PdE Model Developments:
The Nominal MyO IBI System

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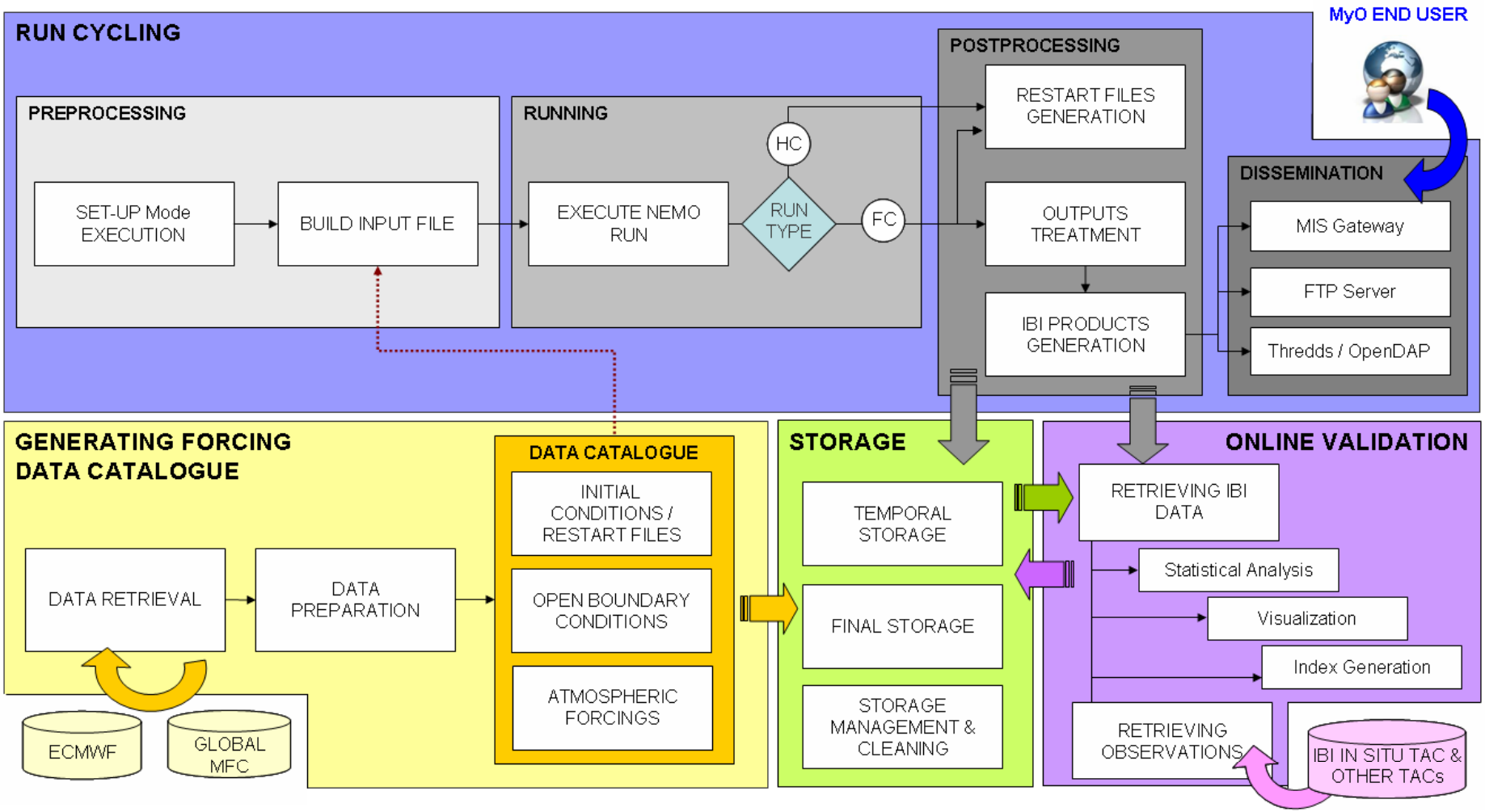
MY OCEAN

