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# CMEMS IBI User & Training Workshop

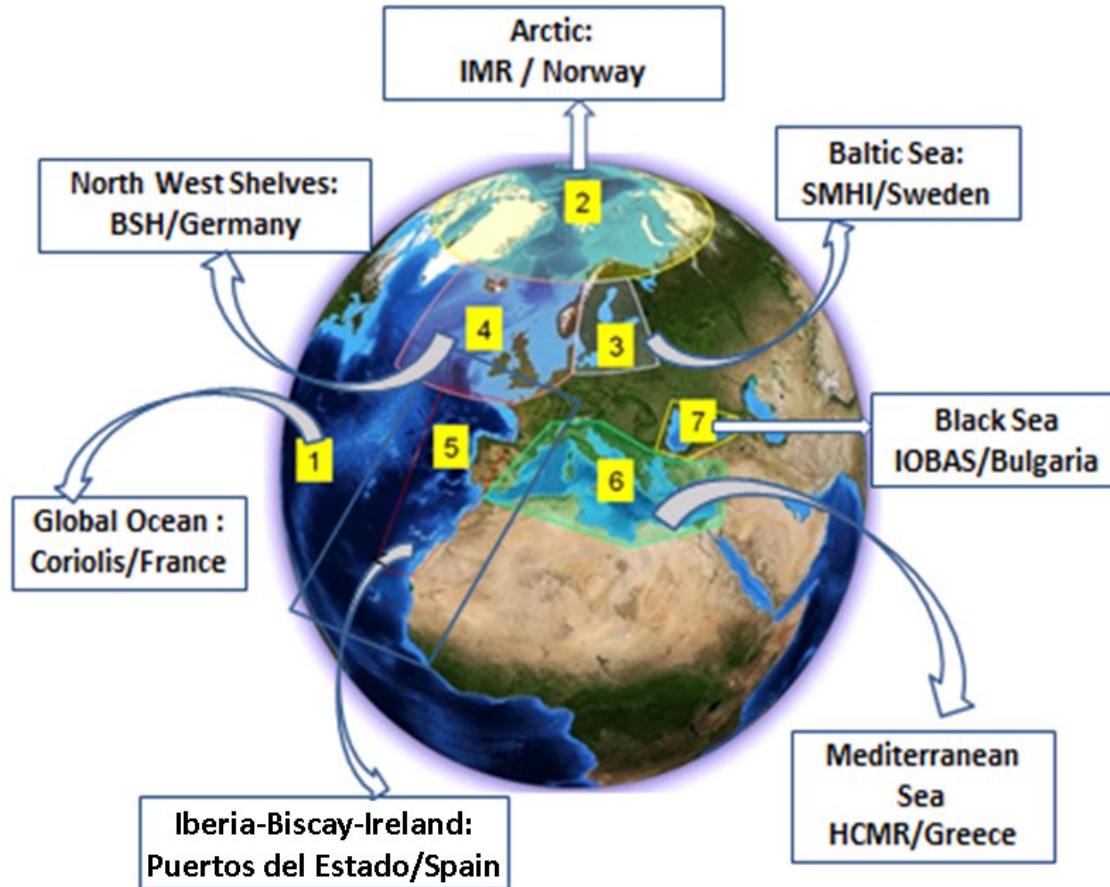


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# In Situ TAC

# In Situ TAC: Organization





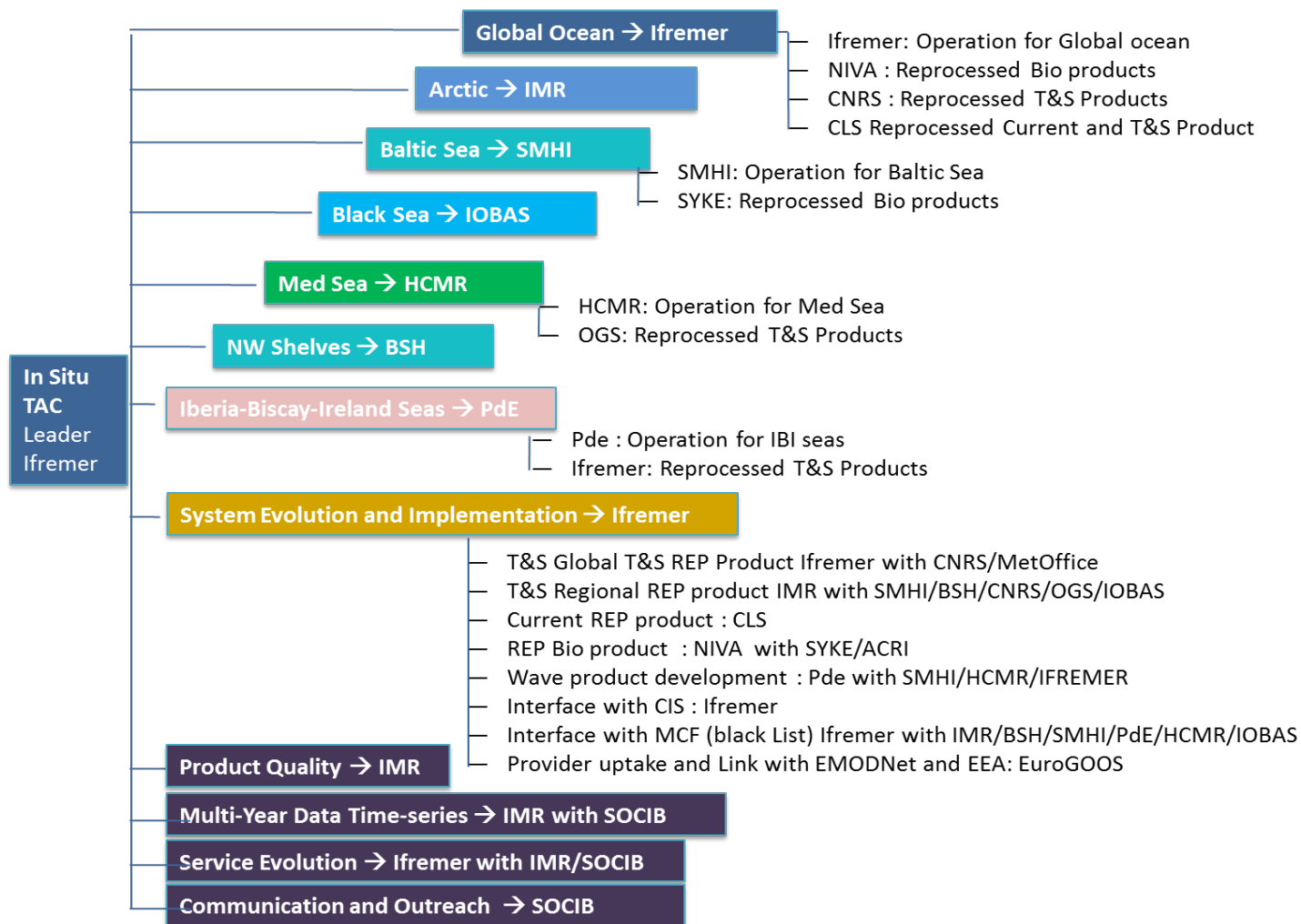
# In Situ TAC: Organization

## In Situ TAC:

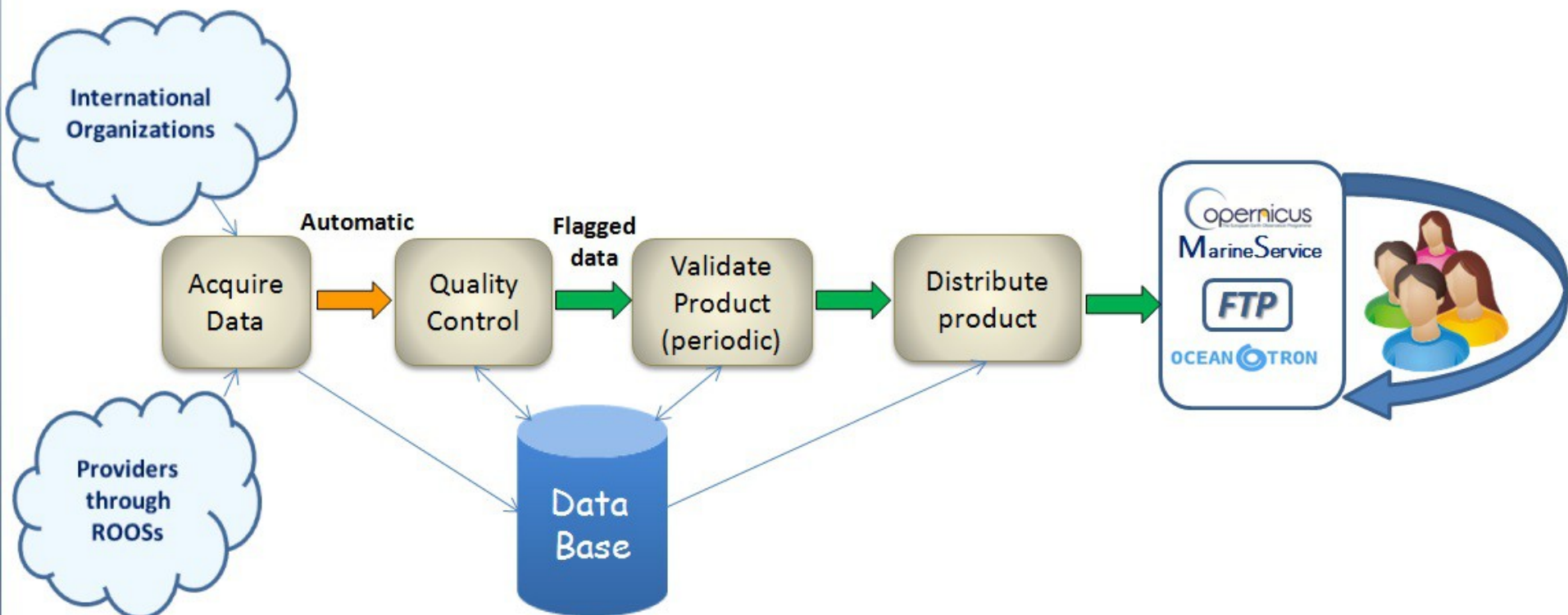
- **7 Components:** Global + 6 regions (Arctic, Baltic, NWS, IBI, MED and BlackSea).
- **Same data format** (NetCDF - OceanSites 1.2)
- **Same FTP structure**
- **Same RTQC & quality indexes**



# In Situ TAC: Work breakdown structure



# In Situ TAC: Implemented functions





# In Situ TAC: Data Access

Copernicus catalogue: <http://marine.copernicus.eu/>

The screenshot shows the Copernicus Marine Environment Monitoring Service website. At the top, there is a search bar with the text "Search terms" and an "OK" button. Below the search bar is a navigation menu with links for "ABOUT US", "BENEFITS", "NEWS", "SCIENCE & LEARNING", "TRAINING", and "SERVICES PORTFOLIO". The main content area is titled "ACCESS TO PRODUCTS" and includes a "FIRST VISIT ?" button. Below this, there is a section for "Select your:" with options for "AREA", "PARAMETERS", "TIME COVERAGE", and "OBSERVATIONS/MODELS". A list of regions is provided: "GLOBAL OCEAN", "ARCTIC OCEAN", "BALTIC SEA", "EUROPEAN NORTH WEST SHELF SEAS", "IBERIA-BISCAY-IRELAND REGIONAL SEAS", "MEDITERRANEAN SEA", and "BLACK SEA". A date stamp "2015 17 NOV" is visible next to the "EUROPEAN NORTH WEST SHELF SEAS" option. Below the list, there are four buttons: "PDF CATALOGUE", "OBSERVATIONS OVERVIEW", "ONLINE CATALOGUE" (circled in red), and "MODELS OVERVIEW". On the right side, there is a "SHORT-CUT TO SERVICES" menu with options: "REGISTER NOW", "VALIDATION STATISTICS", "ONLINE TUTORIALS", and "COLLABORATIVE FORUM". Below this is a "LATEST NEWS FLASH" section with the text "CMEMS:3325 WebPortal Downloading Services Temporary Unavailable Resolved" and an "ALL NEWS FLASH" button. At the bottom, there is a section for "EVENTS AGENDA" with a date "28 MONDAY" and a link for "PARTNERS AND STAKEHOLDERS". A "FOCUS ON" section highlights a "COLLOQUIUM - 23/27 MAY 2016 - THE 48TH INTERNATIONAL LIÈGE COLLOQUIUM ON OCEAN DYNAMICS" with the subtitle "Submesoscale Processes: Mechanisms, Implications and new Frontiers". A banner for "ANY QUESTION? Get help from the Service Desk" is at the bottom right. The footer includes the European Union logo and the Copernicus logo, along with links for "ABOUT US", "PARTNERS & STAKEHOLDERS", and "BENEFITS".

