



## catalogue MyOcean

*T. Loubrieu, M. Treguer, A. Bon (IFREMER), K. Cordier (CLS)*

Journées « administrateurs Sextant » – 18 juin 2013

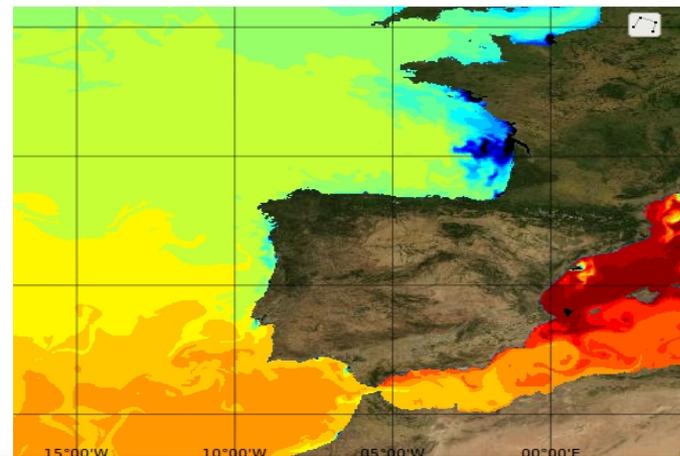
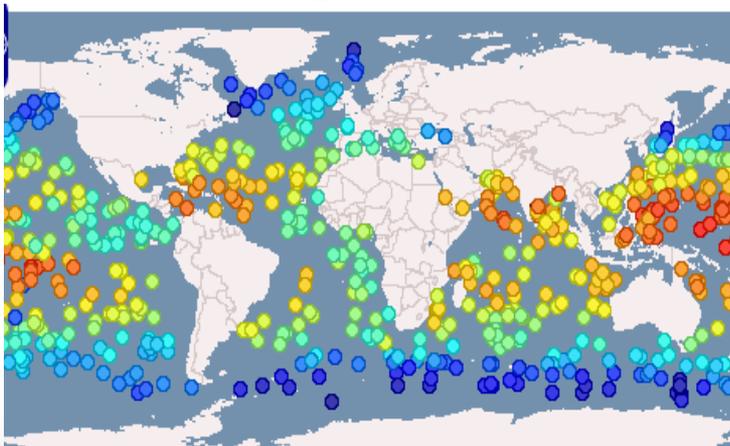
- Le **projet** MyOcean
- L'**organisation** autour des “métadonnées”
- L'**utilisation** de Sextant
- Les **perspectives**

# MyOcean, objectifs

- Un système européen d'**analyse et de prévision de l'état** des océans
- Paramètres **physiques** et **bio-geochimiques** de la colonne d'eau dans le domaine **hauturier**
- Candidat pour devenir la **composante marine du service public Européen** de surveillance pour l'environnement et la sécurité (GMES/Copernicus).

# Les produits

- Sur la **colonne d'eau** ou en **surface** : température, salinité, hauteur d'eau, courants, vents, chlorophylle, matières en suspension...
- **Zones couvertes** : Baltic, Arctic, Plateau continental Européen, Méditerranée, Mer Noire, Océan global.
- Des **prévisions**, des observations **satellites** et **in-situ** en temps quasi-réel, des **analyses** pluri-annuelles et des **climatologies**.



# MyOcean, moyens

- Des projets « historiques » depuis **2001** (mersea, myocean)
- Un consortium de **60 partenaires Européens**
- Un budget de **55 M d'euros sur 3 ans**

- Niveau de service **operationnel** (engagement de service, disponibilité, planification des interventions )
- Mise à jour en **temps quasi-réel** (quelques heures)
- **Gros volumes** de données (jusqu'à 600Go en ligne pour 1 jeu de donnée).

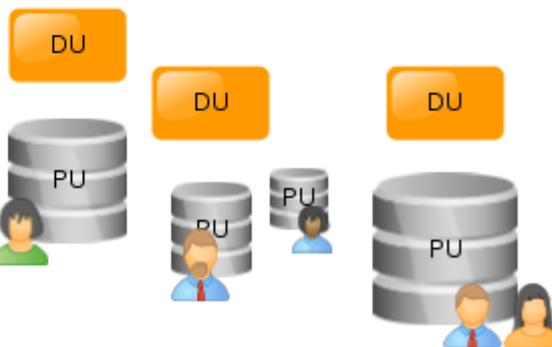
- **Production Units** : données d'observation in-situ ou satellite, résultat de modèles numériques
- **Dissemination Units** : services de données distribués (visualisation, téléchargement)
- **Systeme d'information** central
- **Portail web**

# MyOcean, organisation



portail web

système d'information central



# Zoom Dissemination Units

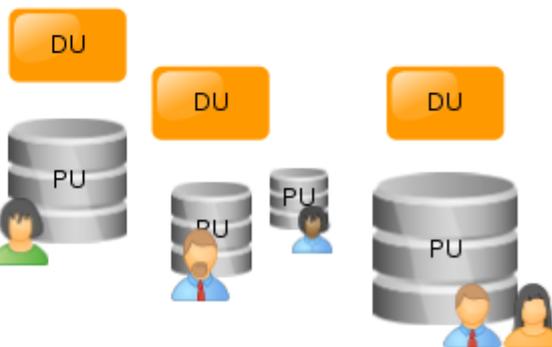
- Hébergent des longues séries temporelles de fichiers au format **netCDF**, structures :
  - Grillées/raster (analyse, prévision)
  - In-situ (profiles, séries temporelles, trajectoires)
  - Satellite sous la trace (e.g. Altimétrie)
- Des logiciels serveurs dédiés : **THREDDS Data Server** pour les données grillées, fournis les services OGC/WMS, OPeNDAP, ....



