

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 projects relying on SeaDataNet infrastructure





EU-FP5

EU-FP6

EU-FP7



2002-2005
Sea-Search
2006-2011
SeaDataNet

2011-2015

SeaDataNet II

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



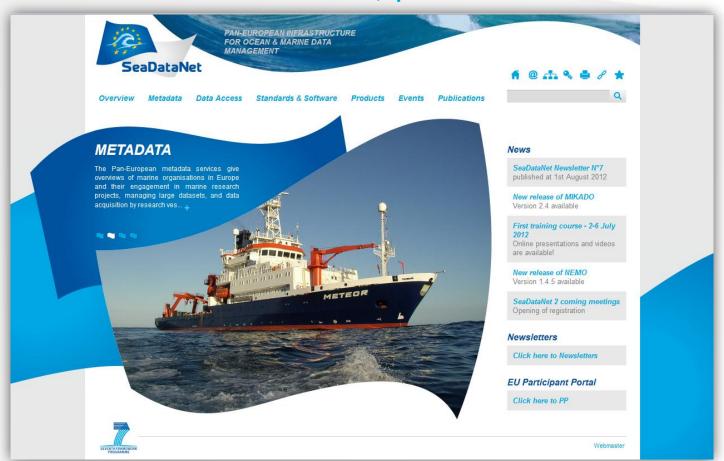
### SeaDataNet - SeaDataNet 2, what's new?

- 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





### 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)



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













### SeaDataNet data policy

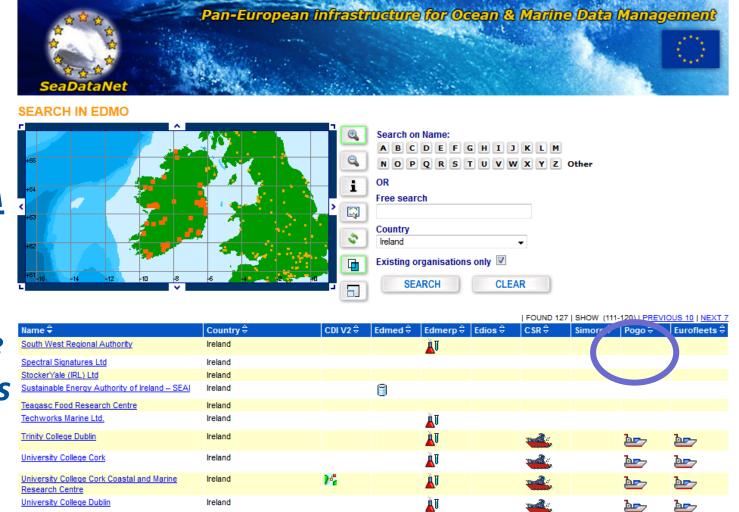
- Access to all metadata: No restrictions, open access
- Access to data:
  - General case is open access (82% of the data), but some data are restricted, or only delivered for Academic users or could be delivered after negotiation....
  - But registration is necessary (login/ password and acceptance 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

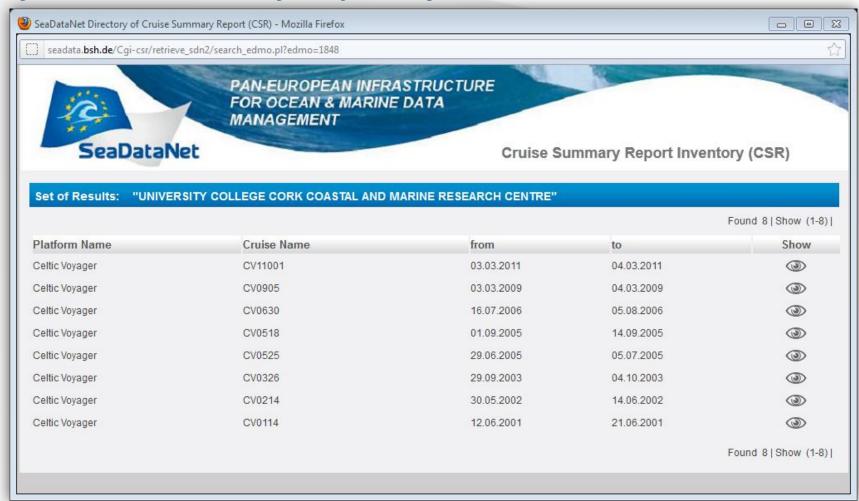
| FOUND 127 | SHOW (111-120) | PREVIOUS 10 | NEXT 7



