



# MYOCEAN2 catalogue of products

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MyOcean CIS team, MyOcean WP leaders, MyOcean Product  
Managers

**IMDIS 2013**

**IMDIS 2013**

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



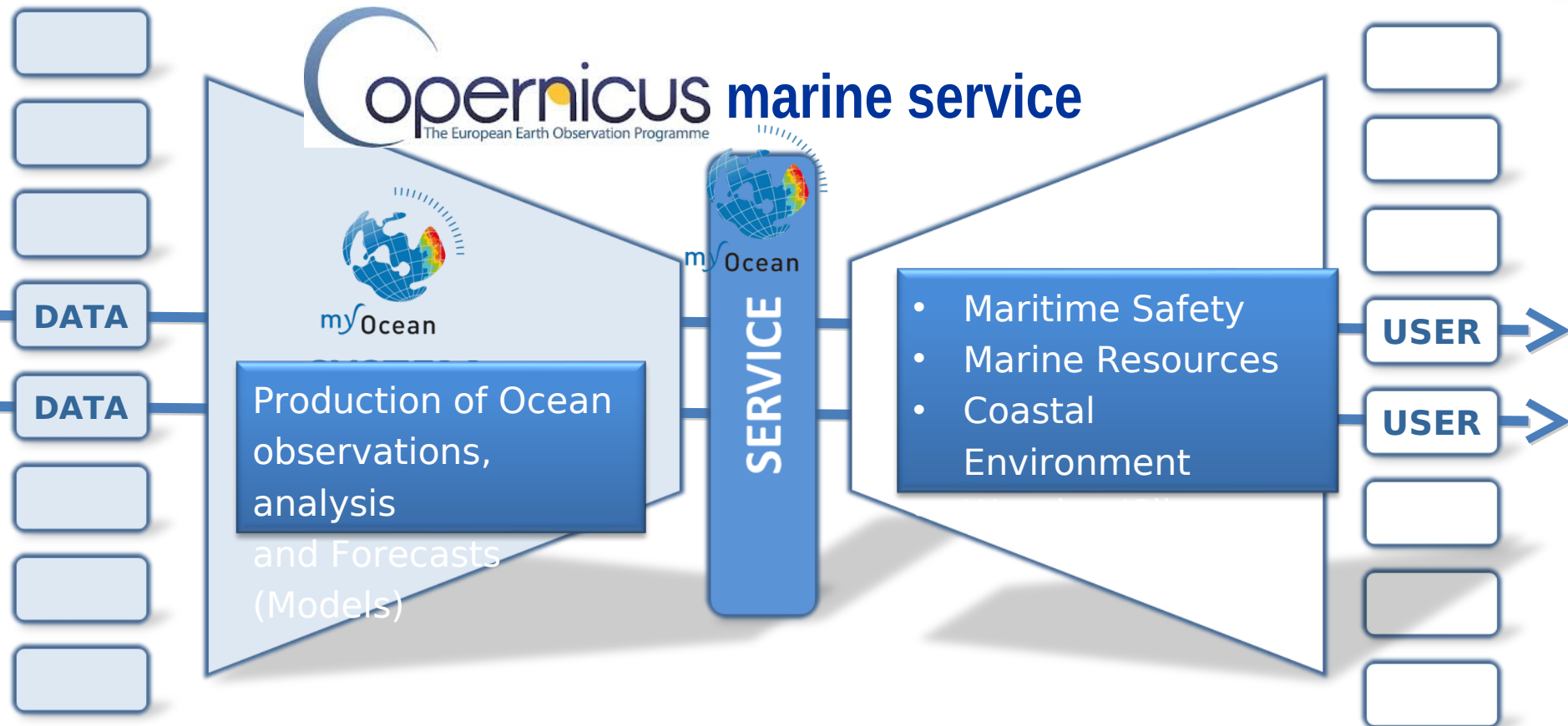
- **MyOcean in general** : organisation in TACs and MFCs.
- **Overview of MyOcean Service and catalogue of products**: **107** Ocean Observations and Ocean Models Products.
- **Focus on catalogue management**: tools, various roles with release and change management, product dependency management
- **Conclusion**.

