EuroGOOS

EOOS – How Argo can contribute

EuroARGO STAG
27 April 2016, Brest

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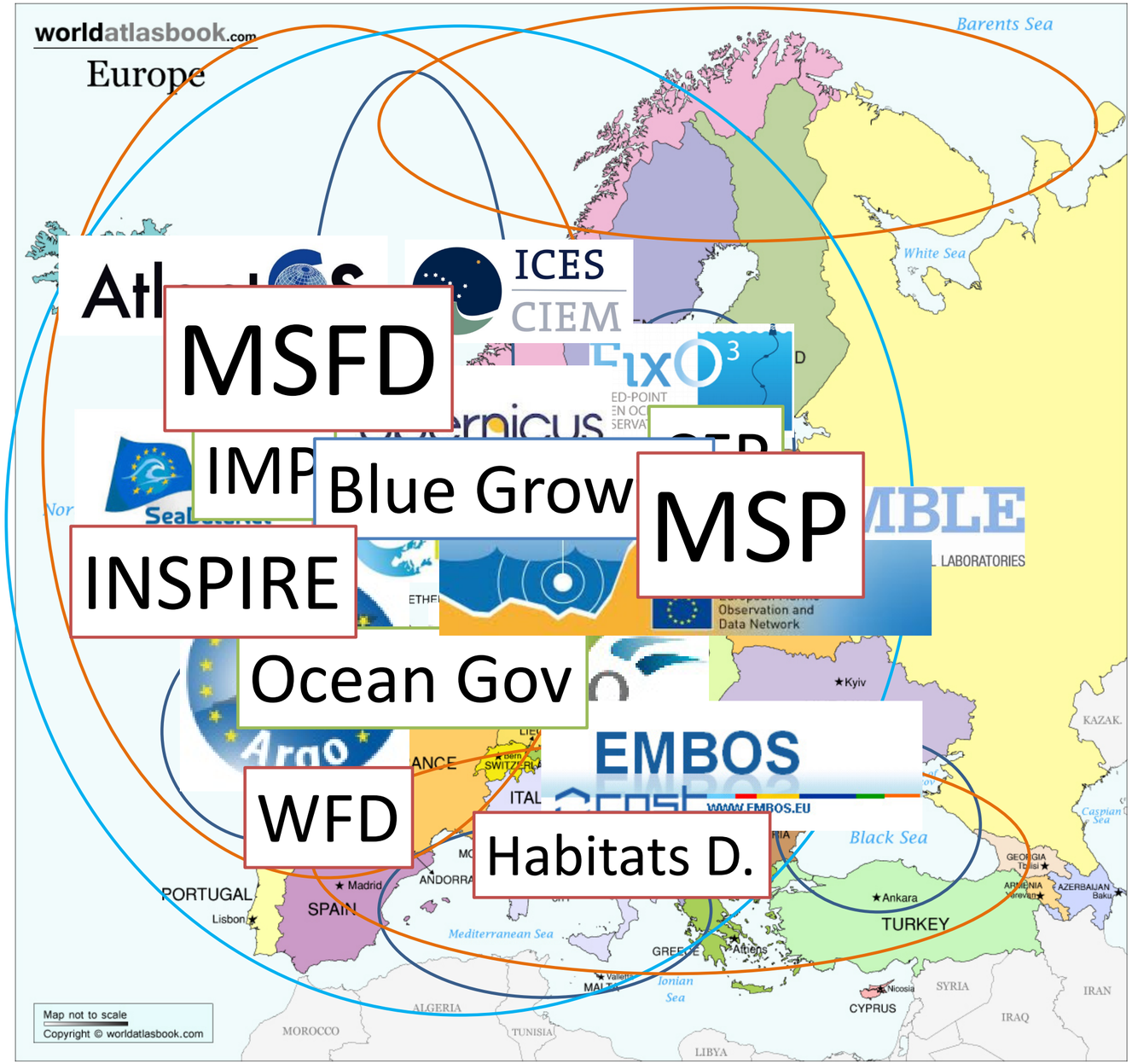


