

Agenda – draft

Tuesday, 7 March 2017, Day 1

13:00-14:00 **Closed EuroGOOS Directors Board Meeting (restricted to Executive Board Members)**

13:00-13:05 **1. Opening and adoption of agenda**
Erik Buch

13:05-13:20 **2. Office updates and member survey on expert secondment**
Glenn Nolan

13:20-13:40 **3. Finances: draft 2016 closure, 2017 provisions, reporting to the Assembly**
Glenn Nolan

13:40-14:15 **4. EuroGOOS integrated strategy, standardized Terms of Reference, and 2017 implementation plan**
Erik Buch

14:15-14:20 **5. Membership application to EuroGOOS - approval**

14:20-14:30 **Coffee break and arrival of ROOS, WG and TT Chairs**

14:30-18:00 **Open EuroGOOS Directors Board Meeting, Day 1**

14:30-14:35 **1. Welcome and adoption of agenda**
Erik Buch

14:35-15:00 **2. Adoption of the last meeting report (Nov. 2016) and actions update**
Erik Buch

15:00-15:50 **3. Updates on activities: core activities and ongoing projects**
Glenn Nolan, Vicente Fernandez/Patrick Gorrynge, Dina Eparkhina and Erik Buch

15:50-16:30 **4. Integrated EuroGOOS Strategy: presentation and discussion**
Erik Buch and Glenn Nolan

16:30-16:40 **5. New template for the terms of reference across the activities**
Glenn Nolan and Dina Eparkhina

- 16:40-17:00 Coffee break**
- 17:00-18:00 6. ROOS, WG and TT Chairs updates and implementation plan 2017**
Working Group, Task Team and ROOS chairs
- 18.00 End of Day 1**
- 19:00 Dinner** (C'chicounou, 29 rue de la Levure, 1050 Ixelles)

Wednesday, 8 March 2017, Day 2

- 09:00-09:20 7. Discussion on how to efficiently follow-up the implementation**
Erik Buch
- 09:20-10:00 8. EuroGOOS working groups: discussion on new activities**
Glenn Nolan
- 10:00-10:30 9. European Ocean Observing System: update on the progress**
Glenn Nolan
- 10.30-10.50 Coffee break**
- 10:50-11:20 10. EuroGOOS Conference**
Erik Buch, Glenn Nolan, Dina Eparkhina
- 10.1. Conference 2014: structure and lessons learn**
10.2 Conference 2017: structure, title, strategic objectives
10.3 Organization and communication of the 2017 conference
- 11:20-11:35 11. Kostas Nittis award: 2016 report and 2017 call**
Glenn Nolan
- 11.35-11.55 12. EuroGOOS and global networks: updates and discussions**
Erik Buch and Glenn Nolan
- 11:55-12:10 13. Calendar 2017: events and milestones**
Dina Eparkhina
- 12:10-12.25 14. General Assembly 2017**
Erik Buch
- 12:25-12:35 15. AOB**
- 12:35-12:40 16. Overview of main meeting decisions and next meeting date**
Erik Buch
- 12:40 End of meeting**
- 12:40-13:00 Lunch**

EuroGOOS Executive Board and Chairs meeting

7-8 March 2017, EuroGOOS/BELSPO Offices, Brussels

List of participants – draft

EuroGOOS Executive Board Members

Name	Organization	Email
Erik Buch	EuroGOOS Chair	erik.buch@eurogoos.eu
George Petihakis (7/03)	EuroGOOS vice-Chair/HCMR, Greece	gpetihakis@hcmr.gr
Bernd Brügge	Board Member / BSH, Germany	bernd.bruegge@bsh.de
Patrick Farcy (7/03)	Board Member / Ifremer, France	Patrick.Farcy@ifremer.fr
Rosalia Santoleri	Board Member / CNR, Italy	rosalia.santoleri@artov.isac.cnr.it
Urmas Lips	Board Member and BOOS Chair / MSI, Estonia	urmas.lips@msi.ttu.ee
Henning Wehde	Board Member and NOOS co-Chair / IMR, Norway	henning.wehde@imr.no

To be confirmed

Name	Organization	Email
António Santos Martinho	Board Member / Hydrographic Inst., Portugal	santos.martinho@hidrografico.pt

EuroGOOS ROOS, WG and Task Team Chairs

Chairs who are also members of the Executive Board are mentioned above

Name	Organization	Email
Sebastien Legrand	NOOS co-Chair/ RBINS, Belgium	slegrand@naturalsciences.be
Sylvie Pouliquen	DATAMEQ WG and Euro-Argo TT Chair / Ifremer, France	sylvie.pouliquen@ifremer.fr
Jun She	SAWG Chair / DMI, Denmark	js@dm.dk
Victor Turpin	Alternate for Gliders TT Chair Pierre Testor / UPMC, France	vtlod@locean-ipsl.upmc.fr

To be confirmed

Name	Organization	Email
Enrique Alvarez Fanjul	MONGOOS co-Chair / Puertos del Estado, Spain	enrique@puertos.es
Giovanni Coppini	MONGOOS co-Chair / CMCC,	giovanni.coppini@cmcc.it

	Italy	
Richard Lampitt	FP TT Chair / NOC, UK	r.lampitt@noc.ac.uk
Rajesh Nair	Technology WG Chair / OGS, Italy	rnair@ogs.trieste.it
Stein Sandven	Arctic ROOS Chair / NERSC, Norway	stein.sandven@nersc.no

Apology

Name	Organization	Email
Franciscus Colijn	FerryBox TT Chair / HZG, Germany	franciscus.colijn@hzg.de
Julien Mader	HF Radar Task Team Chair and IBI-ROOS co-Chair / AZTI, Spain	jmader@azti.es
Lars Boehme	ABI TT Chair / Uni. St Andrews, UK	lb284@st-andrews.ac.uk
Begoña Perez	Tide Gauge TT Chair / Puertos del Estado, Spain	bego@puertos.es
Manuel Ruiz	IBI-ROOS co-Chair / IEO, Spain	manuel.ruiz@co.ieo.es

Office

Name	Email
Glenn Nolan	Glenn.nolan@eurogoos.eu
Dina Eparkhina	Dina.eparkhina@eurogoos.eu
Vicente Fernandez	Vicente.fernandez@eurogoos.eu

List of Meeting Documents

Agenda Item	Meeting Document
1. Welcome and adoption of agenda	1.1 Meeting agenda 1.2 List of participants 1.3 List of meeting documents
2. Adoption of the last meeting report	2.1 Exec. Board – Chairs meeting report, Nov. 2016
3. Updates on activities	3.1 EuroGOOS project overview sheets
4. Integrated EuroGOOS strategy	4.1 EuroGOOS strategic priority areas, short-term
5. New template for the terms of reference	5.1 Terms of Reference template, draft
6. ROOS, WG and TT updates and implementation plan 2017	6.1 EuroGOOS implementation plan 2017, draft
7. Discussion on the implementation follow-up mechanism	
8. EuroGOOS working groups	
9. EOOS update on the progress	9.1 EOOS open stakeholder consultation – overview of the results (slides) 9.2 Qualitative analyses, draft
10. EuroGOOS 2017 conference	10.1 Organizational and programme planning document, draft
11. Kostas Nittis award and 2017 call	11.1 2016 winner’s mid-term report
12. EuroGOOS and global networks	
13. Calendar of events	
14. General Assembly 2017	14.1 Membership application from SOCIB, Spain
15. AOB	
16. Overview of the main meeting points and next date	

Report – draft

Contents

1. Opening and adoption of agenda.....	1
2. Main updates on events and activities.....	1
3. Updates from the Chairs	3
4. EuroGOOS strategy and priority areas, and their implementation through Office, ROOSes, Task Teams, and Working Groups	4
5. Status of actions and adoption of the May 2016 meeting report.....	7
6. Finances.....	7
7. Communications.....	7
8. EuroGOOS conference.....	8
9. Any Other Business	9
10. Actions recap and next meeting date	9
11. Annexes.....	10
Annex 1: List of participants	10
Annex 2: Decisions and actions as agreed at the meeting	12
Annex 3: Common terms of reference template for activities.....	14

1. Opening and adoption of agenda

Erik Buch opened the meeting and welcomed the EuroGOOS Executive Board members and chairs of the EuroGOOS ROOSes, Task Teams, and Working Groups. He asked for the adoption of the meeting agenda; it was approved without any comments. The chair stressed that the meeting was mainly focused on integrating the EuroGOOS strategy across all activities.

2. Main updates on events and activities

Staffing and secondment

Glenn Nolan informed the meeting that the office is looking for support in both technical and administrative work. For the administrative tasks, a full-time position was open in October and the recruitment process is ongoing. Interviews were held with nine candidates selected among 31 applicants. Three candidates were shortlisted and the job will be offered to the top candidate in early December.

Technical support will be required for some tasks in the two recent Copernicus-related tenders: a contract with EEA for the in-situ requirements coordination for the Copernicus services; and a contract with Mercator Ocean for analysis and promotion of both the in-situ component and

downstream services linked to CMEMS. Glenn Nolan and Erik Buch asked whether the Board can discuss the potential to subcontract experts from EuroGOOS member organizations on some tasks in those contracts.

The Board stressed that EuroGOOS is a coordinating body and should not compete with its members in realisation of technical tasks. Glenn Nolan clarified that the tasks foreseen are with a small budget and for a short-term work. The Board agreed with the importance of the EuroGOOS involvement in those two projects and agreed that the office should investigate a procedure to involve members in short-term subcontracting. It was mentioned that this will also help demonstrate the benefits of EuroGOOS membership. Finally, the link with the development of EOOS was noted, as both projects will feed into the work required for building EOOS.

Decision: Develop a set of guidelines and launch a call for member nominations to support some of the EuroGOOS technical work in the EEA and Mercator Ocean contracts. This first attempt will be evaluated at Executive Board meeting on 30-31 May 2017.

Action 1: Circulate a call for Indication of Interest to EuroGOOS members (Office, 15 December 2016).

Action 2: Prepare a list of the tasks in the EEA and Mercator Ocean contracts requiring external technical expertise (Office, 10 January 2017).

Action 3: Prepare a document on the internal procedure for technical support (secondment) from members (Office, 15 January 2017).

EOOS

Glenn Nolan presented the EOOS progress. He stressed that while the EOOS steering group is coordinating the first steps in the EOOS process (co-chaired by EuroGOOS and EMB), the exact scope and governance of EOOS will be defined further to an open stakeholder consultation. An EOOS consultation document was developed by the steering group and launched at the European Parliament event on 8 September 2016. The stakeholder consultation will be based on this document, and will be launched in mid-December.

Global networks: GOOS Regional Alliances and GEO Blue Planet

In October, Glenn Nolan visited the Australian GOOS Regional Alliance (GRA), IMOS, and presented EuroGOOS at several meetings, including the Australian Coastal and Oceans Modelling and Observations conference. US-IOOS, IMOS and EuroGOOS are the strongest GRAs and are trying to increase the GRAs visibility and influence on GOOS.

In 2016, EuroGOOS was also stronger involved in GEO. Erik Buch acted as a GOOS representative on the GEO Programme Board and an observer to the Executive Committee. In November 2016, Dina Eparkhina attended the GEO-XIII Plenary and presented EuroGOOS and its partners at the European Commission exhibition area. The oceans are under-represented on GEO, and several organizations were facilitated by the Partnership for Observation of the Global Oceans (POGO) to launch a cross-cutting GEO initiative on the oceans, Blue Planet. Blue Planet delivered a vision and gained some support, including an interest from the European Commission. 1.5 FTE from US and Australia have been provided to support POGO in the development of Blue Planet. EuroGOOS is considering offering some staff support as a European branch. Glenn Nolan is meeting with EC DG Research and Innovation (representing the European Commission on GEO) to discuss funding opportunities.

EU projects

Glenn Nolan presented a list of ongoing and new EuroGOOS projects. The Board welcomed the office efforts in engaging in strategically relevant EU initiatives but warned that that called for a constant evaluation of staff-time allocation between the projects and the core EuroGOOS business. It was noted, however, that EuroGOOS strategy implementation benefits clearly from the involvement in those projects. A higher staff time demand linked to the projects' administration will be covered by recruiting a full-time administrator for the office (foreseen to start in January 2017).

3. Updates from the Chairs

Tide Gauge Task Team

Begona Perez updated the meeting on the task team's progress. The task team held a successful workshop in November bringing together European tide gauge operators. A side event on altimetry took place back to back, which allowed the two communities exchange views, notably on how the EU TG network can be improved for altimetry calibration. Eight recommendations were issued and will be released on the TG TT webpage on the EuroGOOS website. Furthermore, the task team is providing a European input to the Global Sea-Level Observing System, GLOSS, and delivering recommendations to CMEMS.

The task team have conducted a survey of tide gauge operators and their sustainability. The survey demonstrated that about 27% of platforms are facing problems or are at risk. The EuroGOOS office and the task team will deliver a policy-oriented fact sheet on the importance of tide gauge platforms.

FerryBox Task Team

Franciscus Colijn presented the recent developments in the ferrybox community. The task team has set up a European FB database based on the HZG FB database. The task team network is trying to expand to all European basins. The task team has prepared a white book and a draft policy summary on the importance of ferrybox technology. The white book will be edited by the office and released on the EuroGOOS website. The summary will form the basis of a EuroGOOS task team fact sheet (it is foreseen to deliver a fact sheet for each task team, working closely with respective task team chairs).

The task team is engaged in several EU projects: JERICO-Next, Nexos, MariaBox, EnvriGuard, among others; and is investigating funding opportunities through Horizon 2020, COST and EMODnet/EMFF.

Gliders Task Team

Victor Turpin presented the task team updates on behalf of the chair Pierre Testor. Victor Turpin will now support the chair in all task team activities. The group aims at building a gliders task team in GOOS, titled the Ocean Gliders programme, and are working closely with Katy Hill. They are investigating global data management for gliders (it is considered that EGO is covering the EU, IMOS – Australia, and IOOS - the US). A meeting took place in September 2016 to discuss this work; next meeting is planned in March 2017 in Paris to address governance and membership of the initiative. The IODE Global Data Assembly Centre, GDAC, is being developed. Manual for metadata has been prepared by the task team and is being tested by Plocan and OGS glider teams.

The 7th EGO meeting took place in Southampton in September 2016 and attracted over 140 EU and international participants. The meeting allowed showcasing technologies, including the use of gliders in extreme regions. The location of the next meeting is being decided ~~between US, Australia, and South-Africa.~~

Victor Turpin also touched upon EOOS as a means to sustain the systems in line with ESFRI. The task team is considering a GROOM II project; the call is expected in March 2017. In addition to sustained observations, the project would also focus on services provided by gliders and capacity building.

High-Frequency Radars

Julien Mader updated the meeting on the HFR task team activities. The task team conducted a survey together with the CMEMS service evolution project INCREASE and the Horizon 2020 JERICO-Next project. In September 2016, the three activities organized a HFR workshop which brought together both European and international organizations. The next such workshop is planned in September 2017 in Germany. The task team will be also present at the AGU in December 2016.

The task team is working closely with the European marine data aggregators, namely, CMEMS, EMODnet and SeaDataNet.

IBI-ROOS

Manuel Ruiz updated the meeting on the IBI-ROOS activities. IBI-ROOS have been working on extending their focus to the entire EEZ of Portugal and Spain.

My Coast INTERREG proposal was submitted and is undergoing a second evaluation phase. Links with AtlantOS are being addressed.

IBI-ROOS is considering biogeochemistry data. Differences between EMODnet, IBI-ROOS and CMEMS have been identified in biogeochemistry variables. The chair noted that this should be regarded as a success rather than a gap, because more variables are transmitted by different systems. He stressed however that communication should be improved across the community.

4. EuroGOOS strategy and priority areas, and their implementation through Office, ROOSes, Task Teams, and Working Groups

Glenn Nolan reminded the meeting of the EuroGOOS strategic priorities for the coming two years, presented and discussed at the EuroGOOS General Assembly in May 2016. Erik Buch stressed that an integrated EuroGOOS work plan is needed to align all EuroGOOS activities spanning the ROOSes, Task Teams, Working Groups and the Office.

Glenn Nolan and Erik Buch presented a plan for aligning the EuroGOOS activities under each priority area, emphasising the following points:

- Data Priority Area:
 - o Stronger ROOSes are needed including an improved mechanism directing users to where to find data
 - o Task teams data should be fully integrated into EMODnet and CMEMS
 - o DATAMEQ should continue helping integration and common standards
 - o EMODnet data ingestion will support some of the above activities
 - o Gap analysis: gaps in data mean
 - Existing data isn't available
 - Not enough of the required data (requirements to be defined)
 - o Synergy with global initiatives

- Sustained Observations Priority Area – EOOS:
 - o Requirements in ROOSes to be aligned
 - o EuroGOOS Technology Plan WG can advise the process on new technologies
 - o Task Teams are doing SWOTs of their individual systems and will make recommendations for the future
 - o Links and synergies across the EuroGOOS projects and tenders
 - o Office role in promotion and ensuring policy relevance, as well as support in making an economic case

- Products Priority Area (including showcasing products):
 - o Focus on fitness for purpose
 - o Clear information on how to easily access required products
 - o Cooperation with private sector
 - o An idea was shared to develop a joint activity across all ROOSes on one specific topic (e.g. the MONGOOS' disaster and risk reduction work)
 - o User uptake (Mercator Ocean contract for CMEMS) but also feedback from the EuroGOOS community

- Communications Priority Area:
 - o Communicate the progress and successes
 - o Fact sheets for each activity
 - o Visual identity aligned across all ROOS websites
 - o Policy briefs
 - o Internal promotion to EuroGOOS members and subsidiaries

- Cross-cutting Priority Area
 - o International cooperation (GOOS, GRA, JCOMM, GEO)
 - o Strengthen cooperation across all ROOSes, working groups and task teams
 - o Attract new members working jointly with current members, chairs and Executive Board
 - o Secure an optimal organisation of EuroGOOS
 - o Secure an optimal functioning of the office (manning, planning, finances, etc)
 - o Office support to the Board in strategic planning.

A discussion followed:

- The Board **supported** the alignment of all EuroGOOS instruments towards a common strategy and clear objectives. EuroGOOS is at an important stage of its development: moving away from a loosely organized network and having gone through administratively intense setting up of a stand-alone organization, it has now moved to re-defining its modus operandi. This is critical for the organization to re-establish itself as effective, strategic, responding to the needs of today, and looking into the future.
- It was noted that some of the priority areas are better developed than the others. Emphasis in the implementation should be put accordingly. Products activity is underdeveloped and should receive more focus - the technological part of the data-related activities is being well developed but the usage and usability are not. This can be combined with products. Not only operational products but also knowledge as a product of data (research).
- FB white book is showing what the system can be used for, but does not touch upon products. The planned fact sheet will be useful for the users of the data, e.g. EEA. It is important to demonstrate a cross-cutting aspect – link FB with other platforms, e.g. gliders.

- EuroGOOS can help harmonize the way the products are presented, enhance cooperation in forecasting, exchange on best practices and issues, make recommendations. For example, collaboration on modelling tools within the region will be helpful to compare and use each other's models. EuroGOOS can make recommendations on this (not put this in place).
- Task teams should not be doing strategic work on their own (e.g. Gliders looking at ESFRI; FB - at EMODnet/DG MARE funding) – those strategic decisions should be made at the EuroGOOS Executive Board and Assembly level.
- EuroGOOS can contribute to breaking the mistrust between governmental and private organizations - a communication barrier.
- EuroGOOS task teams and working groups have been set up as cross-cutting activities – this should be better implemented. For example, Science Advisory working group should help underpin the strategic areas; Technology Plan working group should advise task teams.
- In the ENVRI Plus project several research infrastructures are members along with EuroGOOS which is also regarded as a research infrastructure. However, it should be EuroGOOS as an umbrella for those infrastructures (Marine Research Infrastructures on ENVRI are: SeaDataNet, EuroFLEETS 2, FixO3, ESONET (now EMSO), JERICO-Next and Euro-Argo). Furthermore, EuroGOOS should help define a clear vision of what ESFRI should include.
- Fixed platforms task team should include FixO3, EMSO and JERICO-Next.

The meeting also discussed a future vision of EuroGOOS after 2020. It was mentioned that Germany is going to adopt a Mercator Ocean format and other European states might follow, moving towards an ocean ECMWF. What will be the role of EuroGOOS and EOOS in this? The Board stressed that the discussion on the EuroGOOS vision post-2020 should involve the EuroGOOS members.

Glenn Nolan introduced a template proposed to align approaches across all activities, i.e. working groups, task teams and ROOSes. The Board **welcomed** the approach; this should be taken up with the activities directly.

It was **decided** that office will develop a roadmap for the implementation of the EuroGOOS strategic priorities across all activities and open it for consultation with the Chairs and the respective memberships. After an agreement is reached, each activity will be asked to update their work plans accordingly. In this update, all the activities will be asked to deliver a business case for ocean observing through their platform or network, and demonstrate the benefits and costs. It was stressed that this will be valuable for MSFD, climate action, and storm surge/tsunami warnings among other applications.

It was also mentioned that EMODnet are going through a similar process: they have been first unlocking the data and making it available, as a second step they are collecting user feedback and evaluating fitness for purpose through their check point projects, and they will be looking into a business case. OECD are working on a business case too, in liaison with AtlantOS.

Action 4: Develop a roadmap for the implementation of the EuroGOOS strategic priorities across all activities and open it for consultation with the Chairs (Office, 31 January 2017).

Action 5: Implement a common terms of reference template for all activities; and request an update of the terms of reference per the template and the strategic directions based on the EuroGOOS integrated strategy (Drafts presented at the Exec. Board-Chairs meeting on 30 May 2017; finalized by all activities by 30 June 2017).

Action 6: Circulate a bullet list for the fact sheet to Ferry Box and Tide Gauge task team chairs (Office, 23 December 2016).

5. Status of actions and adoption of the May 2016 meeting report

Erik Buch ran through the actions from the previous meetings. He also asked if the May 2016 meeting report could be adopted. The report was adopted without any comments on the content. It was requested that the office should deliver meeting reports within a month following the meeting.

Regarding the new task team on fixed platforms, it was stressed that the task team membership should be agreed after consultation with EuroGOOS members and ROOS chairs. The task team is now on hold as EMSO ERIC is looking for a new Executive Director. Once this position is filled the terms of reference and the membership will be further discussed, and EuroGOOS members and chairs will be consulted.

Page | 7

Action 7: Continue discussions with EMSO to finalize the ToR and consult EuroGOOS members and ROOS chairs, after that submit this for the Board's approval (Office, report on progress by 30 May 2017).

Action 8: Develop and circulate to the Board a draft roadmap for a EuroGOOS stakeholder engagement activity (Office, 28 February 2017).

6. Finances

Glenn Nolan presented the year to date status of the 2016 budget and expenditure. He stressed that delays in member contribution payments impact the cash flow and can put the office in a difficult situation.

Action 9: Circulate the current financial contacts list to the membership requesting to confirm those details and flag any specificities in the invoicing process (Office, 23 December 2016).

Action 10: Emphasise to the membership that delays in member contribution payments impact the cash flow and can affect the office (Office, 31 January 2017).

It was discussed that the Cyprus Oceanography Centre informed the office that the 2016 contribution was unlikely to be paid. They also have not paid in 2014 (but did pay the 2015 subscription). It was **decided** to address this again at the next Board meeting.

It was also **decided** that the office should discuss with the EuroGOOS accountant how to better reflect overheads on projects.

The 2017 budget plan was discussed. It was noted that from 2017 the office will employ five FTEs and will increase the chair's involvement as an external consultant on EU projects (resulting in a total of about 5.7 FTEs). This will allow the office spend more time on the core business and communication.

Action 11: Release the official 2015 financial closure report submitted to the Belgian authorities on the Board's restricted pages (Office, completed).

7. Communications

Dina Eparkhina updated the meeting on the EuroGOOS communication activities over the reporting period (May-November 2016). She stressed that the EuroGOOS communication is not developed as a mere set of communication outputs but underpins the EuroGOOS strategic areas. Dina Eparkhina also presented the progress in promoting and facilitating the EOOS framework development. In 2016, EuroGOOS has developed the EOOS branding and logo, several dissemination materials, a stand-

alone EOOS website and hosted two steering group and one European Parliament meetings. The successful European Parliament event on EOOS was presented as an important milestone in the EOOS development.

Dina Eparkhina presented the latest updates on the EuroGOOS website, including the publications page, dissemination materials on EuroGOOS and EOOS and a new videos page. In terms of social media, EuroGOOS has chosen to focus on only one social media, Twitter, as the most effective tool for building visibility with policy and decision-makers. This progresses very well and also contributes significantly to enlarging the EuroGOOS scientific and broader stakeholder network (500 new followers were gained since the last meeting in May).

Finally, the office is engaging directly with policymakers and has been able to discuss the importance of EuroGOOS activities and the EOOS framework with Director General for Research and Innovation Robert Jan Smits at the GEO-XIII plenary in November. EuroGOOS presence at stakeholder meetings at the Commission and the Parliament was also stressed as important for promoting EuroGOOS and gaining trust with policy and decision-makers. The staff effort required for this work is very small because of the office location in Brussels, but the benefits of potential impact are high.

Further to the discussion under item 4 (strategy) it was **decided** to implement a common visual identity and URL format for the ROOS websites. This will be done for NOOS and BOOS, and then for the Arctic ROOS, in the first instance.

The Board also asked for a closer involvement in EuroGOOS event activities in addition to monthly updates, whereby the office was welcome to request the Board's feedback and advice.

8. EuroGOOS conference

The dates of the conference were discussed. Initially, 3-5 October 2017 were fixed but there are two potential clashing meetings: the CMEMS week in Brussels ending on Friday the week before the EuroGOOS conference, and the DG MARE-organized global ocean science-policy conference Our Ocean, taking place from 4 to 6 October, hosted in Malta by Commissioner Vella. The week of 16 October was discussed as a good option, but the hotel booked for the conference was not available that week. It was therefore **decided** to keep the dates as they were.

The conference planning roadmap was developed by the office in June 2016 and will be updated with the latest developments. The office will contribute information for the conference website which will be managed by IMR; the launch is foreseen in January 2017. A list of organizing team members will be prepared to include all people involved in the logistical support of the conference. The conference programme will be drafted during January 2017 and discussed in detail at the next Executive Board meeting in February/early March.

Action 12: Update the conference planning roadmap and include the list of the organizing team members (Dina Eparkhina, Henning Wehde and Stein Sandven, 15 January 2017).

Potential main topics of the conference were discussed, including: YOPP, Climate, EOOS, Coastal Oceanography, Research Infrastructures, Ocean Observing Projects (AtlantOS, INTAROS, MedOS, ...).

From the lessons learnt after the 2014 conference, it was **decided** to release all articles before the conference and publish the proceedings immediately after.

9. Any Other Business

Several other topics were discussed as follows.

COSMO working group:

- The WG need a new co-chair to work together with Paolo Oddo and has had a low activity for some time.
- It was agreed to not dissolve it but rather redefine the terms of reference to include the coastal component and observations.

Action 13: Propose revised terms of reference for the COSMO WG to the Executive Board and the WG membership (Office, at the Exec. Board and General Assembly meetings 30 May-2 June 2017).

AtlantOS Blueprint drafting group: it was decided to nominate Glenn Nolan (for both EuroGOOS and EOOS perspective) as drafting group member.

Action 14: Nominate Glenn Nolan as member of the AtlantOS Blueprint Drafting Group (Office, 6 January 2017).

Storm surge forecasting: it was decided that office should further investigate the operations and funding of this JRC initiative.

Action 15: Further investigate the operations and funding of the JRC initiative on flood forecasting and the EU flood directive (Office, report on progress at the next Exec. Board meeting).

10. Actions recap and next meeting date

Erik Buch ran through the meeting actions. It was decided to hold the next meeting in February or March; the office will circulate a doodle poll.

11. Annexes

Annex 1: List of participants

EuroGOOS Executive Board Members

Page | 10

Name	Organization	Email
Erik Buch	EuroGOOS Chair	erik.buch@eurogoos.eu
George Petihakis	EuroGOOS vice-Chair/HCMR, Greece	gpetihakis@hcmr.gr
Bernd Brügge	Board Member / BSH, Germany	bernd.bruegge@bsh.de
Urmaz Lips	Board Member and BOOS Chair / MSI, Estonia	urmas.lips@msi.ttu.ee
Henning Wehde	Board Member and NOOS co-Chair / IMR, Norway	henning.wehde@imr.no

Apology

Name	Organization	Email
Patrick Farcy	Board Member / Ifremer, France	Patrick.Farcy@ifremer.fr
Rosalia Santoleri	Board Member / CNR, Italy	rosalia.santoleri@artov.isac.cnr.it

EuroGOOS ROOS, WG and Task Team Chairs

Chairs who are also members of the Executive Board are mentioned above

Name	Organization	Email
Franciscus Colijn	FerryBox TT Chair / HZG, Germany	franciscus.colijn@hzg.de
Sebastien Legrand	NOOS co-Chair/ RBINS, Belgium	slegrand@naturalsciences.be
Julien Mader	HF Radar Task Team Chair and IBI-ROOS co-Chair / AZTI, Spain	jmader@azti.es
Begoña Perez	Tide Gauge TT Chair / Puertos del Estado, Spain	bego@puertos.es
Manuel Ruiz	IBI-ROOS co-Chair / IEO, Spain	manuel.ruiz@co.ieo.es
Stein Sandven (30/11/2016)	Arctic ROOS Chair / NERSC, Norway	stein.sandven@nersc.no
Jun She	SAWG Chair / DMI, Denmark	js@dm.dk
Victor Turpin	Alternate for Gliders TT Chair Pierre Testor / UPMC, France	vtlod@locean-ipsl.upmc.fr

Apology

Name	Organization	Email
Enrique Alvarez Fanjul	MONGOOS co-Chair / Puertos del Estado, Spain	enrique@puertos.es

Lars Boehme	ABI TT Chair / Uni. St Andrews, UK	lb284@st-andrews.ac.uk
Giovanni Coppini	MONGOOS co-Chair / CMCC, Italy	giovanni.coppini@cmcc.it
Richard Lampitt	FP TT Chair / NOC, UK	r.lampitt@noc.ac.uk
Rajesh Nair	Technology WG Chair / OGS, Italy	rnair@ogs.trieste.it
Sylvie Pouliquen	Euro-Argo TT Chair and DATAMEQ Chair / Ifremer, France	sylvie.pouliquen@ifremer.fr

Office

Name	Email
Glenn Nolan	Glenn.nolan@eurogoos.eu
Dina Eparkhina	Dina.eparkhina@eurogoos.eu
Patrick Gorringer (29/11/16)	Patrick.gorringer@eurogoos.eu

Annex 2: Decisions and actions as agreed at the meeting

Decision: Develop a set of guidelines and launch a call for member nominations to support some of the EuroGOOS technical work in the EEA and Mercator Ocean contracts. This first attempt will be evaluated at Executive Board meeting on 30-31 May 2017.

Page | 12

Decision: The Board supported the alignment of all EuroGOOS instruments towards a common strategy and clear objectives.

Decision: The Board welcomed a template proposed to align approaches across all activities (working groups, task teams and ROOSes); this should be taken up with the activities directly.

Decision: Office should develop a roadmap for the implementation of the EuroGOOS strategic priorities across all activities and open it for consultation with the Chairs and the respective memberships. After an agreement is reached, each activity will be asked to update their work plans accordingly. In this update, all the activities will be asked to deliver a business case for ocean observing through their platform or network, and demonstrate the benefits and costs.

Decision: The Board should consider the membership status of the Cyprus Oceanography Centre at the next meeting, if the membership contribution would have not been paid.

Decision: The office should discuss with the EuroGOOS accountant how to better reflect overheads on projects.

Decision: Implement a common visual identity and URL format for the ROOS websites.

Decision: Keep the EuroGOOS conference dates as initially agreed, 3-5 October 2017.

Decision: For the 2017 conference, release all articles before the conference and publish the proceedings immediately after.

Action 1: Circulate a call for Indication of Interest to EuroGOOS members (Office, 15 December 2016).

Action 2: Prepare a list of the tasks in the EEA and Mercator Ocean contracts requiring external technical expertise (Office, 10 January 2017).

Action 3: Prepare a document on the internal procedure for technical support (secondment) from members (Office, 15 January 2017).

Action 4: Develop a roadmap for the implementation of the EuroGOOS strategic priorities across all activities and open it for consultation with the Chairs (Office, 31 January 2017).

Action 5: Implement a common terms of reference template for all activities; and request an update of the terms of reference per the template and the strategic directions based on the EuroGOOS integrated strategy (Drafts presented at the Exec. Board-Chairs meeting on 30 May 2017; finalized by all activities by 30 June 2017).

Action 6: Circulate a bullet list for the fact sheet to Ferry Box and Tide Gauge task team chairs (Office, 23 December 2016).

Action 7: Continue discussions with EMSO to finalize the ToR and consult EuroGOOS members and ROOS chairs, after that submit this for the Board's approval (Office, report on progress by 30 May 2017).

Action 8: Develop and circulate to the Board a draft roadmap for a EuroGOOS stakeholder engagement activity (Office, 28 February 2017).

Action 9: Circulate the current financial contacts list to the membership requesting to confirm those details and flag any specificities in the invoicing process (Office, 23 December 2016).

Action 10: Emphasise to the membership that delays in member contribution payments impact the cash flow and can affect the office (Office, 31 January 2017).

