



## **SeaDataNet – a pan-european infrastructure for ocean and marine data management**

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A key element for the scientific exploration, exploitation and management of the ocean and marine resources is the ability to make volumes of data available and usable, both now and in the future. SeaDataNet mission is to promote the exchange, integration, use and preservation of marine data through enhanced data publishing, discovery, documentation, accessibility and archiving. The project objectives include the implementation of access of existing data in an interoperable environment by using web services. In particular SeaDataNet is developing XML web services based on metadata creation and data discovery system.

SeaDataNet is designed to provide abundant metadata about the values, in order to provide traceable heritage from raw measurements to usable information, allowing the data to be unambiguously interpreted and used. The information is provided by means of catalogs, allowing the user to know the general framework and objectives of the collected data. These catalogs are:

EDMED (European Directory of Marine Environmental Data): a high level inventory, providing a user searchable, web based directory of data sets and collections relating to the marine environment;

EDMERP (European Directory of Marine Environmental Programmes): a high level inventory, providing a user searchable, web based directory of data collection programmes;

CSR (European Directory of Cruise Summary Reports): a high level inventory, providing a user searchable, web based directory of reports of now more than 38 000 research vessel cruises;

EDIOS: an initiative of EuroGOOS, internet based searchable directory of monitoring systems operated by the EU countries;

EDMO (European Directory of Marine Organisations): providing information on organisation working in the field of marine environmental research and protection.

SeaDataNet is pursuing new approaches to data representation, data discovery and data distribution through the use of geospatial search tools. The core tool allowing data discovery and access is the CDI (Common Data Index), enabling users to have a detailed insight of available and geographical spreading of marine data, archived in the participant data bases. Observations are identified by the following fundamental characteristics:

the location at which the observations were made (space)

the date and time at which the observations were made (time)

the type of variable that was observed (variable)

The SeaDataNet collection include physical and geochemical data, in situ as well as satellite and model data. They are managed in a network of 40 repositories “Transnational Access Platforms”, in-situ National Oceanographic Data Centres (for real time and delayed mode data ) and satellite data centres of the SeaDataNet Consortium. Furthermore, the SeaDataNet consortium provides data management facilities for most EU and non-EU countries and related ocean and marine science investigations. SeaDataNet is a source of scientific information for educators, students, researchers, scientists, decision makers. Ultimately, through important developments using new communication tools and standards, the information, data and products will be provided in a fully integrated and standardised way, the SeaDataNet data centre network acting as a unique virtual data centre.