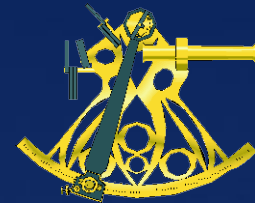# Sextant

French Spatial Data Infrastructure for Marine Environments

IMDIS 2013

Session 3 – Data Services in ocean science

Lucca (Italia), September 23-25, 2013

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Sextant Web portal

➢ Sextant web portal interface

  ➢ http://www.ifremer.fr/sextant

➢ Objectives

  ➢ Manage and share geographical marine information data sets, in order to support marine studies and decision making

  ➢ Make available vector and raster spatial data produced by Ifremer and its partners

  ➢ Web GIS providing discovery, viewing and download online services

  ➢ Designed according to the European INSPIRE directive for interoperability and according to the OGC and ISO TC 211 standards
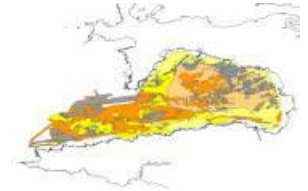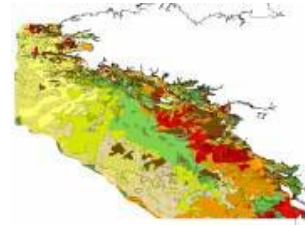
Ifremer
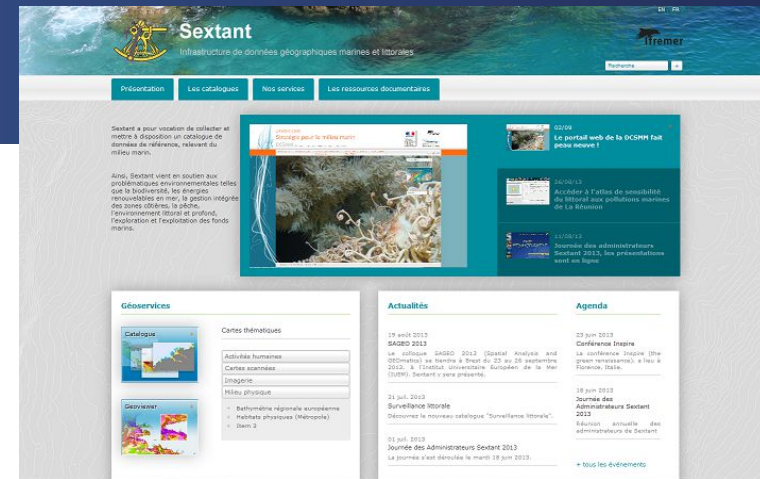
Multi thematic data holdings
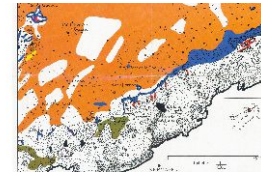
➤ Agregated and finalised data products

➤ Environment
- Water quality (coastal networks)
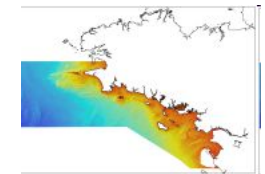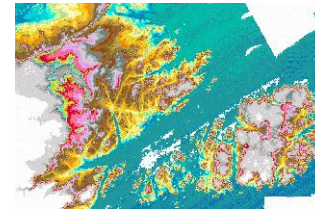- Marine habitats
- Aquaculture

➤ Halieutics
- Fishing activities
- Resources
- Economical aspects

➤ Geoscience
- Bathymetry
- Sedimentology
- Acoustic imagery (sonar)

➤ Ocean physics
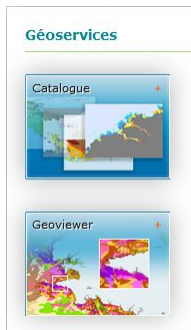- Hydrodynamics (temperature, salinity, currents)