# In Situ TAC: Data Access

ONLINE CATALOGUE
CATALOGUE PDF
FIRST VISIT ?
MY CART

**AREA**

All areas

Global Ocean (6)

Arctic Ocean (2)

Baltic Sea (2)

European North-West Shelf Seas (2)

Iberia-Biscay-Ireland Regional Seas (2)

Mediterranean Sea (2)

Black Sea (2)

**PARAMETER**

All parameters

Ocean Temperature (18)

Ocean Salinity (18)

Ocean Currents (9)

Sea Ice (0)

Sea Level (9)

Winds (0)

Ocean Optics (0)

Ocean Chemistry (7)

Ocean Biology (0)

Ocean Chlorophyll (7)

**TIME COVERAGE**

All time coverages

Forecast Products (0)

Near Real Time Products (9)

Multi Year Products (9)

Time Invariant Products (0)

**OBSERVATIONS/MODELS**

All observations/models

Models (0)

Satellite Observations (2)

In Situ Observations (18)

**GRID TYPE**

**GLOBAL OBSERVED OCEAN PHYSICS TEMPERATURE SALINITY HEIGHTS AND CURRENTS PROCESSING**

**In-Situ-Observation, Satellite-Observation, Salinity, Temperature, Currents, Sea-Level, Near-Real-Time, Global-Ocean**

GLOBAL\_ANALYSIS\_PHYS\_001\_016

You can find here the Global T,S,H,U,V Armor-3D L4 Analysis: Combined products from satellite observations (Sea Level Anomalies, Mean Dynamic Topography and Sea Surface Temperature) and in-situ (Temperature and Salinity profiles) on a 1/4 degree regular grid;

[MORE INFO](#)
[ADD TO CART](#)

**GLOBAL OBSERVED OCEAN PHYSICS TEMPERATURE SALINITY AND CURRENTS REPROCESSING (1993-2012)**

**In-Situ-Observation, Satellite-Observation, Salinity, Temperature, Currents, Sea-Level, Multi-Year, Global-Ocean**

GLOBAL\_REP\_PHYS\_001\_013

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 1/4 degree regular grid over the time period 1993-2012.

[MORE INFO](#)
[ADD TO CART](#)

**GLOBAL OCEAN- IN-SITU NEAR-REAL-TIME OBSERVATIONS**

**In-Situ-Observation, Ocean-Chlorophyll, Ocean-Chemistry, Sea-Level, Salinity, Temperature, Currents, Near-Real-Time, Global-Ocean**

INSITU\_GLO\_NRT\_OBSERVATIONS\_013\_030

For the Global Ocean- The In Situ Thematic Assembly Centre (INS TAC) integrates near real-time in situ observation data. These data are collected from main global networks (Argo, GOSUD, OceanSITES, GTS) completed by European data provided by EUROGOOS regional systems and national data providers assembled by the In Situ TAC regional components. The data are quality controlled using automated procedures and assessed using statistical analysis residuals. It is updated continuously and provides observations with 24-48 hours from acquisition in average.

