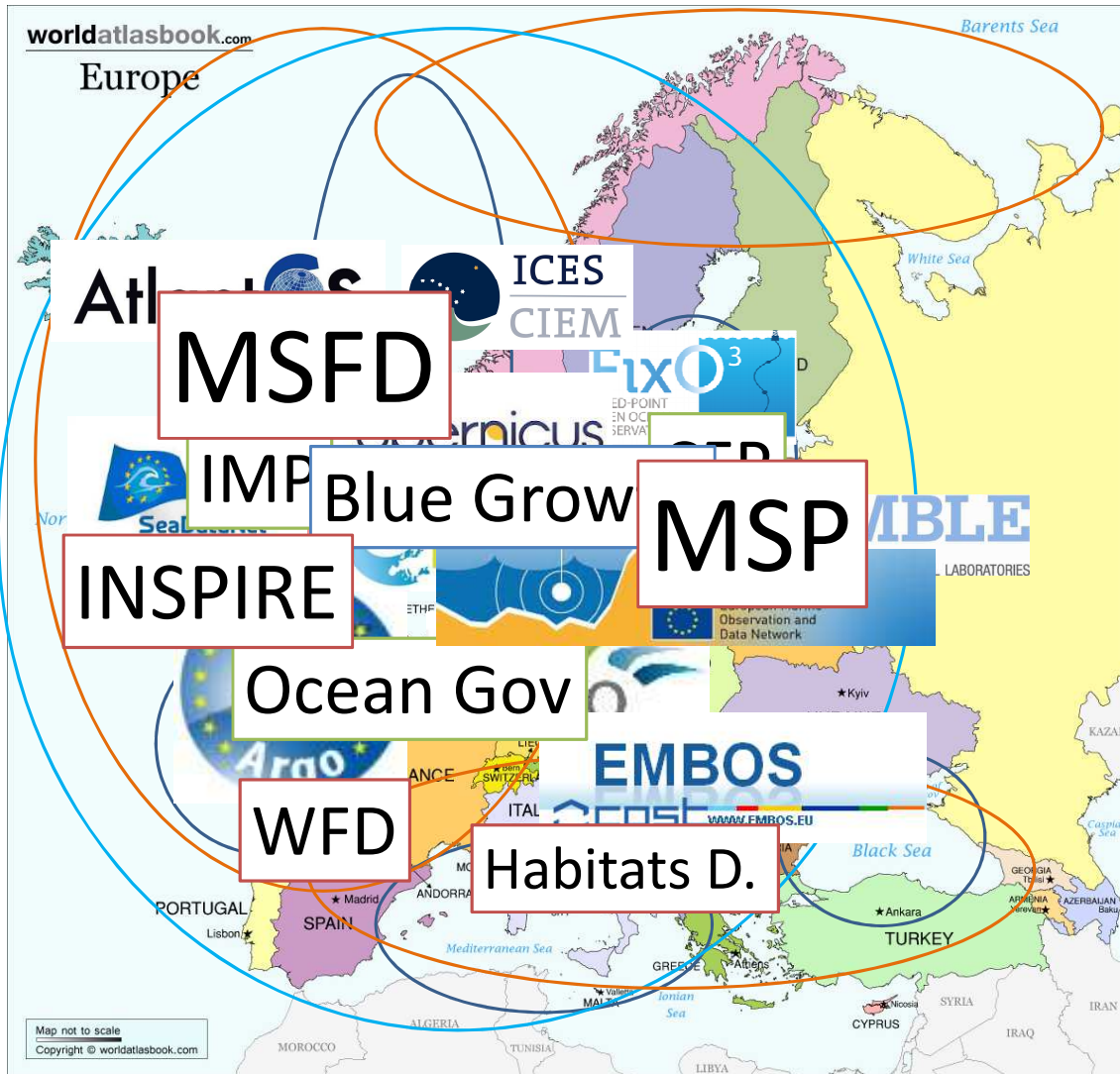


EOOS

European Ocean Observing System: Progress and consultation outcomes

EMODnet Conference
14-15 February 2017, Brussels

Glenn Nolan, Niall Mc Donagh, Dina Eparkhina, Angel Muniz Piniella and Vicente Fernandez



Sustained

Inclusive

Common

Focal point

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*

Align and connect existing initiatives

E00S Stakeholders

The ocean observing landscape is complicated!