➤ Historic data
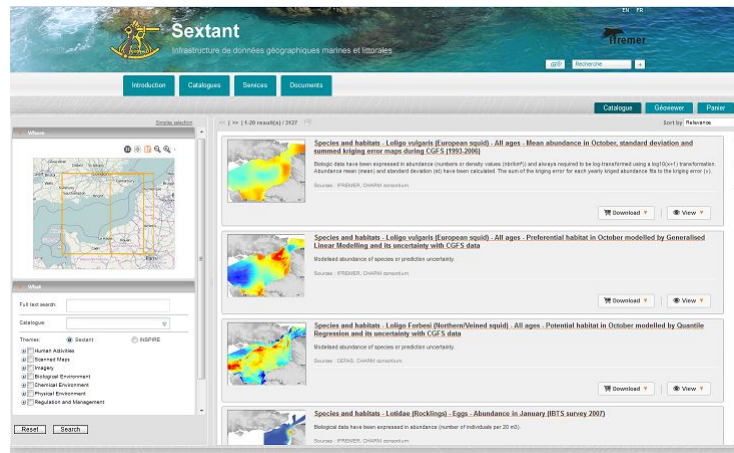- Archive photos and historic habitats maps
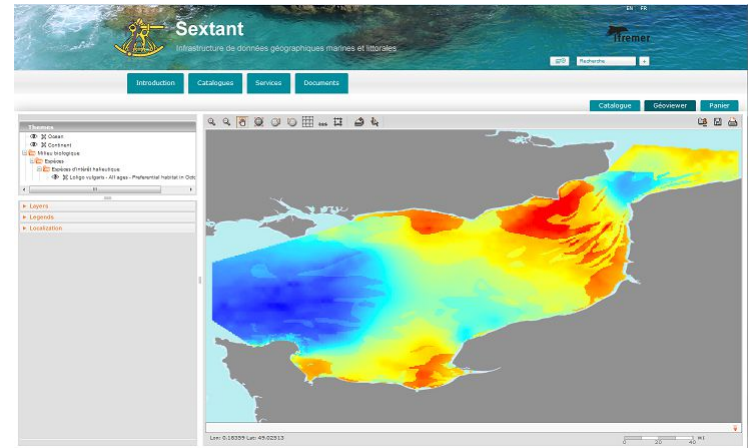
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Sextant : the web services functions
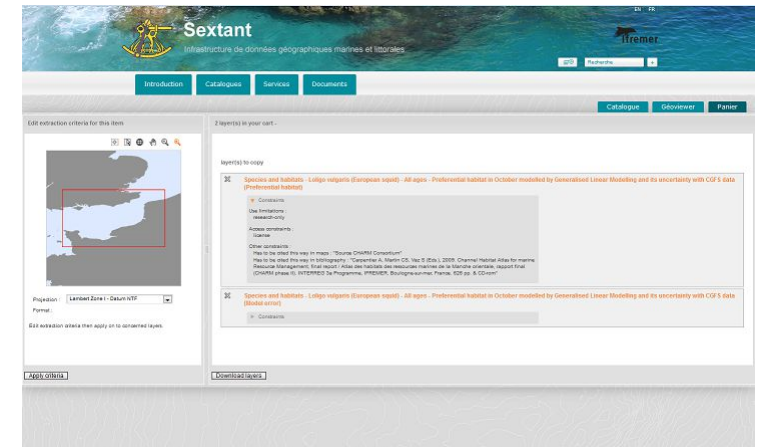
From the editorial page, you can access the main functions of Sextant

Géoservices

Catalogue

Geoviewer

View Services The Geoviewer

Discovery Services
The Metadata Catalogue

Download Services The Basket

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Sextant : the metadata catalogue

➢ Sextant is organised into thematic catalogues:

  ➢ They bring together data sets related to scientist departments, or projects, or geographical areas

  ➢ One metadata can be associated to many catalogues

  ➢ Each catalogue can have its own CSW address

➢ The thematic catalogues warrant:

  ➢ A users rights management associated to the data

  ➢ A secured distribution of the information

  ➢ And give the choice of a website to present the associated project

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Sextant : the metadata catalogue

GeoNetwork Opensource

PostgreSQL

➢ Catalogue user's interface

Criteria of search   **Results page**

➢ More than 3000 public metadata on-line describing more than 5000 geographical information layers

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Sextant : the metadata catalogue

➢ You can choose many different criteria to search a metadata

- Where : to search a metadata according to its localization
- What : to search a metadata according to its content
  - Full-text search
    - ✓ All the words in the metadata are taking into account
  - Catalogue
    - ✓ You can choose one or more thematic catalogue
  - Themes
    - ✓ You can select one ore more themes in the checkboxes
- Who : to search a metadata according to its producers
- **When** : to search a metadata according to its date

