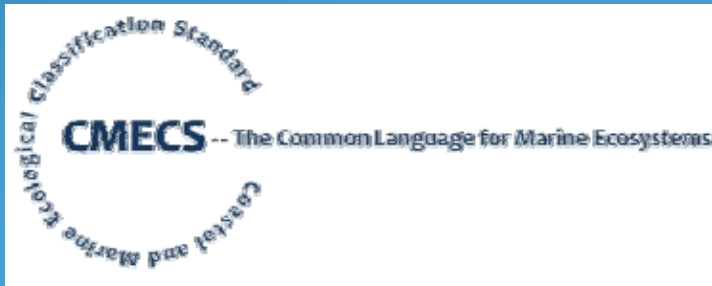




Coastal and Marine Ecological Classification Standard (CMECS) FGDC Review and Future Development



Mark Finkbeiner
March 30, 2011

FGDC 12-Step Process

PROPOSAL STAGE

- Step 1: Develop Proposal
- Step 2: Review Proposal

PROJECT STAGE

- Step 3: Set Up Project

DRAFT STAGE

- Step 4: Produce Working Draft
- Step 5: Review Working Draft

REVIEW STAGE

- Step 6: Review and Evaluate Committee Draft
- Step 7: Approve Standard for Public Review
- Step 8: Coordinate Public Review
- Step 9: Respond to Public Comments
- Step 10: Evaluate Responsiveness to Public Comments
- Step 11: Approve Standard for Endorsement

FINAL STAGE

- Step 12: Endorsement

CMECS Components

**Benthic Biotic
Component
(BBC)**



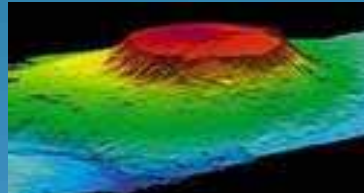
Composition of biota on seafloor surface

**Surface Geology
Component
(SGC)**



Geological composition of surface and near-surface substrates; surface features, including biogenic structures

**Geoform
Component
(GFC)**



Major geomorphic character or structural character of coast or seafloor

**Water Column
Component
(WCC)**



Structure, characteristics, and processes of water column and associated biota

**Sub-Benthic
Component
(SBC)**



Character of sediments and soils below substrate surface

Overarching Comments

- Variable detail between components confusing
- Ecological unit validation, are these the right units?
- There is tension between identifying (mapping) processes vs. characteristics
- The organization of the document needs work. Redundancy between sections and some conflicting text.
- Is CMECS intended to be an international standard? If so then more work needed.

Aquatic Setting (System/Subsystem)

54 Comments

- Confusion (or arbitrariness) on how to determine estuarine boundaries
- Confusion on where tidal regime falls, is it a separate category or part of subsystem
- Compliance with Great Lakes systems
- Justification for depth zone (-4m)
- Need for riverine and lotic?



Benthic Biotic Component (BBC)

156 Comments

- Confusion as to what makes up a “class” shape, taxonomy, feeding behavior, other?
- Threshold issues with how much biota required to use this component.
- How to address mixtures of dominant habitat-forming organisms
- Freshwater communities needed if head of tide is boundary of estuarine
- Proposals to add and change some units
- Need for validation of biotic groups and biotopes
- Biotopes may not be finer than biotic groups



Surface Geology Component (SGC)

143 Comments

- Follow Wentworth sediment categories and remove soils taxonomy
- Add more Pacific reef morphologies
- Inconsistencies, esp. in unconsolidated units
- Thresholds and terminology (ex. grain sizes and terms like gravelly)
- Reef morphologies to GFC
- Add anthropogenic substrates



Geoform Component (GFC)

527 Comments

- Needs scale framework
- Needs more anthropogenic (and historical) units
- Remove coastal region and use eco-region instead
- Build on other systems (Greene)
- Should be hierarchical
- Move reef morphologies here
- More units needed
- Estuary types not reflected well here
- Many definitions confusing



Water Column Component (WCC)

