



CMECS -- The Common Language for Marine Ecosystems

Frequently Asked Questions

What is the intent of CMECS?

CMECS is designed to provide a national standard for consistent descriptions of coastal and marine ecological features. CMECS offers a classification hierarchy as well as definitions of terms. The primary uses of CMECS are in mapping and classifying the geological, physical, biological, and chemical components of the environment. Among other applications, the CMECS framework can be used to integrate data from disparate sources, facilitate comparisons among sites, and organize data for regional assessment.

What if I don't have information on one or more components?

Many data collection efforts will focus on one of the components. There is no requirement to collect data for all components in any individual application; however, data developers are encouraged to populate as much of the CMECS structure as possible.

Will I have to use CMECS for my project?

As an approved Federal Geographic Data Committee (FGDC) standard CMECS would be required if federal funds are used for the project. Users of existing data are encouraged to crosswalk their data into CMECS.

What if I don't have enough information to get to the lowest level in the hierarchy?

It is not required that data observations reach the lowest level. Units in the lower levels of the hierarchy should only be used when sufficient information is available and quality requirements can be met. However, most data collection efforts will likely be able to apply upper level units for any component.

Is there a specific minimum mapping unit for CMECS?

No. The minimum mapping unit will be determined by individual project needs and data requirements.

Why are there multiple components instead of one?

The CMECS components reflect different aspects or elements of the coastal and marine environment. These aspects were organized into separate components to avoid proliferation of habitat types, allow flexibility to meet various user needs, and to accommodate existing classification work and data.

How will the components be integrated?

Components of CMECS will be best integrated through a geographic information system (GIS) in a geodatabase data structure. This will allow queries across components tailored to specific habitats or species requirements, and will also allow identification of specific habitat types resulting from unique combinations of the various component layers.

What are the geographic limits for CMECS?

CMECS is intended for use in areas ranging from the splash zone (and upriver to tidally influenced oligohaline areas) to the deepest ocean depths. While CMECS has been developed for the U.S., it can be applied in any coastal or marine environment worldwide. CMECS has already been applied on a project-specific basis in other countries.

How should ephemeral habitats/ features be captured in CMECS?

Any given CMECS data collection effort should be considered a “snapshot in time.” CMECS provides a defined set of modifiers that allow users to describe the temporal persistence of features and to identify ephemeral habitats or features that may temporarily dominate an area at the time of observation.

Are there rules associated with the use of modifiers?

Use of modifiers is encouraged to add information to CMECS classification units; however, users are not required to apply modifiers. Modifiers should be applied to the relevant component units. Occasionally a single modifier may be used for more than one component (ex. temporal persistence)

What is meant by a Dynamic Standard?

Marine mapping efforts, technological developments, and ecological research studies continuously advance our understanding of physical, geological, chemical, and biological processes and the aquatic features they create. It is expected that additional biotic communities, groups, and other units will be identified and added to CMECS. New units will be added to the CMECS structure through a formal process that will not require repeating the FGDC standards approval process. Users are free to propose *and use* “provisional” units pending incorporation into future versions of the formal CMECS structure.

Why do some features appear in multiple components?

Some features have both biological and physical/structural aspects. For example, hard corals can form living biological communities over the benthos. They also build extensive structural features (reefs) that affect a variety of environmental processes and serve as substrate for other sessile biota. Depending on what aspects of a coral reef are of concern, hard corals could be reflected in both the Biotic (species of live coral present), Substrate (dead coral providing a surface for colonization), and GeoForm (shape and size of the reefs) Components.

What defines the scale within CMECS?

CMECS is designed to provide a flexible classification standard for mapping and for other applications across a broad range of geographic scales from the local estuary to large ocean basins. The specific goals of each project define the spatial scale at which CMECS should be applied, as well as the specific mapping scale.

What difficulties may I encounter in cross-walking/ reporting my classification to CMECS?

CMECS is intended for use across broad geographic ranges and to accommodate a wide variety of technologies. Information from classification systems designed for use at very high levels of detail (e.g., in-situ studies) or with very specific focus areas may need to be “rolled up” to fit into the CMECS structure. Occasionally elements that are within a single hierarchical level in an existing classification system may be distributed among two or more of the CMECS levels or components. In some cases a classification system may contain units that do not have a CMECS equivalent. Users are encouraged to preserve such information as additional attributes to the CMECS units. Rules and guidance are being developed for these situations. The CMECS Implementation Group will assist users if they encounter these types of difficulties.

For more information, please visit:

<https://iocm.noaa.gov/standards/cmecs-home.html>

and

<https://www.ncei.noaa.gov/products/coastal-marine-ecological-classification-standard>

or contact: ocm.cmecs-ig@noaa.gov