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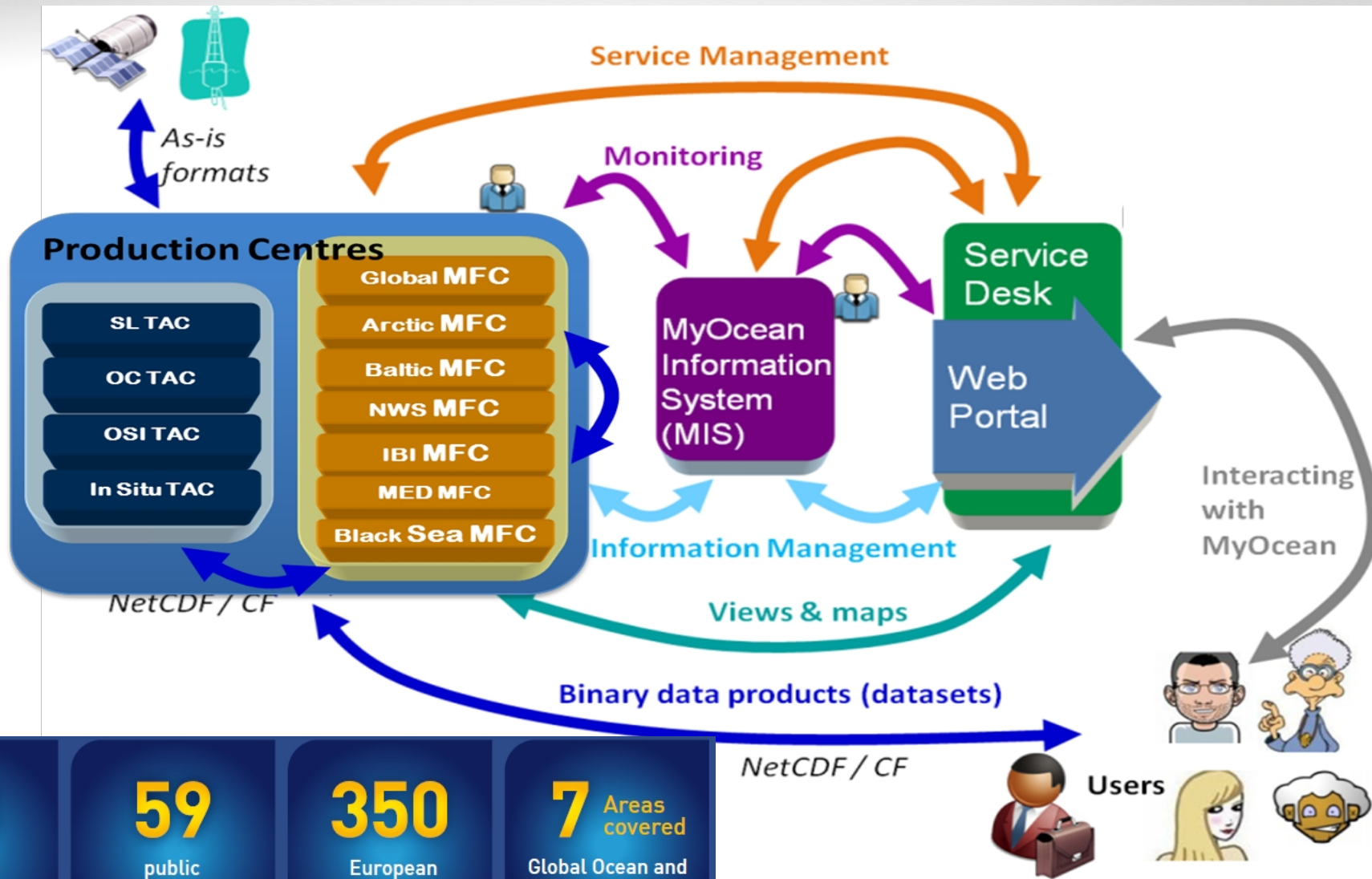
# A Core Service