Action 11: Release the official 2015 financial closure report submitted to the Belgian authorities on the Board's restricted pages (Office, completed).

Action 12: Update the conference planning roadmap and include the list of the organizing team members (Dina Eparkhina, Henning Wehde and Stein Sandven, 15 January 2017).

Annex 3: Common terms of reference template for activities

- Background, Rationale, link with EuroGOOS strategic priorities
- Objectives (tangible outputs)
- Composition and operation (chair and member nomination and selection process, obligations and responsibilities of chair and members, office facilitation support contact)
- Mode of operation (meetings, preparation of outputs, review, communication)
- Deliverables
- Target audience and expected impact
- Indicative timetable (Gantt chart)

Document 3.1: EuroGOOS project overview sheets

- AtlantOS
- INTAROS
- JERICO-Next
- ENVRI-Plus
- COLUMBUS
- EEA Foundations
- Mercator Ocean CMEMS
- CMEMS INSTAC
- EMODnet Physics
- EMODnet Data Ingestion
- EMODnet Baltic Check Point
- EMODnet Atlantic Checkpoint
- SeaDataCloud

EU Projects

Overview of EuroGOOS involvement

Project Title	AtlantOS
Duration	3 years, April 2015 – March 2018
Main Objective	<p>The overarching objective of AtlantOS is to achieve a transition from a loosely-coordinated set of existing ocean observing activities producing fragmented, often monodisciplinary data, to a sustainable, efficient, and fit-for-purpose Integrated Atlantic Ocean Observing System (IAOOS). This will be achieved through research and innovation activities focused on:</p> <ul style="list-style-type: none"> • Defining requirements and systems design, • Improving the readiness of observing networks and data systems, • Engaging stakeholders around the Atlantic, as well as strengthening Europe’s contribution to the Global Ocean Observing System (GOOS) - a major component of the Group on Earth Observations (GEO), its Global Earth Observation System of Systems (GEOSS), and specifically its emerging “Oceans and Society: Blue Planet” initiative.
Project Budget	20.7 Mill. Euro
EuroGOOS Budget	387,875 Euro
Funding Mechanism	EU Horizon 2020
Coordinator	GEOMAR, Germany, Martin Visbeck
Consortium	63 partners
Project Website	https://www.atlantos-h2020.eu/ (renovated on 12/2015)
EuroGOOS Team Responsible	Erik Buch, Vicente Fernandez
EuroGOOS Role	Co-lead in WP1; Involved in WP, 6, 7 and 9.
Strategic Relevance to EuroGOOS	AtlantOS will contribute to the Atlantic component of EOOS
EuroGOOS Tasks and Deliverables	<p>WP1: Observing system requirements and design studies - EuroGOOS co-leader with IOC. EuroGOOS is responsible for two deliverables: Capacities and gap analysis (D1.3) and Cost and feasibility study (D1.4)</p> <p>WP9: System evaluation and sustainability. EuroGOOS is responsible for one deliverable: Report on sustainability issues (D9.5)</p> <p>In WP 4, 6 and 7 EuroGOOS provides background information; in WP 9 – supports dissemination and stakeholder engagement</p>

Status February 2017:

- EuroGOOS participated in the AtlantOS joint workshop on strategies, methods and new technologies for a sustained and integrated autonomous in-situ observing system for the Atlantic Ocean, supported by the AORA-CSA that took place in PLOCAN (Spain) on 2-4 Nov 2016.
- EuroGOOS participated in the expert's workshop in *defining phenomena and setting observing targets for BGC observing system in the Atlantic* that took place in Sopot (Poland) on 29-Nov to 1- Dec 2016
- EuroGOOS is responsible for lead Task 1.2 and is being compiling all contribution from the members to Deliverable 1.3 to be delivered in April 2017. An initial Draft of D1.3 has been already distributed to all partners in mid-February.
- EuroGOOS has been working in an oversight of existing observations of EOVS across the Atlantic considering information from CMEMS, EMODnet Physics, SeaDataNet and OBIS (EMODnet biology) to be included in D 1.3.
- EuroGOOS is also responsible of Deliverable 9.2 of WP9 (to be delivered in April 2017. A fluid communication with ETT (responsible on the tool) is set and a web-based monitoring tool of the Atlantic Ocean Observing System with European Contribution and Key performance Indicators, is ready to be released in March.
- Participation in WP 1 teleconferences
- Participation in WP9 teleconferences

General comment: EuroGOOS should be leading WP1 together with IOC/GOOS, however, and due to communication issues with IOC, EuroGOOS has decided to renounce to this role and this decision has been already communicated to all partners and also to AtlantOS Coordinator.

Project Title	INTAROS
Duration	5 years; December 2016 – November 2021
Main Objective	<ul style="list-style-type: none"> • Develop an integrated Arctic Observation System (iAOS) by extending, improving and unifying existing systems in the different regions of the Arctic • Multidisciplinary focus, with tools for integration of data from atmosphere, ocean, cryosphere and terrestrial sciences, provided by institutions in Europe, North America and Asia • Assess strengths and weaknesses of existing observing systems and contribute with innovative solutions to fill some of the critical gaps in the in situ observing network • Develop a platform, iAOS, to search for and access data from distributed databases • Community-based observing systems, local knowledge merged with scientific data, to inform decisions and better-documented processes within key sectors, e.g. local communities, shipping, tourism, fisheries • Support the EU strategy for the Arctic and related maritime and environmental policies.
Project Budget	15.490.066 Euro
EuroGOOS Budget	168.125 Euro
Funding Mechanism	H2020
Coordinator (org, contact)	NERSC, Stein Sandven
Consortium	41 partners
Project Website	Under construction

EuroGOOS Role	Deputy lead of WP1 Leads Task 1.1, 1.2 and 6.7 Contributes to Task 1.0,1.3, 1.4, 1.5 and 2.1
Strategic relevance to EuroGOOS	Supports EuroGOOS's strategy on ocean observations
EuroGOOS Tasks and Deliverables	<ul style="list-style-type: none">• Lead task 1.1 – High-level-requirements and deliver two observation requirement reports; an initial on at month 6 and a revised at month 57• Lead Task 1.2 - Set up Stakeholder group and organise three stakeholder workshops and deliver reports from these workshops• Lead task 6.7- Support to Marine and Maritime industry – deliver two reports late in the project
Recent Project Developments	<p>Status February 2017:</p> <p>INTAROS stated on 1 December 2016 and since then focus has been on the following activities:</p> <ul style="list-style-type: none">• Participate in the Steering Group meeting• Prepare and participate in the kick-off meeting 11-12 January 2017• Scope for candidates to Stakeholder Group in consultation with other Steering Group members• Define the content of the requirements report and engage with Theme Leaders for their inputs

Project Title	JERICO-NEXT
Duration	4 years (September 2015 – August 2019)
Main Objective	<p>Strengthening and enlarging a solid and transparent European network in providing operational services for the timely, continuous and sustainable delivery of high quality environmental data and information products related to marine environment in European coastal seas;</p> <p>Support European coastal research communities, enable free and open access to data, enhance the readiness of new observing platform networks by increasing the performance of sensors, showcasing the adequacy of observing technologies and strategies and proposing a medium-term roadmap for coastal observatories through a permanent dialogue with stakeholders.</p>
Project Budget	Ca. €10 million
EuroGOOS Budget	€122.750
Funding Mechanism	EC H2020-INFRAIA-2014-2015
Coordinator	IFREMER, Patrick Farcy, patrick.farcy@ifremer.fr
Consortium	33 partners from 15 countries representing all European regional seas
Project Website	http://www.jerico-fp7.eu/
EuroGOOS Team Responsible	Patrick Gorringe
EuroGOOS Role	Primarily in WP5 which focuses on data availability in the coastal ocean and minor actions in WP1 and WP3
Strategic relevance to EuroGOOS	Supports EuroGOOS strategy on ocean observations and data exchange
EuroGOOS Tasks and Del.	<p>WP1: Integrated Science Strategy and Governance from local to European Scales: (4 person months)</p> <p>Task 1.4: Interaction with European and international Ocean Observing networks</p> <p>Task 1.5: Strategy toward sustainability: Economics and Governance</p> <p>WP3: Task 3.2 Development on current observations from HF RADARS (1 person month)</p> <p>WP 5: Task 5.1: Data policy and distribution (8 person months)</p> <ul style="list-style-type: none"> ○ Provide recommendations on a free and open data policy for JERICO-NEXT ○ Deliver a JERICO-NEXT catalogue of metadata ○ Define the specifications for handling European Ferrybox data <p>Task 5.6: Definition of Quality Control procedures for HF Radar data</p>

Recent Project Developments

Task 5.8: Linking JERICO-NEXT activities to a Virtual Access infrastructure

- JERICO-NEXT GA, Helsinki, Finland 13-16 March 2017
In order to meet the EuroGOOS Office tasks, mainly in WP5, the following actions have been taken:
- The Office has reviewed a number of data policy documents in order to suggest a data policy for JERICO-NEXT. A first draft will be presented at the JERICO-NEXT GA
- The Office has explored and suggests using SEXTANT metadata catalogue, developed at IFREMER, as the JERICO-NEXT catalogue. Discussion on content to be added in the catalogue has been initiated and a first draft catalogue will be presented at the GA
- The Office has, together with the FerryBox Task Team, agreed on a common approach for handling FerryBox data – showing a unified, strong community

Project Title	ENVRI PLUS
Duration	May 2015 – April 2019
Main Objective	Provide common solutions to shared challenges for European Environmental and Earth System Research Infrastructures (RIs) in their efforts to deliver new services for science and society
Project Budget	14.6 Mill Euro
EuroGOOS Budget	145,500€
Funding Mechanism	Horizon 2020
Coordinator	University of Helsinki, Werner Kutsch, werner.kutsch@helsinki.fi Ari Asmi, ari.asmi@helsinki.fi
Consortium	22 Research Infrastructures (11 ESFRIs), 1 ERIC, 2 Associations, 37 Beneficiaries In the marine domain: SDN, Eurofleets II, EuroGOOS, FixO3, ESONET, JERICO-NEXT, Euro Argo
Project Website	http://envri.eu
EuroGOOS Team Responsible	Glenn Nolan
EuroGOOS Role	Involved in linking in-situ research infrastructure to satellite community, dissemination and communication of project results and providing strategic advice via the Board of European Environmental Research Infrastructures (BEERi)
Strategic relevance to EuroGOOS	Enables strong cooperation potential with marine and non-marine research infrastructures in Europe.
EuroGOOS Tasks and Deliverables	<p>Task 1.2.3 Observation continuum: enhancing use of RIs for satellite validation from and to assimilation and services</p> <p>Task 6.1.2. Facilitation of the communication and coordination of the cluster level integration in the frame of ENVRI strategy</p> <p>Task 6.1.4. Policy communication and strategic collaboration with other RI communities, national, regional and international key actors</p> <p>Task 6.2.3 Liaison and collaborative action with RI users</p> <p><i>Update post annual meeting (Nov 2015):</i></p> <p>1: Attended 2 no. ENVRI+ Board meetings (BEERi) initially on behalf of Erik Buch. Glenn Nolan now fulfils this role (agreed with chair) no major developments to report.</p> <p>2: ENVRI+ WP leads agreed to produce material to simplify the</p>

**Recent Project
Developments**

explanation of the project which is complex.

3: Task 1.2.3: EuroGOOS met with task partners (UPMC, NOC, IFREMER) in Paris on 30/1/17 to put a firm plan in place for this task.

4: EuroGOOS will also assist in the ENVRI+ industry event in Grenoble in May (18-19) 2017

ENVRI PLUS week took place in Prague on 14-18 November 2016 with Glenn Nolan and Dina Eparkhina attending for EuroGOOS.

EU Projects

Overview of EuroGOOS involvement

Project Title	COLUMBUS
Duration	36 Months (March 2015 –February 2018)
Main Objective	To ensure that applicable knowledge generated through EU-funded science and technology research can be transferred effectively to advance the governance of the marine and maritime sectors.
Project Budget	€ 3.9M
EuroGOOS Budget	€113,375; 9 person months
Funding Mechanism	H2020-BG-2014-1, CSA
Coordinator	Bord Iascaigh Mhara (BIM); strategic & operational leader: AquaTT, Ireland, David Murphy, david@aquatt.ie
Consortium	26 partners
Project Website	www.columbusproject.eu (under construction)
EuroGOOS Team Responsible	Dina Eparkhina, with involvement from Patrick Gorringer, Vicente Fernandez and Glenn Nolan on certain tasks
EuroGOOS Role	EuroGOOS works within one of the 9 Competence Nodes - Monitoring and Observation; the knowledge fellow for this Node is with Seascope Consultants, UK. Within the Node activities, EuroGOOS will be tasked to support case studies on ‘transferring’ data products for application in private sector
Strategic relevance to EuroGOOS	Knowledge transfer from research/coordination to application is on top of EC agenda, this project will strengthen EuroGOOS role as a strategic organization, and also expand its direct network – project includes several industry-related partners.
EuroGOOS Tasks and Deliverables	<p>WP2 Capacity building – Training workshop</p> <p>WP3 Knowledge demand for Blue Growth – Definition of needs, gaps and challenges</p> <p>WP4 Knowledge supply - Identify data held in portals and their potential knowledge outputs</p> <p>WP5 Knowledge analysis - Analyse the knowledge outputs from WP4 and to define a roadmap to bring this knowledge towards a wider impact</p> <p>WP6 Knowledge transfer - Implement knowledge transfer plan and host a brokerage event</p> <p>WP7 Communication and dissemination</p>

Recent Project Developments

Reports:

- WP3 report on knowledge gaps: EuroGOOS contributed to identifying EU strategic documents relevant to Ocean Observing, Jan. 2016
- WP4 inventory of portals and repositories and their role in knowledge transfer to support blue growth, April 2016; revised in Dec. 2016
- 6M, 12M and 18M reporting, Oct. 2015, April 2016, Sept. 2016
- Guidelines for engaging industry in the uptake of open marine data, publication pending, Spring 2017

Meetings and events:

- 1st Annual Conference, 2 March 2016, Brussels (EuroGOOS talk on EOOS)
- 3rd Partners Meeting, 3 March 2016, Brussels
- Several meetings with Observations Node team
- 4th Partners Meeting, 12-13 July, Vigo
- COLUMBUS industry brokerage event (led by EuroGOOS and Seascope), SeaTech Week, Oct. 2016, Brest, France
- 5th Partners Meeting, 23-24 Feb. 2017, Lisbon
- 2nd COLUMBUS conference, dates to be confirmed, 2017
- Match-making event 'Idea to Market', Sept. 2017
- Marine Open Data competition bootcamp, Oct. 2017
- COLUMBUS industry brokerage event (led by PLOCAN), Nov. 2017, Gran Canaria

EU Projects

Overview of EuroGOOS involvement

Project Title	EEA - FOUNDATIONS Contract
Duration	September 2016 to September 2018 (1 st and 2 nd phase)
Main Objective	Provide EEA with access to experts in ocean observing to interact with Copernicus services to define cross-cutting aspects of the in-situ observing system. Consider the sustainability of the current observing system and overall fitness for purpose in a Copernicus services context.
Project Budget	€1.6m, ca. 400,000€ in first phase
EuroGOOS Budget	Estimated: 130,000€ in first phase
Funding Mechanism	EEA via EUMETNET
Coordinator	Eric Petermann, EUMETNET Day to day: Simon Machin, UKMO
Consortium	EUMETNET, EuroGOOS and ICOS (with option to involve EuroGOOS members where necessary)
Project Website	n/a
EuroGOOS Team Responsible	Glenn Nolan/ Erik Buch
EuroGOOS Role	Ocean/marine domain experts in wider consortium covering land, atmosphere, carbon system.
Strategic relevance to EuroGOOS	EuroGOOS members provide many of the in-situ measurements for the marine domain. EuroGOOS has a strategic interest in steps taken by EEA to help sustain the in-situ observing system.
EuroGOOS Tasks and Deliverables	<ul style="list-style-type: none"> ○ Provide status (factsheets) on the current observing system and the in-situ data requirements of the various Copernicus Services. ○ Provide expertise to EEA as required to define key cross-cutting in-situ data requirements for all Copernicus services. ○ Explain the roles and complementarity of EEA work with regard to other initiatives delivering access to the European marine in-situ data (CMEMS, EMODnet and SeaDataNet, predominantly). <p>More detail in full project plan</p>
Recent Project Developments	Monthly teleconference calls with S.Machin to review progress. Requirements gathering interviews to take place in March 2017. All deliverables on schedule at present.

Project Title	MERCATOR OCEAN CONTRACT
Duration	August 2016- August 2018
Main Objective	Provide CMEMS with an overview of the current status of the ocean observing system and its operators. Provide insight into uptake of CMEMS services at national member state level.
Project Budget	190,000€
EuroGOOS Budget	190,000€
Funding Mechanism	DG GROW via Mercator
Coordinator	Pierre Bahurel, Mercator Ocean Day to day: Antonio Reppucci, Mercator Ocean
Consortium	EuroGOOS is main service provider with option to involve EuroGOOS members where necessary
Project Website	n/a
EuroGOOS Team Responsible	Glenn Nolan
EuroGOOS Role	Principle service provider to Mercator Ocean.
Strategic relevance to EuroGOOS	CMEMS is the flagship ocean forecasting service in Europe involving many EuroGOOS members directly and indirectly as data providers and downstream users.
EuroGOOS Tasks and Deliverables	<ul style="list-style-type: none"> ○ Provide an assessment of the in-situ observation networks linked to the CMEMS, ○ Carry out a technical gap analysis, ○ Make recommendations and draft corrective action plans highlighting the priority implementation actions. <p>Secondly,</p> <ul style="list-style-type: none"> ○ Provide an assessment of the national downstream application systems of CMEMS, ○ Carry out a technical gap analysis, ○ Make recommendations and draft corrective action plans highlighting the priority implementation actions. <p>Finally,</p> <ul style="list-style-type: none"> ○ Promote in a consistent manner the CMEMS priorities and requirements and communicate on these technical developments with the operators of national marine monitoring systems with the aim of obtaining in return support for the homogeneous CMEMS Uptake on behalf of the marine community; and

**Recent Project
Developments**

- Explain the roles and complementarity of CMEMS with regard to other initiatives delivering access to the European marine in-situ data (EMODnet and SeaDataNet, predominantly), within the framework of the European Ocean Observing System (EOOS), to European policy (Commission) and decision-makers (Parliament), strategic pan-European and Member State networks (among others, European Marine Board and JPI Oceans), as well as EOOS stakeholders at large

Monthly teleconference calls with A.Reppucci to review progress.

All deliverables on schedule at present.

EU Projects

Overview of EuroGOOS involvement

Project Title	CMEMS In-Situ Thematic Assembly Centre (INSTAC)
Duration	May 2015 - April 2018
Main Objective	The CMEMS INSTAC aims at providing a seamless transition from MyOcean Pilot INSTAC
Project Budget	5M€ for the 3 year period 80% on Operational activities, 20% on system evolution and cross-cutting
EuroGOOS Budget	50,000€
Funding Mechanism	DG GROWTH (European Maritime and Fisheries Fund, EMFF)
Coordinator	Ifremer, France, Sylvie Pouliquen, Sylvie.Pouliquen@ifremer.fr
Consortium	IMR, SMHI, BSH, PdE, HCMR, IO-BAS, ACRI, CLS, CNRS, EuroGOOS, MetOffice, NIVA, OGS, Socib, SYKE
Project Website	http://marine.copernicus.eu
EuroGOOS Team Responsible	Patrick Gorringe
EuroGOOS Role	<ul style="list-style-type: none"> • Facilitate coordination between CMEMS INSTAC, EMODnet and the NODCs/SDN • Establish contacts with on-going (including Data Ingestion, SDC) and future projects and infrastructure programs involved in ocean observations and observation networks • Initiate dialog with on-going and future European research projects making marine observations to secure that they make their data available • Promote INSTAC activities where appropriate • Coordinate with European Environmental Agency (EEA) • Add data from the GOOS GRAs in the INSTAC
Strategic relevance to EuroGOOS	Supports EuroGOOS strategy on ocean observations and data exchange
EuroGOOS Tasks and Del.	Task 3.4 Improve uptake of new providers with EuroGOOS/ROOSs and coordinate links with EMODnet and EEA
Recent Project Developments	<ul style="list-style-type: none"> • INSTAC plenary meeting held in Sophia Antipolis, France, 26-28 October, 2016 • Office has submitted a 2016 activity report • Office has submitted a 2017 activity plan • Office has promoted INSTAC activities at a number of meetings. This has increased the awareness of the INSTAC

and clarified the roles of INSTAC, EMODnet and SDN

- All data made available to EMODnet Physics also available to INSTAC via the ROOSs
- Office has initiated contact with the GOOS GRAs to increase the amount of data to the INSTAC

Project Title	EMODnet Physics Phase III
Duration	From now, 4 years (2 X 2)
Main Objective	<p>The general objectives of the new EMODnet Physics tender are:</p> <ul style="list-style-type: none"> • To further develop the on-going EMODnet Physics towards an operational service where marine data is made interoperable and freely available • To include additional monitoring systems, make available additional products and strengthen the underlying infrastructure • Close the gap between operational data centres (connected to CMEMS and ROOSs) and the quality controlled data archives (SeaDataNet NODC's); • To make available products constructed from one or more data sources that provide users with information about the distribution of parameters in time and space; • To assure and complete the interoperability with services developed by other thematic groups and with data distributed by non-EU organisations, compliance with INSPIRE Directive • To assure a strong collaboration with EMODnet Ingestion project • Procedures for machine-to-machine connections to data and data products; • A web portal allowing users to find, visualise and download data (qf/qc) and metadata; • Coherence with efforts of regional sea conventions; • A process to monitor performance and deal with user feedback; • Set up a help desk offering support to users.
Project Budget	1, 4 Mill Euro
EuroGOOS Budget	<p>250.000,00 For 2 first years divided as follows:</p> <ul style="list-style-type: none"> • Task 1, develop a common method of access to data held in repositories, €20K • Task 3, Develop procedures for machine- to –machine connections to data and data products, €25K • Task 5, Ensure involvement of regional sea conventions, €45K

	<ul style="list-style-type: none"> • Task 6, Facilitate interoperability with data distributed by non-EU organisations, €50K • Task 7, Install process to monitor performance and deal with user feedback, €35K • Task 8, operate a help desk offering support to users, €75K
Funding Mechanism	DG MARE (European Maritime and Fisheries Fund, EMFF)
Coordinator	ETT, Antonio Novellino, antonio.novellino@ettsolutions.com
Consortium	ETT, EuroGOOS, Ifremer, MARIS, BODC
Project Website	www.emodnet-physics.eu
EuroGOOS Team Responsible	Patrick Gorringe
EuroGOOS Role	<p>EuroGOOS will mainly:</p> <ul style="list-style-type: none"> • Co WP leaders in WP 1, Project management <ul style="list-style-type: none"> ○ Task 1.6 Link to relevant Regional Sea Conventions ○ Organise and actively participate with data providers and other relevant meetings • WP 4 lead, WP 4, Analysis, evaluation and feedback <ul style="list-style-type: none"> ○ Task 7. Install a process to monitor performance and deal with user feedback ○ Task 8. Operate a help desk offering support to users • Facilitate the involvement and coordinate the engagement of ROOSs, Task Teams and data network operators. • Coordinate tasks related to underwater noise and river data • Coordinate/collaborate with global initiatives of interest for EMODnet Physics III • Actively promote other networking, harmonization and integration opportunities • Work together with EMODnet Data Ingestion Project and other EMODnet portals • Link with SeaDataCloud (to close the data gap between NRT and archived data), CMEMS and other relevant projects and initiatives • To arrange that identified data sources become available via the underlying ROOSs data portals
Strategic Relevance to EuroGOOS	Supports EuroGOOS strategy on ocean observations and data exchange

Project Title	EMODnet data Ingestion
Duration	Three years duration; start 19 th May 2016
Main Objective	<p>To develop and operate a new EMODnet portal with services that facilitate data holders from public and private sectors to submit marine data sets for further processing and safekeeping by data repositories and subsequent distribution through EMODnet thematic portals</p> <ul style="list-style-type: none"> - The challenge is to identify relevant marine data providers that are not yet routinely submitting data sets to national data repositories and to convince and help them to submit their data packages for open access and use in national repositories and EMODnet - The priority for exploring external data sets will be set by the EMODnet Thematic portals that are interested in a specific collection of data types. - All project partners will analyse the situation in their country and identify potential data sources and their providers for the different data themes, taking into account the priorities. <p>Promotion and marketing will be essential and will be a combination of central and networked activities, involving all partners and Thematic portals, and also promoting specific use cases such as monitoring data from offshore wind farms</p>
Project Budget	4Mill Euro
EuroGOOS Budget	50.000€
Funding Mechanism	DG MARE (European Maritime and Fisheries Fund, EMFF)
Coordinator	MARIS as project coordinator and HCMR as scientific coordinator
Consortium	44 partners
Project Website	http://www.ath.hcmr.gr/
EuroGOOS Team Responsible	Patrick Gorringe
EuroGOOS Role	<p>EuroGOOS is not a partner in the project but involved via partner institute ETT (EMODnet Physics coordinator)</p> <p>WP3.11: Publishing a list of repositories: the contact details and functions of the RDACs and INSTAC will be published in a permanently-updated list at the EMODnet Physics portal and integrated into the EMODnet Data Ingestion portal as linked pages</p>

WP3.12: Documenting standards and procedure for getting connected: newcomer (provider) guide with details on how to set up the connection, application programming interfaces (API), and the standards to be used for metadata and data formats

WP3.13: Connecting new monitoring stations: to make into practice for new monitoring stations that respond to DI invitations. As part of ongoing activities EMODnet Physics maintains a list of potential new stations and new operators per country and this list will be used for targeting specific operators and their stations.

Key actions:

Meetings with data producers (PUs) to present data flow, infrastructures, common standards, vocabularies

Strategic Relevance to EuroGOOS

Supports EuroGOOS strategy on ocean observations and data exchange

Recent Project Developments

- A Data Ingestion portal is in place
- Data Submission service with logon (User Management) for any data provider is in place
- Guidance for suggested formats for specific data types and general instructions is in place
- Help desk service is in place (HCMR)
- Guidance and procedures for connecting NRT stations published on ingestion portal M18 (done)
- Additional NRT stations from operators made available to EMODnet Physics portal M18-36
- Plenary meeting 10-12 April 2017, Limassol, Cyprus

EU Projects

Overview of EuroGOOS involvement

Project Title	EMODnet Baltic Sea Checkpoint
Duration	3 years; June 2015 – June 2018
Main Objective	<ul style="list-style-type: none"> • Examine the current data collection, observation, surveying, sampling and data assembly programs in the Baltic Sea basin • Assess and demonstrate how they can fit for purpose in the 11 challenge areas in terms of data uncertainty, availability, accessibility and adequacy, and • Deliver the findings to stakeholders through an internet portal with dynamic mapping features and a stakeholder workshop
Project Budget	784,000 Euro
EuroGOOS Budget	54,000 Euro
Funding Mechanism	DG MARE (EMFF)
Coordinator (org, contact)	DMI, Denmark, Jun She
Consortium	10 partners and one subcontractor
Project Website	http://emodnet-balticsea.eu/ is under construction; a test site is available http://151.1.25.219/balticseacheckpoint/
EuroGOOS Team Responsible	Erik Buch
EuroGOOS Role	Leading WP1: Literature survey; WP14: Panel organisation and WP16: Stakeholder workshop
Strategic relevance to EuroGOOS	Supports EuroGOOS strategy on ocean observations and data exchange
EuroGOOS Tasks and Deliverables	<ul style="list-style-type: none"> • Coordinate the delivery of a literature survey report • Set up a panel of experts, organise two meeting for the experts and edit two reports from the panel • Organise one stakeholder workshop

Recent Project Developments

Status January 2017:

EuroGOOS has during the past 7 month been engaged in leading WP1 – Literature survey, organise the first Expert Panel Meeting and prepare for the stakeholder meeting on 14 February 2017. The work has been focused on:

- Finalise Literature survey report - the report was delivered 11 March 2016 (deadline was 18 March 2016)
- Finalise table and update statistics for the report
- The literature survey has been reviewed by EC reviewers. The review was generally very positive but a few clarifications and small corrections were requested. An updated report was delivered 11 May 2016.
- Additionally, EuroGOOS took part in discussions and planning for a joint Sea Basin Checkpoint Stakeholder meeting.
- EuroGOOS is responsible for setting up an Expert Panel for evaluation of the work in the Baltic Checkpoint. Some experts were selected by the Consortium and four experts were to be appointed by DG MARE but this task was transferred to EuroGOOS.
- The first of two Expert Panel meetings took place in Copenhagen on 8 November 2016 – a good and productive meeting.
- EuroGOOS has thereafter prepared a report from the Expert Panel Meeting which was delivered to DG MARE at the end of 2016 according to the planned deadline.
- EuroGOOS has contributed to the planning of a joint Sea Basin Checkpoint Stakeholder meeting that took place in Brussels 14-15 February 2017.

Project Title	PRO-ATLANTIC – EMODnet Atlantic Check Point
Duration	3 years (September 2015 – August 2018)
Main Objective	ProAtlantic is the DG MARE seabasin checkpoint project for the Atlantic Ocean and is focused on assessing whether the observational data available can answer key questions related to key societal challenges in the Atlantic . The challenges are; Offshore wind siting, Marine Protected Areas, Oil spill, Climate, Coasts (sea level and erosion/deposition), Fisheries management, fisheries impact, eutrophication, river inputs, bathymetry and Alien species.
Project Budget	€1.59 million
EuroGOOS Budget	€40,000
Funding Mechanism	EC DG MARE tender funding
Coordinator	IFREMER, Jacques Popolus, jacques.popolus@ifremer.fr
Consortium	10 partners from 6 countries
Project Website	Under development
EuroGOOS Role	EuroGOOS will work primarily on WP1 (Literature search) (and WP6 (Coast challenge) with partners in IFREMER, IMI, HR Wallingford and CLS.
Strategic relevance to EuroGOOS	Addresses data coordination and challenges, tests real applications according to identified societal needs
EuroGOOS Team Responsible	Glenn Nolan, Vicente Fernandez and Patrick Gorringe
EuroGOOS Tasks and Del.	WP1 (Literature search) (1 person month) WP6 (Coasts challenge) (2.5 person months)
Recent Project Developments	<p>Status February 2017:</p> <ul style="list-style-type: none"> Deliverable 1: Literature Survey, Initial Assessment of Data, fitness for use, finished and delivered on 1 July 2016 with the contribution of EuroGOOS (Basin monitoring Systems overview). EuroGOOS has included all the data sources for challenge 5 (coast) related with Sea level Challenge in Sextant, and coordinated with HR Wallingford for the inclusion of the sediment input datasets. EuroGOOS is involved in the products development for the coastal challenge, helping MI to develop the sea level product and coordinating with HR Wallingford for the

sediment product development.

- Participation on the EMODnet stakeholder conference & Sea-basin Workshops (Brussels 14-15 Feb) as leaders of Coast Challenge.
- Regular Skype meetings with coast challenge partners

EU Projects

Overview of EuroGOOS involvement

Project Title	SeaDataCloud
Duration	Started on 1 November 2016, duration 4 years
Main Objective	<p>SDN is a pan-European infrastructure set up and operated for managing marine and ocean data in cooperation with the NODCs and data focal points of 34 countries bordering the European seas. SDC is a project within SDN to:</p> <ul style="list-style-type: none"> • improve services to user and data providers • Optimize connecting data centers and data streams to the infrastructure • Improve interoperability with other European and International networks • It is about giving more attention to users and putting the user experience in a central position
Project Budget	10 M€
EuroGOOS Budget	67.5K€
Funding Mechanism	DG RESEARCH & INNOVATION
Coordinator	Ifremer, France, Michele Fichaut, michele.fichaut@ifremer.fr
Consortium	56 partners, 5 subcontractors, total of 32 countries represented, 16 newcomers
Project Website	http://www.seadatanet.org/
EuroGOOS Team Responsible	Patrick Gorringe
EuroGOOS Role	WP9.6, Integration of external datasets from international programs and organizations
Strategic relevance to EuroGOOS	Supports EuroGOOS strategy on ocean observations and data exchange
EuroGOOS Tasks	<p>Erik Buch is on the Advisory board</p> <ul style="list-style-type: none"> • Facilitate coordination between international organizations and programs to trace, and as far as possible, make available relevant data and ensure their integration in SDCloud • Ensure data collected in RT/NRT (e.g. within EuroGOOS ROOSs/INSTAC i.e. mainly physical parameters) are available to SDCloud •and enable their long-term preservation by SDCloud • Task WP9.6.1: Identify a list of relevant and possible

external datasets (M6)

**Recent Project
Developments**

KO meeting, Riga – Latvia, 30 November 2016



Contents

1. EuroGOOS aspirations in the short to medium term	2
2. Context from 2014-2020 strategy	2
2.1 Priorities: Promotion, Cooperation, Co-production, Sustained observations	2
2.2 Priorities 2016-2018	3

1. EuroGOOS aspirations in the short to medium term

A strategy has been produced for EuroGOOS to cover the 2014 to 2020 period. A summary of the five key aspects of this strategy are presented in section 2. To focus activity over the coming two years (2016-2018) we have decided to outline a list of priorities with the following overarching principles:

- Establish EuroGOOS as the “go to place” for operational Oceanography by being a trusted source of relevant and timely information to marine and maritime stakeholders in all European sea basins.
- Develop a framework for sustained end-to-end European Ocean Observing System (EOOS).
- Expand EuroGOOS membership to ensure that all active participants in European operational oceanography are represented by the organisation.
- Demonstrate European leadership at global level by engaging fully with the Global Ocean Observing System (GOOS), Essential Ocean Variable panels, GOOS Regional Alliances Forum and with the Group on Earth Observations in the development of the Group on Earth Observations System of Systems (GEOSS).
- Provide an attractive Communications platform for the policy community to expand understanding of our community’s activities and its relationship to key policy drivers.