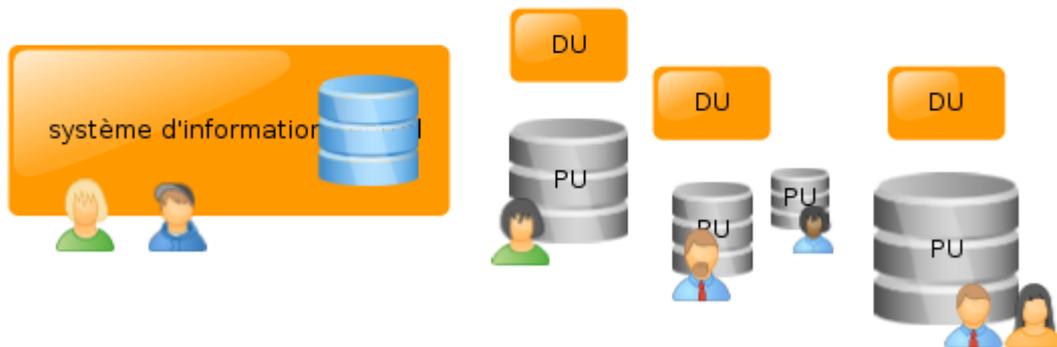
# MyOcean, organisation



portail web



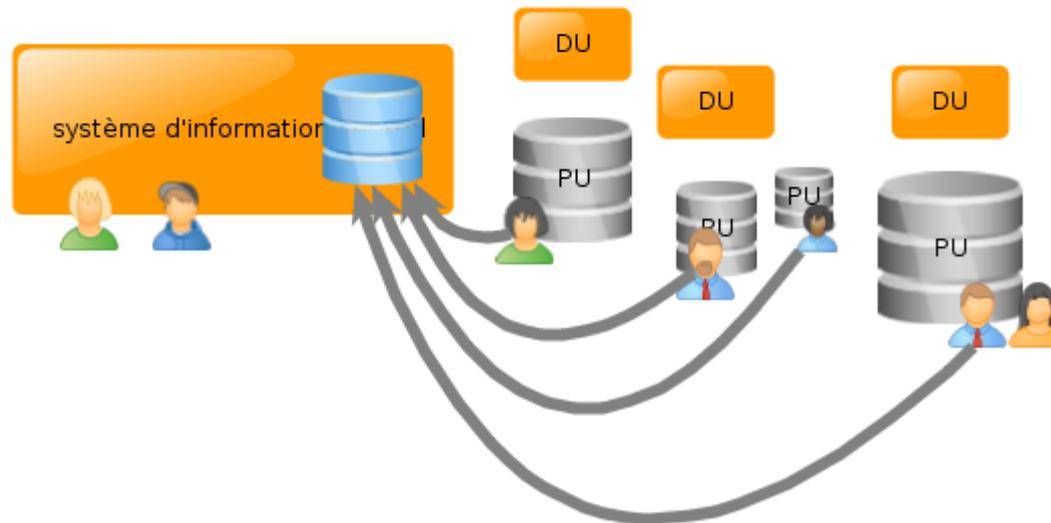
# Autours des métadonnées



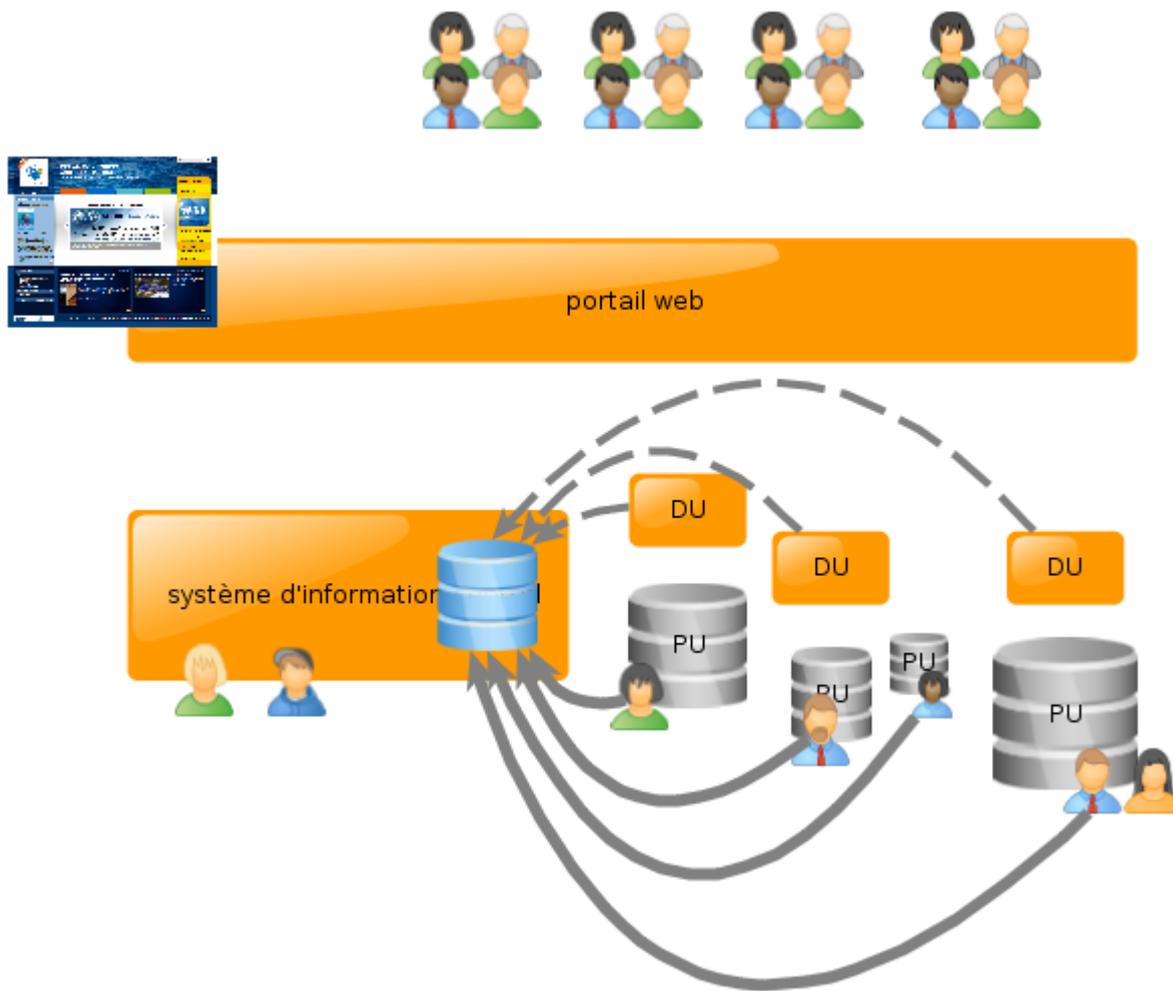
# Description des produits



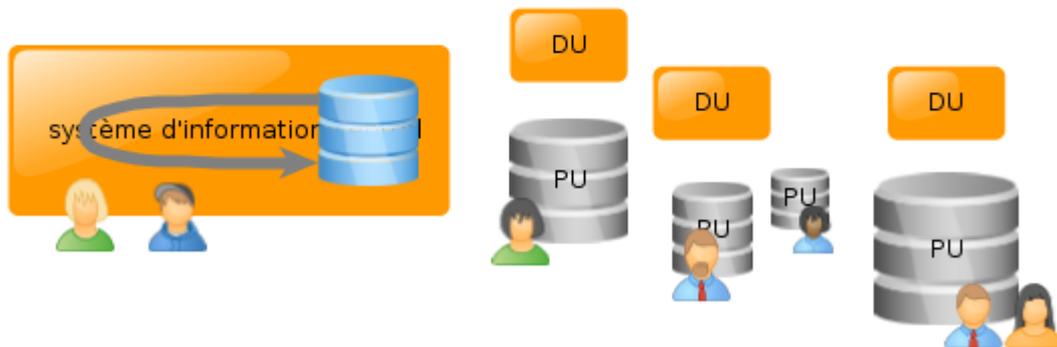
portail web



