Dear panelists, welcome to the webinar!

Getting ready é

- Check your **audio and video** (bottom left of your screen). Note that both should be muted when you are not presenting/speaking
- Get **ready for your presentation**:
  - You will **manage your presentation from your own computer using the PDF shared with you** (apart from Veronika ç we will manage your slides
  - For **sharing your screen**: use the green function at the bottom of zoom. And **keep your presentation open** on your computer **on your first slide** (introductory slide with your name)
- During the webinar, do contribute to the **Questions & Answers**:
  - We will ask you questions verally from the Q&A box.
  - You can type in the Q&A box to respond to any questions related to your expertise.
- The webinar will be **open at 13h55… sharp!**

EU International Ocean Governance Forum

Welcome to the TWG3 launch webinar

Facilitation: Sheila Heymans, Britt Alexander, Arcteon

European MARINE BOARD
Advancing Seas & Ocean Science

STRENGTHENING INTERNATIONAL OCEAN RESEARCH, DATA AND KNOWLEDGE

#IOGForum
#OceanEU

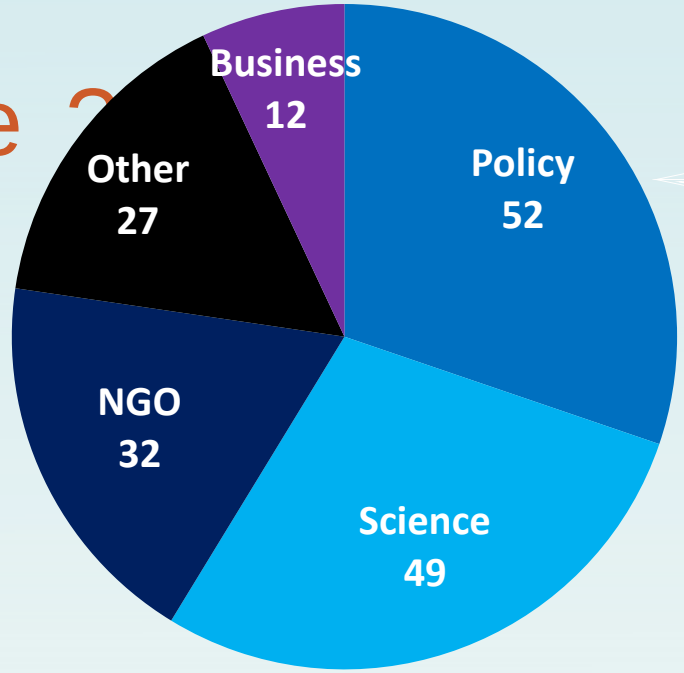
EU-Ocean-Governance-Forum@ec.europa.eu

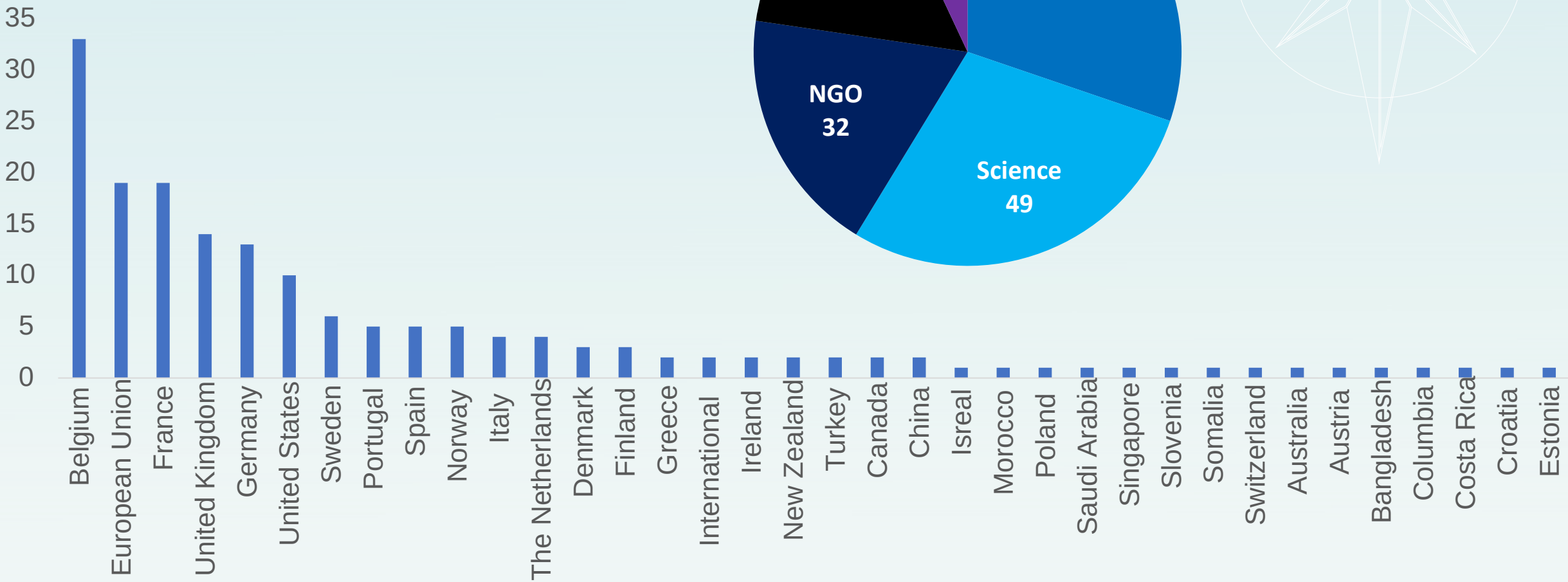
Before we start

Housekeeping rules

- For zoom **technical support**: use **chat**
- To ask questions during discussions: use **Q&A**
  - ⇒ Let us know your name and which organization and country you are from.
  - ⇒ Let us know who your question is for.
  - ⇒ Vote for questions you think are important.
  - ⇒ Speakers/facilitators will answer selected questions.
  - ⇒ Unanswered questions will be used to guide future directions for the working group
- This webinar is being **recorded** and will be disseminated online and by email

Whoôs online?





Focus of the webinar

Launching the International Ocean Governance (IOG) Forum process

- **Overview of the IOG Forum**
- **Overview of Thematic Working Group 3 – *Strengthening International Ocean Research, Data and Knowledge***
- **Future steps for the IOG Forum and working groups**

Challenges
Solutions
Questions

Agenda

Session I: ***Setting the scene of the IOG and TWG3***

Time (CEST)	Item	Speaker
14:00	Welcome and housekeeping	**Sheila Heymans** (EMB)
	Opening remarks	**Commissioner Virginijus Sinkevičius**, Environment, Ocean and Fisheries (Video message)
	International Ocean Governance - key to achieving Sustainable Development Goals	**Peter Thomson**, UN Special Envo for the Oceans (Video message)
	The EU International Ocean Governance Forum in a nutshell	**Veronika Veits** (European Commission, DG MARE)
	TWG3 Overview	**Sheila Heymans** (EMB)

Agenda

Session II: ***Presenting the TWG3 sub-topics***

Time (CEST)	Topics	Speaker
14h35	**Topic 1 – Improving the Ocean Science-Society-Policy Interface**	**Julian Barbière** (IOC-UNESCO)
	Topic 2 –Supporting Ocean Research	**Jörn Schmidt** (Kiel University)
	Topic 3 – Strengthening Ocean Observations	**George Petihakis** (Hellenic Centre for Marine Research)
	Topic 4 – Improving Research Alliances	**Martin Visbeck** (GEOMAR)
	Topic 5 – Supporting Data Frameworks	**Sara Garavelli** (TrustIT services)

The presentations which will be given in the context of these webinars represent the views of the presenter and not of the European Commission and the European External Action Service.