2. Context from 2014-2020 strategy

2.1 Priorities: Promotion, Cooperation, Co-production, Sustained Observations

EuroGOOS is an International Non-Profit Association of national governmental agencies, research organisations, and companies, committed to European-scale operational oceanography within the context of the intergovernmental [Global Ocean Observing System \(GOOS\)](#).

It was founded in 1994 and has today 41 [members](#) from 19 European countries providing operational oceanographic services and carrying out marine research.

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.

Among the core activities of EuroGOOS is the development and operation of regional operational systems. Five systems are at present part of EuroGOOS in the following European sea basins: the Arctic (Arctic ROOS), the Baltic (BOOS), the North West Shelf (NOOS), the Iberia-Biscay-Ireland area (IBI-ROOS) and the Mediterranean (MONGOOS). Strong

cooperation within these regions, enabling the involvement of many more regional partners and countries, forms the basis of EuroGOOS work, and is combined with high-level representation at European and global forums.

The present strategy sets the scene for the work of EuroGOOS for 2014-2020 containing the following key elements:

1. **Identify European priorities for operational Oceanography;** main focus will be on defining research priorities and relate to key European initiatives such as Copernicus, EMODnet and marine research infrastructures. As part of this activity EuroGOOS will also work intensively on linking to the research community, industry, users and EU policies.
2. **Promotion of operational oceanography;** key elements here are networking, publications, conferences, EuroGOOS webpage, social media and increased engagement with various organisations such as GOOS Regional Alliances, GEO, ERA-NETs and JPI Oceans.
3. **Foster Cooperation;** EuroGOOS will actively engage itself in close cooperation with key organisations on a global, European and regional scale.
4. **Co-production;** to allow for reduction in costs and higher specialization EuroGOOS will support actions leading to commonly available operational, observation and model-based, products and services among its members. Specifically, EuroGOOS will aim to better coordinate co-production for the Marine Strategy Framework Directive.
5. **Sustained Ocean Observations;** EuroGOOS will take a leading role to ensure coordination of the European contribution to sustained marine observational system through the promotion of a European Ocean Observing System (EOOS) and will in this context work closely together with the EU Copernicus Marine Service, EMODnet, European marine research infrastructures, JPI Oceans, EEA, ESA, EUMETSAT and its national members.

EuroGOOS expects through these activities to be an attractive partner for cooperation in the marine community – public as well as private industry – leading to an increased number of EuroGOOS members.

2.2 Priorities 2016-2018

- i. **Data:** Marine data underpin the operational oceanographic system in Europe today with observations collected for real-time monitoring, assimilation into forecast models and archived long-term for climate and assessment purposes. EuroGOOS will focus on the following elements:

Within the EOOS development and in liaison with EMODnet: map the data availability in European regions, across physical, biological and chemical parameters, to identify priorities, data providers, and users.

Real-time transmission: develop initiatives that increase the real-time delivery of data from various platforms deployed in European seas. Thermosalinograph and CTD data from ships will provide the initial focus for this work with an expansion to other platforms thereafter.

Unlocking data sets: Through continuous analysis of CMEMS INSTAC, EMODNet and Seadatanet, highlight inconsistencies in geographic and temporal coverage of key data sets and assess how data currently unavailable can be made available to the wider user community.

Enhancing and increasing Biogeochemical observations: Evolve observing system to have a higher proportion of biogeochemical measurements as part of the overall number of observations

Provide open access to data: using existing portals and examining data policies in the regional sea basins, ensure data are openly shared with the user community with minimal bureaucracy and complications

Establish an interface with users of data (both end and intermediate users), e.g. via tailored stakeholder workshops and the activities of the DATAMEQ WG, EMODnet and COLUMBUS project, among others

- ii. **Sustained observing system:** Building an ocean observing system that can be sustained over decades will enable key societal questions to be addressed including ocean health, supply of ocean goods and services, real time operational services, and climate assessments. About 70% of the current observing system is funded through short-term research funding at national or European level. A framework is required to enable funders, implementers and users to interact ensuring longer term sustainability of the ocean observing system, fully integrated into GOOS and GEOSS strategies for global coverage.

EOOS: Develop a framework for a European Ocean Observing System (EOOS) by working with the European Marine Board, in particular set up and facilitate a steering group for EOOS, draft a roadmap, engage stakeholders for feedback, and develop an EOOS communication and stakeholder engagement strategy, ensuring relevant, up-to-date information and interface for the EOOS implementers, funders, and users.

Membership: Encourage ROOS members to become full members of EuroGOOS by providing a well-reasoned rationale for becoming part of EuroGOOS, offering support to new members in terms of promotion, and seeking out new funding opportunities. Scan the landscape for members contributing to filling the identified data and observing system gaps.

Regional Systems: promote our ROOSes and ensure good succession of steering group members and chairs of each ROOS. Ensure consistency of strategies between EuroGOOS and ROOSes.

Task Teams: set up a coordination mechanism to ensure a full alignment of the Task Team activities with the EuroGOOS strategies for EOOS and ROOSes.

- iii. **Products:** The operational oceanography community develops products for a variety of users including real-time maps of ocean parameters, operational forecast products and services based on the past state of the ocean. Such products are provided for ecosystem assessments, fisheries studies, real-time decision support to marine operations, emergency scenarios, e.g. search and rescue, oil and pollution

spills and for tourism and leisure activities in our seas. EuroGOOS has a role in product development through its 40 members and by building collaborations with CMEMS, EMODnet, ICES, GEO, GOOS and other users.

Fit for purpose: Working with key stakeholders, including industry partners reinvigorate the EuroGOOS Products working group to ensure a broad based membership and the production of fit for purpose products and services for end-users

MSFD tailored products: One of the major drivers for monitoring in European regional seas is the Marine Strategy Framework Directive. EuroGOOS will ensure that tailored products are delivered to support this directive by engaging key implementers of the Directive over the coming 2 years.

User uptake: EuroGOOS will work to enhance the update of data and products from the Copernicus Marine Environment Monitoring Service and EMODnet primarily by communicating with both users and producers to encourage the use of such products.

- iv. **Communications Interface:** In the past year EuroGOOS has started to build up a communications profile to promote the work of our community and to engage stakeholders at many levels. EuroGOOS hopes to enhance its communications portfolio by producing targeted material in both printed and on-line format. We also intend to grow our presence using social media tools such as Twitter and through the EuroGOOS website. The EuroGOOS communications strategy underpins all the EuroGOOS strategic activities.

Bridging the science/policy divide: produce policy briefs and other relevant information, as needed, and engage with European policy and decision-makers.

Work with member organizations to inform Member States' decision-makers of the EuroGOOS priorities (e.g. via national workshops or targeted communications).

Promote member products: Using social media and websites, ensure frequent updates.

Assist member activities with communication plans: bring the EuroGOOS communications to bear in assisting members communicate issues related to the ocean observing system, ocean forecasting and operational oceanographic products e.g. ROOS, Working Group and Task Teams.

Wider Operational Oceanographic community: EuroGOOS will demonstrate European leadership at global level by engaging fully with the Global Ocean Observing System (GOOS), Essential Ocean Variable panels, GOOS Regional Alliance and the Group on Earth Observations System of Systems (GEOSS).

- v. **Cross-cutting activities:** Several EuroGOOS activities are transversal in nature in that they involve more than one of the five key areas identified in the 2014-2020 strategy i.e. Priorities , Promotion, Cooperation, Co-production and sustained observations

EC Projects and tenders: EuroGOOS is involved in various projects e.g. AtlantOS, JERICO-NEXT, ENVRI+, COLUMBUS and contracts including Pro-Atlantic, Baltic Checkpoint, CMEMS INSTAC, EMODNet Physics. Most touch on several aspects of the EuroGOOS strategy. Delivering high-quality outputs from these projects in a timely manner is critical to EuroGOOS over the coming years.

Task teams: EuroGOOS task teams cover a wide range of observing platform technologies including tide gauges, radars, freeybox, gliders, Argo floats (through Euro-Argo ERIC), animal-borne tags and fixed platforms. It is critical that EuroGOOS retains the expertise to plan and prioritise the various platforms that make up the observing system. Similarly, EuroGOOS must ensure that the terms of reference are relevant and evolve as priorities change.

Working Groups: The Science Advisory, Technology planning, Data Management, Coastal modelling and Products working groups are a vital part of the EuroGOOS structure considering technical questions of relevance to our community. Again, it is critical that the appropriate expertise is retained through these working groups with adaptive terms of reference.

Advisory role: Input is regularly sought from EuroGOOS in a variety of capacities towards other initiatives. This is a role that EuroGOOS will consider carefully before taking any additional advisory roles on board. It is however seen as a strategic activity and should be continued in the coming years. EuroGOOS currently sits on the advisory groups listed below.

Communication: EuroGOOS communication is developed as a strategic imperative, underpinning all the activities, along the EuroGOOS strategic areas, via promotion, enhancing cooperation and co-production, and aiding delivery of strategic priorities for an integrated and sustained European Ocean Observing System, set in a global context.

Table 1: EuroGOOS chair and office representation at European and global panels

N°	Organization/Initiative/Project	Scale	EuroGOOS staff member	Role
1.	GEO Programme Board	Int'l	Erik Buch	Member
2.	GEO Executive Board	Int'l	Erik Buch	Observer
3.	GEO High-level EC working group	Int'l	Glenn Nolan → Erik Buch	Observer
4.	GOOS Steering Committee	Int'l	Glenn Nolan	Member
5.	GOOS Regional Alliances Forum	Int'l	Erik Buch	Co-Chair
6.	IODE Expert Team on Data Management Practices	Int'l	Patrick Gorringer	Member
7.	JCOMM TT-MOWIS (task team for integrated marine meteorological and oceanographic services within WIS)	Int'l	Erik Buch	Co-Chair
8.	JCOMM TT-MOWIS	Int'l	Patrick Gorringer	Member

9.	JCOMM Management Committee (MAN)	Int'l	Erik Buch/Glenn Nolan	Member
10.	Euro-Argo Scientific and Technical Advisory Group	Int'l	Glenn Nolan	Member
11.	POGO Ocean Communicators United	Int'l	Dina Eparkhina	Member
12.	EMODnet Steering Committee	EU	Patrick Gorringer	Member
13.	Copernicus Marine Service STAC	EU	Glenn Nolan	Member
14.	US-Canada-EU Atlantic Sea-bed Mapping working group	EU	Glenn Nolan	Member
15.	JERICO-Next Steering Committee	EU	Patrick Gorringer	Member
16.	FixO3 Advisory Board	EU	Patrick Gorringer	Member
17.	ENVRI Plus BEERI (Board of EU Env. Res. Infrastructures)	EU	Glenn Nolan	Member
18.	ICES WGOOFE (Working Group on Operational Oceanographic Products for Fisheries and Environment)	EU	Patrick Gorringer	Member

Finally, EuroGOOS should ensure the timely production of outputs of high quality in all projects and commitments that the organisation is involved in. This will assist in continuing to build a strong reputation for EuroGOOS among the wider stakeholders in operational oceanography in Europe.

About this document

This document outlines the requirements and structure for developing terms of reference for EuroGOOS activities, i.e. working groups, task teams, workshops, etc. It can also serve as a template for the terms of reference. The term ‘working group’ is used to describe the activity, as an example.

Table of Contents

1. Background, Rationale, and Link with EuroGOOS strategic priorities.....	2
2. Aim and Objectives.....	2
3. Composition and Operation	2
3.1 Chair’s nomination process, mandate, responsibilities	2
3.2 Members nomination and selection process, mandates, responsibilities.....	3
4. Mode of Operation.....	3
5. Deliverables	3
6. Target Audience and Expected Impact.....	4
7. Indicative Timetable (Gantt chart)	4

1. Background, Rationale, and Link with EuroGOOS strategic priorities

- Describe the background and rationale for this working group - 1-2 paragraphs
- With the view of the EuroGOOS Strategic Agenda 2020 and the short-term priority areas (EuroGOOS General Assembly 2016), how does this activity underpin those strategies? Demonstrate the alignment and usefulness of the working group for the implementation of the EuroGOOS strategy (short and long term) – 1-2 paragraphs

2. Aim and Objectives

- Based on the above, formulate the aim of the working group and develop a set of objectives – 1-2 paragraphs
- Develop a set of tangible outputs of the working group (e.g. meetings and reports, strategic workshops, publications – guidelines, awareness raising materials, etc) – 1 paragraph

3. Composition and Operation

The working group is composed of a chair, with potentially a co-chair or a vice-chair, and members. Chair is supported by a dedicated officer at the EuroGOOS office.

3.1 Chair's nomination process, mandate, responsibilities

Chair must be a representative of a EuroGOOS member organization¹. A chair can be supported by a vice-chair. In this case, the mandate and role and responsibilities are the same as for the chair. Vice-chair takes on the role of chair if the chair is unable to act. The chair is nominated by the EuroGOOS Executive Directors Board and approved by the EuroGOOS General Assembly. The chair's mandate is for three years, renewable once, upon re-election for a two-year term.

Chair is responsible for:

- Oversight of the working group;
- Alignment of the working group's work with its terms of reference and with the EuroGOOS strategy;
- Developing the working group yearly implementation plan in line with the above;
- Reporting to the EuroGOOS General Assembly and EuroGOOS Executive Directors Board (including both at physical meetings and in writing);
- Regularly reviewing the membership of the working group (e.g. once a year);
- Regularly liaise with the EuroGOOS office to follow up on the working group's alignment with the other EuroGOOS activities (at least monthly);
- Represent the working group at external meetings.

¹ <http://eurogoos.eu/about-eurogoos/members>

3.2 Members nomination and selection process, mandates, responsibilities

Members are selected based on a call for nominations to the EuroGOOS members. If there is not enough expertise within the EuroGOOS member organizations, working group members can be selected through an external call for expression of interest.

Members are selected based from the pool of nominations by the chair and the EuroGOOS office, keeping in mind the spread and representativeness in expertise, geographical representation and the gender balance on the group. Page | 3

Members do not have an established mandate unless the activity is terminated. However, membership is reviewed by the chair and the EuroGOOS office on a regular basis and can be terminated if the member does not fulfil the below responsibilities.

Members' responsibilities are to:

- Participate in the working group activities;
- Deliver outputs as required, orally or in writing, in a timely manner;
- Represent the activity at external meetings, upon agreement with the chair and the EuroGOOS office;
- Attend working group meetings;
- Follow-up on the developments related to the working group's activity, to ensure the working group's work is timely and topical.

4. Mode of Operation

The terms of reference for the working group are developed by the EuroGOOS office in liaison with the chair, and submitted first to the EuroGOOS Directors Board and then to the EuroGOOS General Assembly for approval.

Once approved at the EuroGOOS General Assembly, the working group chair and the EuroGOOS office launch a call for member nominations (see item 3.2).

When the membership of the working group is established, the working group is regarded as operational. In most cases, a physical kick-off meeting will be organized to agree the terms of reference with all the members and develop the first annual implementation plan. EuroGOOS office oversees the communication related to the working group activities. To this end, the working group implementation plan should be cognisant of the EuroGOOS communication strategy.

The group operates based on its terms of reference and annual implementation plans. Its activities are reviewed at the EuroGOOS Executive Directors Board meetings (three times a year) and the EuroGOOS General Assembly (annually).

5. Deliverables

The working group may have a role as a forum, providing a platform for exchange of expertise and generation of strategic advice in the area of the working group's consideration. It can also be of a more operational nature, organizing regular meetings, establishing interfaces with communities

outside of those of the working group, delivering strategic publications and reports. A list of envisaged deliverables is prepared at the working group kick-off meeting and is updated as the activity develops.

6. Target Audience and Expected Impact

At the kick-off meeting, the members and the chair brainstorm on the target audience for the working group’s outputs and the main communication messages. This brainstorming is prepared with support of the EuroGOOS office, to align the plans with the other EuroGOOS strategic activities. The group also establishes an expected/desired impact of its activities on the target audience.

7. Indicative Timetable (Gantt chart)

The below template is indicative. It will be prepared based on the above guidelines and the implementation plan.

	M/Yr	M/Yr	M/Yr	M/Yr	M/Yr	M/Yr	M/Yr	M/Yr
Terms of Reference								
Selection of Chair / co-Chair								
Approval by Exec. Board								
Approval by General Assembly								
Call for member nominations								
Kick-off meeting								
Activity 1								
Activity 2								
Activity 3								
Activity 4								
...								
...								



EuroGOOS
European Global Ocean
Observing System

**EuroGOOS Executive Board and
Chairs Meeting
7-8 March 2017, Brussels
EuroGOOS/BELSPO**

Document 6.1: Draft implementation plans 2017

ROOS

Item	ROOS	Activity	Owner	Indicative completion date	Actual Completion date
1	BOOS	New BOOS Strategy		April/May 2017	
2	BOOS	BOOS Observation Agreement (including yearly plans)		April/May 2017	
3	BOOS	Launch of the new BOOS website		April/May 2017	
4	ARCTIC	Develop a high-level requirement report for a sustained Arctic observing system serving both climate and operational services	EuroGOOS (E. Buch) and NERSC (S. Sandven)		31-May-17
5	ARCTIC	Organise a workshop with representatives from different Arctic stakeholder groups. Venue: EuroGOOS office in Brussels	As above		31-May-17
6	ARCTIC	Data management plan for observational data under INTAROS	NERSC (T. Hamre)		31-May-17
7	ARCTIC	Arctic ROOS data Portal - continuous work to include more data both NRT and delay mode data	IMR		Ongoing
8	ARCTIC	Planning new deployment and of sensors and platforms for data collection in the period 2018 – 2020, including contribution to YOPP	IOPAN (A. B-Möller)		31-Dec-17
9	ARCTIC	Collaboration with ESA's Polar TEP project	NERSC (S. Sandven)		31-Dec-17
10	ARCTIC	Collaboration the EU SPICES project led by FMI to improve access to sea ice data.	FMI (J. Haapala)		31-Dec-17
11	ARCTIC	Build cooperation with institutions in US, Canada, Japan, China, Korea and Russia regarding data collection and data management	NERSC (S. Sandven)		ongoing,
12	ARCTIC				
13	ARCTIC	Continue the process with IOC on an Arctic GOOS	EG chair		ongoing
14	NOOS	To develop a questionnaire about Matroos and invite NOOS members to participate to it2017 open	Marc Philippart	Annual meeting 2017	
15	NOOS	To send an email asking for information on user requirement and feedback with respect to IN Situ CMEMS data	Susanne Tamm		Dec-16
16	NOOS	To organise a workshop on observations and data gaps at the NOOS annual meeting.			
17	NOOS	To contact French Institutes in order to increase the list stations of the sea level water exchange	Jacob Nielsen	ASAP, by Steering group 2017	
18	NOOS	Contact participants of the NOOS water level data exchange in order to agree on a new list of stations at which forecast are exchanged. This list should cover the whole NWS including the English Channel and the Irish Sea	Marc Philippart	ASAP, by Steering group 2017	
19	NOOS	To extend matroos and BMA to the new list of stations	Marc Philippart	By annual meeting 2017	
20	NOOS	Gather the status and needs for prognostics eHype hydrological data	Bruce Hackett	ASAP, by NOOS Steering Group 2017	

21 NOOS	To gather feedback on the way eHype data are used by the NOOS community and report them to e-Hype developers	Thomas Hammarklint	ASAP, by NOOS Steering Group 2017
22 NOOS	Kick off the work of the NOOS verification working group	John Siddorn	ASAP, by NOOS Steering Group 2017
23 NOOS	To check for a new URL for the NOOS website. E.g. http://noos.eurogoos.eu/	Stephan Dick	ASAP, by NOOS Steering Group 2017
26 NOOS	Replace current product (http://www.noos.cc/model-results/currents-fc/) with information produced by the Multi Model Ensemble project (e.g. median field and range)	Stephan Dick (in	By NOOS Steering Group 2017
NOOS	To develop a section in the NOOS strategic document for developing a CTD working group similar to what is done in BOOS	Thomas Hammarklint	
	http://www.boos.org/index.php?id=25	and SG	by NOOS Steering Group 2017
IBI-ROOS			
MONGOOS			

Task Teams

Item	Task team	Activity	Owner	Indicative completion date	Actual Completion date
1	HFR	Communication and technical exchanges in the Task Team (on-line meetings). Strategic collaborative actions have been agreed (La Spezia, Sep 2016) for pushing the implementation and development of the European HFR network:			
2	HFR				
3	HFR	1. work on a demonstrator:			
4	HFR	a. available tools are sufficient to demonstrate the capability			
5	HFR	b. radials have to be provided			
6	HFR	c. intermediate users with applied best practices should be involved			
7	HFR	2. work on dissemination to public society:			
8	HFR	a. why this technology and the benefit for key societal challenges			
9	HFR	b. what do we miss if we have not the network			
10	HFR	c. create some show cases (e.g. marine safety – S&R, water pollution monitoring – long term data series in key places e.g. Naples)			
11	HFR	d. consequences (costs) if you are missing that information and if you reacted wrongly			
12	HFR	Identify the plan with priorities in filling gaps and with a quantitative estimation of cost (installation and maintenance)			
13	HFR	[3.1] Harmonization and co-production will be produced in different projects (JERICO-NEXT/INCREASE).			
14	HFR	[3.2] Progress on connecting existing system to European data systems (Emodnet Physics III).			
15	HFR	[3.2] Progress on defining and developing co-produced applied services (JERICO-NEXT). MARCH 2017 JERICO-NEXT WP6 D5.16 Adapting JNEXT activities to a virtual access			
16	HFR	[3.3] Recommendations on metadata, data format and quality control will be available (JERICO-NEXT D5.13, January 2017).		01/03/2017 ??	
17	HFR	[4] Developing contents in the webpage; Promoting the ROW2017, September in Germany			
18	HFR	[4] To be active in the Global initiative for implementing HFR in Global networks (GEO HFR, GOOS).			
19	HFR	[4] To edit a fact sheet with EuroGOOS Office.			
20	TG	Advertisement to policy-makers about the status of the sea level networks	Begona Perez and Office	15/02/2017	
			Begona Perez and Vincent		
21	TG	Summary of the questionnaire launched in 2016	Donato	28/02/2017	

22 TG	Recommendations on standard names, metadata and data processing of tide gauge data for CMEMS In-Situ Tacs, taking into account GLOSS standards and altimetry community requirements.	Begona Perez, Thomas Hammarklint, Marta Marcos, Angela Hibert, Fabio Racich	31/03/2017
23 TG	Analysis of existing gaps in the data portals providing sea level data from European tide gauges	Vincent Donato, Laurent Testut and Begona Perez	30/06/2017
24 TG	Tide Gauges Inventory	Guy Westbrook, Anna von Gyldenfeldt and Fabio Raicich	31/12/2017
25 TG	Identify funding opportunities for improving/increase the existing tide gauge network	Marta Marcos and Begoña Pérez	31/12/2017
26 ABI	Integrate the MEOP (www.MEOP.net) database into EMODnet Physics; March 2017; Fabien Roquet; delivered	Fabien Roquet	Mar-17 Complete (Jan 2017)
27 ABI	Data survey to discover available data from animal-borne instruments in the EU	Lars Boehme	Jun-17
28 ABI	Process archived temperature data from animal-borne instruments around the UK and make them available through EMODnet Physics supported through funds from EMODnet Physics	Lars Boehme Lars Boehme	Aug-17
29 ABI	Organise a workshop on animal-borne instruments for ocean observations at the 6th International Bio-Logging Science Symposium (BLS6)	and Fabien Roquet	Sep-17
30 ABI	Process archived temperature data from animal-borne instruments around the Netherlands and make them available through EMODnet	Lars Boehme and Sophie Brasseur	

31 EuroArgo	Management of the Euro-Argo ERIC
32 EuroArgo	Enhance communication and outreach (incl. scientific community)
33 EuroArgo	Coordination of Euro-Argo float deployment and float monitoring activities Development of the Euro-Argo implementation plan including the extensions of
34 EuroArgo	Argo
35 EuroArgo	Organize the work of the ERIC for the EU projects where Euro-Argo is involved
36 EuroArgo	Continue seeking for additional funding with EC

Working Groups

Item	Working Group	Activity	Owner	Indicative completion date	Actual Completion date
1	SAWG	Link H2020 Scoping papers to EuroGOOS research priorities: H2020 scoping papers in themes Bioeconomy/mrine/maritime, Environment/Climate change and Space will be analyzed and linked to EuroGOOS research priorities (Feb. 2017)			
2	SAWG	Reform SAWG membership to fit into the purpose of EuroGOOS strategy implementation (there might be a possibility to merge SAWG and COSMO WG (June 2017).			
3	SAWG	Contribute to EuroGOOS implementation plan in cross-cutting scientific issues, e.g., coastal operational oceanography, operational ecology, integrated ocean observations and operational modelling and forecasting skills			
4	SAWG	If possible, SAWG may work on some project tasks, e.g., those in EuroGOOS-CMEMS UU contract (interface between CMEMS and national systems).			
5	TPWG	Building a functioning network of marine “technology” professionals within the EuroGOOS framework: possible online platform for communication and discussion on technical issues.			
7	TPWG	Creating links with national metrological institutes: identify people, encourage interaction, seek common ground on measurement issues through collaborative proposals under appropriate programmes, e.g. JPI, EURAMET-EMPIR, COST, etc.			
8	TPWG	Finalizing the Position Document on “Technologies Underpinning Operational Oceanography”.		Late 2017	
9	DATAMEQ	Improvement of the service to users both in NRT and delayed mode using the CMEMS/ROOS, SDN/NODCs and EMODnet infrastructures			
10	DATAMEQ	Foster interoperability between the systems by implementing and improving if necessary the available standards in coherence with international landscape			
11	DATAMEQ	Enhance discovery tools by providing a catalogue of available products and services and developing strategies with the network task teams of DOI usages			
12	DATAMEQ	Facilitate interaction with providers by establishing a win-win relation			

Office

Core business

Action	Delivery date
<ul style="list-style-type: none"> Deliver EuroGOOS 2017 implementation plan in liaison with EuroGOOS Chairs and Executive Board – building on the EuroGOOS short-medium-term priorities (GA 2016) Deliver draft guidelines for new EuroGOOS Terms of Reference After discussion with Board and Chairs, submit for approval at GA 2017 	Drafts to Exec Board 21/02
<p>ROOSes</p> <ul style="list-style-type: none"> Work with chairs to update the implementation plans to reflect the EuroGOOS strategic priorities, the new ToR and establish a follow-up process Update the visual identity of ROOS websites (first, NOOS, then BOOS and Arctic ROOS) to make them reflect the EuroGOOS identity albeit being distinctive; launch URLs with eurogoos.eu 	31/03
<p>Working Groups</p> <ul style="list-style-type: none"> PWG: Follow on the products activity with the ICES WGOOFE Make an inventory of member products and select products profiling COSMO WG: Revise the ToR (new template) a larger scope activity For relaunched WGs: after approval of rationale and ToR – hold kick-offs; For ongoing WGs: after update of ToR set a meeting date with chair 	15/06
<p>Task Teams</p> <ul style="list-style-type: none"> ABI: relaunch call for nominations to members and ROOSes Fixed stations: after Sec Gen is in place - relaunch call for nominations to members and ROOSes Ferry Box: White paper and policy fact sheet by EMD, 18-19 May, Poole TG: fact sheet (draft text delivered by TT) HFR: fact sheet (draft text delivered by TT) Gliders: enhance coordination with EG Office Argo 	Report at GA
<p>E00S:</p> <ul style="list-style-type: none"> Consultation analysis and report SG Meeting Report, 9 Feb Booth and poster at EMD, Poole Vision document, Sept. Forum early 2018 	19/05, Sept
<p>Conference (immediate actions only):</p> <ul style="list-style-type: none"> Launch website (IMR and Office), set up registration Launch call for abstracts Finalize programme Hold an on-site meeting with hosts and EG office 	15/03 – call and website On-site meeting, June
<p>Kostas Nittis Young Reserachers award and travel grant:</p> <ul style="list-style-type: none"> Follow up on 2016 travel grant report 2017 call (for discussion at Exec Board, March) Award at EG GA – ceremony at the Conf, Oct 2017 	March - call
<p>Arctic GOOS: continue discussions with IOC and Arctic countries</p>	
<p>Black Sea GOOS/ROOS: DG MARE BS modelling Workshop, Sept</p>	Sept.
<p>EMB WG on Biological E00S: follow up with EMB once the activity is launched</p>	June
<p>VLIZ and OBIS:</p>	

Office Implementation Plan 2017

<ul style="list-style-type: none"> • follow on to the 1st meeting in Jan. - 28/02, Ostend • investigate VLIZ membership 	
---	--

General Assembly and Exec. Board

Action	When ?
Exec. Board Meetings: deliver agenda, documents, reports, organization (March, May, Autumn)	
GA 2017: agenda, documents, report, organization – discussion on agenda at Exec Board, 7-8 March	
Membership expansion: review the 2016 list, prioritise potential members, launch a pro-active campaign (mailing and postage of EuroGOOS materials and invitation letter)	Spring

EU partnerships, projects and calls

Action	When ?
<ul style="list-style-type: none"> • Follow up on projects and deliver according to the implementation and communications tasks as required • Major upcoming project-related events: Columbus partners meeting, February, Lisbon EEA contract state of play report meeting, April, Copenhagen ENVRI Plus week and industry brokerage event, May, Helsinki CMEMS Week and special EuroGOOS/in-situ session, Sept., Brussels AtlantOS General Assembly, November, Gran Canaria + Columbus brokerage event w. PLOCAN 	

Other strategic actions and collaborations

Action	When ?
IOC and GOOS: <ul style="list-style-type: none"> • GRAs general forum, October • Modelling inventory and EG web interface • Investigate OO needs for SDGs 	October
Marine Spatial Planning MSP Conferences (IOC and DG MARE), March & April	March and April
European Commission Galway Statement mapping WG: contribute as member	March
European Parliament: inform relevant intergroups of the EOOS process	By June
GEO: <ul style="list-style-type: none"> • EC High-level WG: contribute as member • Blue Planet Steering Group: contribute as member • Investigate links with the EC NextGEOSS project (potential meeting with EASME) 	By June
JCOMM Management Board and TT MOWIS: contribute as member/ co-chair	
EMD 2017, Poole: deliver a EuroGOOS exhibition stand in liaison with members, ROOSes and projects	19 May
Investigate involvement in Our Ocean conference, Oct. 2017, Malta	15 March
Investigate Blue Science Cloud	30 April

Communication and Impact (in addition to actions mentioned above and specific project-related tasks)

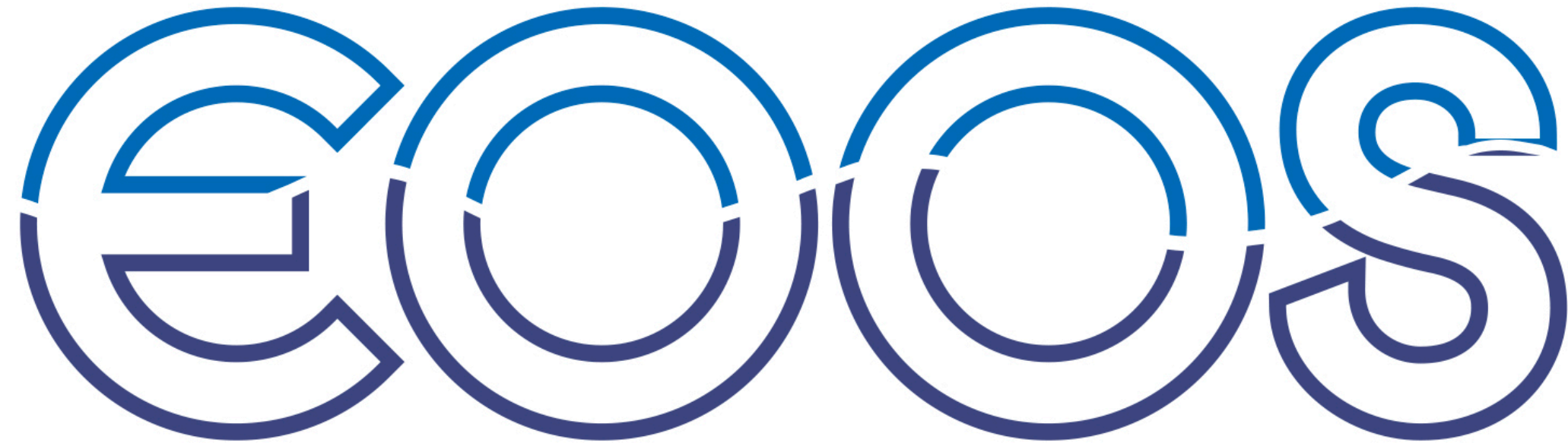
Action	When ?
Data brochures: <ul style="list-style-type: none"> • Mercator - output on interconnectiveness of major EU data portals and repositories (SDN, EMODnet, CMEMS) • Fact sheet on open data 	31 May
Fact sheets on each activity	First one for EMD, others for

