OOPC

Co-sponsored by: Global Climate Observing System (GCOS), the Global Ocean Observing System (GOOS), and the World Climate Research Programme (WCRP)

Co-Chairs: Sabrina Speich & Weidong Yu

Secretariat: Belén Martin Miguez

OOPC 25, 21 October, EUMETSAT HQ, Darmstadt, Germany

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OOPC Ocean Observations Physics and Climate panel

GCOS KEEPING WATCH OVER OUR CLIMATE

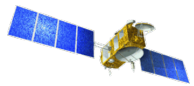
The Global Ocean Observing System

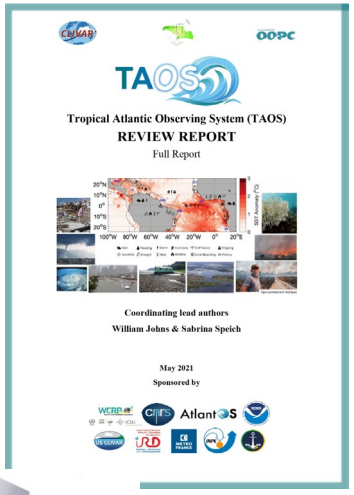
WCRP World Climate Research Programme

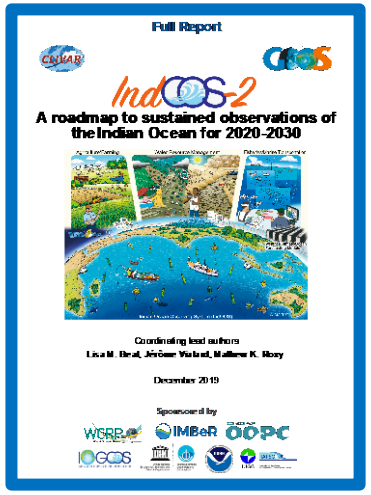
Main tasks

- **Assessment of Ocean Observing System to meet user requirements**
  - Global integration of parts (i.e. Basin systems, and topical systems, platforms)
  - Assess, review and prioritize requirements for EOVs and ECVs
  - Identify gaps
  - Promote consistency of EOVs/ECVs across the observing system
- **Coordination/integrate with other organisation and community panels**
- **Review/Evaluation** of the observing system
- **Advocacy** for the Ocean Observing System
- Work with OCG and regional bodies to **coordinate observing networks**

OOPC Review/Evaluation of observing systems







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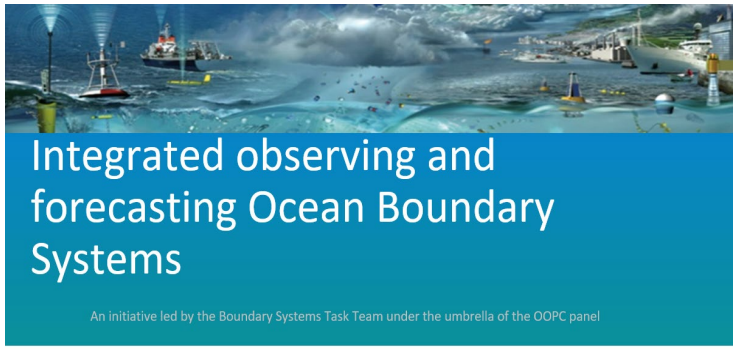
Activities in the work plan 2020-2023



Series of webinars on Boundary Systems

6 “dialogues” between the modelling and observing community in 5 boundary systems (one left).

