



*2<sup>nd</sup> International Conference on  
Research Infrastructures (ICRI)  
April 2-4, 2014  
Athens, Greece*



# SeaDataNet

*PAN-EUROPEAN INFRASTRUCTURE  
FOR OCEAN & MARINE DATA  
MANAGEMENT*

**SeaDataNet pan-European infrastructure for ocean  
and marine data management**

by

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the SeaDataNet Consortium*



**Supported by the European Commission**



## ***What is SeaDataNet***

- SeaDataNet is the leading marine data management network in Europe:
  - Operates and further develop a pan-European infrastructure for managing, cataloguing, and providing harmonized access to ocean and marine environmental data sets and products (physical, chemical, geological, bathymetric and biological properties) collected by research vessels, satellite and in-situ platforms of various marine observing systems

## *The initiative*

- An FP7 Research Infrastructure Project (2011-2015)
- It was preceded by
  - FP6 SeaDataNet-I (2006-2011) and
  - FP5 Sea-Search (2002-2005)

## *Partnership- built on experience*



- Started since 90's, MAST Programme
- Today, 59 partners from 35 countries
  - 68 connected data centers and national focal points
- 3 International Bodies: IOC, ICES and EU-JRC

HNODC is the coordinator of the Networking Activities



## *Main principles*

- SeaDataNet is **based on a semi-distributed system** that incorporates and enhances the existing NODC/partners network.
- Major technical development activity enables the **data centres to interact as a virtual data centre, able to deliver integrated data, meta-data and products of controlled quality through a unique portal**



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## Cross section involvement & international cooperation

Data Collection  
Framework in fisheries



OpenID,  
OpenSearch

European Marine and  
Observation Network



IOC/IODE-  
ODP



Global Monitoring for  
Environment and  
Security



INSPIRE Directive  
Public Sector  
Information Directive



Ocean Data  
Interoperability  
Platform



Partnership for  
Observation of  
the Global  
Oceans



European Global  
Ocean Observing  
System





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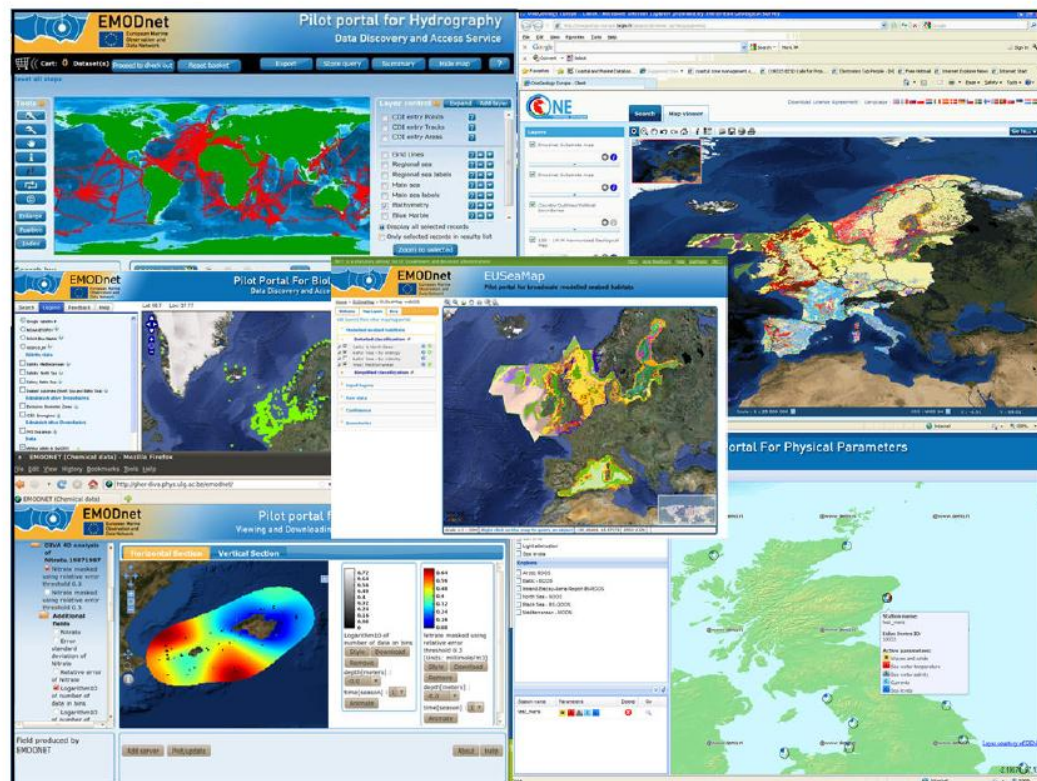
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## SeaDataNet adopted by EMODNet