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Sextant : the metadata catalogue

➢ Search results

Sextant : the metadata catalogue

➢ ## Search results : metadata display

Sextant : the Geoviewer

➢ **The Web GIS interface allows end-users**

    ➢ to create maps including several layers from internal and external sources

        • the portal access to local and remote OGC services

    ➢ to consult and explore data

        • Navigation, zoom tools

        • Query a layer

        • Print the map in PDF file

    ➢ to manage layer display

        • Layer order

        • Transparency

        • Symbology (grid data)

Sextant : the Geoviewer

Sextant: the French marine spatial data infrastructure

Sextant : the Geoviewer

Sextant: the French marine spatial data infrastructure

Sextant Web portal – The Basket

- Choose the extraction parameters

  - Formats
    - Vector (Shapefile, MapInfo, MIF/MID, GML/ KML)
    - Raster (Ecw, GeoTiff, Jpeg)
  - Coordinate system (WGS84, ETRS89…)
  - Geographical extraction extent

- Read and agree the usage rules

- Reception of an email indicating that your extraction zip is ready to be downloaded

Edit extraction criteria for this item

Projection : Lambert Zone I - Datum NTF
Format :
  raster   GeoTiff
  vector   ESRI Shapefile

Edit extraction criteria then apply on to concerned layers.

Define extraction criteria for all layers

Apply criteria

6 layer(s) in your cart - Global volume estimation: 0 MB / 1000 MB

Raster layer(s)

Species and habitats - Trisopterus luscus - All ages - Multi-annual abundance Kriging error maps during BTS (1989 - 2006) ( )
  ► Constraints
  ► Edit extraction criteria for this item

Vector layer(s)

Fishing activities - Fishing frequency (number of fishing trips) in 2006 for French vessels. Concern : netter, longliner, multipurpose.
  ► Constraints
  ► Edit extraction criteria for this item

CHARM 1 and 2 official zones and CHARM 3 suggested zone (CHARM 1)
  ► Constraints
  ► Edit extraction criteria for this item

CHARM 1 and 2 official zones and CHARM 3 suggested zone (CHARM 2)
  ► Constraints
  ► Edit extraction criteria for this item

Define extraction criteria for each layer

Download layers

Interoperability and Inspire

- ➢ Metadata normalized
    - ➢ ISO 19115 and ISO 19139 standards compliant
    - ➢ OGC standard – Catalogue Services Web (CSW 2.0.2)
        - – http://www.ifremer.fr/geonetwork/srv/fre/csw?SERVICE=CSW&REQUEST=GetCapabilities &VERSION=2.0.2

- ➢ Viewing data
    - ➢ OGC standard - Web Map Service (WMS)
        - – http://www.ifremer.fr/services/biologie
        - – http://www.ifremer.fr/services/geologie
        - – http://www.ifremer.fr/services/oceanographie_physique

- ➢ Data extraction
    - ➢ OGC standard - Web Feature Service (WFS)
        - – http://www.ifremer.fr/services/wfs1
    - ➢ OGC standard - Web Coverage Service (WCS)
        - – http://www.ifremer.fr/services/wcs1

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➢ Sextant harvesting, from the National Geocatalogue

➢ A dedicated CSW for the Geonational Catalogue

Interoperability and Inspire

➤ Sextant harvesting, from the National Geocatalogue

➢ … to the European Inspire Catalogue

Sextant: the French marine spatial data infrastructure

Sextant into Interreg projects

➢ CHARM (CHannel integrated Approach for marine Resource Management)

  ➢ The CHARM project offers a status report of the Channel ecosystem and a range of tools based on scientific knowledge for the sustainable management of living marine resources.

  ➢ Through a thematic catalogue and a personnalized webportal, the whole set of data is made accessible to managers and any stakeholders.