METADATA
EDMO
catalogue:
list of marine
organisations
in Ireland



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

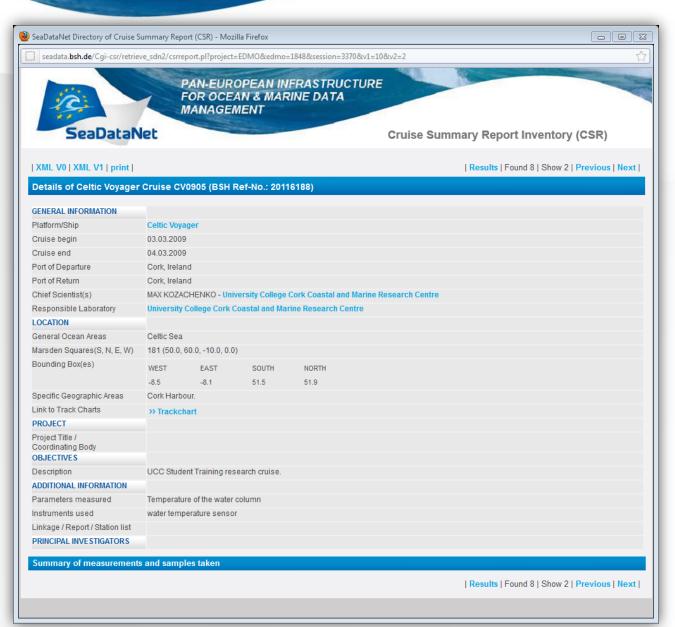




#### PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

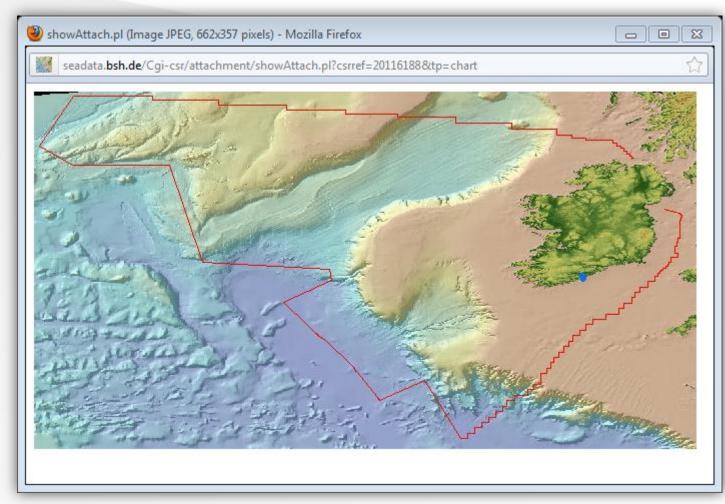
