Inception impact assessment on sharing responsibility for Ocean observation
26 October, 2020

An inception impact assessment on sharing responsibility for ocean observation is now open for feedback. This initiative aims to achieve a common EU approach for measuring once but using the data for many purposes which would include:

- joint planning of observation activities
- a framework for collaboration on a national and EU scale.

About this initiative

Summary

Ocean observation is essential for the knowledge base of the Green Deal. Data are collected by different authorities for different purposes.

This initiative aims to achieve a common integrated approach to ocean observing for EU States.

It proposes:

- joint planning of observation activities
- a framework for collaboration on a national and EU scale.

Topic Maritime affairs and fisheries

Type of act Proposal for an act

INCEPTION IMPACT ASSESSMENT	
Inception Impact Assessments aim to inform citizens and stakeholders about the Commission's plans in order to allow them to provide feedback on the intended initiative and to participate effectively in future consultation activities. Citizens and stakeholders are in particular invited to provide views on the Commission's understanding of the problem and possible solutions and to make available any relevant information that they may have, including on possible impacts of the different options.	
TITLE OF THE INITIATIVE	Ocean observation
LEAD DG (RESPONSIBLE UNIT)	DG MARE – A1 (Maritime Innovation, Marine Knowledge and Investment)
LIKELY TYPE OF INITIATIVE	*To be decided*
INDICATIVE PLANNING	*Q4 2021*
ADDITIONAL INFORMATION	-

A. Context, Problem definition and Subsidiarity Check

Context

Our oceans are undergoing unprecedented change as a result of direct human economic activity and accelerating climate change. To give some examples, the Commission "Clean Planet" scenarios[1] indicate that a zero-carbon economy will require a quarter of the EU's electricity to be generated offshore by 2050 with 20 times more wind turbines than today covering a quarter of some Member States' waters. The Commission's Communication on increasing 2030 targets[2] suggests that increased shellfish or algae cultivation can relieve pressure on land resources. The EU needs to prepare for these radical changes.

Understanding what could happen in the future relies on information about what has happened in the past. For this reason, EU member states currently spend more than €1.5 billion a year in observing the ocean, some of which is funded by the EU and some is to meet the EU legislation. Responsibility for the observation is split between several ministries, departments and agencies.

Problem the initiative aims to tackle

The main problem driver is the split responsibility between different departments both at a national and at an EU level. At present there are ad-hoc initiatives for sharing responsibilities- for instance measuring environmental parameters on a fisheries survey. But the lack of a national, seabasin or global overview of what is being measured, what is going to be measured or what should be measured means that each community – fisheries, research, hydrography – sets its own priorities and uses its own assets – vessels, buoys etc. without knowledge of what the others are doing There are a number of research infrastructure consortia, supported partly by the EU, that coordinate different national contributions but there is no coordination between the different consortia. New technology is offering new opportunities – sensors that avoid the need to bring samples back to the laboratory, robotic floats, gliders, autonomous underwater or surface vehicles that can reduce the need for expensive ship time. But they are slow to reach the market..

According to a conference in 2018 where all the stakeholder groups were represented[15,] this results in:

1) inefficient planning - marine observations are made for a specific purpose by a specific user community Whereas the observations may also be used for other purposes, the other communities have no say on where, when and how these observations are made[14.]
2) opaque planning – building up a picture of the seas and oceans requires planning at a sea-basin or oceanic scale but countries are often unaware of plans of neighbours[3]
3) insufficient sharing. - vessels, buoys, buoys sensors are expensive tools. Gaps in observation limit our ability to sustainably manage our oceans; Sharing of these assets could allow more observations for the same money[4]

[1] A Clean Planet for all A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy COM/2018/773 final

[2] Stepping up Europe's 2030 climate ambition Investing in a climate-neutral future for the benefit of our people COM(2020) 562 final

[3] Report on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC) COM/2020/259 final