[MORE INFO](#)
[ADD TO CART](#)

**GLOBAL OCEAN- REAL TIME IN-SITU OBSERVATIONS OBJECTIVE ANALYSIS**

**In-Situ-Observation, Salinity, Temperature, Near-Real-Time, Global-Ocean**

INSITU\_GLO\_TS\_OA\_NRT\_OBSERVATIONS\_013\_002\_a

For the Global Ocean- Gridded objective analysis fields of

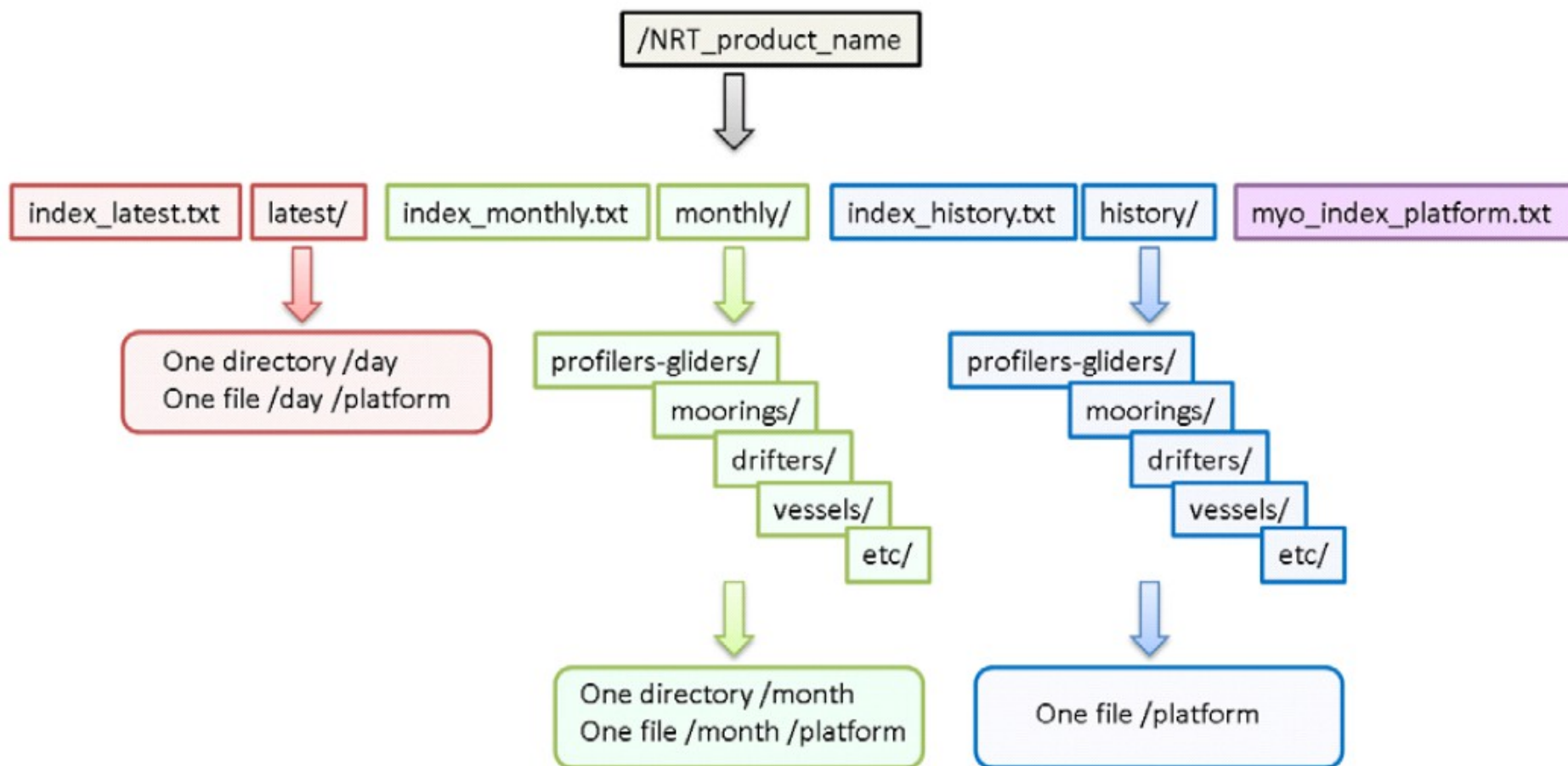
[MORE INFO](#)
[ADD TO CART](#)