- Paper being prepared with recommendations

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OCEAN INDICATOR

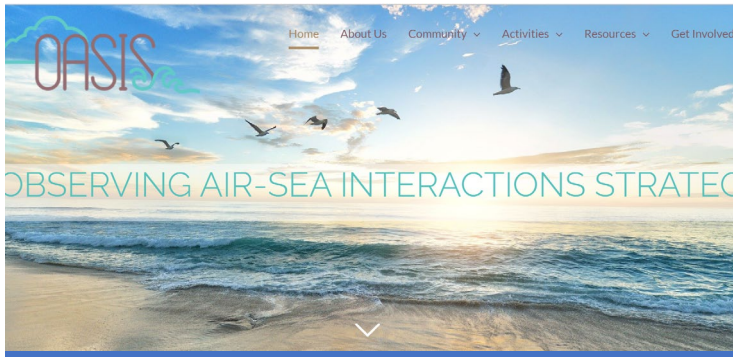
The Global Ocean Observing System GOOS Biogeochemistry Panel

GOOS Biology and Ecosystems Panel Biology & Ecosystem Panel

Ocean Indicators Framework

- Mutlidisciplinary group of experts mobilized (28 members)
- Round of interviews undertaken
- “Baseline” paper being drafted

This activity has become a Cross-GOOS action



OASIS (has become a Decade program)

- Resolve air-sea fluxes to understand and predict ocean’s influence on weather and climate
- Large multidisciplinary community mobilized: SCOR Working Group #162 + Endorsement by Ocean Decade + Consortium for Ocean Leadership support

+ Ocean in the Climate Cycles (heat, freshwater and carbon storage and transport)

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OOPC and GCOS

GCOS Status Report presented at COP26

SBSTA welcomed the Status Report that acknowledges progress but also identifies gaps and needs, in particular to enhance and sustain observations in some areas, including the ocean.

GCOS Implementation Plan published

- GCOS IP recommends actions to improve the climate observing system.
- >160 experts involved in the drafting and review
- The IP also presents an update of ECV observational requirements.

GCOS Climate Observation Conference

- Sabrina Speich: chair of Scientific Committee.
- In person meeting, 3 days, 6 sessions.

https://www.eventsforce.net/gcos-coc

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Activities within WCRP and related

- OOPC commits also in Science/assessment:
  - WCRP
  - IPCC
  - Ocean Status reports
  - UNFCCC
  - etc

G7 FSOI supports activity on ocean observing system evaluation framework:

Facilitating the development of Observing System Evaluation capability in support of ObsCoDe

Regional activities GOOS/CLIVAR workshop in Trieste 15-19 August 2022

From global to coastal: Cultivating new solutions and partnerships for an enhanced Ocean Observing System in a decade of accelerating change

OOPC is intimately linked with CLIVAR/WCRP but has creating strong links with the two new core WCRP projects (i.e. model/data home and the Regional Climate Information for Society).

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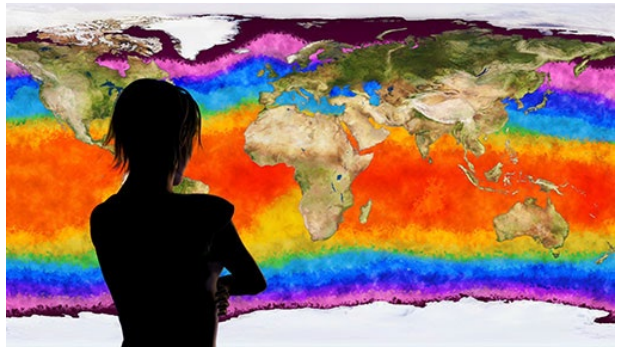
Using the UN Decade of Ocean Sciences to focus on integration, system design, connection across value chain with better links to modeling (Co-PI Ocean Observing Co-Design Programme)

GOOS | At the heart of the Ocean Decade

Ocean Observing Co-Design, CoastPredict and Observing Together are the first programmes of many that will actively drive the Ocean Decade to “Ensure a sustainable ocean observing system across all ocean basins that delivers accessible timely, and actionable data and information to all users."