    • 1300 metadata describing layers related to benthic habitats, fisheries resources and environment
    • one CSW url and one WMS service, which allow interoperability with the MEDIN portal in UK
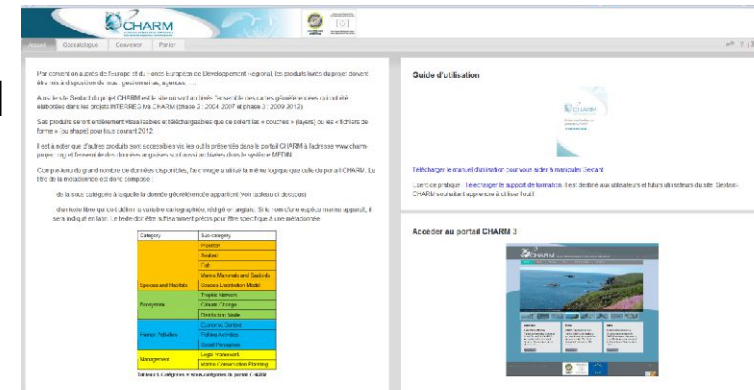
➢ The CHARM project has been selected within the scope of the INTERREG IV A France (Channel) – England cross-border European cooperation programme, co-financed by the ERDF.

Sextant: the French marine spatial data infrastructure

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Sextant into Interreg projects

- ➢ PANACHE (Protected Area Network Across the Channel) and VALMER (Valuing ecosystem services in the western Channel)

  - ➢ Together both projects will focus on better management, sustainable use and protection of the Channel marine area.

  - ➢ They will use specialy the data available from CHARM.

  - ➢ The Web GIS tool will access both Sextant and MEDIN catalogues through a unique web portal (in progress).