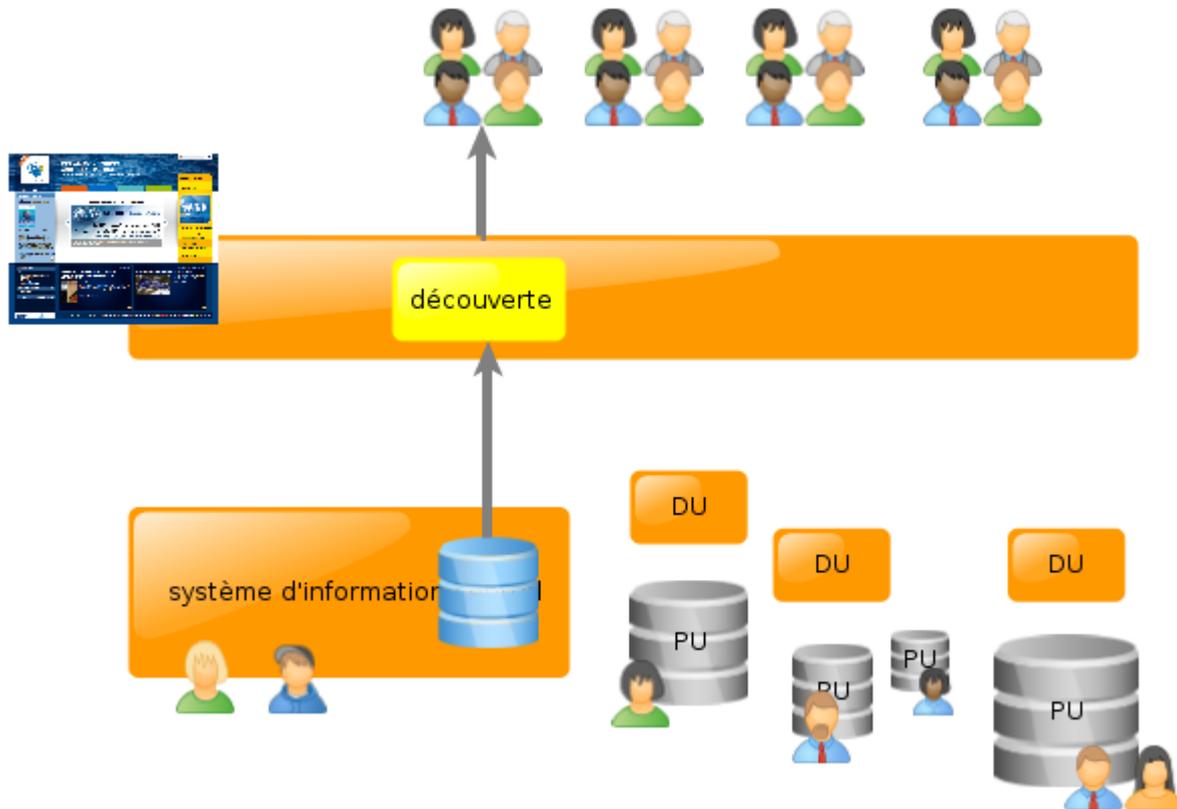
# Référencement des services



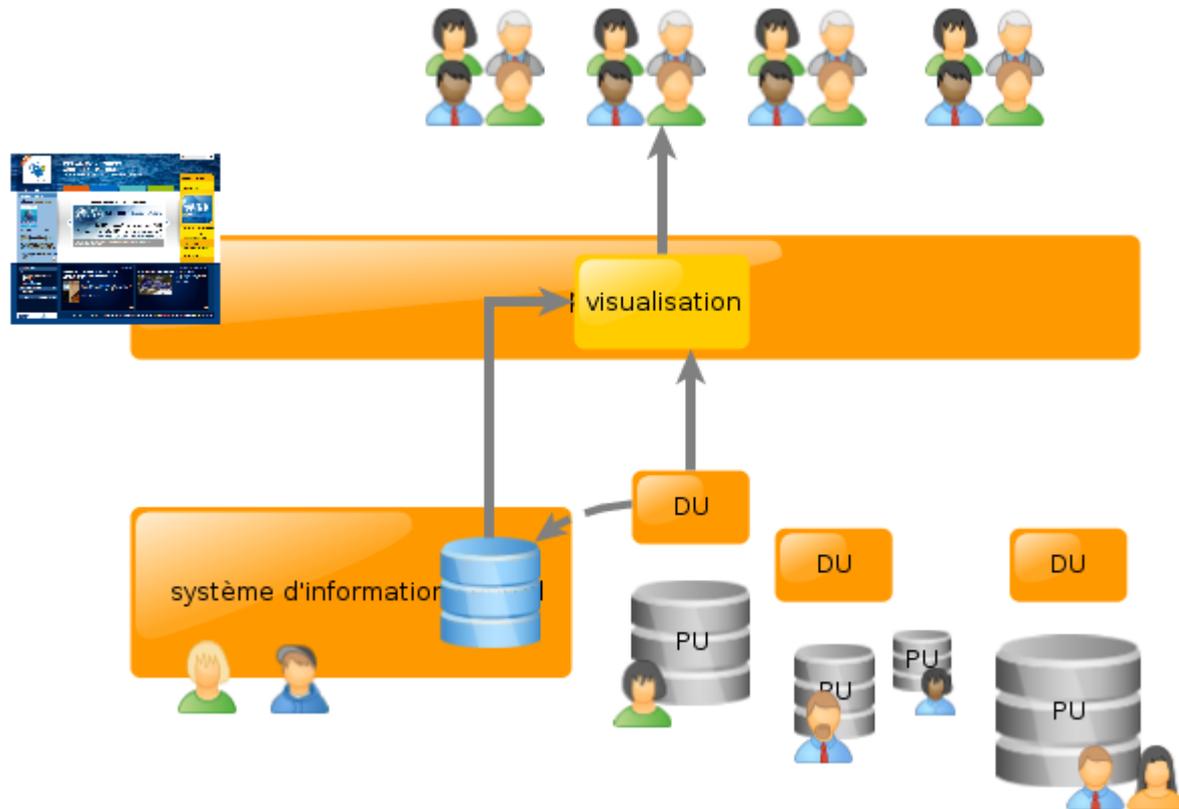
# Vérification des métadonnées



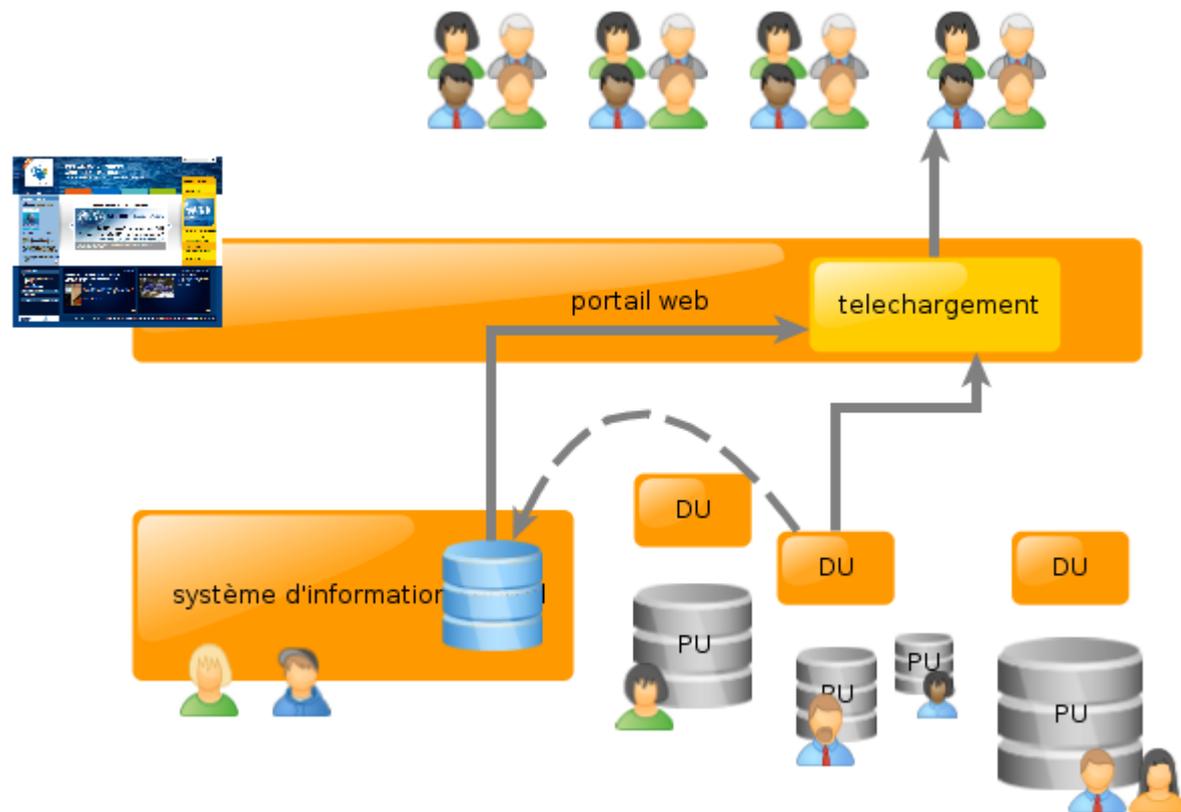
# Découverte



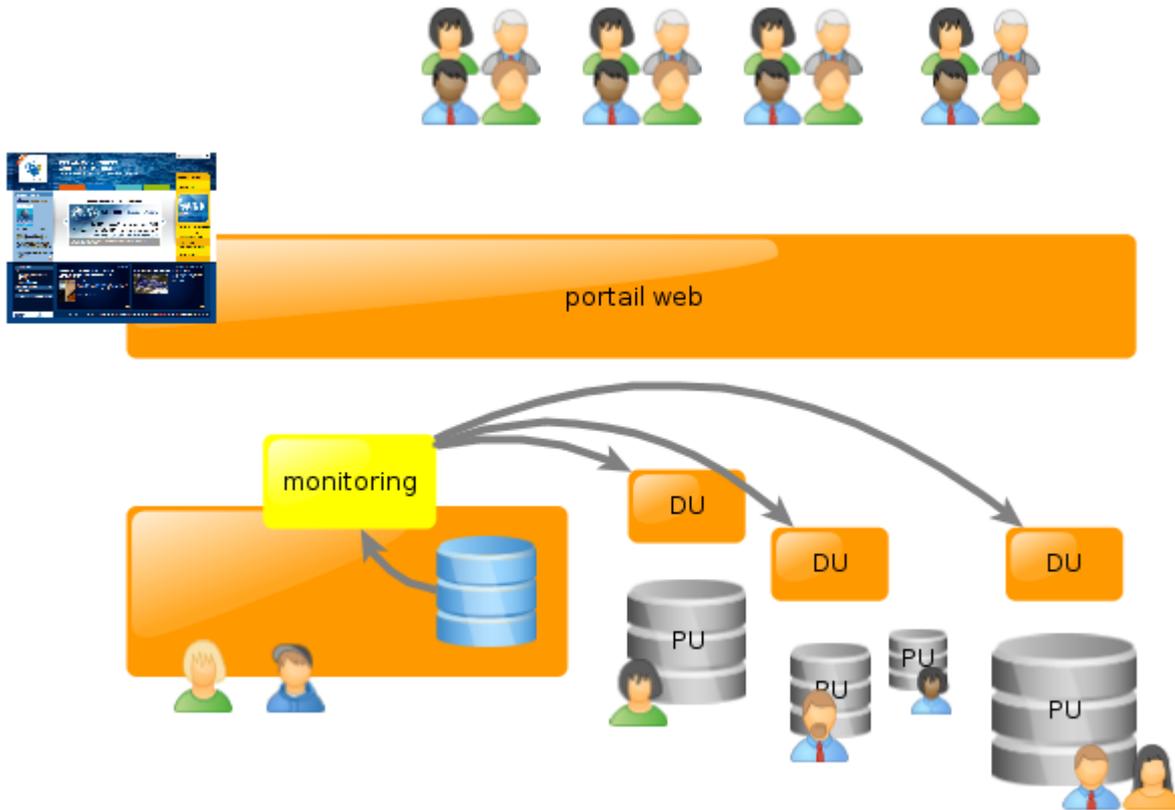
# Visualisation



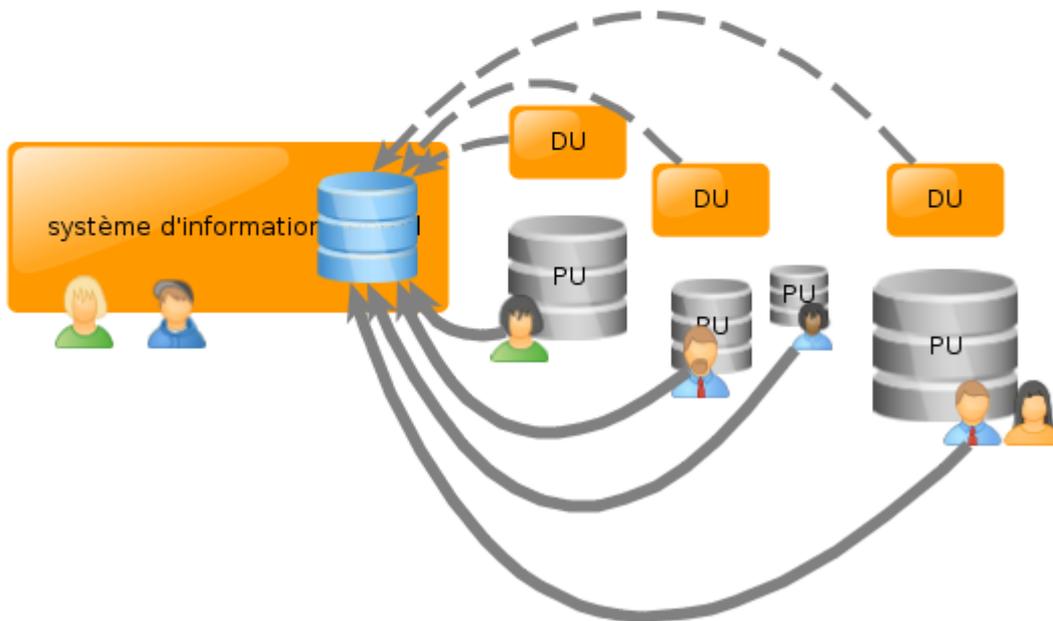