## Copernicus marine service

The European Earth Observation Programme



# An integrated System and Service



**28**

European Countries in the consortium

**59**

public and private partners

**350**

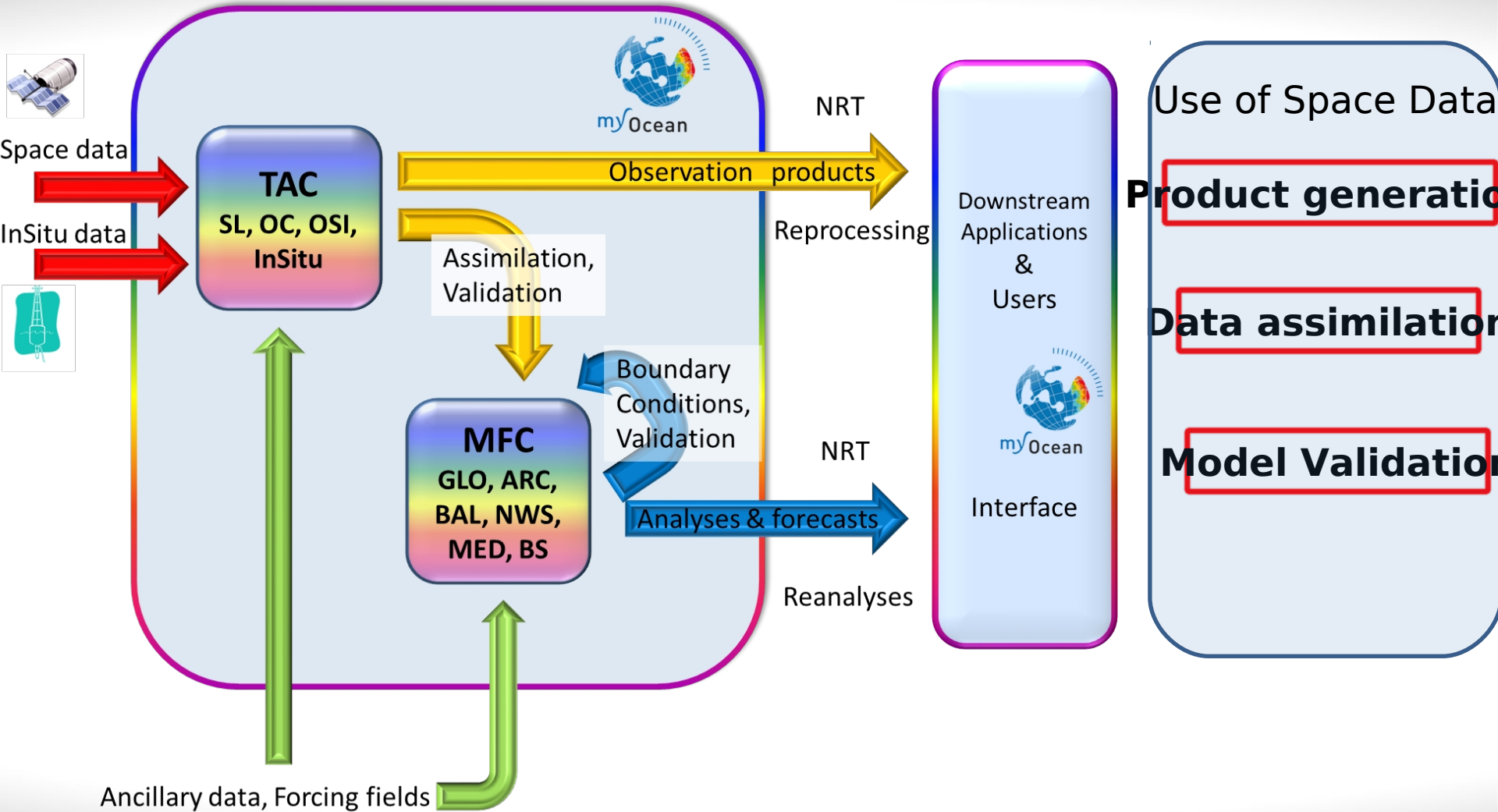
European Experts

**7**

Areas covered

Global Ocean and All European Maritime Regions

# The MyOcean Production Function



# 44 Production Units producing the products

## 25 Dissemination Units distributing the products



### A NETWORK OF PROVIDERS

- MyOcean in general : organisation by TACs and MFCs.
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# A single and easy access point for users [www.myocean.eu](http://www.myocean.eu)

The screenshot shows the MyOcean interactive catalogue website. The header includes the myOcean logo, the title "OCEAN MONITORING and FORECASTING", and a search bar. Below the header, there are navigation tabs for "MARITIME SAFETY", "MARINE RESOURCES", "COASTAL & MARINE ENVIRONMENT", and "WEATHER, CLIMATE & SF". The main content area is titled "MYOCEAN INTERACTIVE CATALOGUE" and features a search mode selector (multi-criteria or full catalogue) and a search button. The interface is divided into three main sections: "1 • AN AREA", "2 • A PARAMETER", and "3 • A PRODUCT TYPE". Each section contains a list of options with checkboxes. The "1 • AN AREA" section includes options like "Global Ocean", "Arctic Ocean", "Baltic Sea", "Atlantic-European North West Shelf-Ocean", "Atlantic-Iberian Biscay Irish-Ocean", "Mediterranean Sea", and "Black Sea". The "2 • A PARAMETER" section includes "All parameters", "Ocean Temperature", "Ocean Salinity", "Ocean Currents", "Sea Ice", "Sea Level", "Winds", "Ocean Optics", "Ocean Chemistry", "Ocean Biology", and "Ocean Chlorophyll". The "3 • A PRODUCT TYPE" section includes "All product types", "Forecast", "Near Real Time Products", "Multi Year Products", and "Time Invariant Products". A "SEARCH" button is located below the product type section. The footer includes a "KEYWORD SEARCH" bar, a "Download the latest MyOcean catalogue" button, and an "Access full catalogue online" button. The footer also contains the myOcean logo, the Copernicus logo, and a row of flags representing various countries.

DISCOVER

VIEW

DOWNLOAD

Open & Free





# OCEAN MONITORING AND ANALYSIS

Providing

» MARITIME SAFETY

» WEATHER, CLIMATE & SF

Search... » OK

» ABOUT US

## NEWS & EVENTS

Costa Concordia: MyOcean on alert to help control potential oil spill



When the cruiser Costa Concordia ran aground off the Italian coast in January 2012, MyOcean started to provide the Italian Coast Guard Operational Centre with daily valuable information on currents in the Mediterranean Sea.