- Lot 1 Bathymetry
- Lot 2 Geology
- Lot 3 Physical Habitats
- Lot 4 Chemistry
- Lot 5 Biology
- Lot 6 Physics
- MedSea Check Points



*for harmonized, easy access and comprehensive data sets  
from different sources*

[sdn-userdesk@seadatanet.org](mailto:sdn-userdesk@seadatanet.org) – [www.seadatanet.org](http://www.seadatanet.org)

## ***SeaDataNet data policy***

- SeaDataNet has defined an overarching **data policy**, that aims to strike a balance between the rights of investigators and the need for widespread access through the **free and unrestricted sharing and exchange of SeaDataNet data, meta-data and data products**.
- The SeaDataNet data policy is **consistent with**, and in the spirit of, **national and international policies and laws**.
- Is intended to be fully compatible with the Directive of the European Parliament and of the Council on public access to environmental information.

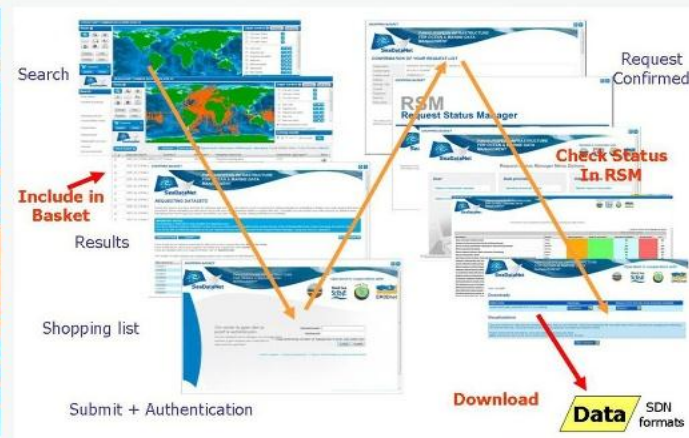
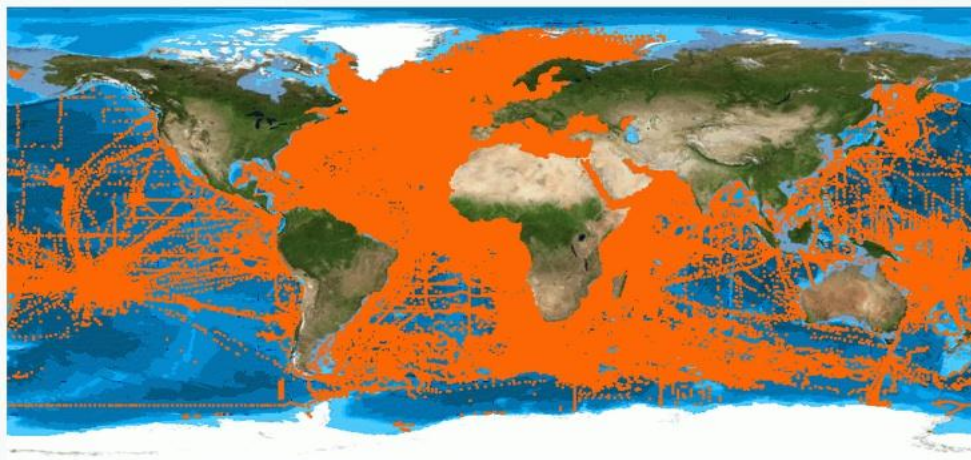




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## ***Standards, Best Practices and Tools***

- ✓ Use of **OGC, ISO** standards and **INSPIRE, MSFD** directives.
- ✓ Standard **data exchange formats**.
- ✓ **Common QC methods** and quality flag scale
- ✓ **Common Vocabularies**, used to mark up metadata and data, covering a broad spectrum of disciplines
- ✓ **Unified user interfaces** provided for **discovering and viewing & flexible entry & edit tools** to the distributed data centers for **updating metadata**.
- ✓ **Data analysis and visualization tools**.
- ✓ **Shopping mechanism** for tracking and processing user data requests