Agenda

Session III: ***Final words and next steps***

Time (CEST)	items	Speaker
15h50	Summary of discussions and **follow-up steps**	**Sheila Heymans** (EMB)
	Conclusions and words of thanks	**Sigi Gruber** (European Commission, DG RTD) & **Stefanie Schmidt** (European Commission, DG MARE)
16h00	End of the webinar	

Chair of TWG3

EU International Ocean Governance Forum

Setting the scene of the IOG and TWG3

STRENGTHENING INTERNATIONAL OCEAN RESEARCH, DATA AND KNOWLEDGE

#IOGForum
#OceanEU

EU-Ocean-Governance-Forum@ec.europa.eu

Opening remarks

Commissioner **Virginijus Sinkevičius**

Environment, Oceans and Fisheries

Videomessage

International Ocean Governance as key to achieving Sustainable Development Goals

Peter Thomson

UN Special Envoy for the Oceans

Video message

The EU International Ocean Governance Forum in a nutshell

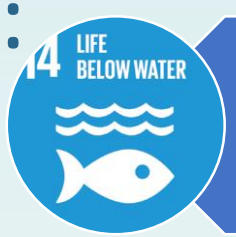
Veronika Veits

European Commission, DG MARE

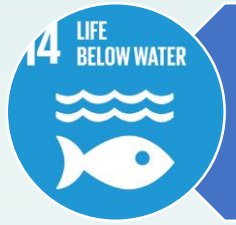
International ocean governance: an agenda for the future of our oceans

50 actions to ensure our oceans are:

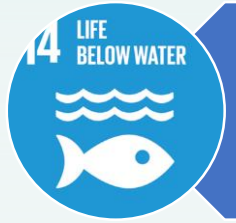
- Å safe
- Å secure
- Å clean
- Å sustainably used



Improve the international ocean governance framework



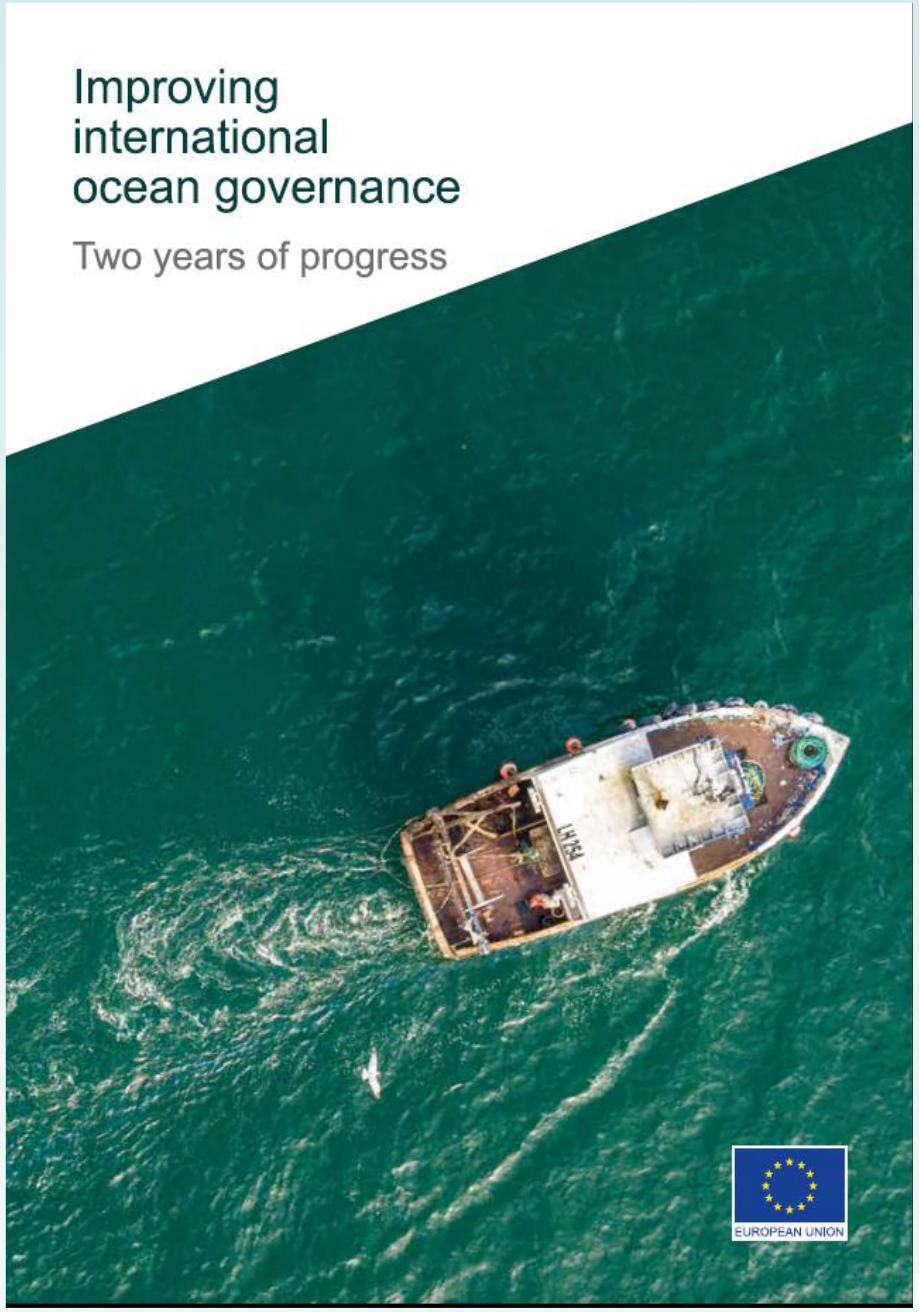
Reduce pressures and facilitate sustainable blue economy



Strengthen international ocean research and data

Progress report: Improving International Ocean Governance – Two years of progress

All actions are successfully being implemented. Many already delivered, while work will continue on some actions.



Council Conclusions on Oceans and Seas
(14249/19)

- INVITES the Commission to analyse the SCROCC report and propose policy response options; CALLS for increased policy action at all governance levels
- SUPPORTS the follow-up and further development of the IOG Agenda
- CALLS ON the EU and its Member States to promote and build capacity for better ocean governance

International Ocean Governance Forum dedicated to oceans and seas worldwide

- Provide a platform to share understanding, experiences and good practice
- Mobilise stakeholders within and beyond Europe
- Support follow-up and further development of the IOG agenda

EU International Ocean Governance Forum

Strengthening international ocean research, data and knowledge

Sheila Heymans, Britt Alexander

@sheilaheymans; @EmarineBoard

European MARINE BOARD
Advancing Seas & Ocean Science

#IOGForum
#OceanEU

EU-Ocean-Governance-Forum@ec.europa.eu

Discussion paper

- Key challenges
- Opportunities
- Consultation questions
- Future perspectives for EU action

EU International Ocean Governance Forum

Discussion paper for Thematic Working Group 3

STRENGTHENING INTERNATIONAL OCEAN RESEARCH, DATA AND KNOWLEDGE

Authors: Sheila Heymans, Britt Alexander (European Marine Board)

1. INTRODUCTION

This working group will focus on how the EU can advance the role of ocean science in international ocean governance, and in supporting the upcoming UN Decade of Ocean Science for Sustainable Development[1] (2021–2030, the Ocean Decade) and the UN Decade on Ecosystem Restoration[2] (2021-2030). The needs of ocean governance are the prerequisite and driving force behind creating an international ocean knowledge base that feeds into decision-making. Therefore, improving ocean knowledge through co-designed science and research, innovation, observations, data, and operational climate, ocean and marine biological modelling (among other types of modelling) is crucial for supporting sustainable decisions and actions in tackling threats to ocean health and their cumulative impacts. The management and sustainable use of marine resources under a changing climate must be based on sound scientific knowledge and data to facilitate the development of a sustainable blue economy. This requires well-functioning into knowledge (defined as facts, information, and skills acquired through experience or education) which is then used as evidence to address policy questions. Such capacities to virtualize the ocean ecosystem through data and modelling helps develop what-if scenarios supporting short-term to long-term decision-making for ocean governance, particularly when building strategies for climate change mitigation and resilience, and the sustainable exploitation of ecosystems services.

The Global Ocean Observing System (GOOS) 2030 Strategy (IOC-UNESCO, 2019) highlights that the world needs a step change in ocean observations. Observations today are the backbone for ocean and weather forecasts and predictions and projections for the global climate system, and their optimal spatial and temporal resolution across the global ocean will reduce uncertainties in forecasts, predictions and projections.