Geo-Seas, Cork, October 9-10, 2012

## Cruise Summary Report



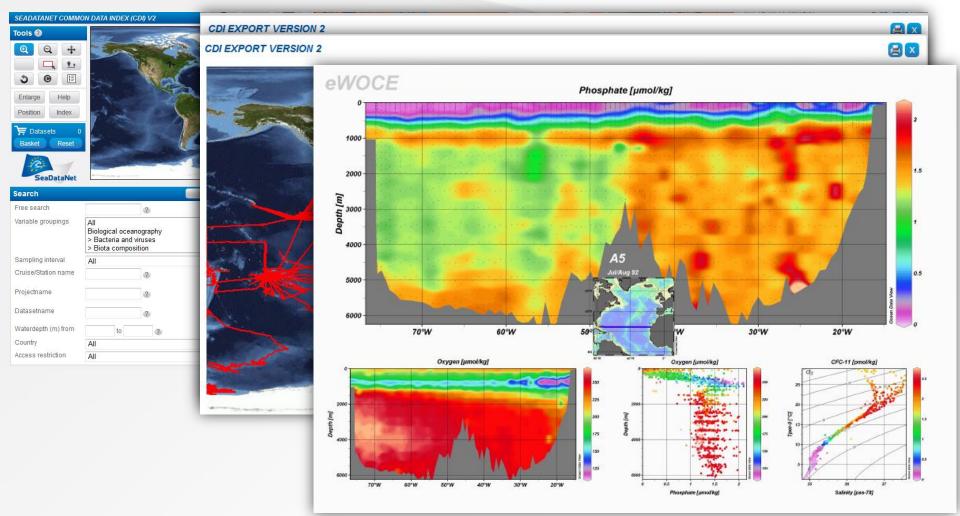


## Cruise Summary Report





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





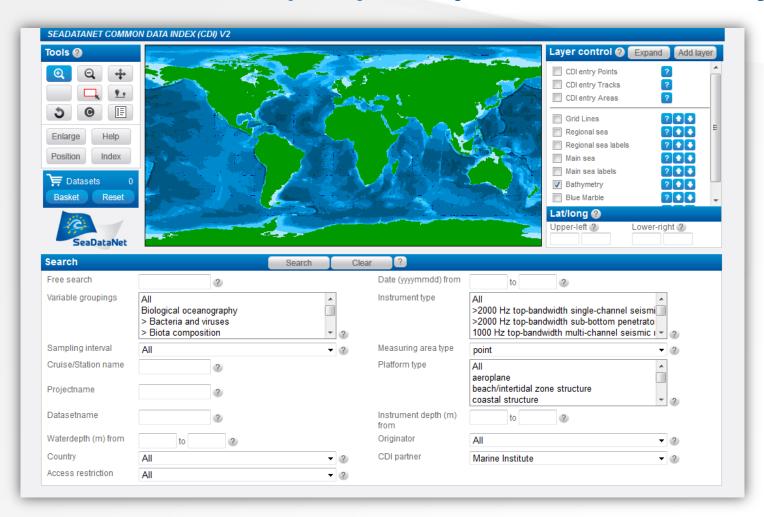
### **DATA:** From data discovery to unified access and analysis