## ***Discovery & Viewing services: 6 European metadata catalogues maintained by NODCs***

- ✓ SeaDataNet provides **pan-European metadata discovery and data access services**:
  - **EDMO** : European Directory of Marine Organisations
  - **CSR** : Cruise Summary Reports
  - **EDMED** : European Directory of Marine Environmental Datasets
  - **EDMERP** : European Directory of Marine Environmental Research projects
  - **EDIOS** : European Directory of Ocean Observing
  - **CDI** : Common Data Index
  
- ✓ SeaDataNet develops **data products and aggregated data sets** on five regions Mediterranean Sea, Black Sea, Baltic Sea, North Atlantic, and Arctic and North Seas that can be explored and downloaded by geographical viewing services.



# PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

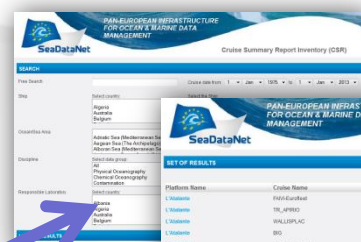
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## SeaDataNet

All SeaDataNet catalogues have been harmonised and tuned in format, syntax and semantics (common vocabularies).

They have a common editor and online CMS for editing & online searching and viewing services

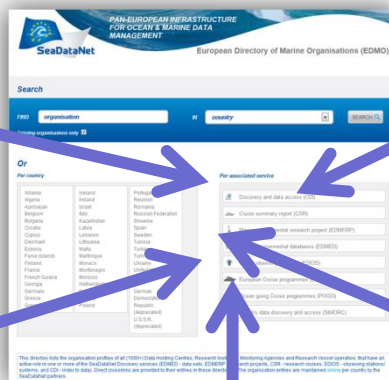
EDMO



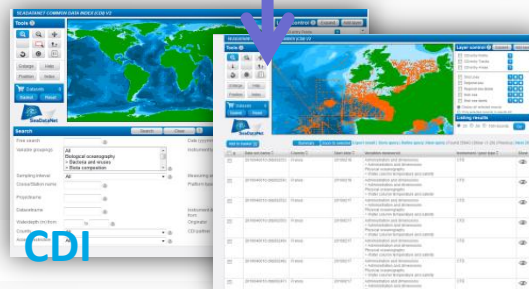
CSR



EDMERP



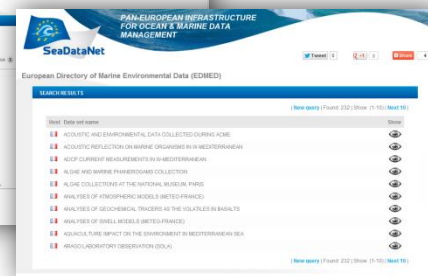
EDIOS



CDI



EDMED



[sdn-userdesk@seadatanet.org](mailto:sdn-userdesk@seadatanet.org) – [www.seadatanet.org](http://www.seadatanet.org)



# Metadata: European Directory of Marine Organizations

» Reset all steps > Name like 'HCMR' x > Greece x > Existing organisations only x

« Start new search

## Search Results

### Service provided

- Projects (EDMERP) (9)
- Databases (EDMED) (8)
- Data access (CDI) (3)
- Cruises EU (Eurofleets) (2)
- Cruises Ocean (POGO) (2)
- Observation systems (EDIOS) (1)
- Cruise Reports (CSR) (1)

LIST

MAP

10 20 50 Records Go

Show (1 - 9 of 9)

Name: Hellenic Centre for Marine Research

City/Country: Anavyssos Attiki, Greece



Name: Hellenic Centre for Marine Research, Hellenic National Oceanographic Data Centre (HCMR/HNODC)