- A starting point for debate to be built upon
- Written by consortium supporting the IOG initiative
- Reviewed by the European Commission and external experts

Ocean science:

- **Inclues all disciplines:** physics, biology, chemistry, geology, hydrographic, health, social sciences, engineering, humanities, as well as multidisciplinary sciences.
- Seeks to understand complex, multiscale systems (physical and sociological) and requires observations, modelling and other forms of knowledge creation.
- **Objective:** to understand how the ocean works, changes over time, responds to natural and anthropogenic pressures.
- **Uses:** Assess the status of ocean ecosystems, resources, and make sustainable use decisions.

Governance applications:

- Understand how the **ocean influences climate change**, is impacted and **responds to climate change** and **other stressors** (human uses);
- Assess **ocean resources** and their **sustainable exploitation**;
- Understand the **interaction** between uses of the **ocean** under the **Blue Economy**;
- Protect ocean **ecosystems** and **ecosystem services**; and
- Understand the **resilience of the ocean** to these pressures.

Forum ambition and focus:

- Highlight **challenges & opportunities** for **making ocean research more responsive** to needs of decision-makers;
- Better able to **support management of human pressures**;
- Link with TWG1: Improving the international ocean governance framework:

  -> provide **advice on improving a responsive backbone** for IOG and **ensure conservation** and **sustainable use of ocean resources**;
- Link to TWG2: Reducing pressure and link to sustainable blue economy:

  -> consider how to **improve data collection** & **dissemination** based on user needs & mechanisms to **provide knowledge to blue economy**;
- Strengthen international ocean knowledge systems to **support UN 2030 17 SDGs** and **European Commission's Green Deal**.

Selection of topics:

Focus on how the EU can advance the role of ocean science in international ocean governance

1. Improving Ocean Science-Society-Policy Interfaces (Julian Barbiere (IOC-UNESCO))
2. Supporting Ocean Research (Jörn Schmidt (Kiel University))
3. Strengthening Ocean Observations (George Petihakis (HCMR))
4. Improving Alliances (Martin Visbeck (GEOMAR))
5. Supporting Data Frameworks and Ocean Services (Sara Garavelli (Blue-Cloud))

Questions?

Sheila Heymans

sheymans@marineboard.eu

#IOGForum
#OceanEU

EU-Ocean-Governance-Forum@ec.europa.eu

EU International Ocean Governance Forum

Improved Ocean Science-Society-Policy Interface

Julian Barbière

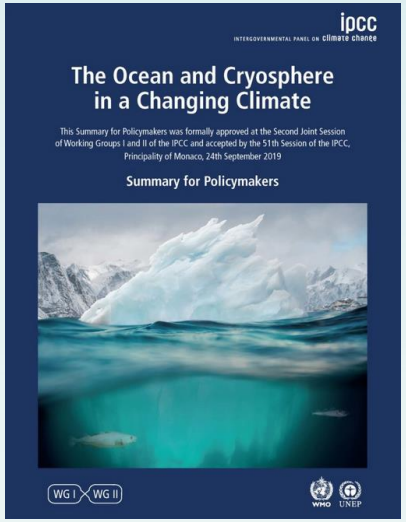
Head, Marine Policy and Regional Coordination Section / UN Ocean Decade Focal Point

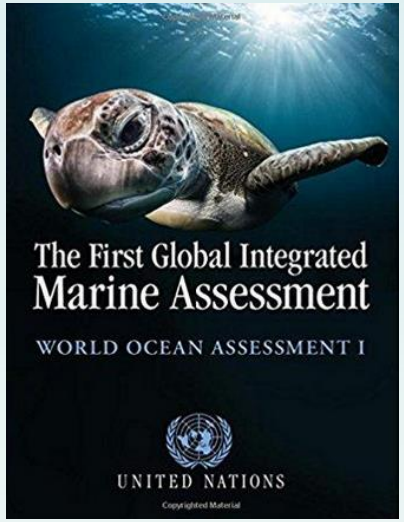
Intergovernmental Oceanographic Commission (IOC) of UNESCO

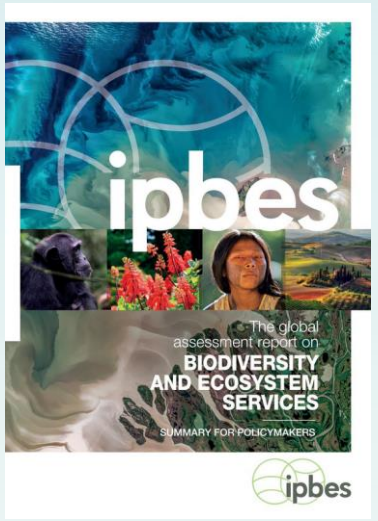
#IOGForum
#OceanEU

EU-Ocean-Governance-Forum@ec.europa.eu

A strategic and comprehensive approach to co-design marine research, to translate, and embed scientific knowledge into policy measures is needed to prevent the transgression of planetry boundaries.







UNFCCC, IPCC, UN World Ocean Assessment, IPBES reports, G7 Future of Seas and Oceans Initiative, IOC-UNESCO, Global Ocean Forum, World Ocean Network, ICES, WIOMSA, HELCOM, OSPAR, European Marine Board

Improved Ocean Science - Society - Policy Interface

Challenges

- How to better listen and respond to decision-makers and citizens so we can **co-design** the research, data and knowledge they need.
- How to use knowledge to create **effective operational tools** for ocean health monitoring and decision-making at multiple scales: from international to EU, regional and national scale.
- How to develop **effective science-society-policy interfaces** and decision making processes that are designed to effectively use data and knowledge, and that are more evidence-based.
- How to develop **joint learning** processes and **communication channels** to pass on scientific knowledge to policy makers and encouraging them to take it up.
- How to **integrate and transfer global to local scale ocean science** into operational ocean services.
- How to strengthen **citizen engagement** and **ocean literacy** among decision-makers and feed it into narratives that resonate.

Improved Ocean Science - Society - Policy Interface

Opportunities

- Federate and **streamline different ocean communities** at regional to global levels into an integrated system for increased and improved ocean science policy cooperation within scientific bodies for capacity building.
- Better integrate and support regional and international **ocean assessments**.
- Develop a strategic and comprehensive approach to **co-design marine research**, translate, and embed scientific knowledge and data into regional and international policy measures (e.g. SDGs, EU Green Deal).
- Strengthening **ocean literacy** among decision-makers and citizens More programmes for ocean education can be developed and more professionals trained in **science communication**.
- **Open access** to data and scientific publications. Develop more incentives for researchers to make their results and data open-access, and support services for open access research and data.
- Develop **stronger infrastructures** to translate research into actionable knowledge for decision-makers

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

‘The science we need for the ocean we want’ (vision)

Knowledge is used for action to ensure that the ocean contributes fully to sustainable development by 2030 and beyond

‘The ocean we have’

Global ocean science capacity and ocean literacy

‘The ocean we want’

- Clean
- Safe
- Healthy & Resilient
- Productive
- Predicted
- Accessible

Generate knowledge through ocean science relevant to society

Widely deploy ocean knowledge applications, tools and services

Policy and decision making based on best scientific knowledge

Improved Ocean Science - Society - Policy Interface

Consultation Questions

- How can we ensure that ocean research is translated into actionable knowledge for decision makers?
- How can we ensure that knowledge is swiftly taken up by policy developers and decision makers?
- Can we make open science the norm internationally given the paywall for open science is often not manageable, particularly in the Global South and even some European countries?
- What programmes/initiatives should be developed to improve ocean literacy among policy makers?
- How can the World Ocean Assessment (WOA) be strengthened (perhaps in cooperation with IPBES and IPCC) deliver a more authoritative and policy relevant State of the Ocean Assessment, that is policy relevant and deliv an assessment of the attainment of SDG14 and other ocean related SDGs?
- How to better integrate and support regional assessments, as developed through regional seas agreements suc the Oslo-Paris Convention (OSPAR Commission) and the Helsinki Convention (HELCOM commission) as well a regional science bodies such as ICES and WIOMSA?
- [illegible] and ocean [illegible] and marine resource exploitation through specialized UN and national authorities?

