Work Package WP6
Interface with policy
and intergovernmental bodies

Deliverable D6.5
FixO³ time series referred in regional
and global conventions
and assessments

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Due date: Project Month 42 (02-2017)

Dissemination level: PU

The work described in this report has received funding from the European Union Seventh framework Programme (FP7/2007-2013).
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EXECUTIVE SUMMARY

This document is issued in the framework of WP6-Interface with policy and intergovernmental bodies and contributes to the FixO³ positioning by informing decision makers about the value and usefulness of FixO³ and related observations for conventions and assessments.

The report describes both established and new arenas for promoting FixO³ type ocean time series and related observatories to ocean policy development, and efforts performed to date to achieve a strengthened interface and recognition.

Initiatives for future follow-up are also proposed.

Acknowledgement in conventions and assessments is important as it ensures visibility to the activity of the network of observatory infrastructures. Work in the science-policy interface has been useful to facilitate the design of a strategy for long-term operation of deep-ocean fixed-point observatories and integration of time series observations into large scale and global marine and maritime policy.
1. INTRODUCTION

1.1 Background and objectives

The present deliverable contributes to document the efforts of WP6 (Task 6.5) to strengthen the link of FixO³ to international and intergovernmental bodies and to ensure visibility to deep-ocean fixed-point time series observations. In particular this document focuses on the positioning of FixO³ in the landscape of regional and global conventions and assessments.

A broad and integrated network of ocean and seafloor observations acquired by observatory equipment constitute a basis to study and report natural phenomena from the open ocean. The vision of FixO³ includes the significant enhancement of open ocean observatories and the level of access to these facilities. It is clear that open ocean observatories are an essential component of any comprehensive ocean observing system able to respond to a broad range of ocean science questions. The aspect in focus for this task and deliverable is the position of such observatories for conventions and assessments.

This report is meant to provide a simple overview of the present situation, an analysis of the potential and a roadmap for future strategic positioning.

1.2 Organisation of this report

Following the Methodology section, the results are reported in the following subsections:

- The Conventions and assessments section gives an overview of the relevant arenas for FixO³ including arenas which have emerged or matured since the definition of the FixO³ proposal.
- The Analysis section provides a discussion of these, their characteristics, relevance and opportunities arising.
- The third section Outline of a strategy contains proposed goals and modalities for further work to continue to promote FixO³ in the time after the end of the project period.

The Conclusions and outlook section summarises results and recommendations for the long term as well as ongoing and short term actions and suggestions to increase the impact of FixO³ in the ocean policy arena.

2. METHODOLOGY

The report has a strategic relevance for the sustainability of FixO³ observatories as it is aimed at the role of such observatories to inform marine and maritime policy. A crucial aspect for the work toward this deliverable and the preparation of this report has been the collective experience, knowledge and vision of the FixO³ team concerning the present status and opportunities of collaborative frameworks.

The report intends to help the reader to get updated on the existing and emerging frameworks relevant for further work to increase the impact of FixO³ on policy arenas.
3. RESULTS AND DISCUSSION

3.1. Conventions and assessments

Regional conventions like OSPAR exist and are well established with few ongoing or anticipated changes.

On the global level the Law of the Sea (UNCLOS) is being respected even by some key countries including the USA who have not ratified it. The process for delimiting Exclusive Economic Zones (EEZs) is progressing as expected. There is a very significant process related to the Law of the Sea since the decision by the UN General Assembly in 2015 to establish a legally binding instrument for biodiversity in areas beyond national jurisdiction (BBNJ). This may also be tied to the Agenda 2030 process (see 3.3)

The Intergovernmental Panel on Climate Change (IPCC) decided in 2016 to commission a Special Report (SR) on the Ocean.

The UN Regular Process for the World Ocean Assessment delivered its first comprehensive report in 2015. In 2017 summary reports geared specifically towards climate, biodiversity and the 2030 Agenda are being produced based on the existing report. Also experiences from the first iteration are being discussed with a view towards possible modification of procedures for the second iteration. The Transboundary Water Assessment (TWAP) produced two reports during 2015-2016 on large marine ecosystems and the open ocean.

3.2. Analysis

The IPCC SR offers a one time but limited time opportunity for promoting FixO³ type observations.

