

EuroGOOS



European
Ocean
Observing
System



G. Nolan, D. Eparkhina, V. Fernandez, E. Buch, **Patrick Gorringer**, EuroGOOS

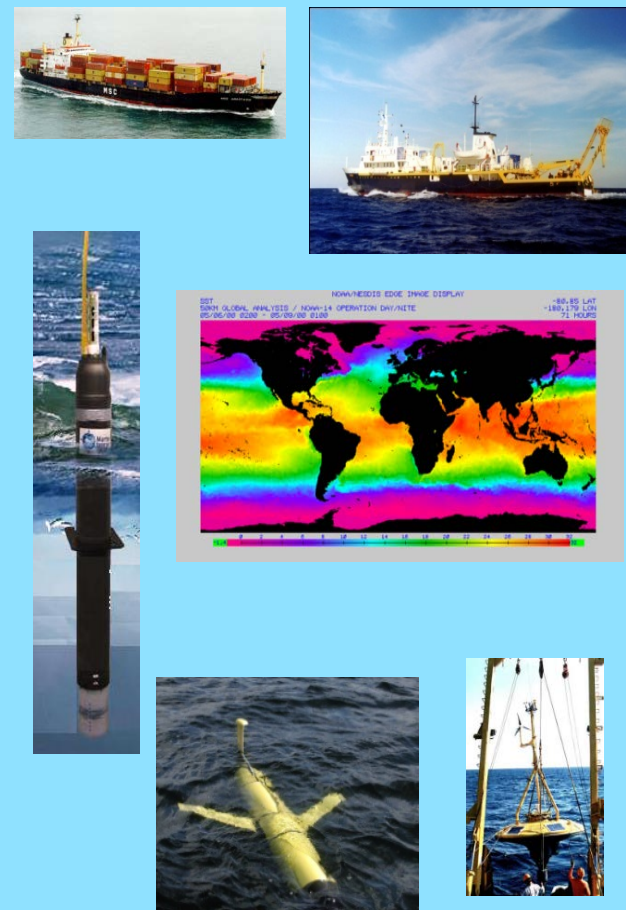
EuroGOOS is an association promoting and implementing **Operational Oceanography**. Ensure sustained observations and models are made in European seas underpinning a suite of fit-for-purpose products and services for marine and maritime end-users.



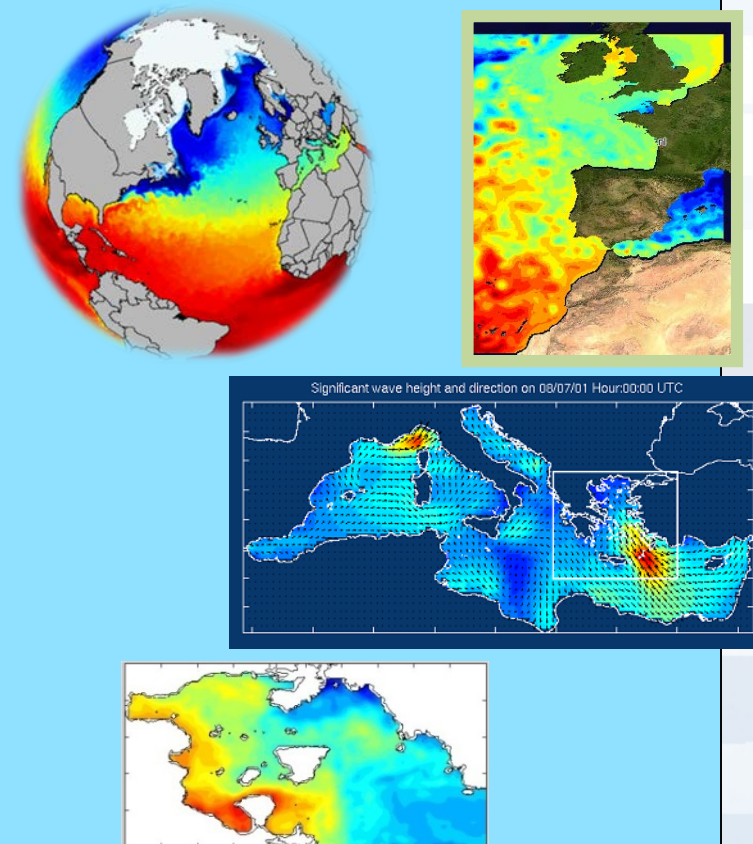
Marine Core Service

Downstream Services

Observations



Processing & Modeling

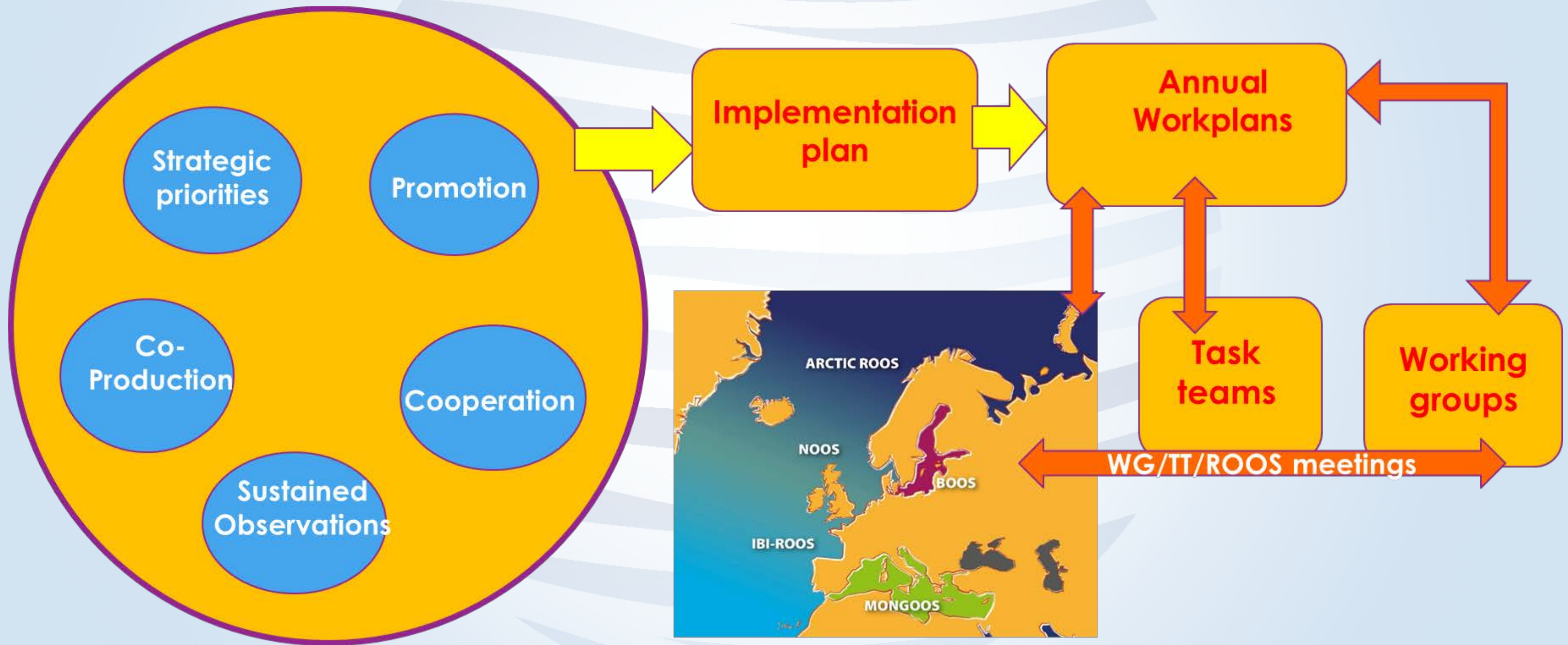


Services

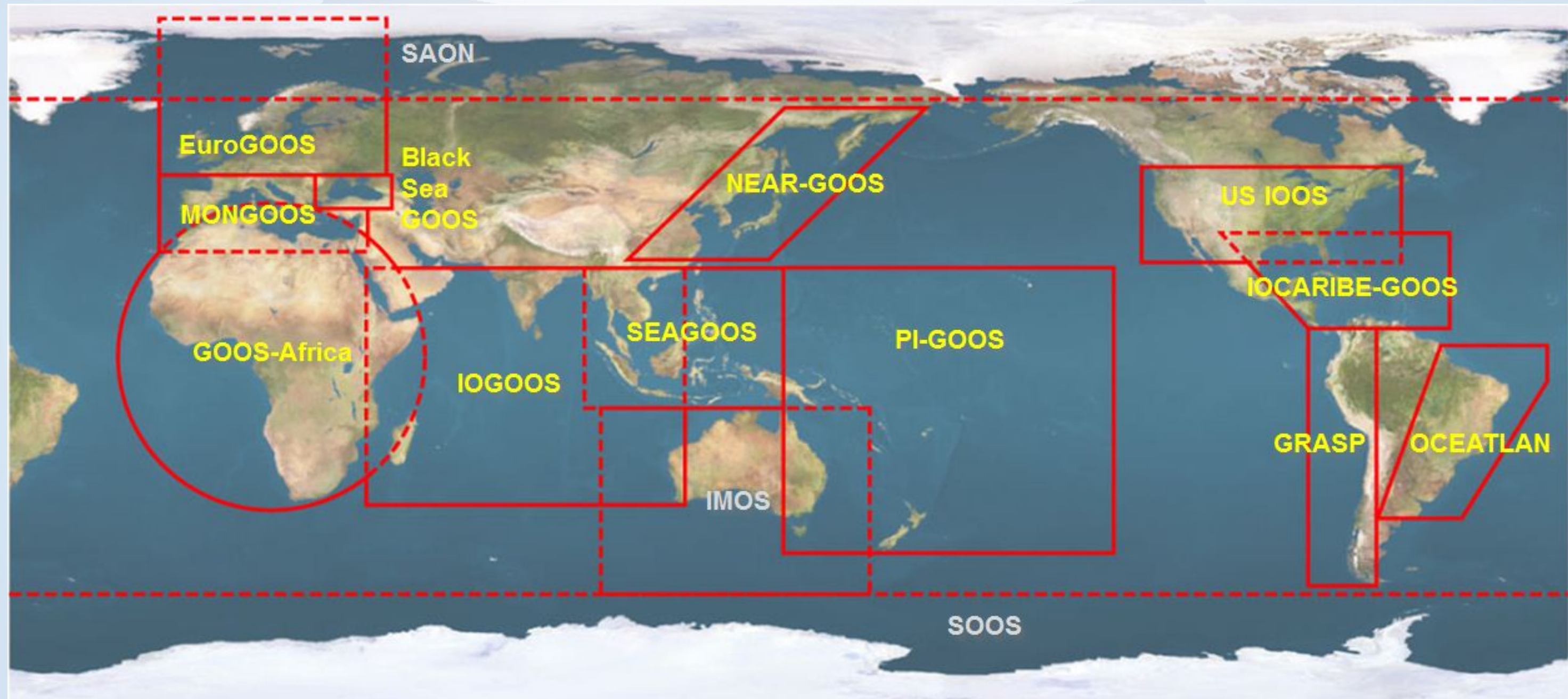


End Users

EuroGOOS Strategy 2014-2020



Part of the global effort



EuroGOOS Structure

BOOS
(Baltic)