» more

## EDUCATION

Come and discover how MyOcean monitors and forecasts oceans.

- » Observation
- » Modelling
- » Ocean parameters

## PRESS/EDITION CORNER

» all corners

## SCIENTIFIC PUBLICATIONS

» all corners

## EuroGOOS Systems and Services



KEY-PARTNER.

» Learn more

V3.0

## MyOcean Catalogue of products



April 2013



## USER CORNER

- » ASK THE SERVICE DESK
- » NEWS FLASH!

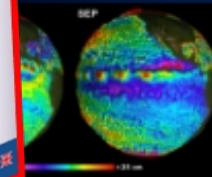


- » PRODUCT IMPROVEMENTS
- » TECHNICAL FAQ

## FIRST VISIT?

- » DISCOVER MYOCEAN PRODUCTS & SERVICES
- » REGISTER NOW!

## the terrible Sister

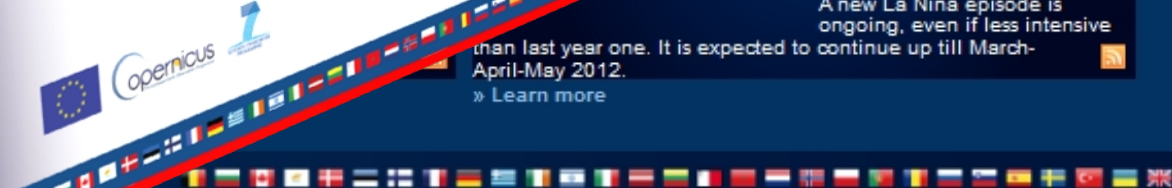


Following its elder brother (El Niño) from mid-2010, La Niña has in turn wreaked havoc on Pacific coasts (and more). Catastrophic flooding in Australia, in particular, occurred in December 2010-January 2011.

A new La Niña episode is ongoing, even if less intensive

than last year one. It is expected to continue up till March-April-May 2012.

» Learn more





# 107 products : 31 from Models/76 from observations



## Analysis and Forecast

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

- Sea Level
- Ocean Colour
- Sea Surface Temperature
- Sea Ice
- Wind
- In-Situ



## • Model products

- From - **6000 m** to surface
- Source: 7 MFCS, 31 different systems

REANALYSES  
Non Assi. HINDCAST  
~20 years



REAL-TIME  
Daily hourly



FORECAST  
2 to 10 days

## • In Situ Observation products

- From - **1500 m** to surface
- Source: 1 TAC, different platforms (ARGO, FerryBox Vessels, XBT, GTS....) SEADATANET

## • Satellite Observation products

- Surface
- Source: several TACs, several different satellites

REPROCESSING  
~20 years



REAL-TIME  
Daily

Temperature  
Salinity  
Currents  
Sea Ice  
Sea Level  
Wind  
Chemistry  
Biology  
Optics  
Chlorophyll





# What's in MyOcean Catalogue: view by parameters

	All Geographical area		
	Models (Forecast, Monitoring and Reanalysis)	Satellite Observations (Monitoring and Reprocessing)	In Situ Observations (Monitoring and Reprocessing)
<i>Vertical coverage</i>	<i>Full water column</i>	<i>Ocean surface</i>	<i>0-1500m</i>
Ocean Temperature	L4 (20)	L3 L4 (13)	L2-INS (15)
Ocean Salinity	L4 (20)		L2-INS (15)
Ocean Currents	L4 (19)		L2-INS (7)
Sea Ice	L4 (10)	L3 L4 (14)	
Sea Level	L4 (19)	L3 (11)	L2-INS (7)
Winds		L3 L4 (3)	
Ocean Optics	L4 (5)	L3 L4 (10)	
Ocean Chemistry	L4 (10)		L2-INS (7)
Ocean Biology	L4 (5)		
Ocean Chlorophyll	L4 (10)	L3 L4 (14)	L2-INS (7)





# What's in MyOcean Catalogue: view by product type

	All Geographical area		
	Models	Satellite Observations	In Situ Observations
Forecast Products	L4 (12)		
Monitoring Products (Delayed and Near Real Time)	L4 (14)	L3 or L4 (45)	L2-INS (8)
Multi Year Time Series Products (Hindcast, Reanalysis, Reprocessing)	L4 (16)	L3 or L4 (13)	L2-INS (7)
Time Invariant Products		L3 or L4 (3)	

# Online Catalogue of products: 107 products

DISCOVER

MyOcean\_catalogue.wmv - Lecteur multimédia VLC

Média Lecture Audio Vidéo Outils Vue Aide

**SERVICES**

- » Catalogue of services
- » Register now!
- » Ask the service desk

**PRODUCTS**

- » Access to catalogue
- » News Flash!
- » Product improvements
- » Technical FAQ