# Téléchargement



# Surveillance des services



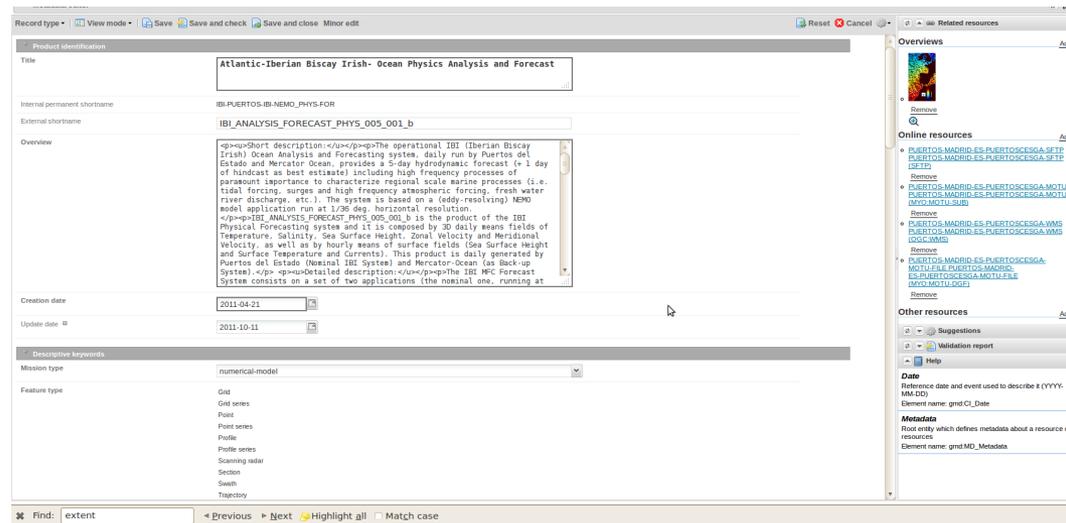
# Description des produits



# Description des produits

- Par les producteurs
- Edition guidée/contrainte:
  - thesaurus de mot clés
  - annuaire d'organisations
  - Valideur
- Saisie des dépendances de produits

