

*Geo-Seas international workshop  
October 9-10, 2012  
Cork, Ireland*



**SeaDataNet**

PAN-EUROPEAN INFRASTRUCTURE  
FOR OCEAN & MARINE DATA  
MANAGEMENT

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

***Michèle FICHAUT – IFREMER (France) – SeaDataNet project coordinator***

## *Summary*

- Brief history
- SeaDataNet – SeaDataNet 2
- Overview of what is available in SeaDataNet
- From data discovery to data analysis
- Other European projects relying on and contributing to SeaDataNet infrastructure



SeaDataNet



PAN-EUROPEAN INFRASTRUCTURE  
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MANAGEMENT

Geo-Seas, Cork, October 9-10, 2012



**90s**

*EDMED*

*Euronodim*

*MEDATLAS*

**2002-2005**

*Sea-Search*

**2006-2011**

*SeaDataNet*

**2011-2015**

*SeaDataNet II*

**EU – MAST**  
**EU – MAST II**

**EU-FP5**

**EU-FP6**

**EU-FP7**

SeaDataNet has set up and operates a pan-European infrastructure for managing marine and ocean data by connecting National Oceanographic Data Centres (NODCs) and oceanographic data focal points from 35 countries bordering European seas



## *SeaDataNet principles*

- SeaDataNet is **based on a semi-distributed system** that incorporates and enhances the existing NODC 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**

## *Main accomplishments*

- Development of common standards :  
Vocabularies, Transport formats
- European catalogues with standardised XML ISO-19115 descriptions
- One unique portal to access all data : virtual data centre
- Set of tools to be implemented in each data centre
  - MIKADO: generator of XML descriptions of SeaDataNet catalogues
  - NEMO: reformatting software to SeaDataNet formats
  - Download Manager: downloading software
  - ODV: Ocean data view adapted to SeaDataNet needs
  - DIVA: for product generation adapted to SeaDataNet needs

## *SeaDataNet 2 overall objective*

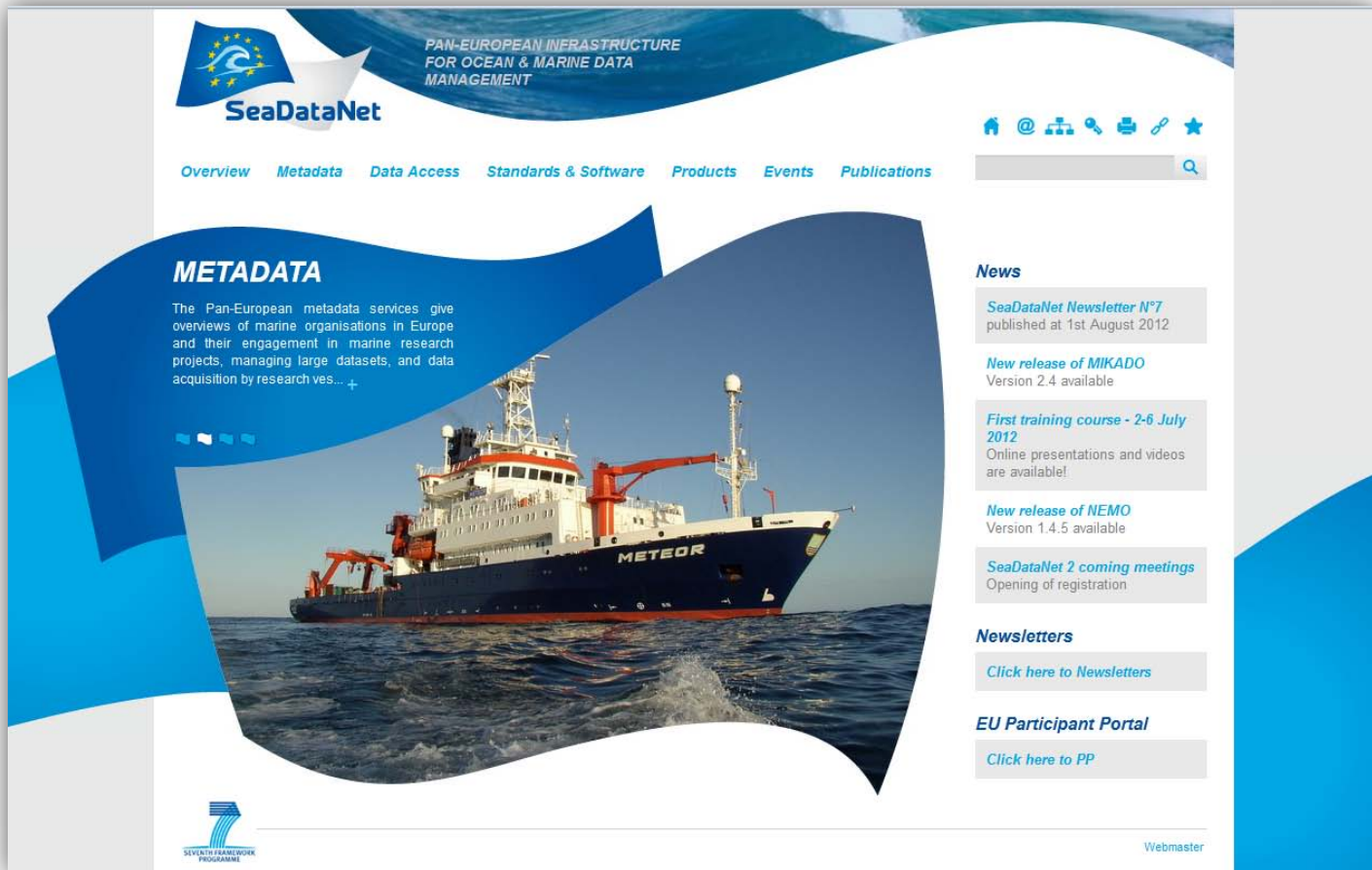
to **upgrade the present SeaDataNet infrastructure into an operationally robust and state-of-the-art** Pan-European infrastructure for providing up-to-date and high quality access to ocean and marine metadata, data and data products

