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EMODnet gridded abundance products: a tool to facilitate ecosystem assessments

The European Marine Observation and Data Network is a network of organisations supported by the EU's integrated maritime policy. These organisations work together to observe the sea, process the data according to international standards and make that information freely available as interoperable data products. Within the EMODnet Biology project a set of gridded map layers is being produced showing the average abundance of different species of different trophic levels for different time windows using geospatial modelling. The spatial modelling tool used to calculate the gridded abundance maps is based on DIVA. DIVA (Data-Interpolating Variational Analysis) is a tool to create gridded data sets from discrete point measurements of the ocean. It was decided to select a number of well-known and published cases from diverse data sources to test the methodology. The selection was based on data availability within the EurOBIS database, reference to existing literature and relevance to the project. Currently data products are available for species from the North Sea, Baltic Sea and North East Atlantic. The products are currently made for different species groups, such as benthos, zoo- and phytoplankton, birds, fish and mammals. The availability of zeroes (i.e. explicit knowledge of the sites where a species was looked for but was absent) is essential for the gridding procedure using DIVA. Since most databases only record presences, the reconstruction of zeroes is a requirement for the mapping. These gridded map layers showing the abundance for copepod species most frequently recorded from the North Atlantic CPR dataset are delivered as operational oceanographic products and services (OOPS), to support the integrated ecosystem assessments (IEAs), recently undertaken by ICES.