Institution

Legal entity

Programme

Project

CIESM

IOC

End Users



EC

IOC

Mar

Res

Obs

GOOS

EuroGOOS

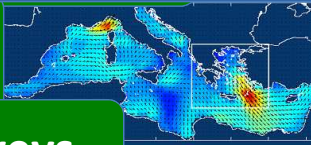
M

EMODNet

DBCP

ODP/O
BIS

IRSO/E
RVO

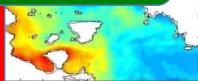


EuroGeoSurveys

AtlantOS

JERICO

SeadataNet



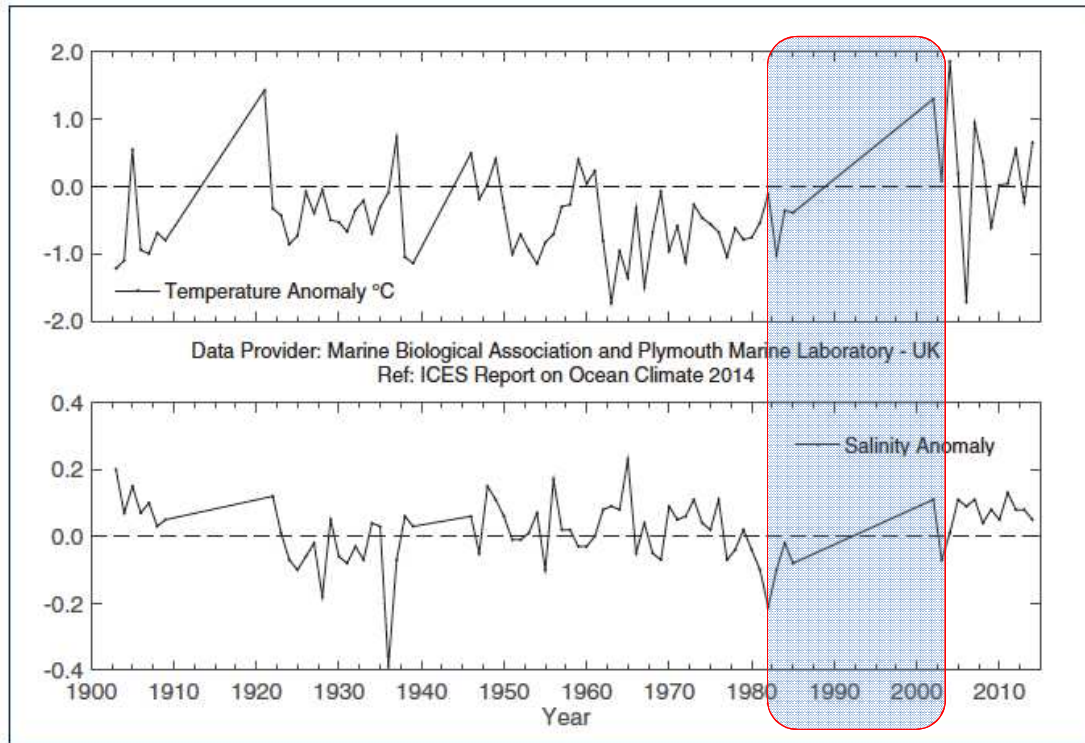
SB
Checkpoints



EuroGOOS

Identify gaps and foster initiatives to fill them

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

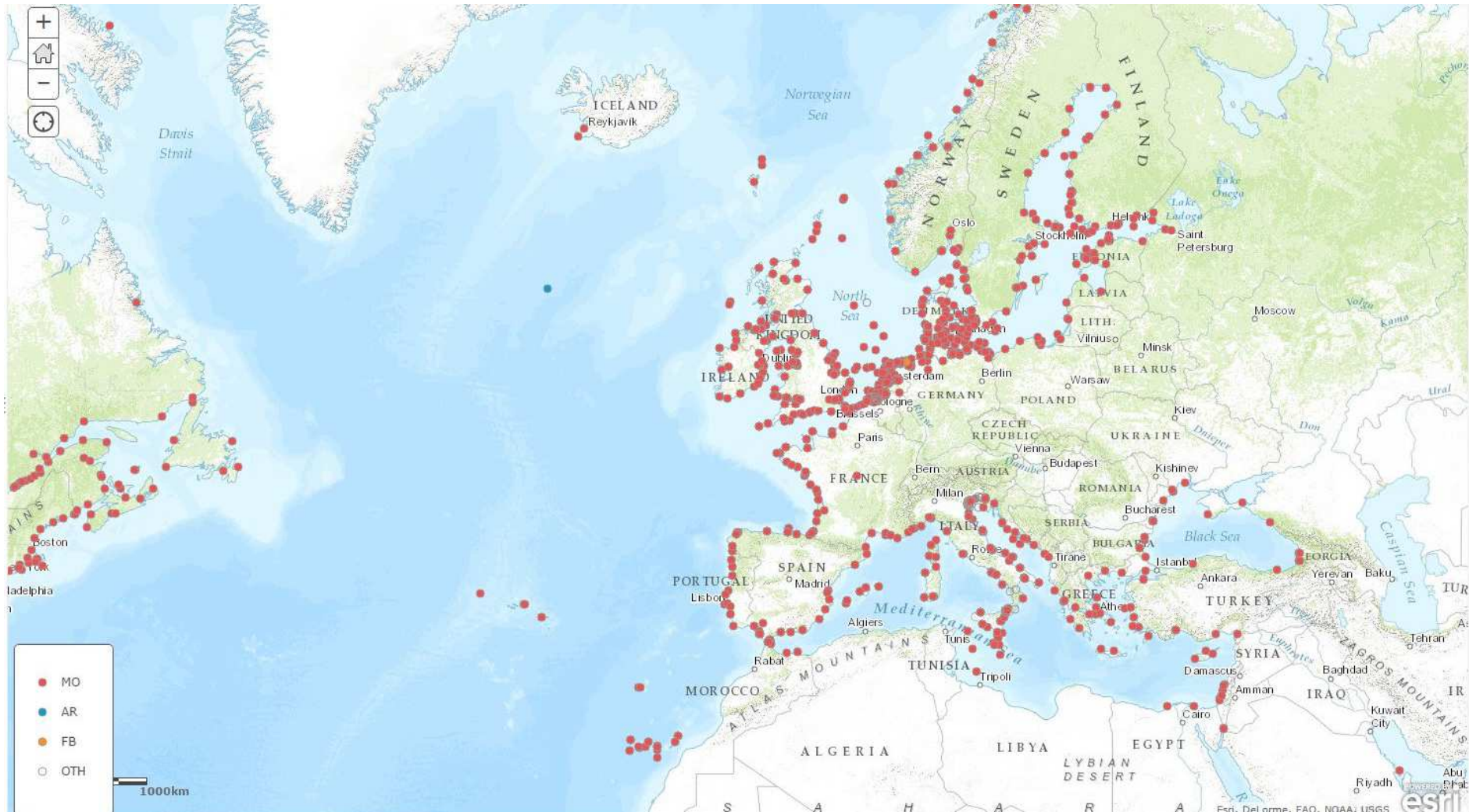
- more than 70% based on short term research funding;