- ➢ The PANACHE and VALMER projects have been selected within the scope of the INTERREG IV A France (Channel) – England cross-border European cooperation programme, co-financed by the ERDF.
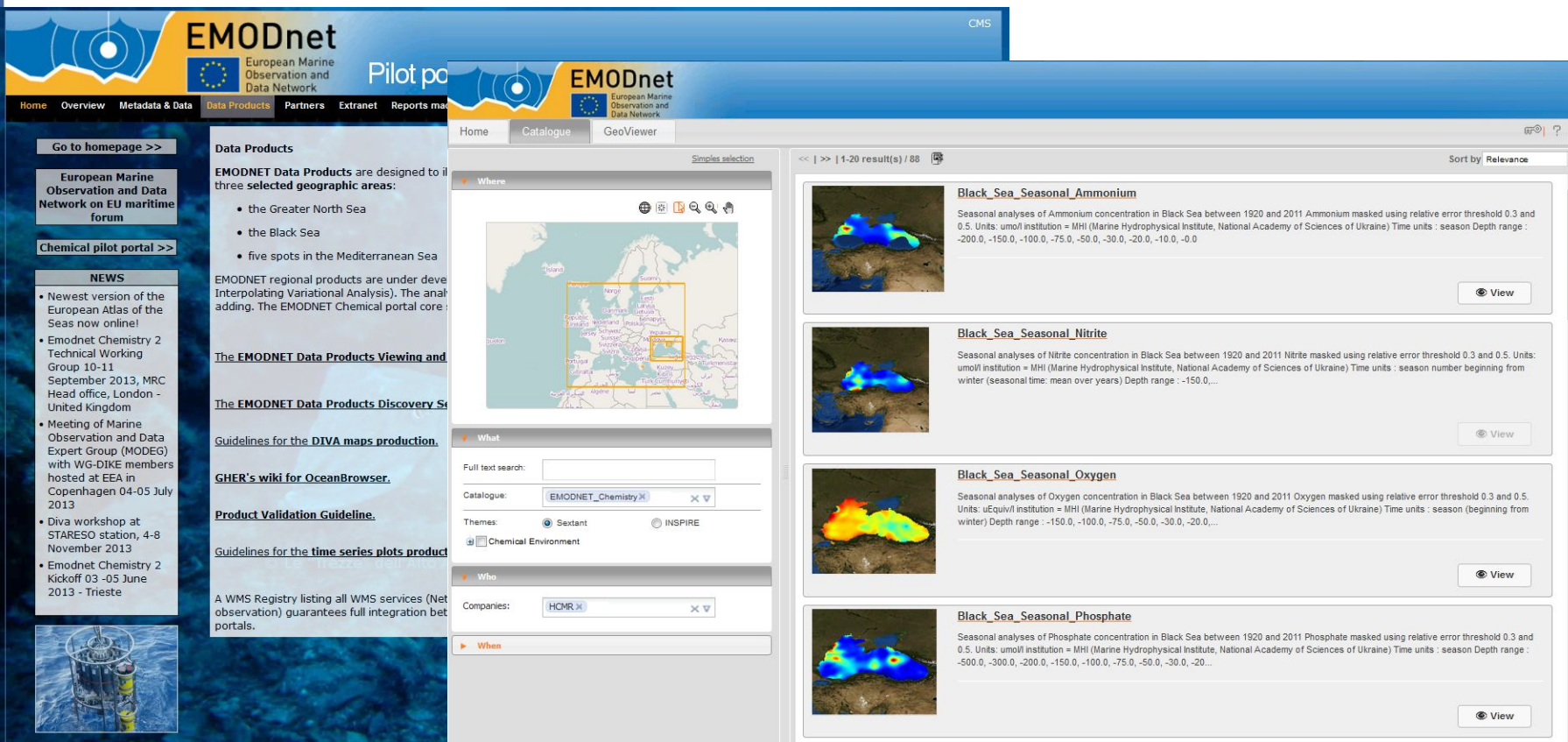
Sextant: the French marine spatial data infrastructure
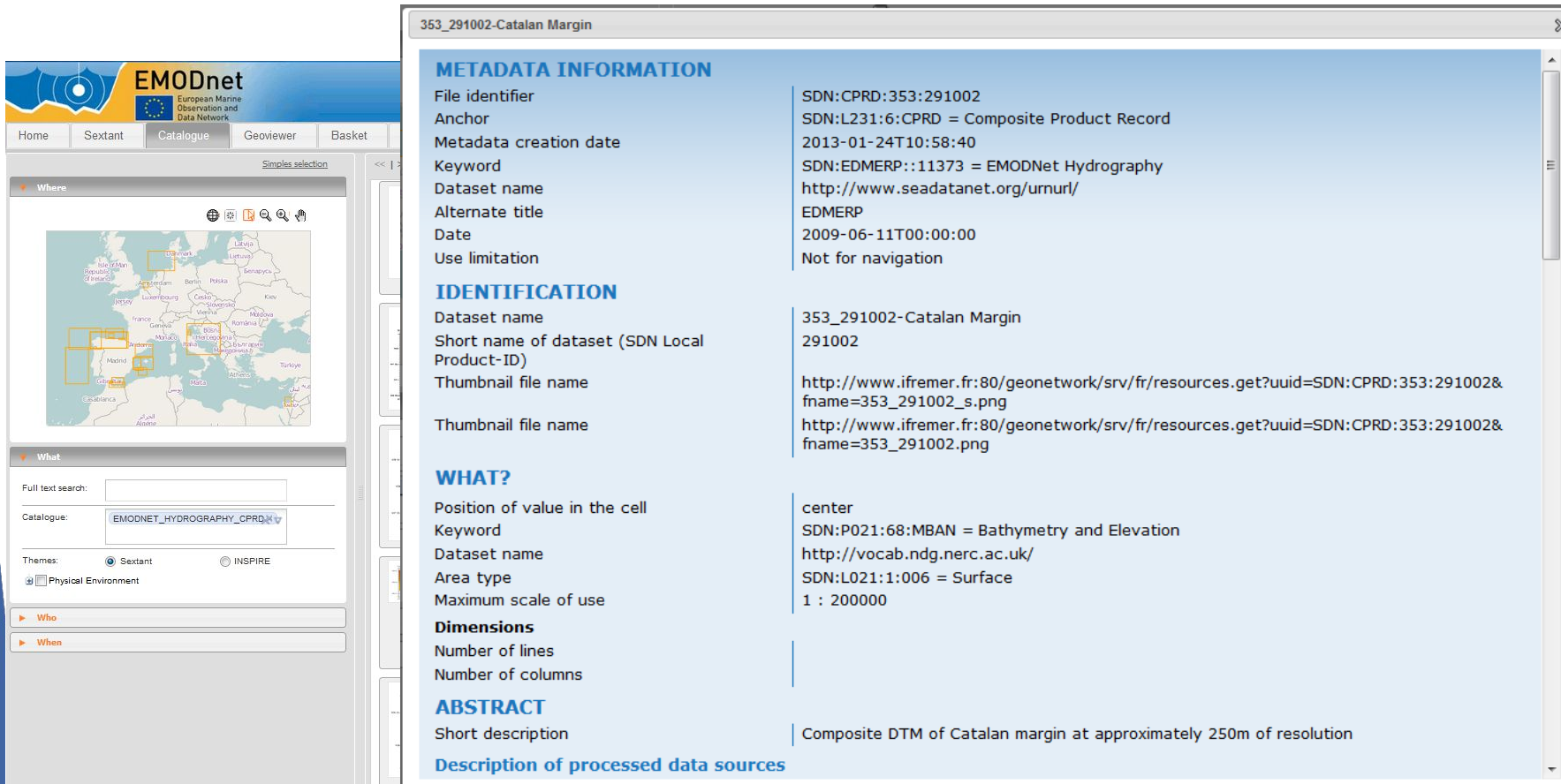
Sextant into European projects