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

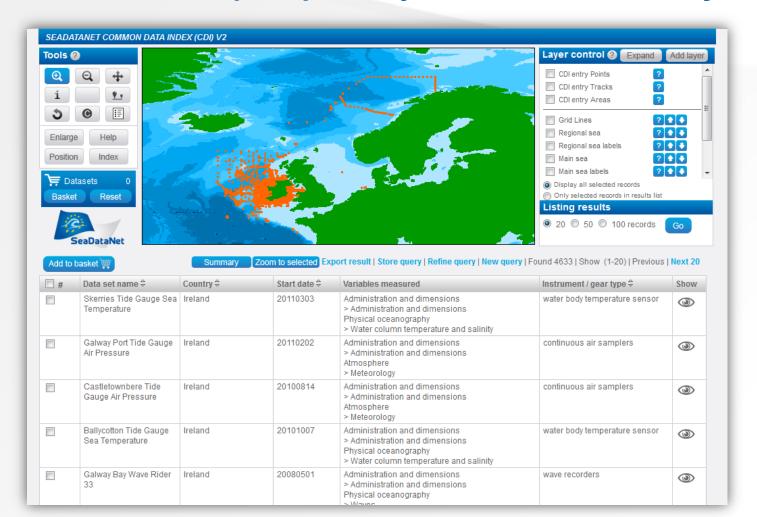




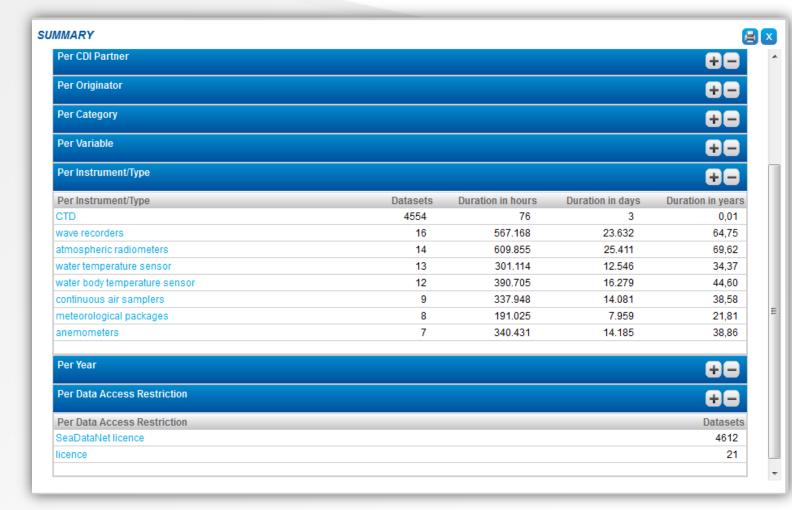










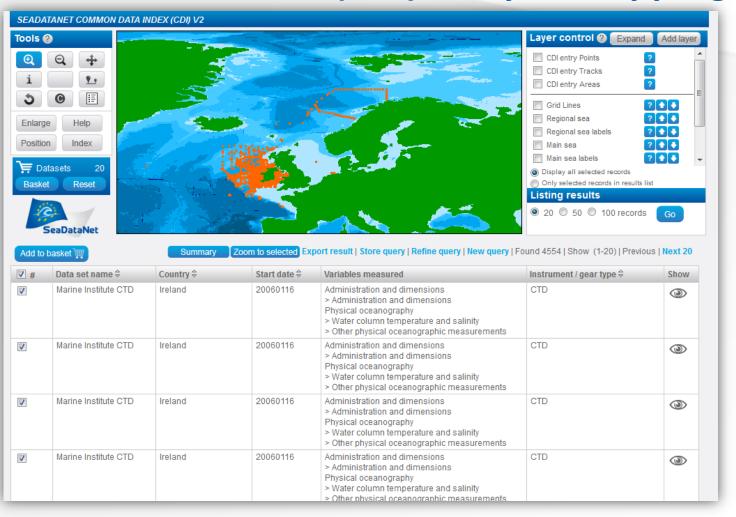




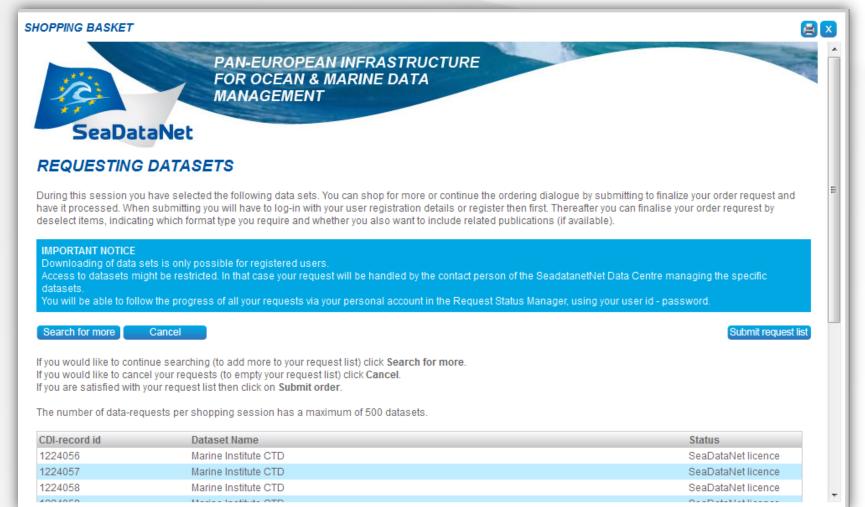
### **DATA:** From data discovery to unified access and analysis