•Integrated monitoring strategy at European level

- Reduce overlaps; maximize synergies



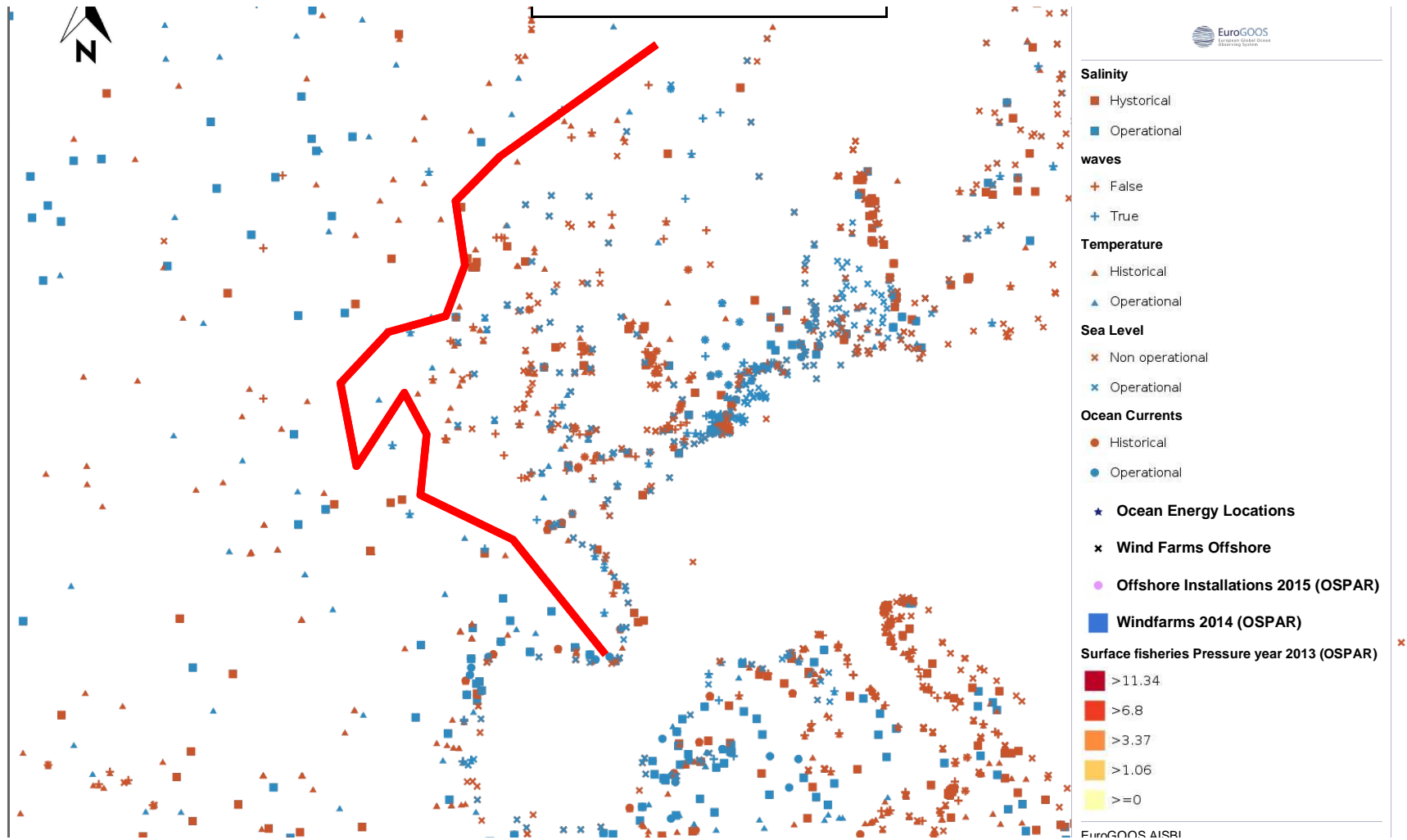
Sea level stations



Chlorophyll measurements



Activities and physical observations



Promote capacities that benefit multiple sectors including
research, policy, management and industry



MSFD

MSP

CFP

Policy
Evidence-base

Ocean Literacy &
Citizen science

Operational users

Products/services for
Blue Growth sectors

CMEMS

EMODnet

DCF

Other

Collect once

Use many times

assessments

Integrate effort into the Global system

Essential Ocean Variables and readiness level

CONCEPT PILOT MATURE

Physics

- Sea State
- Ocean surface vector stress
- Sea Ice
- Sea level
- SST
- Subsurface temperature
- Surface currents
- Subsurface currents
- SSS
- Subsurface salinity

Biogeochemistry

- Oxygen
- Inorganic macro nutrients
- Carbonate system
- Transient tracers
- Suspended particulates
- Nitrous oxide
- Carbon isotope (^{13}C)
- Dissolved organic carbon

Biology and Ecosystems

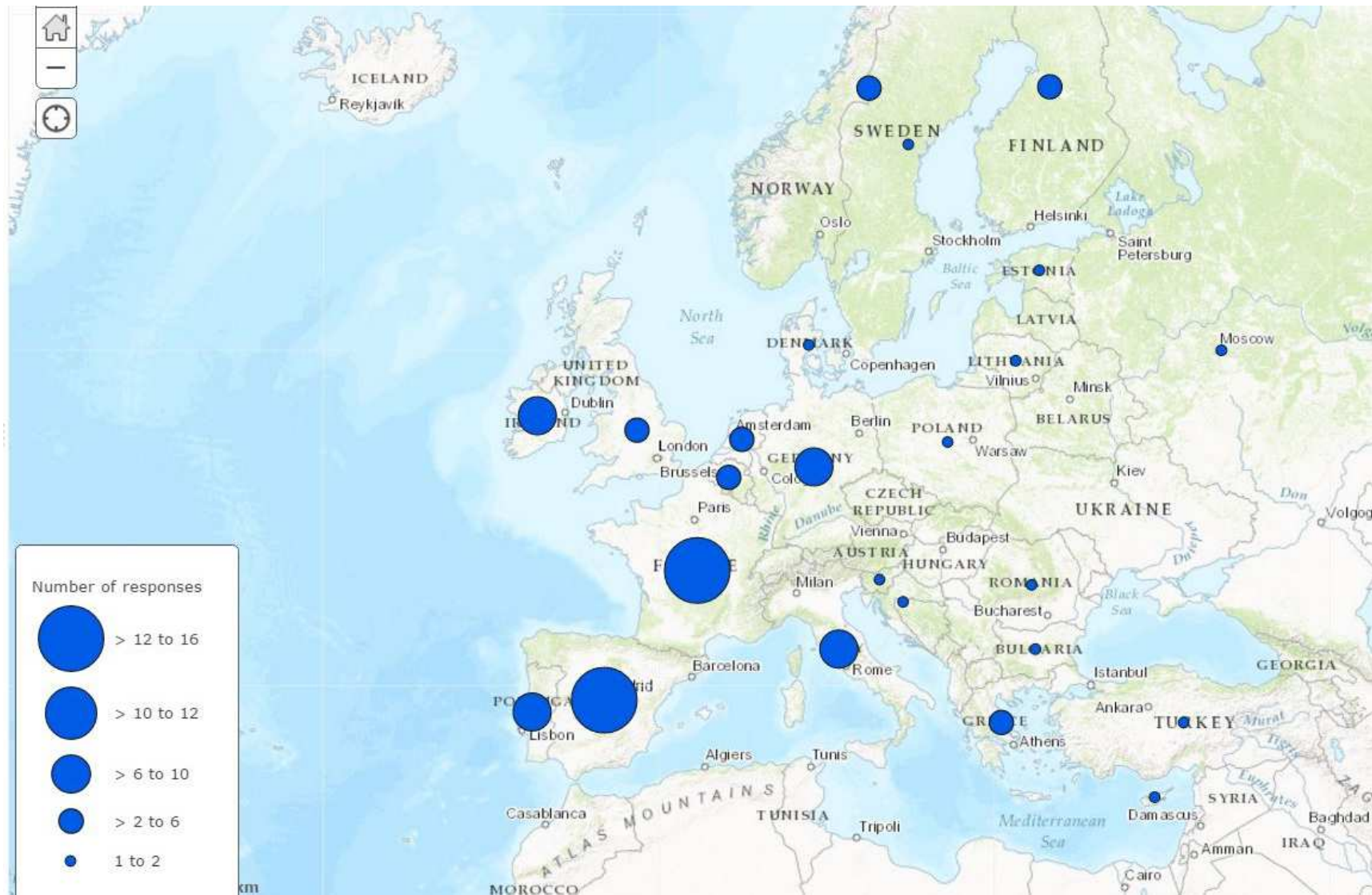
- Phytoplankton biomass and productivity
- HAB incidence
- Zooplankton diversity
- Fish abundance and distribution
- Apex predator abundance and distribution
- Live coral cover
- Seagrass cover
- Mangrove cover
- Macroalgal canopy cover

Main updates to date: Actions

- EOOS website launched: www.eoos-ocean.eu
- Consultation document published as a brochure
- Consultation launched on the new website: 12 Dec – 22 Jan, 6 weeks
- Steering Group now includes three DGs: MARE, RTD and GROW



