

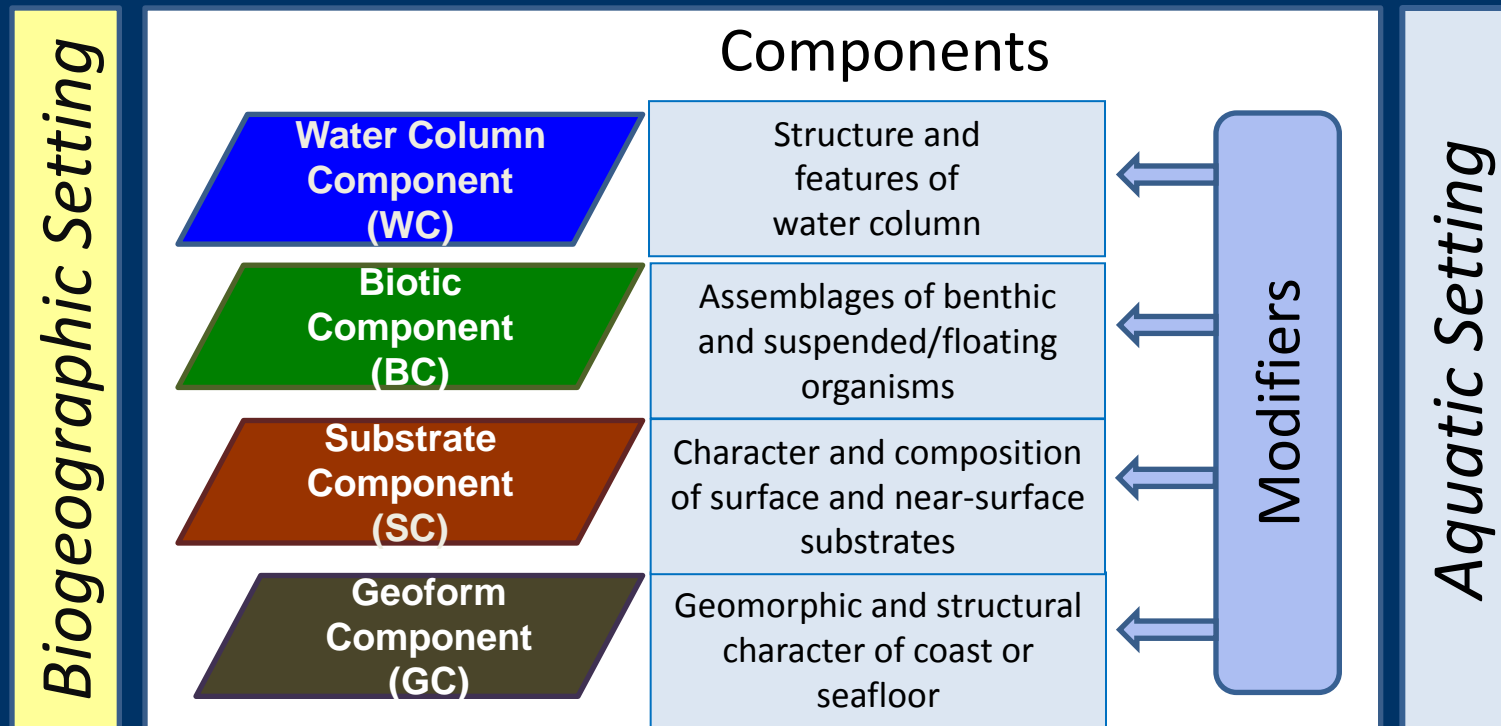
Crosswalking the ShoreZone and CMECS Classification Systems