- ➢ A catalogue data products for Emodnet Chemistry
  - ➢ 90 metadata describing the chemical characteristics of the water column
    - – http://www.emodnet-chemistry.eu/portal/portal/emodnet/Data+Products
    - – http://www.ifremer.fr/sextant/en/web/emodnet_chemistry

Sextant into European projects

- A catalogue data products for Emodnet Hydrography CPRD
  - 35 metadata describing bathymetric composite products, using a personalized template and the SeaDataNet metadata profile
    - http://www.ifremer.fr/sextant/en/web/emodnet_hydrography_cprd
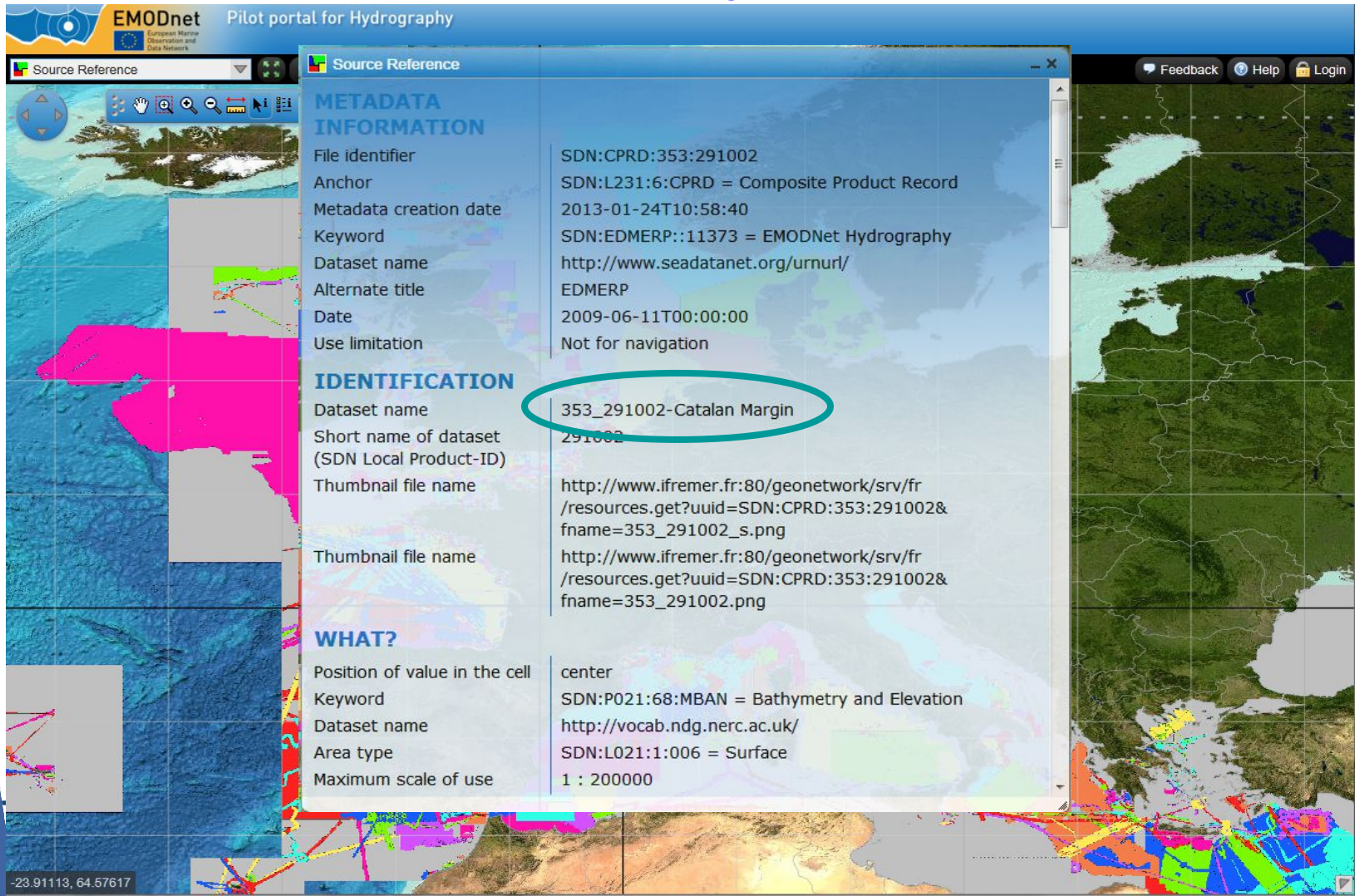
353_291002-Catalan Margin