## *SeaDataNet - SeaDataNet 2, what's new?*

- **Operational** update of the SeaDataNet catalogues (CDI, EDMED, EDMERP, EDIOS, CSR) using OGC CSW (Catalogue Service for the Web)
- INSPIRE directive compliance : **ISO-19139** standard for XML description of the CSR and the CDI catalogues
- **Machine to machine interface** for data and product distribution to regular end-users (operational oceanography)
- **Duplicate management, Data preview** before downloading
- Improve capability for handling also **marine biological data** in close cooperation with EurOBIS, MarBEF, and LifeWatch initiatives
- Products: aggregated data sets at full basin scale and climatologies **using the datasets made available via the SeaDataNet infrastructure**
- Be more user oriented and implement a **user-panel**
- **Development of true synergies with other projects** Eurofleets, Jerico, MyOcean

**SeaDataNet portal : <http://www.seadatanet.org>**

- with harmonised services, products and tools



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 menu with links: Overview, Metadata, Data Access, Standards & Software, Products, Events, and Publications. The main content area features a large image of the research vessel "METEOR" on the ocean. To the left of the image, there is a section titled "METADATA" with a description: "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... +". To the right of the image, there is a "News" section with several items: "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", and "SeaDataNet 2 coming meetings Opening of registration". Below the "News" section is a "Newsletters" section with a link "Click here to Newsletters". At the bottom, there is an "EU Participant Portal" section with a link "Click here to PP". The footer includes the "SEVENTH FRAMEWORK PROGRAMME" logo and the text "Webmaster".



## ***6 European catalogues maintained by NODCs***

**SeaDataNet portal provides an overview of the Marine organisations in Europe and their involvement in scientific cruises, data collection, marine projects**

- **EDMO** : European Directory of Marine Organisations (2 200)
- **CSR** : Cruise Summary Reports (41 000)
- **EDMED** : European Directory of Marine Environmental Datasets (4 000)
- **EDMERP** : European Directory of Marine Environmental Research projects (2 600)
- **EDIOS** : European Directory of Ocean Observing Systems (350)
- **CDI** : Common Data Index ( around 1 100 000)

## *SeaDataNet data policy*

- Access to all metadata: No restrictions, open access
- Access to data:
  - General case is **open access** (82% of the data), but some data are restricted, or only delivered for Academic users or could be delivered after negotiation....
  - But **registration is necessary** (login/ password and acceptance of SeaDataNet License)
  - Each user get a SeaDataNet role: Combination of access + role determines the access for a particulate user



# PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

Geo-Seas, Cork, October 9-10, 2012

SeaDataNet

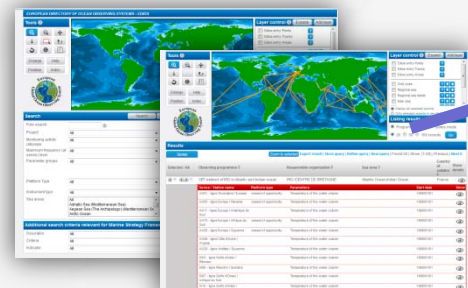
All SeaDataNet catalogues have been harmonised and tuned in format, syntax and semantics (common vocabularies).