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

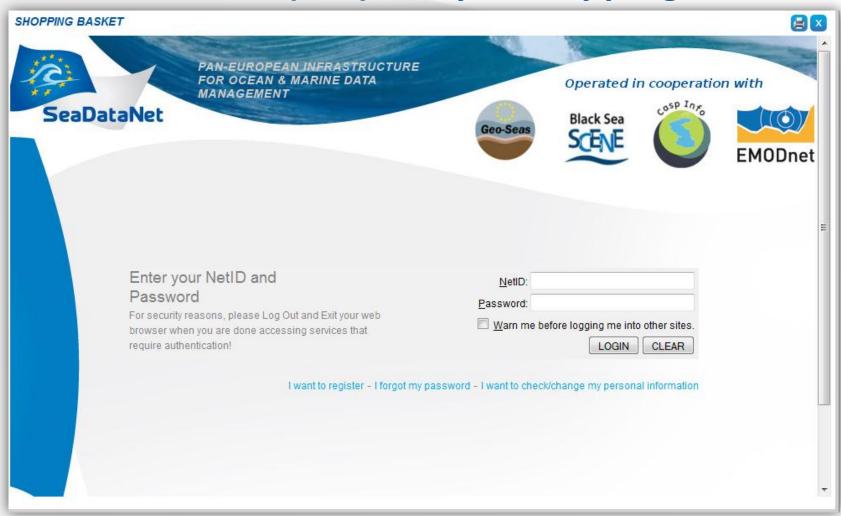




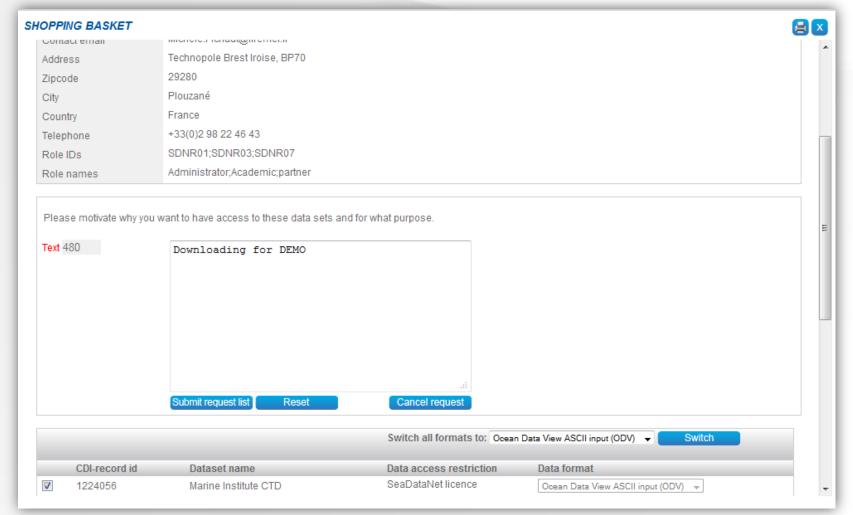














### Access to data (CDI): step 2 shopping

#### SHOPPING BASKET



FOR OCEAN & MARINE DATA MANAGEMENT

#### SeaDataNet

#### CONFIRMATION OF YOUR REQUEST LIST

**IFREMER** Organisation

Dr Michele FICHAUT Contact name

Contact email Michele.Fichaut@ifremer.fr

Technopole Brest Iroise, BP70 Address

29280 Zipcode Plouzané City France

Country

+33(0)2 98 22 46 43 Telephone

SDNR01;SDNR03;SDNR07 Role IDs

Administrator; Academic; partner Role names

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.