Marine Core Service

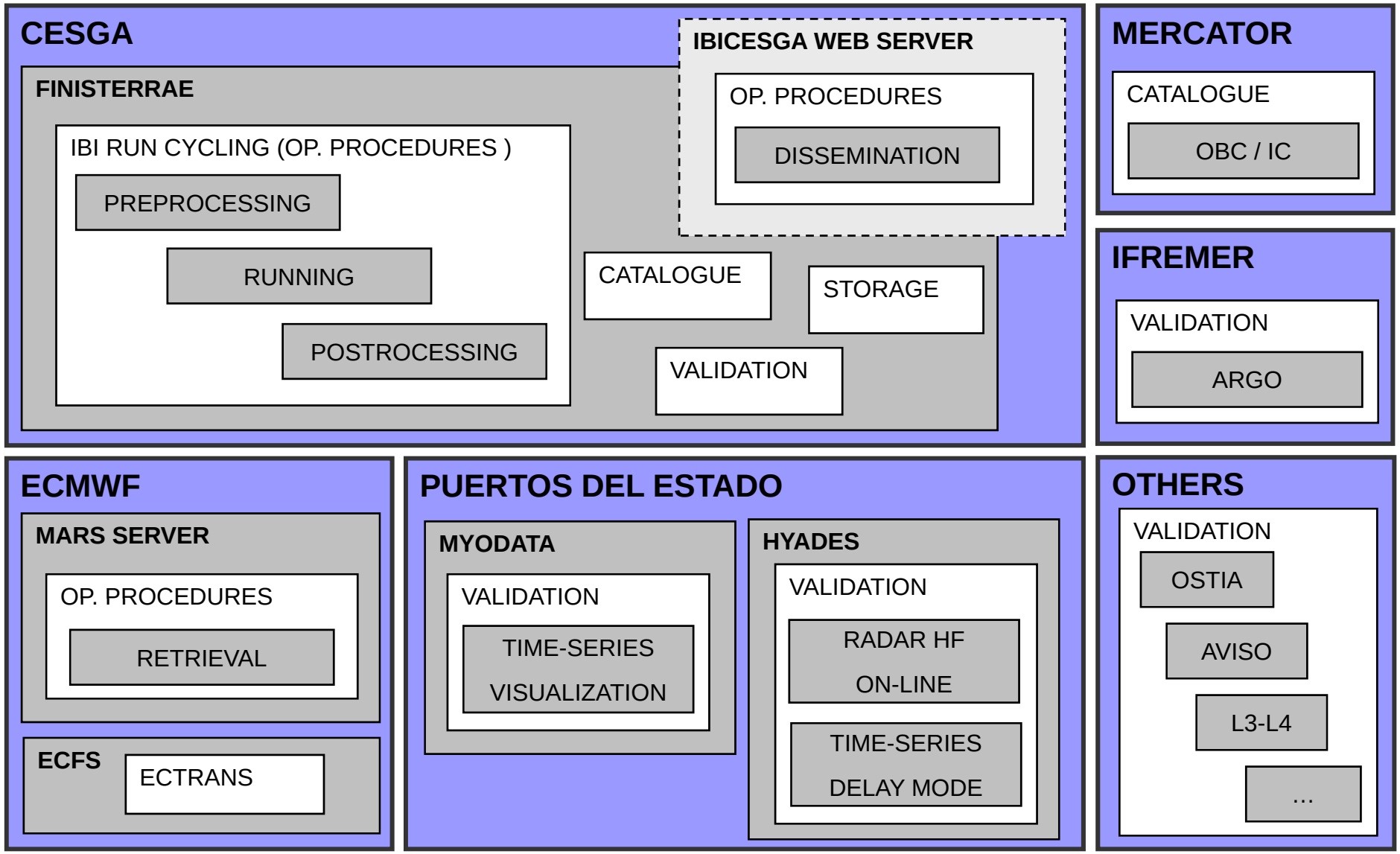
PdE IBI System: Operational scheme

Marine Core Service



PdE IBI System: Machine/servers map

Marine Core Service



MyO IBI products & dissemination

IBI Products

Daily Predictions (5-D FC horizon)