# In Situ TAC: FTP structure

## MyOcean – Copernicus user & passwd





# In Situ TAC: index files

## index\_latest.txt

```
# Title : in-situ observations catalog
# Description : catalog of available IBI in-situ observations per platform.
# Project : MyOcean (generated by Puertos del Estado-SPAIN).
# Format version : 1.1.
# Date of update : 20151120072253
# product_id,file_name,geospatial_lat_min,geospatial_lat_max,geospatial_lon_min,geospatial_lon_max,time_coverage_start,time_coverage_end,
# provider,date_update,data_mode,parameters
MYO_IBIROOS_01,ftp://arcas.puertos.es/Core/INSITU_IBI_NRT_OBSERVATIONS_013_033/latest/20151109/GL_LATEST_PR_GL_58970_20151109.nc,43.3013,43.38,7.91735,8.03727,2015-11-09T01:19:34Z,2015-11-09T22:43:07Z,INSU Institut National des Sciences de l'Univers,2015-11-17T08:12:15Z,R,DC_REFERENCE PRES CNDC TEMP_DOXY CDOM TEMP PSAL
MYO_IBIROOS_01,ftp://arcas.puertos.es/Core/INSITU_IBI_NRT_OBSERVATIONS_013_033/latest/20151110/GL_LATEST_PR_GL_58970_20151110.nc,43.2865,43.3531,7.91254,8.0125,2015-11-10T01:02:48Z,2015-11-10T23:49:14Z,INSU Institut National des Sciences de l'Univers,2015-11-17T08:13:24Z,R,DC_REFERENCE PRES CNDC TEMP_DOXY CDOM TEMP PSAL
MYO_IBIROOS_01,ftp://arcas.puertos.es/Core/INSITU_IBI_NRT_OBSERVATIONS_013_033/latest/20151022/IR_LATEST_TS_MO_13130_20151022.nc,28.19336,28.19824,-15.79834,-15.79102,2015-10-22T00:00:00Z,2015-10-22T23:00:00Z,Puertos del Estado (Spain), 2015-10-24T18:10:03Z,R,DEPH VTDH VTZA VDIR ATMS DRYT WSPD WDIR HCSP HCDT TEMP PSAL
MYO_IBIROOS_01,ftp://arcas.puertos.es/Core/INSITU_IBI_NRT_OBSERVATIONS_013_033/latest/20151023/IR_LATEST_TS_MO_13130_20151023.nc,28.18848,28.19824,-15.80078,-15.79102,2015-10-23T00:00:00Z,2015-10-23T23:00:00Z,Puertos del Estado (Spain),2015-10-25T18:10:02Z,R,DEPH VTDH VTZA VDIR ATMS DRYT WSPD WDIR HCSP HCDT TEMP PSAL
```

## myo\_index\_platform.txt

```
# Title : in-situ platforms catalog
# Description : catalog of available IBI in-situ platforms.
# Project : MyOcean (generated by Puertos del Estado-SPAIN).
# Format version : 1.0.
# Date of update : 20151120074057
# platform_code,creation_date,update_date,wmo_platform_code,data_source,institution,institution_edmo_code,parameter,last_latitude_observation,
# last_longitude_observation,last_date_observation
1900602,2010-01-01T00:00:00Z,2014-12-13T20:56:01Z,1900602,GL_LATEST_TS_PF_1900602 GL_XXXXXX_TS_PF_1900602,IFREMER,1054,DC_REFERENCE POSITIONING_SYSTEM PRES TEMP PSAL,9.96921E36,9.96921E36,2013-04-23T21:36:58Z
1900616,2010-01-01T00:00:00Z,2013-04-06T11:39:35Z,1900616,GL_LATEST_TS_PF_1900616 GL_XXXXXX_TS_PF_1900616,SHOM,540,DC_REFERENCE POSITIONING_SYSTEM PRES PRES_ADJUSTED TEMP PSAL,48.857,-10.431,2010-09-07T12:35:27Z
62024,2010-01-01T00:00:00Z,2015-11-20T06:10:03Z,62024,IR_LATEST_TS_MO_62024 IR_XXXXXX_TS_MO_62024,Puertos del Estado (Spain),2751,DEPH VTDH VTZA VDIR ATMS DRYT WSPD WDIR HCSP HCDT TEMP PSAL,43.645,-3.04443,2015-11-20T05:00:00Z
62092,2010-01-01T00:00:00Z,2015-11-20T06:10:03Z,62092,IR_LATEST_TS_MO_62092 IR_XXXXXX_TS_MO_62092,Marine Institute (Ireland),396,DEPH VTDH VTZA WSPD WDIR,51.2162,-10.5506,2015-11-20T04:00:00Z
```