EU International Ocean Governance Forum

Supporting Ocean Research

Jörn Schmidt

Kiel Marine Science

#IOGForum
#OceanEU

EU-Ocean-Governance-Forum@ec.europa.eu

The goal for the next decade will be to provide nutritious food, clean energy, water, medical services and decent living conditions for all people on Earth…without overstepping the carrying capacity of the planet – Peter Haugan, Chair of IOC

Photo by IISD/Francis Dejon

Supporting Ocean Research

Challenges

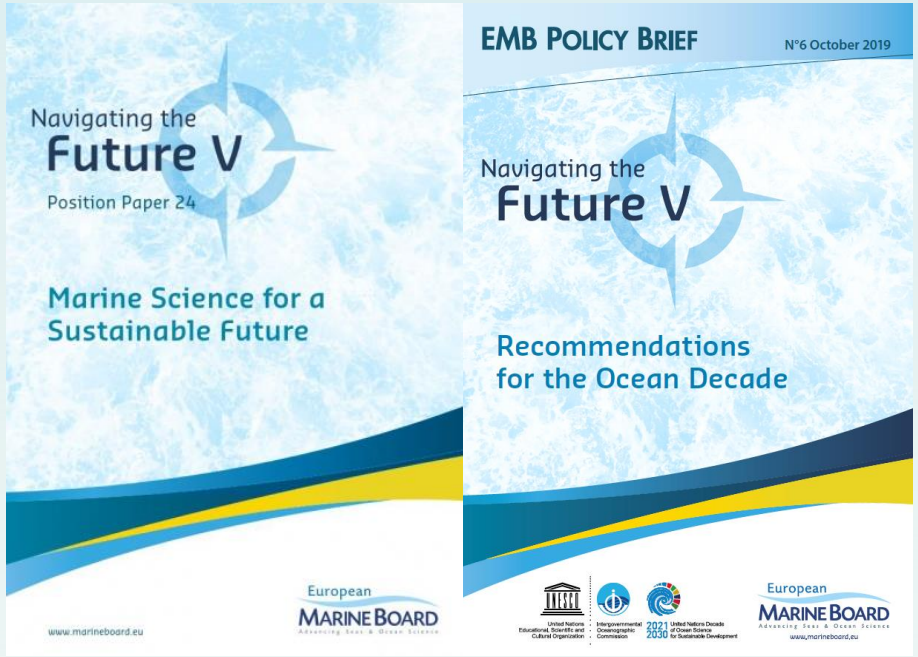
- Supporting a **science policy dialogue** for a sustainable blue economy
- **Transdisciplinarity** → co-design, co-production and co-implementation
- **International collaboration** to address knowledge gaps and research priorities

Supporting Ocean Research

Challenges

Key knowledge gaps are (based on Navigating the Future V.):

- Understanding **multiple-stressors** to develop ways to reduce them
- Understanding ocean ecosystems, including humans, for **ecosystem-based management** frameworks
- Understanding **extreme events** to prevent loss and damage
- Understanding the **land-estuaries-coast-ocean continuum**



Supporting Ocean Research

Opportunities

- Apply transdisciplinary science approaches to **generate knowledge for societal challenges**
- Develop **smart ocean observing systems** supported by maritime sectors and citizens
- **Improve models** and model frameworks to address trade-off analysis
- **Support governance** structures to consider trade-offs and increase resilience
- Develop **training programs** to apply Artificial Intelligence in ocean science

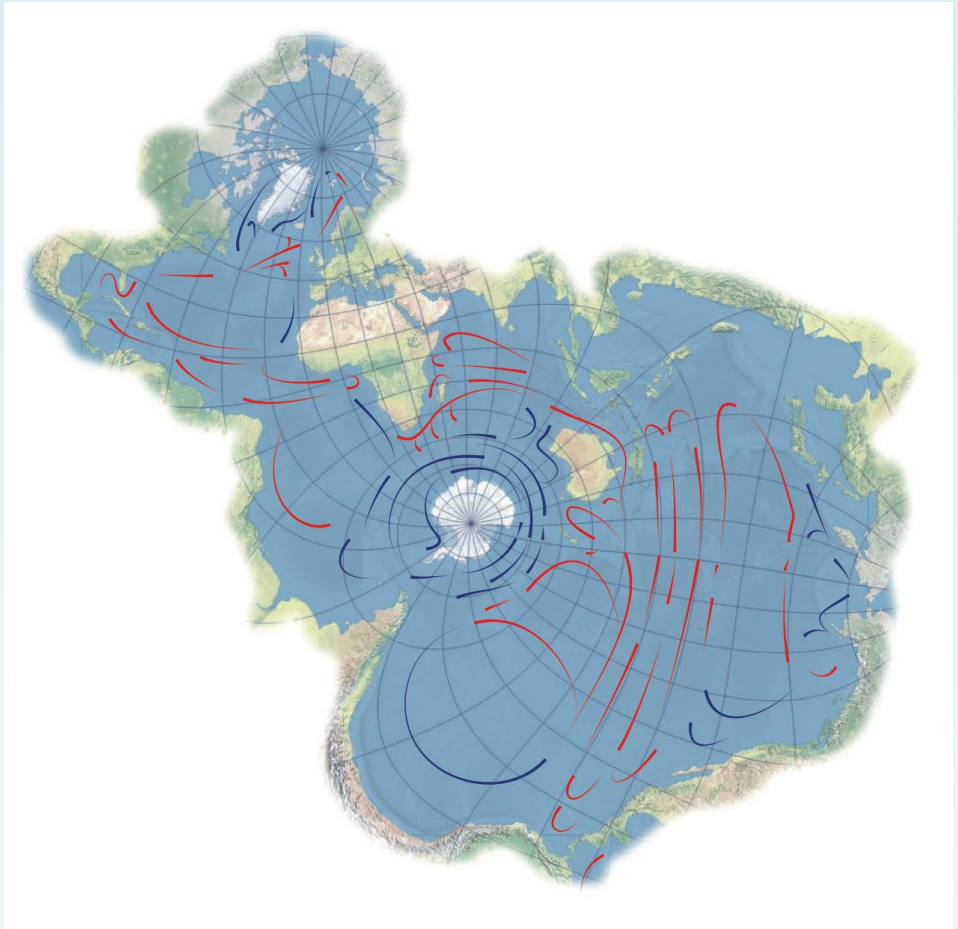


Image credit: GEOMAR

Supporting Ocean Research

Consultation Questions

- How can we design marine research programmes that are transdisciplinary and based on sustainability science with the aim of producing quality-controlled knowledge that can be used in decision-making?
- How can we design marine research programmes that allow for adaptability to rapidly changing climate and technological advances in research methods?
- How can we foster the transition from research to operational ocean services, accessible to local and internatio communities for decision-making, impact assessment and development of best practices?
- How can we foster the development of co-creation between actors based on new digital technologies that would foster the development of new policies and best practices?
- How can we leverage EU research infrastructures to better support international ocean research and governanc e.g. the European Research Infrastructure Consortium (ERIC) and the European Strategy Forum on Research Infrastructures (ESFRI); and
- How can we optimize marine research to provide solutions to human pandemics like COVID-19? How can we accelerate research on oceans and human health and improve governance measures to protect marine biodiversity with human health benefits?