Survey: geographical spread - world



Survey: geographical spread – zoom on Europe

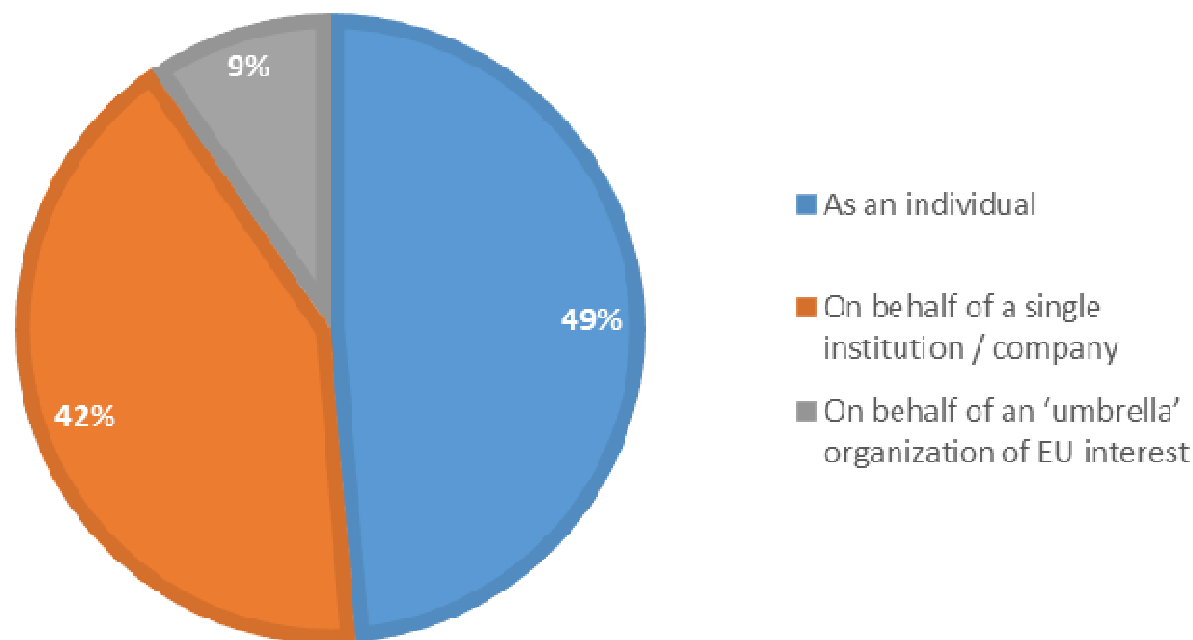
EOOS consultation: first results

Open on-line stakeholder consultation (6 weeks)

115 responses from 30 countries

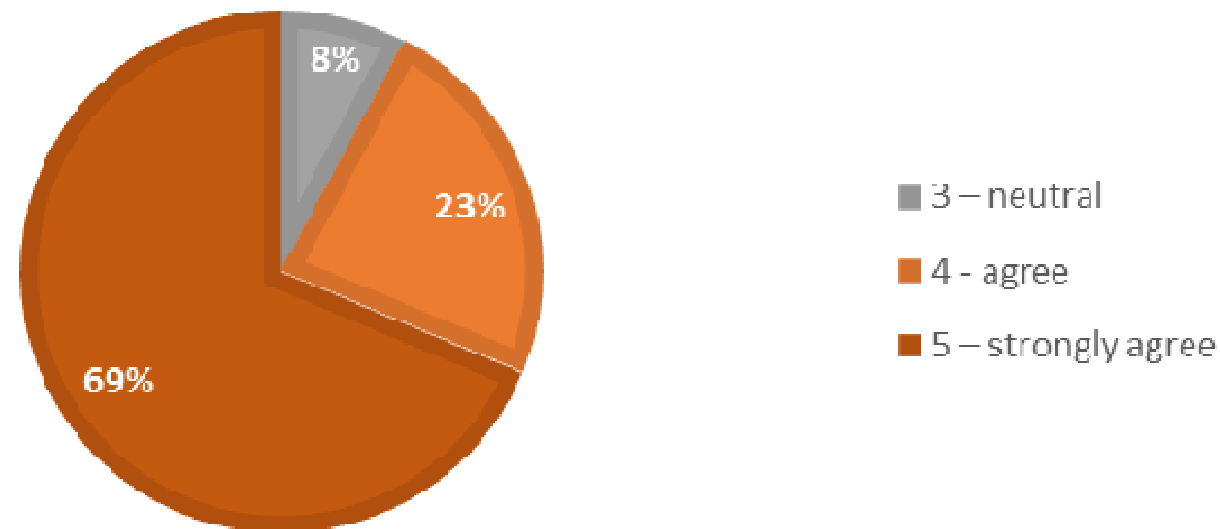
- 56 individuals (on their own behalf)
- 48 single institutions/ companies
- 11 'umbrella' organizations of EU interest

ARE YOU ANSWERING THIS QUESTIONNAIRE



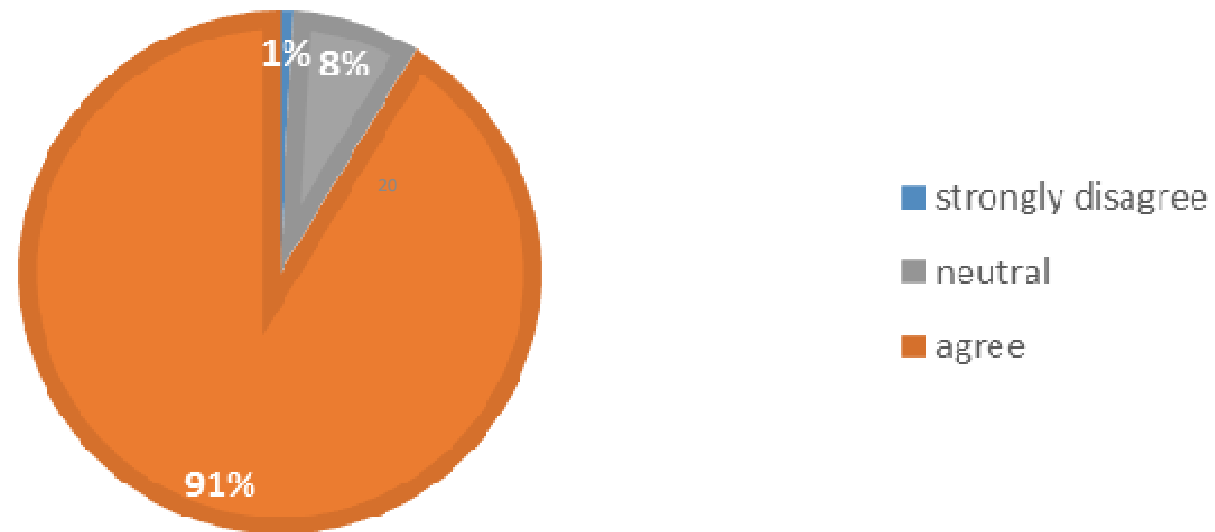
EOOS consultation: Agreement with the EOOS concept

DO YOU AGREE EUROPEAN OCEAN
OBSERVATION SHOULD BE BETTER
COORDINATED?