Office Implementation Plan 2017

	the conf.
EuroGOOS give aways – for EMD and Conference (the latter with the hosts)	May, Sept.
Collect ROOS/WG/TT success stories	15 June
Products profiles on the website	30 May
ROOS websites	15 May
Comms tasks in projects and EOOS	ongoing

Finances, office running and legal matters

Action	When ?
Follow up on Contributions call 2017	31 Jan
Investige COC membership continuation	15 May
Finalize accounting and recording protocol	30 March
Financial reporting templates for the GA	March Exec Board Mtg
Founding declaration – follow up on signatures from members before 2013	31 March
Finalize the staff hand book with the official services	30 April
Employ a new administrator (incl. set up of payroll and associated benefits)	30 March



**European Ocean Observing System:
Main outcomes of the open stakeholder consultation
(Dec.2016-Jan.2017)**



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*

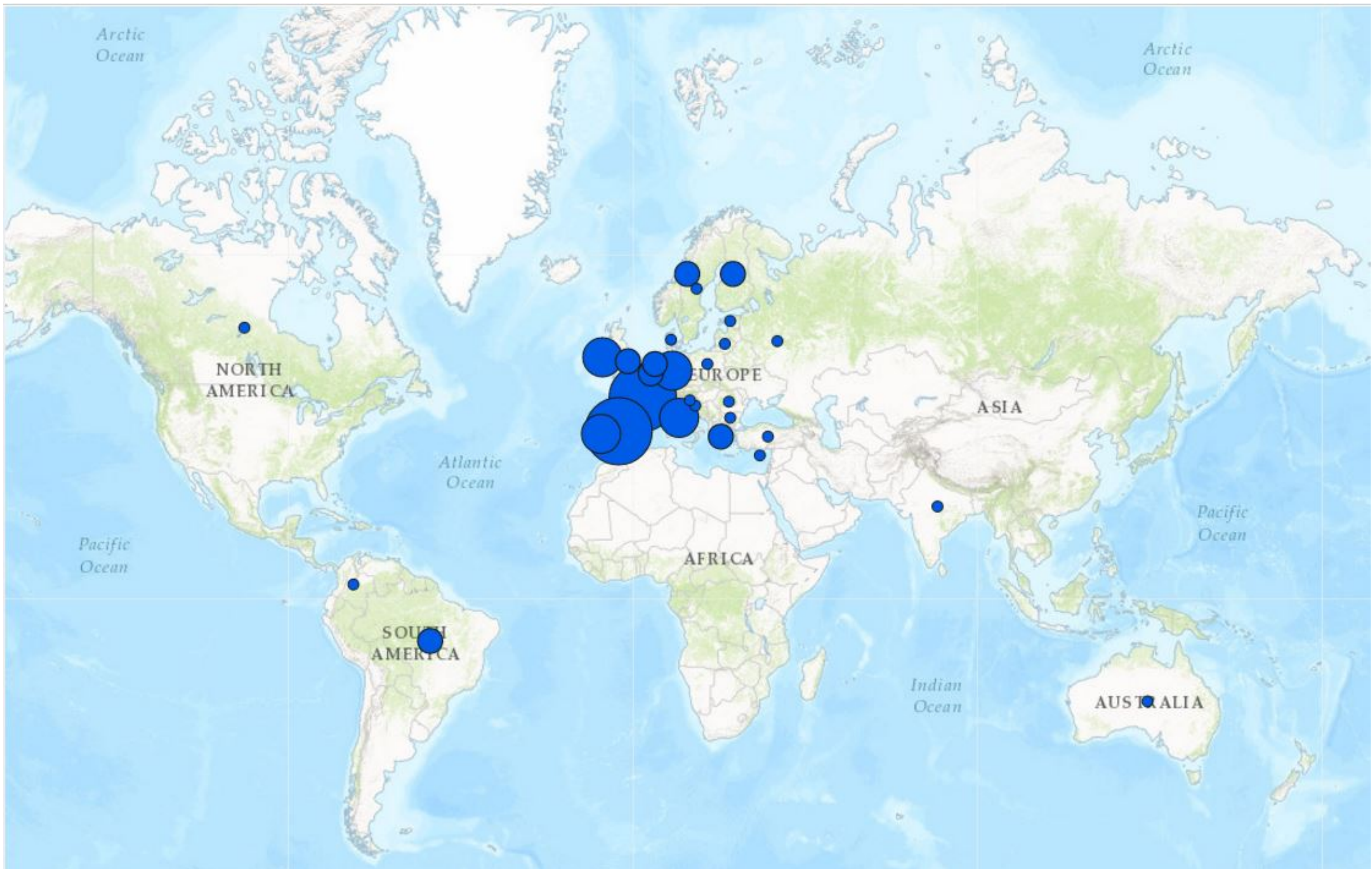
EOOS open stakeholder consultation

- Six weeks, 12 Dec to 22 Jan on www.eoos-ocean.eu
- Aim: (i) Collect feedback on Cons. Doc and suggested early actions; (ii) Gather new ideas; (iii) Demonstrate open and inclusive process
- Disseminated by EuroGOOS and EMB – approx. 800 addresses (mailing, Twitter, website, hard copy dissemination, announcements at meetings, European Parliament event, 8 Sept. 2016, Brussels)
- High rate of responses through direct contacts
- 155 responses from 30 countries, 50% institutional
- Overwhelming support from all respondents – we need an EOOS

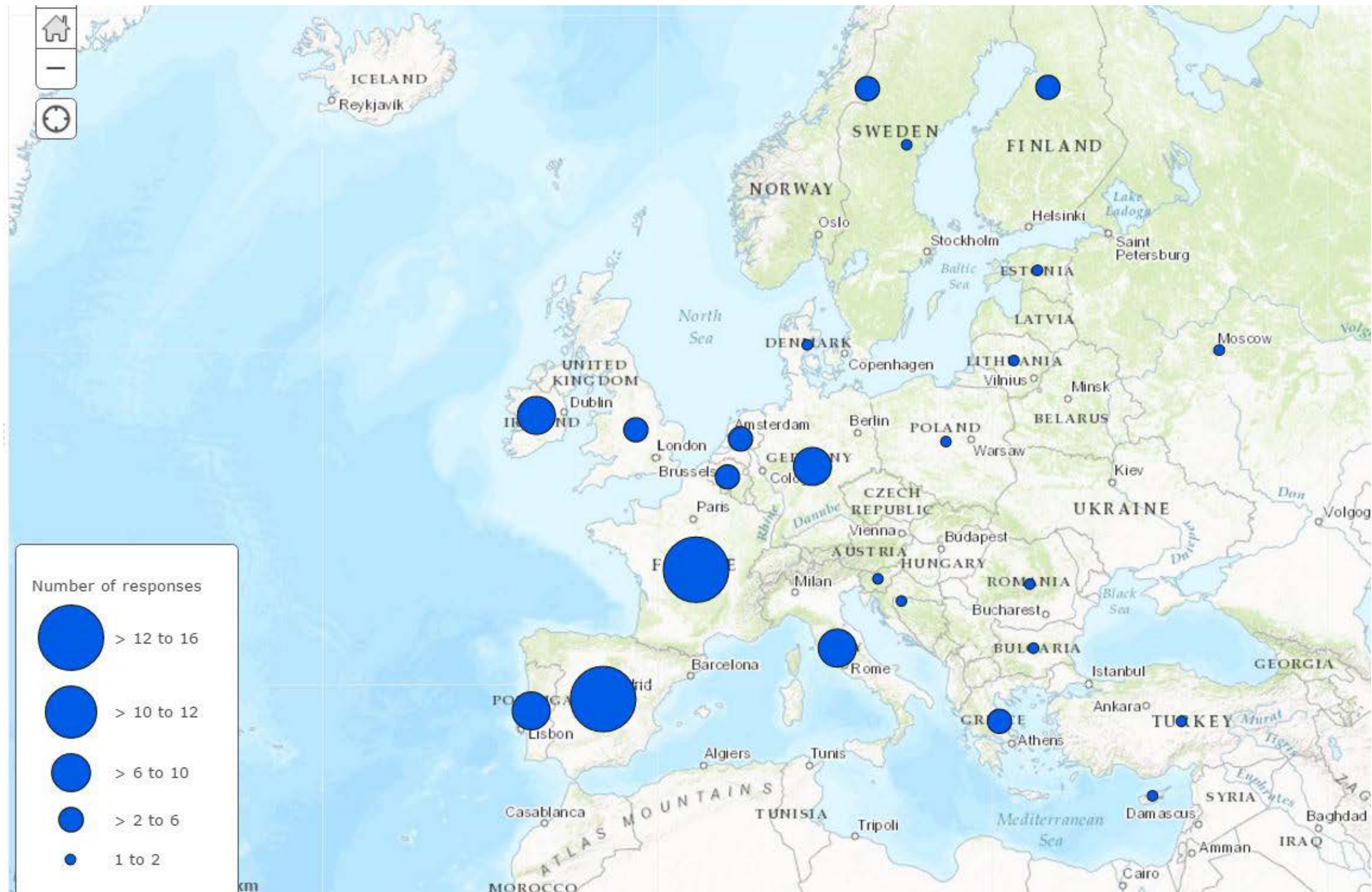


EOOS Consultation Document developed by the EOOS Steering Group was presented at the European Parliament event on 8 Sept. 2016. The document served as basis for the stakeholder consultation.

Available at www.eoos-ocean.eu

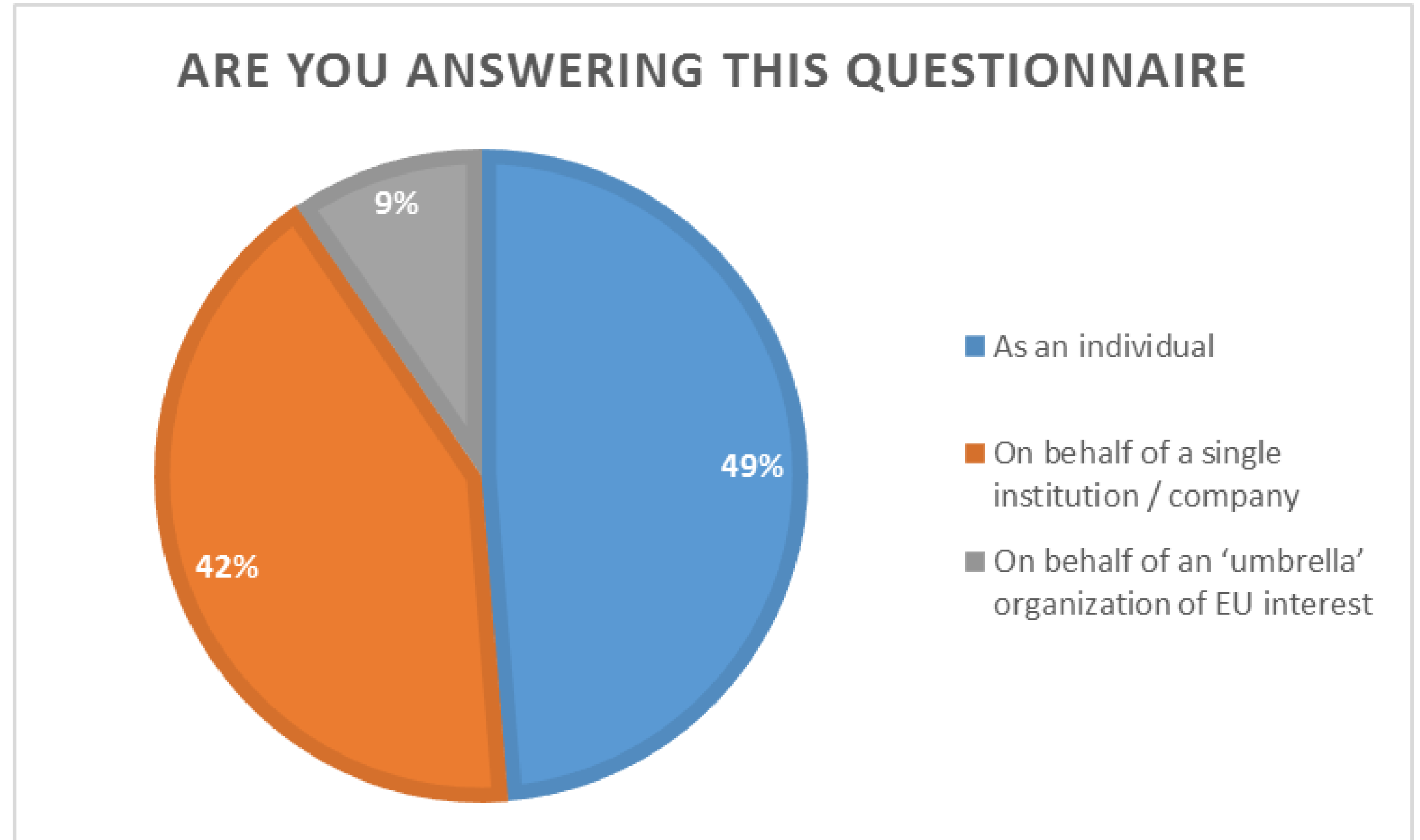


EOOS consultation results: geographical spread - world

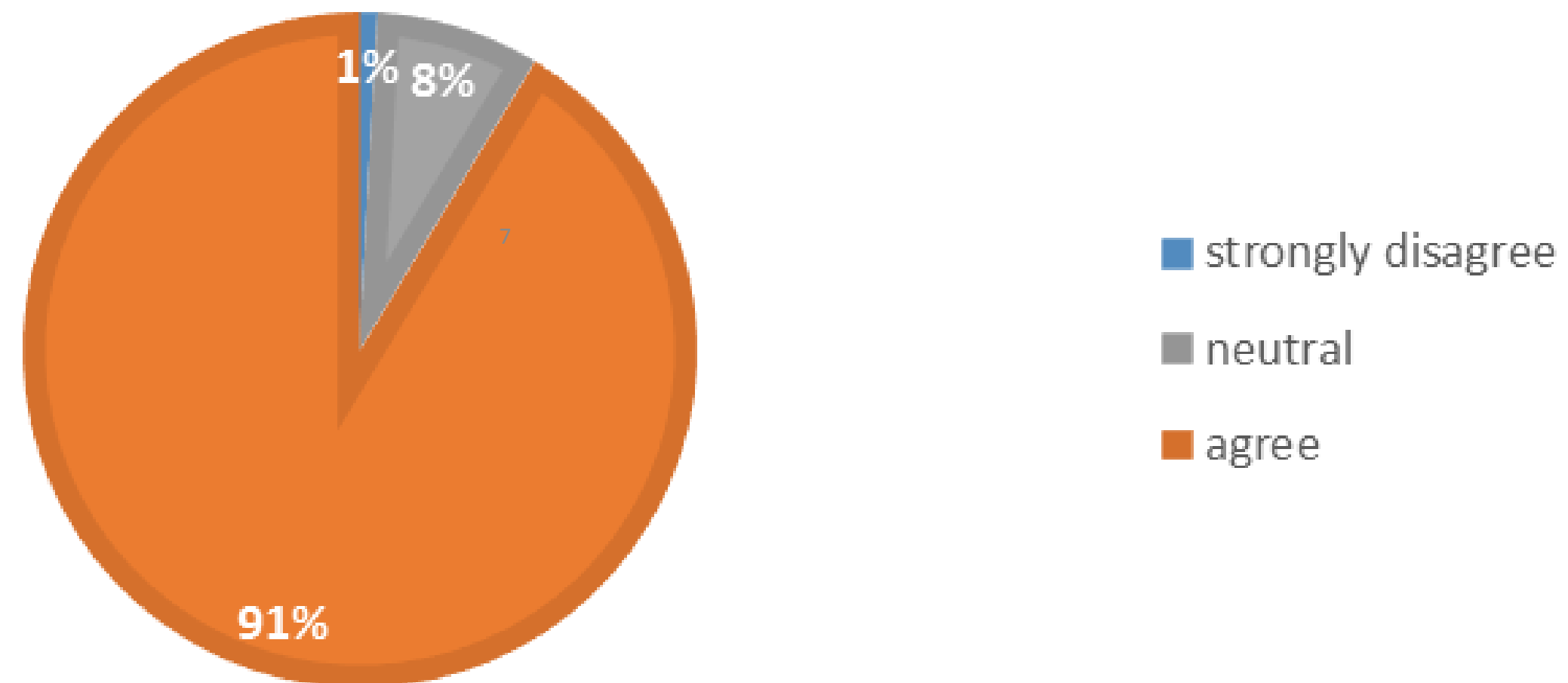


EOOS consultation results: geographical spread – zoom on Europe

- 115 responses from 30 countries
- 56 individual responses
- 59 institutional responses (institutes, companies, EU umbrella organizations, universities, ministries)



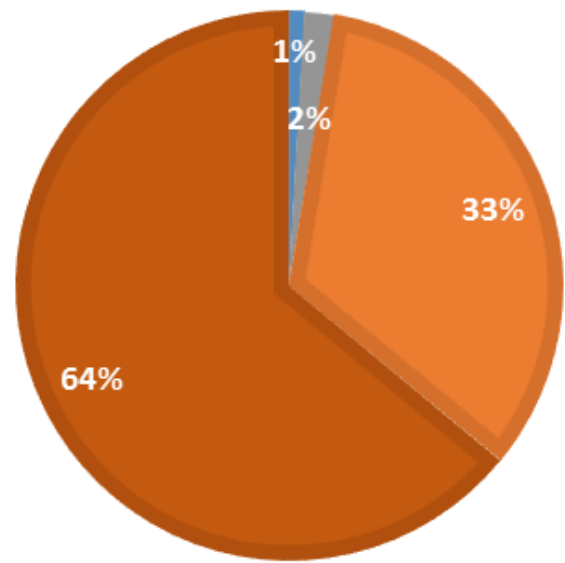
DO YOU SUPPORT THE EOOS CONCEPT AS PRESENTED IN THE CONSULTATION DOCUMENT?



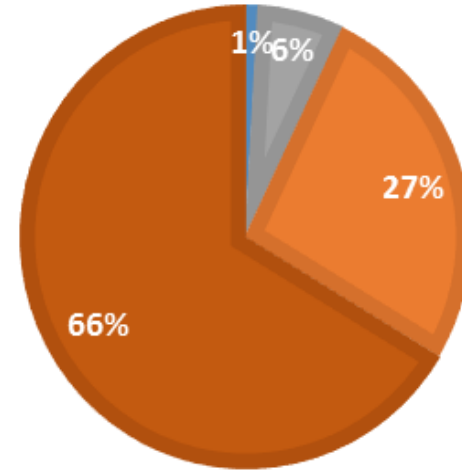
EOOS consultation: Role of EOOS



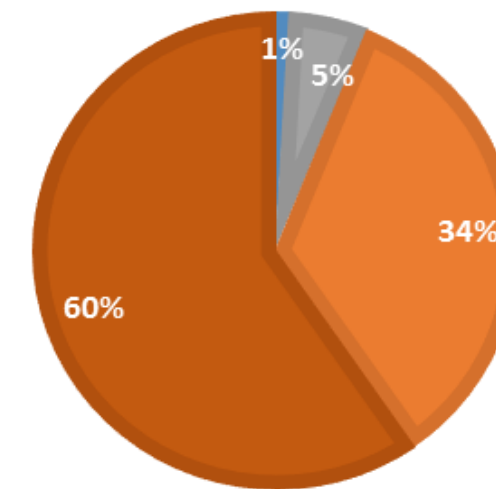
EOOS SHOULD HELP ALIGN AND CONNECT EXISTING EFFORT



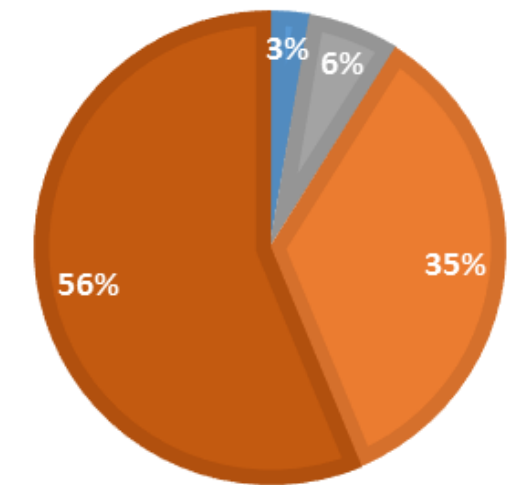
EOOS SHOULD HELP IDENTIFY GAPS AND FOSTER INITIATIVES TO FILL THEM



EOOS SHOULD HELP PROMOTE OBSERVATIONS FOR MULTIPLE SECTORS



EOOS SHOULD HELP INTEGRATE EUROPEAN OCEAN OBSERVING AT THE GLOBAL LEVEL



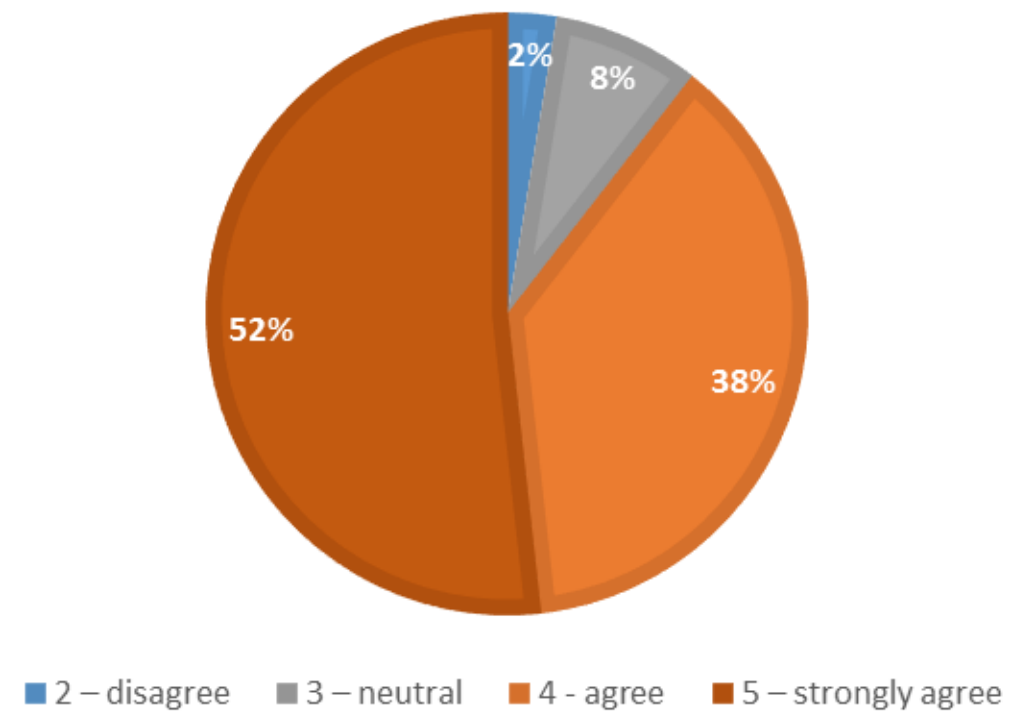
■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

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

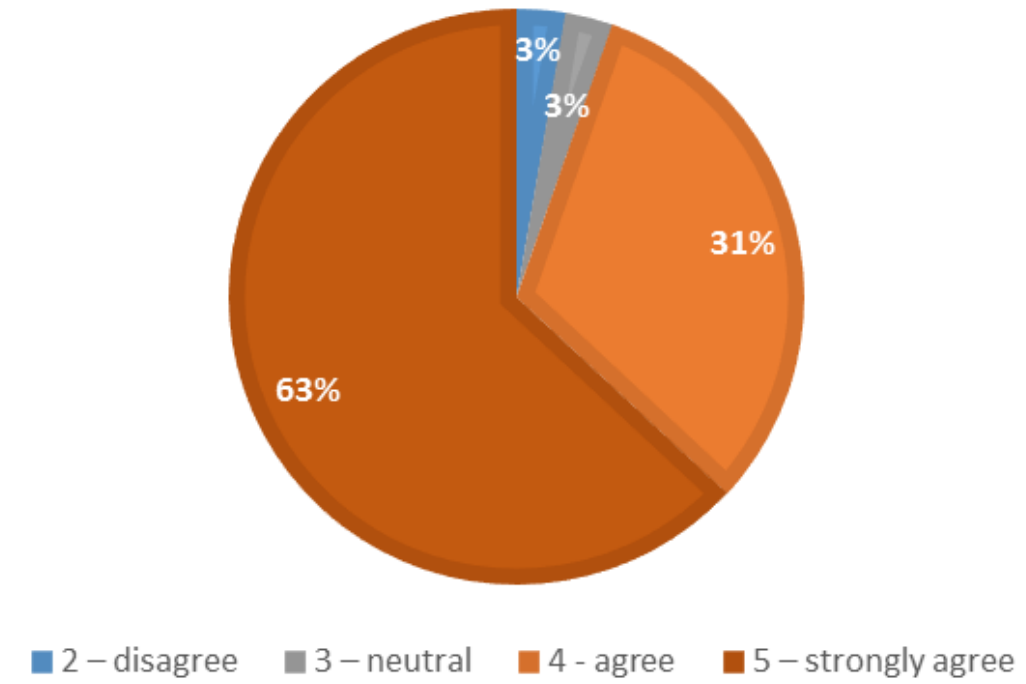
■ 2 - disagree ■ 3 - neutral ■ 4 - agree ■ 5 - strongly agree