- Daily means (3D fields): TMP, SSH, SAL, UCU & VCU
- Hourly values (surface & single level var): SST SSH, UCU & VCU

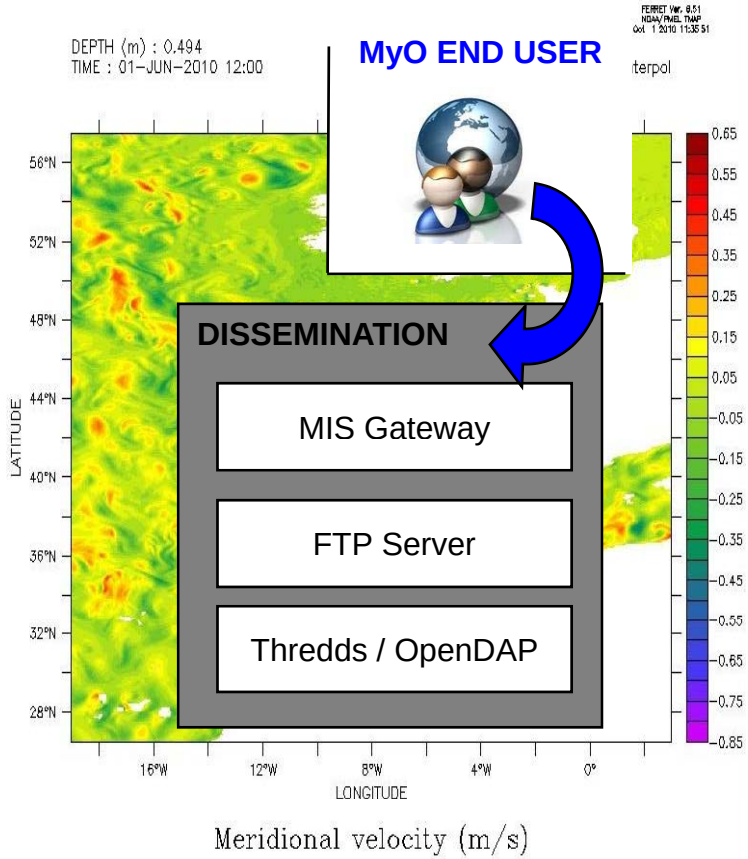
Data Dissemination

MIS-Gateway (www.myocean.org.eu)

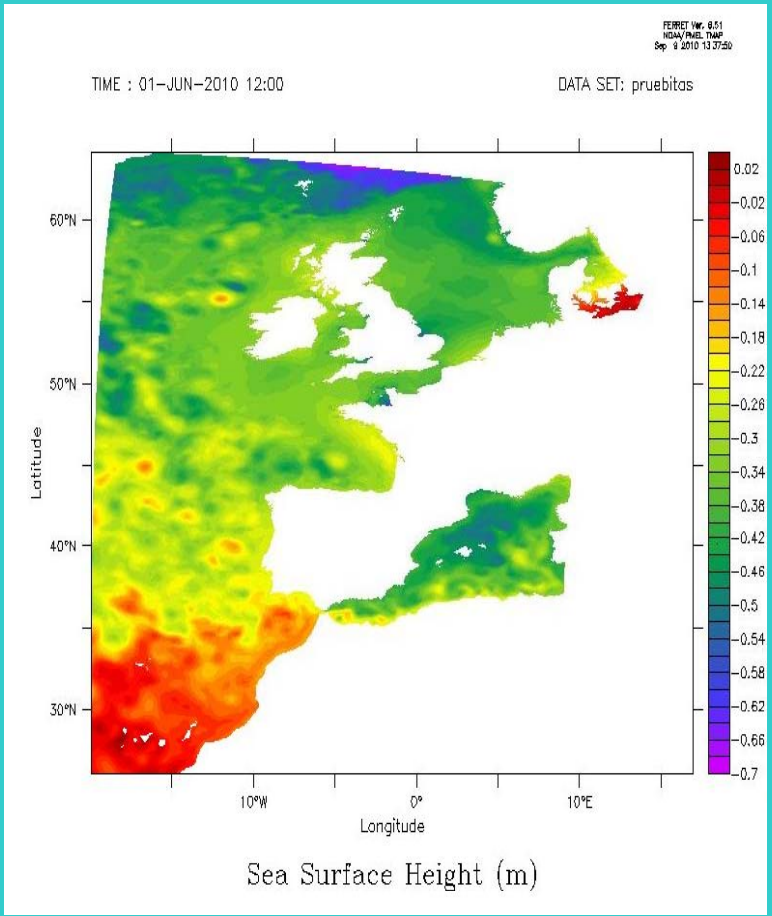
THREDDS/OpenDap: 1-yr IBI data available