Mark Finkbeiner

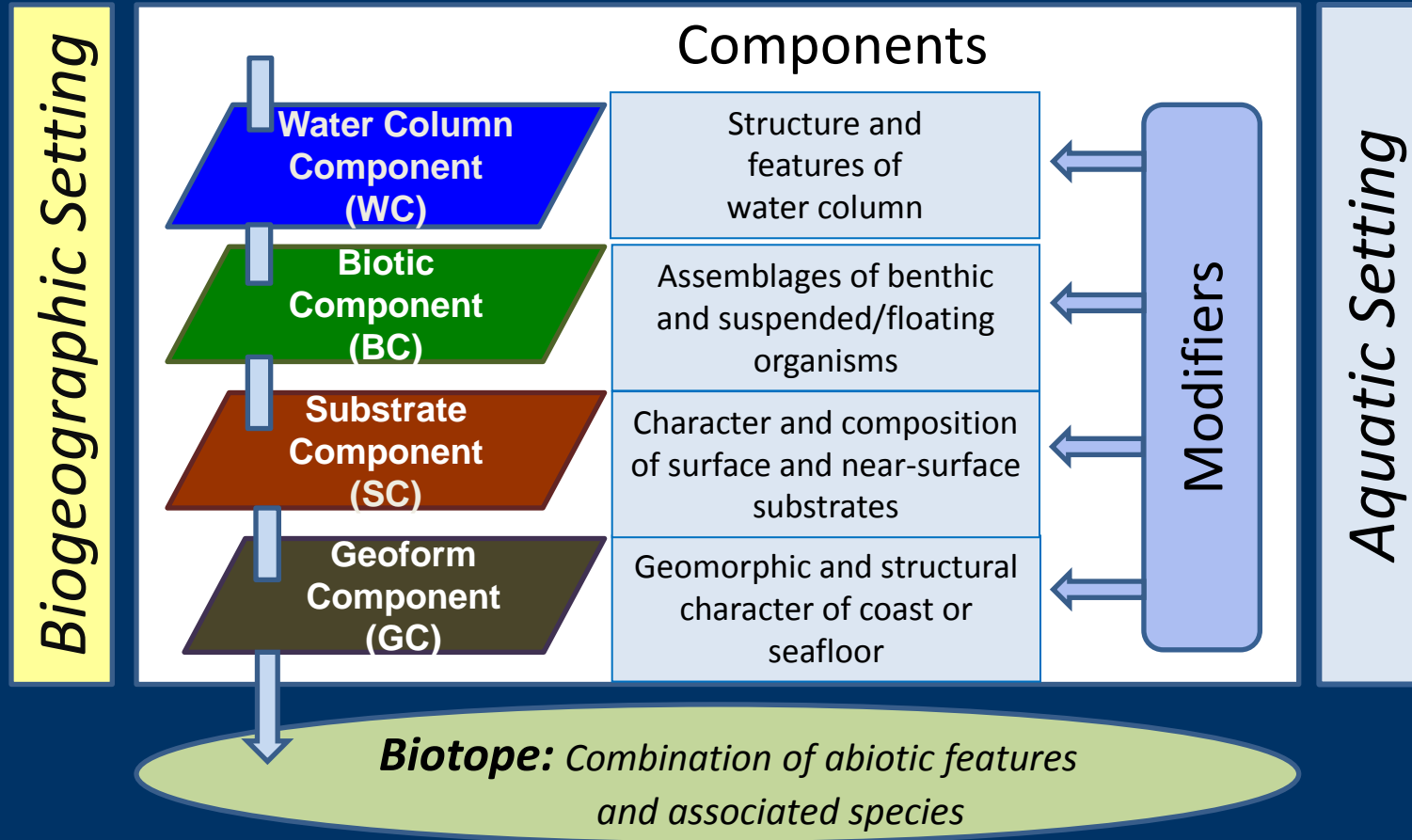
NOAA Office for Coastal Management



CMECS 2012 Structure



CMECS 2012 Goal



ShoreZone AK 2014 Structure

Shore Type (Wave Formed)

Shore Type (Non-Wave Formed)

Observed Exposure

Forms

Material

ESI

Oil Residence Index

Bioarea

Biological Wave Exposure

Bioband

ShoreZone AK 2014 Goals

Shore Type (Wave Formed)

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Coastal Planning, Vulnerable Resources, Spill Response, Research

Overview of the Two Systems

Areas of Commonality

- Both multi-component systems
- Both allow user flexibility
- Geographic domain overlap
- Both evolving

Areas of Uniqueness

- Data geometry
- Use of landscape units
- Mapping protocols

Crosswalking Process

Crosswalk guidance included in CMECS document (App. H)

Types of unit-to-unit relationships

- Equal
- Nearly Equal
- Less Than
- Greater Than
- Overlapping
- No Equivalent
- Unknown

Quality of unit-to-unit relationships

- Certain
- Somewhat Certain
- Uncertain

ShoreZone- CMECS Unit-Unit Crosswalk

ShoreZone to CMECS crosswalk table

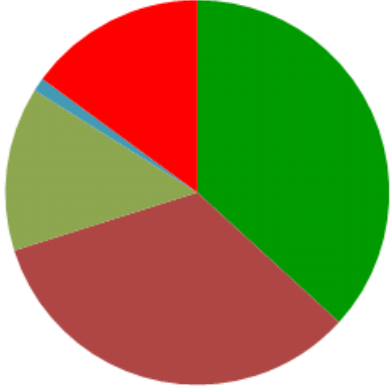
ShoreZone_14-CMECS-082415 - Microsoft Excel