They have a common editor (MIKADO) and online CMS and online query interfaces

EDMO

EDMERP

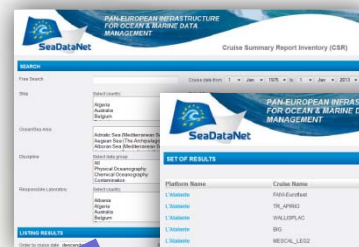
CSR



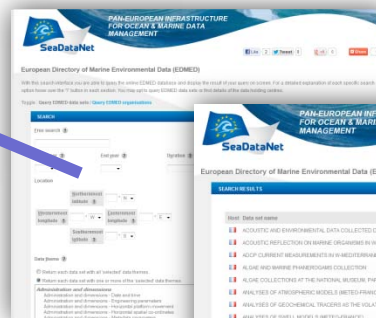
EDIOS



CDI



Platform Name	Cruise Name	From	To	Show
1. Moteur	FRAN_EUR04	07.08.2010	20.08.2010	
1. Moteur	FRAN_EUR02	12.12.2010	04.11.2010	
1. Moteur	WALL04LAC	26.06.2010	16.10.2010	
1. Moteur	SG	01.06.2010	09.07.2010	
1. Moteur	MEDICAL_0202	06.05.2010	29.05.2010	
1. Moteur	MEDICAL_0201	26.04.2010	04.05.2010	
1. Moteur	PARUSIS	16.03.2010	17.04.2010	
1. Moteur	FRAN_EUR01	04.03.2010	14.03.2010	
1. Moteur	EDM001710	27.02.2010	04.03.2010	
1. Moteur	WALL_0001	06.02.2010	16.02.2010	



EDMED





### SEARCH IN EDMO



Search on Name:  
 A B C D E F G H I J K L M  
 N O P Q R S T U V W X Y Z Other

OR  
 Free search

Country  
 Ireland

Existing organisations only ☒

SEARCH CLEAR

Name	Country	CDI V2	Edmed	Edmerp	Edios	CSR	Simor	Pogo	Eurofleets
<a href="#">South West Regional Authority</a>	Ireland								
<a href="#">Spectral Signatures Ltd</a>	Ireland								
<a href="#">StockerYale (IRL) Ltd</a>	Ireland								
<a href="#">Sustainable Energy Authority of Ireland – SEA</a>	Ireland								
<a href="#">Teagasc Food Research Centre</a>	Ireland								
<a href="#">Techworks Marine Ltd.</a>	Ireland								
<a href="#">Trinity College Dublin</a>	Ireland								
<a href="#">University College Cork</a>	Ireland								
<a href="#">University College Cork Coastal and Marine Research Centre</a>	Ireland								
<a href="#">University College Dublin</a>	Ireland								

| FOUND 127 | SHOW (111-120) | [PREVIOUS 10](#) | [NEXT 7](#)

**METADATA  
EDMO  
catalogue:  
list of marine  
organisations  
in Ireland**



# **METADATA** **CSR catalogue:** ***list of Cruise Summary Reports for the UCC/CMRS***

SeaDataNet Directory of Cruise Summary Report (CSR) - Mozilla Firefox

seadata.bsh.de/Cgi-csr/retrieve\_sdn2/search\_edmo.pl?edmo=1848









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Cruise Summary Report Inventory (CSR)

Set of Results: "UNIVERSITY COLLEGE CORK COASTAL AND MARINE RESEARCH CENTRE"

Found 8 | Show (1-8) |

Platform Name	Cruise Name	from	to	Show
Celtic Voyager	CV11001	03.03.2011	04.03.2011	
Celtic Voyager	CV0905	03.03.2009	04.03.2009	
Celtic Voyager	CV0630	16.07.2006	05.08.2006	
Celtic Voyager	CV0518	01.09.2005	14.09.2005	
Celtic Voyager	CV0525	29.06.2005	05.07.2005	
Celtic Voyager	CV0326	29.09.2003	04.10.2003	
Celtic Voyager	CV0214	30.05.2002	14.06.2002	
Celtic Voyager	CV0114	12.06.2001	21.06.2001	

