

EMODnet Ingestion - an interoperability success story

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Unfortunately, a large amount of data collected by research institutions and private companies still does not flow into national or international repositories and thus remain inaccessible to potential users.

In this context, the European Marine Observation and Data Network - EMODnet (<https://emodnet.ec.europa.eu>) comes to the rescue. It consists of over 160 organizations working together to collect and harmonize data and metadata and make them more accessible to public and private users through the use of common vocabularies (<https://vocab.nerc.ac.uk>), the adoption of standards for the description of metadata (ISO 19139) and for the sharing of formats.

Specifically, the Data Ingestion Portal (<https://www.emodnet-ingestion.eu>) focuses on providing visibility to data providers and making their datasets not yet managed and integrated into major European data infrastructures as open data to actively contribute to societal challenges and applications.

The Data Collection Portal is designed to facilitate and simplify the process of providing data from any source for formatting, standardization, storage and distribution. Data providers can submit their data via the data submission service.

Each data package consists of a data set and the associated information describing it. It is sufficient to fill in a submission form with a limited amount of metadata to describe the most relevant dataset's features.

The EMODnet ingestion data managers perform a first quality check and assign the most suitable data center for further guidance and processing ensuring contact with the data originator.

The assigned Data Center feeds the final datasets and their metadata into the relevant European infrastructures and from there into the corresponding EMODnet thematic subjects (Geological, Bathymetric, Chemical, Biological, HumanActivities, Physical and Seabed habitats).

EMODnet has created a single portal that provides access to the thematic datasets managed by local, national, regional and international organizations. Here, users have free access to standardized observations, data quality indicators and processed data products.

The Data Center (NODC) at OGS (<https://nodc.ogs.it>) as the Italian node has been responsible for the formatting, standardization and quality control of marine data for the EMODnet infrastructure since 2006, promoting data accessibility in an open science perspective.

The success of EMODnet Ingestion depends on the use of common standards and vocabularies, which are essential for interoperability. This facilitates the integration and analysis of data from different sources, promoting open and accessible science. Making data reusable over time amplifies the scientific, economic and societal benefits.