EU International Ocean Governance Forum

Comfort Break

STRENGTHENING INTERNATIONAL OCEAN RESEARCH, DATA AND KNOWLEDGE

#IOGForum
#OceanEU

EU-Ocean-Governance-Forum@ec.europa.eu

EU International Ocean Governance Forum

Strengthening Ocean Observations

George Petihakis

Hellenic Centre for Marine Research

#IOGForum
#OceanEU

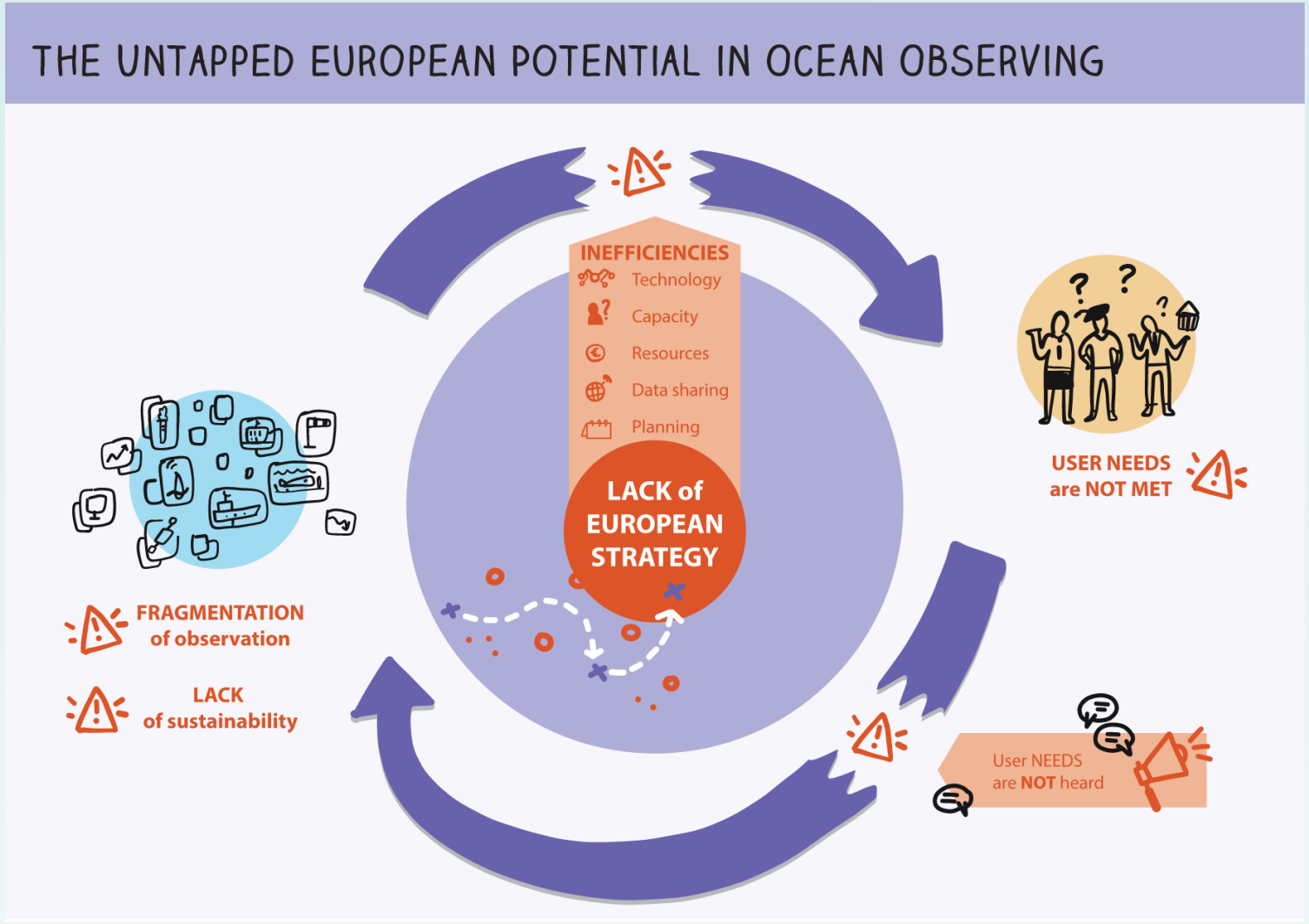
EU-Ocean-Governance-Forum@ec.europa.eu

The UN 2030 Agenda, the adaptation and mitigation of climate change impacts, the prevention of the transgression of planetary boundaries and the achievement of the SDGs will require a strategic approach to ocean observing.

Strengthening Ocean Observations

Challenges

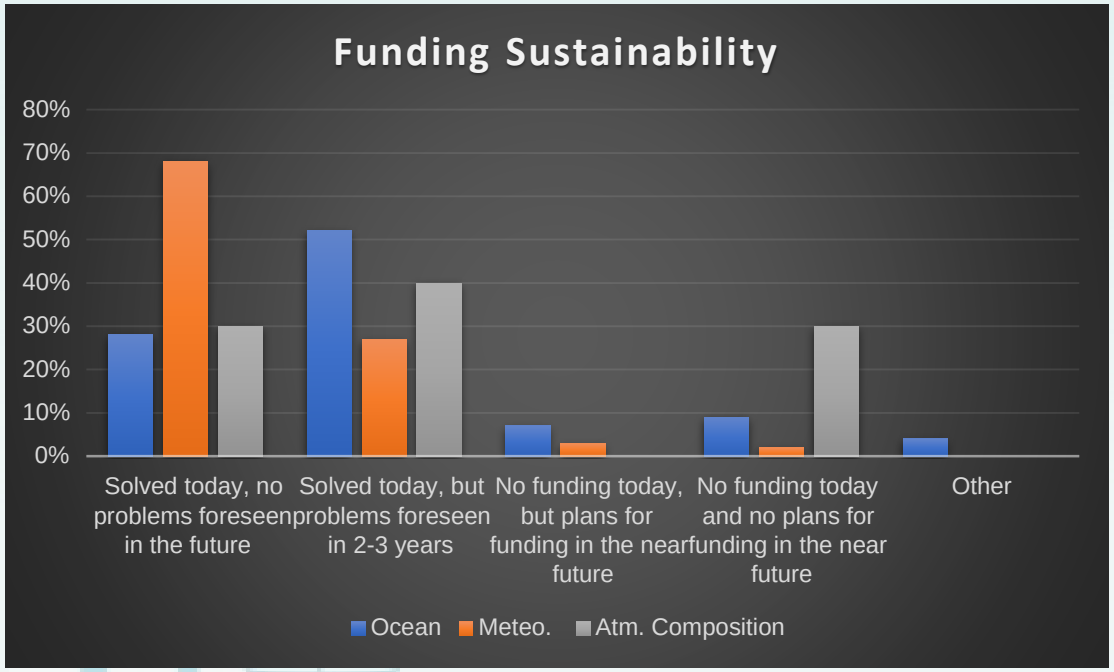
- Fragmentation in observing effort
- Lack of coordination
- User needs are not heard and met



Strengthening Ocean Observations

Challenges

- A **lack of financial sustainability** for ocean observations, most of which are funded on an ad hoc basis with only 1-4 year horizon of certainty.



Funding sustainability	Ocean	Meteo.	Atm. Composition
Solved today, no problems foreseen in the future	28%	68%	30.00%
Solved today, but problems foreseen in 2-3 years	52%	27%	40.00%
No funding today, but plans for funding the near future is under way	7%	3%	
No funding today and no plans for funding in the near future	9%	2%	30.00%
Other	4%		