Found 8 | Show (1-8) |

# Cruise Summary Report

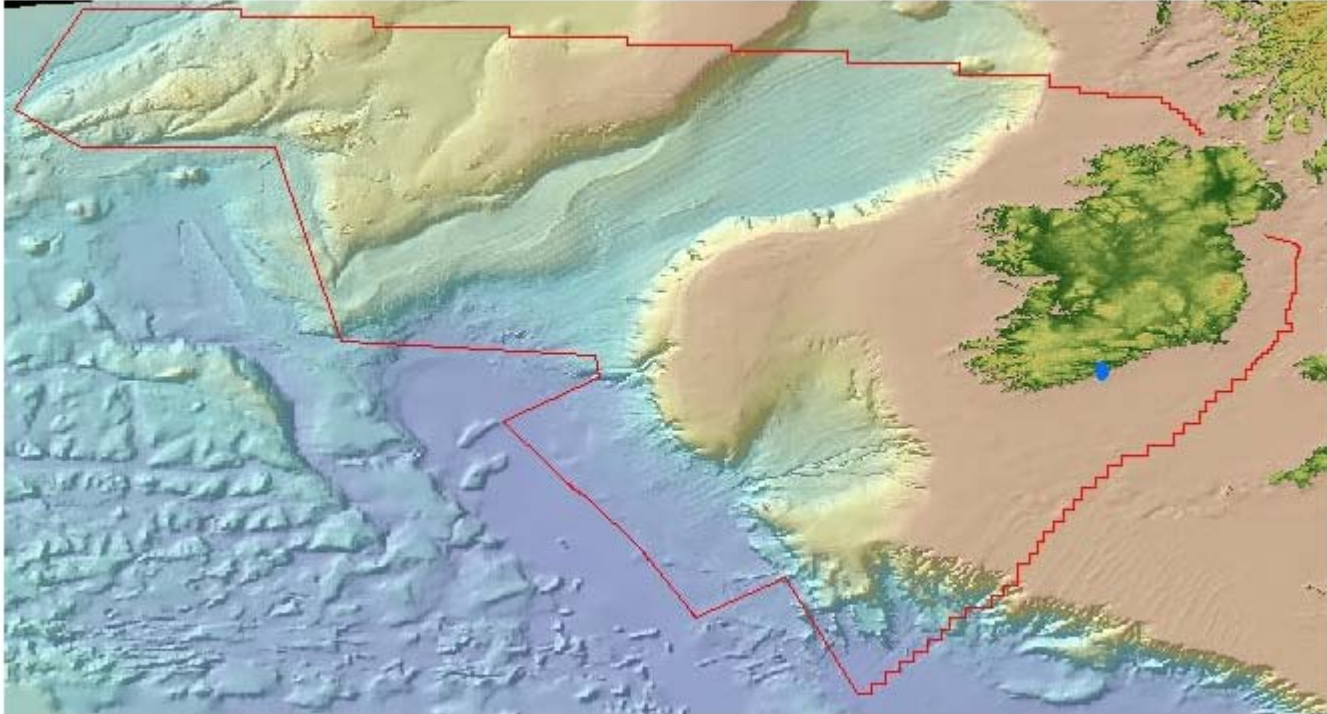
SeaDataNet Directory of Cruise Summary Report (CSR) - Mozilla Firefox

seadata.bsh.de/Cgi-csr/retrieve\_sdn2/csrreport.pl?project=EDMO&edmo=1848&session=3370&v1=10&v2=2

