



SeaDataNet: Pan-European infrastructure for ocean and marine data management

M. Fichaut (2), D. Schaap (3), G. Maudire (2), and G.M.R. Manzella (1)

(1) ENEA, UTMAR, S. Terenzo (Sp), Italy (giuseppe.manzella@enea.it, +39-0187-978213), (2) IFREMER/BREST - SISMER, B.P. 70, 29280 PLOUZANE, FRANCE, (3) MARIS KONINGIN JULIANALAAAN 345 A, 2273 JJ VOORBURG, THE NETHERLANDS

The overall objective of the SeaDataNet project is the upgrade the present SeaDataNet infrastructure into an operationally robust and state-of-the-art Pan-European infrastructure for providing up-to-date and high quality access to ocean and marine metadata, data and data products originating from data acquisition activities by all engaged coastal states, by setting, adopting and promoting common data management standards and by realising technical and semantic interoperability with other relevant data management systems and initiatives on behalf of science, environmental management, policy making, and economy.

SeaDataNet is undertaken by the National Oceanographic Data Centres (NODCs), and marine information services of major research institutes, from 31 coastal states bordering the European seas, and also includes Satellite Data Centres, expert modelling centres and the international organisations IOC, ICES and EU-JRC in its network. Its 40 data centres are highly skilled and have been actively engaged in data management for many years and have the essential capabilities and facilities for data quality control, long term stewardship, retrieval and distribution. SeaDataNet undertakes activities to achieve data access and data products services that meet requirements of end-users and intermediate user communities, such as GMES Marine Core Services (e.g. MyOcean), establishing SeaDataNet as the core data management component of the EMODNet infrastructure and contributing on behalf of Europe to global portal initiatives, such as the IOC/IODE – Ocean Data Portal (ODP), and GEOSS. Moreover it aims to achieve INSPIRE compliance and to contribute to the INSPIRE process for developing implementing rules for oceanography.

- As part of the SeaDataNet upgrading and capacity building, training courses will be organised aiming at data managers and technicians at the data centres. For the data managers it is important, that they learn to work with the upgraded common SeaDataNet formats and procedures and software tools for preparing and updating metadata, processing and quality control of data, and presentation of data in viewing services, and for production of data products.
- SeaDataNet maintains and operates several discovery services with overviews of marine organisations in Europe and their engagement in marine research projects, managing large datasets, and data acquisition by research vessels and monitoring programmes for the European seas and global oceans:
 - o European Directory of Marine Environmental Data (EDMED) (at present > 4300 entries from more than 600 data holding centres in Europe) is a comprehensive reference to the marine data and sample collections held within Europe providing marine scientists, engineers and policy makers with a simple discovery mechanism. It covers all marine environmental disciplines. This needs regular maintenance.
 - o European Directory of Marine Environmental Research Projects (EDMERP) (at present > 2200 entries from more than 300 organisations in Europe) gives an overview of research projects relating to the marine environment, that are relevant in the context of data sets and data acquisition activities (cruises, in situ monitoring networks, ..) that are covered in SeaDataNet. This needs regular updating, following activities by dataholding institutes for preparing metadata references for EDMED, EDIOS, CSR and CDI.
 - o Cruise Summary Reports (CSR) directory (at present > 43000 entries) provides a coarse-grained inventory for tracking oceanographic data collected by research vessels.
 - o European Directory of Oceanographic Observing Systems (EDIOS) (at present > 10000 entries) is an initiative of EuroGOOS and gives an overview of the ocean measuring and monitoring systems operated by European countries.
- European Directory of Marine Organisations (EDMO) (at present > 2000 entries) contains the contact information and activity profiles for the organisations whose data and activities are described by the discovery services.

- Common Vocabularies (at present > 120000 terms in > 100 lists), covering a broad spectrum of ocean and marine disciplines. The common terms are used to mark up metadata, data and data products in a consistent and coherent way. Governance is regulated by an international board.
- Common Data Index (CDI) data discovery and access service: SeaDataNet provides online unified access to distributed datasets via its portal website to the vast resources of marine and ocean datasets, managed by all the connected distributed data centres. The Common Data Index (CDI) service is the key Discovery and Delivery service. It enables users to have a detailed insight of the availability and geographical distribution of marine data, archived at the connected data centres, and it provides the means for downloading datasets in common formats via a transaction mechanism.