EOOS consultation: Agreement with the EOOS concept

DO YOU SUPPORT THE EOOS
CONCEPT AS PRESENTED IN THE
CONSULTATION DOCUMENT?



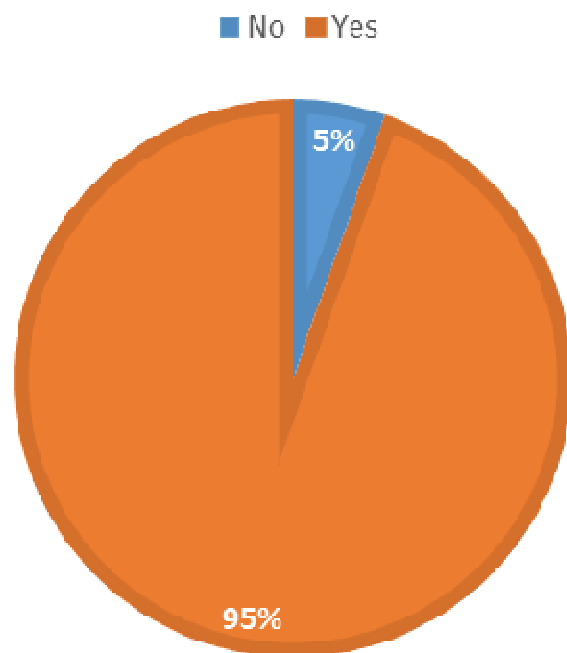
EOOS consultation: Agreement with the EOOS concept (comments)

Overall general support

- Further clarification of its role/ relationship with respect to other European initiatives and coordination bodies (e.g. EMSO, Copernicus, EuroGOOS, Marine Board, JPI Oceans, European Commission)
- Build upon, maintain and develop acknowledging other previous and current initiatives like, G7 Science Ministers, Marine Knowledge 2020 and EMODnet; and to link to AtlantOS
- Include Member States and responsible agencies (long-term funding?)
- Other suggestions (regional specificities, data management, etc.)

EOOS consultation: drivers

DO YOU AGREE WITH THE DRIVERS FOR EOOS OUTLINED IN THE CONSULTATION DOCUMENT?

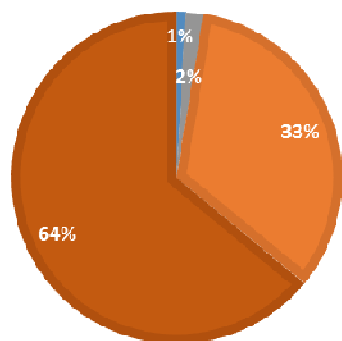


Other drivers:

- Need of a bottom up element (the community buy-in)
- Need to understand marine ecosystems (and observing science-driven EOVS)
- Sustainability in terms of funding and long-term planning
- Other suggestions

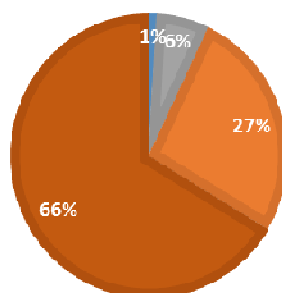
EOOS consultation: Role of EOOS

EOOS SHOULD HELP ALIGN AND CONNECT EXISTING EFFORT



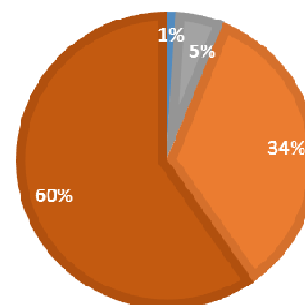
■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

EOOS SHOULD HELP IDENTIFY GAPS AND FOSTER INITIATIVES TO FILL THEM



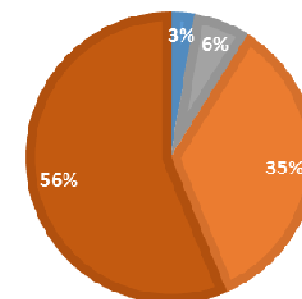
■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

EOOS SHOULD HELP PROMOTE OBSERVATIONS FOR MULTIPLE SECTORS



■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

EOOS SHOULD HELP INTEGRATE EUROPEAN OCEAN OBSERVING AT THE GLOBAL LEVEL



■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

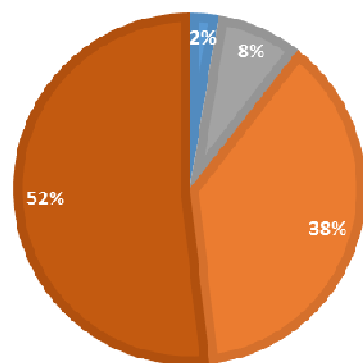
To what extent do you think EOOS should also play a role in:

Identifying priorities for R&D on ocean observation	36
Promoting open access to observation data	61
Other	16



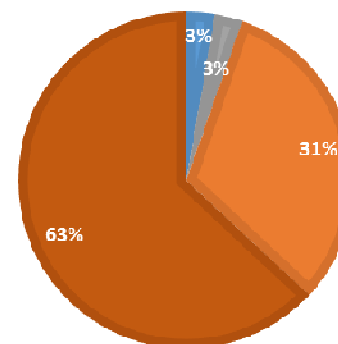
EOOS consultation: Scope of EOOS

ALL EUROPEAN OCEAN OBSERVATIONS INCLUDING EU CONTRIBUTION TO GLOBAL OBSERVING EFFORTS



■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

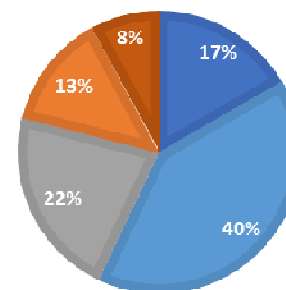
EU SEA BASINS AND SURROUNDING SEA



■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

24

EOOS SHOULD FOCUS MAINLY ON COASTAL SEAS



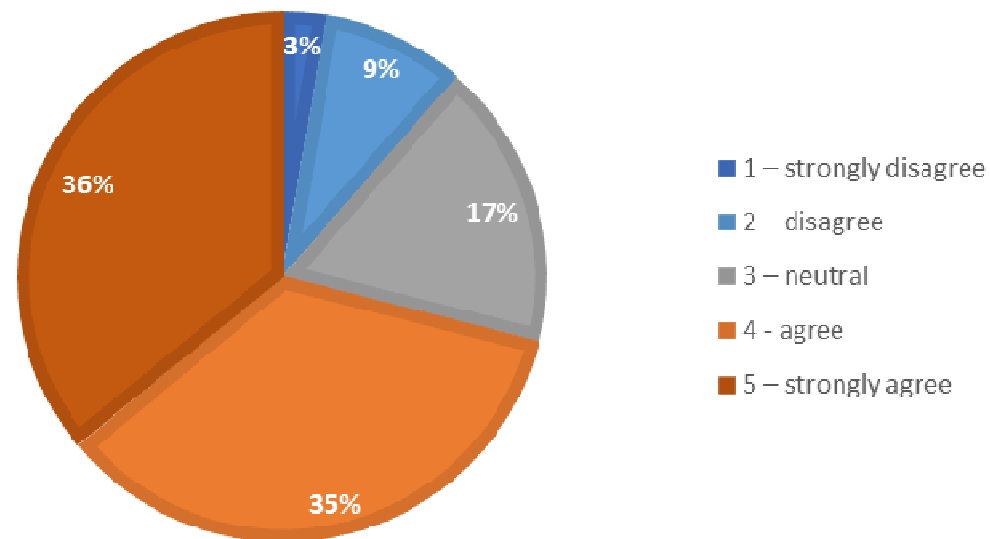
■ 1 - strongly disagree ■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