ARCTIC
ROOS

MONGOOS
(Mediterranean)

NOOS
(Northwest
shelf)

IBI-ROOS
(Iberia-Biscay-
Ireland)

Working Groups

Data-MEQ

Technology Planning

Products

Science Advisory

Coastal

Task Teams

Tide Gauge

Ferrybox

Glider

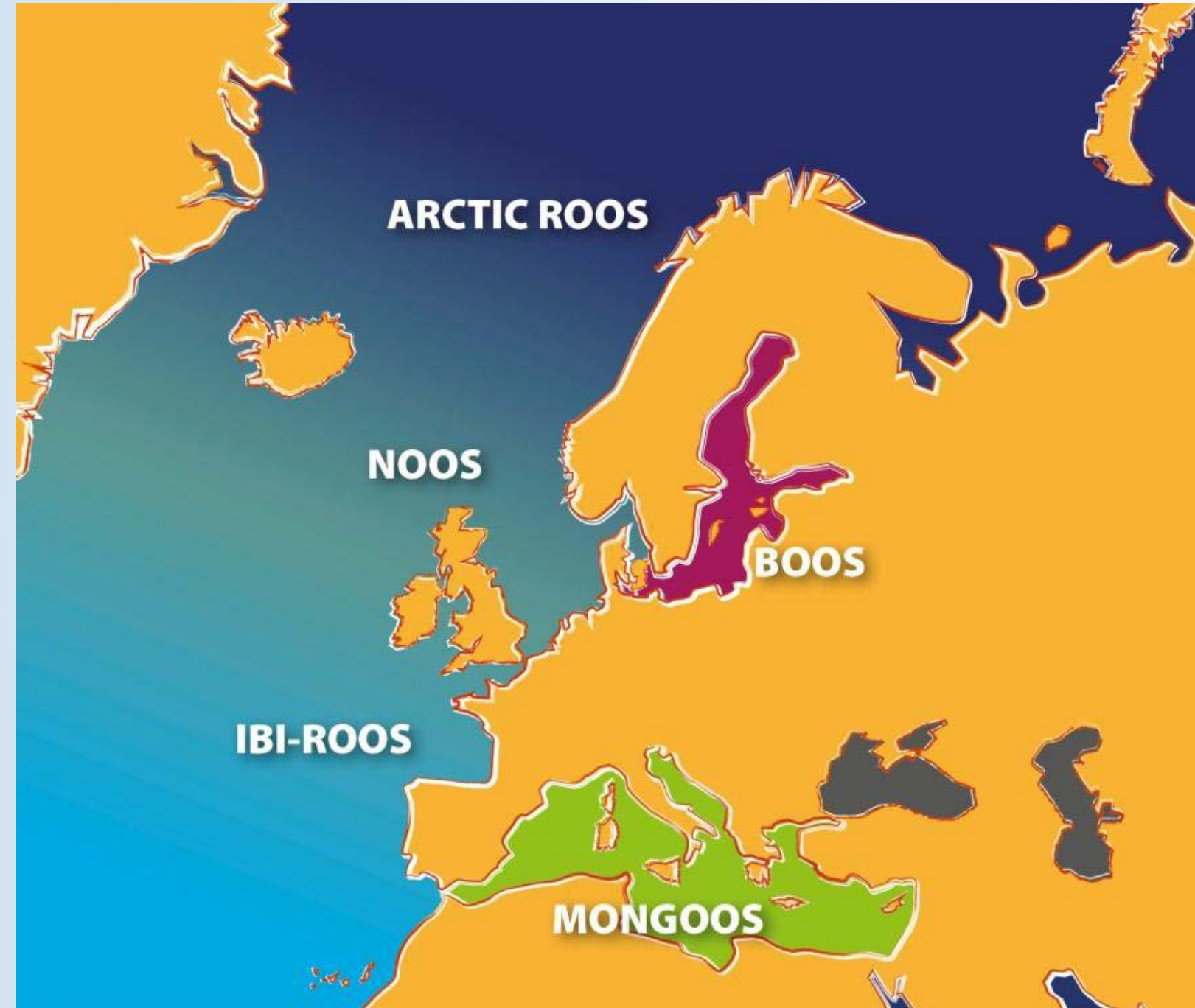
HF radar

Euro-ARGO

EMS0 Fixed Platform

Animal-Borne

EuroGOOS ROOSs



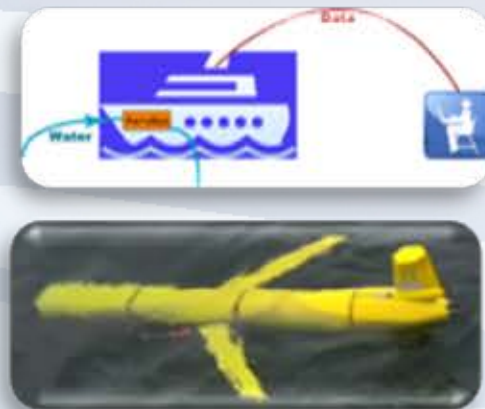
- The ROOSs - **Regional Operational Oceanographic Systems** are the operational arm(s) of EuroGOOS
- About 50 additional partners in ROOSs
- The ROOSs cooperation focus on improved national and regional services and products
- ROOSs **coordinate the observations and the data transfer** for internal use and to other users
- **Regional data portals** in every ROOS simplifying the data transfer and enable interoperability and act as “data translators”



Task Teams

Tide Gauge Ferrybox Glider HF radar Euro-ARGO Fixed Platforms Animal-Borne

- EuroGOOS Task Teams are operational networks of observing platforms
- Coordinate the existing efforts of the individual observation communities;
- Facilitate development of common operational data procedures and services (incl. data quality control and data management);
- They promote scientific synergy and technological collaboration among European observing infrastructures
- Task Team members exchange open source tools, collaborate in areas of common interest, and jointly make European marine data available to the EuroGOOS ROOS regional data portals, which in turn are feeding data to EMODnet, SeaDataNet and Copernicus Marine Service (CMEMS).