City/Country: Anavissos, Greece





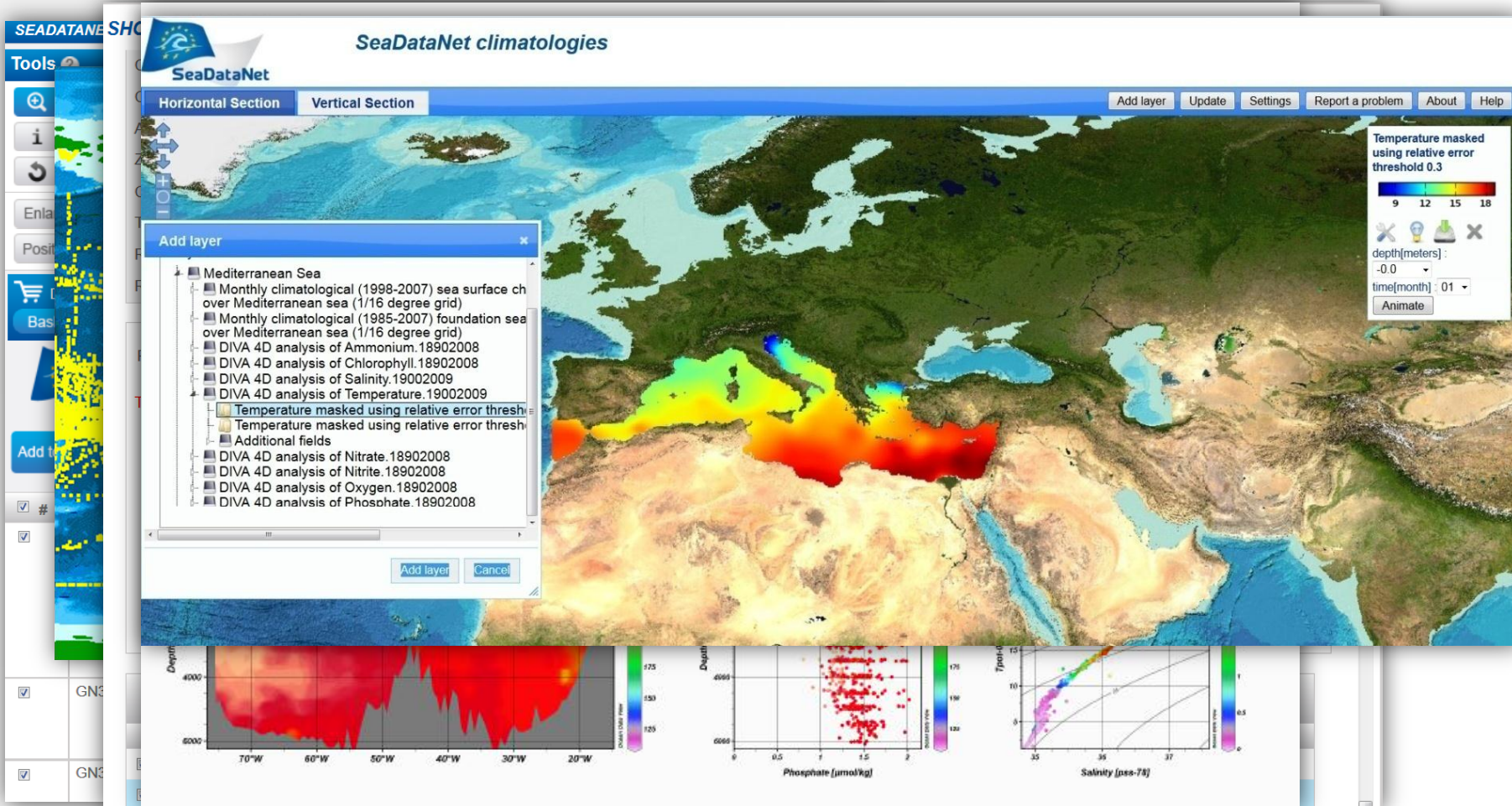


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## DATA: From data discovery to unified access and analysis