METADATA INFORMATION

File identifier	SDN:CPRD:353:291002
Anchor	SDN:L231:6:CPRD = Composite Product Record
Metadata creation date	2013-01-24T10:58:40
Keyword	SDN:EDMERP::11373 = EMODNet Hydrography
Dataset name	http://www.seadatanet.org/urnurl/
Alternate title	EDMERP
Date	2009-06-11T00:00:00
Use limitation	Not for navigation

IDENTIFICATION

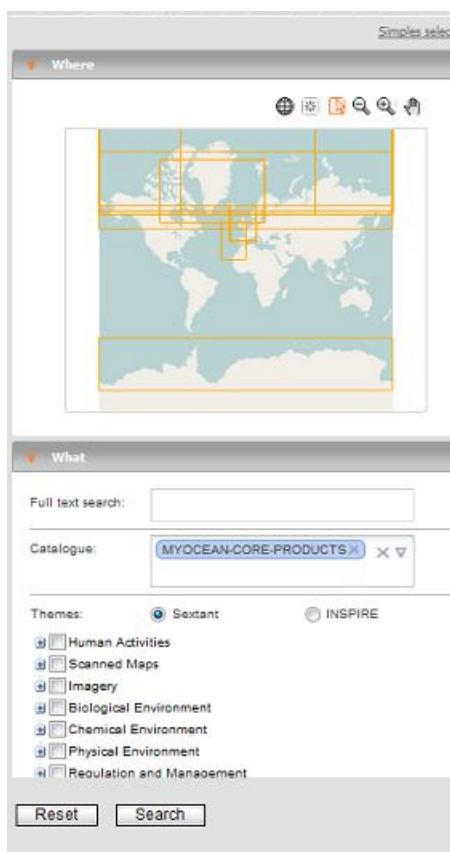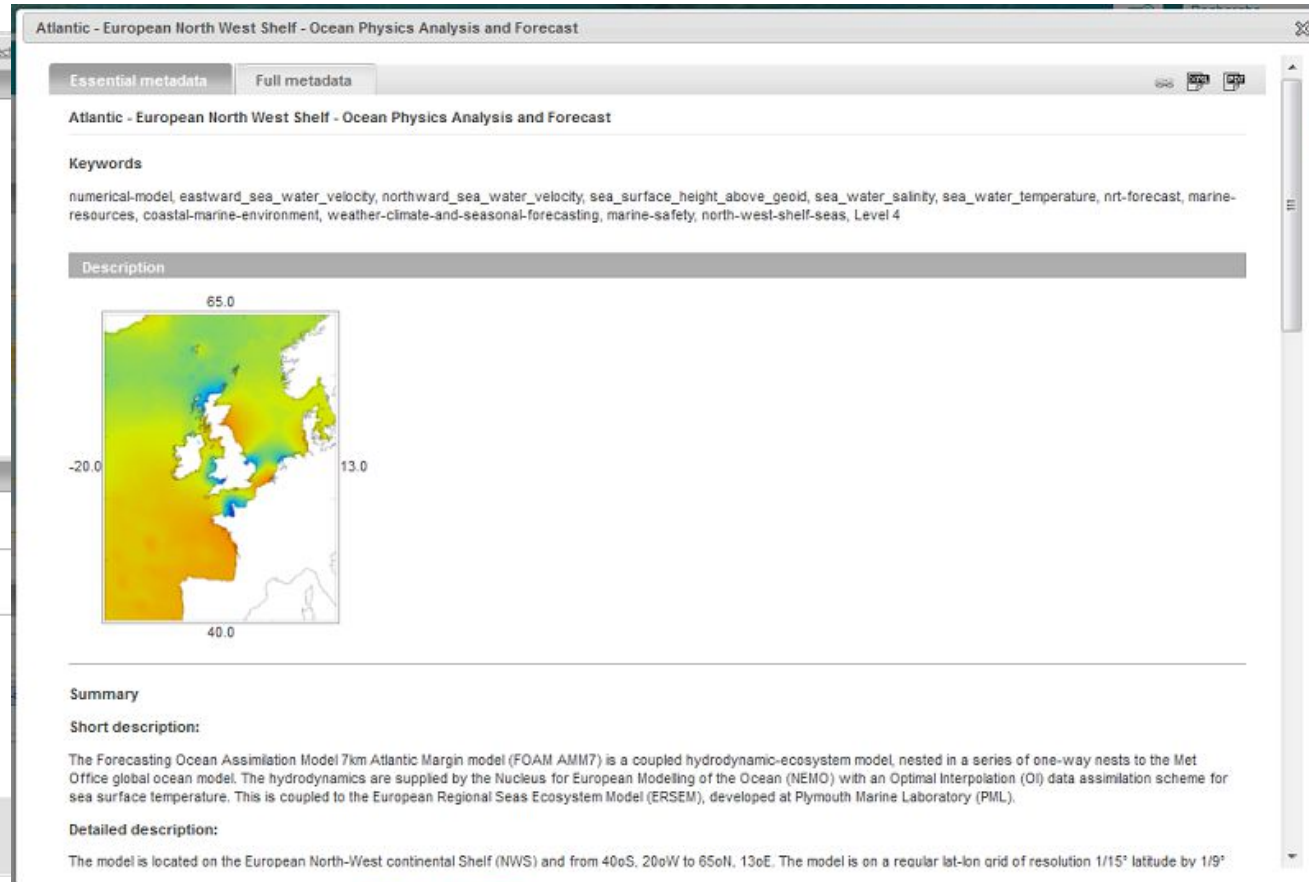|	
Dataset name	353_291002-Catalan Margin
Short name of dataset (SDN Local Product-ID)	291002
Thumbnail file name	http://www.ifremer.fr:80/geonetwork/srv/fr/resources.get?uuid=SDN:CPRD:353:291002&fname=353_291002_s.png
Thumbnail file name	http://www.ifremer.fr:80/geonetwork/srv/fr/resources.get?uuid=SDN:CPRD:353:291002&fname=353_291002.png

WHAT?

Position of value in the cell	center
Keyword	SDN:P021:68:MBAN = Bathymetry and Elevation
Dataset name	http://vocab.ndg.nerc.ac.uk/
Area type	SDN:L021:1:006 = Surface
Maximum scale of use	1 : 200000

Dimensions

Number of lines	
Number of columns	

ABSTRACT

Short description	Composite DTM of Catalan margin at approximately 250m of resolution

Description of processed data sources

Sextant into European projects

Sextant: the French marine spatial data infrastructure

➢ A catalogue data products for Emodnet Hydrography CPRD

 – http://www.emodnet-hydrography.eu/

Sextant into European projects

➤ To manage the metadata for MyOcean data products

➤ using common vocabulary lists and metadata template

Sextant into European projects

➤ Using the MyOcean web portal to discover the metadata

– http://www.myocean.eu

Conclusion

Due to its interoperability, using the ISO standards and the OCG protocols, and its capacity to be adapted at many national and international profiles, using Seadatanet vocabulary lists,

Sextant becomes one of the major marine spatial data infrastructures used in national projects,

and also plays an important role for products management in European projects (ie the products catalogue).

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Thank you for your attention

sextant@ifremer.fr

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www.ifremer.fr/sextant