[4] Making progress towards integration of existing sampling activities to establish Joint Monitoring Programmes in support of the MSFD, Marine Policy 59 (2015) 105–111

4) insufficient innovation – market failures mean that take-up of new platforms and sensors, which could further increase efficiency and compete in a global market, is slow[3];
5) unsustainable observation – whilst long-term observations are essential for understanding the state and dynamics of the ocean, they are frequently funded by precarious short-term budgets According to a recent study[4] only 28 % of the networks have sustained funding, 53% face problems in the near future and 9% have severe problems
6) inequitable sharing of effort for participation in international observation programme that benefit the EU as a whole

Basis for EU intervention (legal basis and subsidiarity check)

Ocean observation concerns fisheries, transport, the environment, energy and possibly other fields. The EU has the competence to act in these areas (Art. 43(2) on fisheries, Art 100(2) on transport, Art.192 (1) (environment) and Art.194(2) on energy (TFEU)). Coordinating activities between Member States and setting a system to pool resources between Member States will demonstrate a very practical added value of the EU and will potentially reduce costs.

B. Objectives and Policy

The initiative aims to achieve a coherent approach to European ocean observation that allows Member States to build and operate a marine observation infrastructure that meets their priorities, maximises the potential for measuring once and using the data for many purposes. It should facilitate the sharing of responsibility and assets between different communities and different countries in order to produce the most effective results for the least cost to best face the challenges of our rapidly changing oceans By marine observations, we include all surveys, monitoring campaigns or sampling programmes for measuring the state and dynamics of oceans and the marine organisms that inhabit them. By oceans, we mean seas and oceans including the seabed as well as the overlying water column. Possible options are:

1) baseline – no action
2) Directive aiming for Member States to bring all public bodies responsible for ocean observation together to develop priorities, realise opportunities for sharing effort, speak with agreed voice at EU level and facilitate coherence at a sea-basin level.
3) the same as option 2 but through a Regulation. Since there would be no existing national laws to amend, this could allow a more uniform and simpler implementation.
4) the same as option 2 but through soft law such as an open method of coordination
5) the same as option 2 but with EU funding to support observations of common benefit

C. Preliminary Assessment of Expected Impacts

Likely economic impacts

Impacts include:

1) Increased productivity (i.e. more results for same price or same results for lower price)

- sharing platforms for monitoring,
- focusing resources on issues with most priority
- coherence between EU monitoring obligations 2) Increased innovation
- wider opportunities for new technologies for sensors and platforms (usually developed by SMEs) with global market

3) Reduced uncertainty

- better planning for adaptation for climate change
- better planning for marine management and spatial planning
- reduced risk in planning or operating offshore or coastal structures (wind-farms, cables, aquaculture etc.)

Likely social impacts

Impacts include:

1) more inclusive discussions on priorities
2) fewer conflicts in use of the sea

5 Study to support investment for the sustainable development of the blue economy (2019) https://op.europa.eu/en/publication-detail//publication/aee1a34c-3b0c-11e9-8d04-01aa75ed71a1/language-en

6 Framework Service Contract EEA/IDM/15/026/LOT 1 for Services supporting the European Environment Agency's (EEA) implementation of cross-cutting activities for coordination of the in-situ component of the Copernicus Programme Services, 2019

3) international leadership in ocean observation (G7, G20 emphasise the importance). Ocean observation has been identified as crucial to United Nations Decade of Science for Sustainable Development (especially sustainable development goal 14)
4) improved knowledge of underwater cultural heritage (submerged landscapes and shipwrecks)
5) Breaking silos between communities

Likely environmental impacts

Impacts include:

1) broader knowledge basis for measures to adapt to climate change
2) better understanding of ecosystem impacts from human activity
3) improved monitoring of marine environment by including more observations made for other purposes and therefore supporting measures to protect biodiversity
4) better support for (environmental) impact assessments

Likely impacts on fundamental rights

The impact would be a more open process that can lead to transparency and citizen engagement on our common heritage

Likely impacts on simplification and/or administrative burden

Business is already obliged to undertake observations for environmental impact assessments but report that the diversity of requirements adds costs[7]. Public Authorities are required to monitor for the Marine Spatial Planning Directive, the Marine Strategy Framework Directive, the Water Framework Directive, the Habitats Directive, the Birds Directive and the Nitrates Directive, Better coordination will provide an opportunity to simplify by giving Member States the opportunity to set up an observation strategy that meets many requirements as, for instance, pointed out in the Fitness Check of the Nature Directives[14].