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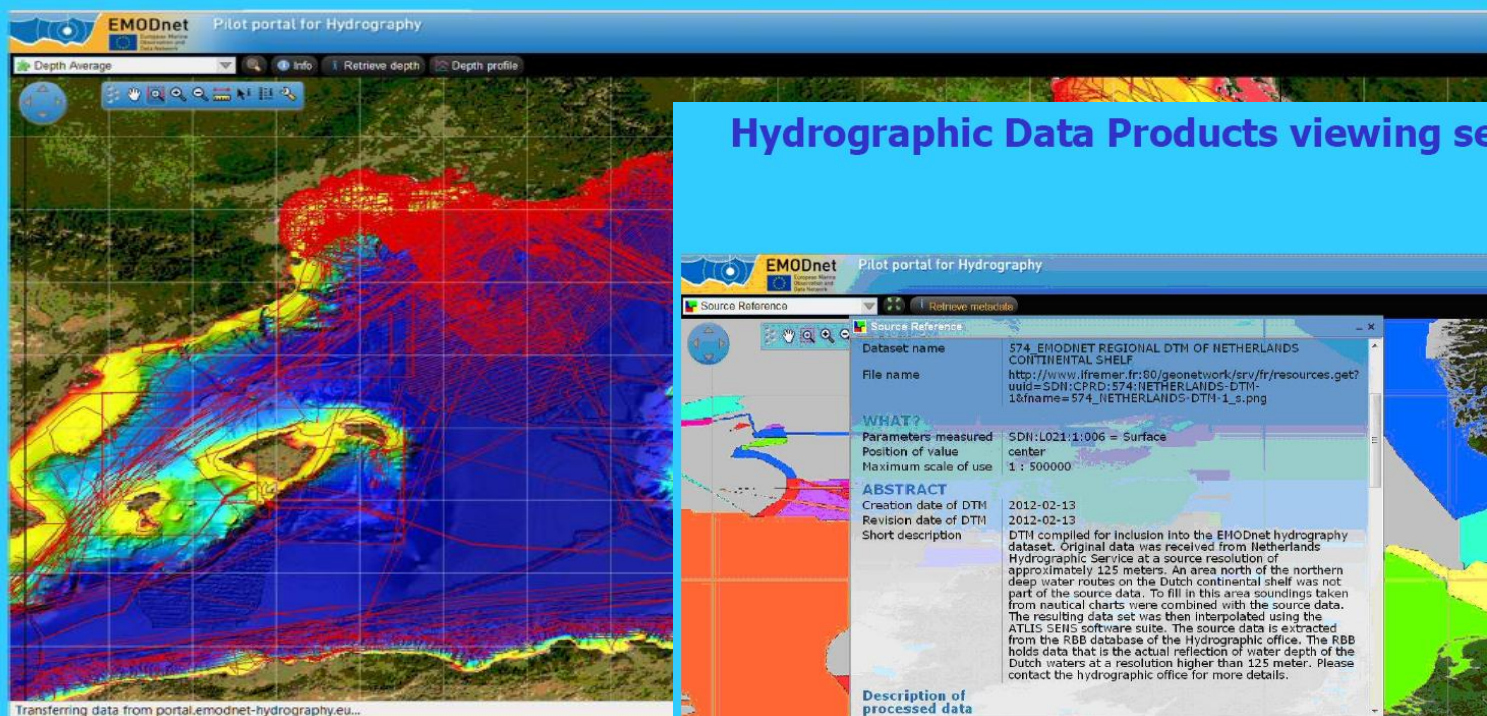
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## Or gridded datasets and information layers

### EMODNet Hydrography



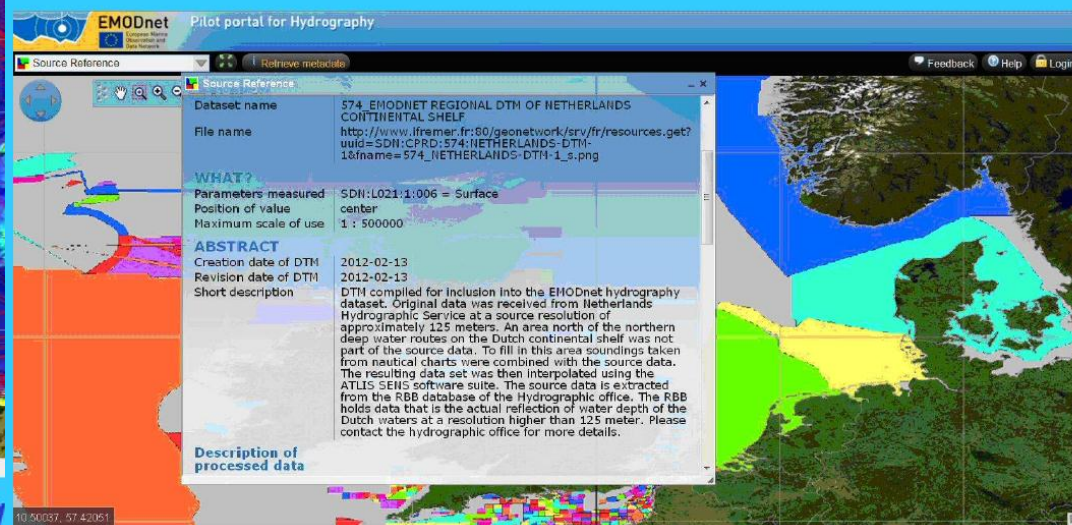
EMODnet  
European Marine  
Observation and  
Data Network