quick download(60 days): select data format and go

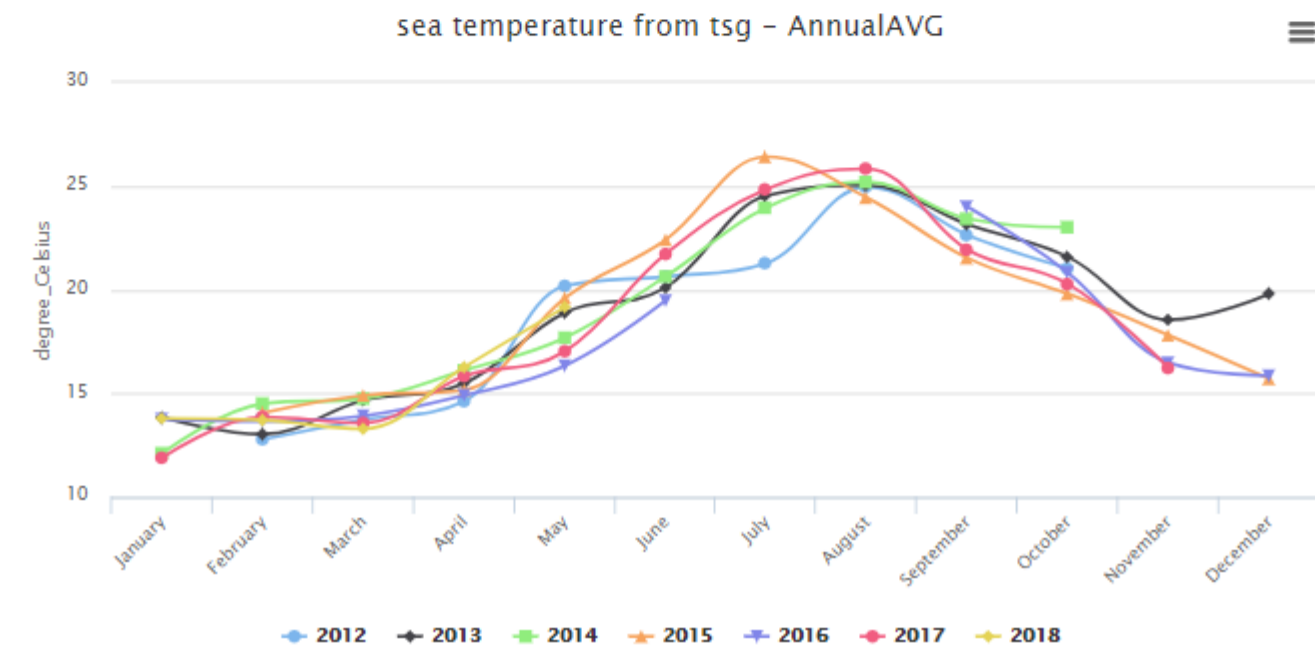
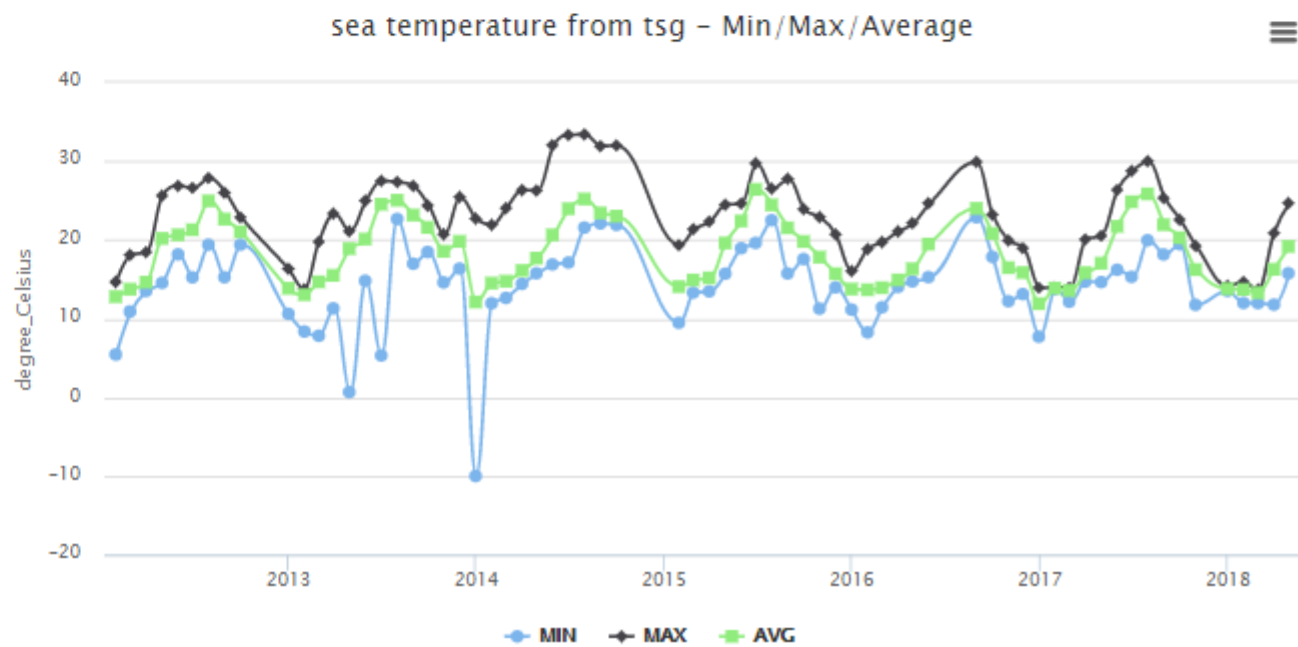
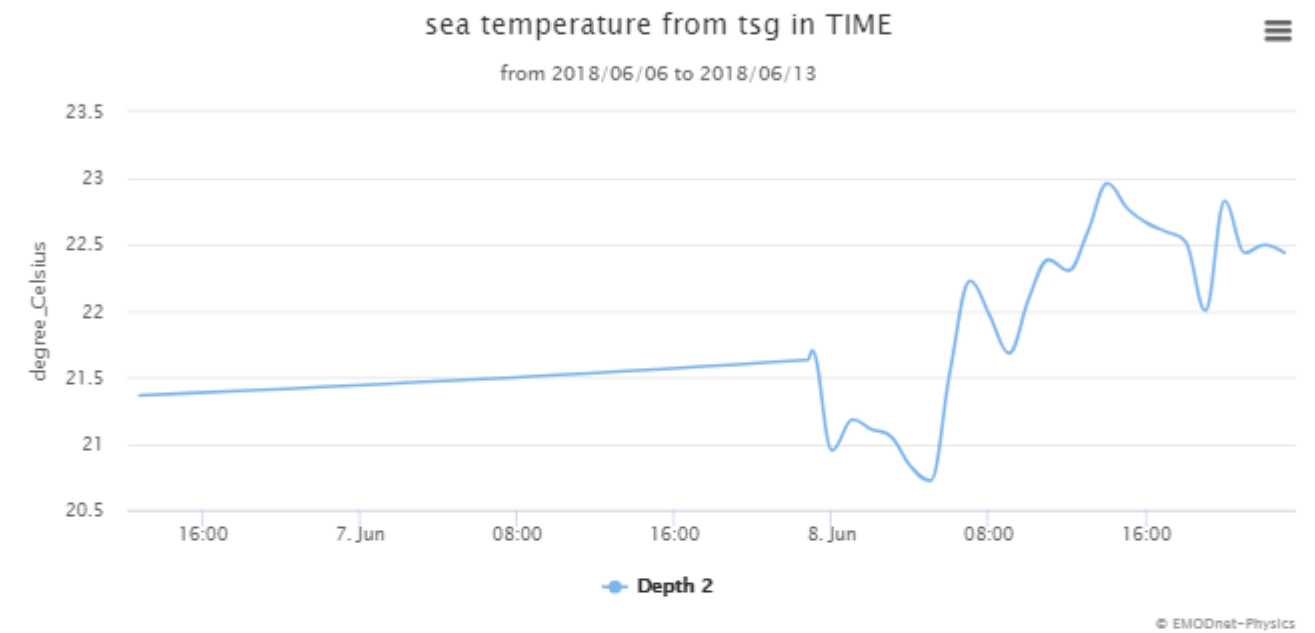
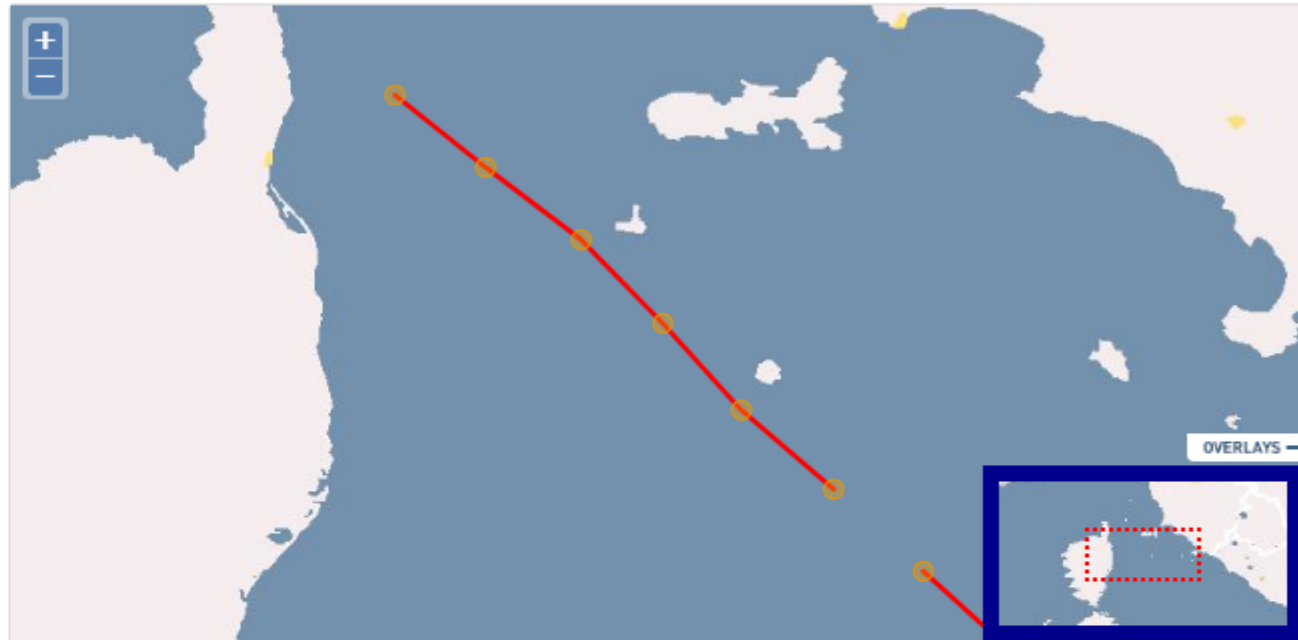
[7 Days](#) [60 Days](#) [Older data](#)

[NetCDF](#) [CSV](#) [Download](#) [Preview](#)

plots are a Runtime undersampled view of the dataset. to see full details open the "preview"



Water Temperature / sea temperature from tsg - degree_Celsius



PLATFORM CODE
FGTO

PLATFORM NAME
TETHYS II

WMO CODE
FGTO

ICES CODE
35TT

INSTITUTION
COM CNRS - Center of Oceanology of Marseille -
La Seyne Sur Mer - France

ASSEMBLY CENTER
GLOBAL DAC (Coriolis)

TYPE
ferrybox/ship

CMEMS - PROD ID
INSITU GLO NRT OBSERVATIONS 013 030

SMHI

INSTITUTION

SMHI - Swedish Meteorological and Hydrological Institute - Sweden
Not Defined
IOPAS - Institute of Oceanology of the Polish Academy of Sciences - Poland
other - German

ASSEMBLY CENTER

BOOS DAC (Baltic INS TAC DU)
GLOBAL DAC (Coriolis)