**NEWS & EVENTS**

**FOCUS ON**

**PRODUCT SHOWCASE**

**USER NEWSLETTER**

**EDUCATION**

- » Observation
- » Modelling
- » Ocean parameters

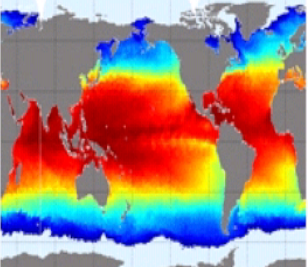
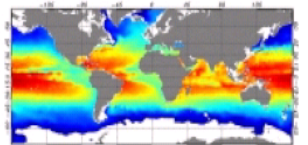
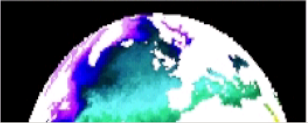
**PRESS/EDITION CORNER**

- » all corners

**SCIENTIFIC PUBLICATIONS**

- » all corners




<p>GLOBAL-ANALYSIS-FORECAST-PHYS-001-002</p> 	<p>GLOBAL OCEAN PHYSICS ANALYSIS AND FORECAST UPDATED WEEKLY</p> <p>The Operational Mercator global analysis and forecast is available at either 1/4 or 1/12 degree resolution. The analysis is running every week providing 7 days of 3D ocean forecast as well as 14 days of ocean analysis. This product includes daily files of temperature, salinity, currents, sea level and ice parameters from the top to the bottom of the Ocean over various areas covering the Global Ocean.</p>	<p><b>INFO</b></p> <p><b>DATA ACCESS</b></p> <p><b>VIEW</b></p>
<p>GLOBAL-REP-PHYS-001-012</p> 	<p>GLOBAL OBSERVED OCEAN PHYSICS TEMPERATURE SALINITY AND CURRENTS REPROCESSING (1993-ONGOING)</p> <p>You can find here the Global T,S,U,V,H Armor-3D L4 Reprocessing: Combined products from satellite observations (Sea Level Anomalies, Geostrophic Surface Currents, Sea Surface Temperature) and in-situ (Temperature and Salinity profiles) on a 1/3 degree mercator grid over the time period 1993-ongoing.</p>	<p><b>INFO</b></p> <p><b>DATA ACCESS</b></p> <p><b>VIEW</b></p>
<p>GLOBAL-REANALYSIS-PHYS-001-009</p> 	<p>GLOBAL OCEAN PHYSICS REANALYSIS (1993-2010)</p> <p>You can find here 3 Reanalysis of the Global Ocean and Sea Ice Physics (monthly mean of</p>	<p><b>INFO</b></p>

Once your product search is performed, you get a list of one or several products.

3 buttons to go forward:

- **INFO**
- **DATA ACCESS**
- **VIEW**




**INFO**

**DATA ACCESS**


**VIEW**

01:25



02:47

100%



ocean2 project - www.myocean.eu

» Ask the service desk

## PRODUCTS

- » Access to catalogue
- » News Flash!
- » Product improvements
- » Technical FAQ

## NEWS & EVENTS

## FOCUS ON

## PRODUCT SHOWCASE

## USER NEWSLETTER

## EDUCATION

- » Observation
- » Modelling
- » Ocean parameters

## PRESS/EDITION CORNER

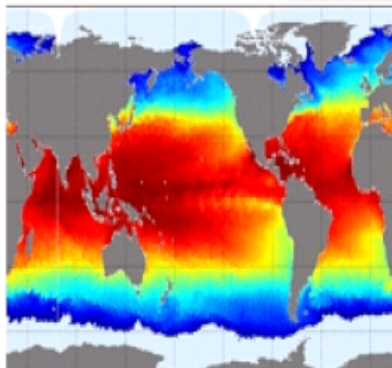
- » all corners

## SCIENTIFIC PUBLICATIONS

- » all corners

## DATA ACCESS

# DOWNLOAD



## Global Ocean Physics Analysis and Forecast updated Weekly

GLOBAL\_ANALYSIS\_FORECAST\_PHYS\_001\_002

Information on how to download MyOcean Products can be found here

The "Subset download" allows you to subset the data, and should be used if you wish to download a small part of the total dataset.

Go

The "Direct download" directly transfers the file as stored on the server. It is able to deliver compressed data and should be used if you wish to download larger datasets.

Go

The "FTP download" allows to download an entire dataset directly from the FTP server at the supply center

Go

## 3 DOWNLOAD POSSIBILITIES:

- SUBSET DOWNLOAD
- DIRECT DOWNLOAD
- MyOCEAN FTP DOWNLOAD



YOU NEED A LOGIN/PASSWORD  
TO DOWNLOAD AND ACCESS DATA  
(SEE MYOCEAN **REGISTRATION TUTORIAL**)



# VIEW

## PRODUCTS

- » Access to catalogue
- » News Flash!
- » Product improvements
- » Technical FAQ

## NEWS & EVENTS

## FOCUS ON

## PRODUCT SHOWCASE

## USER NEWSLETTER

## EDUCATION

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## SCIENTIFIC PUBLICATIONS

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### Global Ocean Physics Analysis and Forecast updated Weekly