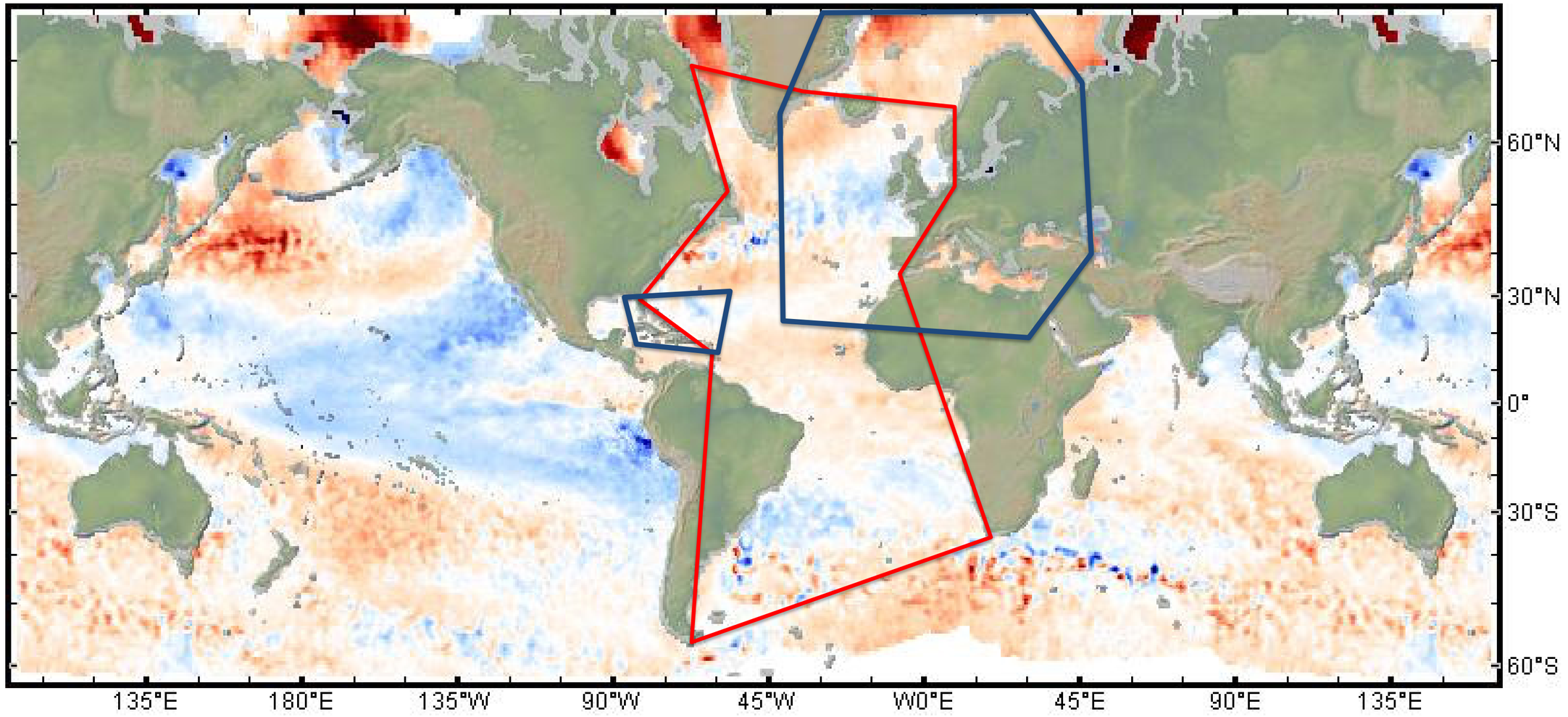
End-to-End

Inclusive

Common

Focal point

EOOS Geographic Scope



EuroGOOS
European Global Ocean Observing System

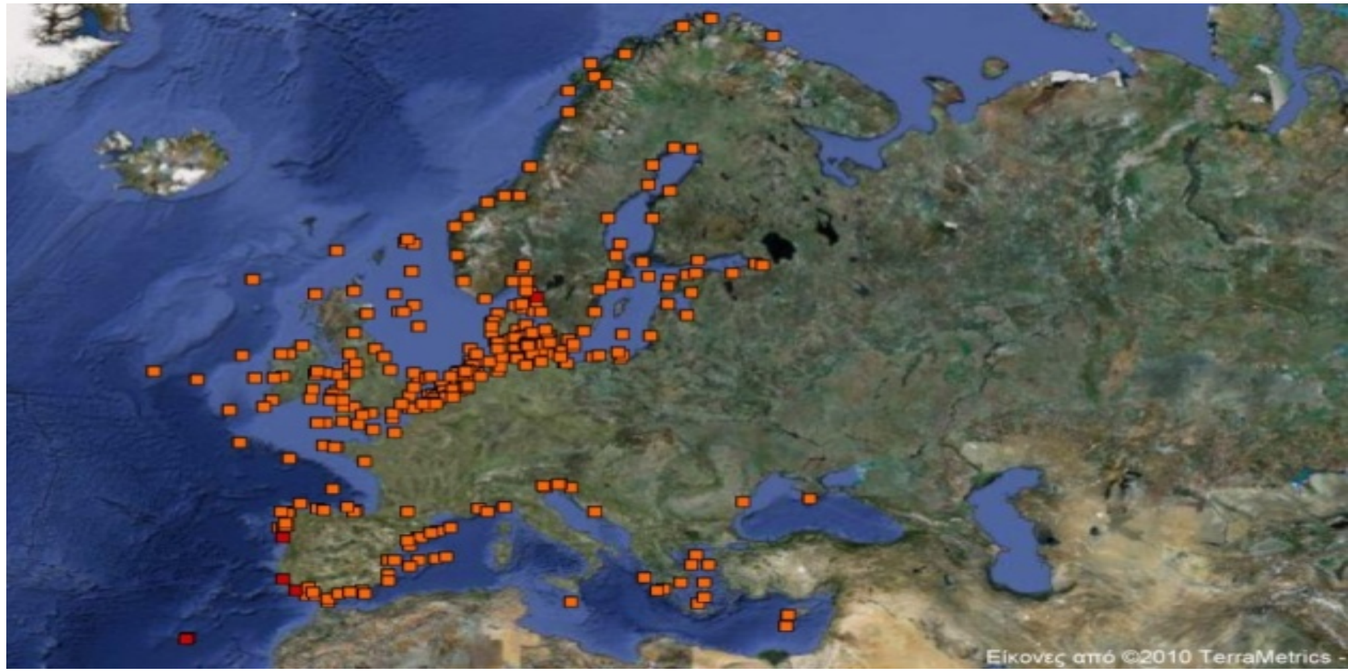
What do we have today in Europe?

- National systems (partially coordinated by EuroGOOS)
  - Variety of technologies and funding schemes; main synergies at regional level

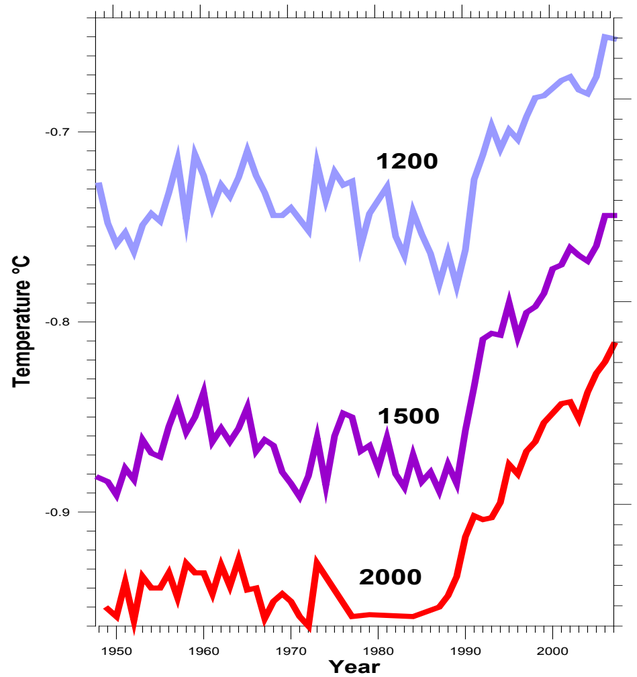
- Research infrastructure investments (FP, ESFRI)
  - EuroARGO, EMSO, ….
  - AtlantOS, FixO3, JERICO-NEXT, SEADATANET, …
  - ICOS - Carbocean

- EMODNET & Copernicus MS: integrators (and major users)
  - Not yet funding the in-situ component (observations)

What is missing ?