Viewing service with dig

sdn-userdes

### Hydrographic Data Products viewing service



Retrieving Sextant metadata of associated composite DTM

## *SeaDataNet standards and tools in other EU projects (1)*



### **Up-Grade Black Sea SCENE project (2009-2011)**

involving 6 NODCs and many other data holding institutes from the 6 Black Sea countries, to provide metadata and data access and to strengthen their national NODC networks. EU-funding 3.4 MEuro.



### **CASPINFO project (2009 – 2011)**

involving 12 institutes and private industry from the Caspian Sea region, to provide metadata and data access and to build their capacity for data management and user services. EU-funding 0.8 MEuro.



### **Geo-Seas project (2009-2012)**

involving 24 geological and geophysical data centres from 16 European countries (EuroGeoSurveys), to provide metadata and data access. EU-funding 4.9 MEuro.



### **MyOcean 2 project (2012-2014)**

MoU between SeaDataNet 2 and MyOcean for the distribution of SeaDataNet aggregated product to MyOcean, for the elaboration of a common product

## *SeaDataNet standards and tools in other EU projects (2)*

- **EuroFleets project, (2009-2012)**



involving 24 research institutes and data centres from 17 European countries, to optimise the management of research vessels and to streamline the flow of data from the research cruises to the data centre infrastructure. EU-funding 7.2 MEuro.

- **JERICO project (2011-2015)**



involving 27 institutes from 17 European countries, to develop better coordination between the coastal observatories responsible for physical and bio-chemistry parameters as well as to develop improved procedures for streamlining the flow of data from the monitoring stations to the data centre infrastructure. EU-funding 6.5 MEuro.

- **EMODNET projects**



chemistry, hydrography, physics lots. SeaDataNet has qualified itself as leading infrastructure for the EMODNet data management component and is leading several preparatory EMODNet projects