The existing regional and global conventions and revisions of assessments need continuous input.

The process towards expanding UNCLOS to cover BBNJ opens new possibilities which may have far reaching implications for FixO³ type observations already in the definition and build-up phase.

3.3. Outline of a strategy

Ocean monitoring can offer indicators for relevant topics related to global change. FixO³ ocean time series are important for the monitoring of a key component of our planet.

Justifications for FixO3 type observations have primarily been argued either associated with nowcasts and forecasts of different aspects and phenomena ranging from tsunamis to ocean heat and carbon uptake or associated with broad multidisciplinary assessments. It is proposed here that a third justification is emerging as equally prominent in the policy arena. This is related to search for new resources including genetic resources in the deep sea and the need for long term monitoring to document the effects of stressors like global warming, acidification and deoxygenation in order to protect and manage key sites. There is a rapidly increasing need for FixO3 type observatories.
The Intergovernmental Oceanographic Commission (IOC of UNESCO) and the UN General Assembly during its preparations for the SDG14 Conference in June 2017 discuss the establishment of an International (UN) Decade of Ocean Science for Sustainable Development "Towards the ocean we need for the future we want" during 2021-2030. This will present a major opportunity if going forward.

4. CONCLUSIONS AND OUTLOOK

FixO³ is following previous EU projects such as EuroSITES, CARBOOCEAN and ESONET which made very significant progress in developing and integrating ocean observing capability. Ongoing projects like AtlantOS and similar new projects for the Arctic and the Mediterranean take an integrated regional approach combining different observing platforms including those of FixO³. Research infrastructures such as ICOS, EMSO and SIOS span the range of approaches from topical via platform specific to regional. The integration of FixO³ time series into all of these types of frameworks is an essential basis for recognition in policy arenas. A justified and agreed methodology for estimating costs and demonstrating value is also required and now available based on FixO³ WP6 analysis work (Cristini et al, 2016).

Political and societal value chains for valuing fixed point ocean time series and ocean observations in general has until recently been primarily found in two categories: Either associated with nowcasts and forecasts of different aspects and phenomena ranging from tsunamis to ocean heat and carbon uptake or associated with broad multidisciplinary assessments such as those of the Transboundary Water Assessment (TWAP) and the World Ocean Assessment (WOA). While FixO³ type time series are clearly useful for both of these value chains, it is a major finding of this report that a third value chain is emerging as equally prominent in the policy arena. This third value chain is associated with the societal drive to search for new resources including genetic resources in the deep sea and the need for long term monitoring to document the effects of stressors like global warming, acidification and deoxygenation on fragile ecosystems with potential need for protection. In order to do so and to make policy decisions on issues like designating and managing marine protected areas in international waters, there is a rapidly increasing need for FixO³ type observatories.

Recommendations for future work include a close follow-up of the UN process for developing a legally binding instrument for biodiversity in areas beyond national jurisdiction (BBNJ). 2017 is a very exciting time for international ocean science policy with the work towards the 2030 Agenda Sustainable Development Goal 14 on the ocean progressing in parallel with the BBNJ process. This has lead to new initiatives such as the proposal discussed in the Intergovernmental Oceanographic Commission (IOC of UNESCO) and in the UN General Assembly preparations for the SDG14 Conference in June 2017 of establishment of an International (UN) Decade of Ocean Science for Sustainable Development "Towards the ocean we need for the future we want" during 2021-2030.

In addition the IPCC Special Report on the Oceans and regional conventions like OSPAR warrant attention. The outlook is bright if the community is able to maintain continuity in the next coming years until new frameworks have been approved. The SDG 14 Conference in June 2017 and the OceanObs conference planned for 2019 represent opportunities not to be missed.
5. REFERENCES


Intergovernmental Oceanographic Commission (IOC of UNESCO) 2017. International (UN) Decade of Ocean Science for Sustainable Development "Towards the ocean we need for the future we want" Document IOC/INF-1341, See also http://en.unesco.org/node/268984

6. ACRONYMS

EMSO - European Multidisciplinary Seafloor & water column Observatory
FixO³ - Fixed point Open Ocean Observatories Network
GOOS - Global Ocean Observing System
ICOS - Integrated Carbon Observation System
SIOS - Svalbard Integrated Arctic Earth Observing System