EOOS consultation: Scope of EOOS (other)

- Avoid stepping on toes of regional OOS's and non-European nations
- Help to promote international open access
- Focus in Europe first, go broader in the longer-term
- Consider the European EEZ – EU peripheral maritime regions (Pacific, Indian Ocean...)
- Take into account all European regions and contributions to and from other global areas
- Best to coordinate at sea basin level first (Atlantic, Arctic oceans, Mediterranean Sea)
- Focus on coastal seas (bring observation on coastal seas at the same level of operation and funding than open ocean and regional seas) and to be considered as part of EU basins
- Land-sea interface
- Deep ocean areas
- Connection between coastal seas and open/deep ocean (greater interaction between communities)

EOOS consultation: Marine Knowledge Value Chain

**THERE IS A GREATER NEED FOR IMPROVED
COORDINATION OF EUROPEAN DATA
ACQUISITION THAN OF DATA MANAGEMENT
AND ASSEMBLY?**

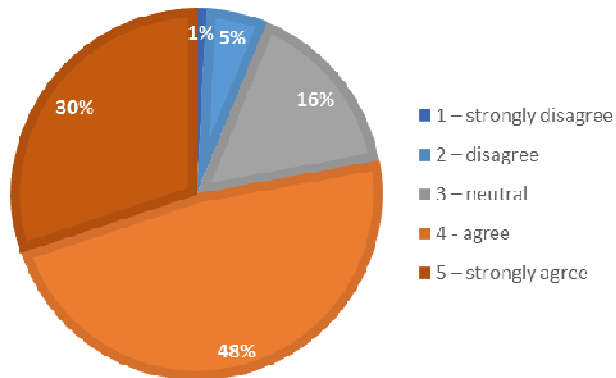


Comments:

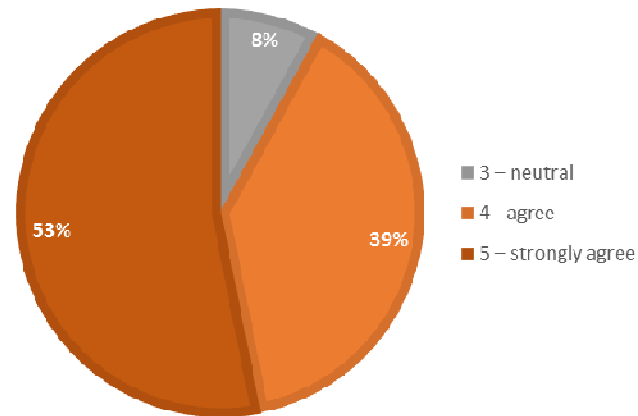
- two are intricately linked

EOOS consultation: Gap analysis

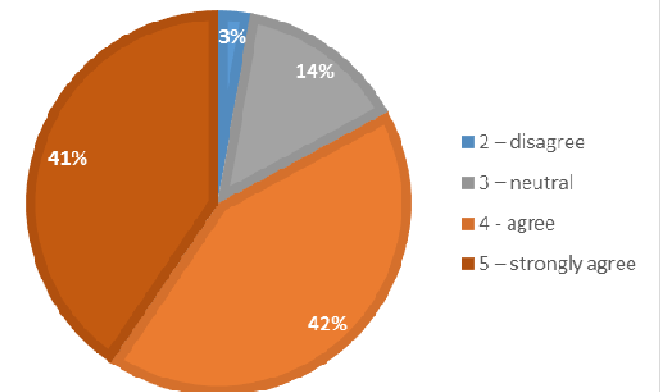
GOVERNANCE OF THE EUROPEAN OBSERVING SYSTEM/Framework



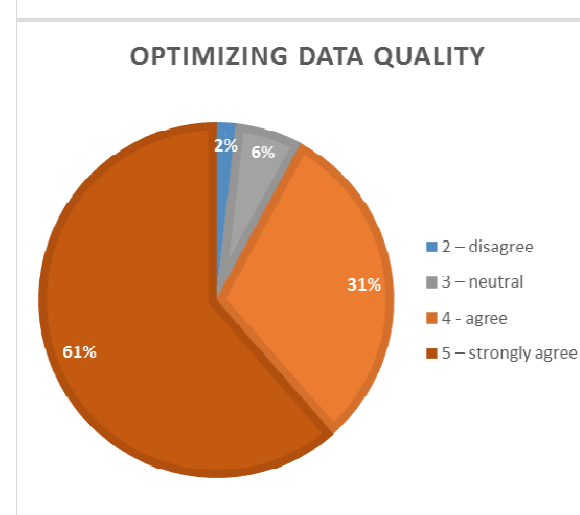
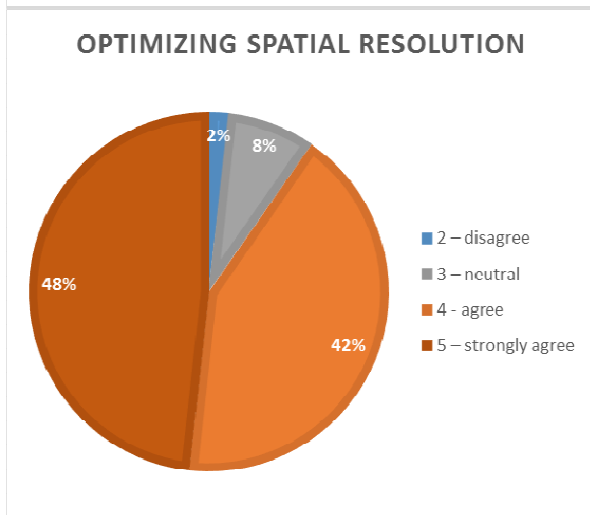
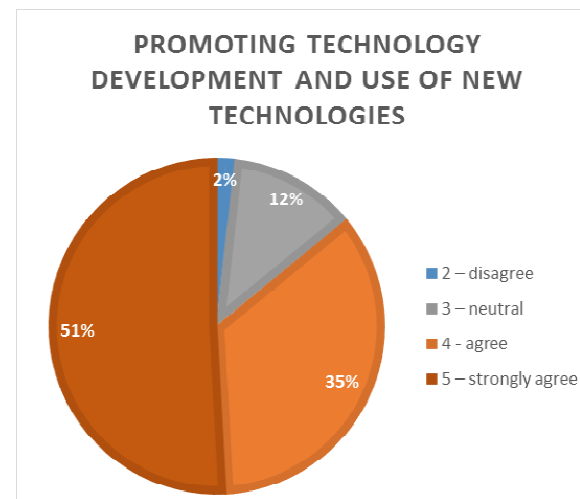
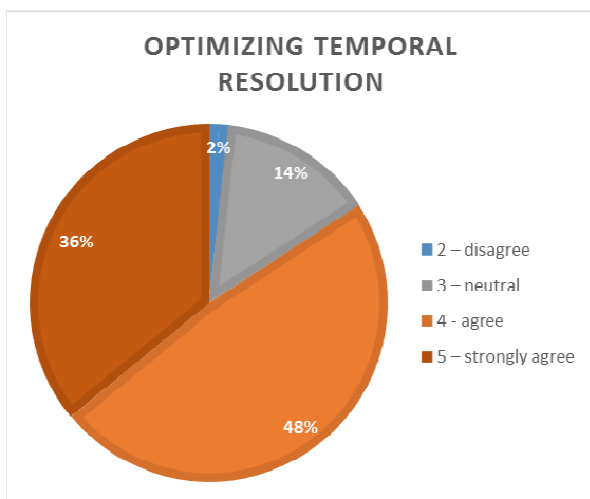
DELIVERING SUSTAINED OBSERVATION