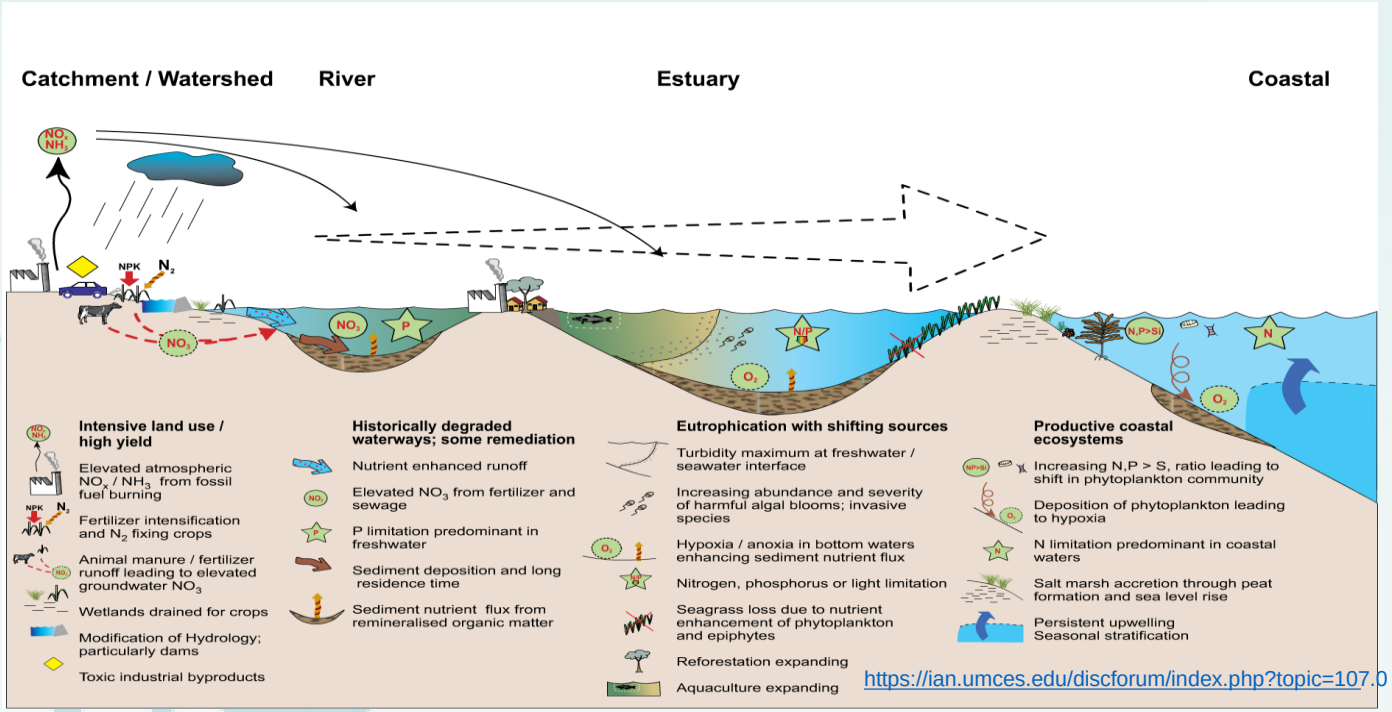
- Only 28% of ocean observations are sustainable, compared to 68% of meteorological observations.

Buch, E., Fernandez, V., Grzic, I. and A. Vermeulen (2019), Sustainability Survey, EEA/IDM/15/026 - Services supporting the EEA's implementation of costing activities for coordination of the in situ component of the Copernicus Programme

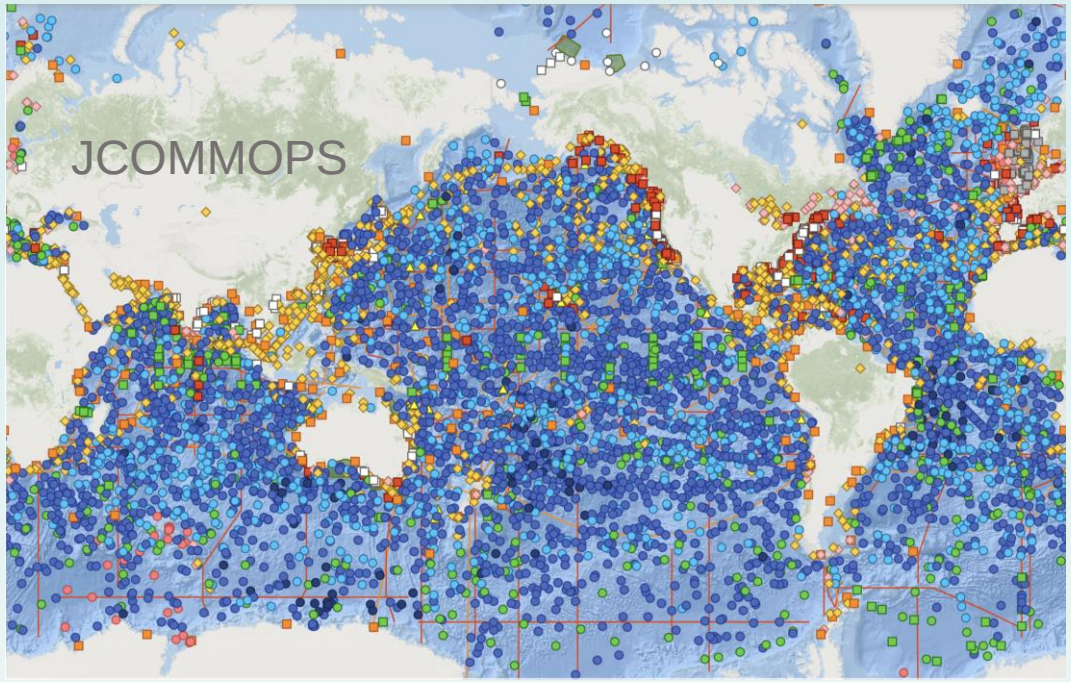
Strengthening Ocean Observations

Challenges

- A **lack of capacity** in the Global **South** for ocean observations.
- Some areas of the ocean are **difficult** to **reach** e.g. the deep sea.



https://ian.umces.edu/discforum/index.php?topic=107.0

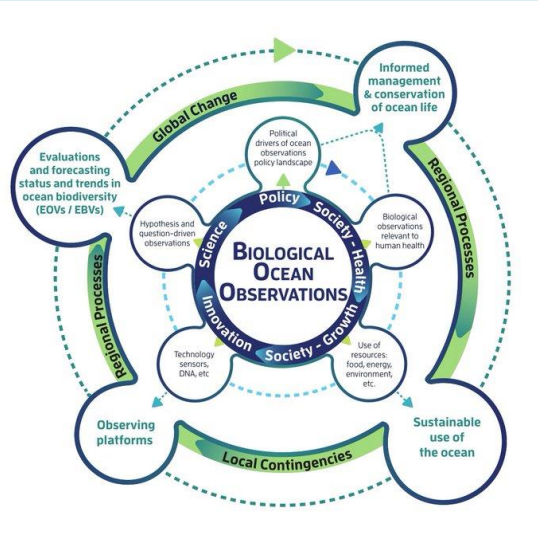


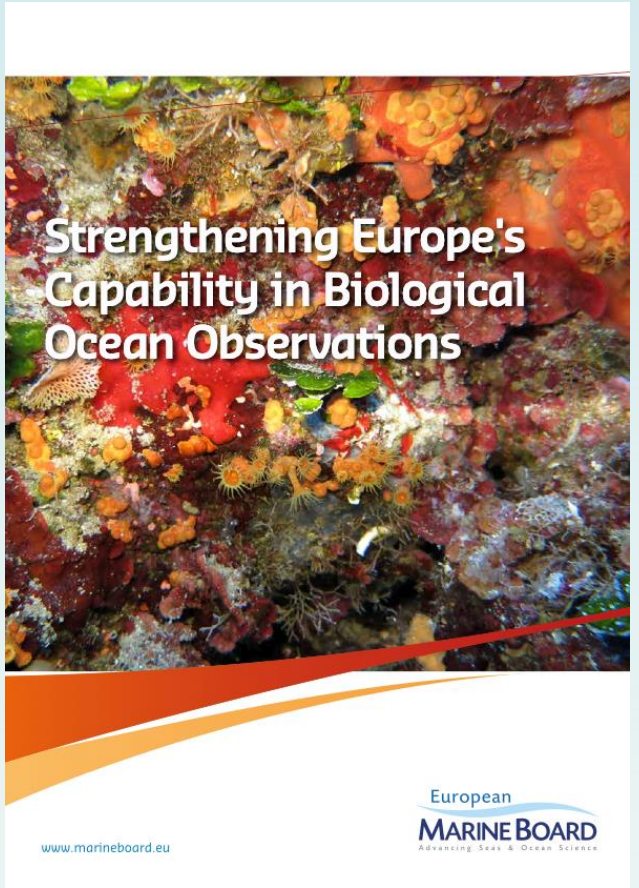
- The **coastal ocean** the most productive and dynamic part of the world ocean, which makes it significant source of resources and services for mankind. But it is **very complex** which affects observational effort.