PAN-EUROPEAN INFRASTRUCTURE  
FOR OCEAN & MARINE DATA

showAttach.pl (Image JPEG, 662x357 pixels) - Mozilla Firefox

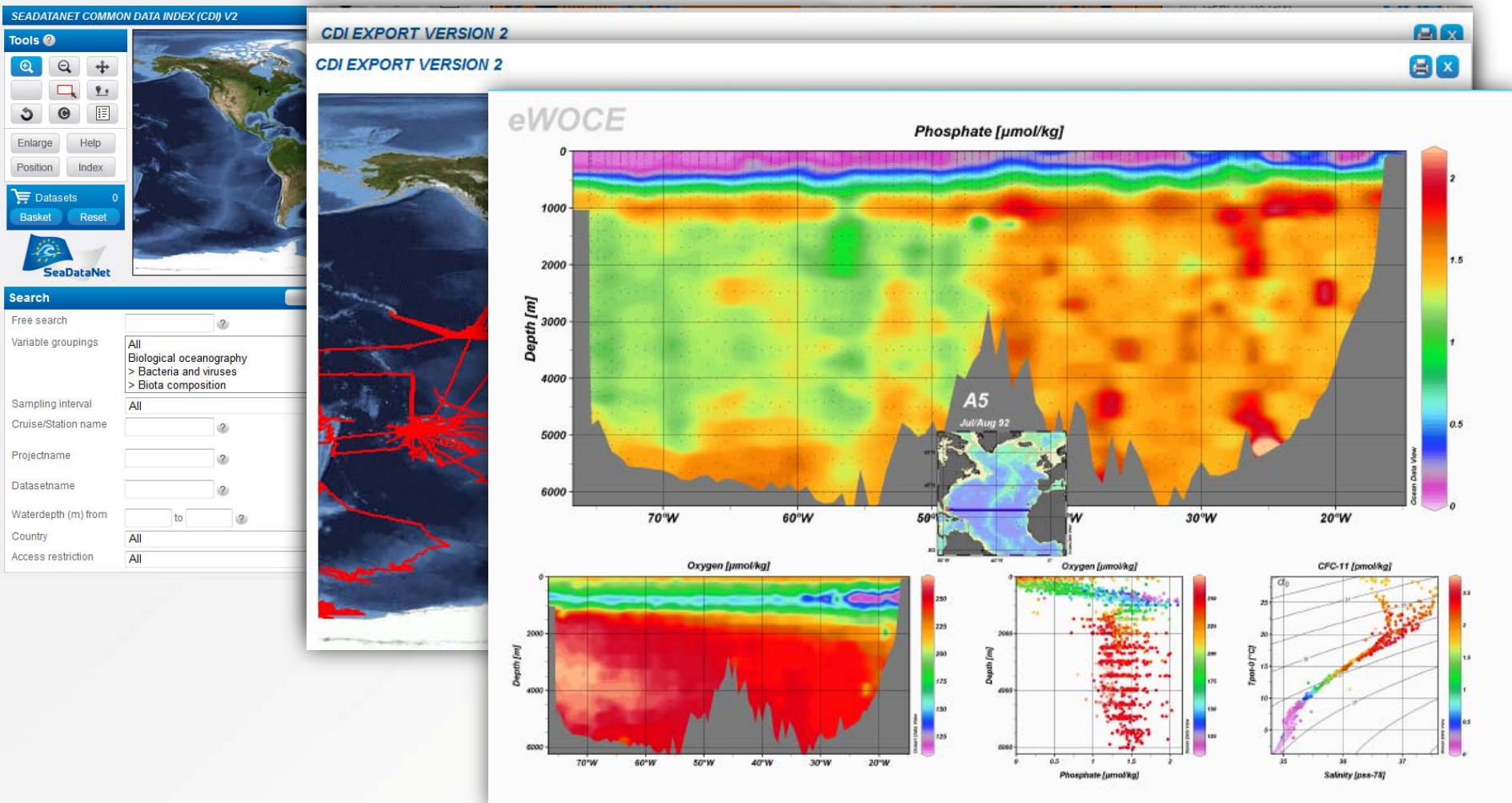
seadata.bsh.de/Cgi-csr/attachment/showAttach.pl?csrref=20116188&tp=chart



| [Results](#) | Found 8 | Show 2 | [Previous](#) | [Next](#) |



# DATA: From data discovery to unified access and analysis



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

- Four steps
  1. Data discovery
  2. Shopping
  3. Downloading
  4. Viewing/Analysing



## Access to data (CDI) : step 1 data discovery

SEADAT

Tools ?

Enlarge

Position

Dataset

Basket

Search

Free sea

Variable

Sampling

Cruise/S

Project

Dataset

Waterde

Country

Access r

SEADATANE

Tools ?