OBSERVING AN INCREASING ARRAY OF MARINE ENVIRONMENTAL PARAMETERS



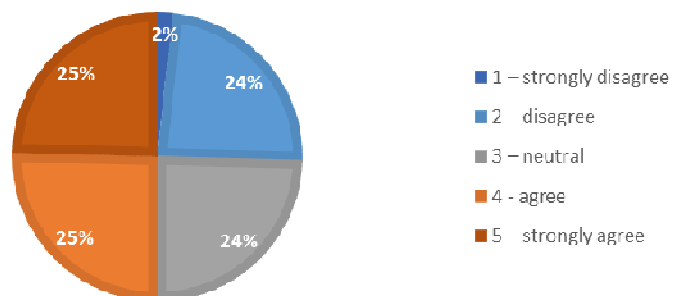
EOOS consultation: Gap analysis



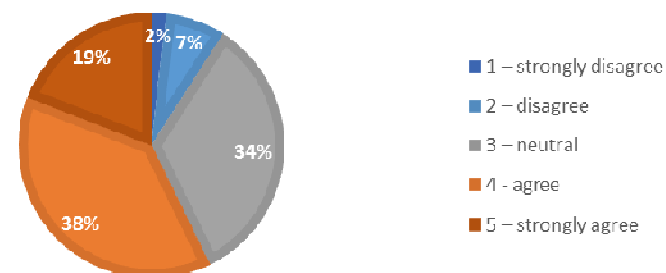
Other suggestions

EOOS consultation: Governance

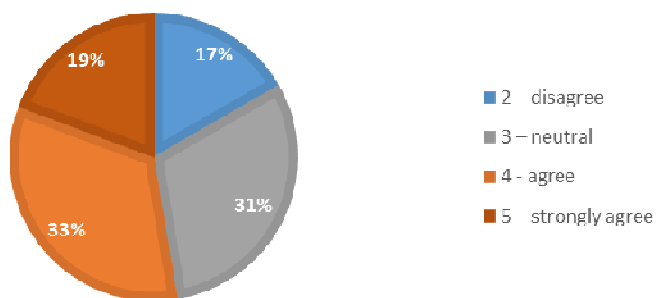
EUROPEAN OCEAN OBSERVATION AGENCY



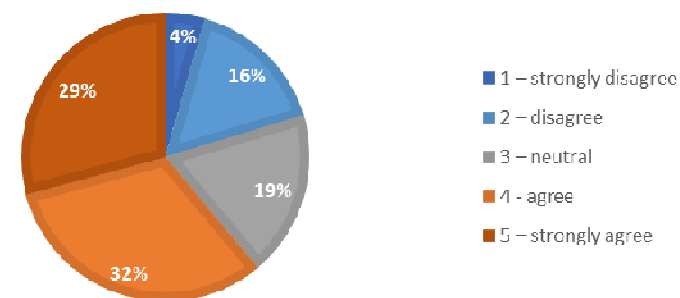
EXECUTIVE COMMITTEE WITH SOME DECISION POWER



SECRETARIAT/IMPLEMENTING AGENCY



COMMUNITY FORUM



EOOS consultation: Governance (comments)

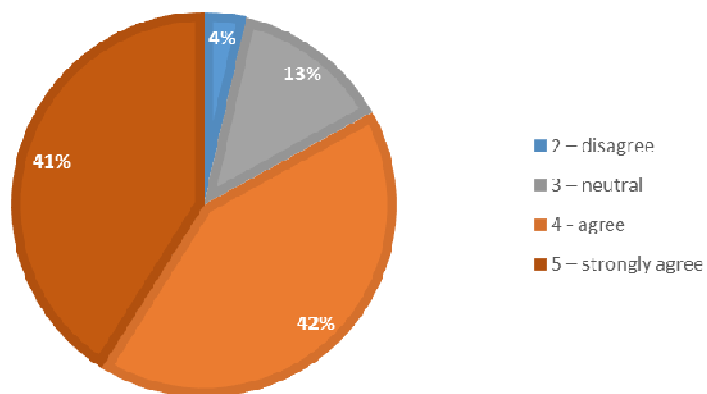
- Time frames: European Agency, long term; ExCom and secretary, short-medium term (to expand an existing structure)
- Inclusive flexible forum and a body with decision making (involvement of Member States/national agencies)
- Avoid competition with current limited resources
- Partnerships with other initiatives

EOOS consultation: User engagement

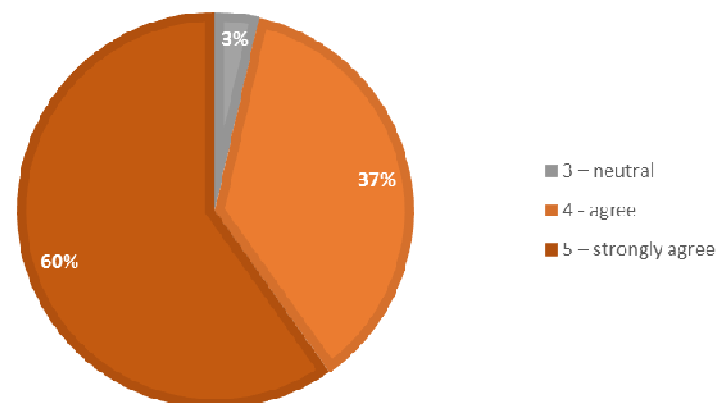
- 32 respondents selected “Users to advise EOOS steering group”
- 29 respondents selected “User surveys/web interface”
- 26 respondents selected “User representation in the EOOS governance structure”
- 22 respondents selected “Ad hoc user groups”
- 16 respondents selected “Link to existing initiatives” and provided suggestions