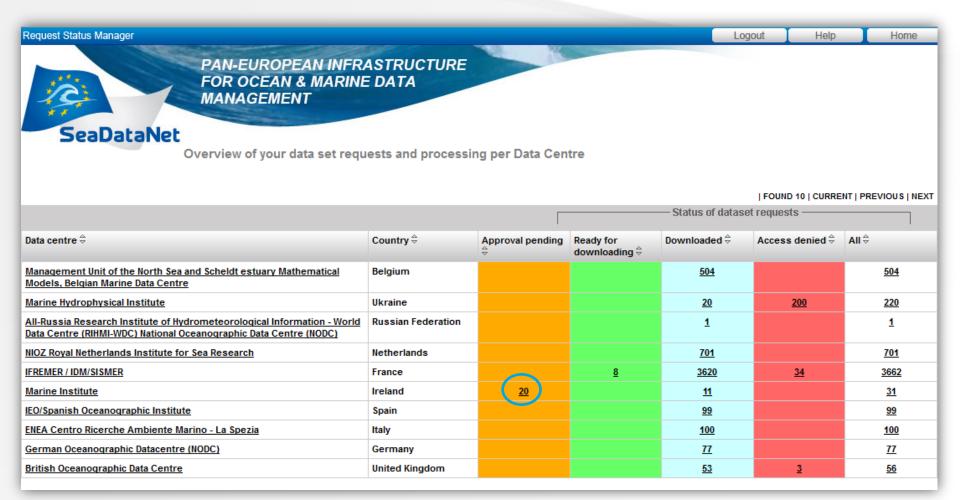


### **DATA:** From data discovery to unified access and analysis

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



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





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

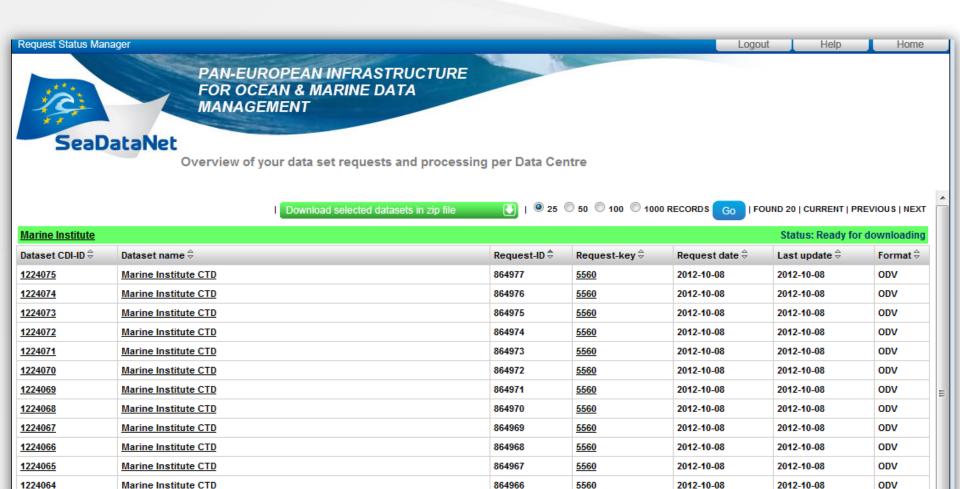


| FOUND 10 | CURRENT | PREVIOUS | NEXT

			Status or dataset requests			
Data centre	Country	Approval pending	Ready for downloading	Downloaded	Access denied	AII ⇔
Management Unit of the North Sea and Scheldt estuary Mathematical Models, Belgian Marine Data Centre	Belgium			<u>504</u>		<u>504</u>
Marine Hydrophysical Institute	Ukraine			<u>20</u>	<u>200</u>	<u>220</u>
All-Russia Research Institute of Hydrometeorological Information - World Data Centre (RIHMI-WDC) National Oceanographic Data Centre (NODC)	Russian Federation			1		1
NIOZ Royal Netherlands Institute for Sea Research	Netherlands			<u>701</u>		<u>701</u>
IFREMER / IDM/SISMER	France		8	<u>3620</u>	<u>34</u>	<u>3662</u>
Marine Institute	Ireland		20	<u>11</u>		<u>31</u>
IEO/Spanish Oceanographic Institute	Spain			<u>99</u>		<u>99</u>
ENEA Centro Ricerche Ambiente Marino - La Spezia	Italy			<u>100</u>		<u>100</u>
German Oceanographic Datacentre (NODC)	Germany			<u>77</u>		<u>77</u>
British Oceanographic Data Centre	United Kingdom			<u>53</u>	<u>3</u>	<u>56</u>