# In Situ TAC: File naming

## File naming convention in the latest directory:

- RR\_LATEST\_XX\_YY\_CODE\_YYYYMMDD.nc
- RR: region bigram
- LATEST: fixed name
- XX: TS (timeserie) or PR (profile)
- YY: data type
- CODE: platform code
- YYYYMMDD: year month day of observations
- .nc: NetCDF file name suffix

Example: GL\_LATEST\_PR\_GL\_58970\_20151112.nc

## File naming convention in the monthly directory:

- RR\_YYYYMM\_XX\_YY\_CODE.nc
- RR: region bigram (see table 2)
- YYYYMM : measurement date (YearMonth : 200901)
- XX: TS (timeserie) or PR (profile)
- YY: data type
- CODE: platform code
- .nc : NetCDF file name suffix

Example: IR\_201510\_TS\_MO\_62024.nc

## Data types

- BAdata from Bathy messages on GTS
- CT CTD profiles
- DBDrifting buoys
- FB FerryBox
- GL Gliders
- MO Fixed buoys or mooring time series
- PF Profiling floats vertical profiles
- RE Recopesca
- RF River flows
- TE data from TESAC messages on GTS
- TS Thermosalinographs
- XB XBT or XCTD profiles

## Region bigram

- GL Global
- AR Arctic
- BO Baltic
- NO North West Shelf
- IR IBI (Iberia-Biscay-Ireland)
- MO Mediterranean
- BS Black Sea



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# In Situ TAC: IBI component



# IBI INSTAC ORGANIZATION

## Operations. Roles & responsibilities:

- **Puertos del Estado:** Coordination. NRT production and validation (fixed stations). Waves REP development and assessment (Task 3.3).
- **Ifremer:** Contribution to the NRT production and validation for Lagrangian and underway platforms. T&S REP product assessment.

Institute	Coordination	Dissemination Unit DU	Production Unit PU	Product Quality NRT Assessment	Product Quality multi-year assessment (REP)
Puertos del Estado (PdE)	IBI	IBI	IBI MED	IBI	IBI (Waves)
Ifremer			IBI	IBI	IBI (T&S)