46 Comments

- Need to consider Great Lakes zones, and unique characteristics
- Make this hierarchical or clarify structure better
- Dynamic boundaries (tide, depth)
- Need more biotic units
- Thresholds/unit boundaries (brackish, depth)
- Review results of workshop in context of biota
- Reintroduce classifiers
- Reorganize hydroforms (waves, tides, and currents)



Sub-benthic Component (SBC)

42 Comments

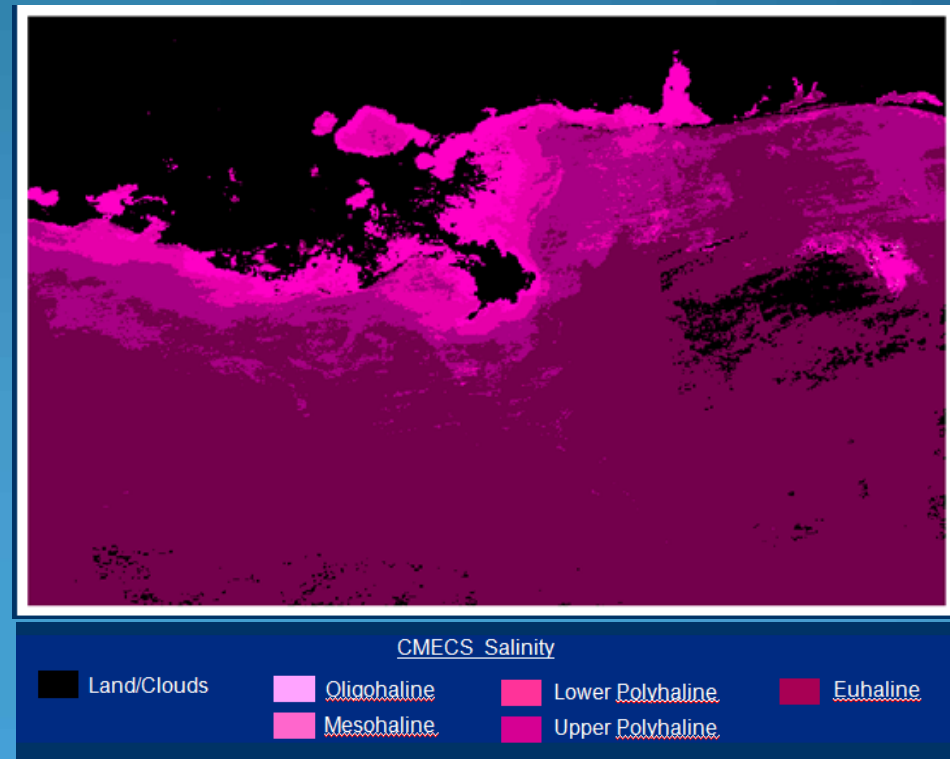
- Remove soils
- Add seismic classification into SBC
- Consider consolidation and layering as well as grain size
- Merge with SGC
- Determine how deep this component is intended to go



Modifiers

49 Comments

- Consistency issues
- Need for scale (rugosity)
- Modifiers vs. classifiers (or both?)
- Reorganize modifiers



Organizing the Comments

Comment Bins

- Scale 24
- Structure/Hierarchy 108
- Units/Definitions 382*
- Mixes/Thresholds 30
- Boundaries 39
- Soils/Sediments 61
- Implementation 90
- Dynamics 15
- Consistency 37
- Other 106

Development Timeline

- 
- Initiated CMECS development (first workshop) 1998
 - Published *Federal Register* notice/open public comment period August, 2010
 - Closed public comment period (+120 days) December, 2010
 - Review and sort comments; develop response teams January 2011
 - Complete responses to public comments; submit final package to FGDC September 2011
 - Publish comments in *Federal Register* October 2011
 - FGDC endorsement of CMECS November 2011

Current Activities and Next Steps

Issue Teams (SGC/SBC/GFC and WCC)

FGDC CAP Grant

- Merge SGC/SBC into Substrate
- Apply Space-Time framework to all components
- Move soils information to modifiers
- Pilot testing in the context of applications
- Reorganize GFC