Enlarge

Position

Dataset

Basket

Add to basket

☐ #

☐ Data

☐ Sk

☐ Ter

☐ Ga

☐ Air

☐ Ca

☐ Ga

☐ Ba

☐ Se

☐ Ga

☐ 33

SUMMARY

Per CDI Partner

Per Originator

Per Category

Per Variable

Per Instrument/Type

Per Instrument/Type	Datasets	Duration in hours	Duration in days	Duration in years
CTD	4554	76	3	0,01
wave recorders	16	567.168	23.632	64,75
atmospheric radiometers	14	609.855	25.411	69,62
water temperature sensor	13	301.114	12.546	34,37
water body temperature sensor	12	390.705	16.279	44,60
continuous air samplers	9	337.948	14.081	38,58
meteorological packages	8	191.025	7.959	21,81
anemometers	7	340.431	14.185	38,86

Per Year

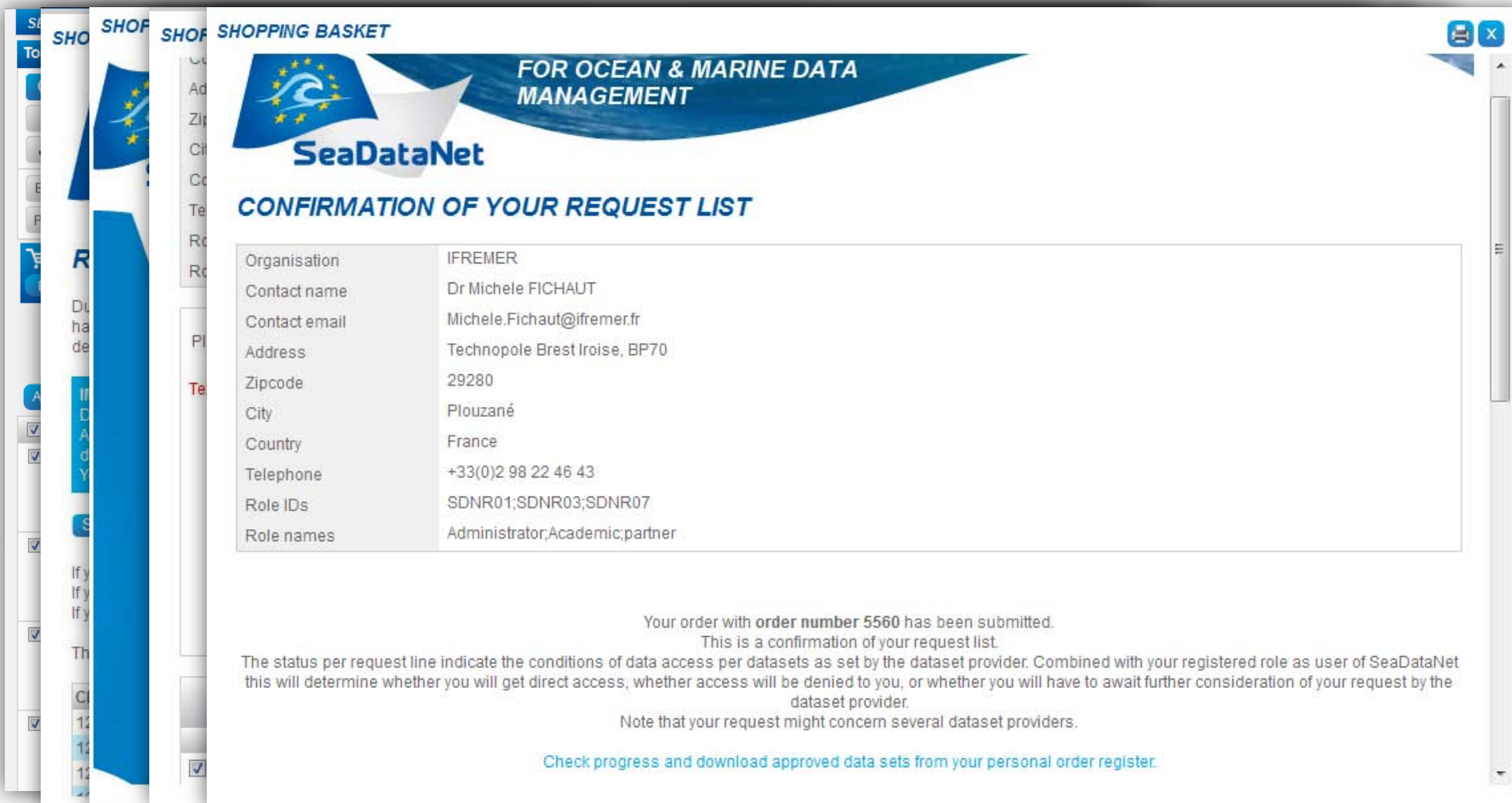
Per Data Access Restriction

Per Data Access Restriction	Datasets
SeaDataNet licence	4612
licence	21

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

- Four steps
  - Data discovery
  - Shopping
  - Downloading
  - Viewing/Analysing