Perspective : moissonage des métadonnées des jeux de données sur les serveurs de données (DU)

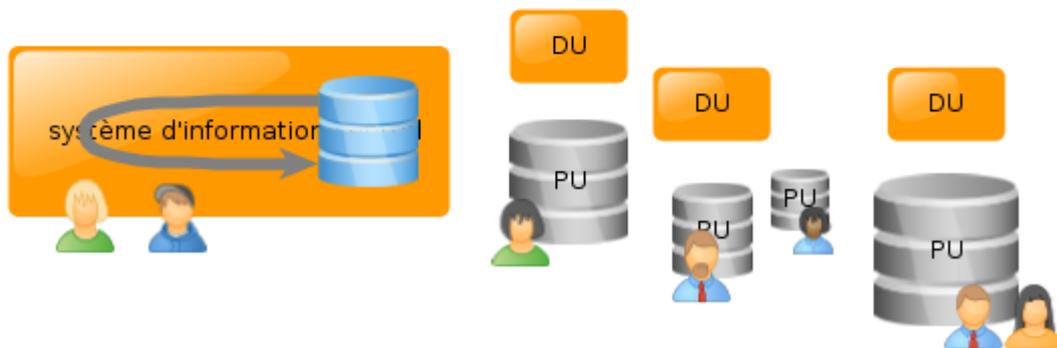


The screenshot displays the 'Product Identification' form for the product 'Atlantic-Iberian Biscay Irish- Ocean Physics Analysis and Forecast'. The form includes fields for internal and external shortnames, an overview text area, creation and update dates, and a list of feature types. The 'Overview' field contains a detailed description of the IBI (Iberian Biscay Irish) Ocean Analysis and Forecasting system, mentioning its 5-day hindcast and various marine processes. The 'Feature type' list includes Grid, Grid series, Point, Point series, Profile, Profile series, Scanning radar, Section, South, and Trajectory.