D. Evidence Base, Data collection and Better Regulation Instruments

Impact assessment

The impact assessment will be prepared to support the preparation of this initiative and to inform the Commission's decision. The impact assessment will build upon studies over the past decade and involve wide consultation with stakeholders. This impact assessment will assess economic, social and environmental impacts, be guided by a steering group of relevant Commission services and pay particular attention to streamlining administrative procedures.

Evidence base and data collection

Results from a number of relevant studies over the past decade already provide ample information. These are mostly from Europe although some are from the United States which faces similar issues. This includes:

- study on the cost of ocean observation[8],
- the challenge of sustaining ocean observations[9]
- studies on the economic benefit of ocean observation [10],[11]
- studies on the nature of the innovative industries engaged in observation[12]
- results of stress tests on ocean observation
- marine data needs for maritime spatial planning[13]
- Fitness Check of the EU Nature Legislation (Birds and Habitats Directives)[14]
- report from major international conference that identified gaps and opportunities for synergies in ocean observation[15]
- report on coordination on marine monitoring in Member States under preparation[16]
- Future Ocean Observations to Connect Climate, Fisheries and Marine Ecosystems[17]

7 https://www.eusew.eu/ocean-observation-green-deal
8 Marine data infrastructure (2009) MRAG https://webgate.ec.europa.eu/maritimeforum/en/node/3942
9 Weller aet al. "The Challenge of Sustaining Ocean Observations" Front. Mar. Sci., 19 March 2019
10 FINAL REPORT NOAA Fleet Societal Benefit Study September 2017
11 Study on costs, benefits and nature of an extended European Ocean Observing System, MRAG, 2018, https://publications.europa.eu/en/publication-detail/-/publication/068f4460-1851-11e8-ac73-01aa75ed71a1/language-en/formatPDF/source-66154304
12 The Ocean Enterprise – understanding and quantifying business activity in support of observing, measuring and forecasting the ocean Journal of Operational Oceanography (2018) https://www.tandfonline.com/doi/full/10.1080/1755876X.2018.1543982
13 Analysis of Data Needs and Existing Gaps in Celtic Seas (2017) https://webgate.ec.europa.eu/maritimeforum/en/node/4057
14 Commission Staff Working Document SWD(2016) 472 final
15 Evolving EOOS: connecting communities for end-to-end solutions Conference 2018 https://www.eoosconference2018.eu/conferencereport
16 By EMODnet secretariat and European Marine Board
17 In Marine Science https://www.frontiersin.org/articles/10.3389/fmars.2019.00550/full

- value of ocean observation in Asia-Pacific[18]

An additional study on uptake of new technologies in the area of ocean observation began on 31 August 2020 and will feed into the assessment[19].

Consultation of citizens and stakeholders

Stakeholders have already been given an opportunity to discuss the shortcomings of the present European observation system. An international conference[20] in Brussels on 21-23 November 2018 brought together a range of stakeholders contributing to and/or reliant on ocean observing/monitoring activities in Europe from the scientific community, public authorities to industry and civil society. A public consultation and targeted consultations will give an opportunity to clarify and quantify the identified problems and gather opinions about resolving them. These consultations will

- collect facts, views and opinions on current bottlenecks in ocean observation and preferences for resolving them
- ensure all voices are heard with adequate representation of all stakeholder groups – private industry, public authorities, civil society, research;
- gather further information, including roadmaps, policy briefs, studies and analysis of policies, actions and technologies.