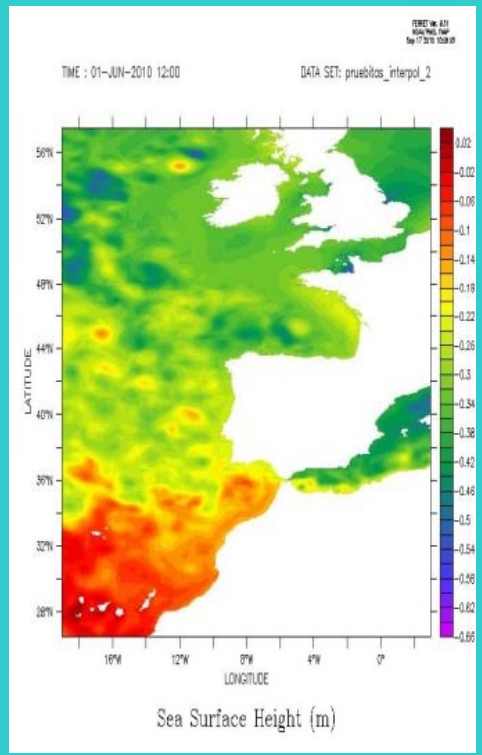
FTP : predictions of the day

Variables: TMP, SSH, SAL, UCU, VCU, THF, HHF, UHF, VHF



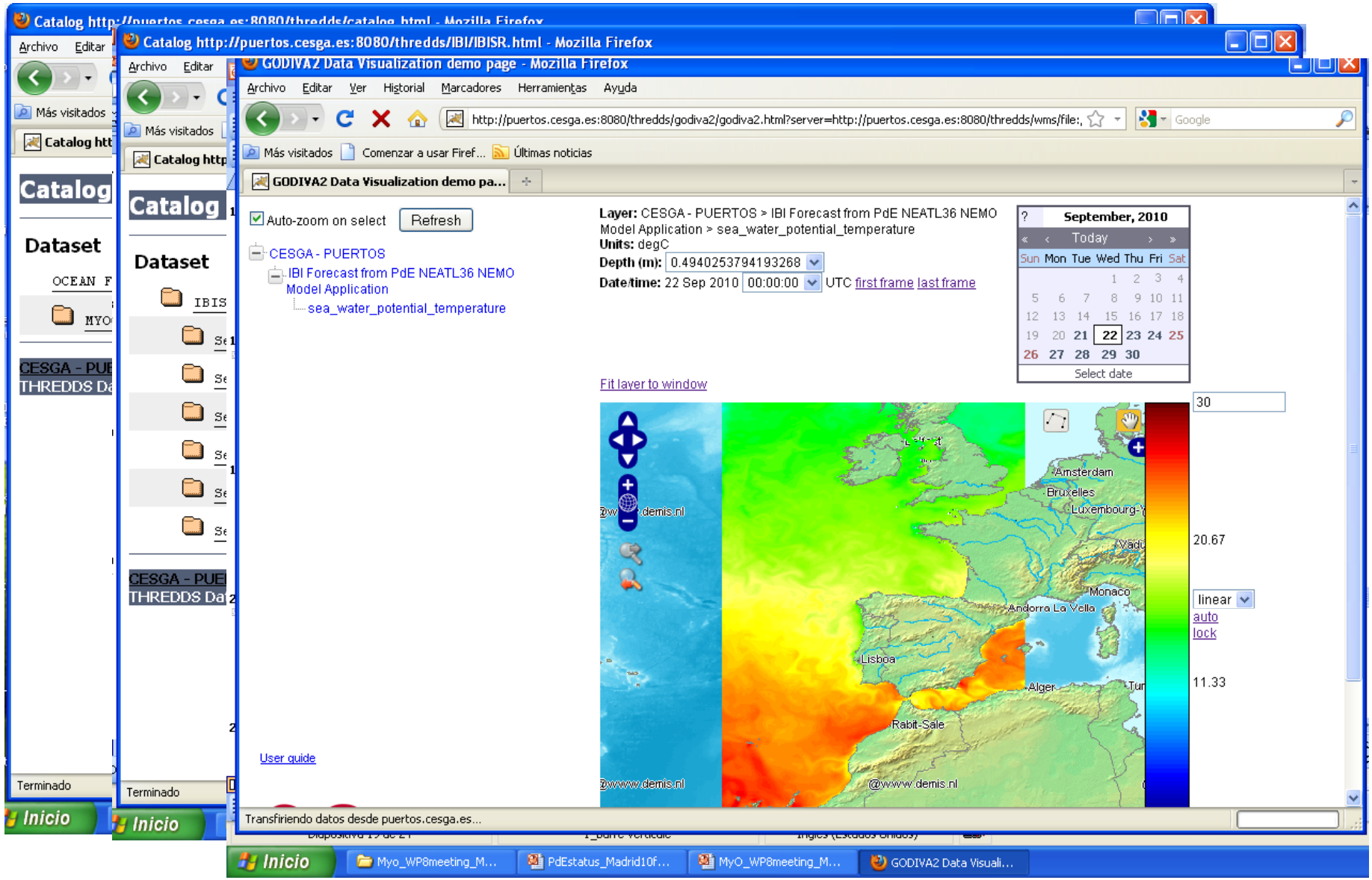
Distribution for users



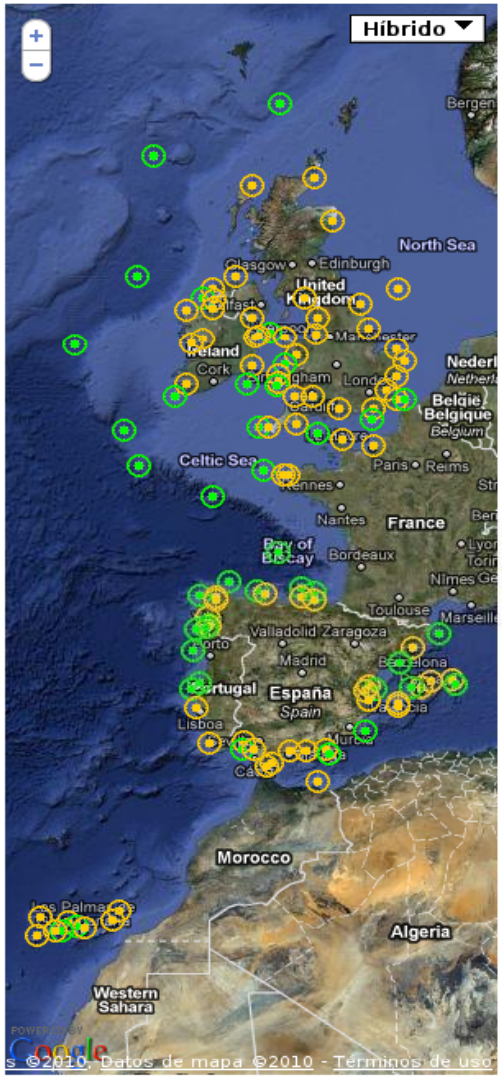


