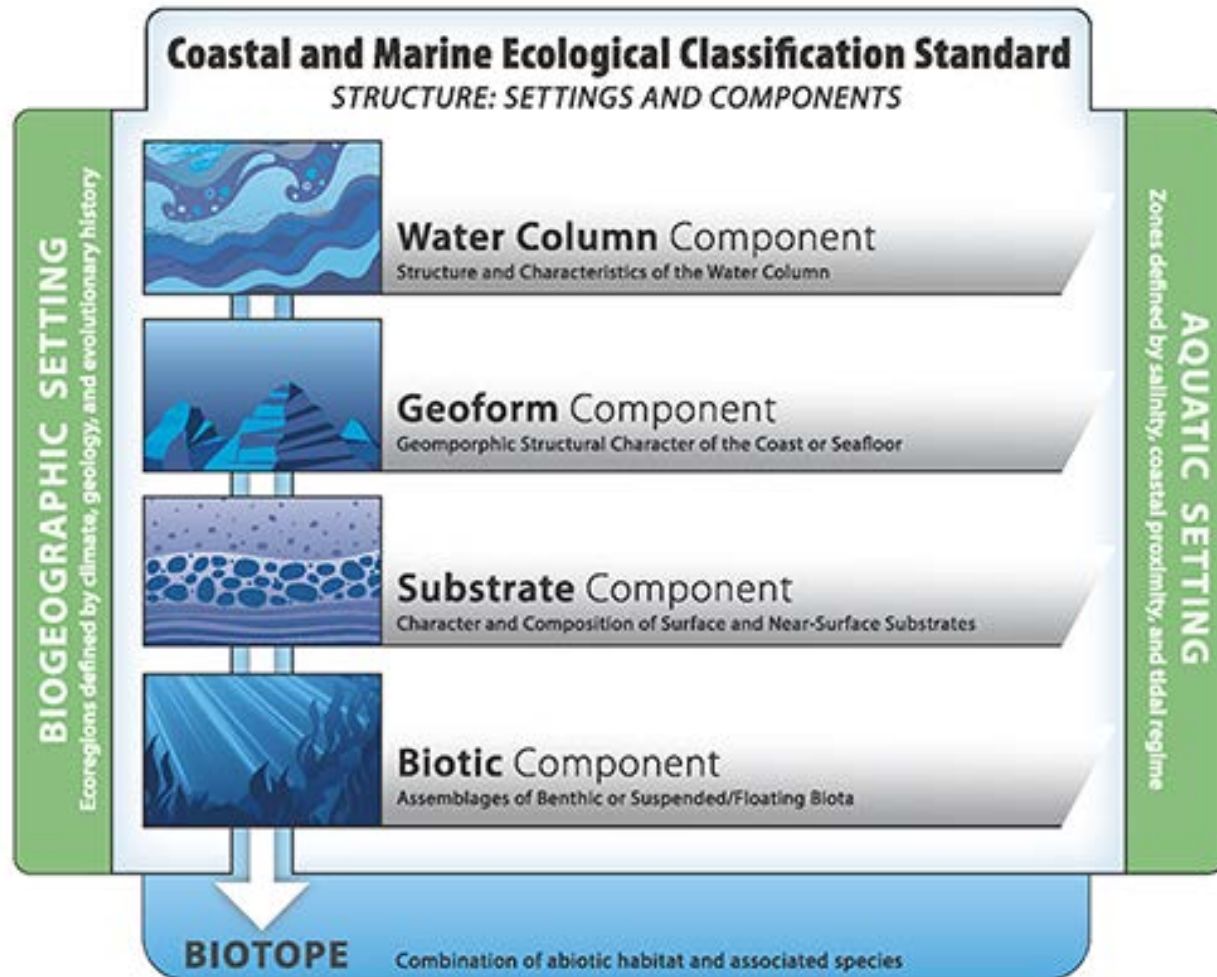
March 2018 Workshop:

Developing Habitat Maps in New England
using the Coastal and Marine Ecological
Classification Standard (**CMECS**)



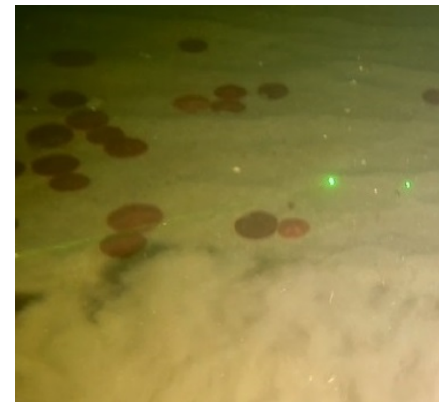
What is CMECS?

The Coastal and Marine Ecological Classification Standard (CMECS) provides a comprehensive national framework for organizing information about coasts and oceans and their living systems.



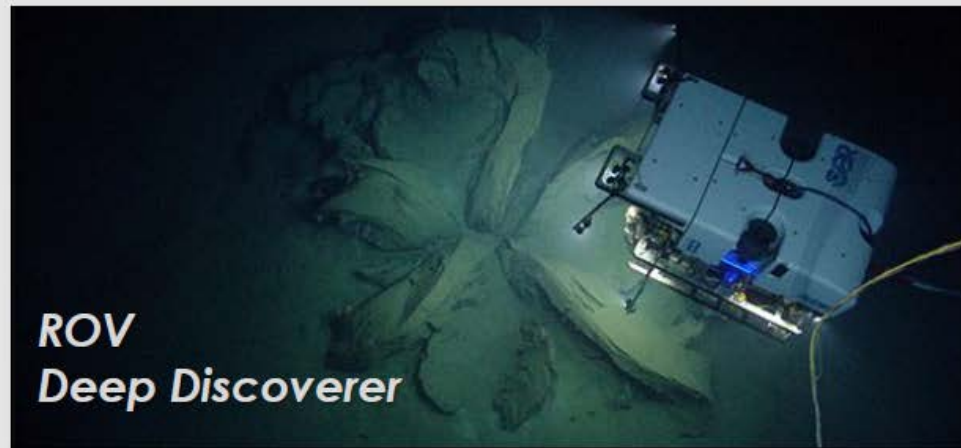
Workshop Goals

- Share updates of habitat mapping efforts in New England and the use of CMECS as a tool
- Increase awareness of methods
- Address challenges in New England environments
- Work to build regionally compatible habitat maps
- Present habitat mapping and CMECS from a national perspective
- Continue to build a regional community
- Discuss using CMECS-defined habitat maps for management purposes



How are
people
collecting and
analyzing
data?

NOAA Ship *Okeanos Explorer* & ROV



ROV Deep Discoverer

- Maximum Depth: 6,000m
- 2 Robotic Arms
- 4 light bars providing 144,000 lumens of light
- Collects physical samples
- Records environmental parameters (CTD)
- Records ROV position information
- 6 HD video cameras



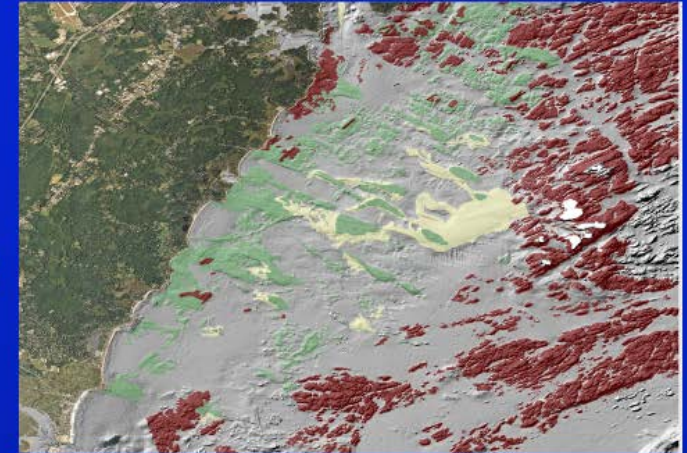
NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION

Mapping Geology & Geographic Features (Geoform)

Surficial Geology Maps

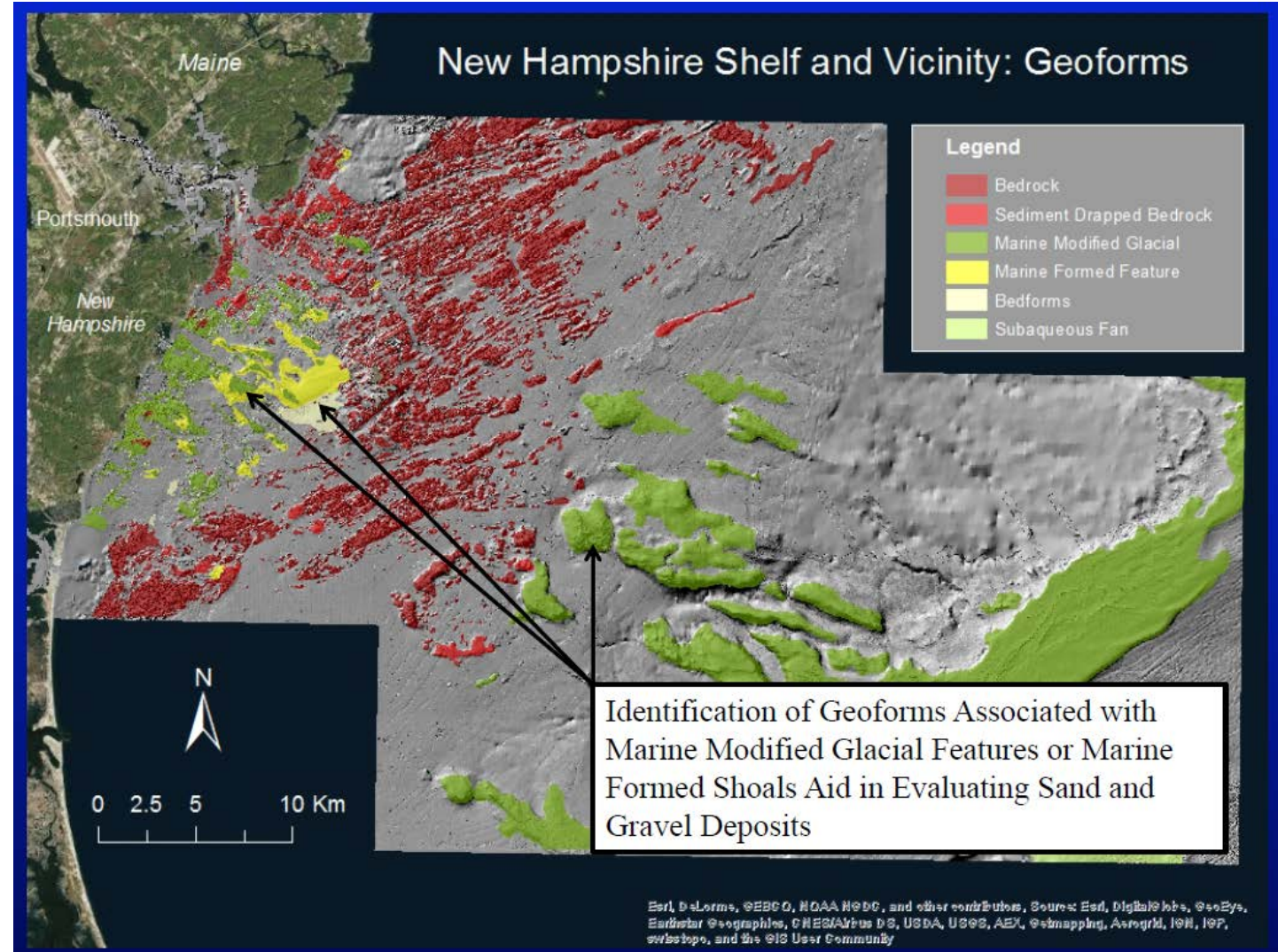
Method:

- Segmented Seafloor Using ArcGIS and Bathymetric Derivatives
- Isolated Morphologic Features (Geoforms)
- Described and Classified the Seafloor Geology in ArcGIS
 - Features
 - Bedrock, Glacial, Marine
 - Sediments
 - CMECS Sediment Classification
- Based on “Expert Opinion”
 - After trying Supervised Classifications



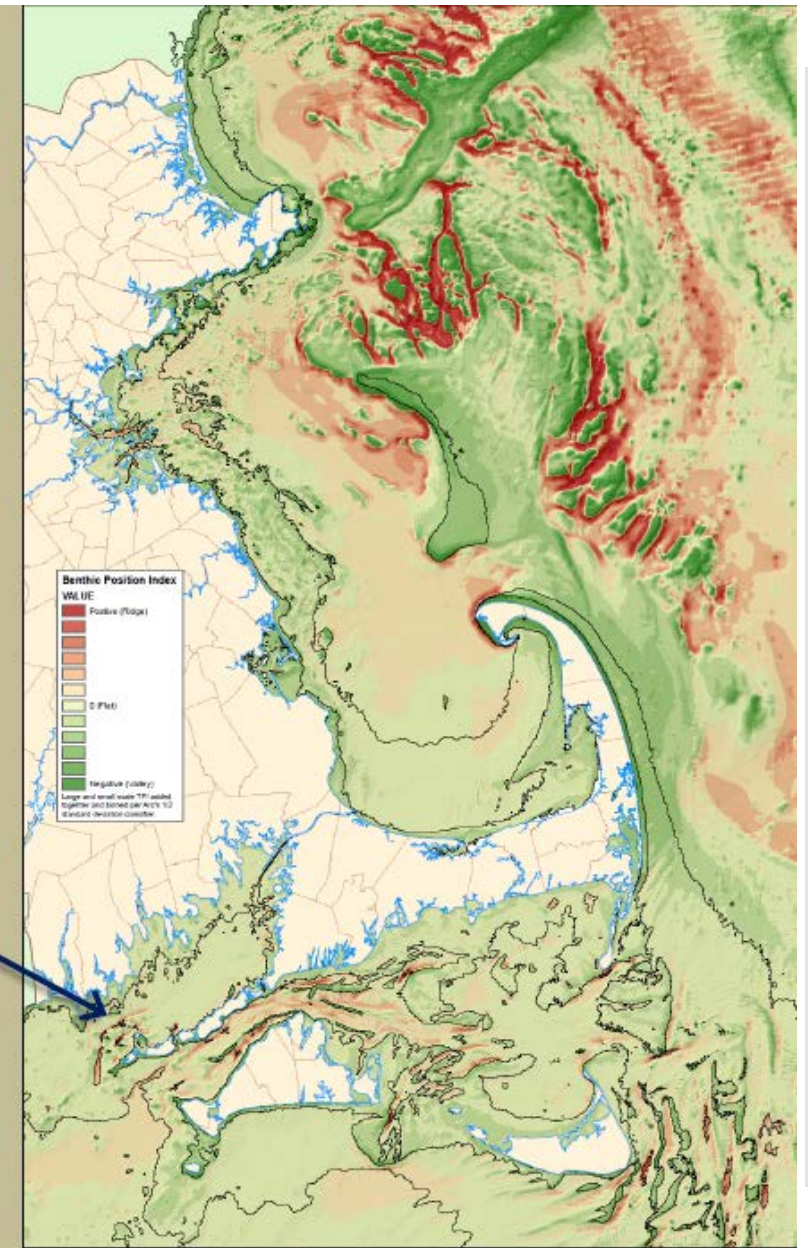
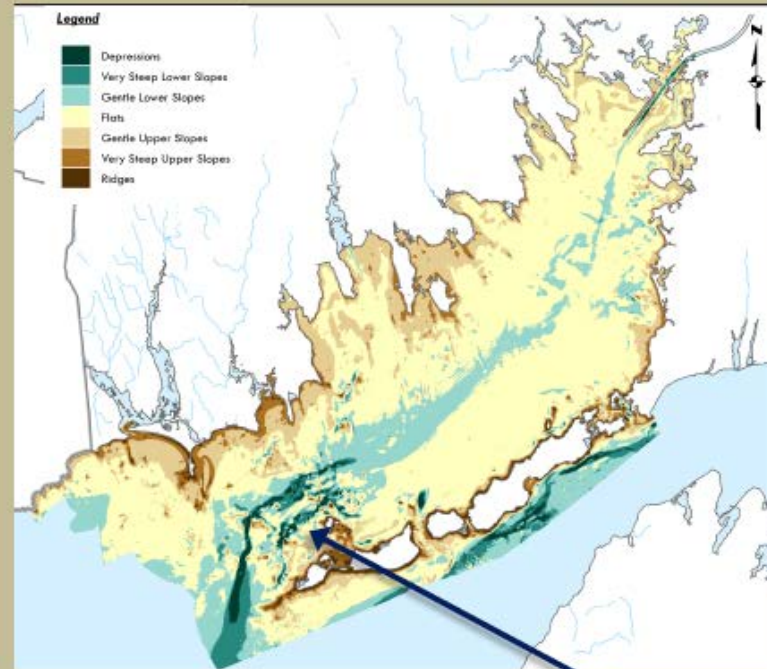
Substrate Origin	Substrate Class	Substrate Subclass	Substrate Group	Substrate Subgroup
Geologic Substrate	Rock Substrate	Bedrock		
	Unconsolidated Mineral Substrate	Coarse Unconsolidated Substrate	Gravel	Boulder
				Cobble
				Pebble
				Granule
			Gravel Mixes	Sandy Gravel
				Muddy Sandy Gravel
				Muddy Gravel
			Gravelly	Gravelly Sand
				Gravelly Muddy Sand
				Gravelly Mud
		Fine Unconsolidated Substrate	Slightly Gravelly	Slightly Gravelly Sand
				Slightly Gravelly Muddy Sand
				Slightly Gravelly Sandy Mud
				Slightly Gravelly Mud
			Sand	Very Coarse Sand
				Coarse Sand
				Medium Sand
				Fine Sand
				Very Fine Sand
			Muddy Sand	Silty Sand
				Silty-Clayey Sand
				Clayey Sand
			Sandy Mud	Sandy Silt
				Sandy Silt-Clay
			Mud	Sandy Clay
				Silt
				Silt-Clay
				Clay

Mapping Geology & Geographic Features (Geoform)



Presentation Credit: Larry Ward, UNH/CCOM

Why Methods Matter – Issues of Scale and Definitions



Presentation Credit: Daniel Sampson, MA CZM

Workshop Take-Homes

“Having CMECS data practitioners discussing their work in the same room advances the greater community's understanding of the variety of ways CMECS is applied, and provides insight into how these datasets inform management across the Northeast.”

“The CMECS video users group is on the verge of a breakthrough in consensus on important issues re naming conventions for complex images, scale issues, techniques for analysis, and what is needed as additional CMECS guidance.”

Developing regional maps is contingent upon adopting standard analysis methods and resolving issues of scale dependency

What do participants want next?

“Developing a list of where, when and how CMECS datasets have informed management to provide case studies to managers currently under-utilizing CMECS data for their work.”

“Discussing whether a seamless regional CMECS map is needed for one or more of the components, and if so, how we could start working together to make that happen.”

“Developing best-practices for underwater video and also fostering the production of regional habitat maps.”