ShoreZone Gulf of Alaska Protocol-2014 (Appendix A) to CMECS Crosswalk		CMECS
Shore Types (Table A-2)		CMECS
Rock		Rock Substrate - Substrate Class (SC)
Wide - Width		No Equivalent
Steep - Slope		Steeply Sloping - Slope (Modifier)
Inclined - Slope		Sloping - Slope (Modifier)
Rock Ramp, wide - Coastal Class		Rock Substrate - Substrate Class (SC)
Flat - Slope		Flat - Slope (Modifier)
Rock Platform, wide - Coastal Class		Rock Substrate - Substrate Class (SC) AND Platform - Level 1 and 2 Geoform (GC)
Narrow		No Equivalent
Steep - Slope		Steeply Sloping - Slope (Modifier)
Rock Cliff - Coastal Class		Scarp - Level 1 and 2 Geoform (GC)
Inclined - Slope		Sloping - Slope (Modifier)
Rock Ramp, narrow - Coastal Class		Rock Substrate - Substrate Class (SC)
Flat - Slope		Flat - Slope (Modifier)
Rock Platform, narrow - Coastal Class		Rock Substrate - Substrate Class (SC) AND Platform - Level 1 and 2 Geoform (GC)
Rock & Sediment - Substrate		Rock Substrate - Substrate Class (SC) WITH Unconsolidated Mineral Substrate - Substrate Class (SC) (Co-Occurring Element)
Gravel - Sediment		Gravel - Substrate Group (SC)
Wide - Width		No Equivalent
Steep - Slope		Steeply Sloping - Slope (Modifier)
Inclined - Slope		Sloping - Slope (Modifier)
Ramp with Gravel Beach, wide - Coastal Class		Gravel - Substrate Group (SC) AND Beach - Level 1 and 2 Geoform (GC)
Flat - Slope		Flat - Slope (Modifier)
Platform with Gravel Beach, wide - Coastal Class		Gravel - Substrate Group (SC) AND Platform - Level 1 and 2 Geoform (GC)
Sand and Gravel - Sediment		Sand - Substrate Group (SC) WITH Gravel - Substrate Group (SC) (Co-Occurring Elements)
Wide - Width		No Equivalent
Steep - Slope		Steeply Sloping - Slope (Modifier)
Inclined - Slope		Sloping - Slope (Modifier)
Ramp with Gravel & Sand Beach, wide - Coastal Class		Sand - Substrate Group (SC) WITH Gravel - Substrate Group (SC) (Co-Occurring Elements) AND Beach - Level 1 and 2 Geoform (GC)
Flat - Slope		Flat - Slope (Modifier)
Platform with Gravel & Sand Beach, wide - Coastal Class		Gravel - Substrate Group (SC) WITH Sand - Substrate Group (SC) (Co-Occurring Element) AND Beach - Level 1 and 2 Geoform (GC) WITH Platf
Narrow - Width		No Equivalent
Steep - Slope		Steeply Sloping - Slope (Modifier)

Shore Types-Wave / ESI / Shore Types-Non Wave / Observed Exposure / Forms / Material / Bioarea / Bioband / Oil Residence Indices / Structure Process / Biolo

ShoreZone to CMECS Unit-Unit Crosswalk

ShoreZone/CMECS analysis

385	Analysis		
386	Shore Type Units with Equal Relationship to CMECS		
387	Shore Type Units with Nearly Equal Relationship to CMECS	 <ul data-bbox="1657 459 1870 760" style="list-style-type: none">■ Equal■ Nearly Equal■ Greater Than■ Less Than■ Overlapping■ No Equivalent	
388	Shore Type Units with Greater Than Relationship to CMECS		
389	Shore Type Units with Less Than Relationship to CMECS		
390	Shore Type Units with Overlapping Relationship to CMECS		
391	Shore Type Units with No Relationship to CMECS		
392			
393			
394			
395			
396			

General CMECS-ShoreZone Relationship

Shore Type (Wave Formed)

Primarily CMECS Substrate Classes and Slope Modifiers

Shore Type (Non-Wave Formed)

Mix of Aquatic Setting and Geoforms. Mostly No Equivalent

Observed Exposure

Complete equivalency. Enclosure Modifiers

Forms

Good equivalency. Mix of Biogenic, Anthropogenic, and Geologic Geoforms

Material

Very good equivalency. Substrate Groups. No equivalency in geologic or process-based units

General CMECS-ShoreZone Relationship

ESI

Very good equivalency. ESI units usually a concatenation of CMECS Substrate and Geoform units

Oil Residence
Index

No equivalency. Different classification goals

General CMECS-ShoreZone Relationship

Bioarea

ShoreZone more specific than CMECS. CMECS overgeneralizes for Alaska areas, but integration possible

**Biological
Wave Exposure**

Observed exposure crosswalk

Bioband

Very good equivalency. Mostly at the CMECS Biotic Group or Community level

Next Steps

Pilot test with actual data

- Explore advantages of Geodatabase format
- Explore issues related to Line geometry and attribution
- Develop automated tools
- Data attribution



Resources

CMECS web site <http://www.csc.noaa.gov/cmecs>

CMECS Catalog <http://www.cmecscatalog.org>

CMECS email address nos.csc.cmecs_IG@noaa.gov