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

ALL EUROPEAN OCEAN OBSERVATIONS INCLUDING EU CONTRIBUTION TO GLOBAL OBSERVING EFFORTS

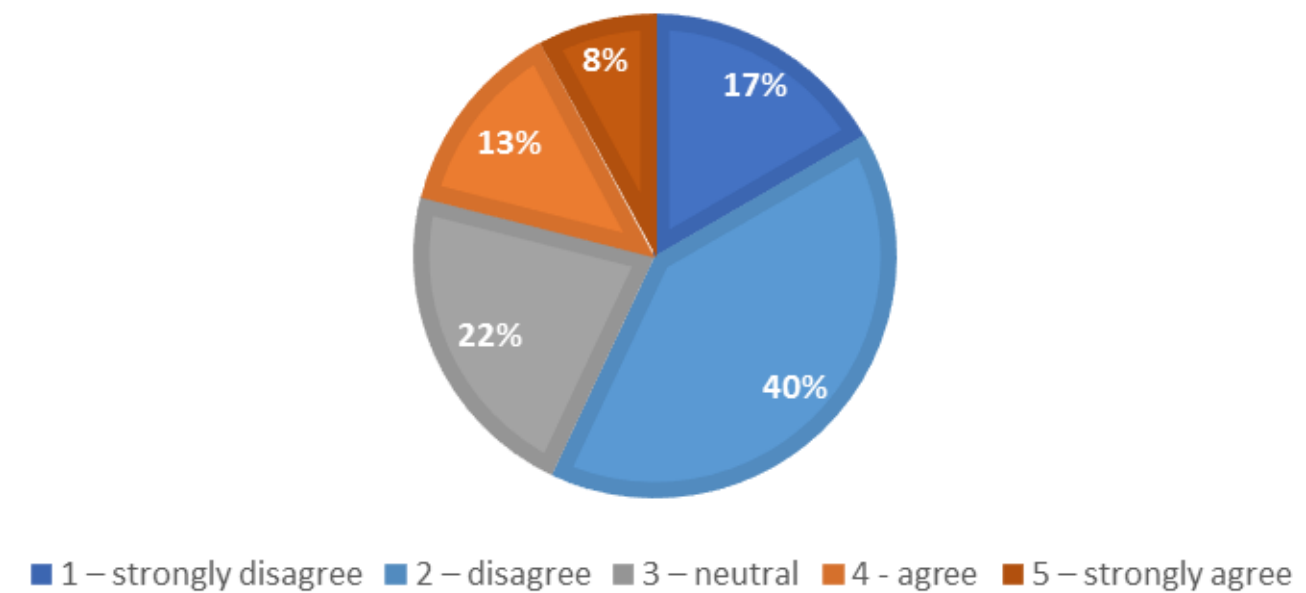


EU SEA BASINS AND SURROUNDING SEA

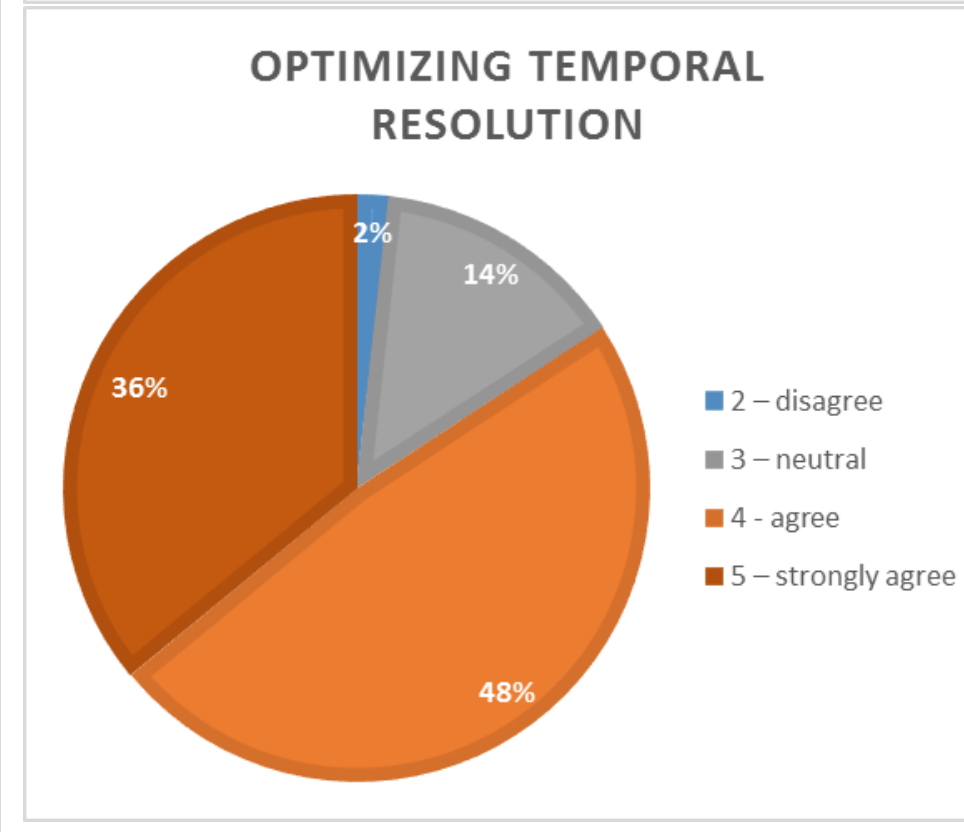
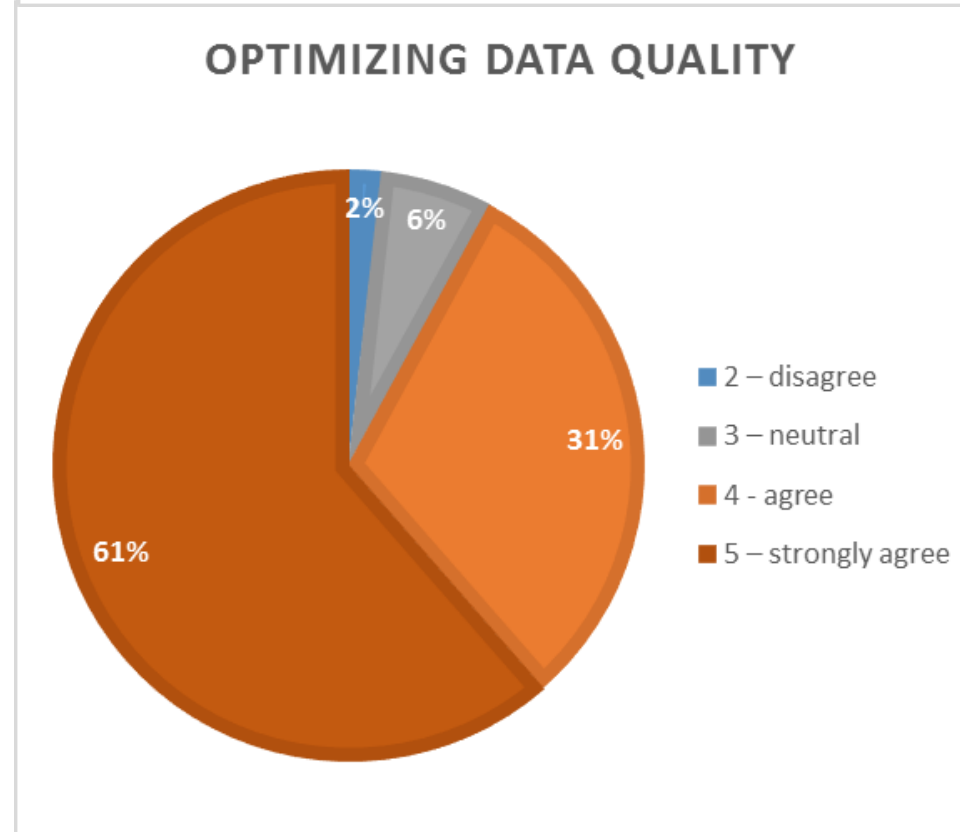
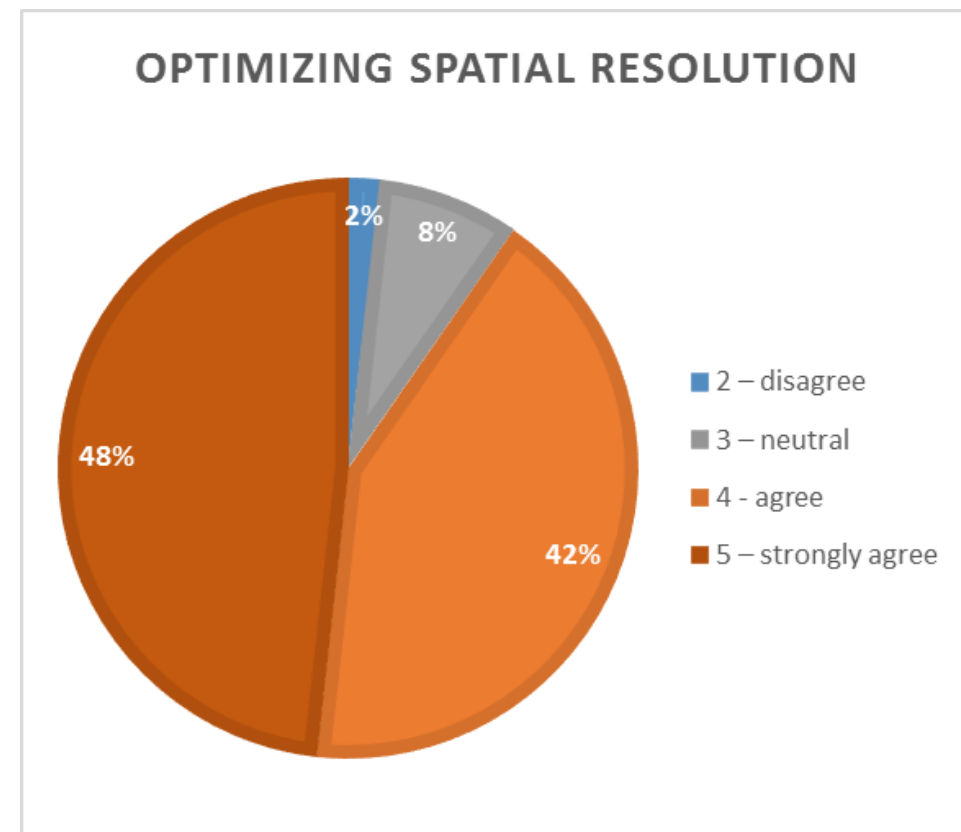
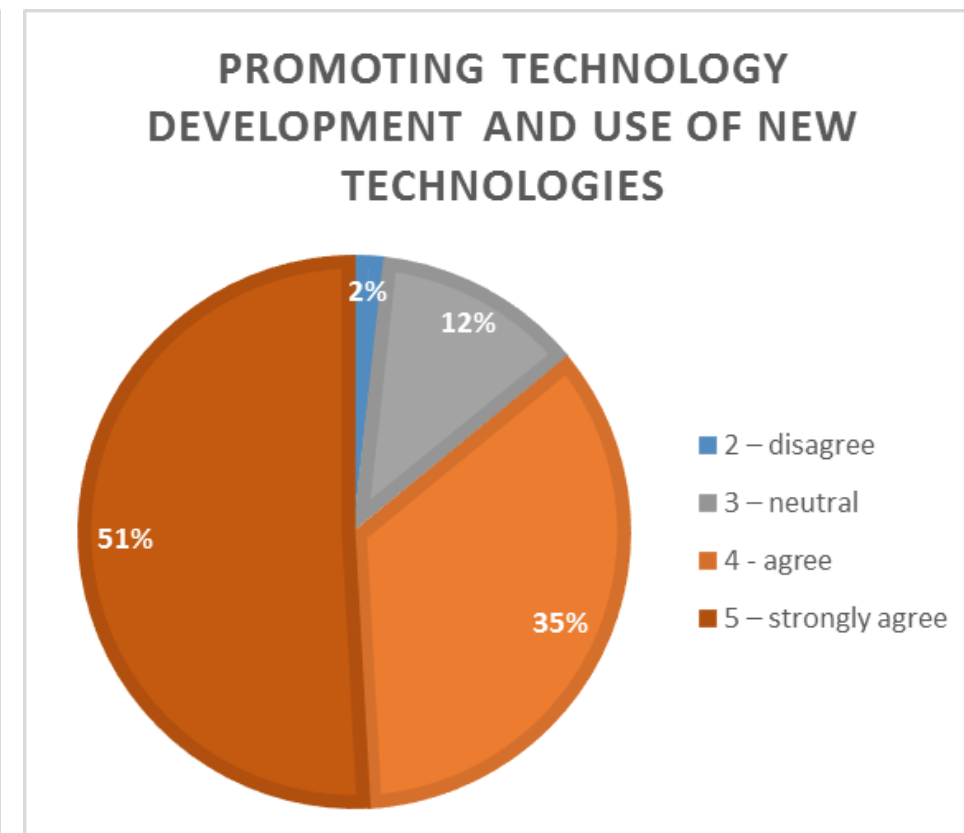
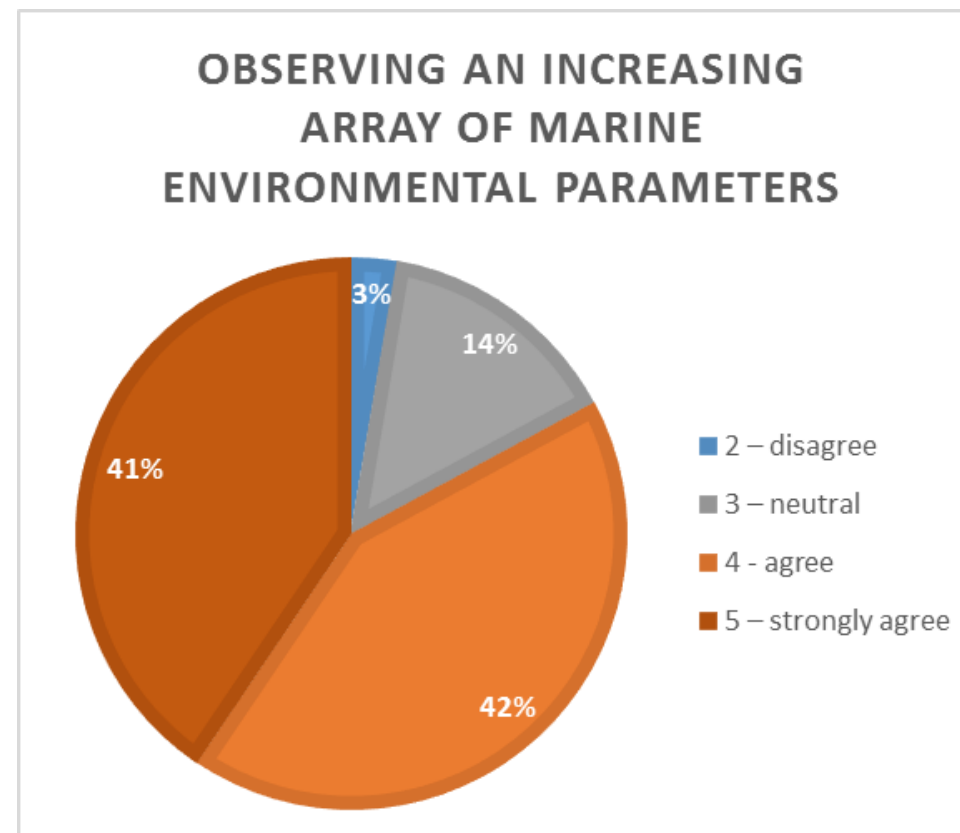
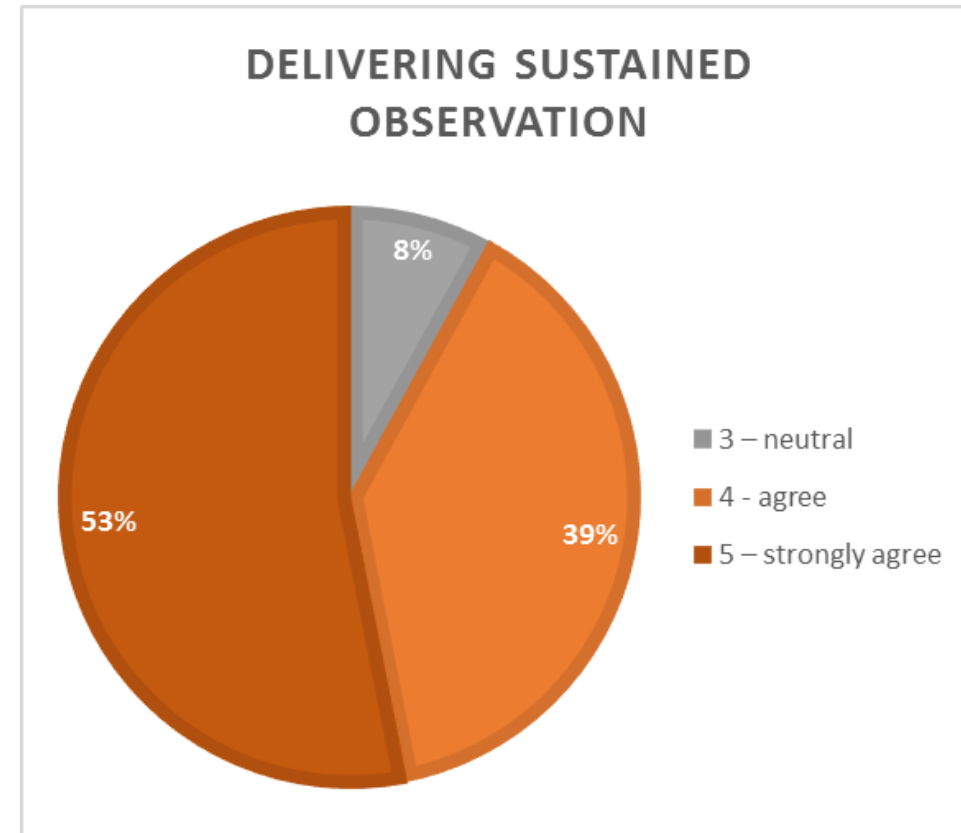


9

EOOS SHOULD FOCUS MAINLY ON COASTAL SEAS



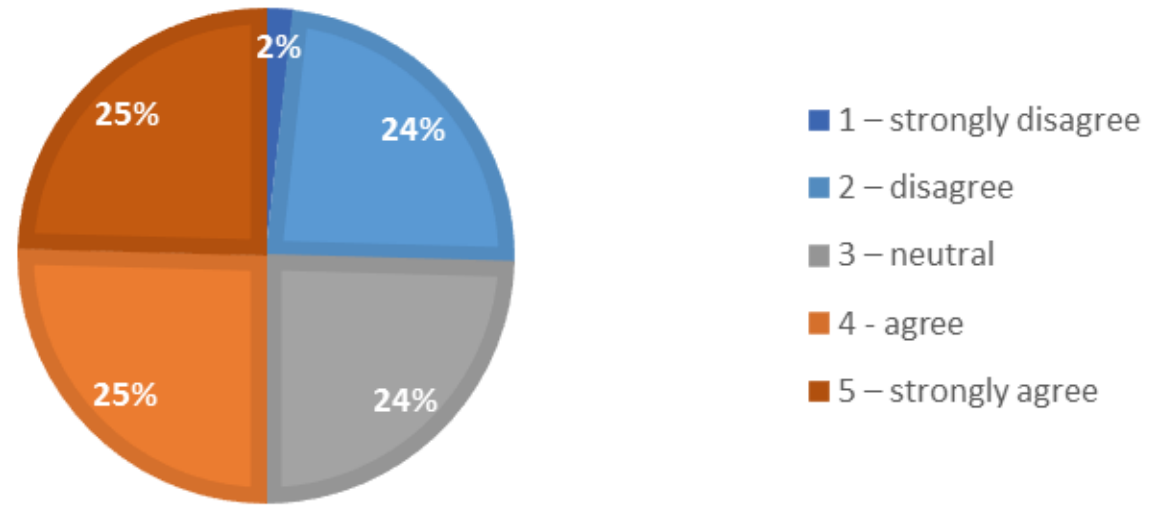
EOOS consultation: Gap analysis



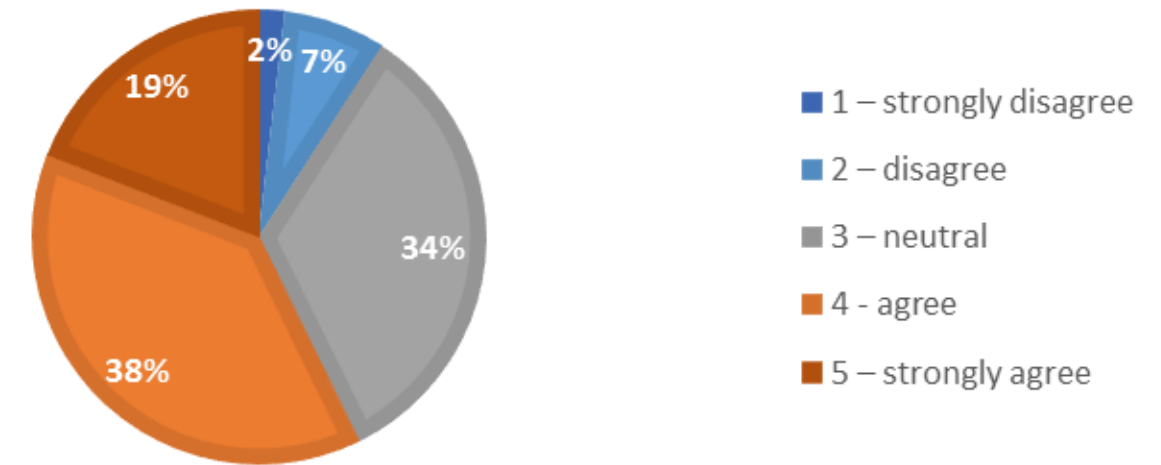
EOOS consultation: Governance



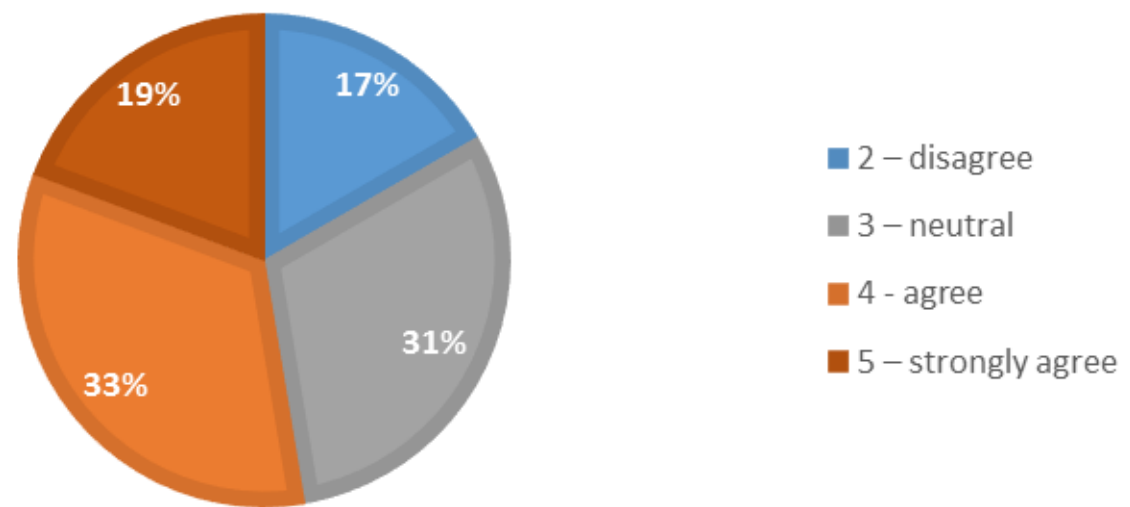
EUROPEAN OCEAN OBSERVATION AGENCY



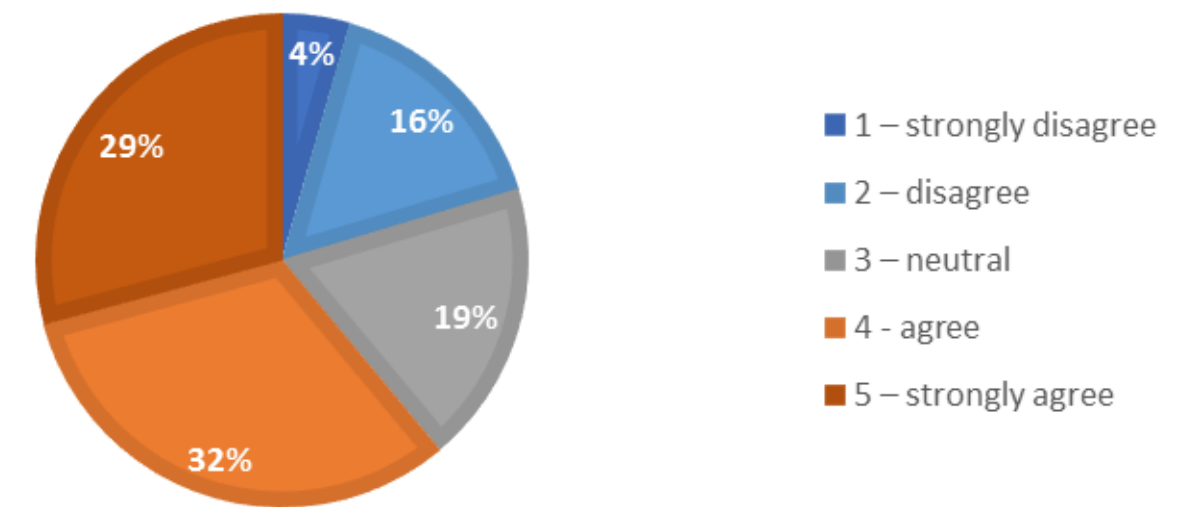
EXECUTIVE COMMITTEE WITH SOME DECISION POWER



SECRETARIAT/IMPLEMENTING AGENCY

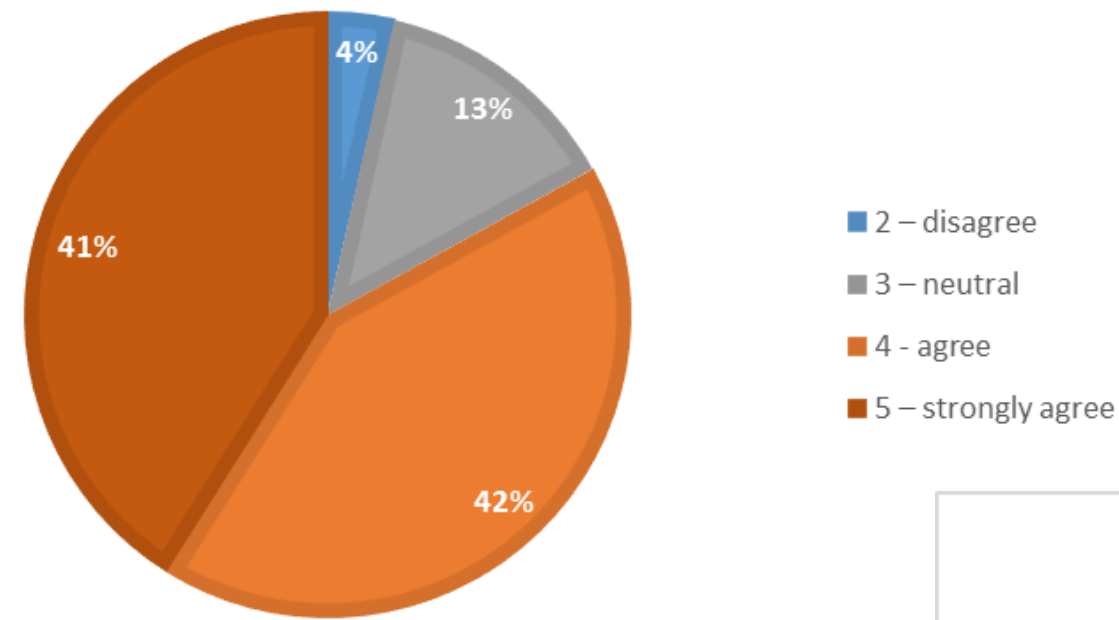


COMMUNITY FORUM

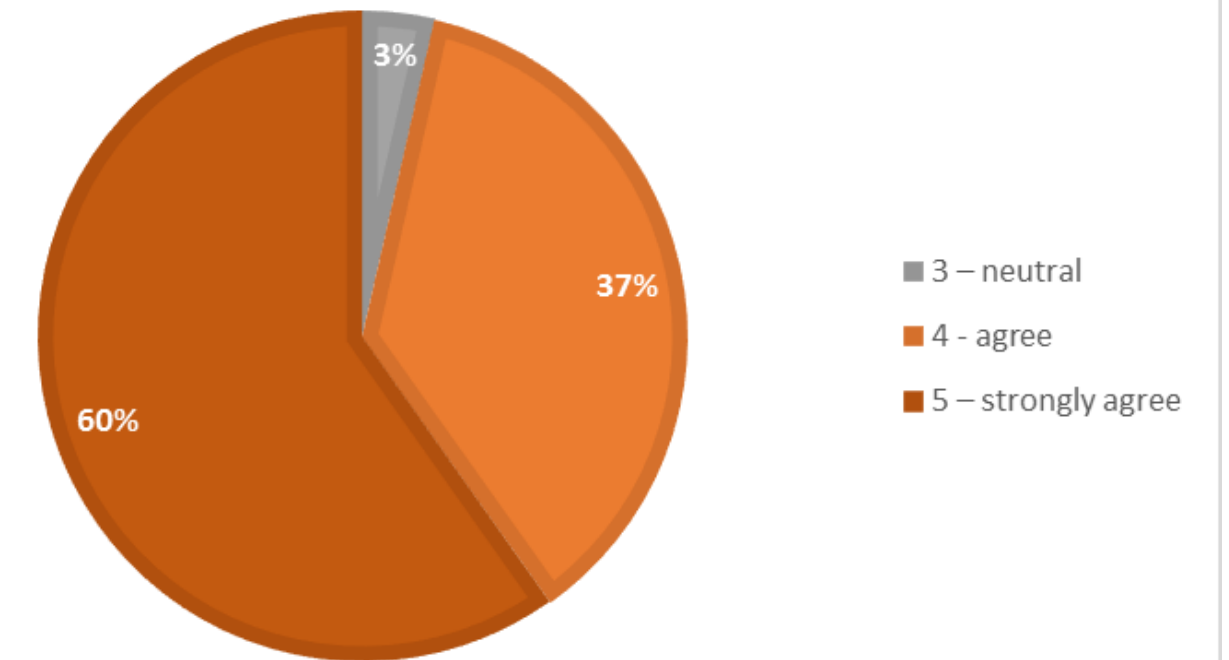


EOOS consultation: Early coordination actions under EOOS

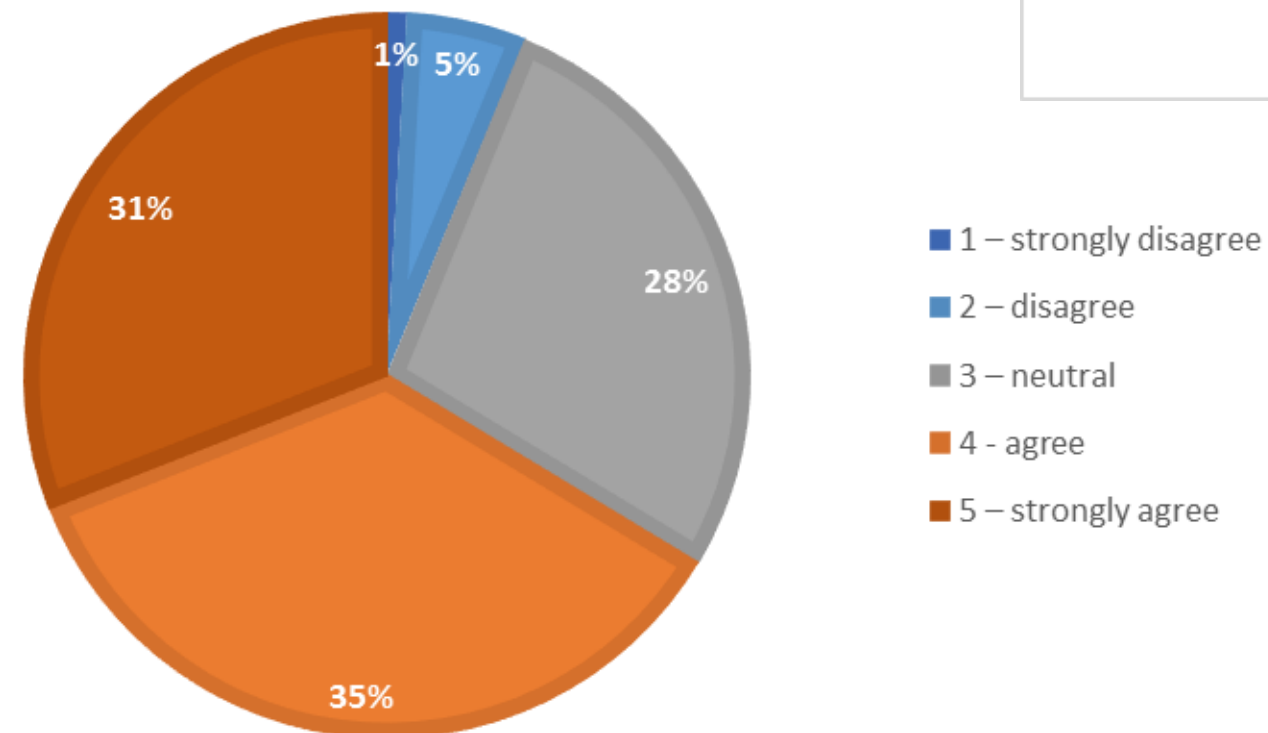
MAP AND CHARACTERIZE THE EXISTING EUROPEAN OCEAN OBSERVING LANDSCAPE

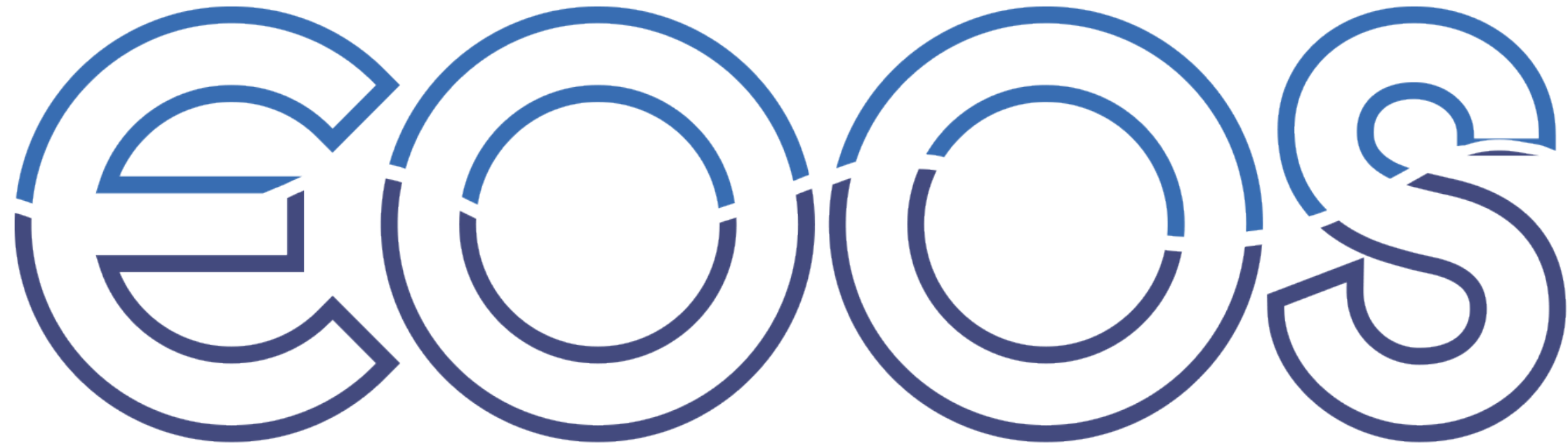


FOSTER LINKS ACROSS EXISTING OCEAN OBSERVING AND DATA INITIATIVES



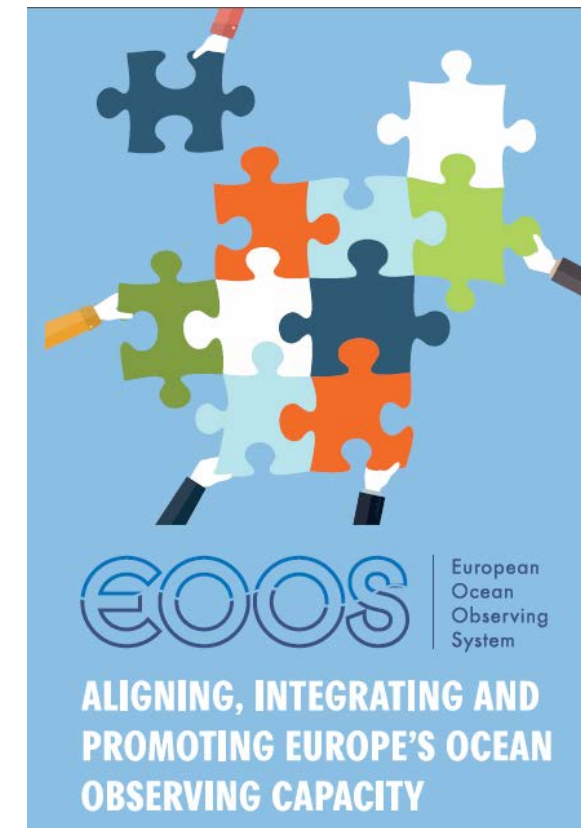
DELIVER A BUSINESS CASE





Communication and Promotion

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



WHAT IS EOOOS

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, and underpin sustainable management of the marine environment and its resources.

CONSULTATION

An open stakeholder consultation collected views from a wide community of ocean data providers, infrastructure managers, technology developers, data users, and broad ocean observing stakeholders. The consultation ran for 6 weeks; it is now closed.

Building EOOOS: Open Stakeholder Consultation

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

News & Events

Stakeholder consultation on EOOOS design open – Have your say!

6 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, EOOOS. 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 EOOOS.

The need for an end-to-end integrated and sustained European Ocean Observing System, EOOOS, has been expressed by the oceanographic and scientific community during the development of the European **Integrated Maritime Policy** in 2007. Since then, EOOOS 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 EOOOS has been expressed at both regional and pan-European levels. However, to design an efficient and sustained EOOOS concrete stakeholder recommendations are needed, as well as a policy buy-in.

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

Have your say on the future EOOOS!

Building a European Ocean Observing System – European Parliament event

30 November 2016

Date
08/09/2016

- Building EOOOS EP Event Agenda (283.8 KiB)
- Building EOOOS EP Event Summary (563.3 KiB)
- Building EOOOS 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, EOOOS 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 EOOOS Steering Group. The Steering Group has developed a consultation document to collect feedback for the EOOOS implementation roadmap and launch it for a wide stakeholder consultation.

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

EOOS materials

- **EOOS Consultation Document**
EOOS Consultation Document (740.6 KiB)
- **Summary of the EOOOS event at the European Parliament, 8/09/2016**
EOOS-EP-event-main-outputs (563.3 KiB)
- **Slides on EOOOS 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 EOOOS, Why, EOOOS Progress



EOOOS



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



European
Maritime
Day

Poole 2017



European Maritime Day 2017

"The Future of our Seas"

18-19 May, Poole, UK



2nd International
Conference on

**MARINE/
MARITIME
SPATIAL
PLANNING**

15-17 March 2017,
Paris, France

- Presentations at EMODnet Stakeholder Conference, Feb. 2017, and JPI Oceans Management Board Meeting, March 2017
- EOOS Stakeholder Consultation Report, Spring 2017
- Inform, receive feedback and gain buy-in from European Member and Associated State representatives, Spring-Summer 2017
- Deliver a Vision for EOOS (long-term), Autumn 2017
- Deliver an EOOS implementation plan (short-term), Autumn 2017
- Organize an open stakeholder forum on EOOS, early 2018

Intro and methodology

This document is an attempt to provide an overview of the main findings, both regarding a general agreement with the Steering Group suggestions outlined in the Consultation Document, and regarding any 'new' ideas and opinions, revealing the granularity of the submissions to the Steering Group.

- Statistics of the totality of responses are given to demonstrate the general trend. This should be considered together with a full quantitative analysis presented separately.
- The granularity is reflected through a summary of free text submissions to the survey; institutional responses are analysed as a start but individual submissions will be added. Linked ideas are grouped and organizations' names are added to reflect commonalities among the respondents.

Out of the total of 115 responses, 57 were submitted as institutional (about 85% of those included free text boxes reflected in the bullets below).

This is a first draft of the document to be completed with the individual free text submissions and further revised.