- **Spatial gaps**
  - horizontal – SE European seas;
  - vertical – deep sea is under-sampled;
- **Temporal gaps**
  - few complete time series;
- **Parameter gaps**
  - biogeochemical; sensors are now available;
- **Long term commitments**
  - more than 70% based on short term research funding;
- **Integrated monitoring strategy at European level**
  - Reduce overlaps; maximize synergies and benefits



EOOS Brainstorm Workshop

- Organised by EMB and EuroGOOS
- 20 observing experts
- Focus on:
  - Drivers
  - Definition
  - Purpose
  - Roadmap for the coming 2-3 years
- Report soon

Research

Societal

Technology

Environmental

Other

EOOS

EOOS is a coordinating framework designed to:

- ***align*** *and* ***integrate*** *Europe's ocean observing capacity;*
- ***promote*** *a systematic and collaborative approach to collecting information on the state and variability of our seas;*
- ***underpin sustainable management*** *of the marine environment and its resources*

EMB-EuroGOOS expert panel and Vision Document, 2008

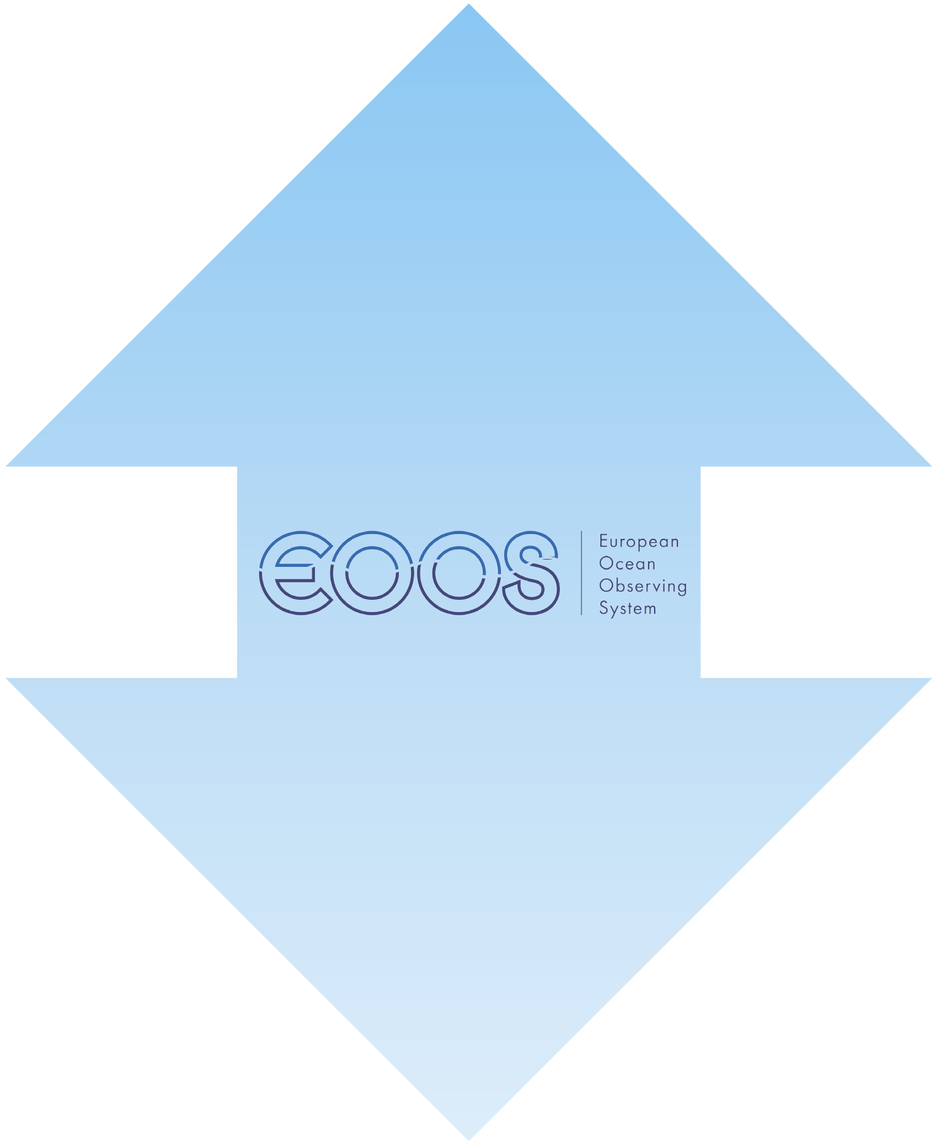
'End-to-end, integrated and inter-operable network of systems of European marine observations and data communications, management and delivery systems, supported by a comprehensive user-oriented toolkit to enable implementation of the Integrated Maritime Policy for Europe'.

EurOCEAN 2010 Ostend Declaration

'Truly integrated and sustainably funded European Ocean Observing System'.