## Access to data (CDI) : step 2 shopping



**SHOPPING BASKET**

**FOR OCEAN & MARINE DATA MANAGEMENT**

**SeaDataNet**

**CONFIRMATION OF YOUR REQUEST LIST**

Organisation	IFREMER
Contact name	Dr Michele FICHAUT
Contact email	Michele.Fichaut@ifremer.fr
Address	Technopole Brest Iroise, BP70
Zipcode	29280
City	Plouzané
Country	France
Telephone	+33(0)2 98 22 46 43
Role IDs	SDNR01;SDNR03;SDNR07
Role names	Administrator;Academic;partner

Your order with **order number 5560** has been submitted.  
This is a confirmation of your request list.

The status per request line indicate the conditions of data access per datasets as set by the dataset provider. Combined with your registered role as user of SeaDataNet this will determine whether you will get direct access, whether access will be denied to you, or whether you will have to await further consideration of your request by the dataset provider.

Note that your request might concern several dataset providers.

[Check progress and download approved data sets from your personal order register.](#)

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

- Four steps
  - Data discovery
  - Shopping
  - Downloading
  - Viewing/Analysing



## Access to data (CDI) : step 3 downloading

Request Status Manager Logout Help Home

cdi.marine.ie/dm/userPage?user\_id=mf01961&ticket=ST-2823-hBY2yCcpAd9FDbPsbGFv-auth.ifremer.fr


**Download Manager at Data Centre**

**Pan-European infrastructure for Ocean & Marine Data Management**

**SeaDataNet**

**Personal overview of downloadable files at selected data centre**


User: mf01961

Zipfile name	Download	Remove from this list, once download complete
usermf01961-data_centre396-2012-10-08_result.zip	<a href="#">Download</a> 	Today ZIP file can not be removed to avoid technical issues.

Approved requests for data sets are combined in zip files, that you can download. These are prepared by the local data centre, that is responsible for managing and distributing the selected data sets. The zip file builds up during the day and each new approved request is added.

Please remove the file from this list, once your download has been succesful.

