

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Nineteenth Session of the IOC Committee on International Oceanographic Data and
Information Exchange (IODE-XIX)
Trieste, Italy, 12-16 March 2007

**EC Project: a Pan-European infrastructure for Ocean
and Marine Data Management (SeaDataNet)**

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1. Introduction

SeaDataNet (2006 – 2010) is a major Pan-European and EU-funded project, undertaken by the National Oceanographic Data Centres (NODCs), marine information services of major national institutes, from nearby all coastal states bordering the European seas. It focuses on interconnecting the data centres to provide integrated on-line access to the most comprehensive sets of multidisciplinary in-situ and remote sensing marine data, meta-data and products. The consortium comprises 49 partners of major oceanographic institutes of the 35 participating countries, acting as National Oceanographic Data Centres (NODC), Satellite Data Centres (SDC), two expert modeling centres and three international bodies. The NODCs and SDCs are highly skilled and actively engaged in data management for several decades and have the basic capabilities and facilities for data quality control, perennial safeguarding, retrieval and dissemination to both intermediate users (value adding organisations) and end-users.

SeaDataNet continues and expands previous initiatives of the consortium, in particular Sea-Search (2002-2006) and several distributed data management structures developed during MAST and the following EU marine environment projects. The recent developments made during Sea-Search were focused on metadata and have designed and populated an array of Pan-European directories (ED) of marine data & information resources:

- EDMED: **M**arine **E**nvironment **D**ata sets dispersed in the scientific laboratories;
- ROSCOP/CSR Cruises Summary Reports;
- EDIOS : **I**nitial **O**bserving **S**ystems;
- EDMERP : **M**arine **E**nvironment **R**esearch **P**rojects;
- EDMO: **M**arine **O**rganizations.

These directories, available for consultation on the SeaDataNet website <http://www.seadatanet.org>, represent a key tool for data search and retrieval and a EU contribution to larger international systems.

The SeaDataNet network of data centres (40 Transnational Access Platforms of NODCs and SDCs) archives, check for quality and disseminate the data and meta-data made available,

either from EU funded projects or national data sources, which are continuously enriched from new sources and develops new products and services in SeaDataNet. Therefore the new infrastructure is being developed as a virtual data centre that will incorporate and enhance the existing facilities, and makes use of the new possibilities offered by the communication technology. Together with the development and use of the most adapted technology, the development and adoption of common standards is actively carried out to ensure:

- communication between the data platforms and their interoperability;
- coherence, compatibility and quality of the data sets initially collected by several hundreds of research laboratories and organizations and by using various heterogeneous sensors on board of research vessels, drifting floats and buoys, moored platforms, satellites.

The common standards for vocabularies, discovery services, definition and adoption of formats and protocols for data checking are developed in the project Technical Task Team in strong cooperation with international experts. They follows international ISO basic standards and general practices in data management for set-up of web services and content governance structures, transformation services, downloading services and viewing services. Following this necessary prerequisite, the interoperable system software is developed in order to have 11 test platforms connected in version 1, and the 40 platforms connected by steps at the end of the project.

SeaDataNet is also developing common regional products on five pilot regions: Mediterranean Sea, Black Sea, Baltic Sea, Barents Sea and North Atlantic. These common products are useful not only to serve a larger community of users, but also to test the system and the harmonization of the common procedures and standards implemented. The integration of in situ and remote sensing in the data management and the products development represents a challenge that meets numbers of frequent users requests.

Besides the technological development, SeaDataNet aims to enhance the overall data circulation, quality and perennial safeguarding. Joint workshops, training sessions and capacity building will contribute to insure a common level of expertise in data management and inter-compared basic equipment to all data centres. The strong links with the scientific community for the data exchange and preparation of products should both facilitate the data collection and meet better the users needs in data and services. The data management made by the SeaDataNet professional structures will avoid the loss of valuable observational data and provide an easy and integrated access to them. Finally, the involvement of the main marine institutes, which support these data centres contributes to the sustainability of the system and can be enhanced further in the frame of a foreseen joint convention.

2. IODE role in SeaDataNet

IODE participates in a number of the project activities including Networking activities NA2 (Organization and Monitoring of the distributed infrastructure), NA3 (Training and Capacity building), NA7 (Projects inventory), NA8 (Communication, Users Marketing and feedback), and Joint Research activities JR1 (Standards development), JR2 (Technical development of the interoperable system), and JR3 (Portable Data Management software).

IODE coordinate the activity NA3 (Training and Capacity building) that has two main objectives:

- 1) to ensure that the data and meta-data to be integrated in the SEADATANET system will be formatted, checked for quality and disseminated according to the common protocols developed in JRA1. This includes training in common procedures for data

processing, and in the marine XML schemes for communication. It is also to build capacity in several data centres not yet equipped with the appropriate inter-comparable data management facilities.

- 2) to transfer expertise and to train IT experts of the SEADATANET data centres in the basics, installation and operation of the SEADATANET technical components, which are developed in JRA2. This will support achieving a consistent and operational SEADATANET network configuration.

As the leader of one of the common activities, IODE is a member of the Project Steering Committee.

3. Requested Actions from the Committee

The Committee is requested to:

- Comment on the SeaDataNet project development
- Discuss the applicability and possible use of the standards and systems developed within the SeaDataNet project for entire IODE community

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