Overview

EOOS concept, drivers, role

Agreement with – total respondents:

Need for better coordination: 95%

EOOS concept: 91%

Drivers outlined: 95%

Role outlined: vast majority

- **One voice**, Link activities, Limit competition, Accepted by researchers, Align COVARTEC, NUI Galway, AWI, NUI Galway
- Enhance, broaden, coordinate **existing obs networks**
Irish Marine Institute, EurOcean, INGV/EMSO, EuroGOOS Gliders Task Team
- **Identify priorities; funding** priorities; better **knowledge** of interactions at ecosystem level
Marine Hydrophysical Institute Russian Academy of Sciences, COVARTEC
- **'Future of the oceans' in the G7 ministers' Tsukuba communique**
Juelich/German Res Ministry
- **Contribute to SDGs**
Irish Marine Institute
- **Ocean Governance**
Government of Azores
- **Sustained** obs for innovation and to meet societal challenges; Adapting to oscillations of funding, crowdsourcing (Slovenian National Institute of Biology); develop broad-based multisectoral support for ocean obs
COVARTEC, Jerico-Next, MEOPAR, GOOS bio, MEOPAR, IEO, Slovenian National Institute of Biology
- **Main focus – sustained obs, not be too broad** in objectives
EuroGOOS Gliders Task Team

- **Member States:** existing obs system supported through national/regional funds; Lack of funding for national obs; Regional specificities, EU outermost regions and overseas countries and territories, peripheral maritime regions, help poor regions
IEO, Puertos del Estado, SOCIB, CNRS/INSU, Gov. of Azores
- **New and interdisciplinary:** engage with non-traditional stakeholders, novel partnerships, synergies across various disciplines; new ways to support obs (esp in-situ)
MEOPAR, EUMETNET, INGV/EMSO
- **Communication tool for European Ocean Observing** and a contact point for other international ocean observing networks (MEOPAR, NOAA, Blue Link,...)
EuroGOOS Gliders Task Team
- **Promote:** sustainability of the observing system; **usefulness of observations**, public awareness, towards **EU agencies** and **MS**
IEO, EurOcean, EMODnet SEC, Irish Marine Institute, EuroGOOS Gliders Task Team
- **Promote: Open data** - a change of culture re open access
Develogic, ILVO, SeaDataNet, SLGO, Ifremer, JERICO-Next, SLGO, Geological Survey of Finland, Puertos del Estado, VLIZ, Euro-Argo ERIC, SGS
- **Promote: development of ocean services**
ENSTA-Paristech
- **Promote: technology** development and use of new technologies
AWI
- **Data:** acquisition, management, harmonization, standardized metainformation protocols, new data types, interoperability, visualisation, data exchange, integrated data system, IT capacity, European Open Science Cloud (Ifremer), open data policy, coord. of infrastructures, data hubs
ILVO, SeaDataNet, SLGO, Ifremer, JERICO-Next, SLGO, Geological Survey of Finland, Puertos del Estado, VLIZ, Euro-Argo ERIC, SGS, EMODnet SEC, AWI; EurOcean, Government of Azores
- **Robust and integrated ocean models, modelling at all timescales**
COVARTEC, Irish Marine Institute
- **Capacity building, knowledge and tech transfer; education and training; citizen science**
GOOS Bio, Slovenian National Institute of Biology, AWI, EuroGOOS Gliders Task Team
- **Link to AtlantOS**
Juelich/German Res Ministry
- **Align and avoid duplication with Copernicus, EMODnet**, build on them
Puertos del Estado, VLIZ, AWI, Geological Survey of Finland
- **Link ocean obs community and science/policy** (EuroGOOS, EMB, JPI Oceans, EC)
EuroGOOS Gliders Task Team
- **Maritime security, safe navigation, traffic activity**
NUI Galway, Commissioners of Irish Lights, EUMETNET, Gov. of Azores
- **Communications, connectivity and telemetry systems, e-infrastructures**
Commissioners of Irish Lights, SeaDataNet
- **Reducing the needs for maintenance and replacement; help lower costs through synergies and coop**
COVARTEC, EUMETNET
- **Marine related hazards**
EMODnet SEC
- **Deep sea, seabed and sub-seafloor (should be an EOVS)**
Geological Survey of Finland, EuroGeoSurvey

- **Climate change**
NUI Galway, SeaDataNet
- **Cumulative impact**
VLIZ
- **Automation**
VLIZ, IEO
- **Water column**
EuroGOOS Gliders Task Team

Scope, Parameters

Agree with – total respondents:

All EU efforts + global: 89%

Seabasins and surrounding seas: 94%

Mainly coastal: 22%

Data coordination: 72%

All parameters: majority

- **EU and global**
Euro-Argo, SGS
- **European EEZ**
ENSTA-Paristech, EuroGOOS Gliders Task Team
- **Impossible to coordinate all EU obs all over the world** without stepping on others the toes of regional OOS and non-EU nations
MEOPAR
- **Interface land and sea; connection between coastal seas and open/deep ocean**
Jerico-next, Irish Marine Institute, EurOcean, SeaDataNet, EuroGOOS Gliders Task Team
- **Four-fold: ocean, atmosphere, biodiv, surveillance**
EUMETNET
- **Coastal seas**; coordination between bordering countries
Jerico-next, GOOS Biology Panel, Slovenian National Institute of Biology, Res. Council of Norway, EUMETNET, Ifremer
- **Shore / river** data, discharge
DMI, NUI Galway
- **Exploitation of resources**
Gov. of Azores
- **Ocean acoustics and seismics, electromagnetic fields**
SGS, NUI Galway
- **Biological and biogeochemical**
VLIZ, Euro-Argo ERIC, Ifremer, ILVO
- **Bio-optics**
Marine Hydrophysical Institute Russian Academy of Sciences
- **Pollution and marine litter**
Gov. of Azores

- **Ensure parameters collected meet policy and scientific objectives**
EU DG ENV
- **Identify/fill the gaps based on requirements** (science, oceanographic products)
EuroGOOS Gliders Task Team

Governance

Agree with – total respondents:

Agency: 50%

Secretariat/implementing agency: 52%

ExCom w. community reps: 57%

Community forum: 62%

- **Light and flexible**, open and inclusive, less layers the better, bottom up
SLGO, IEO, RCN, EurOcean
- **Delegated to existing bodies**
SeaDataNet, Irish Marine Institute, Euro-Argo, EurOcean
- **Member states** should have a role; federative structure
Geological Survey of Finland, EuroGeoSurvey, INGV/EMSO, IEO, EMODnet SEC, Juelich (direct control of MS)
- **Supervised by a board or steering group** of experts / community reps; thematic advisory committees
e.g. Research, Technology, Societal, Environment, Policy, to guide executive committee
Geological Survey of Finland, EuroGeoSurvey, Ifremer, AWI, RCN, Gov. of Azores
- **Evolving to an ocean agency**
EMODnet SEC, MEOPAR
- **Place oceans high within EU and have a budget**
NUI Galway

Links with users, through

- EMODnet
- Copernicus
- ICES
- GEOSS
- JPIs
- Marine ERICs
- Future Earth
- National network management and data providers
- Regional conventions
- GOOS
- INSPIRE

Users in / out governance structure

Agree with – total respondents:

Involved as advisors: approx. 70%

- **In but as advisers**
IEO, Euro-Argo, AWI
- **Fully in, co-design**
Ifremer, EMODnet, Irish Marine Institute, EurOcean

Early and pilot actions

Agree with – total respondents:

Map existing landscape: 84%

Business case: 67%

Foster links across existing initiatives: 96%

Recommendations:

- In the **comms strategy**, **identify decision makers at national level** (esp if they aren't the same as those responsible for the implementation of **MSFD**)
- Gain a commitment from **EC and MS for annual investment** in EOOS
- Organize **local meetings** for discussions and programming actions
- Show the added value of EOOS through pilot **projects that incorporate many different measurements, technologies and stakeholders**; demonstrate value of EOOS in a given shelf region; towards cross-cutting activities
- Transfer the **AtlantOS test case** to other regions
- Take on **EMODnet checkpoint results** as pilot actions
- Community **forum**
- **Promote** multidisciplinary sustained ocean obs needed for society (why a taxi driver in Paris should contribute tax money for ocean obs)

Idea for projects:

- **Gap analysis** in **integrated obs** for physics, chemistry and biology; efficiency of the systems; bring in the **elements that aren't currently in the system**; identify **funding problems** in the existing networks
- Coordinate **infrastructures** (in link with ESFRI) and **technologies**
- Determine a **suitable** level of **coordination within each obs domain**; **harmonize gap analysis** in the different European Seas; identify gaps important to **specific parties/ groups / countries**
- Assess **ship-time** needs and technical capacities; improve **near-real-time** delivery of information (RVs)
- **Data**: gaps, recommendations on recognized standards for obs and data management, products accessibility, interoperability, user friendly access; EOOS-experiment (OSE/OSSE)
- Identify gaps with regard to key **climate variables**
- European **benthic survey**
- **Coastal modelling**, interface with regional seas and open ocean
- Evolution and monitoring of **carbon pump**
- **Sea bottom ecosystem** (required for MSFD, Habitat Dir, WFD) – current lack of harmonized monitoring and assessment methods
- underwater noise pilot monitoring infrastructures along all European coastal regions to create a common **European sound map**

Total individual responses: 56

Question with the maximum number of answers (pilot project-most timely actions) was filled by 44% of respondents.

The answers are grouped under the same concepts as in the consultation

Agreement with the EOOS concept

4 individuals wrote skeptical comments about the **problem of increasing the complexity** and the issue of **creating a new entity** when there are already **coordination bodies existing**; the problem of the sustainability if EOOS has no **control of funding**. EOOS should be more a **bottom-up approach than top-down**.

Additional comments

- Importance of the **regional knowledge**
- importance of **Ships coordination** as a key element of observations
- lack of **stress of the importance of Biodiversity and ecosystem functioning (BEF)**
- lack of stress of the importance of **increase (lift) the technological standards**
- use more the wording '**marine environment**'
- should mention the challenging of generating datasets of important **coast dynamics and shoreline erosion**.

EOOS drivers

Some respondents asked to put more stress on the following drivers:

- **Marine Safety and security** (raised by 2 respondents)
- **Education** and **outreach** to link society to ocean knowledge
- **Natural hazards** prevention and/mitigation (storm surges, tsunamis) – extreme events
- **Pollution forecasting**
- Technology driver: **Control is not included in challenges**
- In "Technology Drivers" "Cost effectiveness" should also be explicitly expanded to "**Big data**" processing and more general **High Performing Computing**.
- multidisciplinary research that covers not only the environment, but also technology including **hardware** (sensors) and **software** (ocean data processing).
- needs to include **coastal and shallow water issues**, and **shoreline dynamics**.
- **water quality and quantity**
- The upgrade of current observing systems for **BEF (Biodiversity and ecosystem functioning)**. **Restoration** is missing.

Additional comments:

- **Funding and long-term planning** should be the main driver.
- To directly **engage data originators** on a regular basis
- To advocate for a dedicated European Directive on this topic (that makes observations mandatory)
- strong incorporation of users: especially **industry**
- key role in understanding where/what additional data would help improve **model performance and forecast** (added value of observations)

- We need expertise on **biodiversity**
- **big data** is currently not the highest priority, but data sharing
- **technology as a major driver of EOOS** is not correctly reflected in the document

EOOS Should play a role in:

4 individuals stressed the role of **promotion of open access to data** as a key role

Other priorities stressed:

- **identifying R& D priorities**, using the membership of the European Marine Board
- support **GOOS/JCOMMS**,
- Establishing a regional platform for **cooperation on the technological and technical aspects**
- **Quality control and consistency** is a key component of data value
- identify and promote the need to close existing gaps between needed and available capable **ships for deployment, service and recovery of EOOS systems**
- **More bottom-up** support for existing organisations
- promoting **capacity building international cooperation and sharing of resources**
- support the **trans-national focus of national and EU funding towards common themes**.

Scope (geographical and coastal-open)

- Emphasis on **European waters first, global issue comes later on automatically**
- balanced distribution of EOOS systems in the **European waters from deep oceans to the coastal regions**

Parameters

4 responses ask for **more focus on biological / biodiversity** and one individual about **pelagic, sediments and habitats distribution measurements**

One individual stress the importance of **underwater noise**

Other comments:

- EOOS should be **more than physics and operational**
- **First physical and BGC** and later other more difficult variables
- **All parameters** should be taken into account **dependent on the wishes of users**
- for **geological priorities** links are obviously advantageous but the priorities are not the same.

Gaps: what are the major gaps EOOS should address

Mentions about funding:

- EOOS cannot do governance of observations being done by institutions unless they also **provide the money for them**.
- One of **the major gaps in ocean observations and observing frameworks as per today is the funding structure and the lack of long-term funding strategies**. Lobbying for improving this situation might be an arena for EOOS.

Other comments:

- **Support institutions** and encourage them to do or continue observations
- **Combining modelling and observational** skills to identify key sensitivities
- support to the **established time-series programs**, the **promotion of new technology** and the harmonization of the **quality control**
- a **better coordination** between **existing initiatives**
- **regional institutions** should work out how best to implement or adjust for the oceanographic processes and societal stakeholders in their region.
- establish a **strong relationship with the European Research Vessel Operators (ERVO)** group to develop a gap analysis regarding "EOOS support ships"
- **Importance of human capital**
- **consolidating the use of current tools and methods**
- promotion of **software tools (ocean models)**

Governance

Arguments for the light- touch:

- In the current geopolitical situation within Europe it will be **difficult to have a single overarching ocean observing agency**.
- There are already other coordinating activities
- **community to identify gaps and deliver advice is more achievable**, but may **struggle to have authority over nations** seeking a more independent approach to marine science.

Arguments for a secretariat:

- Secretariat would be the most realistic/efficient option for the time being.
- **The risk in establishing a largely independent agency** is that it will become too independent of needs as expressed by society at large. Therefore, **an efficient organisation (hence: with a secretariat)** that is basically run by an executive committee with strong links to research, policy, business and other sectors, is probably preferable.

Arguments for a Strong European Agency:

- A strong **European maybe virtual Institute is needed. Support should be given by the EU and the national institutes or agencies**, including environmental ministries or hydrographic and weather services
- It would also be very helpful if an **international agency stressed the need for observations to the national governments**. However, an agency that tell PIs where to go do observations is likely to fail unless it also provides the **actual funding** for the observations.
- The stakeholders will be very keen on "**having a hand on the steering wheel**" if they are going to invest directly in EOOS systems and to deploy, service and recover them on their own cost. If the decision making is too centralized it can be much more complicated to reach agreements if EOOS is to be a coordinating framework rather than an **executing agency**.

Arguments for NOT creating a new layer:

- Explore whether **OSPAR or EuroGOOS can already do this**
- **More bottom-up approach** supporting the individual organisation doing the observations would be more beneficial - more cooperation would follow in a more natural way.

Other comments:

- **flatter governance**, just as strong but without the complexity of so many layers: A **rotating council of member organisations** could be one type of flatter model. It is important that all EU institutions that want to be involved in EOOS and who stand by the principles of EOOS should be able to play a role for some period of time, no matter what their size.
- final decision is in the hands of the **funding agencies**
- it should take a **wider form with some decision power working closely with advisory/expert groups**.
- be sure that **all fields of expertise are equally represented in the governance bodies**.

User engagement and links to existing institutions

Mentioned links to:

- **UK's marine science coordination committee**
- **Industry organizations relevant to marine technology and services, regional/local/national monitoring programs**
- existing initiatives within **EuroGOOS** should be used where possible. (**WGs, Task Teams etc.**).
- local tides observations networks

Other comments:

- EOOS should work with groups already providing open data (databases like OceanSites) to promote the use of data.
- Very important to get the **user community on board** and being responsible as well.
- **Funding agencies** should retrieve the **data and make them available on open platforms**. **Data mining in previous projects should be carried out**.

Early coordination actions

- Making/produce a **strong business case** taking forward the scientific and environmental reasons for sustained ocean observations and which encourages investment by government and industry.
- Promote **optimal use of existing infrastructure**
- **Map and characterize the technical base**, including supporting infrastructure (e.g. laboratories) and expertise.
- Define clear **common objectives**, that are sufficiently attractive for existing initiatives to join up.
- Founding a **living, creative and purposeful community** is much more urgent
- Business case and on fostering links between observations and data initiatives.
- Observing systems must be **holistic, integrative, ecosystem based**.

Pilot projects – most timely actions

- **sustain and promote cases of existing observing systems** that are in the process of being coordinated at European level (e.g. European HF Radar coastal network)
- **Show the need for observations and where the gaps are** in collaboration with the **AtlantOS** effort
- **Identify key ocean monitoring requirements** to be useful from a global/climate change perspective
- Provide an **audit of biogeochemical observations** ecosystem budgets (particularly carbon)
- Identify the **forecasting requirements of the European Seas users**
- Lay down the **foundations for a coordinated calibration and assessment system** that will include links to National Metrological Institutions;
- develop and apply **objective tools to monitor and assess the reliability of the observing network.**
- **increasing array of marine environmental parameters** (organic pollutants)
- **optimizing spatial resolution.**
- Overarching pan European initiative to collect timely **benthic information** to be used to fill the existing knowledge gaps on the distribution of benthic assemblages to support the modelling of benthic habitats
- to favour the **support of the current observational programs**
- to find the **appropriate data formats and free** tools in order to any user have the possibility of using data for research or other social or economic activities
- **To help the technological companies** to address new developments which solve current difficulties in the observations
- Providing consistent base maps reflecting the **current state of the sea** for as many variables as possible.
- A Europe-wide campaign to **establish the state of the living part of the sediments.**
- **Prepare a CSA project where ESFRI, EC relevant project, national and international initiatives and programs meet** (similar to ENVRI+ but more strategic)
- **Going out to the regions**, at a basin to sub-basin/regional coastline to open ocean scale and understanding what they perceive as the gaps in ocean observing, for science and for stakeholders needs, Reviewed by a mixed panel of experts physics, chemical, biology and ecosystems to catch the bigger picture. The needs of the modelling community should also be considered.
- **Harmonization of:**
 - a) existing **operational downscaled sub-regional and coastal forecasting systems** with the Copernicus marine service
 - b) existing **operational monitoring systems** with the Copernicus marine service and with EMODNET
 - c) the **existing monitoring infrastructure**
- **Identify** existing observation and data networks, and identify **data and knowledge gaps** that need to be filled.
- to establish a working relationship between EOOS and **ERVO**
- put into practice the so often invoked holistic, integrative, ecosystem-based, and cross cutting approaches, building a conceptual framework that goes beyond the simple accumulation of data.
- Promote a **meeting for users to present their needs**

- **produce specific technology efforts to reduce challenges for atmospheric measurements over the seas and improve number, quality and spatial/temporal resolution of atmospheric parameters observed at the ground.**
- Collaboration with **similar structures of similar disciplines, including legal and socio-economic aspects**
- **Integrate, in a coherent system, physical, biogeochemical and biological variables.**
- **harmonization / intercomparability of data collection methodologies & protocols** for new and internationally by contracts not yet implemented technologies; harmonized protocols for uncertainty estimations of measurements;
- **Improving the links between ship-based ocean observations, and sensor-based ocean observations (floats, moorings, etc).**
- **Assist in, and strongly support, the work being done by EMODnet teams in the identification of gaps in "fitness for purpose".** Once the gaps are better understood EOOS can start directing efforts to address them
- Influence and advise the EC in the provision of more support to **bio, geo and chemical low cost sensor research and development.**

DRAFT



EuroGOOS
European Global Ocean
Observing System

**EuroGOOS Executive Board and
Chairs Meeting
7-8 March 2017, Brussels
EuroGOOS/BELSPO**

**Document 9.2: 1st qualitative analysis of the EOOS stakeholder
consultation results**

Intro and methodology

This document is an attempt to provide an overview of the main findings, both regarding a general agreement with the Steering Group suggestions outlined in the Consultation Document, and regarding any 'new' ideas and opinions, revealing the granularity of the submissions to the Steering Group.

- Statistics of the totality of responses are given to demonstrate the general trend. This should be considered together with a full quantitative analysis presented separately.
- The granularity is reflected through a summary of free text submissions to the survey; institutional responses are analysed as a start but individual submissions will be added. Linked ideas are grouped and organizations' names are added to reflect commonalities among the respondents.

Out of the total of 115 responses, 57 were submitted as institutional (about 85% of those included free text boxes reflected in the bullets below).

This is a first draft of the document to be completed with the individual free text submissions and further revised.

Overview

EOOS concept, drivers, role

Agreement with – total respondents:

Need for better coordination: 95%

EOOS concept: 91%

Drivers outlined: 95%

Role outlined: vast majority

- **One voice**, Link activities, Limit competition, Accepted by researchers, Align COVARTEC, NUI Galway, AWI, NUI Galway
- Enhance, broaden, coordinate **existing obs networks**
Irish Marine Institute, EurOcean, INGV/EMSO, EuroGOOS Gliders Task Team
- **Identify priorities; funding** priorities; better **knowledge** of interactions at ecosystem level
Marine Hydrophysical Institute Russian Academy of Sciences, COVARTEC
- **'Future of the oceans' in the G7 ministers' Tsukuba communique**
Juelich/German Res Ministry
- **Contribute to SDGs**
Irish Marine Institute
- **Ocean Governance**
Government of Azores
- **Sustained** obs for innovation and to meet societal challenges; Adapting to oscillations of funding, crowdsourcing (Slovenian National Institute of Biology); develop broad-based multisectoral support for ocean obs
COVARTEC, Jerico-Next, MEOPAR, GOOS bio, MEOPAR, IEO, Slovenian National Institute of Biology
- **Main focus – sustained obs, not be too broad** in objectives
EuroGOOS Gliders Task Team

- **Member States:** existing obs system supported through national/regional funds; Lack of funding for national obs; Regional specificities, EU outermost regions and overseas countries and territories, peripheral maritime regions, help poor regions
IEO, Puertos del Estado, SOCIB, CNRS/INSU, Gov. of Azores
- **New and interdisciplinary:** engage with non-traditional stakeholders, novel partnerships, synergies across various disciplines; new ways to support obs (esp in-situ)
MEOPAR, EUMETNET, INGV/EMSO
- **Communication tool for European Ocean Observing** and a contact point for other international ocean observing networks (MEOPAR, NOAA, Blue Link,...)
EuroGOOS Gliders Task Team
- **Promote:** sustainability of the observing system; **usefulness of observations**, public awareness, towards **EU agencies** and **MS**
IEO, EurOcean, EMODnet SEC, Irish Marine Institute, EuroGOOS Gliders Task Team
- **Promote: Open data** - a change of culture re open access
Develogic, ILVO, SeaDataNet, SLGO, Ifremer, JERICO-Next, SLGO, Geological Survey of Finland, Puertos del Estado, VLIZ, Euro-Argo ERIC, SGS
- **Promote: development of ocean services**
ENSTA-Paristech
- **Promote: technology** development and use of new technologies
AWI
- **Data:** acquisition, management, harmonization, standardized metainformation protocols, new data types, interoperability, visualisation, data exchange, integrated data system, IT capacity, European Open Science Cloud (Ifremer), open data policy, coord. of infrastructures, data hubs
ILVO, SeaDataNet, SLGO, Ifremer, JERICO-Next, SLGO, Geological Survey of Finland, Puertos del Estado, VLIZ, Euro-Argo ERIC, SGS, EMODnet SEC, AWI; EurOcean, Government of Azores
- **Robust and integrated ocean models, modelling at all timescales**
COVARTEC, Irish Marine Institute
- **Capacity building, knowledge and tech transfer; education and training; citizen science**
GOOS Bio, Slovenian National Institute of Biology, AWI, EuroGOOS Gliders Task Team
- **Link to AtlantOS**
Juelich/German Res Ministry
- **Align and avoid duplication with Copernicus, EMODnet**, build on them
Puertos del Estado, VLIZ, AWI, Geological Survey of Finland
- **Link ocean obs community and science/policy** (EuroGOOS, EMB, JPI Oceans, EC)
EuroGOOS Gliders Task Team
- **Maritime security, safe navigation, traffic activity**
NUI Galway, Commissioners of Irish Lights, EUMETNET, Gov. of Azores
- **Communications, connectivity and telemetry systems, e-infrastructures**
Commissioners of Irish Lights, SeaDataNet
- **Reducing the needs for maintenance and replacement; help lower costs through synergies and coop**
COVARTEC, EUMETNET
- **Marine related hazards**
EMODnet SEC
- **Deep sea, seabed and sub-seafloor (should be an EOVS)**
Geological Survey of Finland, EuroGeoSurvey

- **Climate change**
NUI Galway, SeaDataNet
- **Cumulative impact**
VLIZ
- **Automation**
VLIZ, IEO
- **Water column**
EuroGOOS Gliders Task Team

Scope, Parameters

Agree with – total respondents:

All EU efforts + global: 89%

Seabasins and surrounding seas: 94%

Mainly coastal: 22%

Data coordination: 72%

All parameters: majority

- **EU and global**
Euro-Argo, SGS
- **European EEZ**
ENSTA-Paristech, EuroGOOS Gliders Task Team
- **Impossible to coordinate all EU obs all over the world** without stepping on others the toes of regional OOS and non-EU nations
MEOPAR
- **Interface land and sea; connection between coastal seas and open/deep ocean**
Jerico-next, Irish Marine Institute, EurOcean, SeaDataNet, EuroGOOS Gliders Task Team
- **Four-fold: ocean, atmosphere, biodiv, surveillance**
EUMETNET
- **Coastal seas**; coordination between bordering countries
Jerico-next, GOOS Biology Panel, Slovenian National Institute of Biology, Res. Council of Norway, EUMETNET, Ifremer
- **Shore / river** data, discharge
DMI, NUI Galway
- **Exploitation of resources**
Gov. of Azores
- **Ocean acoustics and seismics, electromagnetic fields**
SGS, NUI Galway
- **Biological and biogeochemical**
VLIZ, Euro-Argo ERIC, Ifremer, ILVO
- **Bio-optics**
Marine Hydrophysical Institute Russian Academy of Sciences
- **Pollution and marine litter**
Gov. of Azores

- **Ensure parameters collected meet policy and scientific objectives**
EU DG ENV
- **Identify/fill the gaps based on requirements** (science, oceanographic products)
EuroGOOS Gliders Task Team

Governance

Agree with – total respondents:

Agency: 50%

Secretariat/implementing agency: 52%

ExCom w. community reps: 57%

Community forum: 62%

- **Light and flexible**, open and inclusive, less layers the better, bottom up
SLGO, IEO, RCN, EurOcean
- **Delegated to existing bodies**
SeaDataNet, Irish Marine Institute, Euro-Argo, EurOcean
- **Member states** should have a role; federative structure
Geological Survey of Finland, EuroGeoSurvey, INGV/EMSO, IEO, EMODnet SEC, Juelich (direct control of MS)
- **Supervised by a board or steering group** of experts / community reps; thematic advisory committees
e.g. Research, Technology, Societal, Environment, Policy, to guide executive committee
Geological Survey of Finland, EuroGeoSurvey, Ifremer, AWI, RCN, Gov. of Azores
- **Evolving to an ocean agency**
EMODnet SEC, MEOPAR
- **Place oceans high within EU and have a budget**
NUI Galway

Links with users, through

- EMODnet
- Copernicus
- ICES
- GEOSS
- JPIs
- Marine ERICs
- Future Earth
- National network management and data providers
- Regional conventions
- GOOS
- INSPIRE

Users in / out governance structure

Agree with – total respondents:

Involved as advisors: approx. 70%

- **In but as advisers**
IEO, Euro-Argo, AWI
- **Fully in, co-design**
Ifremer, EMODnet, Irish Marine Institute, EurOcean

Early and pilot actions

Agree with – total respondents:

Map existing landscape: 84%

Business case: 67%

Foster links across existing initiatives: 96%

Recommendations:

- In the **comms strategy, identify decision makers at national level** (esp if they aren't the same as those responsible for the implementation of **MSFD**)
- Gain a commitment from **EC and MS for annual investment** in EOOS
- Organize **local meetings** for discussions and programming actions
- Show the added value of EOOS through pilot **projects that incorporate many different measurements, technologies and stakeholders**; demonstrate value of EOOS in a given shelf region; towards cross-cutting activities
- Transfer the **AtlantOS test case** to other regions
- Take on **EMODnet checkpoint results** as pilot actions
- Community **forum**
- **Promote** multidisciplinary sustained ocean obs needed for society (why a taxi driver in Paris should contribute tax money for ocean obs)

Idea for projects:

- **Gap analysis in integrated obs** for physics, chemistry and biology; efficiency of the systems; bring in the **elements that aren't currently in the system**; identify **funding problems** in the existing networks
- Coordinate **infrastructures** (in link with ESFRI) and **technologies**
- Determine a **suitable level of coordination within each obs domain**; **harmonize gap analysis** in the different European Seas; identify gaps important to **specific parties/ groups / countries**
- Assess **ship-time** needs and technical capacities; improve **near-real-time** delivery of information (RVs)
- **Data**: gaps, recommendations on recognized standards for obs and data management, products accessibility, interoperability, user friendly access; EOOS-experiment (OSE/OSSE)
- Identify gaps with regard to key **climate variables**
- European **benthic survey**
- **Coastal modelling**, interface with regional seas and open ocean
- Evolution and monitoring of **carbon pump**
- **Sea bottom ecosystem** (required for MSFD, Habitat Dir, WFD) – current lack of harmonized monitoring and assessment methods
- underwater noise pilot monitoring infrastructures along all European coastal regions to create a common **European sound map**

Total individual responses: 56

Question with the maximum number of answers (pilot project-most timely actions) was filled by 44% of respondents.

The answers are grouped under the same concepts as in the consultation

Agreement with the EOOS concept

4 individuals wrote skeptical comments about the **problem of increasing the complexity** and the issue of **creating a new entity** when there are already **coordination bodies existing**; the problem of the sustainability if EOOS has no **control of funding**. EOOS should be more a **bottom-up approach than top-down**.

Additional comments

- Importance of the **regional knowledge**
- importance of **Ships coordination** as a key element of observations
- lack of **stress of the importance of Biodiversity and ecosystem functioning (BEF)**
- lack of stress of the importance of **increase (lift) the technological standards**
- use more the wording '**marine environment**'
- should mention the challenging of generating datasets of important **coast dynamics and shoreline erosion**.

EOOS drivers

Some respondents asked to put more stress on the following drivers:

- **Marine Safety and security** (raised by 2 respondents)
- **Education** and **outreach** to link society to ocean knowledge
- **Natural hazards** prevention and/mitigation (storm surges, tsunamis) – extreme events
- **Pollution forecasting**
- Technology driver: **Control is not included in challenges**
- In "Technology Drivers" "Cost effectiveness" should also be explicitly expanded to "**Big data**" processing and more general **High Performing Computing**.
- multidisciplinary research that covers not only the environment, but also technology including **hardware** (sensors) and **software** (ocean data processing).
- needs to include **coastal and shallow water issues**, and **shoreline dynamics**.
- **water quality and quantity**
- The upgrade of current observing systems for **BEF (Biodiversity and ecosystem functioning)**. **Restoration** is missing.

Additional comments:

- **Funding and long-term planning** should be the main driver.
- To directly **engage data originators** on a regular basis
- To advocate for a dedicated European Directive on this topic (that makes observations mandatory)
- strong incorporation of users: especially **industry**
- key role in understanding where/what additional data would help improve **model performance and forecast** (added value of observations)

- We need expertise on **biodiversity**
- **big data** is currently not the highest priority, but data sharing
- **technology as a major driver of EOOS** is not correctly reflected in the document

EOOS Should play a role in:

4 individuals stressed the role of **promotion of open access to data** as a key role

Other priorities stressed:

- **identifying R& D priorities**, using the membership of the European Marine Board
- support **GOOS/JCOMMS**,
- Establishing a regional platform for **cooperation on the technological and technical aspects**
- **Quality control and consistency** is a key component of data value
- identify and promote the need to close existing gaps between needed and available capable **ships for deployment, service and recovery of EOOS systems**
- **More bottom-up** support for existing organisations
- promoting **capacity building international cooperation and sharing of resources**
- support the **trans-national focus of national and EU funding towards common themes**.

Scope (geographical and coastal-open)

- Emphasis on **European waters first, global issue comes later on automatically**
- balanced distribution of EOOS systems in the **European waters from deep oceans to the coastal regions**

Parameters

4 responses ask for **more focus on biological / biodiversity** and one individual about **pelagic, sediments and habitats distribution measurements**

One individual stress the importance of **underwater noise**

Other comments:

- EOOS should be **more than physics and operational**
- **First physical and BGC** and later other more difficult variables
- **All parameters** should be taken into account **dependent on the wishes of users**
- for **geological priorities** links are obviously advantageous but the priorities are not the same.

Gaps: what are the major gaps EOOS should address

Mentions about funding:

- EOOS cannot do governance of observations being done by institutions unless they also **provide the money for them**.
- One of **the major gaps in ocean observations and observing frameworks as per today is the funding structure and the lack of long-term funding strategies**. Lobbying for improving this situation might be an arena for EOOS.

Other comments:

- **Support institutions** and encourage them to do or continue observations
- **Combining modelling and observational** skills to identify key sensitivities
- support to the **established time-series programs**, the **promotion of new technology** and the harmonization of the **quality control**
- a **better coordination** between **existing initiatives**
- **regional institutions** should work out how best to implement or adjust for the oceanographic processes and societal stakeholders in their region.
- establish a **strong relationship with the European Research Vessel Operators (ERVO)** group to develop a gap analysis regarding "EOOS support ships"
- **Importance of human capital**
- **consolidating the use of current tools and methods**
- promotion of **software tools (ocean models)**

Governance

Arguments for the light- touch:

- In the current geopolitical situation within Europe it will be **difficult to have a single overarching ocean observing agency**.
- There are already other coordinating activities
- **community to identify gaps and deliver advice is more achievable**, but may **struggle to have authority over nations** seeking a more independent approach to marine science.