The public consultation will be launched in the fourth quarter of 2020 and be open for three months. Attention will be drawn to the consultation through the internet, through events and through Friends of the Presidency with Member States

Will an Implementation plan be established

The impact assessment will be accompanied by a plan of measures to be undertaken by the Commission.

18 https://www.industry.gov.au/sites/default/files/2019-11/current-and-future-value-of-earth-and-marine-observing-to-asia-pacific-region.pdf
19 https://webgate.ec.europa.eu/maritimeforum/en/node/5147
20 http://www.eoos-ocean.eu/conference-2018/

Response from the National Oceanography Centre

Prof. Ed Hill CBE

Part A

NOC appreciate the opportunity to comment on this important EU initiative that promotes a ***one ocean*** perspective, spanning institutions, ministry portfolios, countries and political constructs.

Acknowledgement is required that while **fragmented,** good collaborations exist that bridge responsibilities and funders to meet collective requirements. Failure to recognise and adapt solutions around **good practice** runs the risk of solutions not being adopted.

Integration of effort is dependent on **providing a common purpose**. Regulation is a clear motivator, but division of responsibilities within government departments is natural and presents the greatest challenge as the root of fragmentation e.g. **Hazard warning** - Met services tend to be well funded but focus on emergency response at the potential cost of scientific accuracy; **Ocean Health assessments** underpinned by legislation but confined to national jurisdictions (e.g. EEZs) with little focus on scientifically important contextual measurements and prone to discretionary funding; **Scientific research** –continuity of funding is difficult as funders are reluctant to fund long-term infrastructure relating to climate and ABNJ over the funding flexibility required to meet emerging science needs with shorter projects.

A false narrative exists among some R&D funders that further climate observations are not needed, and so funding should be directed at 'science of solutions' rather than further 'elaboration of the details of a known problem'. This is false as it is **essential to keep track** of outcomes of solutions by continuous observation. The narrative is transferable to **ocean health**.

Observations for climate & ocean health are: insufficiently grounded in a legal imperative to be systematic and sustained; overly dependent on R&D funding agencies with poorly aligned motivation to support sustained observations; poorly mapped to new technology and solutions that offer transformational capability, hindered by a lack of investment.

In summary **new business models and new incentives** are required for cross-cutting, integrated approaches.

Part B

NOC recognise that new investment in sustained ocean observing is positive, but to go from *B 2)* to *B 3)* and beyond requires careful consideration of many factors. NOC recommends a review of existing Global and EU Level regulation related to ocean observations.

Globally governance is by a number of legal frameworks:

- For operational services, the WMO Convention is championing 'Earth System approaches (e.g. Resolution 40 on Data Sharing).
- Marine scientific research is regulated by UNCLOS Part XIII at State level.
- Impacts of new BBNJ legislation has yet to be determined.

NOC cautions that any new regulation that legislates marine infrastructure and/or research within State coastal waters is at risk of conflict with part XIII of UNCLOS.

NOC recommend that before new directives are sought, current directives are reviewed. Inclusion of '**Remediation of Climate Impacts**' as an integral component of such directives would encourage States to combine effort, knowledge and resources across all relevant sectors.

NOC propose B 5), but recommend an urgent review of existing directives to ensure all threats posed by climate change are addressed in future assessments as the most efficient and effective action to meet the objectives of this proposal.

Part C:

Assumed economic benefits will be difficult to achieve without dramatic advances in across sector coordination of funding, purpose and infrastructure to bridge differing drivers, frequency, timing, coverage and requirements of marine monitoring and scientific research, as highlighted in Part C 3), which is proposed solely on monitoring effort, with no research consideration.

Part D is devoid of evidence relating to States and International strategies/delivery plans for thematic marine scientific research and fails to recognise it as both funder and user of ocean observations.