# Vérification des métadonnées



portail web



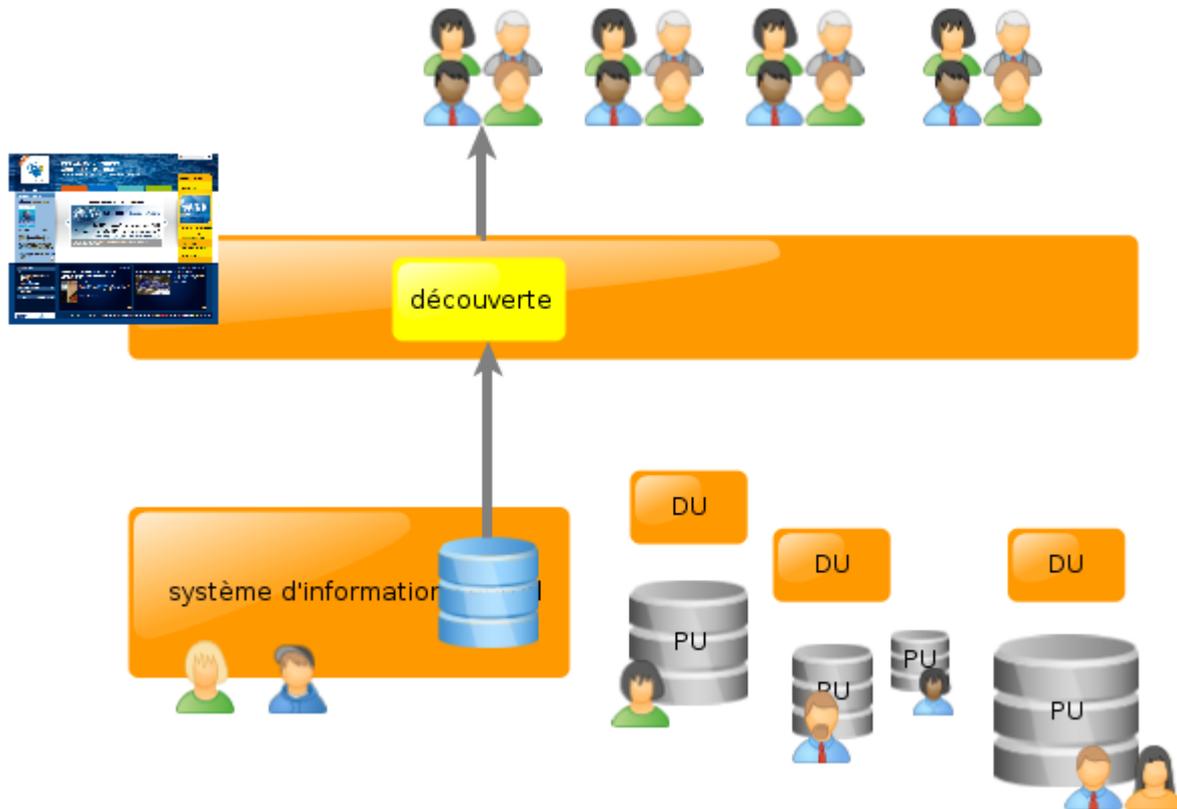
# Vérification des métadonnées

## Utilisation d'un export CSV :

A	B	C	D	E	F	G
schema	fluid	id	Type	ProductionCentre	GeographicalReferenceArea	Parameters
iso19139.myocean	mercator-ocean.fr/94485	94485	PRODUCT	GLO-MERCATOR-TOULOUSE-FR	global-ocean	sea_ice_area_fraction##sea_ice_thickness##sea_ice_x_velocity##sea_ice_y_velocity
iso19139.myocean	met.no/94486	94486	PRODUCT	OSI-METNO-OSLO-NO (WPL)	mediterranean-sea	sea_water_temperature
iso19139.myocean	dmj.dk/94492	94492	PRODUCT	BAL-DMI-COPENHAGEN-DK (WPL)	baltic-sea	eastward_sea_water_velocity##northward_sea_water_velocity##sea_ice_area_fraction
iso19139.myocean	met.no/94506	94506	PRODUCT	OSI-METNO-OSLO-NO (WPL)	arctic-ocean	sea_ice_area_fraction
iso19139.myocean	mjl.net.ua/94510	94510	PRODUCT	BS-MHI-SEBASTOPOL-UA (WPL)	black-sea	eastward_sea_water_velocity##northward_sea_water_velocity##sea_surface_height_at
iso19139.myocean	metoffice.gov.uk/94511	94511	PRODUCT	NWS-METOFFICE-EXETER-UK	north-west-shelf-seas	eastward_sea_water_velocity##northward_sea_water_velocity##sea_surface_height_at
iso19139.myocean	met.no/94513	94513	PRODUCT	OSI-METNO-OSLO-NO (WPL)	global-ocean	sea_ice_x_displacement##sea_ice_y_displacement
iso19139.myocean	meteo.fr/94535	94535	PRODUCT	OSI-METNO-OSLO-NO (WPL)	mediterranean-sea	sea_surface_temperature
iso19139.myocean	metoffice.gov.uk/94536	94536	PRODUCT	NWS-METOFFICE-EXETER-UK	north-west-shelf-seas	mole_concentration_of_nitrate_in_sea_water##mole_concentration_of_phosphate_in_sea
iso19139.myocean	met.no/94546	94546	PRODUCT	OSI-METNO-OSLO-NO (WPL)	global-ocean	sea_ice_area_fraction##sea_surface_temperature
iso19139.myocean	cls.fr/94549	94549	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	mediterranean-sea	sea_surface_height_above_sea_level
iso19139.myocean	met.no/94555	94555	PRODUCT	OSI-METNO-OSLO-NO (WPL)	global-ocean	sea_ice_area_fraction##sea_surface_temperature
iso19139.myocean	cls.fr/94561	94561	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	north-west-shelf-seas	sea_surface_height_above_sea_level
iso19139.myocean	cls.fr/94569	94569	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	arctic-ocean	sea_surface_height_above_sea_level
iso19139.myocean	cls.fr/94570	94570	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	mediterranean-sea	sea_surface_height_above_sea_level
iso19139.myocean	met.no/94574	94574	PRODUCT	OSI-METNO-OSLO-NO (WPL)	global-ocean	sea_ice_extent
iso19139.myocean	cls.fr/94580	94580	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	mediterranean-sea	sea_surface_height_above_sea_level
iso19139.myocean	cls.fr/94587	94587	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	black-sea	sea_surface_height_above_sea_level
iso19139.myocean	cls.fr/94591	94591	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	arctic-ocean	sea_surface_height_above_sea_level
iso19139.myocean	metoffice.gov.uk/94595	94595	PRODUCT	NWS-METOFFICE-EXETER-UK	north-west-shelf-seas	eastward_sea_water_velocity##northward_sea_water_velocity##sea_surface_height_at
iso19139.myocean	cls.fr/94602	94602	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	global-ocean	sea_surface_height_above_sea_level
iso19139.myocean	cls.fr/94605	94605	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	black-sea	sea_surface_height_above_sea_level
iso19139.myocean	met.no/94613	94613	PRODUCT	OSI-METNO-OSLO-NO (WPL)	baltic-sea	sea_ice_thickness##sea_ice_x_displacement##sea_ice_y_displacement
iso19139.myocean	bo.invg.it/94614	94614	PRODUCT	MED-INGV-BOLGNA-IT (WPL)	mediterranean-sea	mole_concentration_of_dissolved_molecular_oxygen_in_sea_water##mole_concentratio
iso19139.myocean	met.no/94615	94615	PRODUCT	OSI-METNO-OSLO-NO (WPL)	global-ocean	sea_ice_area_fraction##sea_ice_x_displacement##sea_ice_y_displacement
iso19139.myocean	knrj.no/94620	94620	PRODUCT	OSI-METNO-OSLO-NO (WPL)	global-ocean	eastward_wind##northward_wind##wind_speed##wind_to_direction
iso19139.myocean	cls.fr/94623	94623	PRODUCT	SL-CLS-TOULOUSE-FR (WPL)	global-ocean	sea_surface_height_above_sea_level
iso19139.myocean	bo.invg.it/94627	94627	PRODUCT	MED-INGV-BOLGNA-IT (WPL)	mediterranean-sea	mole_concentration_of_nitrate_in_sea_water##mole_concentration_of_phosphate_in_sea
iso19139.myocean	met.no/94633	94633	PRODUCT	OSI-METNO-OSLO-NO (WPL)	arctic-ocean	sea_ice_area_fraction
iso19139.myocean	met.no/94637	94637	PRODUCT	OSI-METNO-OSLO-NO (WPL)	black-sea	sea_water_temperature
iso19139.myocean	dmj.dk/94653	94653	PRODUCT	BAL-DMI-COPENHAGEN-DK (WPL)	baltic-sea	mass_concentration_of_chlorophyll_a_in_sea_water##mole_concentration_of_nitrate_in
iso19139.myocean	met.no/94655	94655	PRODUCT	OSI-METNO-OSLO-NO (WPL)	black-sea	sea_ice_area_fraction##sea_ice_thickness
iso19139.myocean	met.no/94662	94662	PRODUCT	OSI-METNO-OSLO-NO (WPL)	black-sea	sea_water_temperature
iso19139.myocean	mjl.net.ua/95999	95999	PRODUCT	BS-MHI-SEBASTOPOL-UA (WPL)	black-sea	volume_attenuation_coefficient_of_downwelling_radiative_flux_in_sea_water
iso19139.myocean	mercator-ocean.fr/96001	96001	PRODUCT	GLO-MERCATOR-TOULOUSE-FR	global-ocean	mass_concentration_of_chlorophyll_a_in_sea_water##mole_concentration_of_dissolved
iso19139.myocean	puertos.es/96003	96003	PRODUCT	IBI-PUERTOS-MADRID-ES (WPL)	iberian-biscay-irish-seas	eastward_sea_water_velocity##northward_sea_water_velocity##sea_surface_height_at
iso19139.myocean	ifremer.fr/96004	96004	PRODUCT	INS-IFREMER-BREST-FR (WPL)	arctic-ocean	mass_concentration_of_chlorophyll_a_in_sea_water##moles_of_oxygen_per_unit_mass
iso19139.myocean	ifremer.fr/96005	96005	PRODUCT	INS-IFREMER-BREST-FR (WPL)	arctic-ocean	sea_water_temperature##sea_water_salinity
iso19139.myocean	ifremer.fr/96006	96006	PRODUCT	INS-IFREMER-BREST-FR (WPL)	baltic-sea	mass_concentration_of_chlorophyll_a_in_sea_water##moles_of_oxygen_per_unit_mass
iso19139.myocean	ifremer.fr/96007	96007	PRODUCT	INS-IFREMER-BREST-FR (WPL)	baltic-sea	sea_water_temperature##sea_water_salinity
iso19139.myocean	ifremer.fr/96008	96008	PRODUCT	INS-IFREMER-BREST-FR (WPL)	black-sea	mass_concentration_of_chlorophyll_a_in_sea_water##moles_of_oxygen_per_unit_mass

Perspective : mise en place d'un workflow pour la validation des métadonnées par les administrateurs.

# Découverte



- **Contenu** : Utilisation du service OGC/CSW de sextant (INSPIRE)
- **Présentation** : Portail web déporté (développement Barcelone, hébergement Toulouse)

Perspective : mise en place d'un cache SOLR pour un service de recherche avancé par facettes.

# Découvertes des données

**1 • AN AREA**

- All areas
- Global Ocean
- Arctic Ocean
- Baltic Sea
- Atlantic-European North West Shelf-Ocean
- Atlantic-Iberian Biscay Irish-Ocean
- Mediterranean Sea
- Black Sea

**2 • A PARAMETER**

- All parameters
- Ocean Temperature
- Ocean Salinity
- Ocean Currents
- Sea Ice
- Sea Level
- Winds
- Ocean Optics
- Ocean Chemistry
- Ocean Biology
- Ocean Chlorophyll

**3 • A PRODUCT TYPE**

- All product types
- Forecast Products
- Near Real Time Products
- Multi Year Products
- Time Invariant Products

logue > MyOcean interactive catalogue

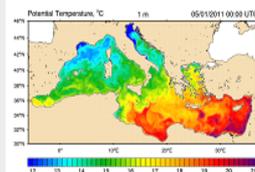
**SEARCH**

KEYWORD SEARCH  **REFINE RESULTS**

Show :  results per pages

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

MEDSEA-ANALYSIS-FORECAST-PHYS-006-001-a



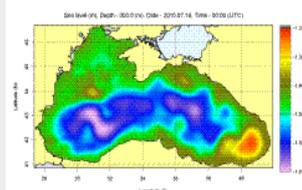
## MEDITERRANEAN SEA PHYSICS ANALYSIS AND FORECAST

**NUMERICAL-MODEL, TEMPERATURE, SALINITY, CURRENTS, FORECAST, NEAR-REAL-TIME, MEDITERRANEAN-SEA**

The Mediterranean Forecasting System, physical component, is a coupled hydrodynamic-wave model implemented over the entire Mediterranean Basin. The hydrodynamics are supplied by the Nucleous for European Modelling of the Ocean (NEMO) with a variational data assimilation scheme (OceanVAR) for salinity and temperature vertical profiles and satellite Sea Level Anomaly along track data. This is coupled to the WaveWatch-III wave model. The model horizontal grid resolution is 1/16° (ca. 6-7 km) and the hydrodynamical model, NEMO, has 72 unevenly spaced vertical levels.