## ***SeaDataNet standards and tools in other EU projects (3)***

- **IONIO Project**

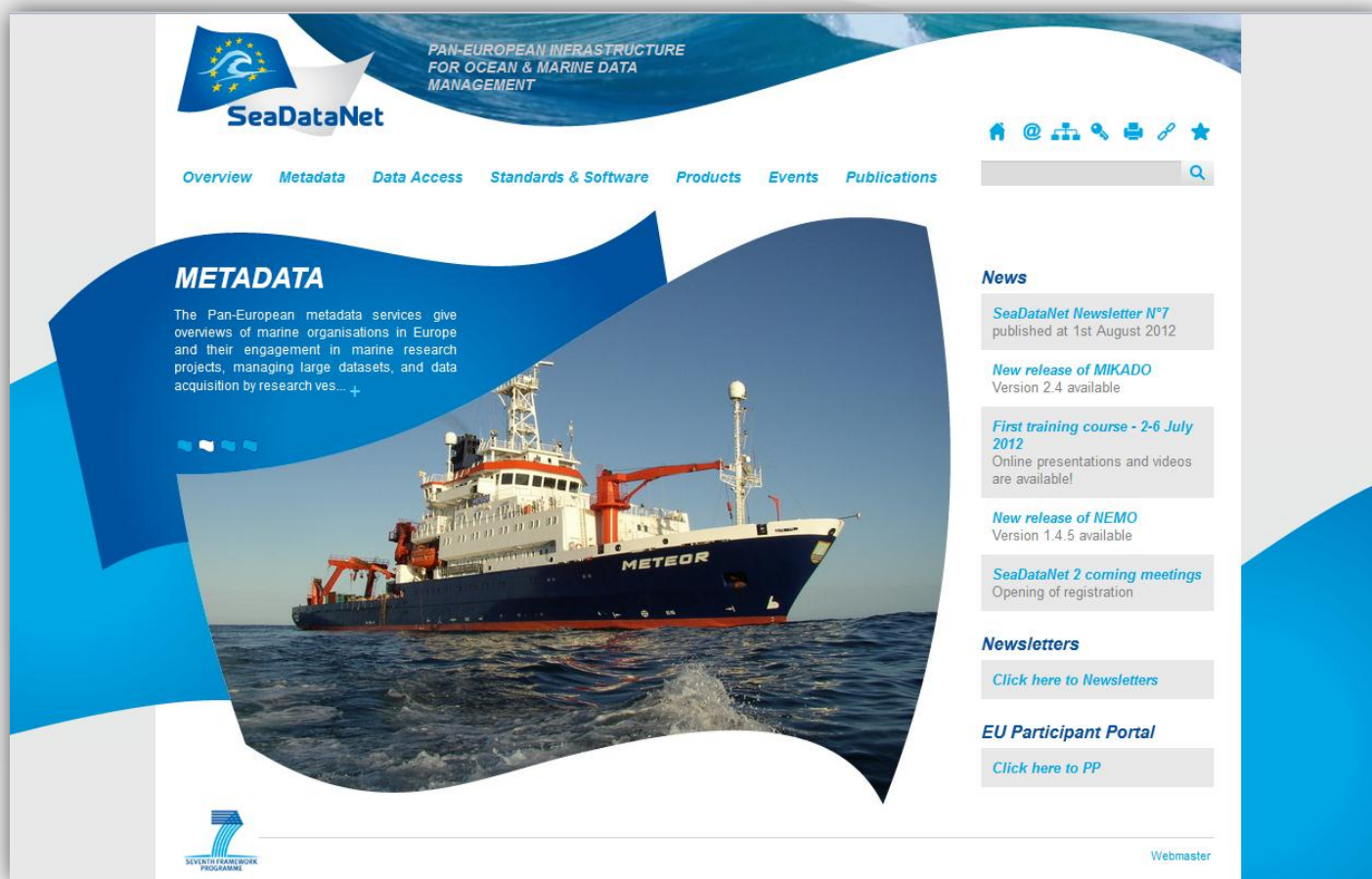
For developing analyses and tools to improve safety an sustainable perspective in the Ionian and Southern Adriatic Seas

- **Micro B3 Project**

For establishing interoperability with marine genomics infrastructure

***More collaborations are welcomed !***

**Thank you for your attention**  
**Visit the SeaDataNet portal : <http://www.seadatanet.org>**



The screenshot shows the SeaDataNet portal homepage. At the top, there is a header with the SeaDataNet logo and the text 'PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT'. Below the header is a navigation bar with links: Overview, Metadata, Data Access, Standards & Software, Products, Events, and Publications. A search bar is located on the right side of the navigation bar. The main content area features a large image of the research vessel 'METEOR' on the left. To the right of the image, there is a 'METADATA' section with a brief description of the metadata services. Further right, there is a 'News' section with several news items, including 'SeaDataNet Newsletter N°7', 'New release of MIKADO', 'First training course - 2-6 July 2012', 'New release of NEMO', and 'SeaDataNet 2 coming meetings'. Below the news section, there is a 'Newsletters' section with a link to 'Click here to Newsletters'. At the bottom of the page, there is a 'EU Participant Portal' section with a link to 'Click here to PP'. The footer of the page includes the 'SEVENTH FRAMEWORK PROGRAMME' logo on the left and the 'Webmaster' text on the right.

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Overview Metadata Data Access Standards & Software Products Events Publications

**METADATA**

The Pan-European metadata services give overviews of marine organisations in Europe and their engagement in marine research projects, managing large datasets, and data acquisition by research ves... +

**News**

**SeaDataNet Newsletter N°7**  
published at 1st August 2012

**New release of MIKADO**  
Version 2.4 available

**First training course - 2-6 July 2012**  
Online presentations and videos are available!

**New release of NEMO**  
Version 1.4.5 available

**SeaDataNet 2 coming meetings**  
Opening of registration

**Newsletters**

[Click here to Newsletters](#)

**EU Participant Portal**

[Click here to PP](#)

SEVENTH FRAMEWORK PROGRAMME

Webmaster