May 2015: Expert brainstorming workshop in Brussels

Inclusive, integrated, and sustained
Link the currently disparate components by an overarching strategy
Maximizing the benefits of optimization, infrastructure use, standardization, open data exchange and capacity building
Light and flexible
Improving the existing efforts, for different end-users



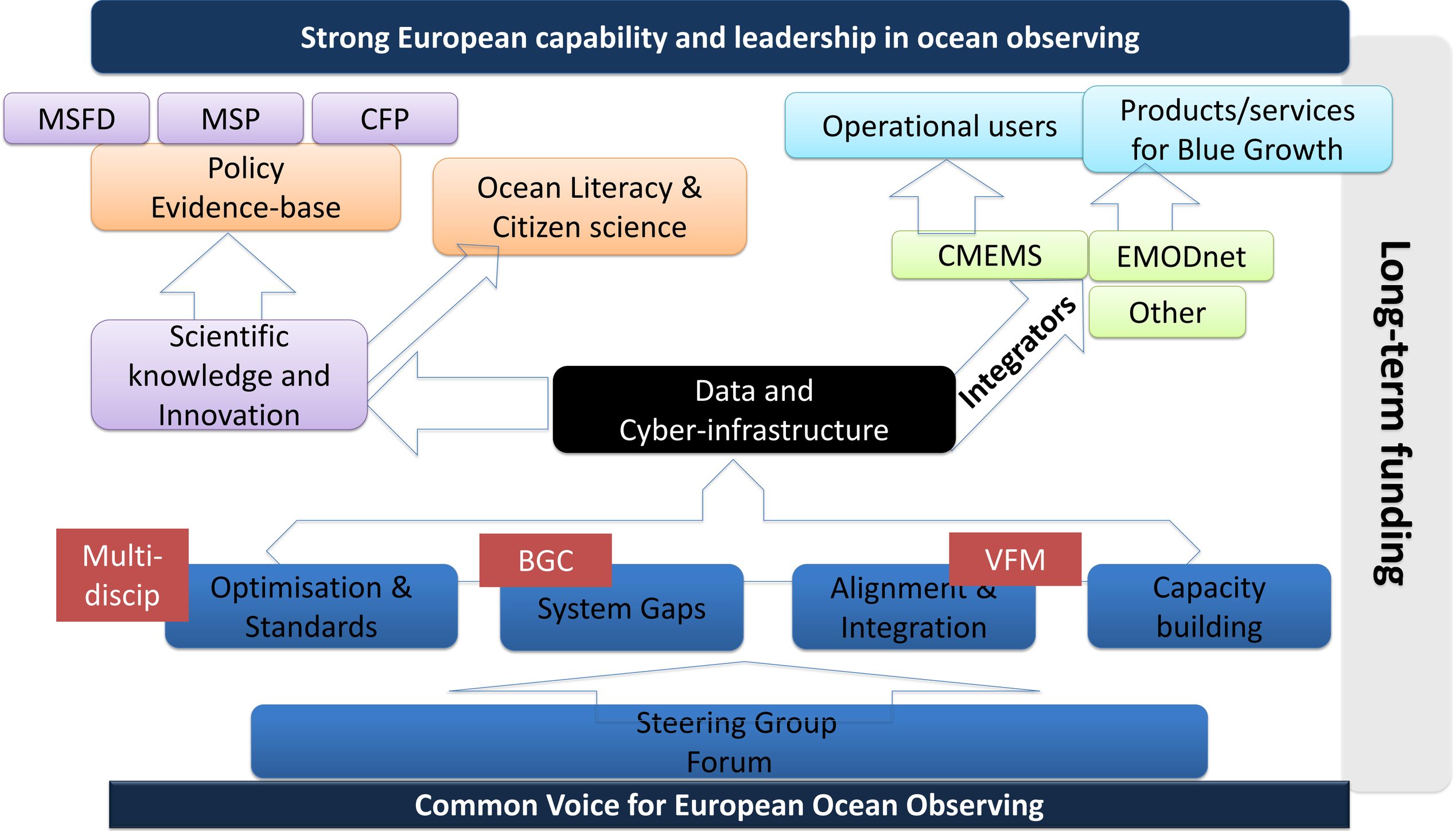
Both bottom up: community push

Top down: policy pull and support

Not an infrastructure or a system with a central governance BUT a **common** conceptual framework and a brand, endorsed and promoted, representing a **consolidated vision of the EU Ocean Observing as a whole**

EOOS will help:

- local/national/regional prioritization and funding
- pan-EU cooperation (communal synergies and projects targeted at filling the gaps)
- EU leadership at the global level


Strong European capability and leadership in ocean observing
MSFD
MSP
CFP
Policy
Evidence-base
Ocean Literacy &
Citizen science
Operational users
Products/services
for Blue Growth
CMEMS
EMODnet
Other
Integrators
Scientific
knowledge and
Innovation
Data and
Cyber-infrastructure
Multi-
discip
Optimisation &
Standards
BGC
System Gaps
VFM
Alignment &
Integration
Capacity
building
Steering Group
Forum
Common Voice for European Ocean Observing
Long-term funding

General Assembly

Executive Directors Board

Secretary General

EuroGOOS Office

ARCTIC | BOOS | IBI-ROOS | NOOS | MON-GOOS

EuroGOOS Working Groups

Science Advisory | Technology Planning | Data Exchange | Coastal Modelling | Product

EuroGOOS Ocean Observing Task teams

HF-Radar | Tide Gauges | Ferrybox | Gliders | Moorings | Euro-Argo

Marine mammals

The Global Ocean Observing System

GOOS

BOOS

describes the actual, anticipates the future, and classifies the state of the Baltic Sea!

