Talk

Fundamental biological traits

Marine species traits in the LifeWatch Taxonomic Backbone

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The importance of describing species patterns, and the underlying processes, is essential to assess the status and future evolution of marine ecosystems. This requires biological information on functional and structural species traits such as feeding ecology, body size, reproduction, life history, etc.
Basic trait information was already available within the World Register of Marine Species (WoRMS):

- Biological and ecological traits
- Taxonomic traits (e.g. paraphyletic groups)
- Human-defined traits (e.g. Red List species)

Within the EMODnet Biology project and the LifeWatch Taxonomic Backbone, this initiative was taken one step further, and ten traits were prioritized to document: Taxonomy, Environment, Geography, Depth, Body size, Substratum, Mobility, Skeleton, Diet, and Reproduction.
Criteria for selecting these traits were: applicability to most taxa, easy availability, and that their inclusion would result in new research and/or management applications.
Taxonomy and environment related information is available within WoRMS, whereas geography data are available through the Ocean Biogeographic Information System (OBIS).
During 2018, the skeleton information was supplemented in WoRMS. Currently, almost 4.000 accepted marine species have information regarding their supporting structure, enclosures, and composition.
Body size information has been collected for distinct (taxonomic) groups, which resulted in more than 6.000 accepted marine species having quantitative body size information within WoRMS. An ongoing traits data mining exercise is combining body size with benthos-plankton information, extracted both from WoRMS and EurOBIS, to assign functional groups such as macrobenthos, microplankton, etc. to the taxa in WoRMS.
All trait information collected in WoRMS is made available through a dedicated thematic traits portal.