# IBI INSTAC: Providers

## Fixed stations (Moorings)

- Buoys
- Tide Gauges,
- Platforms,
- Lightships,
- River flow stations

## Providers

### -Spain:

- Puertos del Estado, IEO, Euskalmet, Xunta Galicia

### -Portugal:

- Instituto Hidrografico, University of Azores

### -France:

- SHOM, MétéoFrance, Ifremer, CETMEF, CEREMA

### -Ireland:

- Marine Institute

### -UK:

- UKMO, POL, CEFAS

## Lagrangian and underway stations:

### -Profilers-gliders:

- ARGO, CTD, Gliders, XBT and other profiles

### -Drifters

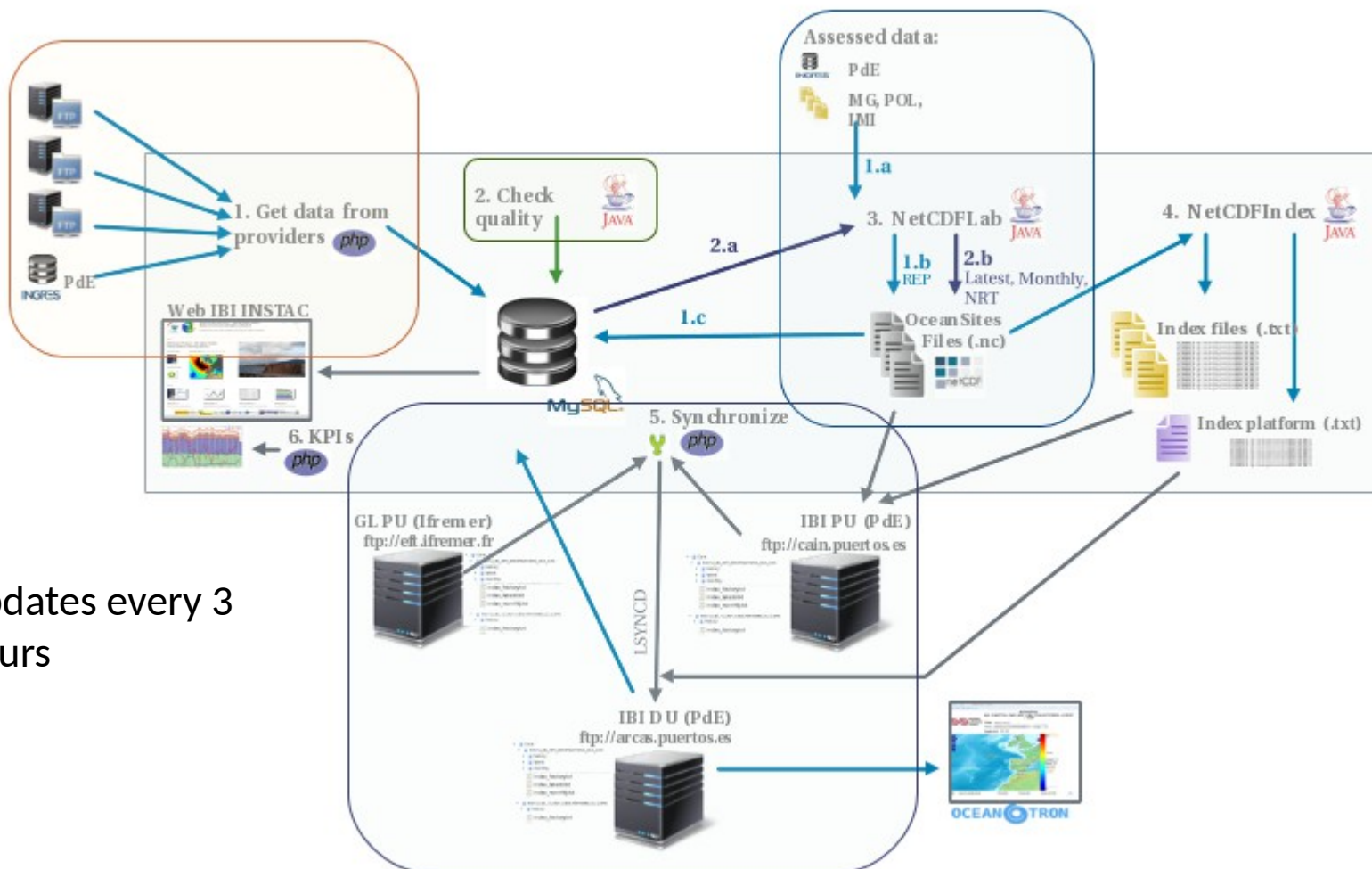
### -Vessels

## Providers

- **EuroARGO** (BSH, IEO, Ifremer, RNMI, UKMO, MI, SHOM, LOV,...)
- Data from **GTS** (Global Telecommunication System)
- **SeaDataNet** (Historical)
- Non European: NOAA, WOODS HOLE O.I., Univ. Washington, US Navy, Inst. Ocean Sciences Victoria, ...
- PLOCAN, Univ. College, SOCIB, IRD Brest, IRISH SHIPPING LTD, SBR, INSU,...

# IBI INSTAC: Data flow

## CMEMS IBI DU – Puertos del Estado



Updates every 3 hours