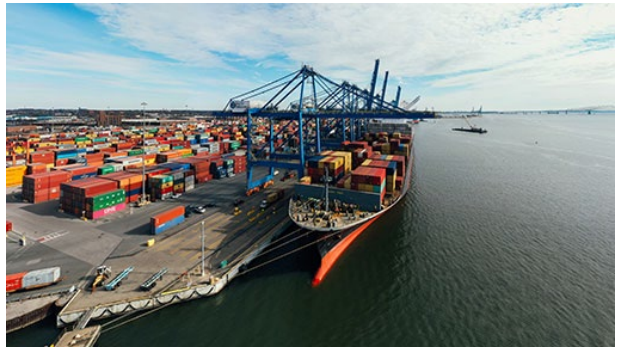
2021 2030 United Nations Decade of Ocean Science for Sustainable Development



GOOS | Ocean Observing Co-Design

by The Global Ocean Observing System

Creating the partnerships, process, and infrastructure to evolve ocean observing, co-designed with key stakeholders, and delivering the data we need for the future we want.



GOOS | CoastPredict

with The Global Ocean Observing System

Revolutionising Global Coastal Ocean observing and forecasting, co-designing the needed infrastructure and offering open and free access to coastal information.

GOOS | Observing Together

by The Global Ocean Observing System

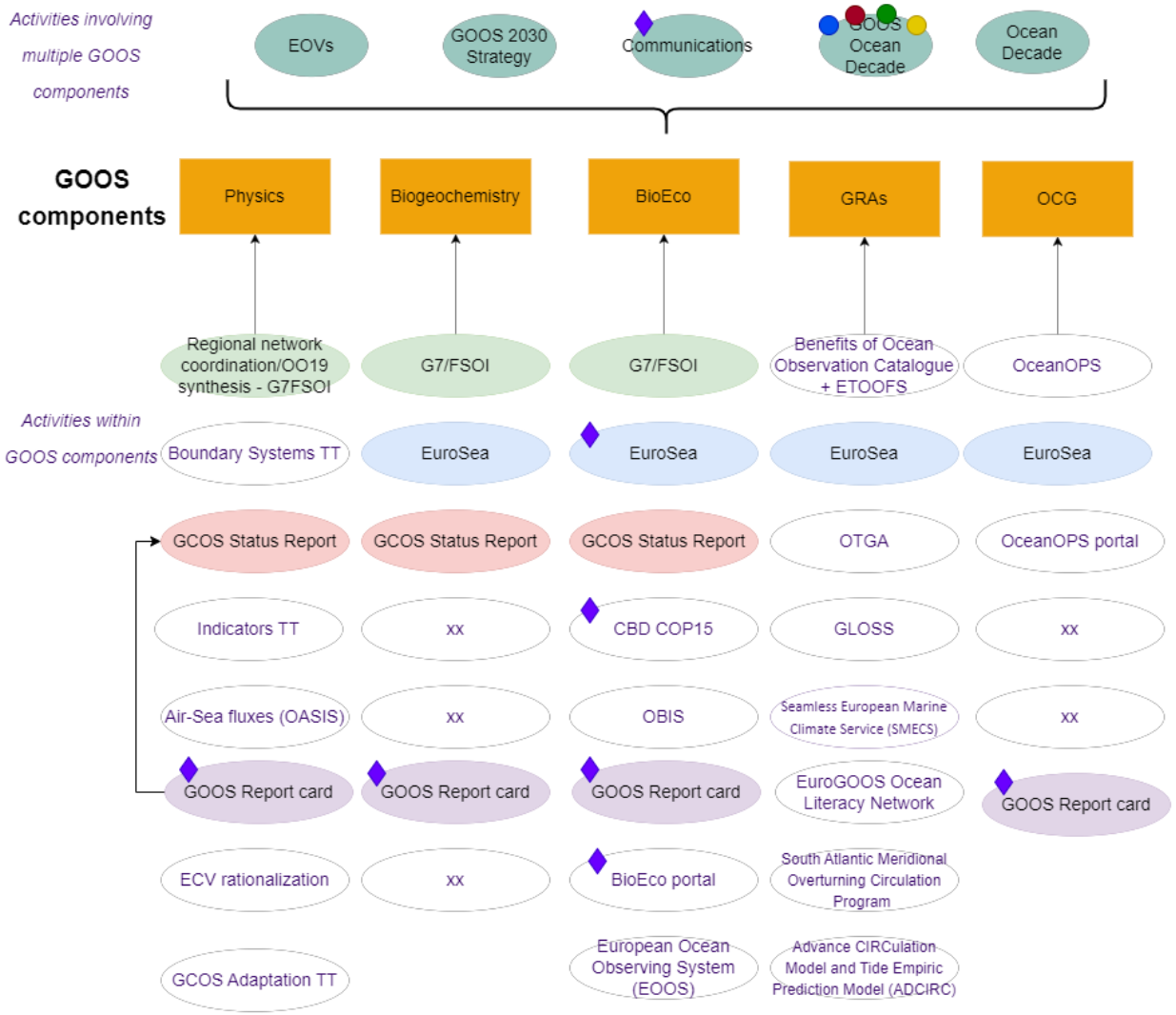
Transforming ocean data access and availability by connecting ocean observers and the communities they serve, going further to make every observation count.

