



# EOOS - EUROPEAN OCEAN OBSERVING SYSTEM

Public consultation summary report

The EOOS Steering Group would like to thank all respondents for their contributions and for the level of involvement of the stakeholder community. All the contributions received are being taken into consideration for the next steps in developing EOOS.

This report presents a summary of consultation results. The report, together with a list of respondents from institutions, companies or ‘umbrella’ organizations of EU interest and further information can be found at [www.eoos-ocean.eu](http://www.eoos-ocean.eu)

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## 1. Introduction

The European ocean observation and monitoring capacity is well developed and remains high on political agendas. However, the landscape remains highly fragmented and complex. The need for end-to-end integrated and sustained ocean observations in Europe was expressed by the marine scientific and operational oceanographic community during the development of the European Integrated Maritime Policy<sup>1</sup> in 2007. In 2008, the European Marine Board and EuroGOOS released a joint vision document<sup>2</sup> for a fully integrated end-to-end system ocean observing system. EOOS has since featured in a number of scientific and science-policy documents (see Figure 1), including the EurOCEAN 2010 and EurOCEAN 2014 conference Declarations and the European Commission expert group report on Marine Research Infrastructure ‘Towards European Integrated Ocean Observation’<sup>3</sup> (January 2013). The European Marine Board Navigating the Future IV<sup>4</sup> Chapter 11 outlined key components for ‘An integrated and sustained European Ocean Observing System’ (June 2013) and EOOS was specifically referred to in the EuroGOOS Strategy 2014-2020<sup>5</sup> (September 2014), and the JPI Oceans Strategic Research and Innovation Agenda<sup>6</sup> (May 2015). In 2015, EuroGOOS and the European Marine Board renewed their joint efforts to promote and facilitate the establishment of a European Ocean Observing System (EOOS) as an overarching ocean observing framework for Europe. A successful expert brainstorming workshop took place in May 2015, and in March 2016, an EOOS Steering Group was convened. An EOOS Consultation Document<sup>7</sup> was launched on 8 September 2016 at a dedicated European Parliament event<sup>8</sup> hosted by MEP Ricardo Serrão Santos. A consequent stakeholder consultation was conducted for six weeks in December 2016 and January 2017, to receive feedback from the wider community. This document summarizes consultation results.

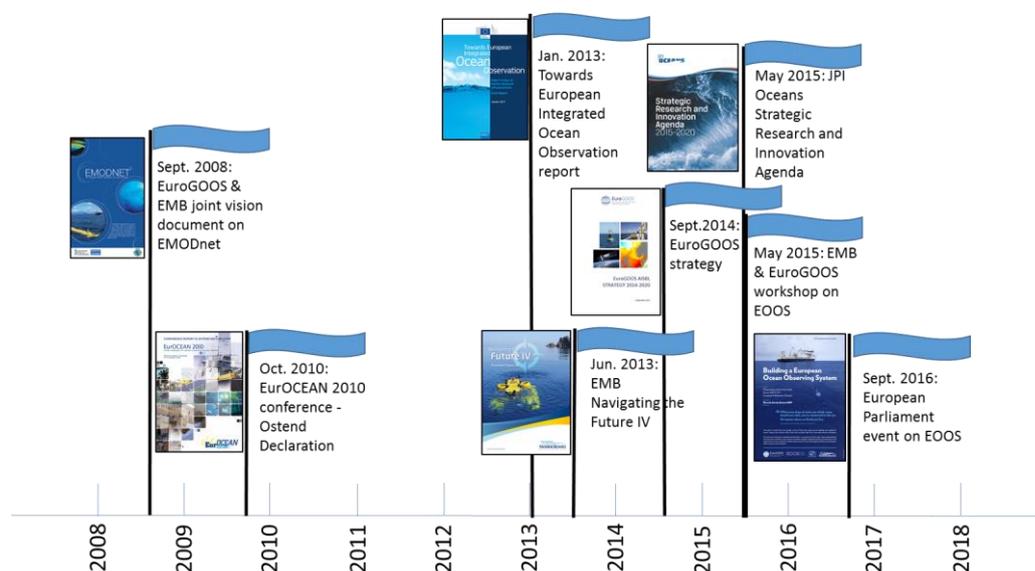


Figure 1: EOOS in European science-policy publications

<sup>1</sup> [https://ec.europa.eu/maritimeaffairs/policy\\_en](https://ec.europa.eu/maritimeaffairs/policy_en)