mongoos

Arctic ROOS

NOOS

EuroGOOS
European Global Ocean Observing System

EuroGOOS Structure

EOOS Stakeholders

Institution

Legal entity

Programme

Project

EC

IOC

Mare

Res

Observations

GOOS

JCOMM

IODE

EuroGOOS

Euro-ARGO

EMSO ERIC

Processing & Modeling

EuroGOOS

Services

EC

ICES

CIESM

Mare

Res

WMO

IOC

Member state ocean observing activities

End Users

EMODNet

IOCCP

Copernicus

ODP/O BIS

DBCP

JERICO

AtlantOS

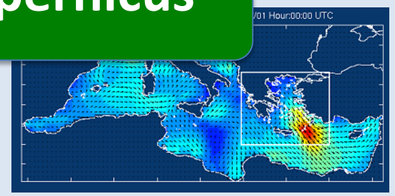
SeadataNet

IRSO/E RVO

Grow

GODAE-OV

Copernicus



EMODNet

Other

SB Checkpoints

EOOS: alignment with existing activity

Governance and policy context

SG members identified
Collaboration with EMB
Contact with ICES/JPI

GOOS Activity (FOO)
AtlantOS WP1
EEA in-situ coordination
CMEMS contract (TBD)
ROOS knowledge

Requirements for sustained ocean observations in Europe

AtlantOS OSSE/OSE
JERICO/ J-NEXT
DG MARE Sea basin checkpoints
EMODNET human activities
ROOS Activities

Observing system: current status and readiness

EuroGOOS/GOOS mapping
AtlantOS activity
JERICO NEXT
EMODNET inventory
EEA report

Gap analysis: OSE/OSSE experiments + Seabasin CP/ MSP

EOOS: alignment with existing activity

Unlocking valuable existing observational data sets not currently shared

EuroGOOS members
AtlantOS WP8
Planned in BG9 and BG12

Pilot demonstrators
Observing system benefits

EMODNET Physics 2/3
New EG and ROOS members
EuroGOOS (PG work)

Logo for approval
EuroGOOS communication role
Webpage roll-out
Planning Parliament event(s)
Communication to EG members

Defining gaps in the bathymetric mapping o the EOOS area

EMODNET Bathymetry
EC Seabed Mapping WG
EuroGeoSurveys

Communication and citizen science

EOOS progress to date

- **Web presence**: Initial EOOS website design and Logo
  EOOS-ocean.eu domain reserved
- **Promotion:** Poster at GO-SHIP-ARGO-IOCCP Conference
  AGU paper on gap analysis (Feb 2016)
  Discussion with JERICO WP leads and STAC
  Presentation to GOOS Regional Forum and OOPC/OCG
  EC Mapping Workshop (OO representative)
  EU-CA Session on Oceans
  Discussions with JPI and ICES
  Paper accepted for CIESM
  Dissemination through COLUMBUS

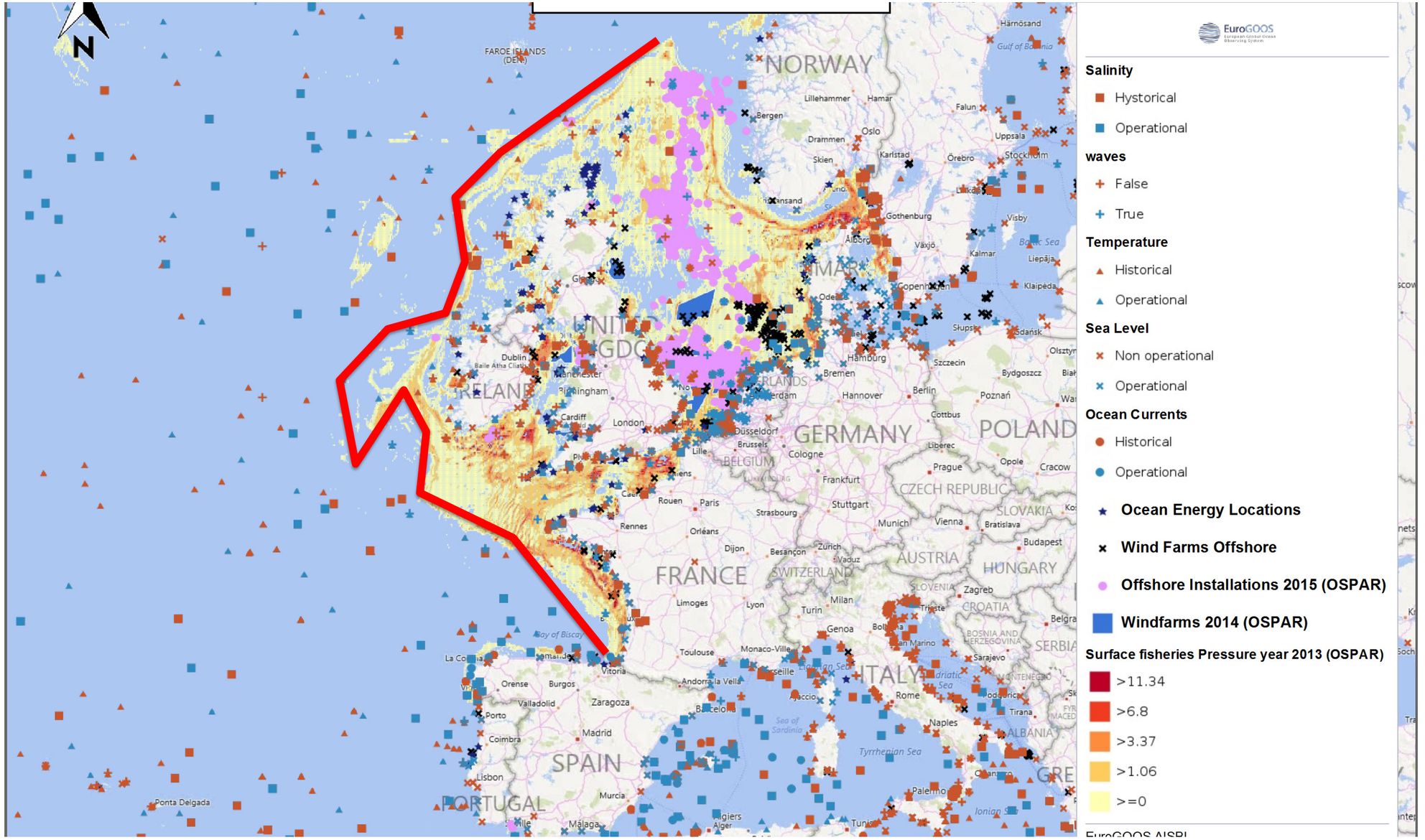
- **Joint WG:** ToR for EOOS biology approved by EuroGOOS and EMB