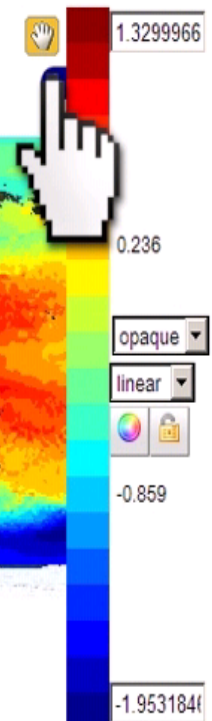
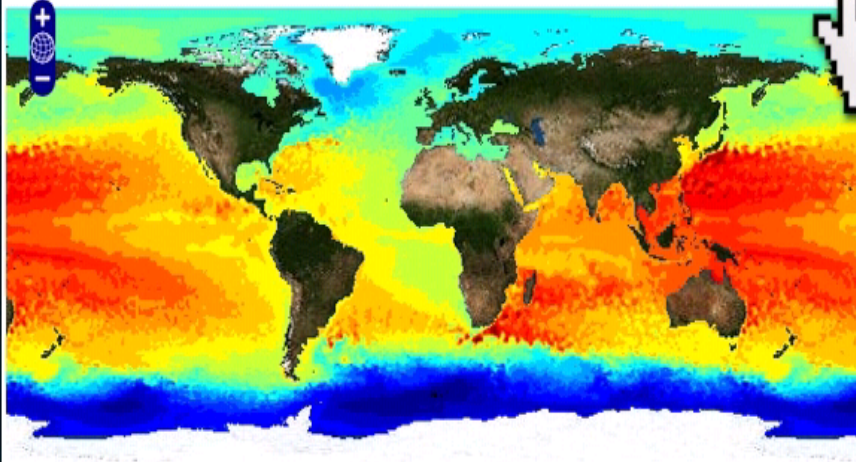
Dataset: CLASS1 MERCATOR PSY3V3R1 (with bathy mask)

Variable: sea\_surface\_height\_above\_geoid

Units: m

Time: 2013-03-26 00:00:00.000Z

Elevation:



opaque

linear

- [Documentation](#)
- [View in MyOcean catalogue](#)
- [Open in Google Earth](#)
- [Permalink](#)
- [Email Link](#)
- [Export to PNG](#)

## SELECT YOUR:

- DATASET
- VARIABLE
- DATE

## CHANGE GEOGRAPHIC PROJECTION

(e.g. NORTH POLAR STEREOGRAPHIC)

## SAVE AS .KMZ

GoogleEarth format



MAKE A MOVIE

No need to be registered to **VIEW** product

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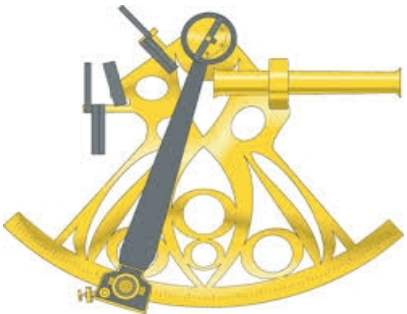


# MyOcean Product Metadata Information System

MyOcean Information System uses GEONETWORK (within SEXTANT) in order to manage product metadata information -> up to date information about products:

1- providing **users** with a tool storing accurate product information and documentations.

2- providing **MyOcean** project with a tool for monitoring capability (system monitoring, transaction accounting, product dependency monitoring)

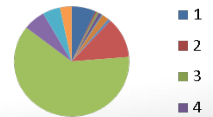
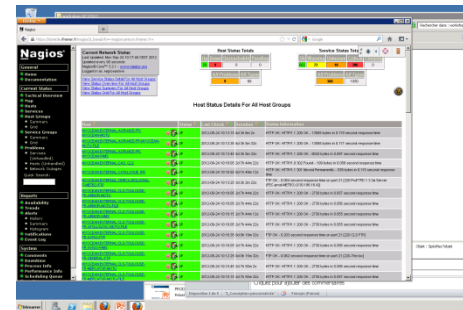
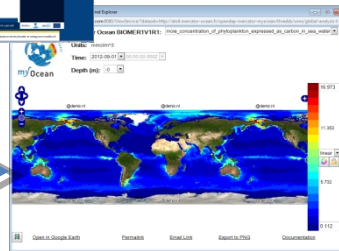
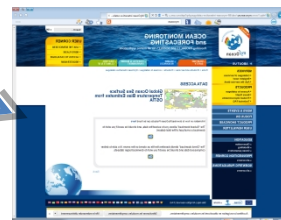