**Note:** automatically each zip file will be removed from your download list after 30 days!

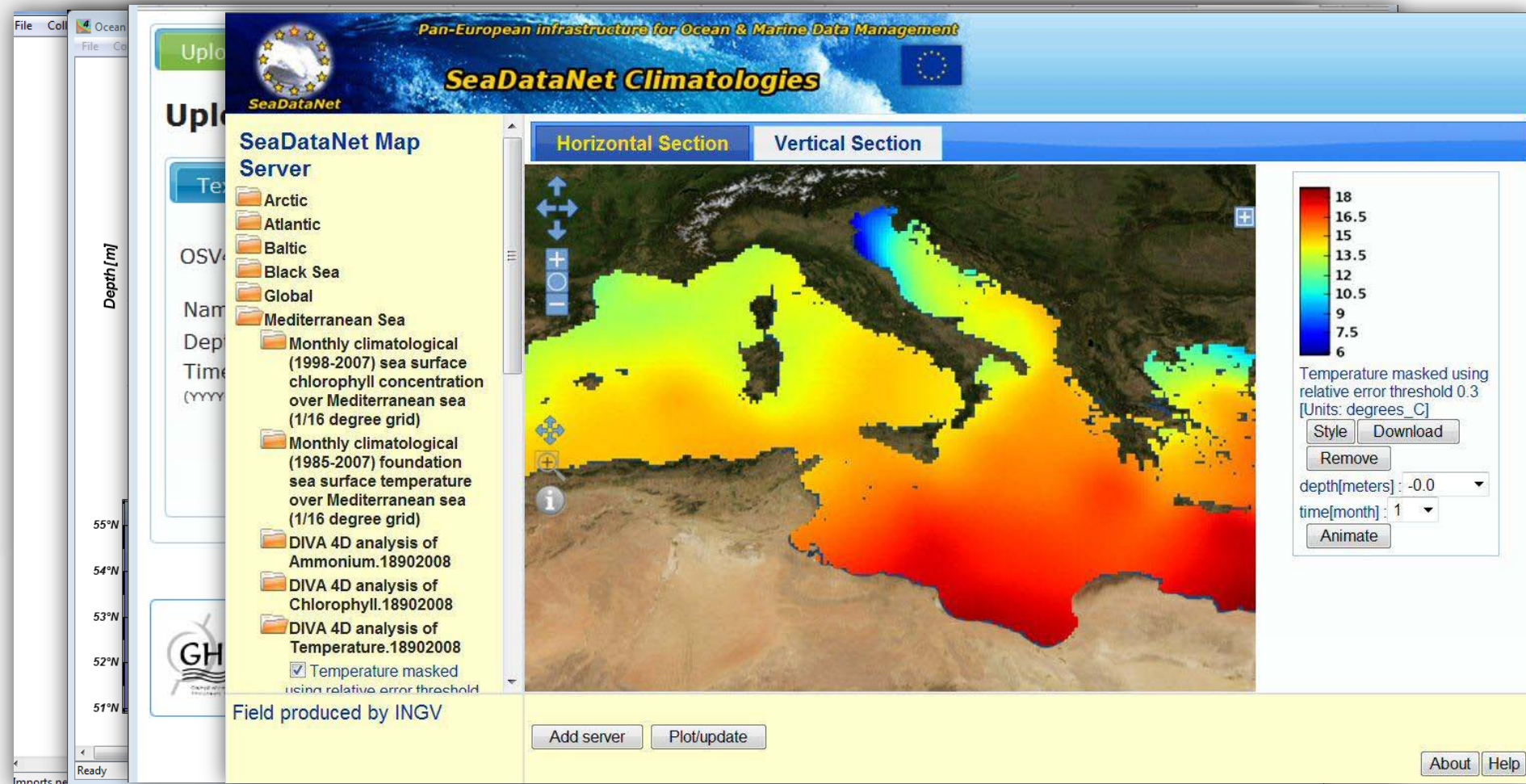
[Close window](#) 

1224064	Marine Institute CTD	864966	5560	2012-10-08	2012-10-08	ODV
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## **DATA: From data discovery to unified access and analysis**

- Four steps
  - Data discovery
  - Shopping
  - Downloading
  - Viewing/Analysing

## Access to data (CDI) : step 4 viewing (ODV, DIVA)





## *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 (1)*

- **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

## ***IMDIS: International conference on Marine Data and Information Systems***

- Organised in the frame of SeaDataNet
- In Lucca, Italy, 23-25 September 2013
- 4 topics
  - Marine information and data management
  - Marine environmental data bases: infrastructures and data access systems
  - Data services in ocean science
  - Services for users and education

<http://imdis2013.seadatanet.org>

## IMDIS 2013

International Conference on Marine Data and Information Systems - Lucca (Italy), September 23-25, 2013

[News](#) | [Conference Information](#) | [Registration](#) | [Submission](#) | [Practical information](#) | [Contact](#)

### Latest news

**International Conference on Marine Data and Information Systems**  
Sanremo (Lucca, Italy)  
23 - 25 September 2013

**TOPICS**

- 1. Marine information and data management
  - Exchange, processing and interactive work with marine data sets from highly heterogeneous sources
  - Federation and integration
  - Network services and technologies
- 2. Marine environmental data bases: infrastructures and data access systems
  - Coastal and deep-sea operational oceanography metadata systems
  - Physical and bio-chemical databases for climate studies
  - Geophysical and geological metadata systems
- 3. Data Services in ocean science
  - Standards and quality-assurance issues
  - Sensors and Visualization tools
  - User oriented services
- 4. Services for Users and Education
  - Historical evolution in data collection and management
  - Tools for dissemination
  - Test bed development for educational

Published on the 06/06/2012  
**Poster of the IMDIS 2013 conference**  
[Read the news](#)

Published on the 22/05/2012  
**First announcement of the IMDIS 2013 conference**  
Lucca (Italy) September 23 - 25, 2013  
[Read the news](#)

### Zoom

**Lucca, Italy**



**Practical information**



### Partners & sponsors





# Thank you for your attention

## Any questions?