Arguments for a secretariat:

- Secretariat would be the most realistic/efficient option for the time being.
- **The risk in establishing a largely independent agency** is that it will become too independent of needs as expressed by society at large. Therefore, **an efficient organisation (hence: with a secretariat)** that is basically run by an executive committee with strong links to research, policy, business and other sectors, is probably preferable.

Arguments for a Strong European Agency:

- A strong **European maybe virtual Institute is needed. Support should be given by the EU and the national institutes or agencies**, including environmental ministries or hydrographic and weather services
- It would also be very helpful if an **international agency stressed the need for observations to the national governments**. However, an agency that tell PIs where to go do observations is likely to fail unless it also provides the **actual funding** for the observations.
- The stakeholders will be very keen on "**having a hand on the steering wheel**" if they are going to invest directly in EOOS systems and to deploy, service and recover them on their own cost. If the decision making is too centralized it can be much more complicated to reach agreements if EOOS is to be a coordinating framework rather than an **executing agency**.

Arguments for NOT creating a new layer:

- Explore whether **OSPAR or EuroGOOS can already do this**
- **More bottom-up approach** supporting the individual organisation doing the observations would be more beneficial - more cooperation would follow in a more natural way.

Other comments:

- **flatter governance**, just as strong but without the complexity of so many layers: A **rotating council of member organisations** could be one type of flatter model. It is important that all EU institutions that want to be involved in EOOS and who stand by the principles of EOOS should be able to play a role for some period of time, no matter what their size.
- final decision is in the hands of the **funding agencies**
- it should take a **wider form with some decision power working closely with advisory/expert groups**.
- be sure that **all fields of expertise are equally represented in the governance bodies**.

User engagement and links to existing institutions

Mentioned links to:

- **UK's marine science coordination committee**
- **Industry organizations relevant to marine technology and services, regional/local/national monitoring programs**
- existing initiatives within **EuroGOOS** should be used where possible. (**WGs, Task Teams etc.**).
- local tides observations networks

Other comments:

- EOOS should work with groups already providing open data (databases like OceanSites) to promote the use of data.
- Very important to get the **user community on board** and being responsible as well.
- **Funding agencies** should retrieve the **data and make them available on open platforms**. **Data mining in previous projects should be carried out**.

Early coordination actions

- Making/produce a **strong business case** taking forward the scientific and environmental reasons for sustained ocean observations and which encourages investment by government and industry.
- Promote **optimal use of existing infrastructure**
- **Map and characterize the technical base**, including supporting infrastructure (e.g. laboratories) and expertise.
- Define clear **common objectives**, that are sufficiently attractive for existing initiatives to join up.
- Founding a **living, creative and purposeful community** is much more urgent
- Business case and on fostering links between observations and data initiatives.
- Observing systems must be **holistic, integrative, ecosystem based**.

Pilot projects – most timely actions

- **sustain and promote cases of existing observing systems** that are in the process of being coordinated at European level (e.g. European HF Radar coastal network)
- **Show the need for observations and where the gaps are** in collaboration with the **AtlantOS** effort
- **Identify key ocean monitoring requirements** to be useful from a global/climate change perspective
- Provide an **audit of biogeochemical observations** ecosystem budgets (particularly carbon)
- Identify the **forecasting requirements of the European Seas users**
- Lay down the **foundations for a coordinated calibration and assessment system** that will include links to National Metrological Institutions;
- develop and apply **objective tools to monitor and assess the reliability of the observing network.**
- **increasing array of marine environmental parameters** (organic pollutants)
- **optimizing spatial resolution.**
- Overarching pan European initiative to collect timely **benthic information** to be used to fill the existing knowledge gaps on the distribution of benthic assemblages to support the modelling of benthic habitats
- to favour the **support of the current observational programs**
- to find the **appropriate data formats and free** tools in order to any user have the possibility of using data for research or other social or economic activities
- **To help the technological companies** to address new developments which solve current difficulties in the observations
- Providing consistent base maps reflecting the **current state of the sea** for as many variables as possible.
- A Europe-wide campaign to **establish the state of the living part of the sediments.**
- **Prepare a CSA project where ESFRI, EC relevant project, national and international initiatives and programs meet** (similar to ENVRI+ but more strategic)
- **Going out to the regions**, at a basin to sub-basin/regional coastline to open ocean scale and understanding what they perceive as the gaps in ocean observing, for science and for stakeholders needs, Reviewed by a mixed panel of experts physics, chemical, biology and ecosystems to catch the bigger picture. The needs of the modelling community should also be considered.
- **Harmonization of:**
 - a) existing **operational downscaled sub-regional and coastal forecasting systems** with the Copernicus marine service
 - b) existing **operational monitoring systems** with the Copernicus marine service and with EMODNET
 - c) the **existing monitoring infrastructure**
- **Identify** existing observation and data networks, and identify **data and knowledge gaps** that need to be filled.
- to establish a working relationship between EOOS and **ERVO**
- put into practice the so often invoked holistic, integrative, ecosystem-based, and cross cutting approaches, building a conceptual framework that goes beyond the simple accumulation of data.
- Promote a **meeting for users to present their needs**

- **produce specific technology efforts to reduce challenges for atmospheric measurements over the seas and improve number, quality and spatial/temporal resolution of atmospheric parameters observed at the ground.**
- Collaboration with **similar structures of similar disciplines, including legal and socio-economic aspects**
- **Integrate, in a coherent system, physical, biogeochemical and biological variables.**
- **harmonization / intercomparability of data collection methodologies & protocols** for new and internationally by contracts not yet implemented technologies; harmonized protocols for uncertainty estimations of measurements;
- **Improving the links between ship-based ocean observations, and sensor-based ocean observations (floats, moorings, etc).**
- **Assist in, and strongly support, the work being done by EMODnet teams in the identification of gaps in "fitness for purpose".** Once the gaps are better understood EOOS can start directing efforts to address them
- Influence and advise the EC in the provision of more support to **bio, geo and chemical low cost sensor research and development.**

DRAFT

EuroGOOS Conference, 3-5 October 2017, Bergen

Programme and Organizational structure, Jan. 2017

1. Date and place

Week of 3-5 October 2017

Bergen, Scandic Bergen City Hotel (Håkonsgaten 2)

2. Title

EuroGOOS International Conference: Operational Oceanography serving sustainable marine development

3. Related events the same year (draft list to start the discussion – unexhaustive, only mentioning polar-focus events but should be enlarged)

- 11-15 June 2017, Tromsø, Norway : Moving in, out, and across Arctic and Subarctic Marine Ecosystems: Shifting Boundaries of Water, Ice, Flora, Fauna, People and Institutions
- 19 Sept 2017, Oban: UK Arctic Science Conference 2017
- ...
- ...
- ...

4. Overall programme – draft structure

	Mo 2/10	Tue 3/10 - Plenary	Wed 4/10 – Breakout sessions			Thur 5/10		
			Obs	Modelling	Services	Obs	Mod	Serv
AM	Side-events Acoustics	- Opening - High-level teaser session: Copernicus EOOS & Obs proj (Atl, Arctic ??, Med) Data Integration GOOS and GRA JCOMM Acoustics	Selection upon the call for abstracts. Where possible diff. stages of the data chain can be addressed for the same topic, i.e. through Obs-Mod-Serv			Break-out continued (selection upon the call for abstracts)		
						Plenary: - Reports from breakout sessions - Key conference messages - Poster award/Kostas Nittis Award to young researcher - Closing		
PM		- Polar session INTAROS YOPP Blue Action, Interact, Applicate SAON Policies (EU, Global)				Participants travel back or hold side-events		
Evening	Ice-breaker	Social event	Dinner					

5. Venues required

- One plenary room for 250 participants
- Two smaller breakout rooms
- Hallway for the poster exhibition – ideally in the lunch and coffee area
- Rooms for side-events can be made available at NERSC and IMR

All rooms fully equipped with mics, beamers, screens, laptops; water for speakers

Printing of posters on-site should be investigated

Registration reception should provide opportunity to pay on-site and deliver certificates of attendance

6. Programme committee and Org committee

Organizing Committee:

- Stein Sandven, NERSC
- Henning Wehde and Anita Jacobsen, IMR
- Glenn Nolan, Dina Eparkhina, Vicente Fernandez, EuroGOOS

Programme Committee:

- EuroGOOS Executive Board (E Buch, B Brugge, U Lips, R Santoleri, A Martinho, P Farcy, H Wehde), S Sandven, Office (Nolan, Eparkhina, Fernandez), ROOS
Chairs (M Ruiz, J Mader, E Alvarez-Fanjul/G Coppini)

7. Participants

250 participants.

8. Budget

Managed by the local hosts.

Income: from participant fees + host institutes' support

300-350€ full fee

- Early bird?
- Reduction for young scientists 100€
- Free participation to a selection of high-level speakers/guests and the Org team, possibly T&S support

Expenditure:

- Hotel rental and catering
- Social events
- Conf website (incl. registration set up)
- Design of conference identity (banner, flyer, programme)
- Book of abstracts

- Photographer
- Conference bags
- Possibly T&S for selected speakers
- Publication (design) of proceedings
- In-kind staff support to run the event
- In-kind extra meeting space at IMR and NERSC for side-events

9. Social programme

- Ice-breaker, 2/10
- Social event, 3/10
- Conference dinner, 4/10

10. Communication

- A conference website (to be maintained after the event)
 - o Design, hosting and administration of payments – hosts
 - o Content – hosts in liaison with EuroGOOS Comms
- Conference photographer – hosts
- Conference identity (banner) – EuroGOOS Comms
- Conference flyer – EuroGOOS Comms
- Announcements – EuroGOOS Comms
- + see conference bag materials and give aways?

11. Conference bags

- Programme
- List of participants
- Book of abstracts
- EuroGOOS give away (notebook, pen, etc)
- The bag itself

12. Milestones and actions

Immediate actions as of 23 January 2017

- 1) Circulate save the dates (Dina, Jan 2017)
- 2) Agree on the programme outline (Org and Programme comm, end Jan 2017)

- 3) Agree on the title (Org and Programme comm, mid-Feb)
- 4) Develop the conf. identity (Dina, Feb)
- 5) Develop and launch the website (tech – hosts IMR, NERSC; content – Dina, Feb)
- 6) Open the abstract submission (Dina, Feb)
- 7) List rooms at IMR and NERSC available for hosting side events before or after the conf. – about 4-5 rooms in total (Stein and Henning, March 2017)
- 8) Organize a visit to hotel and side-event meeting rooms (April TBD – hosts and EG team, Dina, Laura, Glenn?)

Milestones and planning

Yellow marks the lead-in/preparation/follow-up; red – the month when a certain step takes place (website released, programme confirmed, etc).

	1/17	2/17	3/17	4/17	5/17	6/17	7/17	8/17	9/17	10/17	11/17
Title											
Progr and speakers											
Poster exhibition											
Budget											
Website											
Registration											
Abstracts open											
Abstracts selected											
Talks (and proceeding) confirmed											
Conf. bags											
Proceedings prep and release											
Comms campaign											
Speaker guidelines											
Photographer secured											
Logistics guidelines for staff											

13. Organizational mailing list

stein.sandven@nersc.no
hanne.sagen@nersc.no
henningw@imr.no
anita.jacobsen@imr.no
team@eurogoos.eu

Period : From *June* 2016 to *January* 2017
 First name : Angelique
 Last name : Melet
 Institute : Mercator Ocean
 Amount of the grant : 3 000 €

Fill this report on Excel. You can add a table if you have been part of more than three events or if you are planning to be part of more than two events in the next semester.

1. What events have you been participating in and presenting your research? If you have slides or a poster, please send us a copy by email.

Name of the event	OSTST: Ocean Surface Topography Science Team Meeting
Dates	31 October - 04 November 2016
Country - City	France - La Rochelle
Reason	Present results on my research on comparison between operational models and altimetry
Type of participation (Please specify: oral, poster, slides...)	Poster
Abstract	Comparing the energy content and resolution capability of numerical simulations and along-track altimetry at meso and submesoscales
Total Transport exp.	63 €
Total Hotel exp.	344 €
Registration	460 €
Other expenses	119 €
Total of expenses	986 €

Name of the event	
Dates	
Country - City	
Reason	
Type of participation (Please specify: oral, poster, slides...)	
Abstract	
Total Transport exp.	
Total Hotel exp.	
Registration	
Other expenses	
Total of expenses	

Name of the event	
Dates	
Country - City	
Reason	

Type of participation (Please specify: oral, poster, slides...)	
Abstract	
Total Transport exp.	
Total Hotel exp.	
Registration	
Other expenses	
Total of expenses	

2. Total of the expenses for the first 6 months

Name of the events	Total of the expenses at the end of the event
OSTST	
Total of expenses to attend all the events	986 €

3. What events are you planning to participate in?

Name of the event	EGU General Assembly
Dates	23-28 April 2017
Country - City	AUSTRIA - Vienna
Reason	Convener of the CMEMS session
Type of participation (Please specify: oral, poster, slides...)	1 poster, 1 oral (not decided yet, could be a poster)
Estimated budget	200 €

Name of the event	International IOC/WCRP conference on regional sea level and coastal impacts
Dates	10-14 July 2017
Country - City	USA - New York
Reason	Present my research work on coastal sea level
Type of participation (Please specify: oral, poster, slides...)	Not decided yet
Estimated budget	1 800 €

4. Have you any other comments?

Comparing the energy content and resolution capability of numerical simulations and along-track altimetry at meso and submesoscales

Angélique Melet¹, Mounir Benkiran¹, Charly Regnier¹, Marie Drevillon¹, Romain Bourdalle-Badie¹, Claire Dufau², Olivier Legalloudec¹

1. Mercator Océan, Ramonville St Agne France

2. CLS, Ramonville St Agne, France

Motivation

The ocean energy content at different spatial scales, cascade of energy, and the dynamics of geostrophic flows can be characterized using wavenumber spectra. In this study, we compute wavenumber spectra of sea surface height from global numerical ocean circulation model simulations without and with data assimilation and from satellite along-track sea level anomalies to ultimately compare their energy content at meso- and submeso-scales, and their resolution capability.

Global ocean numerical simulations

Simulations analyzed here are produced by the PSY4V3R1 operational system developed at Mercator Ocean and distributed in the Copernicus Marine Environment Monitoring Service (CMEMS).

- NEMO3.1, 1/12°, 50 z levels (1m at the surface), period: Oct 2006 - present.
- Atmospheric forcing: ECMWF, 3h frequency.
- Vertical turbulent closure scheme: TKE.
- Free surface formulation, filtering of external gravity waves.
- MDT : adapted from CNES-CLS-2013.
- Daily outputs (hourly outputs available for sea surface height).

More details: <http://marine.copernicus.eu/documents/QUID/CMEMS-GLO-QUID-001-024.pdf>

RUN 1 : free run, no data assimilation.

RUN 3.13: 3D-VAR assimilation to correct large scale biases of T, S.

RUN 12 : as RUN 3.13, but in addition data assimilation is performed with a SEEK filter using T, S profiles, satellite along-track SLA, satellite SST and sea ice concentration.

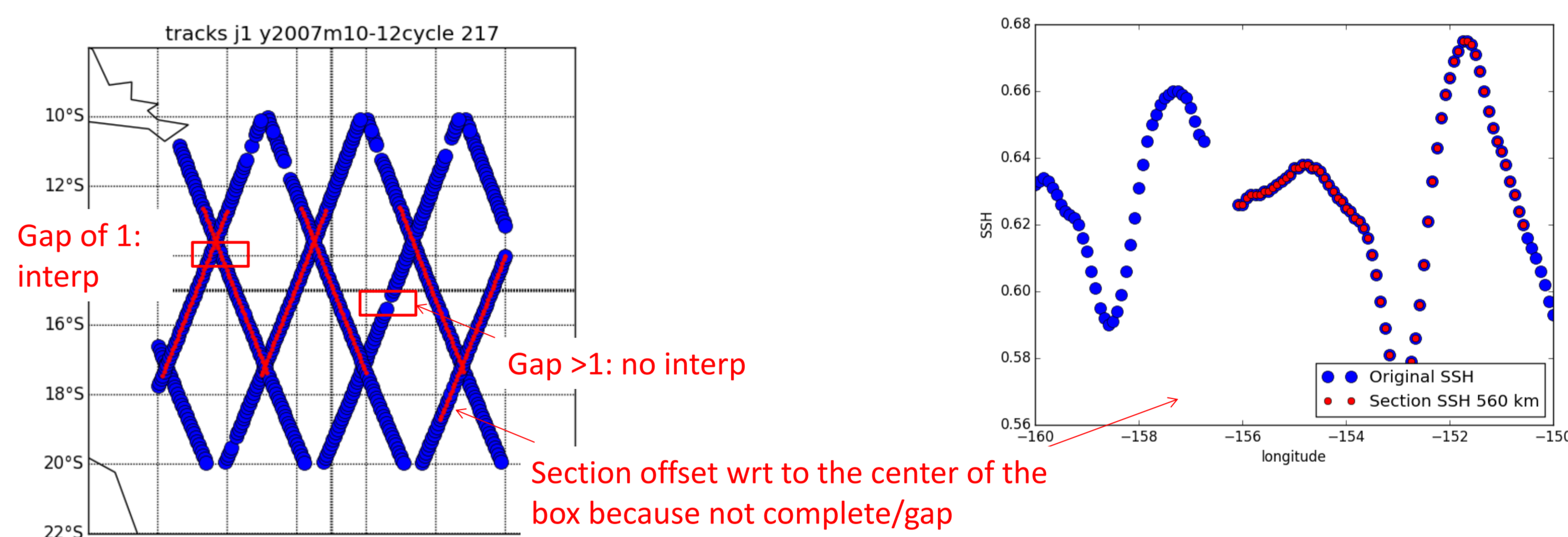
Methodology

Wavenumber spectra of sea surface height (SSH) were computed from both gridded daily averaged model outputs, along the zonal direction, and from satellite along track sea surface anomalies used for data assimilation and their model equivalent, over the year 2007.

Following Dufau et al. (2016):

- wavenumber spectra are calculated over 10°x10° boxes.
- gaps of less than 3 grid points or of 1 altimetric point (0.5 Hz) are filled by linear interpolation.
- 560 km SSH sections are selected, closest to the center of the box (see figure below).
- for each SSH section, the along-section trend is removed, and a 10% cosine-tapering is applied.

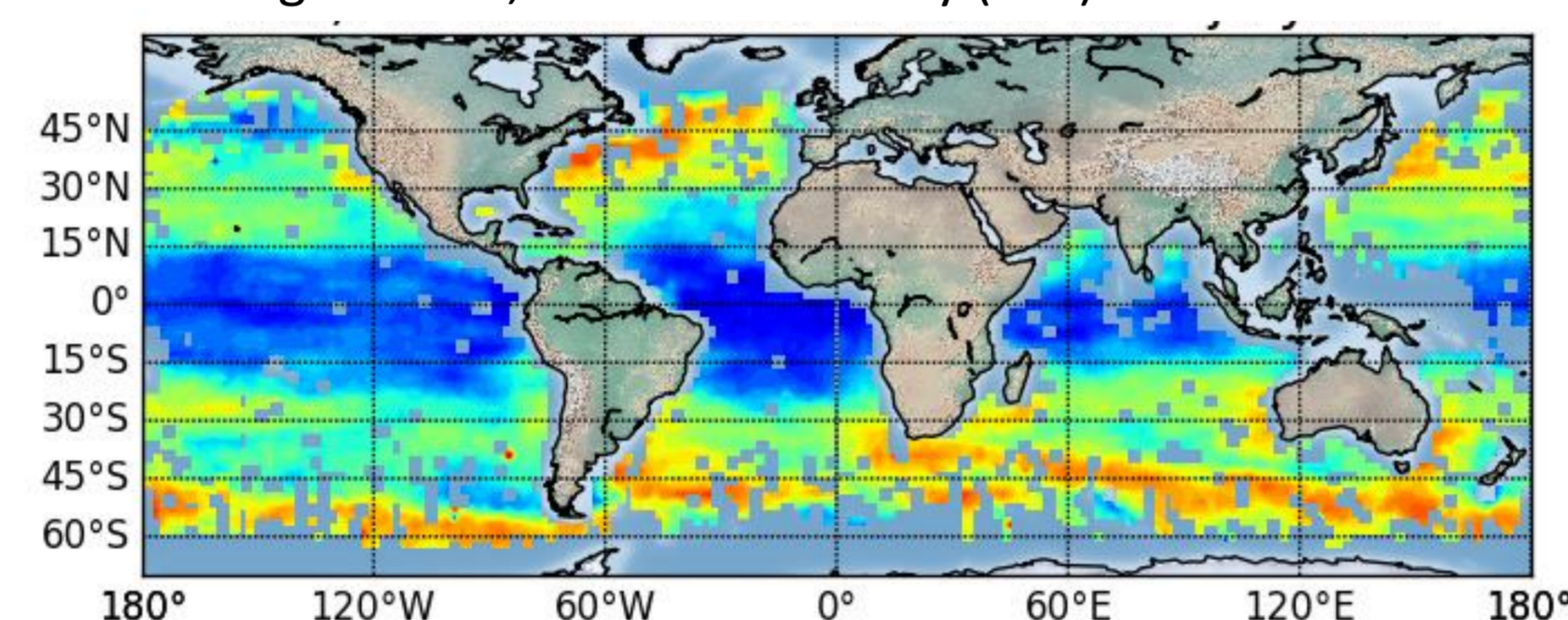
Spectral slopes are estimated over the 70-250 km wavelength band, using a linear fit on a log₁₀-interpolated spectrum (interpolation on 1/5km spaced wavenumbers between 1/60 cpkm and 1/260 cpkm). Spectra are averaged over the 10°x10° boxes. Results are presented on a 2°x2° grid.



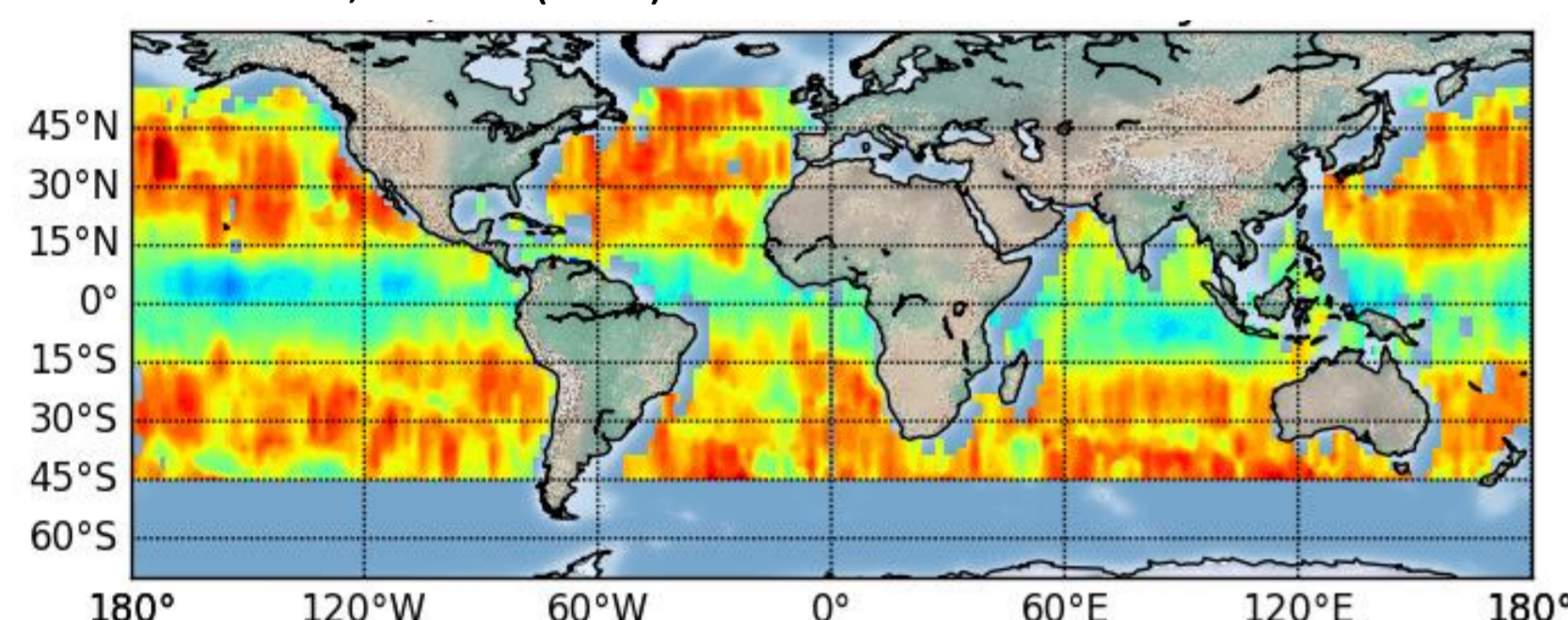
Spectral slopes of sea surface height

Annual mean (y2007) of spectral slopes (x-1). Spectral slopes of Jason-1 along-track satellite data are in good agreement with that showed for Mar-Oct 2013 for Jason-2 data in Dufau et al. (2016). The model gives stronger slopes over the whole ocean. Yet, spectral slopes in the model remain weak, especially in the tropics, compared to other model-based estimates (e.g. Richman et al. 2012, Sasaki and Klein 2012).

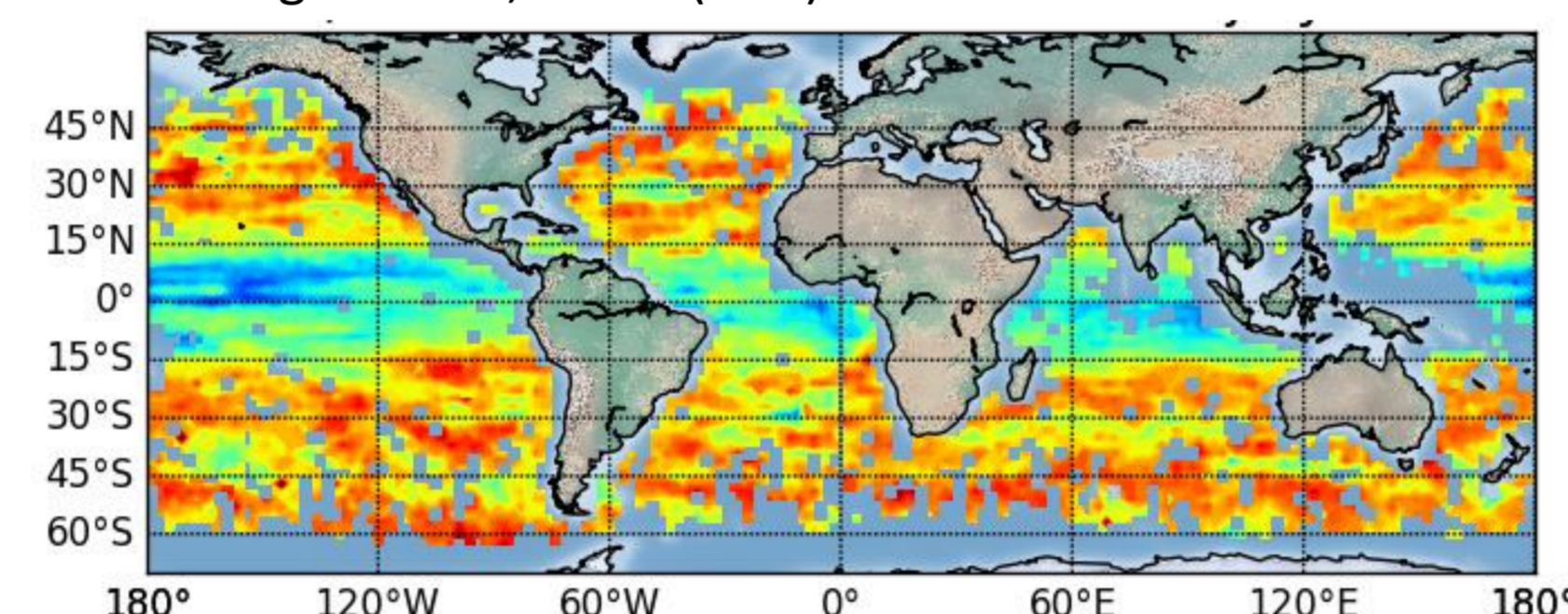
Along-track J1, satellite altimetry (obs)



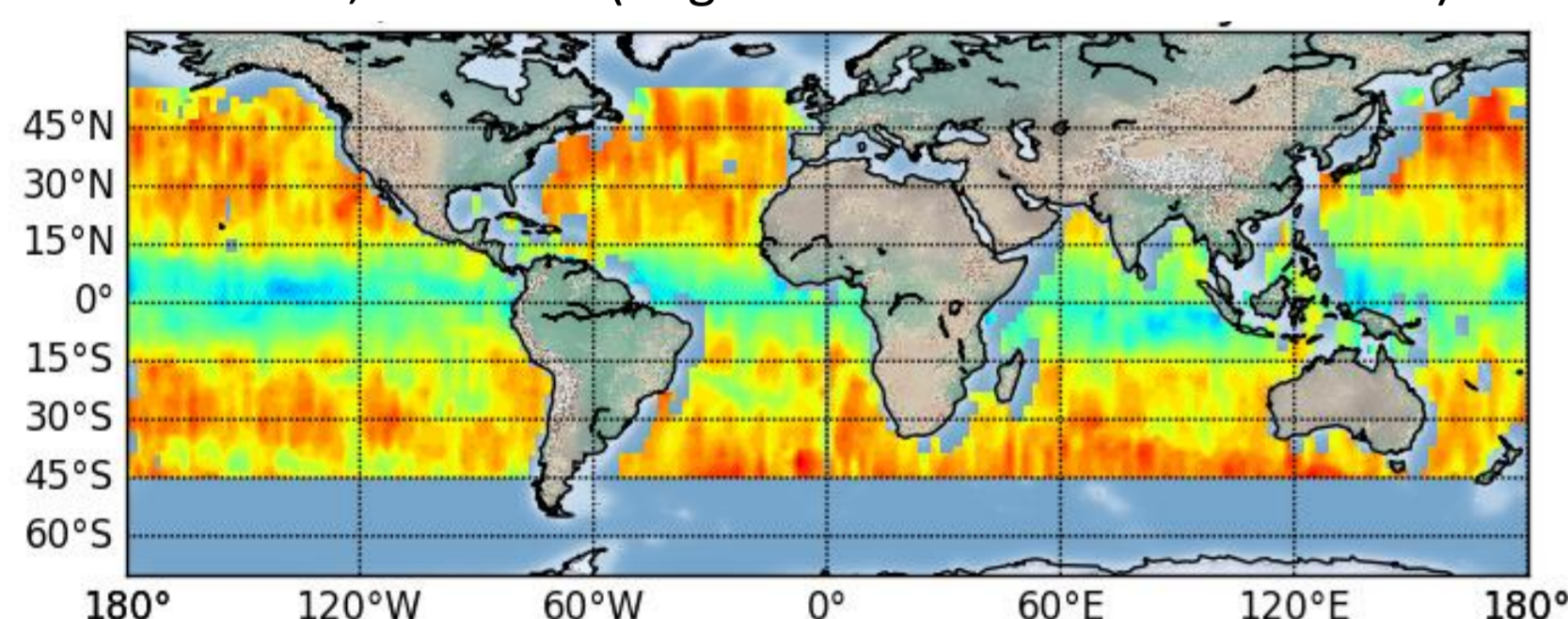
Gridded, RUN1 (free)



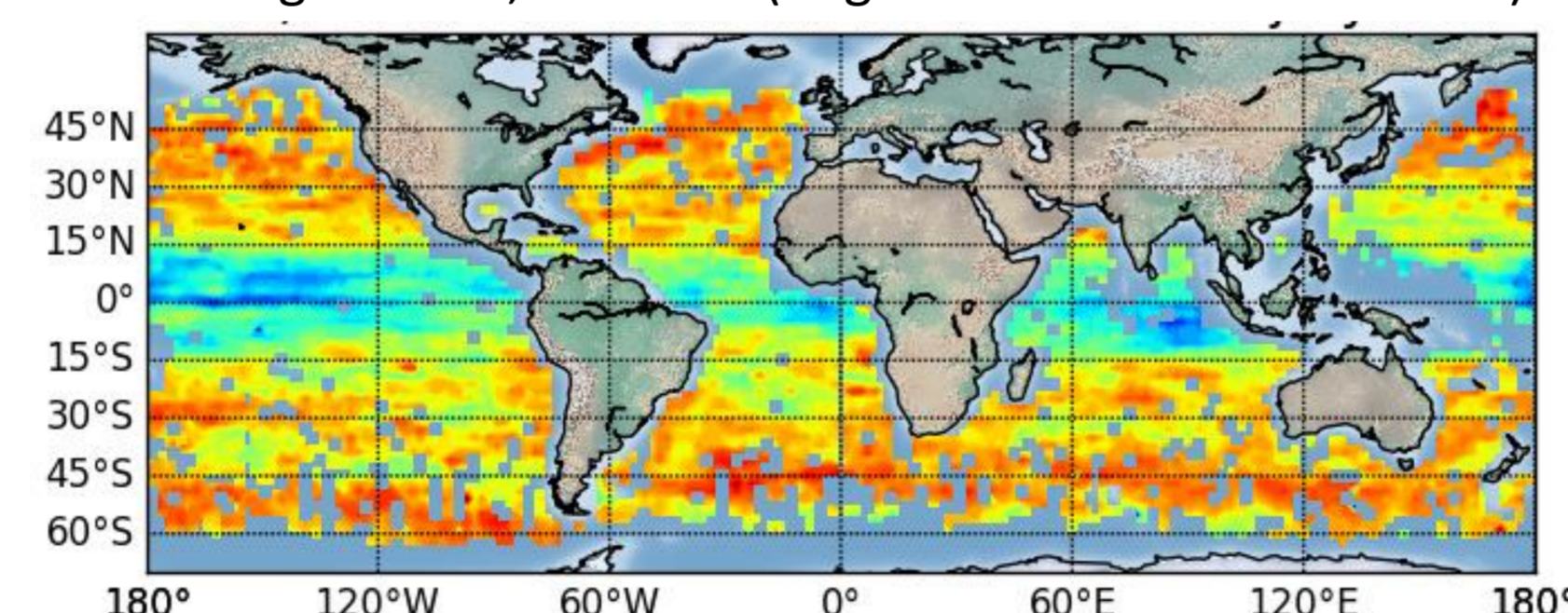
Along-track J1, RUN1 (free)