TYPE

CTD profiles

SONEL - GPS/GNSS


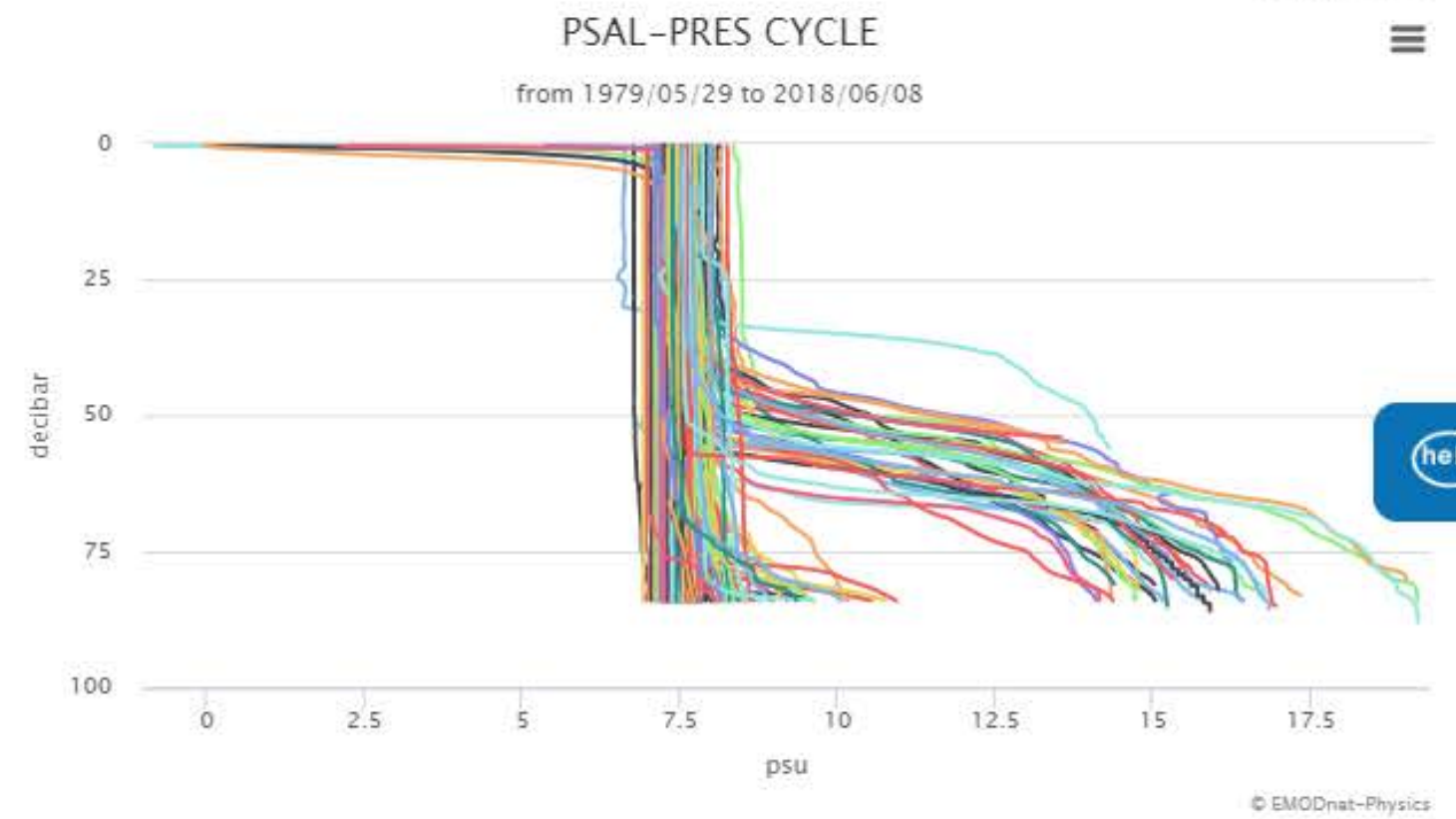
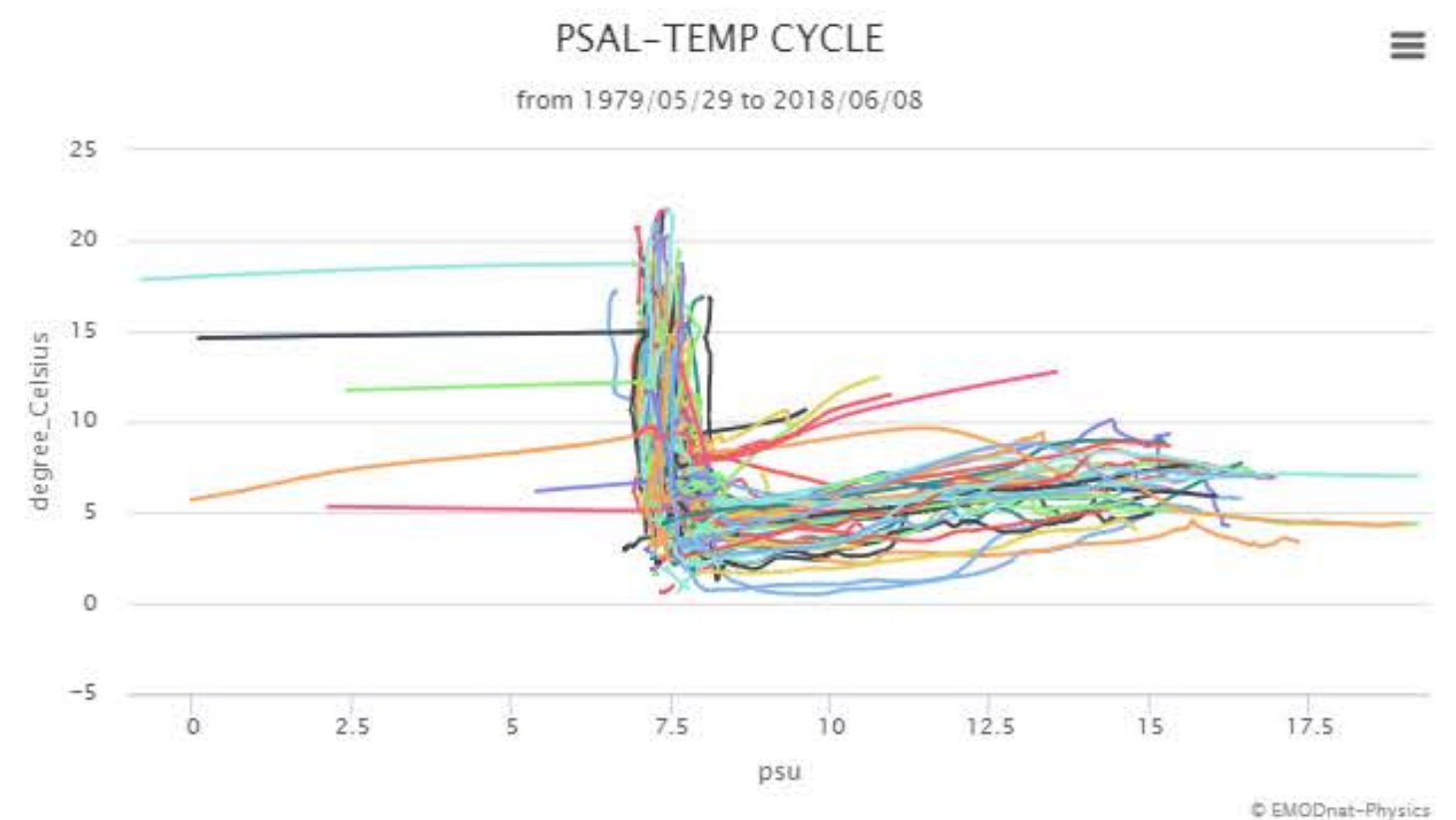
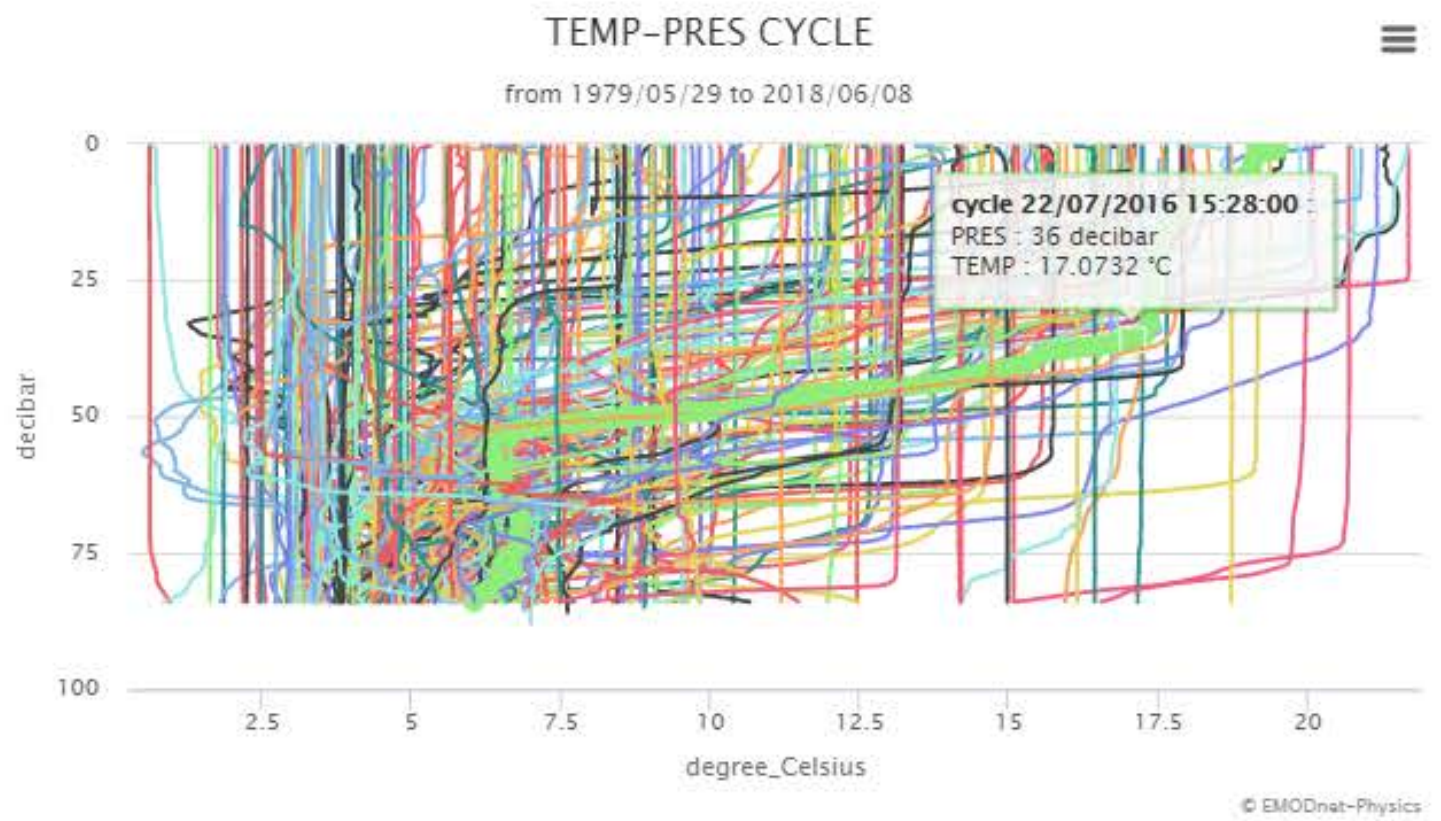
CMEMS - PROD ID