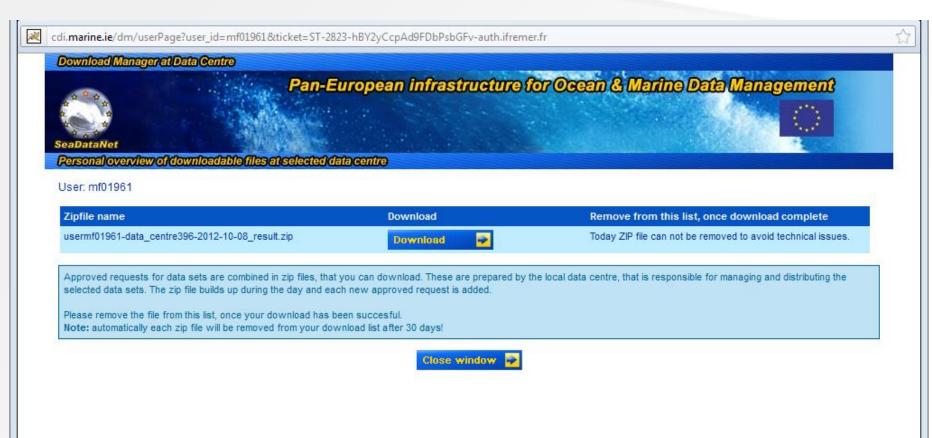


### Access to data (CDI): step 3 downloading





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

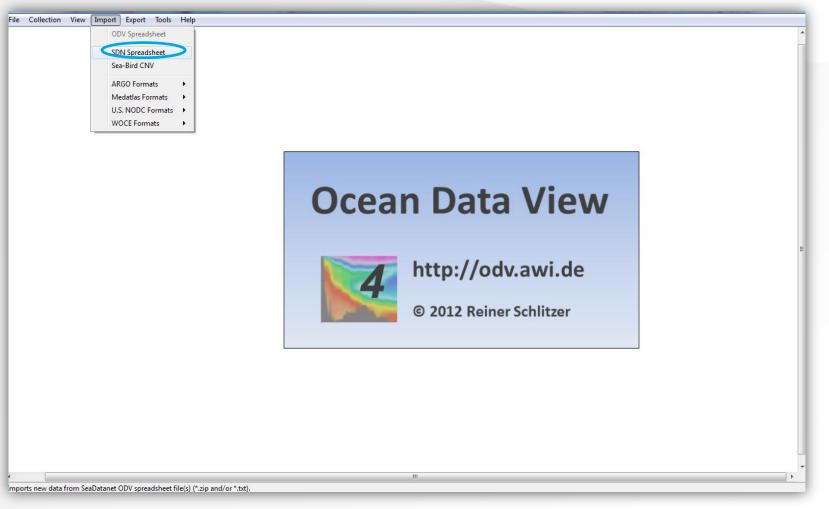




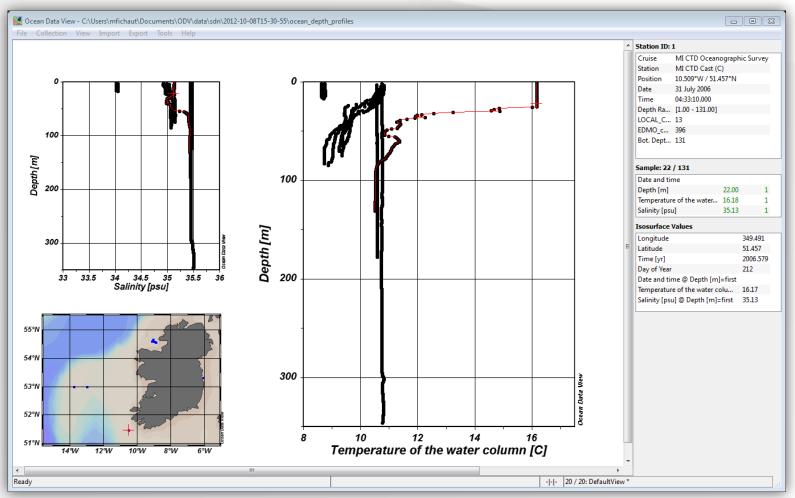
### **DATA:** From data discovery to unified access and analysis

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