INF  
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 VIE

BLACKSEA-ANALYSIS-FORECAST-PHYS-007-001

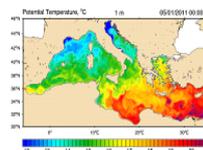


## BLACK SEA PHYSICS ANALYSIS AND FORECAST

**NUMERICAL-MODEL, CURRENTS, SEA-LEVEL, SALINITY, TEMPERATURE, FORECAST, NEAR-REAL-TIME, BLACK-SEA**

The basin-scale model is used for continuous analysis and forecast of the Black Sea circulation and stratification. The model output includes dynamical sea level, three-dimensional fields of current velocity, temperature and salinity. The basin-scale model assimilates satellite altimetry data provided by SL TAC, and sea surface temperature provided by OSI TAC. The data of atmosphere forcing come from SKIRON

INFO  
 DATA ACCESS  
 VIEW

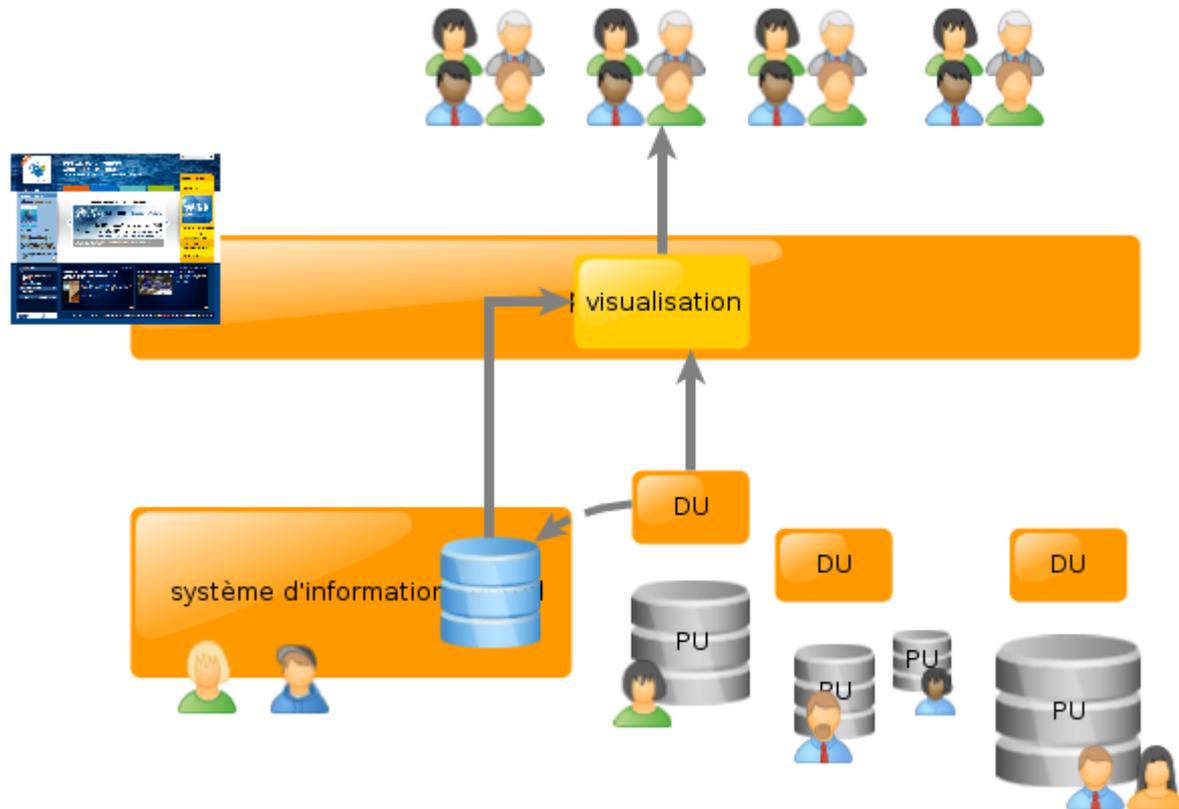


## Mediterranean Sea Physics Analysis and Forecast

Metadata provided by MYOCEAN DATA ACCESS

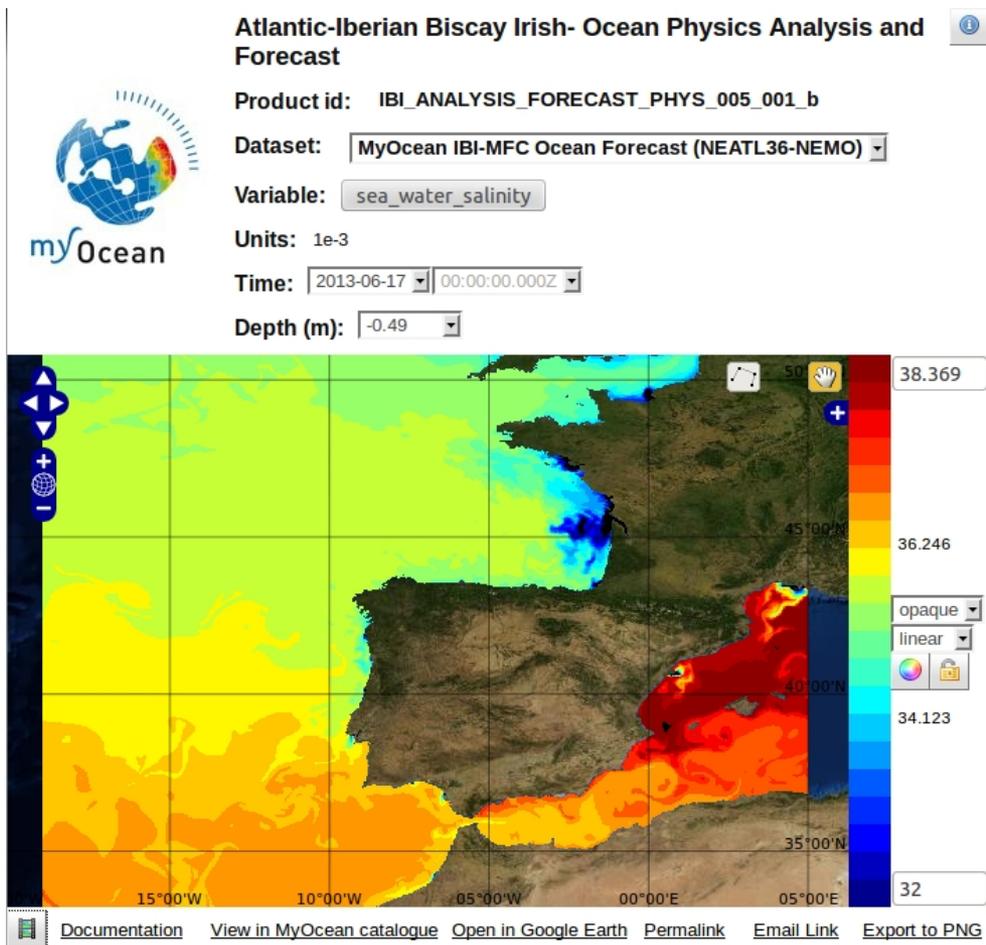
Information	Documentation
Product identifier	MEDSEA_ANALYSIS_FORECAST_PHYS_006_001_a
Overview:	The Mediterranean Forecasting System, physical component, is a coupled hydrodynamic-wave model implemented over the entire Mediterranean Basin. The hydrodynamics are supplied by the Nucleous for European Modelling of the Ocean (NEMO) with a variational data assimilation scheme (OceanVAR) for salinity and temperature vertical profiles and satellite Sea Level Anomaly along track data. This is coupled to the WaveWatch-III wave model. The model horizontal grid resolution is 1/16° (ca. 6-7 km) and the hydrodynamical model, NEMO, has 72 unevenly spaced vertical levels.
Variables:	<p>Full overview...</p> <ul style="list-style-type: none"> <li>sea_water_potential_temperature</li> <li>sea_water_salinity</li> <li>surface_eastward_sea_water_velocity_produced_by_sea_surface_waves</li> <li>eastward_sea_water_velocity</li> <li>northward_sea_water_velocity</li> <li>sea_surface_height</li> <li>surface_northward_sea_water_velocity_produced_by_sea_surface_waves</li> </ul>
	<p>45.937</p> <p>-6.0 36.25</p>