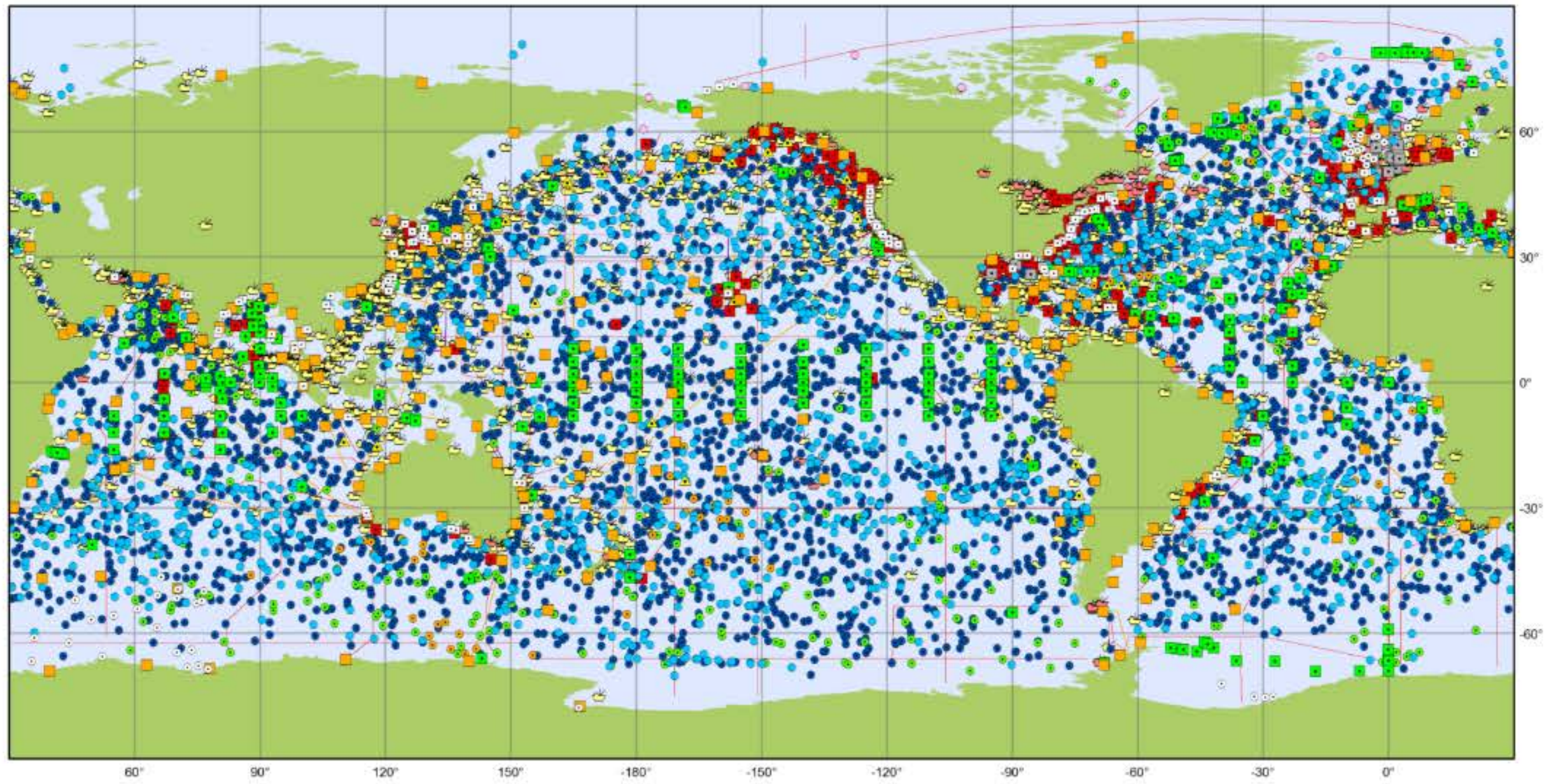
INSITU BAL NRT OBSERVATIONS
013 032
INSITU GLO NRT OBSERVATIONS
013 030

DATUM FOR NRT DATA

DATA QUALITY REFERENCES

1979-05-29T23:55:00.0000000
1979-08-21T20:35:00.0000000
1980-01-15T19:45:00.0000000
1980-05-28T17:55:00.0000000
1980-10-27T16:30:00.0000000
1981-03-10T21:00:00.0000000
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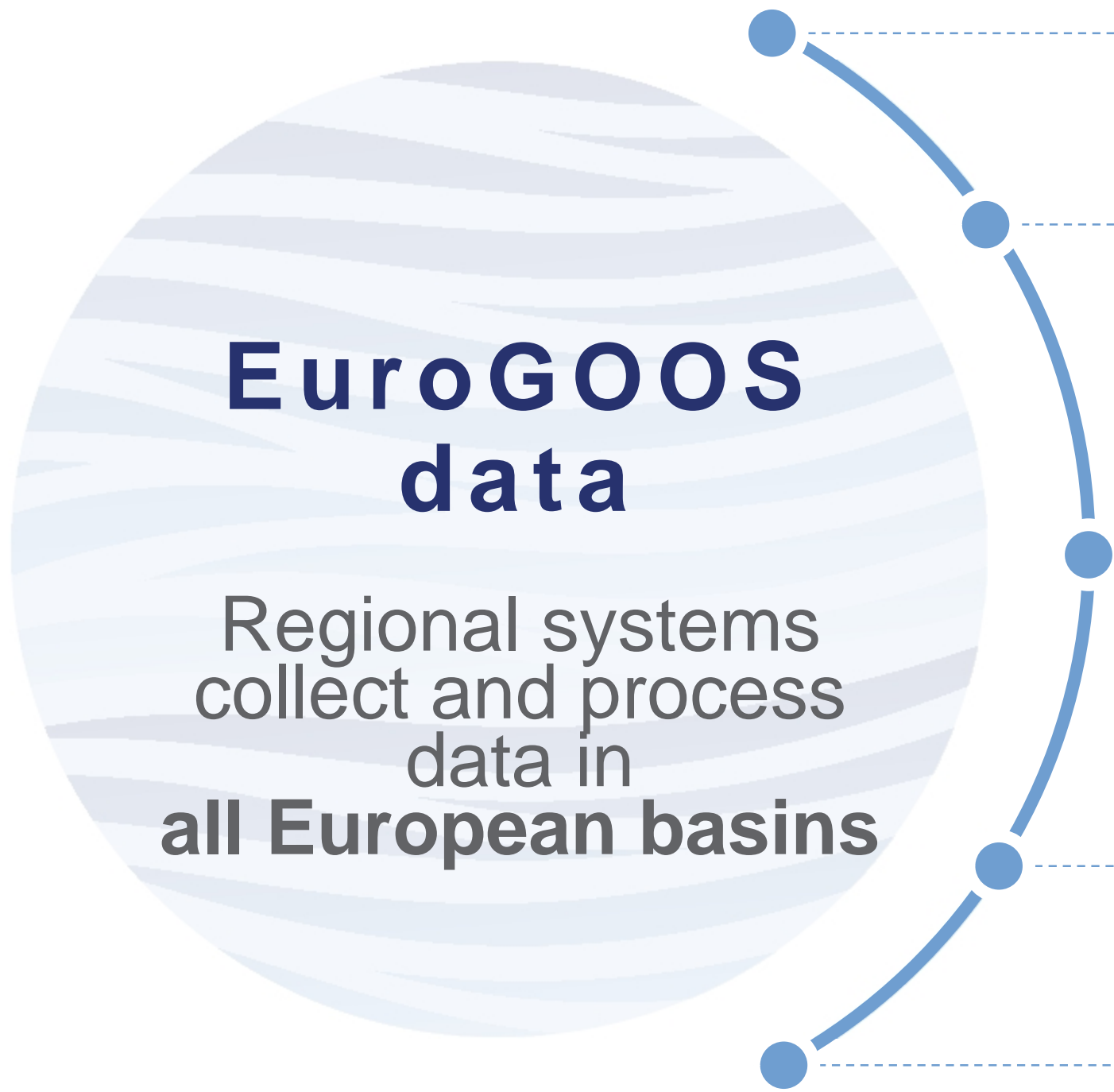


Main in situ Elements of the Global Ocean Observing System

April 2018

Profiling Floats (Argo)	Data Buoys (DBCP)	Timeseries (OceanSITES)	Ship based Measurements (SOT)	Other Networks
<ul style="list-style-type: none"> Core (3815) Deep (57) BioGeoChemical (305) 	<ul style="list-style-type: none"> Surface Drifters (1408) Offshore Platforms (96) Ice Buoys (11) Moored Buoys (387) Tsunameters (32) 	<ul style="list-style-type: none"> Interdisciplinary Moorings (338) Repeated Hydrography (GO-SHIP) Research Vessel Lines (61) Sea Level (GLOSS) Tide Gauges (252) 	<ul style="list-style-type: none"> Automated Weather Stations (248) Manned Weather Stations (1767) Radiosondes (8) eXpendable BathyThermographs (37) 	<ul style="list-style-type: none"> HF Radars (270) Animal Borne Sensors (53) Ocean Gliders (31)

Generated by www.icommons.ocn_14/05/2018



EuroGOOS data

Regional systems collect and process data in all European basins



RTD PRIORITIES
EuroGOOS working groups



COPERNICUS MARINE SERVICE
Data assessment, quality control, products



EMODnet
Data discovery, download, interoperability



National Data Centres
Archiving, standards, services



GEO, WMO, GOOS, EMSA, EEA
European data package to global initiatives



USERS OF MARINE INFORMATION



Local & Regional Authorities



Marine and Maritime Industries & Services (Blue Economy)