MyO IBI dissemination: Example of THREDDS/OpenDap/WMS Service

Marine Core Service



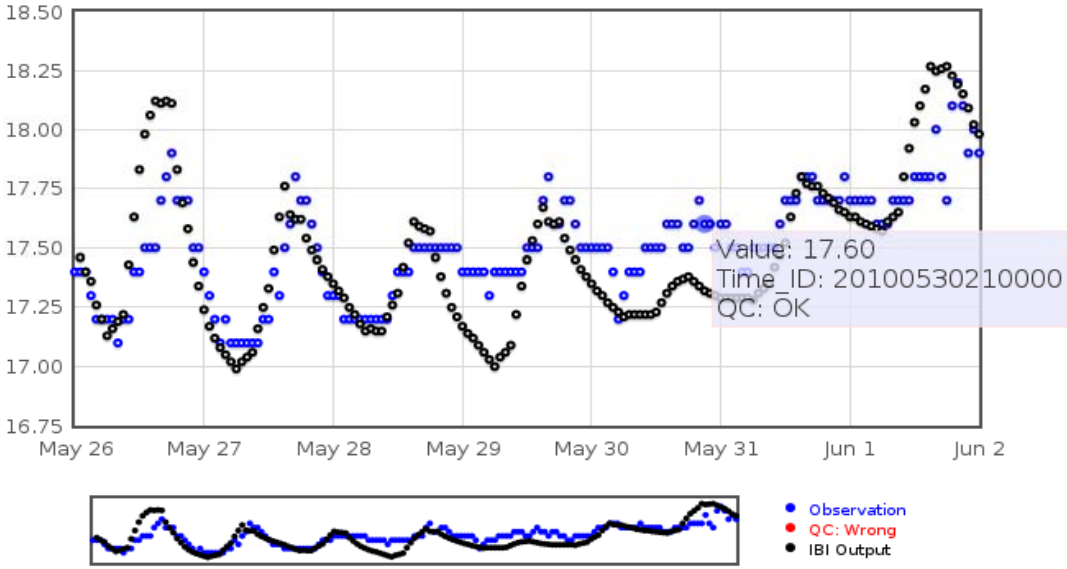
IBI Scientific Validation Plan



MyOcean IBI MFC

MyO IBI ON-LINE VALIDATION:
MOORING AND TIDE-GAUGE VISUALIZATION