EOOS consultation: Early coordination actions under EOOS

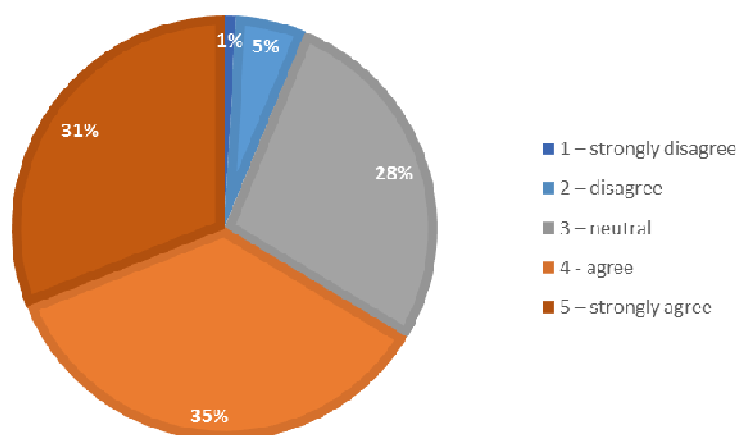
MAP AND CHARACTERIZE THE EXISTING EUROPEAN OCEAN OBSERVING LANDSCAPE



FOSTER LINKS ACROSS EXISTING OCEAN OBSERVING AND DATA INITIATIVES



DELIVER A BUSINESS CASE



32

Comments:

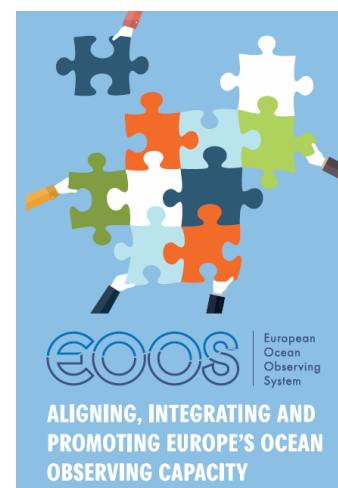
- What should be done first (3, step by step)
- Other mapping already done
- "Value of the ocean observing is nothing to be questioned by now"
- Gain commitment from EC and Member States

Communication and Promotion

EOOS



- **Logo and Flyer: March 2016**
- **Poster: May 2016**
- **Cons. Document brochure: November 2016**
- **Website: December 2016**



EOOS

EOOS will deliver a vision, roadmap and a common focal point for European ocean observing research and technology.



EOOS European Ocean Observing System
ALIGNING, INTEGRATING AND PROMOTING EUROPE'S OCEAN OBSERVING CAPACITY

www.eoos-ocean.eu

EOOS > News & Events

News & Events

Stakeholder consultation on EOOS design open – Have your say!

4 December 2016

From 12 December until 20 January 2017, an **open stakeholder consultation** is launched to help design an integrated and sustained European Ocean Observing System, EOOS. The consultation targets a wide European community of ocean data providers, infrastructure managers, technology developers, data users, and broader ocean observing stakeholders.

This survey is critical to collect views from the European ocean observing community and wider stakeholders and to inform any decision-making about a future EOOS.

The need for an end-to-end integrated and sustained European Ocean Observing System, EOOS, has been expressed by the oceanographic and scientific community during the development of the European Integrated Maritime Policy in 2007. Since then, EOOS has featured in a number of scientific and science-policy documents. An overview of those developments is available [here](#). Through those documents, a need for EOOS has been expressed at both regional and pan-European levels. However, to design an efficient and sustained EOOS concrete stakeholder recommendations are needed, as well as a policy buy-in.

The consultation survey was designed by the EOOS Steering Group brought together by EuroGOOS and the European Marine Board, in their consolidated actions to make EOOS a reality.

Have your say on the future EOOS!

Building a European Ocean Observing System – European Parliament event

30 November 2016

Date:

08/09/2016

- [Building EOOS EP Event Agenda](#) (283.8 KiB)
- [Building EOOS EP Event Summary](#) (563.3 KiB)
- [Building EOOS EP Event Flyer](#) (904.5 KiB)

The need for an end-to-end integrated and sustained European Ocean Observing System (EOOS) has been expressed by the oceanographic and scientific community during the development of the Integrated Maritime Policy in 2007. In 2008, EuroGOOS and European Marine Board released a joint vision document (pdf) to outline the concept of this framework. Since then, EOOS has featured in a number of scientific and science-policy documents. An overview of those developments is available [here](#).

In 2016, after a successful brainstorming workshop, EuroGOOS and European Marine Board convened an expert panel acting as EOOS Steering Group. The Steering Group has developed a consultation document to collect feedback for the EOOS implementation roadmap and launch it for a wide stakeholder consultation.

On 8 September 2016, the EOOS progress and the consultation document were presented at a dedicated event at the European Parliament hosted by MEP Ricardo Santos.



EOOS > EOOS materials

EOOS materials

- **EOOS Consultation Document**
 - [EOOS Consultation Document](#) (740.6 KiB)
- **Summary of the EOOS event at the European Parliament, 8/09/2016**
 - [EOOS-EP-event-main-outputs](#) (563.3 KiB)
- **Slides on EOOS process**
 - [EOOS-Progress-Nov2016](#) (1.0 MiB)
- **EOOS flyer**
 - [EOOS-flyer](#) (124.6 KiB)
- **EOOS poster (A0)**
 - [EOOS-poster-2016-A0](#) (206.4 KiB)

+

- Relevant Materials
- About: What is EOOS, Why, EOOS Progress



#EOOS



Building a European Ocean Observing System

8 September 2016, 15:00-18:00
Room ASP 3 G 3
European Parliament, Brussels

HOSTED BY
Ricardo Serrão Santos MEP

“With every drop of water you drink, every breath you take, you're connected to the sea. No matter where on Earth you live.”

SYLVIA EARLE, OCEANOGRAPHER, UN CHAMPION OF THE EARTH

- **GOOS** Regional Alliances Forum
- **GEO**: Board, Projects Conference
- Meetings with **Commissioner Vella**
- **Galway**: Seabed Mapping WG
- **EOOS** event at the European Parliament
- **CIESM** Congress
- **COLUMBUS** Conference
- **MRI meetings**: Jerico, AtlantOS, Euro-Argo, FixO3, GAIC, ENVRI+
- **Exhibitions**: EMD, UNESCO IOC World Oceans Day, EGU, AGU, IMDIS
- **EC Science and Business Forum**
- **GEO-XIII** Plenary
- ...



EMODnet Stakeholder Conference & Sea-basin Workshops

Stress-testing European Marine Data –
Towards a European Ocean
Observing System

14 -15 February 2017
Royal Flemish Academy of Belgium
for Science and the Arts
Brussels, Belgium



Other events
and
promotion
opportunities?

EOOS Next steps

- More detailed analysis of the Consultation results
- Document the consultation results and disseminate (Spring 2017)
- Begin engagement with Member State organisations (EG, EMB, JPI)
- Write strategy to cover next 18-24 months
- Write implementation plan to support strategy
- EOOS Forum by early 2018