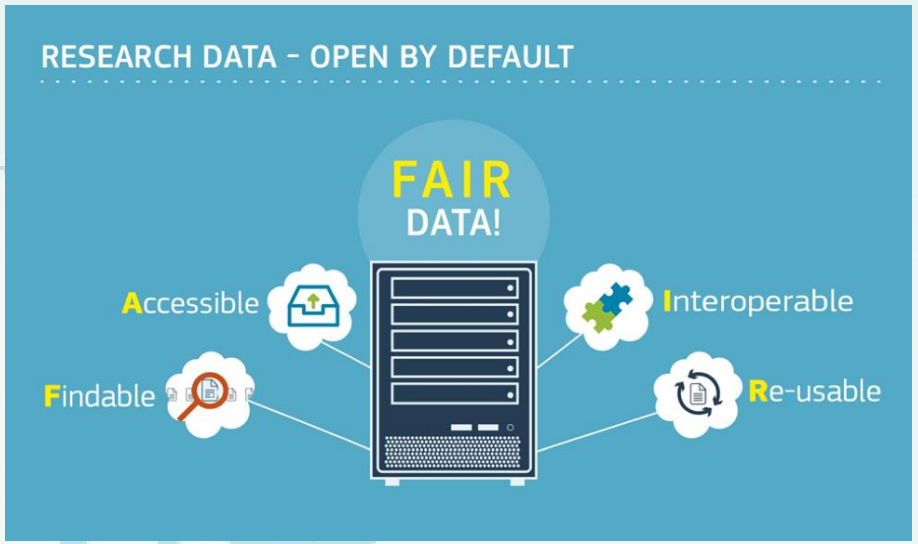
Strengthening Ocean Observations

Challenges

- Global ocean observations predominantly include physical and biogeochemical parameters. The further**development of biological observations** and observations of human activities is a key challenge.







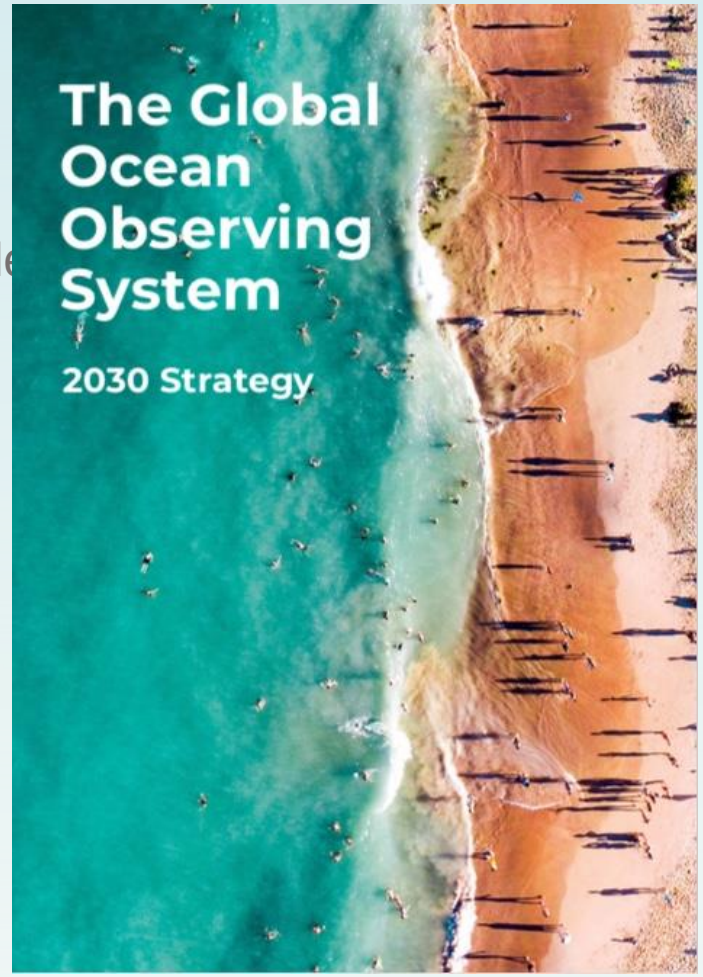
- Standardized measurements, scientific and technical innovations,**FAIR data access and management**, capacity development, technology transfer.

- There are currently many gaps in coverage of bathymetric surveys.

Strengthening Ocean Observations

Opportunities

- A a truly **integrated global ocean observing system** that delivers the essential information needed for our sustainable development, safety, wellbeing and prosperity

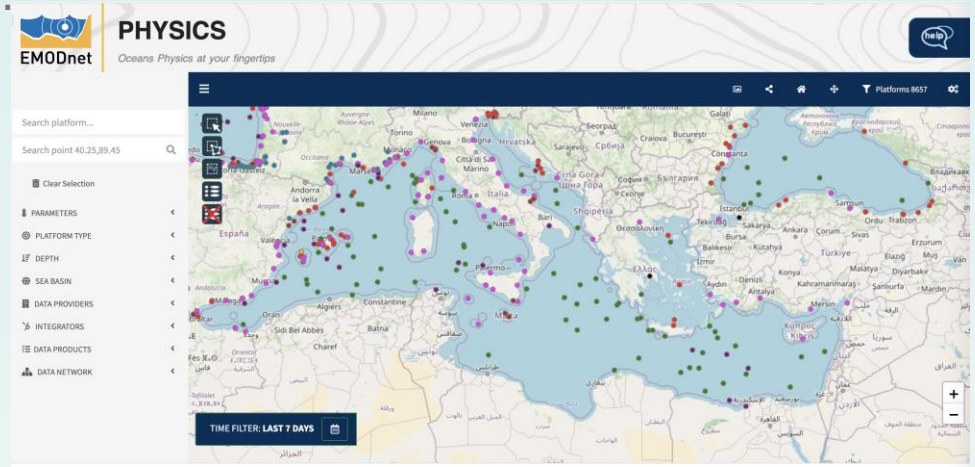


- A **coordinating framework** to align and integrate 9 dzNJ ₂ LJ Ŝ Ω ă ₂ Ŏ Ŝ ł· y ₂ ō ă ŜNJØ ƛ y Ǝ Ŏ Ocean Observing System (EOOS).