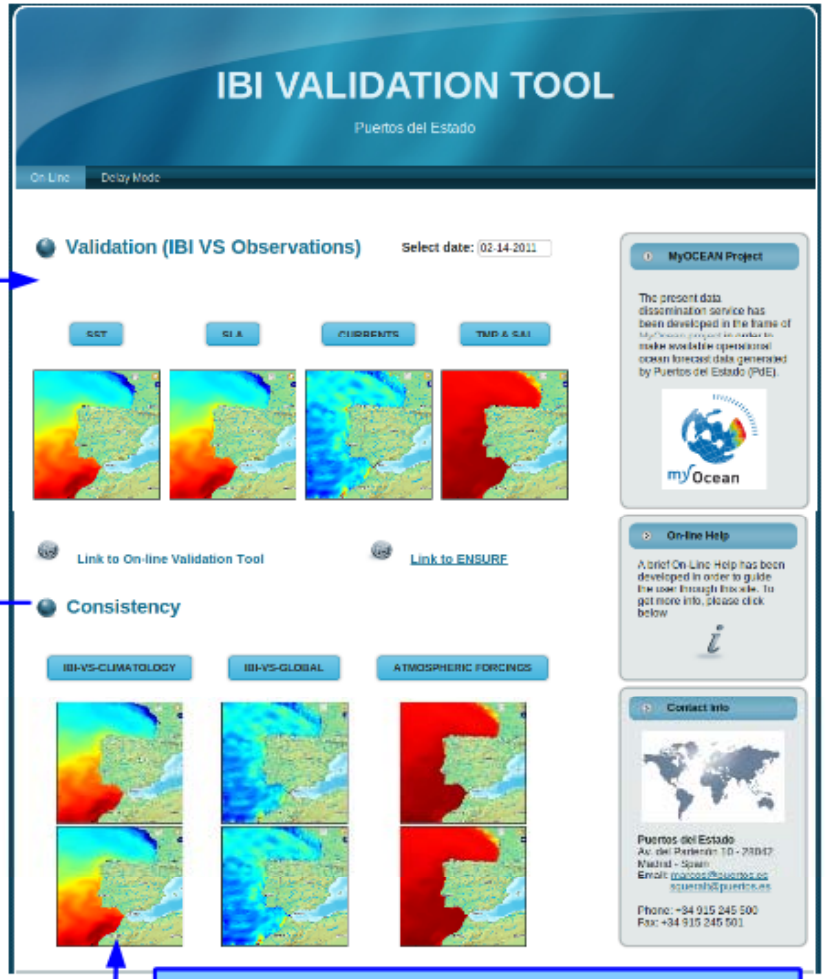
Data from **Bilbao_buoy** station.
Provider: **Puertos del Estado (Spain)**.
Param: **SEA WATER TEMPERATURE** (degree_Celsius).
Last received data: **20100602000000** (GMT)