<sup>2</sup> <http://www.marineboard.eu/file/60/download?token=9-d8m8bh>

<sup>3</sup> <https://bookshop.europa.eu/en/towards-european-integrated-ocean-observation-pbKI3012119/>

<sup>4</sup> <http://www.marineboard.eu/file/18/download?token=QescBTo6>

<sup>5</sup> <http://eurogoos.eu/download/publications/EuroGOOS-Strategy-2014-2020.pdf>

<sup>6</sup> <http://www.jpi-oceans.eu/library?refid=246303>

<sup>7</sup> [http://www.eoos-ocean.eu/download/promotional\\_materials/EOOS\\_ConsultationDocument\\_02.12.2016.pdf](http://www.eoos-ocean.eu/download/promotional_materials/EOOS_ConsultationDocument_02.12.2016.pdf)

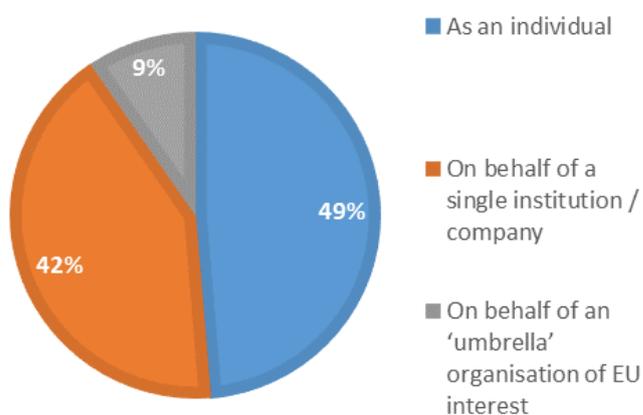
<sup>8</sup> <http://www.eoos-ocean.eu/events/building-a-european-ocean-observing-system-european-parliament-event/>

## 2. The consultation process

From 12 December 2016 until 22 January 2017, an open stakeholder consultation was conducted to receive community input on how EOOS should be taken forward. The consultation targeted a wide European community of ocean data providers, infrastructure managers, technology developers, data users, and broader ocean observing stakeholders. The consultation was advertised to a variety of stakeholders via e-mailing campaigns through the EMB and EuroGOOS networks and to wider stakeholders via the EOOS website ([www.eoos-ocean.eu](http://www.eoos-ocean.eu)), social media, and relevant meetings and events. All the contributions received are being taken into consideration for the next steps in the EOOS process. The views summarized in this document are those of the stakeholder contributions and do not represent the views of the EOOS Steering Group.

## 3. Profile of respondents

115 responses were received. Just under half (49%) were individual responses (from people working in the marine and maritime sectors); 42% were a coordinated response from single institutions/companies (spanning national institutes, agencies, private companies and other single entities) and 9% from ‘umbrella’ organisations or projects.



*Figure 2: Profile of respondents to the EOOS stakeholder consultation*

Contributions were received from 30 different countries. These included 24 European countries and 6 non-European countries (see annex b for the full list of countries).

Most of the respondents replied that their main activity was research (75%), including private and public research performers, such as universities, research institutes, and agencies. Contributions were also received from national and regional governments, public authorities and civil society.

#### 4. Summary of responses

The EOOS stakeholder consultation consisted of a set of questions divided into 10 clusters, based on the EOOS Consultation Document released in September 2016<sup>9</sup>. Respondents were invited to rank their level of agreement (ranging from 5- strongly agree, to 1- strongly disagree), select multiple choice options, and provide additional inputs in open text boxes. Contributors were asked about their agreement with the EOOS concept, drivers, role and scope as written in the Consultation Document, what gaps and user engagement methods should EOOS address and practise, how EOOS should evolve and what immediate early actions EOOS should conduct.

#### Support for EOOS

*“The European Ocean Observing System, EOOS, is a coordinating framework designed to align and integrate Europe’s ocean observing capacity in the long-term; to promote a systematic and collaborative approach to collecting sustained information on the state and variability of our seas; and to underpin sustainable management of the marine environment and its resources.”*

Definition and vision for EOOS as presented in the Consultation Document (September, 2016).