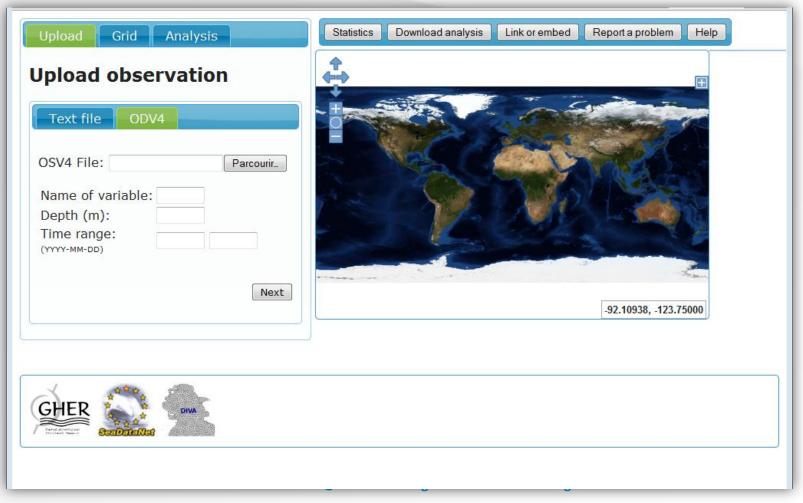




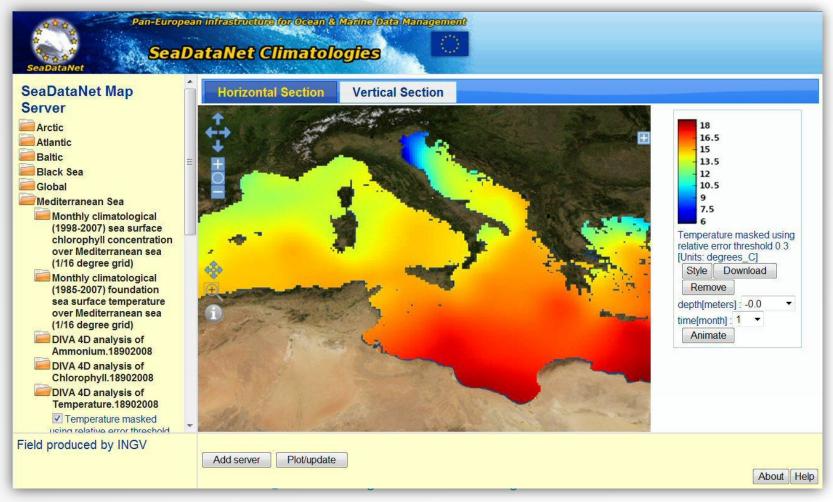














### SeaDataNet standards and tools in other EU projects (1)



#### **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. EUfunding 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



# Thank you for your attention

# Any questions?