OOPC & GOOS Panels (BioEco and BGC)

More consistent, programmed interactions with the 3 GOOS Panels around actions to effectively coordinate, collaborate, cross-feed at least around:

- GOOS Actions
- GCOS ocean integration and interaction with the other GCOS panels
- To strenghten and better integrate the GOOS effort in the UN Ocean Decade to help its transformative ambition
- Reinforcing coordination within GOOS to better integrate and guide WCRP/IPCC/UNFCCC/G7 FSOI observing capabilities

Mapping of connections between GOOS elements



Physics

Regional Network coordination - Development of a set of recommendations and priorities for the next decade to advance the global ocean physics and climate observing system. The point of departure are TOAS/TPOS/IndOOS (tropical systems)
Boundary Systems TT- Developing guidance on observing asset deployments in coastal and boundary current regions through the development of case studies/best practices from well-observed boundary current systems
Indicators TT - Development of new innovative approaches for indicator developments & resilience thresholds to assess the state of the ocean, to facilitate the management of ocean resources and to establish partnerships amongst ocean-related communities
Ocean Decade - Sabrina Speich leads ObsCoDesign
OASIS - Working towards the near real-time quantification of air-sea exchanges with required accuracy throughout the global ocean to quantify, model and predict exchanges of heat, momentum, moisture, greenhouse gases and biogenic trace gases
ECV Rationalisation - Revisiting the ECV framework to go beyond the domain-by-domain (land, ocean, atmosphere) approach and adopt a more variable oriented one
GCOS Adaptation TT - The ECV framework was conceived mostly to allow for monitoring and predicting climate change. This activity looks at how the framework could be evolved to fulfil adaptation and

Biogeochemistry

G7/FSOI - What the G7 could focus on in regards to data mobilisation, data sharing infrastructure and interoperability
EuroSea - Work Package 1 (Strengthen and extend BioEco monitoring networks in Europe)
BioEco portal - An online portal that showcases BioEco observing programs in the global ocean and (meta)data availability where possible
CBD COP15 - Working towards drafting a document + side event
Ocean Decade - BioEco panel members are involved in 9 Ocean Decade programs (1. MarineLife 2030, 2. Ocean Biomolecular Observing Network, 3. An Observing Air-Sea Interactions Strategy (OASIS), 4. CoastPredict, 5. Ocean Observing Co-Design, 6. Observing Together, 7. Deep Ocean Observing Strategy (DOOS), 8. Challenger 150: A decade long programme of deep-sea research, and 9. Ocean Practices for the Decade
EOOS - Present EuroSea and BioEco updates. Regular joint meetings with EuroGOOS, European Marine Board etc. (key European players)

BioEco

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GRAs

Ocean Decade -
EuroSea-
Benefits of Ocean Observation Catalogue + ETOOFS -
GLOSS -
SMECS -
South Atlantic Meridional Overturning Circulation Program -
ADCIRC -
SIBER -
ChloroGIN -
IIOE-2 -
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THANK YOU

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20 October, Darmstadt, OOPC 25