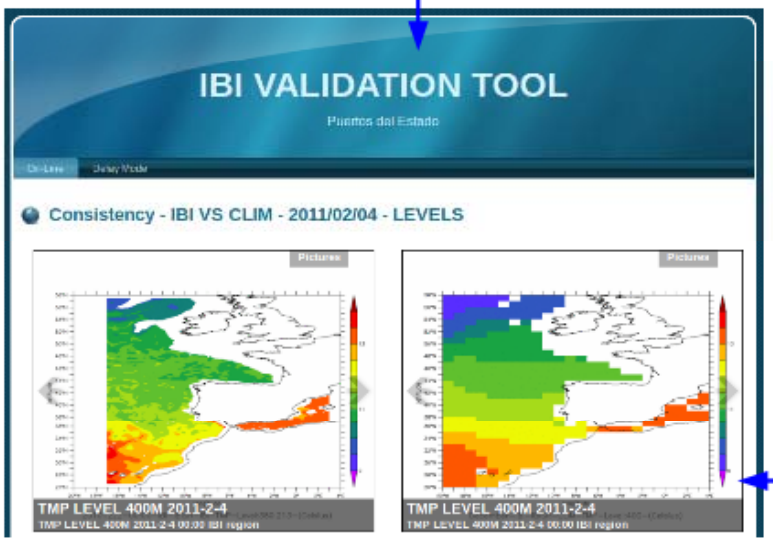
Observational data gathered and disseminated by Puertos del Estado.
Data Providers:

IBI On-Line Validation Tool

LOGIN page



ON-LINE VALIDATION page

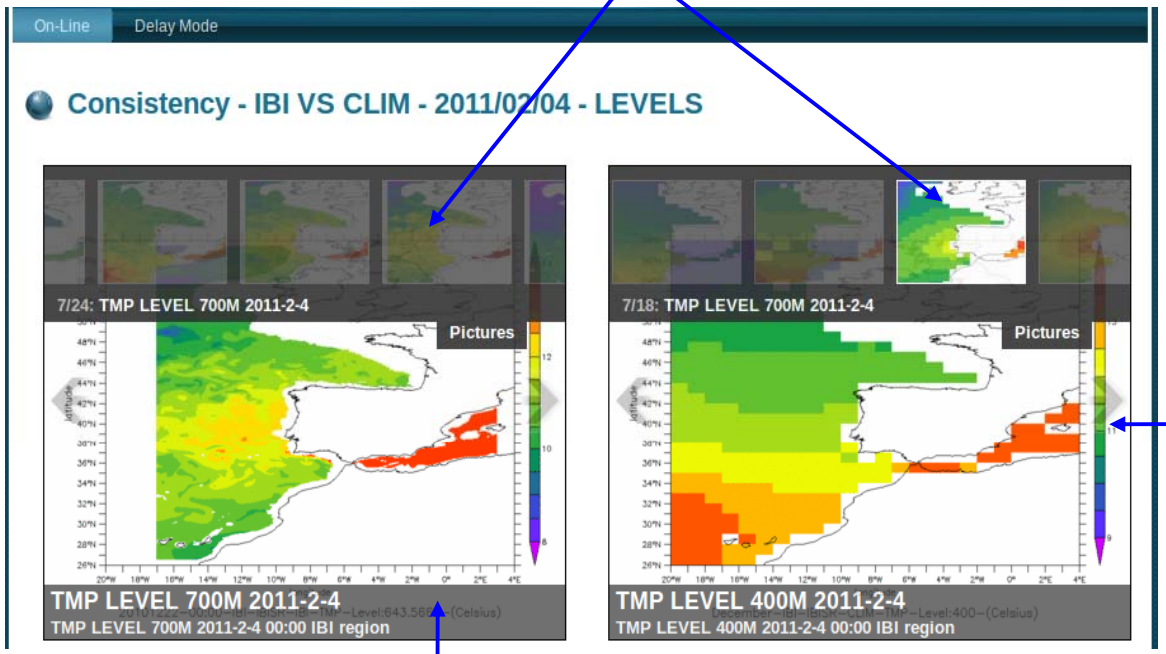


IBI versus CLIMATOLOGY page

IBI On-Line Validation Tool

Marine Core Service

Gallery of images: Select variable, level, etc. to compare



Legend

Arrows to move to the previous / next map

Characteristics (I)

Not only a front-end application

↓

Hard effort of code developing in order to get the most:

- Flexible
- Modular
- Parameter-based

tool

In this way, a solid and stable code architecture is achieved.

When a new source (model, observation, etc) is introduced...

… minimum modifications in the core code are required.

… just a new module has to be added, with its corresponding folders and properties files to set new source's features.

Characteristics (II)

Software involved

LOGIC

CSHELL (main scripts)
CDO (to work on netCdf files: set geographical area, level, section, time-step...)
FORTRAN (to carry out math operations)
FERRET (to plot maps)

WEB

HTML (display web page)
CSS (set web style)
JAVASCRIPT (login, events handler)

IBI On-Line Validation Tool

Flux Diagram

Pre-processing Stage

Preparing NetCdf Files in a proper way (**CDO**)

Load Properties Files

- Products (IBI, CLIM,ESEOAT...)
- Variables (SST, UCU, SAL...)

- Resolution
- Coverage
- Levels
- Etc...

- Units
- Range of values
- Etc...

Post-processing Stage

Time subsetting:
- Daily mean / hourly mean

Spatial subsetting:
- Geographical Area
- Levels / Sections

Variable subsetting

Set features to plot

Title, axis, labels, Palette, etc.

- Paint Levels
- Paint Sections
- Paint Profiles

OUTPUTS

Maps in .GIF format

IBI Validation WEB SITE

Collaboration Request from MyO IBI to any potential IBI-ROOS users:

Marine Core Service

- ✓ **Objective (From April 2011): Towards a new IBI-V2 (improving IBI local solutions)**
- ✓ **Feedback from any potential user welcome (valuable help to identify IBI problems & to improve IBI service in your areas of interest):**
  - ✓ **Please, report to us with:**
    - ✓ **Info on IBI performance over your interest areas**
    - ✓ **Model comparison (local vs IBI) and/or any validation exercise**
- ✓ **Local IBI-ROOS users expertise is requested to:**
  - ✓ **Optimize IBI Bathymetry (IBI vs IBIROOS user's bathymetries): Correct any artifacts (noticeable impact on local IBI solution)**
    - ✓ **PdE already in contact with Instituto Hidrografico de la Marina to check IBI bathymetry at Spanish waters.**
  - ✓ **Access to any real-time river discharge data from your areas.**

Any interested on trying to improve IBI solution over their interest areas, please contact to marcos@puertos.es