END USERS



Research Community

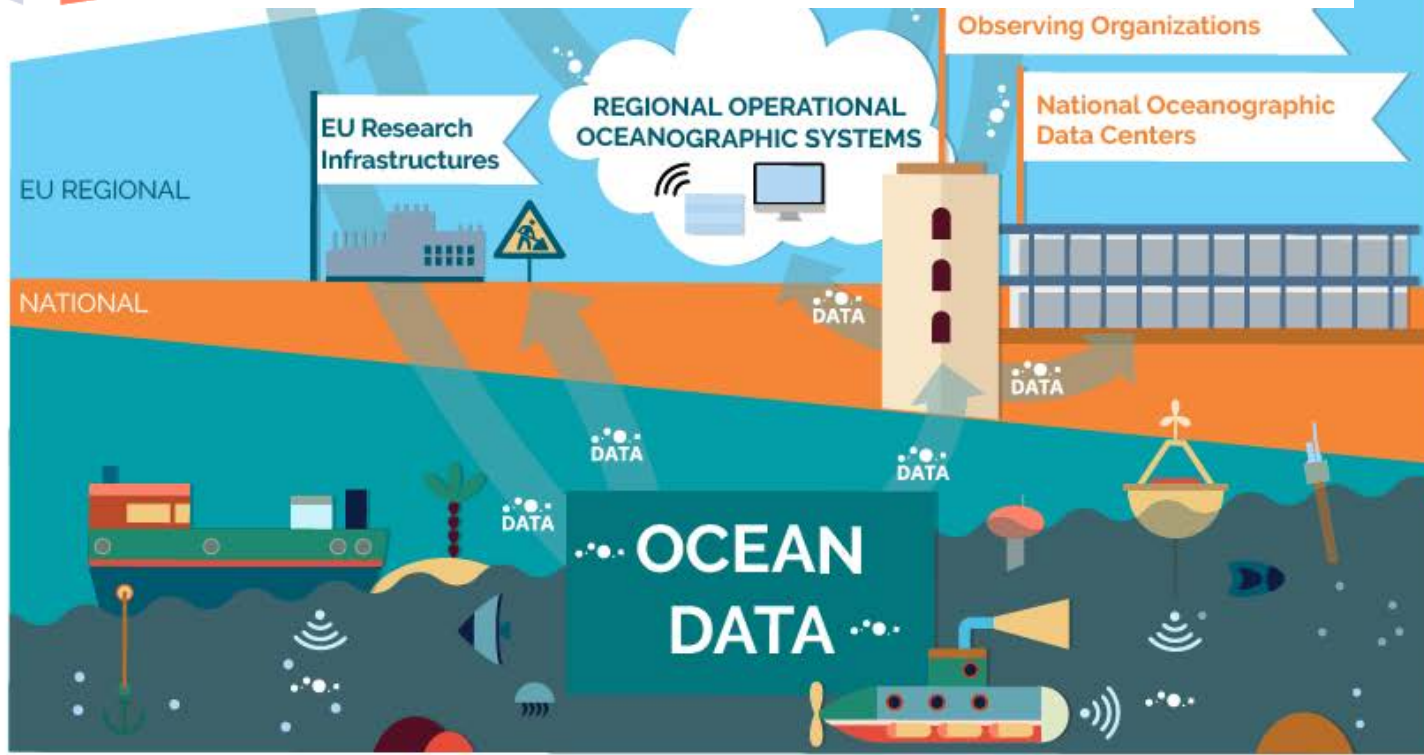
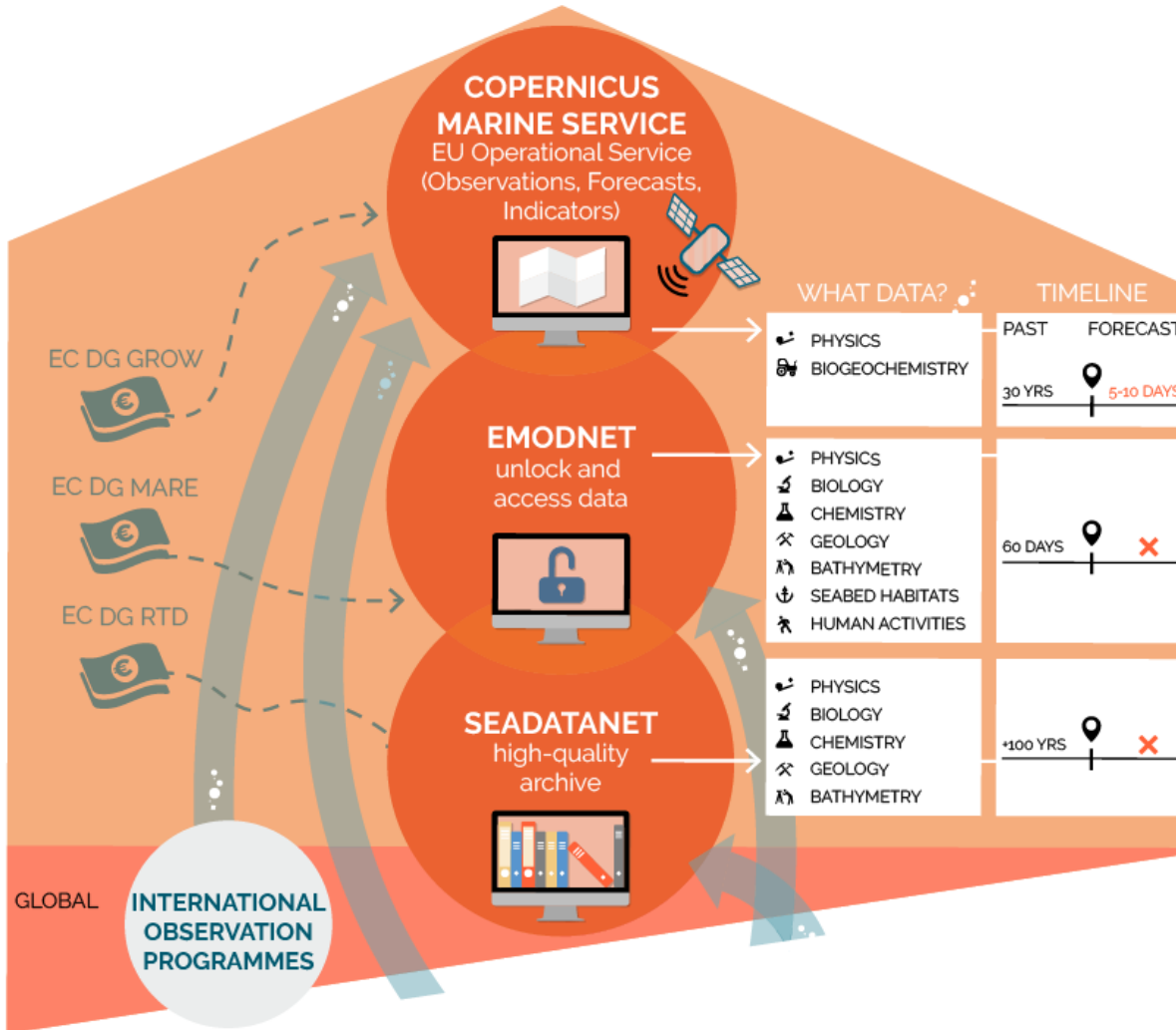
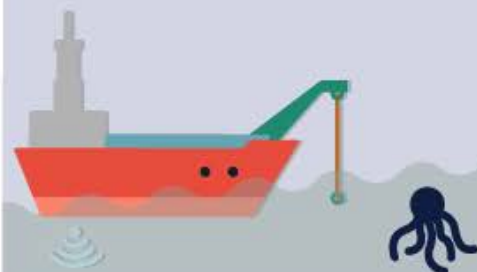


