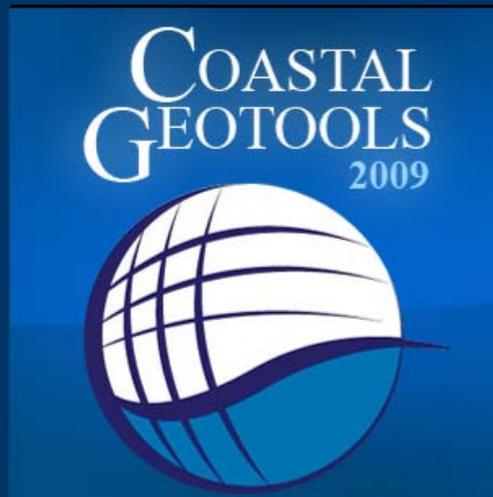


# Coastal and Marine Ecological Classification Standard: A National Approach



## Special Interest Meeting



**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# Meeting Overview

- Introduction
- FGDC Process
- Getting to Know the CMECS Components

Benthic Cover  
Surficial Geology/Sub-benthic

Water Column  
Geoform

- Break
- Demonstrations/Pilots

Long Island South Shore  
Rhode Island

Florida Bay

- Discussion and Wrap-up



**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# Issues

- Currently over 100 systems used for classifying benthic habitats \*
- Few systems used by more than one party/advocate
- Most systems tied to a particular technology
- Ultimate purpose of most systems not well defined
- Most coastal/marine mapping done on a local or state level
- No existing marine or pelagic standard beyond Cowardin

\* *Diaz, Solan & Valente, 2004—Journal of Environmental Management*



**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# Goals of a National Standard

- **Support conservation efforts: Incorporate ecological drivers, identify priority areas**
- **Facilitate standardization: Glossaries, vocabularies**
- **Build on existing classifications**
- **Be applicable at various scales: Local, regional, and continental**
- **Visualization: Multi-dimensional geographic information system (GIS) maps**
- **Foster broad audience adoption**
- **Integrate with global systems: European Union Nature Information System (EUNIS) and Ocean Biogeographic Information System (OBIS)**



**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# Characteristics of CMECS

- **Considers five seascape components in one structure, including water column**
- **Technology independent**
- **Not geographically constrained**
- **Lower levels open for supplementation**



**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# CMECS Components

**Surficial Geology  
Composition Component**



**Biotic Cover Component**



**Sub-Benthic Component**



**GeoForm Component**



**Water Column Component**



# Structure of CMECS Version III

Surface Geology (SGC) – Upper layer of hard substrate or on the upper centimeters of soft sediment

Biotic Cover (BCC) – Biological composition of the coastal and marine substrate

Sub-benthic (SBC) – Sediments and biology within the substrate

Geoform (GFC) – Major geomorphic or structural characteristics of the coast and seafloor at various scales

Water Column (WCC) – Structure, patterns, processes, and biology of the overlying water column

Modifiers – Optional attributes to further describe units in the major components



**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# A Standard That Makes a Difference

- **Implementation guidance will accompany the standard; living documents**
- **Crosswalk tools will allow users to integrate information from different sources**
- **Process for adding new units (biotopes)**



**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# Development Process To Date

- Marathon Workshop (Allee et al. 2000)
- Charleston Workshop (Madden et al. 2003)
- CMECS I (Madden and Grossman 2004)
- CMECS II (Madden, Grossman, and Goodin 2005)
- CMECS glossary
- Columbia River Pilot (Wright et al. 2006)
- Charleston Workshop (NOAA/NatureServe 2006)
- Draft Version III (Madden et al. 2008)
- Mapping Guidance Criteria Report (Green et al. 2008)



# Integration with Existing Standards

- **Federal Geographic Data Committee (FGDC) Standards**

  - National Wetland Standard

  - National Vegetation Classification Standard

- **Commonly Used Systems**

  - NOAA Corals

  - NOAA National Estuarine Research Reserves

  - Greene et al.

  - MapCoast

  - Florida System for Classifying Habitats in Estuarine and Marine Environments (SCHEME)



**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# Integration with Existing Standards

- **Consideration by Other National and International Efforts**

- National Fish Habitat Initiative

- National Park Service

- Inter-American Biodiversity Information Network (IABIN)

- OBIS

- West Coast Alliance

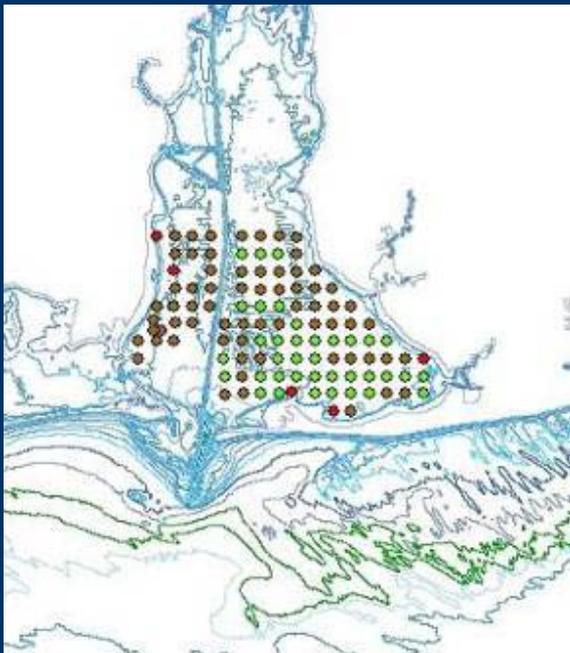


**NOAA Coastal Services Center**  
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

# Pilots and Current Testing

## Desktop Pilots

- Florida Bay
- Redfish Bay
- Mobile Bay
- South Atlantic Bight
- Massachusetts Coastal  
Zone Management comparison



## Current Projects

- National Park Service
- Long Island South Shore
- Humboldt Bay