*“EOOS will be an essential tool to support the development of the European Integrated Maritime Policy” – National public research institute*

Almost all the respondents (92%) agreed or strongly agreed that there are still some efforts to be done in the coordination of European ocean observation. **Nearly all contributors (91%) considered that EOOS could provide the framework for the coordination of the**

**European ocean observation capacity.** A number of public research institutes proposed that this should be done building upon previous and current European initiatives and coordination networks. Some public research institutes also stressed the need to involve European countries and responsible agencies in the EOOS process as

*“Many stations are facing problems of maintenance and are about to be dismantled in many cases. Without stations there is nothing to coordinate.” – National public research institute*

the current ocean observing systems are supported through national and regional funds, and the long-term sustainability of ocean observation depends largely on this core funding.

The majority of the respondents (72%) agreed that to build a fully end-to-end system, there is a great need for improved coordination of observing infrastructures, systems and initiatives. This supports the ongoing European commitments for coordinating data management and assembly.

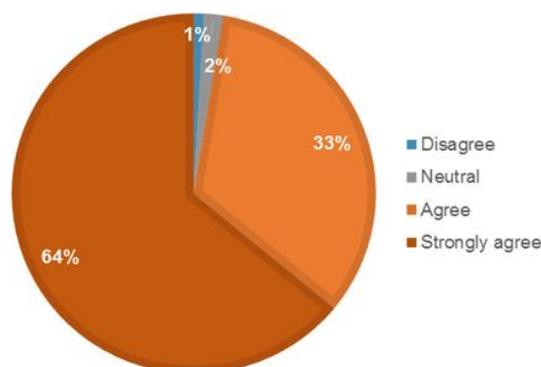
Most respondents (95%) agreed with the key drivers for EOOS presented in the Consultation Document, ranging from research and technology to societal and environmental<sup>10</sup>. Several public research institutes also proposed that an important additional bottom-up driver was the community willingness and desire for a better coordinated ocean observation in Europe.

<sup>9</sup> [http://www.eoos-ocean.eu/download/promotional\\_materials/EOOS\\_ConsultationDocument\\_02.12.2016.pdf](http://www.eoos-ocean.eu/download/promotional_materials/EOOS_ConsultationDocument_02.12.2016.pdf)

<sup>10</sup> [http://www.eoos-ocean.eu/download/promotional\\_materials/EOOS\\_ConsultationDocument\\_02.12.2016.pdf](http://www.eoos-ocean.eu/download/promotional_materials/EOOS_ConsultationDocument_02.12.2016.pdf) (page 4)

Almost all (more than 90%) of the contributors agreed (or strongly agreed) that EOOS should:

- help align and connect existing efforts;
- help identify gaps and foster initiatives to fill them;
- help promote observations for multiple sectors;
- help integrate European ocean observing at the global level;
- help identify priorities for R&D on ocean observation and promote open access to observation data.



Other proposals for EOOS activities suggested that EOOS should promote the sustainability of observing systems (including dissemination costs), enhance and broaden existing observational networks and support capacity building and training.

*Figure 3: 97% of all respondents agreed or strongly agreed that EOOS should help align and connect existing efforts*

## Added value

### *Which geographical scope should EOOS address?*

**Most of the contributors agreed that EOOS should address all European efforts in ocean observations, including EU contributions to global observing efforts (89%), and European sea basins and surrounding areas (94%).** Some respondents recognized that the full European EEZ should be considered, including waters outside Europe, e.g. overseas territories. Some public research institutes stressed the importance of including and supporting the coastal part of the system. Strong collaboration with existing regional initiatives and with non-European nations was also stressed.

*“EOOS should also consider the EU EEZ which is 8 % of the total ocean” – European network*

### *Which parameters are most important for EOOS to address?*

Half of respondents suggested that all parameters from the Essential Ocean Variables (EOVs)<sup>11</sup> are of relevance to EOOS and all observations should be supported, but some respondents called to consider which parameters and areas are strategically essential and where more support may be needed, with the final aim of reaching an integrated system. The other half of the contributions received were different combinations of the parameters given as a choice (biological, biogeochemical, chemical, physical, geology). Additionally, others suggested parameters including those for coastal seas and the interface of land-sea and coastal areas-open/deep ocean.

<sup>11</sup> [http://www.goosocean.org/index.php?option=com\\_content&view=article&id=14](http://www.goosocean.org/index.php?option=com_content&view=article&id=14)

## Future governance

### *How might EOOS evolve?*

The majority of respondents agreed that in the short/medium-term a community-led initiative with a light coordination from an Executive Committee, Steering Group, or Secretariat was the most appropriate governance structure (ideally as an expansion of an existing structure). Many contributors suggested that EOOS governance should also incorporate an inclusive flexible forum and a body with decision making capacity. However, many respondents supported the need for stronger coordination in the longer-term. Half of all respondents agreed that EOOS might evolve into a European Ocean (Observation) Agency, recognizing the need to progress gradually toward this governance set-up.