Glider missions in recent years

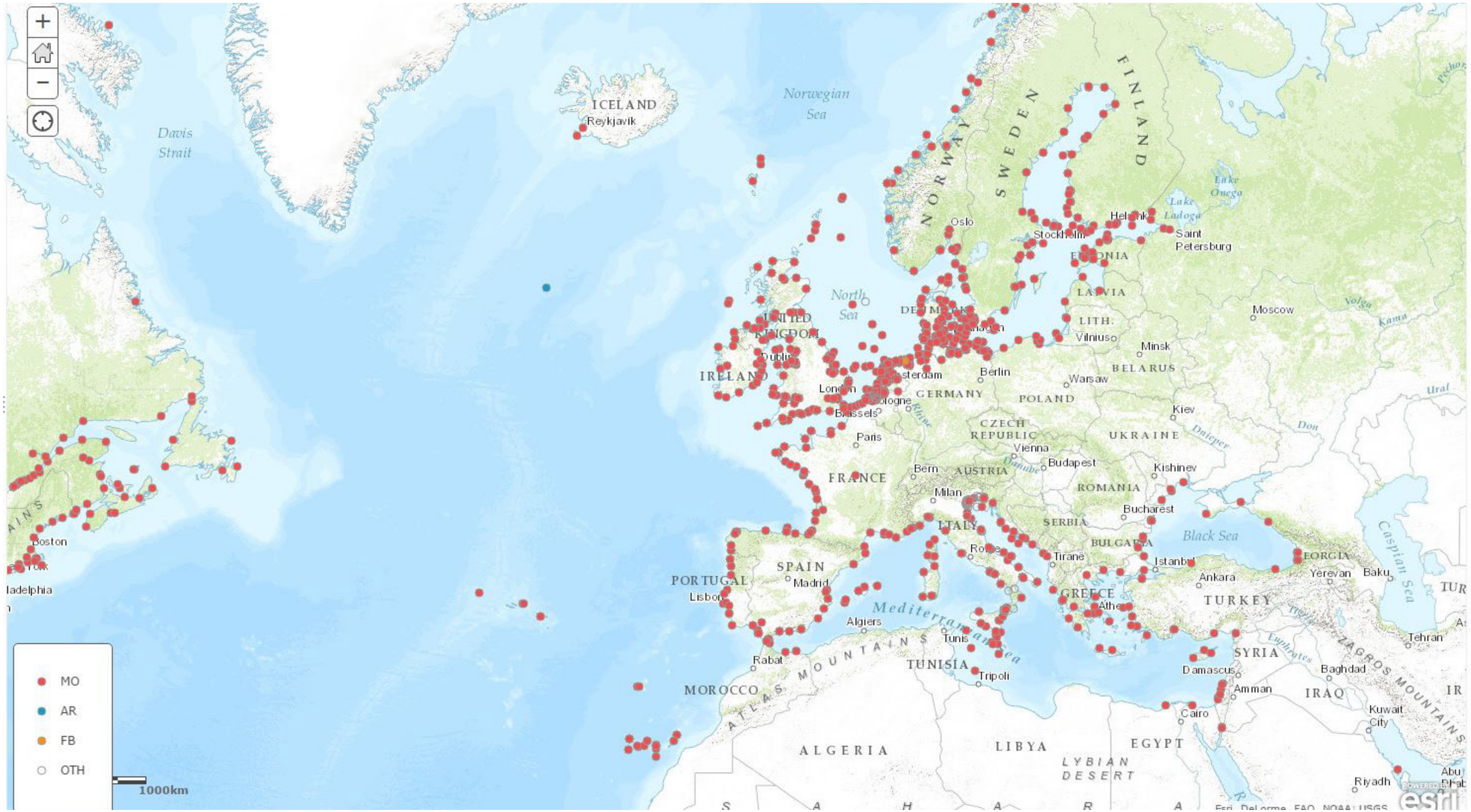
Glider mission summary

- CNRS/PLOCAN – 8 mission (Bay of Biscay, Gulf of Guinea, Western Africa, Open Atlantic)
- GEOMAR – 15 (Bay of Biscay, Gulf of Guinea, Western Africa)
- SAMS – 9 missions (UK – Iceland)
- NACO – 9 missions (Norway – Iceland)
- PLOCAN – 3 mission (Canary Island – open Atlantic ocean)
-
- CMRE – 8 missions (northern Western Med)
- OGS – 2 mission (Adriatic)
- SOCIB – 3 mission (Balearic Channels, Algerian)
- MOOSE – 11 missions (Gulf of Lions, Algerian Basin)
- CYPRUS – 2 missions (South of Cyprus)