GeoNetwork  
OpenSource



# Geonetwork: a key repository for product information

## What do we use Geonetwork Metadata for?



- **Catalogue of Product Editing: information and documentation about products**
- **WebPortal: search engine criteria**
- **Download services (URL for download mechanism)**
- **Viewing services: (URL for WMS)**
- **System and Production monitoring (Is product on time on delivery mechanism?)**
- **Transaction accounting (statistics about users behaviour)**
- **Product Dependency Monitoring (Manage future Satellite Data requirements...)**



# Main Roles associated to technical/product/service

## Central roles associated to technical/product/service tasks

- Central Change Manager and Release Manager
- Central Product Manager
- CIS Technical Manager
- Central Service Transition Manager
- Test Integration/Verification/Validation
- Database administrator

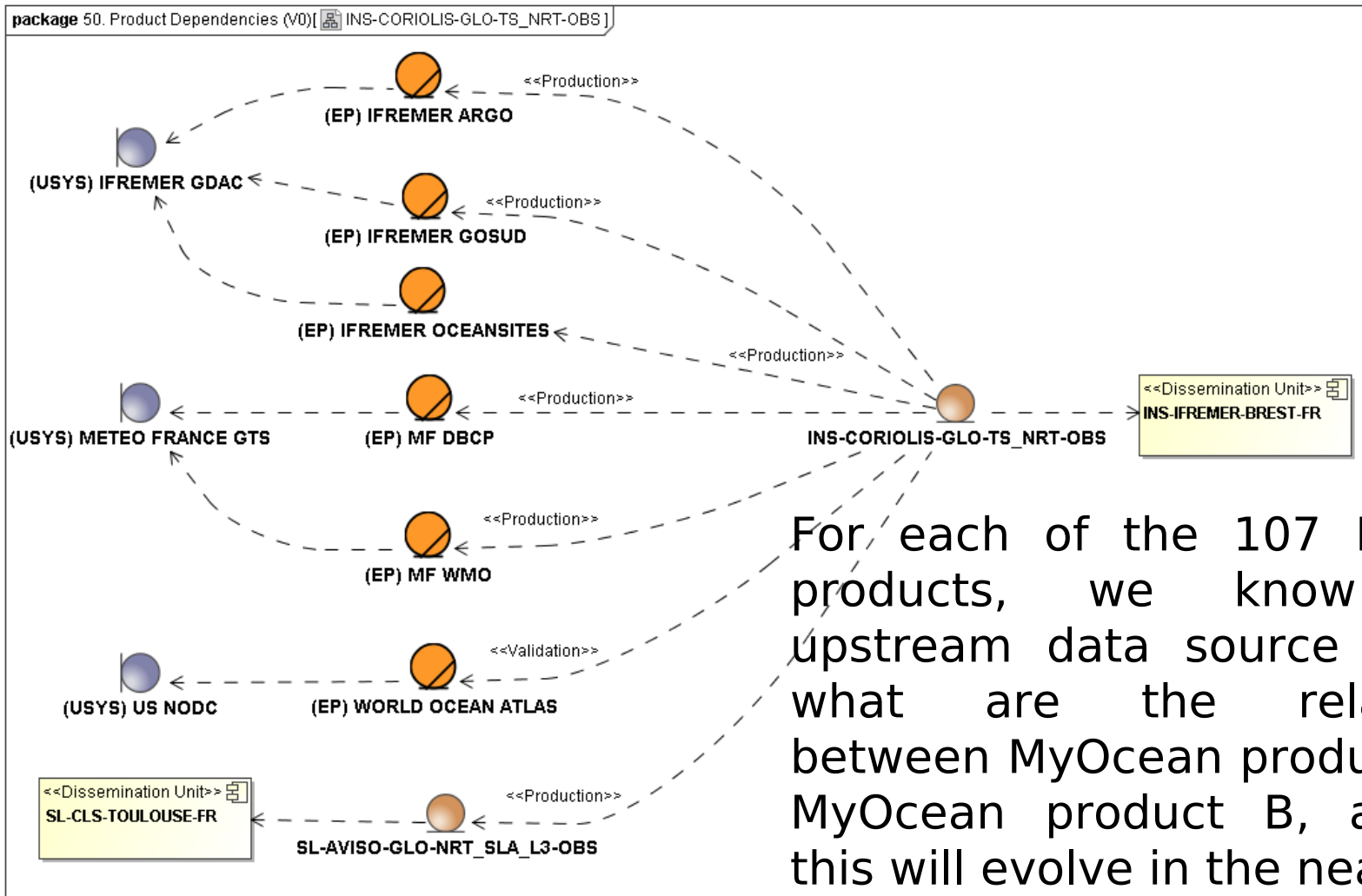
## Local roles associated to technical/product/service tasks

- Release Manager
- Change Manager
- Product Manager [35 local product experts disseminated all over Europe]
- Technical Support
- Quality Expert