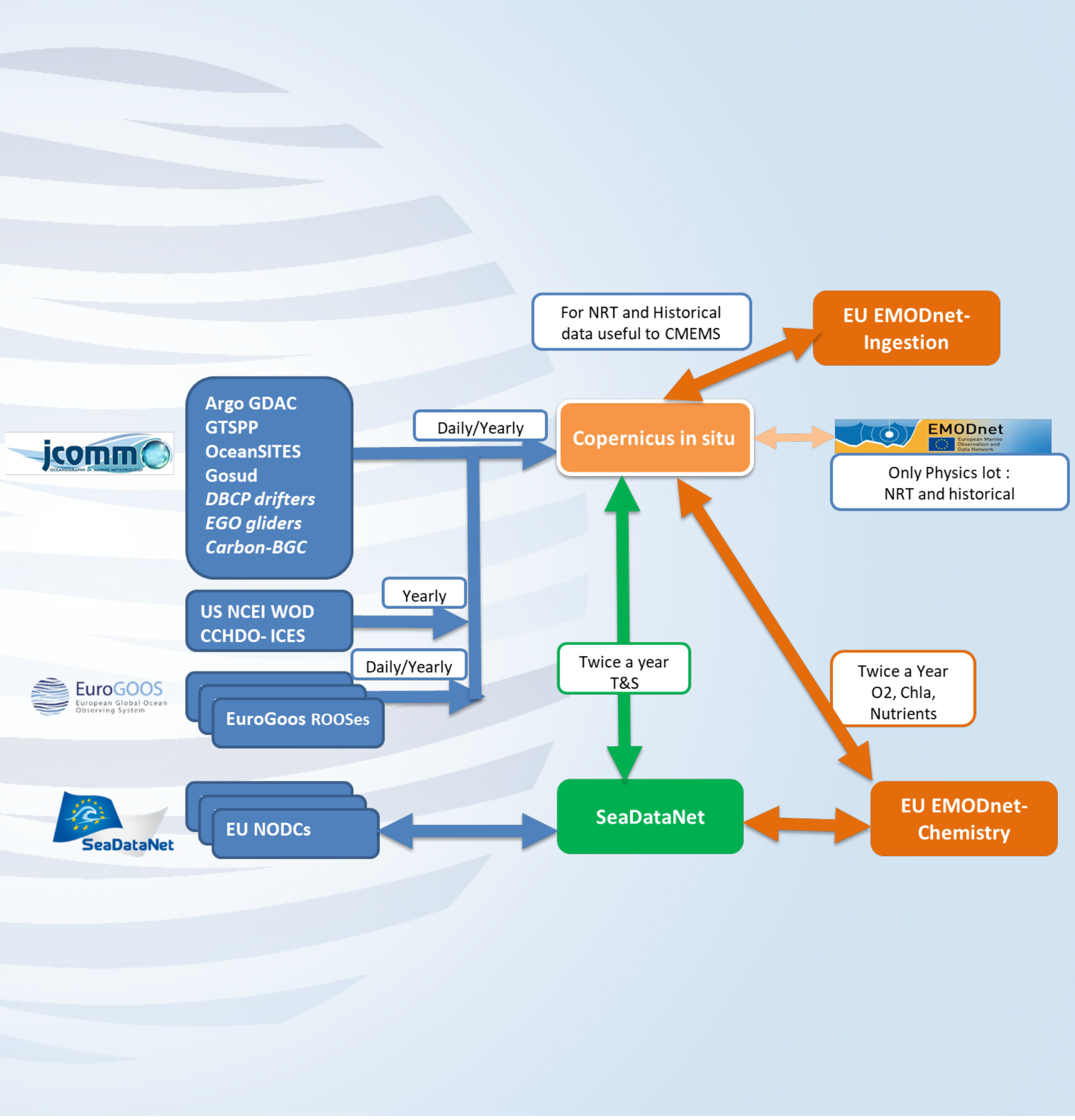
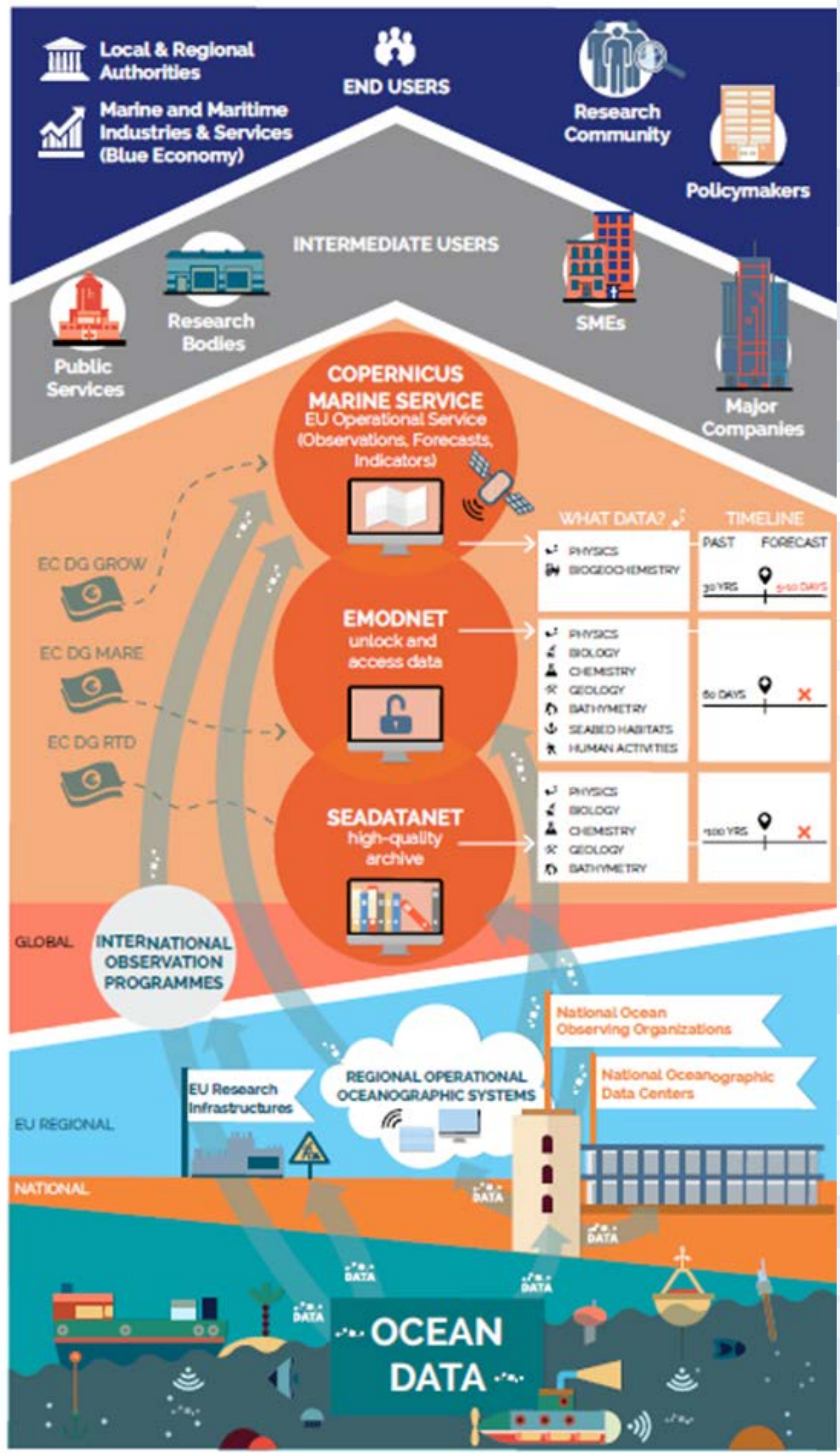
Policymakers

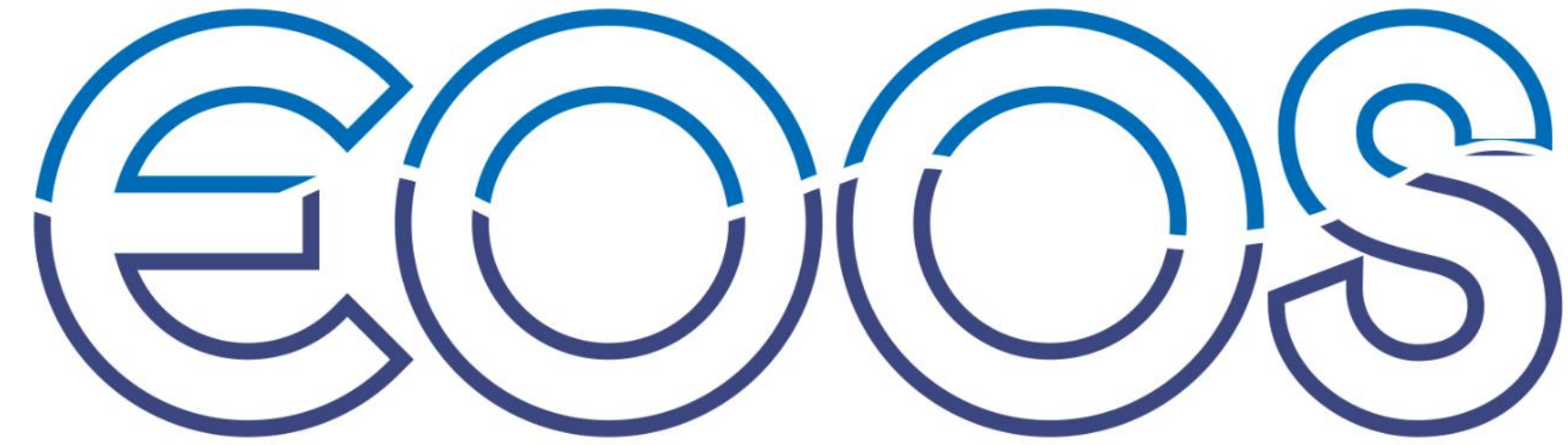
AGGREGATORS OF DATA / SERVICE PROVIDERS



OPERATORS OF INSTRUMENTS



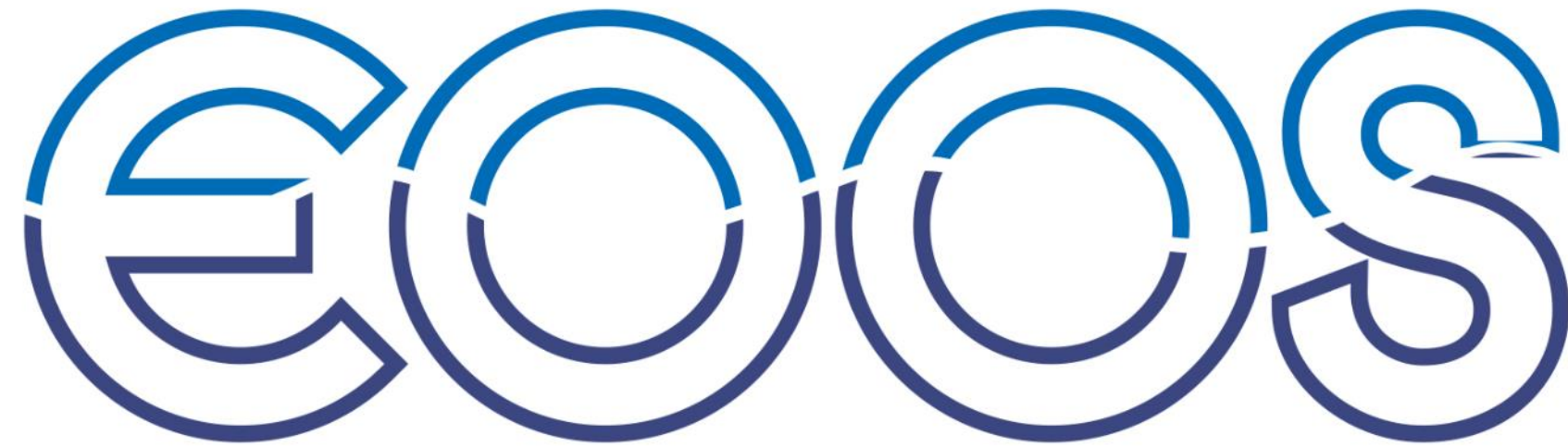




Developing the European Ocean Observing System

EOOS

G. Nolan, D. Eparkhina, V. Fernandez, E. Buch, P. Gorringer, EuroGOOS
K. Larkin, A. Muniz Pinella, European Marine Board



European Ocean Observing System (EOOS) is
a **coordinating framework** designed to

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

- **2007-2008:** Integrated Maritime Policy; EuroGOOS and EMB deliver a vision document on an end-to-end, integrated and interoperable network of ocean observing systems in Europe
- **2010-2014:** EOOS in various strategy and policy documents
- **2015:** EMB-EuroGOOS EOOS brainstorming workshop – 20 experts in personal capacity
- **2016:** Setting up of EOOS steering group; EOOS consultation document; European Parliament event; logo; website; materials
- **2015-2017:** Active EOOS promotion at events, conferences, exhibitions
- **Dec. 2016 – Jan. 2017:** Open stakeholder survey based on the EOOS consultation document
- **2018:** EOOS strategy and implementation plan; EOOS forum and EOOS conference in Brussels

2007



Integrated Maritime Policy
EMB-EuroGOOS Vision Document



Strategy-policy declaration: EOOS a priority



Strategy and policy documents feature EOOS



Strategy-policy declaration: EOOS a priority



Expert brainstorming

2015

2016



www.eoos-ocean.eu
Visual identity and website



EOOS event at European Parl.



EOOS profiled in various exhibitions and events among others GEO, IOC, EMD

EOOS a key priority in EuroGOOS policy brief



2017



EOOS steering group launches open consultation

EOOS steering group to collect feedback on strategy and implementation plan at two events



2018



EOOS Strategy (draft in consultation with EOOS steering group; public release 25 April)

EOOS Vision

By 2030, EOOS will build an end-to-end coordinated and connected European ocean observation community that puts user needs at its center, promoting European leadership, driven by stakeholders, and serving the needs of science, society, and innovation.