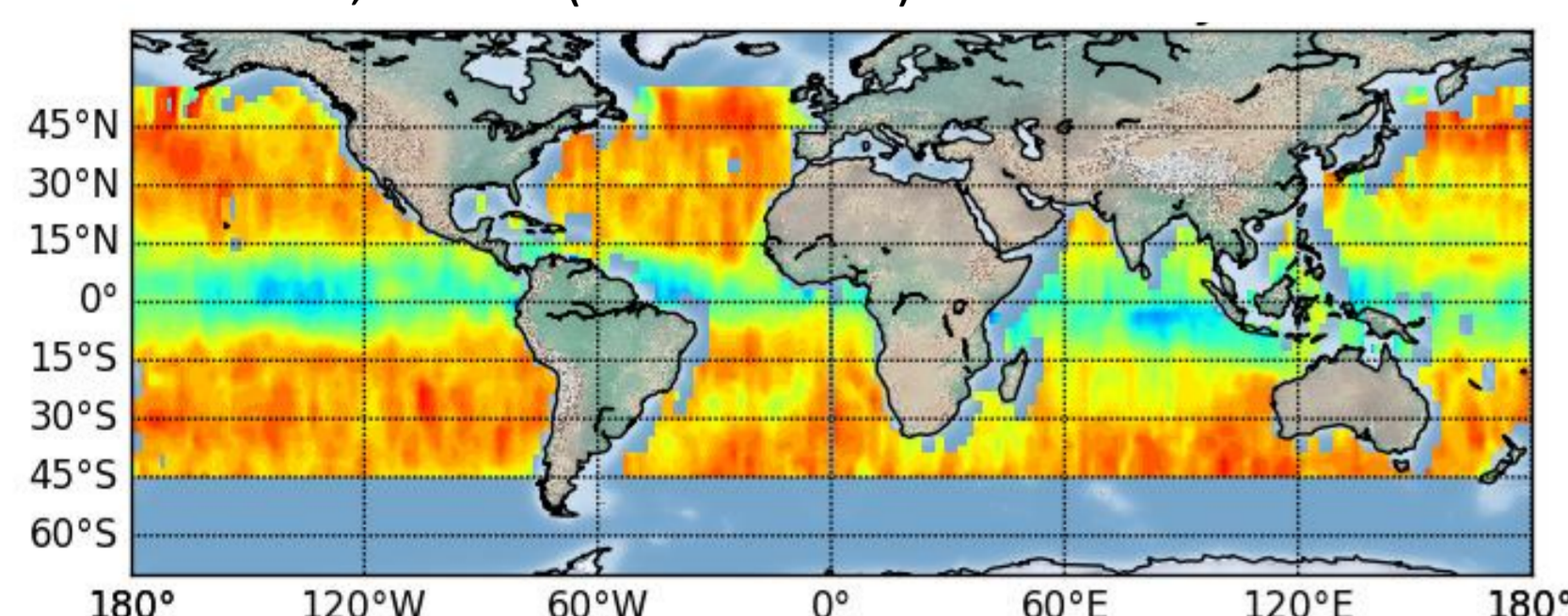
Gridded, RUN3.13 (large scale bias 3DVAR correction)



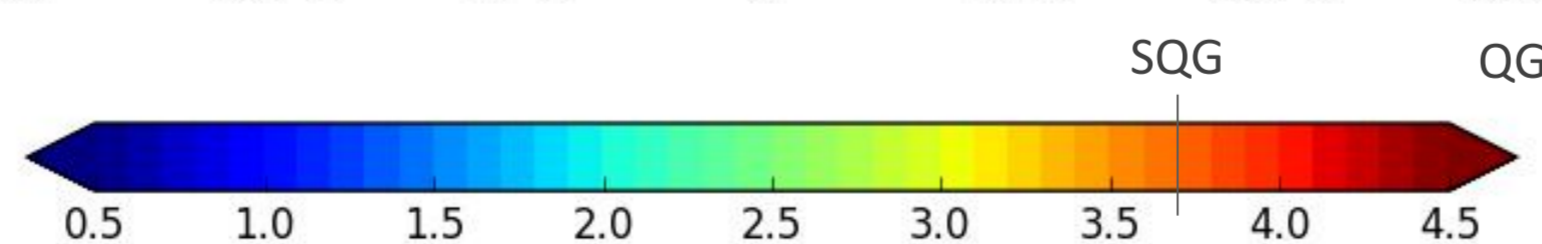
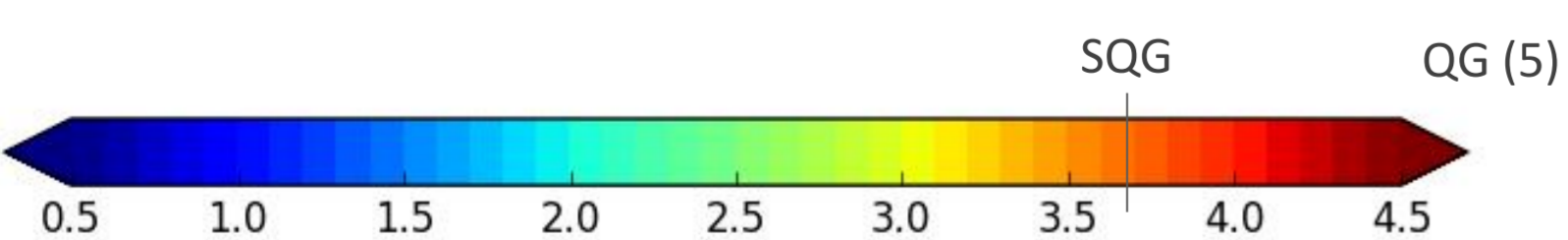
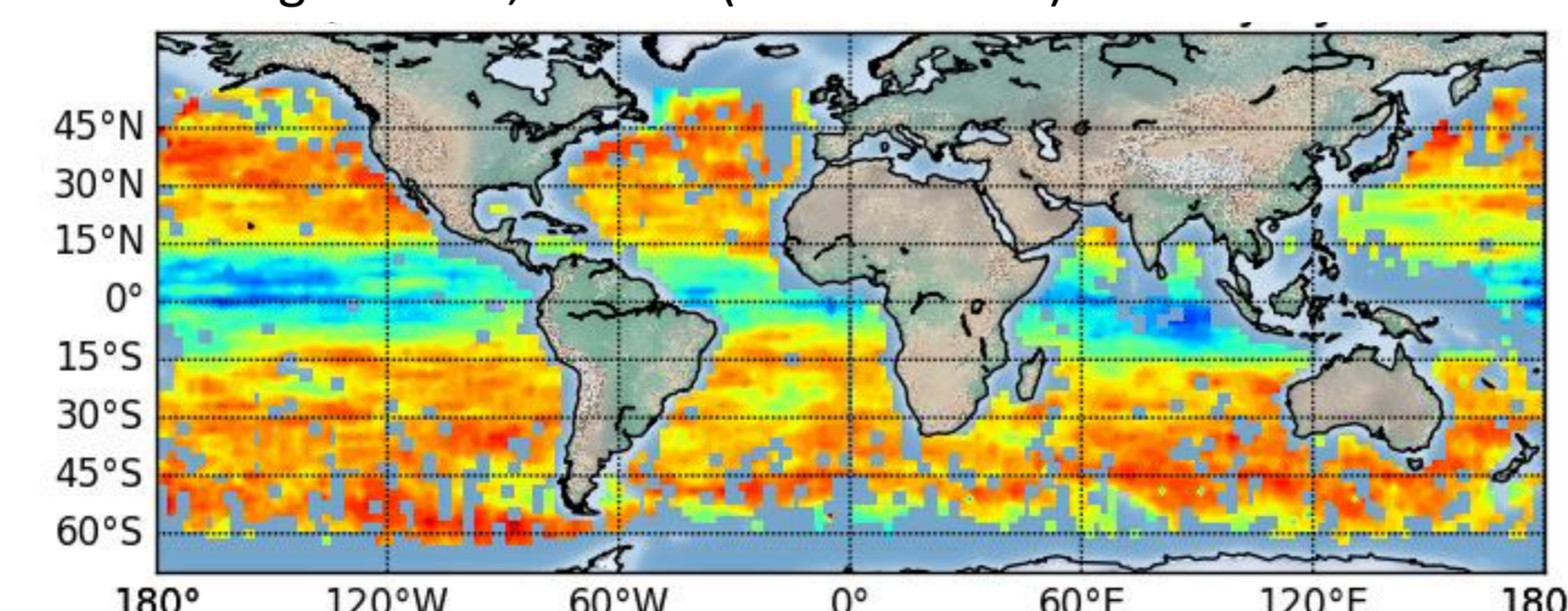
Along-track J1, RUN3.13 (large scale bias 3DVAR correct)



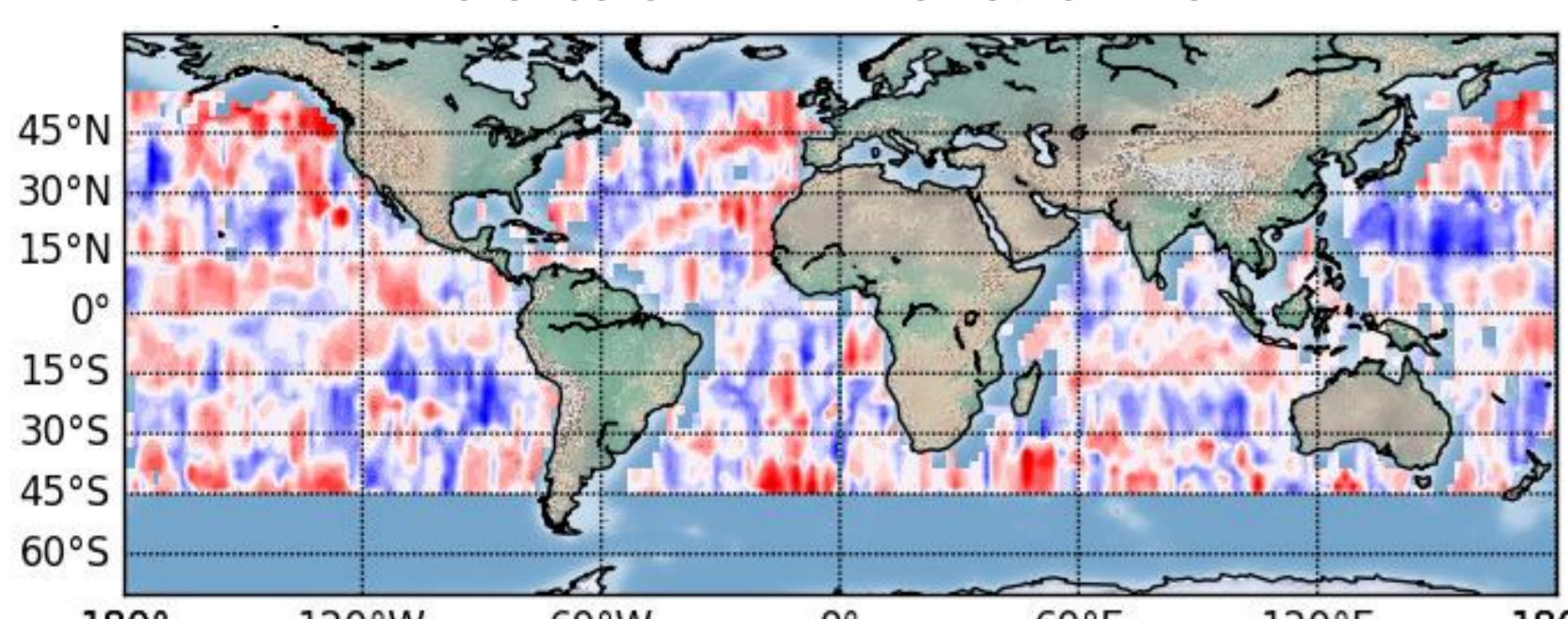
Gridded, RUN12 (3DVAR+SEEK)



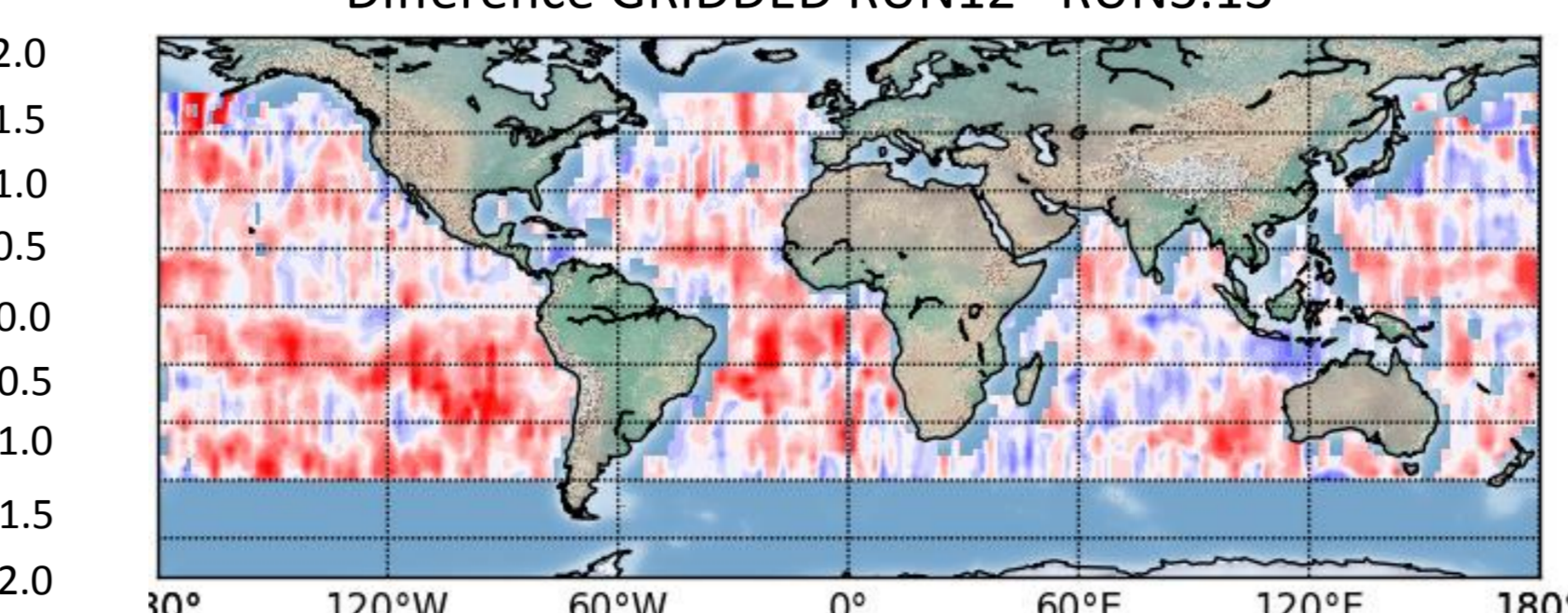
Along-track J1, RUN12 (3DVAR+SEEK)



Difference GRIDDED RUN3.13 - RUN1



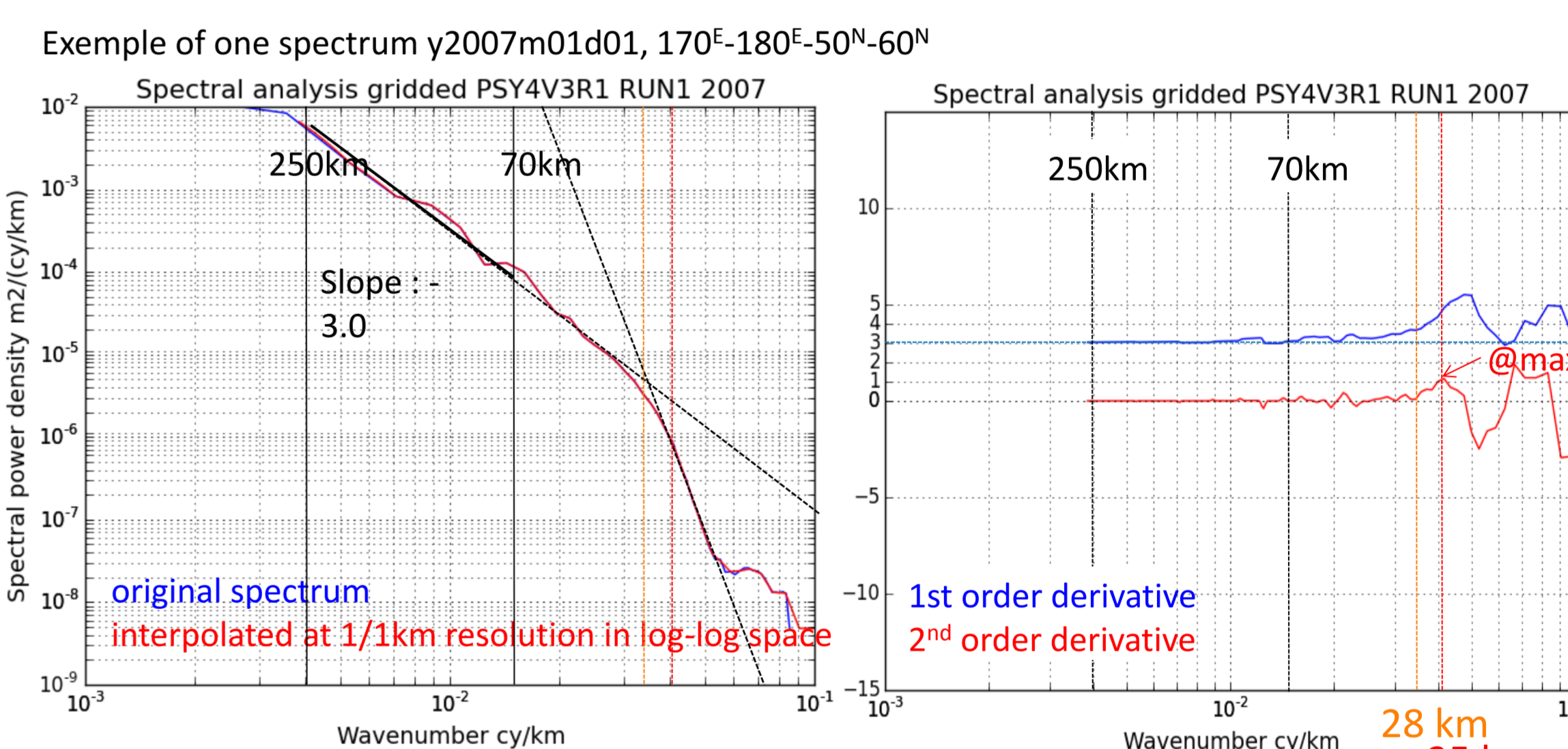
Difference GRIDDED RUN12 - RUN3.13



3DVAR data assimilation to correct large scale biases tends to homogenize slopes values. Assimilation of satellite altimetry data (SEEK filter) overall leads to stronger slopes.

Towards estimates of model effective resolution and energy content

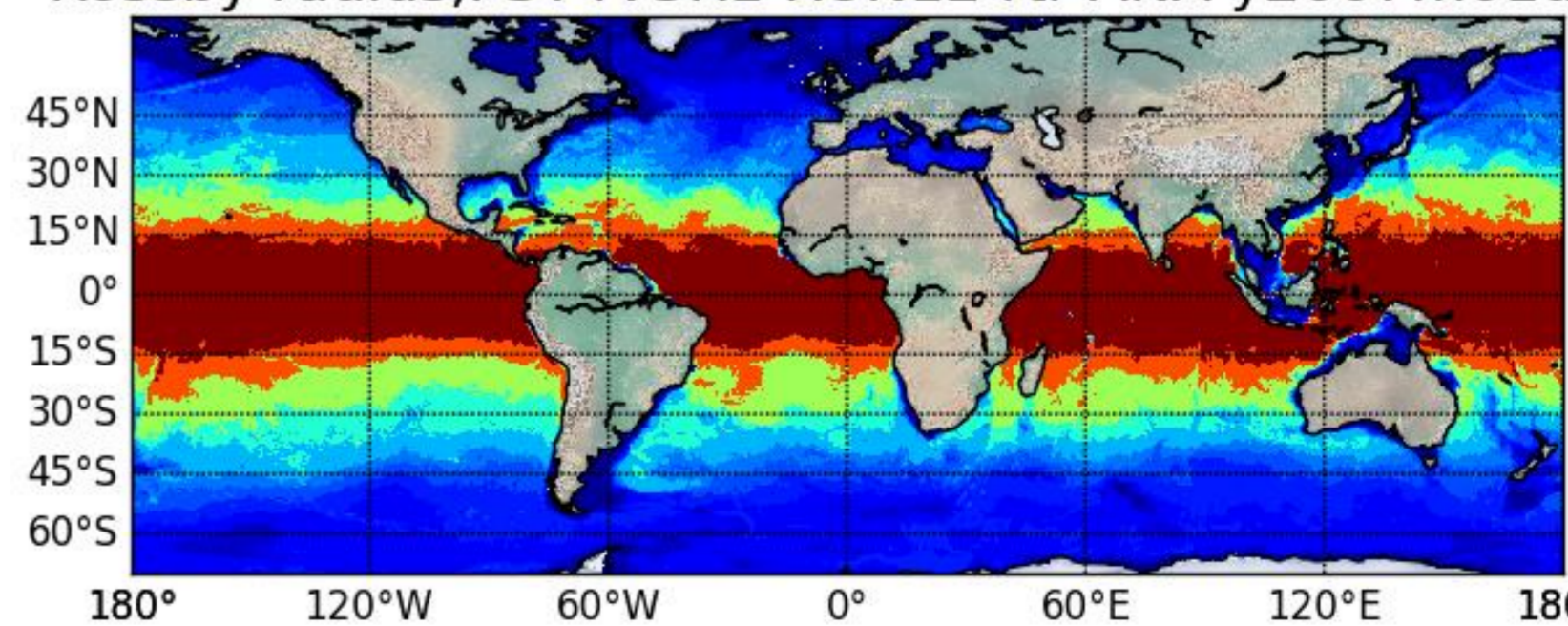
Further work will include a calculation of the effective resolution of the model, with and without data assimilation, based on derivatives of the wavenumber spectra.



55°N: 1/12° dx = 5.3km
5 dx = 26.6 km
6 dx = 31.9 km

We also plan to investigate the energy content of the sea surface height per wavenumber bands, using a criterion on the 1st baroclinic Rossby radius of deformation.

Rossby radius, PSY4V3R1 RUN12 rtr ANA y2007m01d01



References

- Dufau, C., M. Orszynowicz, G. Dibarboue, R. Morrow, P.-Y. Le Traon, 2016. « Mesoscale resolution capability of altimetry: Present and future ». JGR-Oceans, 121.
- Richman, J.G., B.K. Arbic, J.F. Shriver, E.J. Metzger, A.J. Wallcraft, 2012. « Inferring dynamics from the wavenumber spectra of an eddying global ocean model with embedded tides ». JGR-Oceans, 117, C12012.
- Sasaki, H. and P. Klein, 2012. « SSH wavenumber spectra in the North Atlantic from a high resolution realistic simulation ». JPO, 42.

Palma, February 7, 2017

Dr. Glenn Nolan
Secretary General
EuroGOOS - European Global Ocean Observing System
Avenue Louise 231,
1050 Brussels, Belgium

Subject: SOCIB application for EuroGOOS membership

Dear Sir,

For long time I have known and collaborated with EuroGOOS members in supporting science based operational oceanography.

I believe it is now time to go one step forward and given the status reached by SOCIB, the Balearic Islands Observing and Forecasting System, I would like to submit for your consideration this formal application of SOCIB to EuroGOOS.

SOCIB initiated its activity in 2009 with the Design phase, which was continued after approval by the Board of Trustees in July 2010 by the Construction phase and then later in 2013-2014 by the Operational phase. SOCIB has strong links with EuroGOOS members, both in Spain with Puertos del Estado, IEO and AZTI and in Europe, in the Mediterranean (IFREMER, INGV, CMCC, HCMR, etc...) and we are also active members in MonGOOS and now formal members of Euro-ARGO ERIC.

All SOCIB activities, Strategic Plan, news, etc. are available on our web site, www.socib.es. However, to facilitate your review, we have prepared:

- A SOCIB description in 3 pages
- A SOCIB team research record

I believe our activities are fully aligned with EuroGOOS objectives and as a result believe it would be very good for SOCIB to be accepted as member of EuroGOOS.



Yours sincerely,

Joaquín Tintoré
Director of SOCIB

SOCIB DESCRIPTION FOR EuroGOOS

SOCIB Commitments:

Scientific Excellence with Impact on Society

Science-Society Engagement contributing to Bridge the Science-Policy Gap

Responsible Research and Innovation for Healthy Oceans in a Sustainable Planet

What is SOCIB?

SOCIB, the Balearic Islands Coastal Ocean Observing and Forecasting System is a Marine Research Infrastructure included in the [Spanish Large Scientific and Technical Infrastructures Network](#) since 2013. SOCIB is a multi-platform ocean observing system that provides streams of data and forecasting services that resolve coastal ocean processes across a range of temporal and spatial scales by this supporting operational oceanography and contributing to establish and understand the services that the coastal ocean is providing and that yield both ecological and economic benefits. In line with EuroGOOS, operational oceanography is here understood in a wide sense, including both the systematic long-term measurements of the seas and their interpretation and dissemination, and also the sustained supply of multidisciplinary data to cover the needs of a wide range of scientific research and societal priorities. This will allow a quantitative increase in our understanding of key questions on oceans and climate change, coastal ocean processes, ecosystem variability, sea level rise, etc. and will also drive us towards a more science based coastal and ocean management. SOCIB detailed description and on-going Strategic Plan are available at [SOCIB web site](#).

SOCIB responds to 3 drivers: scientific excellence, technological development and strategic societal priorities related to the role of the oceans and the coasts in a global climate change context. SOCIB is a facility of facilities that has evolved, and continues to evolve, to promote the paradigm shift that has occurred in ocean observation and data availability: from the historical, single platform ship based observation with delayed mode data availability to the current multi-platform, integrated and multidisciplinary observing systems that supply opendata real time or quasi real time and quality controlled data and state of the art ocean forecasting. This type of Marine Research Infrastructures are being progressively implemented in oceans and seas. These new observing systems, such as IMOS (Australia), OOI and IOOS (USA), VENUS/NEPTUNE (Canada), among others, provide sustained and reliable multidisciplinary ocean and coastal data that are available for science and society in quasi real time, by this delivering new insight into ocean variability.

What does SOCIB do?

SOCIB operates a complex network of observing platforms for long-term monitoring of physical and biogeochemical processes in the Western Mediterranean. The network of platforms includes surface drifters, profiling drifters, moorings, coastal stations, satellites, research vessel, high-frequency radar, autonomous underwater gliders, sea turtles, etc, all continuously recording multi-disciplinary data that are transmitted to SOCIB Data Center that makes them available for for scientists and society. The know-how, data, tools and products already developed are a clear performance indicator of SOCIB achievements and innovations in a new era of ocean observation. As an extension

to its scientific and operational activities, the SOCIB Outreach Service is committed to disseminate at different levels of our society the advances of operational oceanography and progress towards society real engagement in SOCIB activities.

SOCIB Scientific Excellence

SOCIB activities also include developing state of the art research in the nearshore, coastal and open ocean, implementing new monitoring technologies and developing tools for science-based coastal and ocean management. Significant training, outreach and education activities are also carried out, bringing ocean data and ocean science concepts to classrooms and citizens, and contributing to bridge the science-policy gap. SOCIB is a key research infrastructure to guarantee healthy and sustainable oceans. SOCIB focuses on scientific excellence with relevance and impact on society, opening a new era of ocean observation; science with and for society.

SOCIB activity is developed by a dynamic team of approximately 45 people including international leading scientists, engineers, technicians, data experts and students. In the last 5 years, SOCIB team has published more than 75 papers in peer-reviewed international journals in areas such as: beach & nearshore studies; meso and submesoscale ocean variability; ocean forecasting; new observing systems, tools for decision support & data management. SOCIB team is strongly involved in international marine and coastal research programmes, including open data initiatives, for example participating in EU initiatives and projects such as in recent years CMEMS, EMODnet MedSea-Checkpoint, PERSEUS, JERICO-NEXT or ODIP2, among others.

SOCIB Significant Infrastructures and/or major items of technical equipment:

SOCIB Marine Research Infrastructure is included in the Spanish Large Scale Infrastructures Network since 2010. Major components include:

- **Observing Marine Infrastructure;** a multi-platform integrated system for monitoring physical and biogeochemical data, from the coast to the open ocean in the Western Mediterranean including: surface drifters, vertical profilers, coastal and deep sea moorings, coastal stations, satellites, research vessel, HF radar, gliders, sea-turtles, etc.
- **Ocean Forecasting Infrastructure:** (a) high resolution numerical ocean forecasting models for currents from the coastal to open ocean, (b) high resolution wave forecasting in the coastal ocean and (c) coupled atmosphere-ocean meteo-tsunami forecasting system.
- **Data Centre/Cyber-infrastructure:** opendata the core of SOCIB that guarantees -real time or quasi real time and delayed mode- data archiving, processing, quality control, visualization and download from all platforms. All data are available for scientists and society.

SOCIB New Technologies, Ocean Observatories and Grand Challenges:

New monitoring technologies are key components of recent observing systems being progressively implemented in many coastal areas of the world oceans. As a result, at SOCIB we believe we have new capabilities to characterise the ocean state and its variability at small scales exists today in many cases in quasi-real time. The real challenge for the next decade is therefore the integration of theses technologies and multi-platform observing and forecasting systems to (a) monitor the variability at small scales (e.g. mesoscale/weeks) in order (b) to resolve the sub-basin/seasonal and inter-

annual variability and by this (c) establish the decadal variability, understand the associated biases and correct them. In other words, the challenge is to advance from small to large scales since the new observing and forecasting systems now allow this major change in our focus of ocean observation.

SOCIB focus in the Mediterranean Sea; an ideal ocean laboratory to develop planet ocean observing and forecasting activities, emphasizing islands sustainability:

The Mediterranean Sea is a well-known reduced scale ocean, an ideal natural laboratory to study global ocean processes, in particular those associated with meso and submesoscale variability, interactions with mean flows and associated ecosystem response. SOCIB, the Balearic Islands Coastal Ocean Observing and Forecasting System, is one of such new ocean observatories, a multi-platform distributed and integrated system, a facility of facilities that extends from the nearshore to the open sea. SOCIB takes profit of the strategic position of the Balearic Islands at the Atlantic/Mediterranean transition area, one of the 'hot spots' of biodiversity in the world's oceans and also, of the real science based sustainability needs in islands where preservation of the environment is essential to assure, both residents welfare and the competitiveness of the tourist sector. SOCIB is unique in that, from peer-reviewed excellence, its mission and objectives are science, technology and society driven.

SOCIB Innovation and products:

The know-how, data, tools for decision support and products developed until now are a clear performance indicator of SOCIB achievements and innovations in a new era of ocean observation. SOCIB recently undertook a products review and from this developed a sector-focused Products & Services Strategy that enabled to identify 10 key user sectors, groups of users with common data interests and needs, that are important to the region (economically/societal benefit) and for which SOCIB can provide data of value (e.g. value to decision making), both observed variables and derived/value added variables (e.g. predicted wave height, divergence/convergence zones, spawning habitat mapping of top predator fish species). The implementation of this strategy is now underway and by end 2017 the SOCIB website will include a new searchable product catalogue, with detailed information on the existing and developing products, and new sector focused product and information zones. Regional ocean observatories have a key role to play in delivering societal benefits from ocean data and research, and the SOCIB efforts are aligned with the aims of JERICO-NEXT in supporting the coastal component of a future European Ocean Observing System (EOOS).

Concluding remarks.

SOCIB and new marine infrastructures, because of their critical mass, multidisciplinary, integrated and targeted approach, and sustained funding, are establishing new research ecosystems that facilitate integrated and oriented scientific excellence, while at the same time, enhancing technology development, responding to society needs and challenges, innovations and new products, and through all this and with science-society engagement, contributing to bridge the science-policy gap. In other words, we are establishing new ways of international partnership that are leading to major science breakthroughs, innovations in ocean observation and new ways of more efficient and science based coastal and ocean management to guarantee healthy oceans in a sustainable planet for future generations.