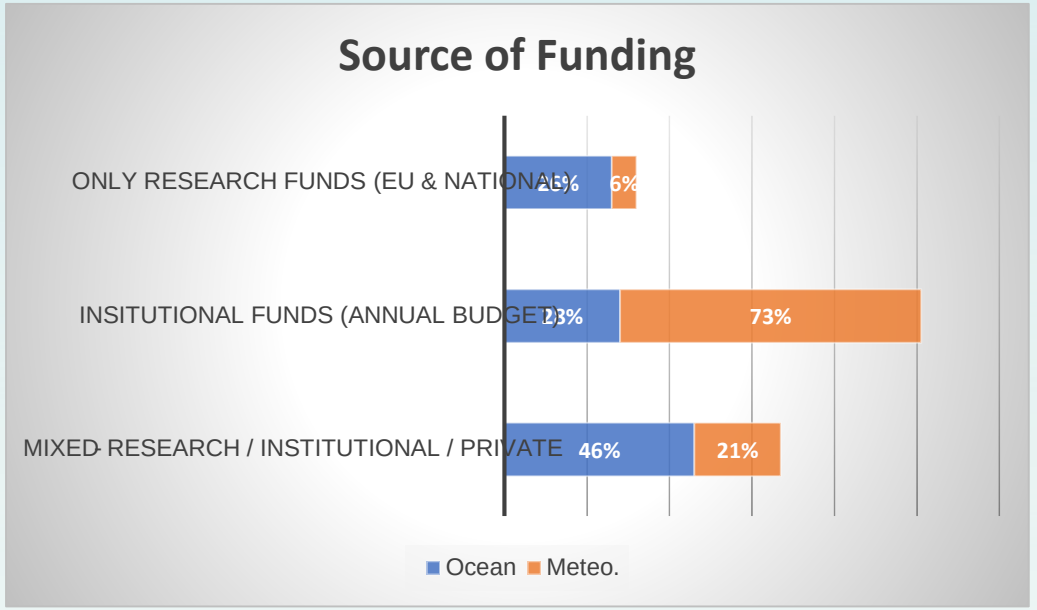
Strengthening Ocean Observations

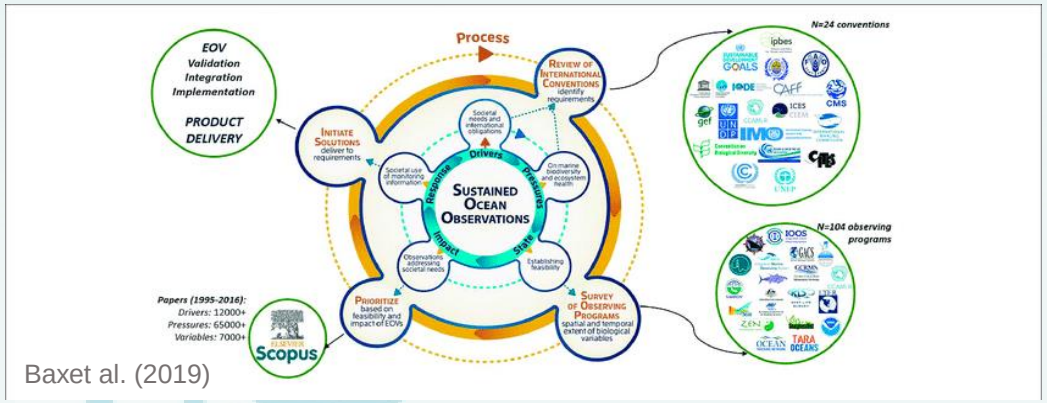
Opportunities

- **Capacity development** for observations in the Global South.
- **Equitable observations** (equal in number and frequency) in all ocean basins.



- Sustained funding for ocean observations.





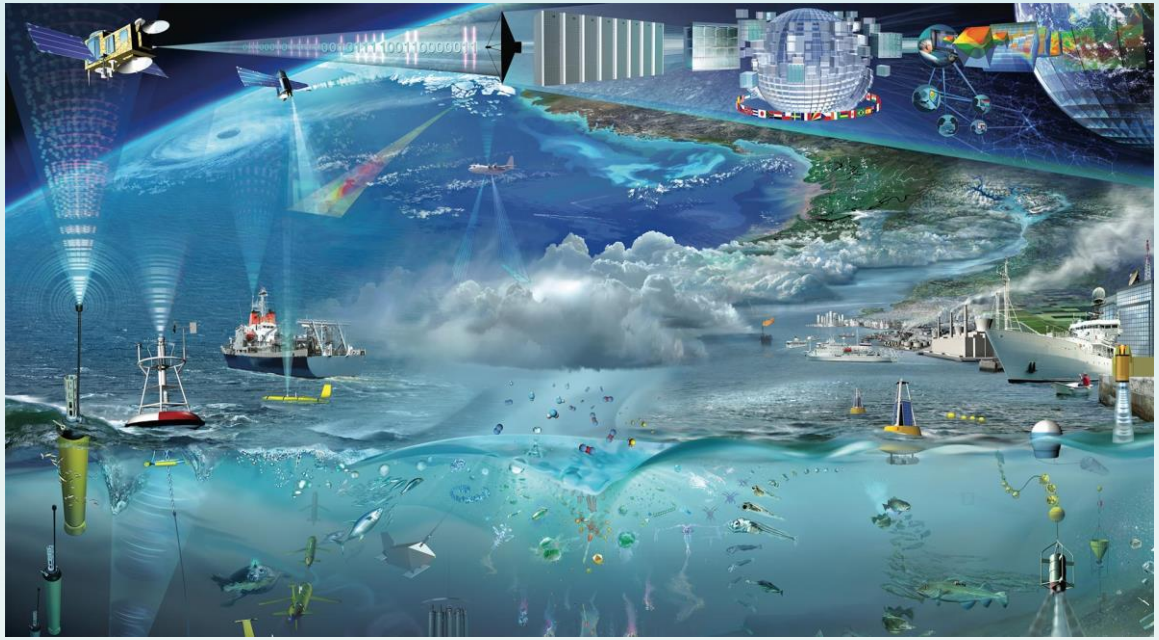
Baxet al. (2019)

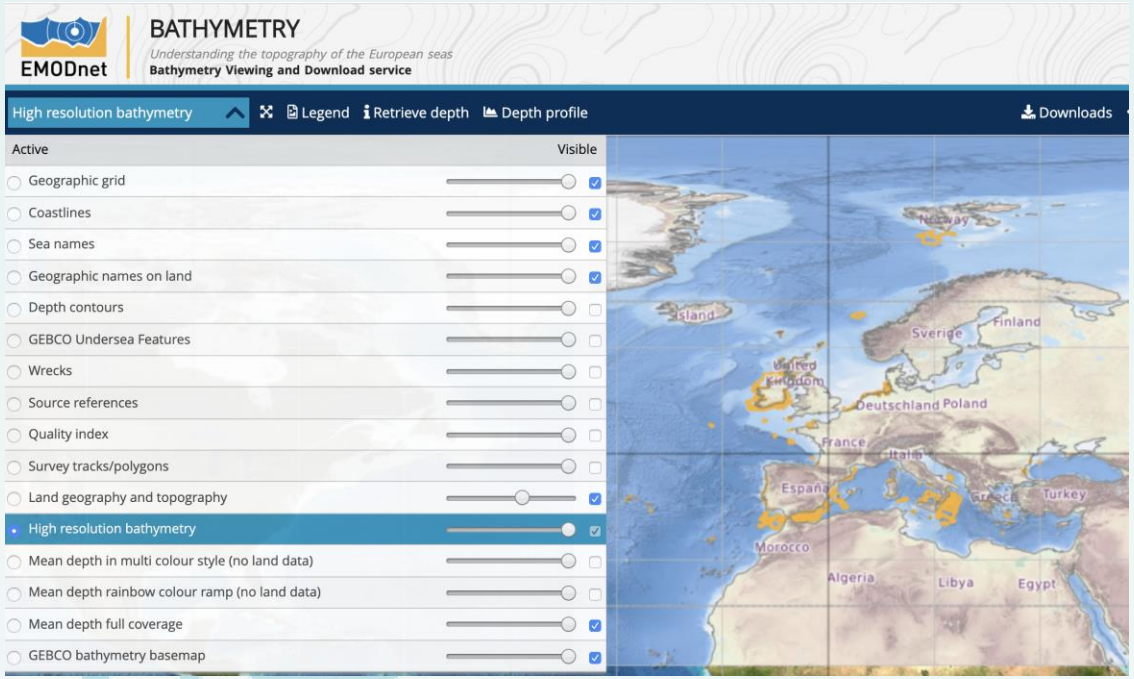
- **Capacity development** for **biogeochemical** and **biological** observations and observations of human activities (sustenance, extractive, exploitive, recreational).

Strengthening Ocean Observations

Opportunities

- **Improvements** in ocean observation **technologies** and data handling.





- Increase efforts to make **bathymetric** survey **data** sets from government, research and industry available to contribute to the global Seabed2030 initiative.

Strengthening Ocean Observations

OCEAN OBS'19
AN OCEAN OF OPPORTUNITY
September 16-20, 2019

Through meaningful partnerships, we continue to build a sustainable ocean observing system that will generate knowledge for society. With timely, reliable, and accessible information, ocean interactions can be maintained sustainably and societies will prosper.

Strengthening Ocean Observations

Consultation Questions

- How do we ensure sustained funding for ocean observations?
- How can we enable capacity development for biogeochemistry (including pCO_2 and pollution) and biological observations?
- How do we observe human activities: sustenance, extractive, exploitive and recreational?
- How can we enable capacity development for ocean observations in the Global South?

EU International Ocean Governa

Improving Research Alliances

Prof. Dr. Martin Visbeck

GEOMAR Helmholtz Centre for Ocean Research Kiel
and Kiel University, Germany

#IOG
#OceanEU

EU-Ocean-Governance-Forum@ec.europa.eu