EOOS Guiding Principles

Efficient and fit-for-purpose; Connecting communities; Innovative and adaptable; Stakeholder-driven; Sustainable

Main focal areas

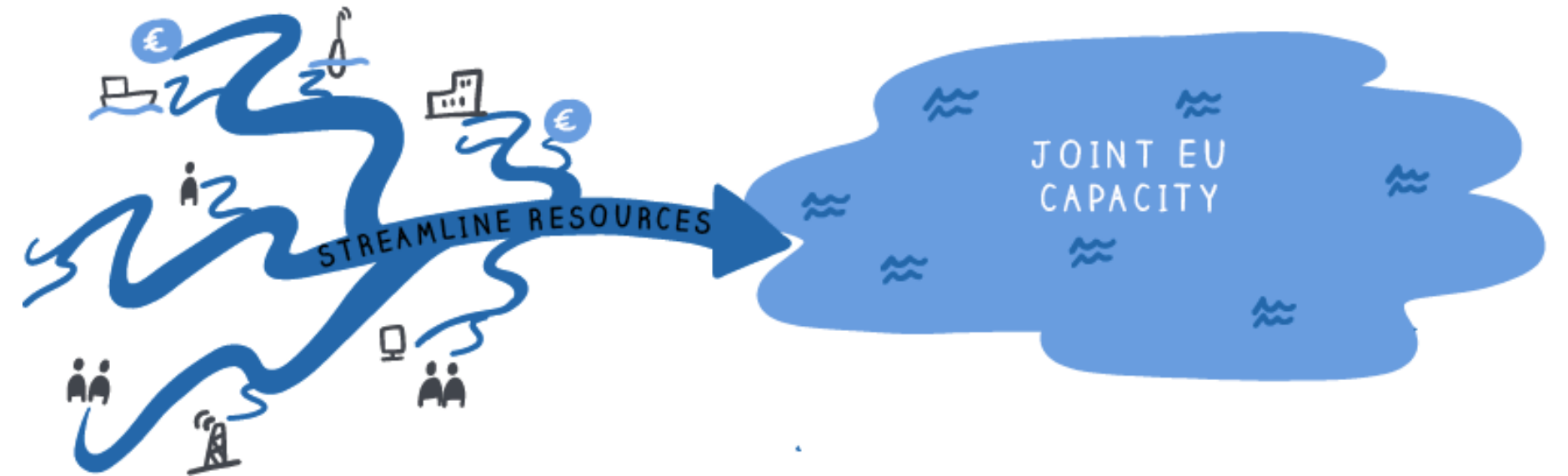
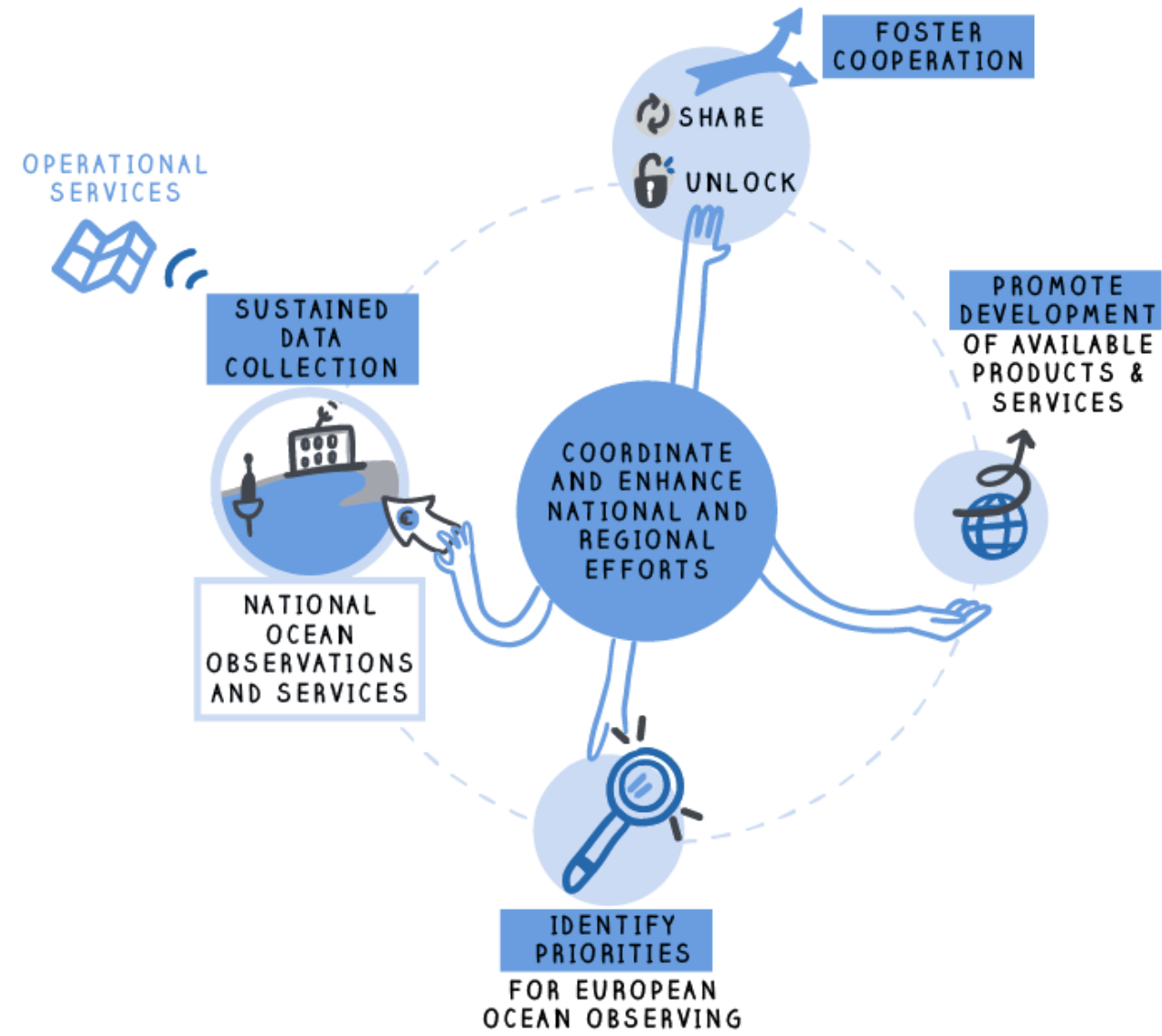
- Better Coordinated and Sustained **In Situ** Ocean Observing
- Close **association with the ocean modelling and satellite observation** communities to ensure full integration and responding to user needs
- Essential Ocean Variables, EOVs
- Non-EOVs (other relevant variables, e.g. bathymetry)
- Integrated Ecosystem Approach: from platform-specific observing to multi-platform, integrated and thematic observing

EOOS Forum, 8 March 2018, Brussels

What are the challenges we need to address?

1. Making the European observing system fit for purpose – What are the **priorities**?
2. **Funding** EOOS – What are the benefits? What will help you **make the case**?
3. What would a **fully integrated and sustained** EOOS look like?
4. What are the **relationships and skills** needed to support an integrated system?
5. What are the **key messages** and who needs to hear them?
6. How should we **govern and coordinate** EOOS?
7. As **new technologies** come on stream, how do we ensure they're incorporated?

In a nutshell



EOOS

Forum

8 March 2018

The Royal Belgian Academy of Sciences
Brussels

Conference

21-23 November 2018

Brussels



www.eoos-ocean.eu



**Evolving the European Ocean
Observing System (EOOS)
Connecting communities for
end-to-end solutions**



EuroGOOS General Assembly, May 2018, Brussels

EOOS Implementation Plan (draft in consultation with EOOS steering group; public release 25 April)

Stakeholder co-design of strategy and implementation plan 2018-2022

EOOS mapping and stakeholder engagement

- Existing capabilities and infrastructures
- Stakeholder communities
- Users
- Overview of EC and national research project outcomes
- Requirements gathering (forum and conference 2018, EMODnet checkpoints, OSSE, regional conventions, ICES, ECMWF, GCOS...)
- Sustainability studies = gather national plans and RI feedback

Policy context and foresight

- Foresight activities (e.g. EMB brief on bio obs)
- Review policy context and drivers

EOOS elements

- National statements of intent – share annual status and new developments
- RI plans consulted and cross-checked with national statements
- System design tools (e.g. inventory of the design tools and best practices)
- Technology mapping & Technologies Forum (discuss, share, ensure user needs are met)

Funding

- Cost-benefit & business case for European states
- EC support for coordination and cross-cutting aspects
- Joint programming funding

Communication and outreach (bring together communities, persuade funders and users)

- Communication strategy & impact monitoring
- Web presence & targeted comms activities

Governance

- EOOS steering group + advisory committees

EOOS Pilot Projects

Activity	Pilot title	Indicative timeline and task leader(s)
Activity 1. EOOS mapping and stakeholder engagement	Pilot project 1.1 Mapping existing infrastructures and capabilities	May 2018-January 2019, EuroGOOS and EurOcean
	Pilot project 1.2 Requirements gathering for EOOS	May 2018-July 2019, EuroGOOS
	Pilot project 1.3 EOOS conference 2018	Sept.2017-Nov.2018, EMODnet, EMB and EuroGOOS
	Pilot project 1.4 Stakeholder co-design of strategy and implementation plan 2018-2022	Nov.2017-Nov.2018, EMB and EuroGOOS
Activity 2. Policy context and foresight	Pilot project 2.1 Future science brief on biological observations	2017-Sept.2018, EMB
	Pilot project 2.2 EOOS policy landscape	March -Sept. 2018, EMB
Activity 3. Implementation of EOOS observing system elements	Pilot project 3.1 EOOS Technologies Forum	2018-July 2019, EuroGOOS
Activity 4. EOOS Funding	Pilot project 4.1 EOOS cost-benefit analysis	From 2018, EuroGOOS with additional stakeholder help
Activity 5. Communications and outreach	Pilot project 5.1 EOOS communication strategy	By Nov.2018, EuroGOOS
	Pilot project 5.2 Maintain and evolve EOOS web presence	From 2016, EuroGOOS
Activity 6. Governance	Pilot project 6.1 Evolution of EOOS governance	March-Sept. 2018, EuroGOOS and EMB EOOS steering group co-chairs