# Visualisation

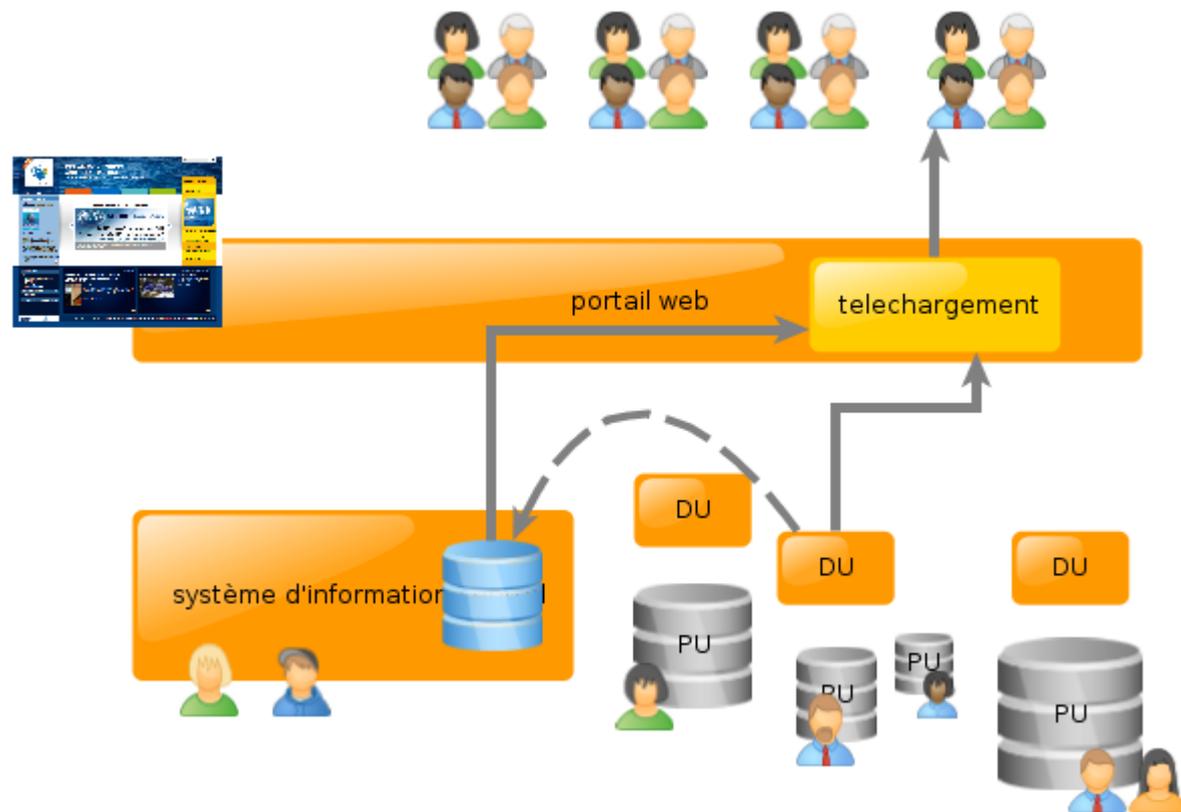


- Client web de l'**université de Reading**
- Configuré par les URL de services enregistrés dans Sextant (requete **OGC/CSW**)
- Service « back-end » de visualisation **OGC/WMS** du serveur THREDDS Data Server (données maillées).

Perspective : Connection de serveurs WMS pour les données in-situ (serveur Oceanotron).



# Téléchargement



# Téléchargement

- Système distribué, **pas de goulot** d'étranglement
- **Identification centralisée** des utilisateurs
- Possibilité de sélectionner un **sous-ensemble** des données (x,y,z,t, variable)
- Possibilité de **télécharger par script**
- Utilisation d'un serveur spécifique (MOTU) en frontal des serveurs de services.

Perspective : Centralisation de l'interface de présentation. Amélioration de la configurabilité du serveur distribué.

[Access Services](#) > [Data Product Catalogue](#) > [Download](#)

## DATASET-IBI-ANALYSIS-FORECAST-PHYS-005-001-HOURLY

### SELECTION

Select output:

NetCDF

Select region:

Product Region

55.9731407165527

-19

4.97295761108398

26

Select time range:

2013-06-21 23:00:00 to 2013-06-21 23:00:00

2013-06-21 23:00:00 to 2013-06-21 23:00:00

### VARIABLE

Download	Name	Description	Standard name	Unit	Dimensions
<input checked="" type="checkbox"/>	<b>v</b>	Northward velocity	sea_water_y_velocity	m s-1 (Meters per second)	(time, latitude, longitude)
<input checked="" type="checkbox"/>	<b>u</b>	Eastward velocity	sea_water_x_velocity	m s-1 (Meters per second)	(time, latitude, longitude)
<input type="checkbox"/>	<b>ubar</b>	zonal barotropic velocity	barotropic_sea_water_x_velocity	m s-1 (Meters per second)	(time, latitude, longitude)
<input type="checkbox"/>	<b>vbar</b>	meridional barotropic velocity	barotropic_sea_water_y_velocity	m s-1 (Meters per second)	(time, latitude, longitude)
<input type="checkbox"/>	<b>ssh</b>	Sea surface height	sea_surface_height_above_geoid	m (Meters)	(time, latitude, longitude)
<input type="checkbox"/>	<b>temperature</b>	Temperature	sea_water_potential_temperature	K (Kelvin)	(time, latitude, longitude)

Script

Download



- Capitaliser les développements et l'expertise pour :
  - Les projets  
Européens/internationaux :  
SeaDataNet, EMODNET, ...
  - Les systèmes d'océanographie opérationnelle : PREVIMER, CORIOLIS



# Merci, questions ?

<http://www.myocean.eu>