Promoting partnerships with other current (and former) initiatives was encouraged to avoid duplication of efforts and maximize limited resources. The involvement of European countries/national agencies in the decision-making throughout the process was noted as important.

*“We need to find a way to bring together current expertise from the existing entities and other stakeholder representatives that can work together.”* – National research support organization

### *Which user engagement methods would be the most effective?*

*“The user needs must truly drive the development of EOOS. [EOOS] must not just be a ‘box ticking’ endeavour.”* – National public research agency

The consultation sought suggestions on how to best involve users in the future development of EOOS. Many contributors stressed the need for strong user engagement throughout the process. Different methods were suggested and they all received more or less the same amount of support. Some respondents stressed the need of having users involved in the governance (with decision-making power), while others preferred having users as advisors (*ad-hoc* user groups, high-level advice through the EOOS Steering group, or their involvement in the community forum or using surveys/web interfaces). Again, some respondents suggested that EOOS should link to already existing coordination networks and structures, among others.

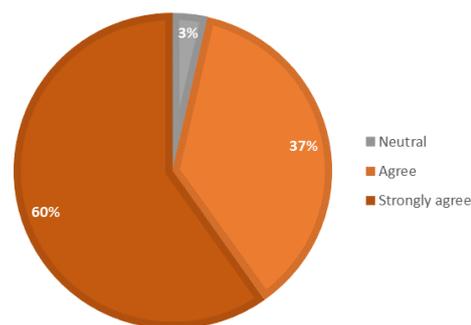
## Future actions for building EOOS

One of the main roles of EOOS will be to better coordinate Europe’s ocean observing efforts. Contributors were invited to select which of the 3 actions proposed in the Consultation Document (mapping, business case or foster links) they considered to be the most convenient at the onset of EOOS.

97% of the respondents considered that EOOS early action should be fostering links across existing ocean observing and data initiatives, gaining commitment and support from the European Commission and European countries.

Delivering a business case (economic and non-economic assessment) for the European ocean observing was also supported by 67% as a timely action. As recommended by some private and public research organizations, producing a strong case would encourage future investments in ocean observation.

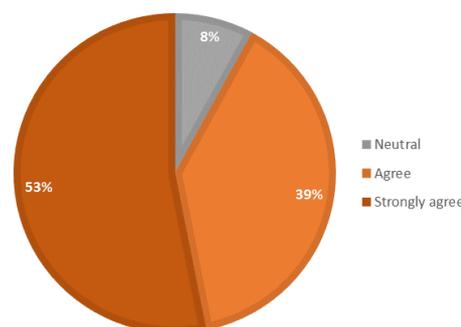
Mapping and characterization of the existing European ocean observing landscape was also seen as a timely action for the majority of the respondents (84%). There were calls to consider and take stock of previous mapping and characterisation activities conducted.



*Figure 4: 97% of all respondents agreed or strongly agreed that an early action for EOOS should be fostering links across existing ocean observing and data initiatives*

#### *Which major gaps EOOS should address?*

A considerable number of contributions proposed to link the mapping and characterization exercise to the gap analysis proposed in the EOOS Consultation Document. Replying on the gaps that EOOS should address, most respondents agreed that EOOS should address gaps in the governance of the European observing system/framework (78%) and delivering sustained observations (92%); observing an increasing array of marine environmental parameters (83%); optimizing temporal (84%) and spatial (90%) resolution and data quality (92%); and promoting technology development and use of new technologies (86%). Some other suggestions for gaps analysis are related to data and technical components; sustainability of ocean observation (addressing the lack of funding structure and long-term funding strategies in Europe); and stakeholders' engagement, among others.



*Figure 5: 92% of all respondents agreed or strongly agreed that EOOS should address the gap in delivering sustained observations*

#### *With which concrete actions should EOOS begin?*

EOOS will aim to deliver concrete actions early in the process. Contributors suggested a long list of recommendations and ideas for possible actions, including pilot actions, to address specific gaps. Some of these suggestions are related to the early coordination actions and future governance proposed in the consultation (e.g. support current observational programmes, identify funding problems), while other stress the regional component (e.g. links to other initiatives like AtlantOS or EMODnet Sea-Basin Checkpoints) and further development of the different European ocean observation components (e.g. benthic ecosystems, improving interoperability of data).