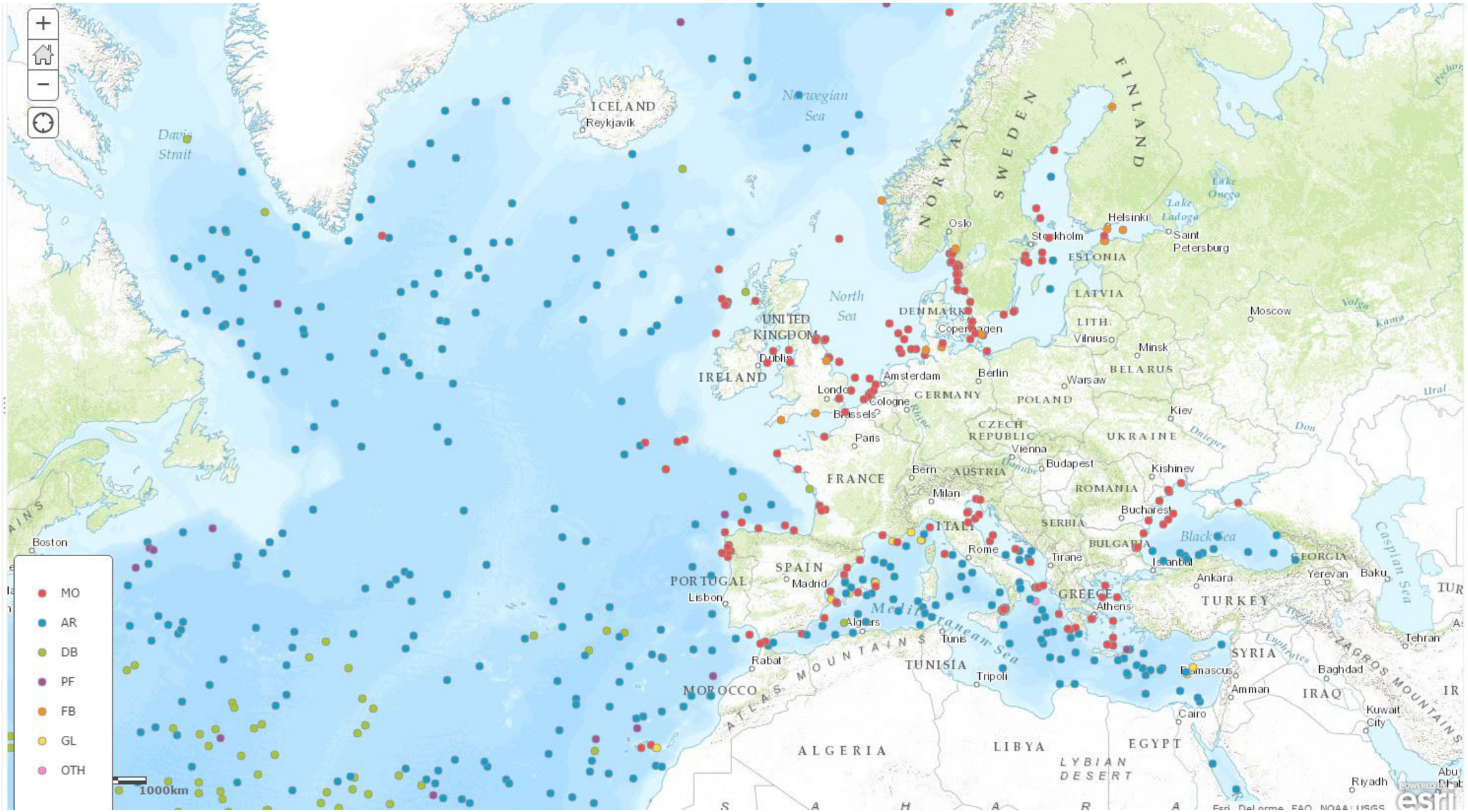
Activities and physical observations



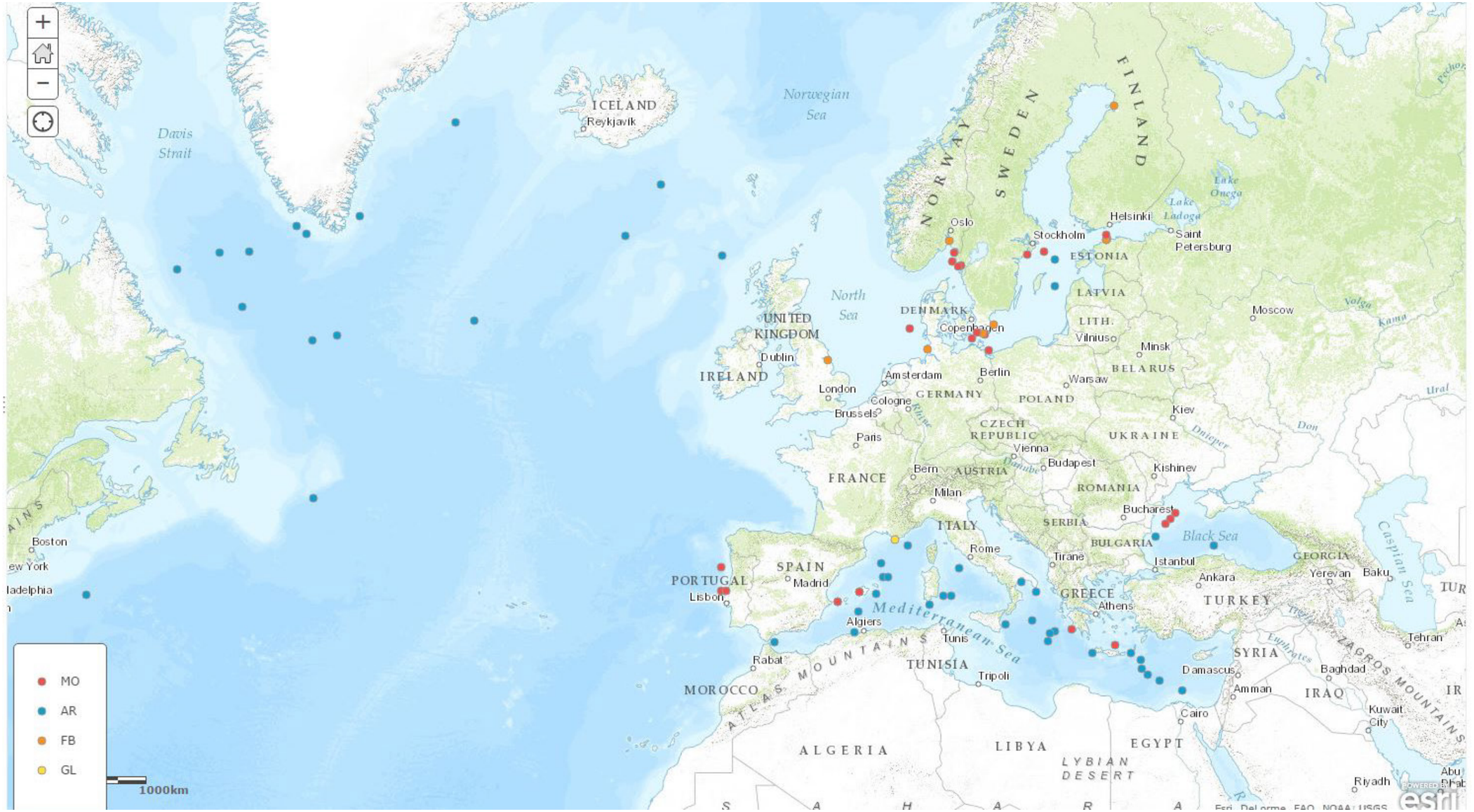
Sea level stations



Salinity stations



Chlorophyll measurements



Summary statistics from available platforms

- **Observational data Statistics (number of point observations) by Parameter within the EOOS geographical scope (without the Caribbean Sea) for the ROOS/INSTAC/SeaDataNet platforms in EMODnet portal**

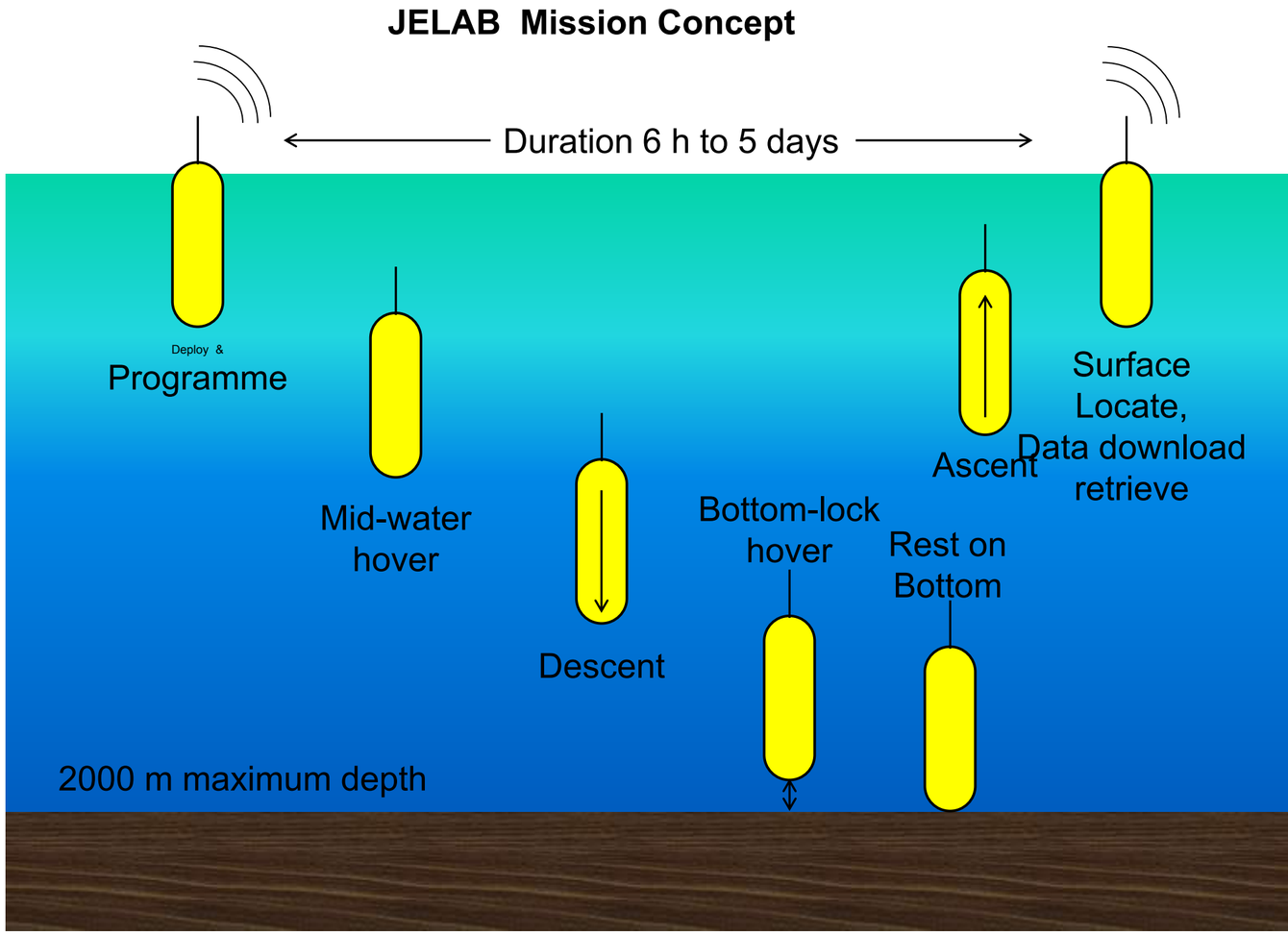
	Operational (‘last 60 days’)	Historical
Temperature	545	854
Sea Level	433	836
Salinity	271	254
Waves	181	207
Currents	56	22
Light Attenuation	21	49
Oxygen	77	59
Chlorophyll	52	20

tasks

Task 3.3 PROFILING COASTAL WATERS (M0-M44) - JELAB

HCMR, Ifremer, IMR

- long term, repeated profiles at a fixed location → capture key physical or biogeochemical processes at strategic locations
- expand the capacities of advanced Argo-type floats (e.g.ProvBio, BioArgo and Arvor-Cm) particularly for coastal applications



EOOS Possible Structure