**Moreover, Geonetwork provides with a Validation Workflow in order to validate each metadata change**

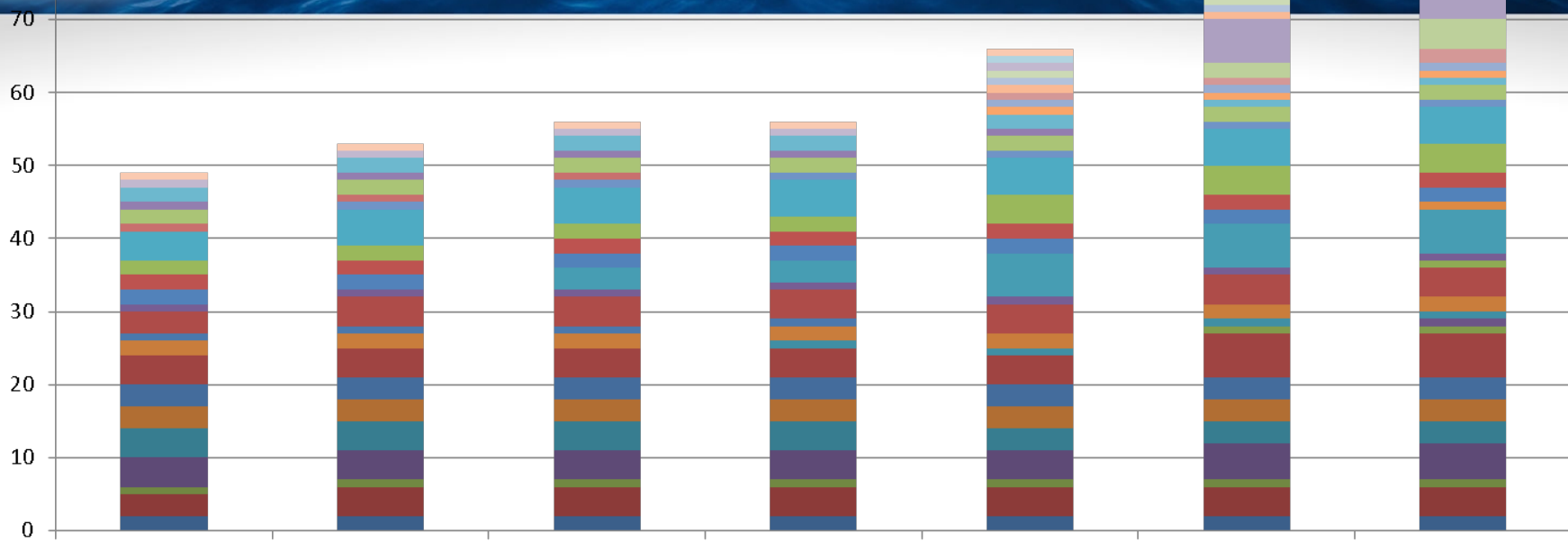


# Dependencies Dataflow Graphs





# Management of the MyOcean Satellite Data Upstream Requirements: Number of satellite/sensor products used to build MyOcean products



- AQUA
- DMSP F-15-16-17-18-19-20
- FY-4A-4B-4C-4D
- Geosat-Geosat Follow On (GFO)
- GOES-R-S-T-U
- HY-3A-3B-3C
- NOAA-15-16-17-18-19
- ORBVVIEW-2
- RADARSAT1-2-C1-C2-C3
- SENTINEL-1A-1B-1C
- SMOS
- TERRA
- COSMO-SkyMed 1-2-3-4
- ERS-1
- GCOM-C1-C2
- GOCE
- GRACE- GRACEFO
- JASON-1-2-3-CS
- OCAPI
- PLEIADES-1A-1B
- SAC-D
- SENTINEL-2A-2B-2C
- SUOMI-NPP
- TerraSAR-X
- CRYOSAT-2
- ERS-2
- GCOM-W1-W2-W3
- GOES-12-13-14-15
- HY-2A-2B-2C-2D
- Meteosat-8MSG1-9MSG2-10MSG3-11MSG4
- OCEANSAT-2-3-3A
- QUIKSCAT
- SARAL
- SENTINEL-3A-3B-3C
- Tandem-X
- TOPEX/POSEIDON





# MFC model products: which data is assimilated? **New After V3.0**

<u>MFC</u>	MONITORING (Analysis and Forecast)		MULTI YEAR (Non Assimilative Hindcast or Reanalysis)	
	PHYS	BIO	PHYS	BIO
			XXXX	XXXX
GLOBAL	XXX	0	X	XX
ARCTIC	XXXX	0		
BALTIC	0	0	XX	X
NWFC				

**0** No Data Assimilation (DA) (\*indirect DA through OBC)

**X X X X X** With Data Assimilation/nudging **SST Sealevel Insitu Sealice Chlorophyll**

**○** Not done yet but will be done before the end of Myo2 project



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# CONCLUSION

- **MyOcean Service and Catalogue of products: 107** Ocean Observations and Ocean Models Products.
- **Catalogue management** is achieved thanks to:
  - Choice of Ergonomic Tools
  - Experts who fill in the tool with accurate information

**THANK YOU!**