## 5. Conclusion and next steps

This stakeholder consultation was critical to collect the views of the European ocean observing community and wider stakeholders on EOOS development, governance and future decision-making.

The results form an important step in the evolution of EOOS. Almost all contributors agree there are still some efforts to be done in the coordination of European ocean observation. 91% of respondents agreed that EOOS could provide the framework for the coordination of the European ocean observation capacity.

The majority of respondents considered that EOOS early actions should be community-driven, fostering links across existing ocean observing and data initiatives, and gaining commitment and support from the ocean observing community, the European Commission and European countries. EOOS development in the medium-term to be facilitated by a dedicated Secretariat, building on existing initiatives and support for longer-term coordination as part of a European Ocean (Observation) Agency.

Building on the consultation results and the suggestions for EOOS development, e.g. pilot actions, the EOOS Steering Group will produce a Strategy for EOOS including a short-term implementation plan. The EOOS Steering Group plans to organize an open stakeholder forum on EOOS in Spring 2018. As an on-going activity, the EOOS Steering Group will seek the support from the European Commission, European countries and the community by building a direct link to key contacts in ocean observation and marine monitoring to inform EOOS developments.

## 6. Annexes

### a. List of acronyms

AtlantOS: EU Horizon 2020 funded project “Optimizing and Enhancing the Integrated Atlantic Ocean Observing System”

EEZ: Exclusive Economic Zone

EMB: European Marine Board

EMODnet: European Marine Observation and Data Network

EOOS: European Ocean Observing System

EOVs: Essential Ocean Variables

EU: European Union

EuroGOOS: European Global Ocean Observing System

JPI Oceans: Joint Programming Initiative Healthy and Productive Seas and Oceans

MEP: Member of European Parliament

### b. List of countries from where the contributions were received

Member countries of the EU	Associated Countries to the EU
<ul style="list-style-type: none"> <li>• Belgium</li> <li>• Bulgaria</li> <li>• Croatia</li> <li>• Cyprus</li> <li>• Denmark</li> <li>• Estonia</li> <li>• Finland</li> <li>• France</li> <li>• Germany</li> <li>• Greece</li> <li>• Ireland</li> <li>• Italy</li> <li>• Lithuania</li> <li>• Netherlands</li> <li>• Poland</li> <li>• Portugal</li> <li>• Romania</li> <li>• Slovenia</li> <li>• Spain</li> <li>• Sweden</li> <li>• United Kingdom</li> </ul>	<ul style="list-style-type: none"> <li>• Norway</li> <li>• Turkey</li> <li>• Ukraine</li> </ul> <hr/> <p>Non-European countries</p> <hr/> <ul style="list-style-type: none"> <li>• Australia</li> <li>• Brazil</li> <li>• Canada</li> <li>• Colombia</li> <li>• India</li> <li>• Russian Federation</li> </ul>

**c. Members of the EOOS Steering Group (April 2017)**

- |                              |   |
|------------------------------|---|
| 1. Glenn Nolan, co-Chair     | European Global Ocean Observing System, EuroGOOS  |
| 2. Niall McDonough, co-Chair | European Marine Board, EMB                        |
| 3. Richard Gilmore           | European Commission DG GROW                       |
| 4. Sigi Gruber               | European Commission DG R&I                        |
| 5. Pierre-Yves Le Traon      | Mercator Ocean and Ifremer, France                |
| 6. George Petihakis          | Hellenic Centre for Marine Research, HCMR, Greece |
| 7. Iain Shepherd             | European Commission DG MARE                       |
| 8. Isabel Sousa Pinto        | CIIMAR, Portugal                                  |
| 9. Jacky Wood                | JPI Oceans secretariat                            |

Supporting the Steering Group:

- |                          |  |
|--------------------------|--|
| 10. Dina Eparkhina       | European Global Ocean Observing System, EuroGOOS |
| 11. Ángel Muñiz Piniella | European Marine Board, EMB                       |
| 12. Kate Larkin          | European Marine Board, EMB                       |

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The EOOS initiative is being promoted as a joint initiative of EuroGOOS and the European Marine Board. The respective memberships of both of these networks include most of the science institutes and agencies that carry out ocean observing activities in Europe.

*EuroGOOS identifies priorities, enhances cooperation and promotes the benefits of operational oceanography to ensure sustained observations are made in Europe's seas underpinning a suite of fit-for-purpose products and services for marine and maritime end-users.*

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