



**The G7 Future of the Seas and Oceans Initiative**  
*4<sup>th</sup> Semi-Annual Meeting of the OceanPredict Science Team*  
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**Maria Hood**

*Head, EU Office of the G7 FSOI Coordination Centre*  
*Action Coordinator, EU4OceanObs Project*  
*at Mercator Ocean International*

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INTERNATIONAL OCEAN GOVERNANCE  
EU COMPONENT TO GLOBAL OCEAN OBSERVATIONS



**OceanPredict**

Advancing the science of ocean prediction

“ Strengthening international ocean governance to enhance the collection, sharing and use of ocean data to address environmental and societal challenges ”

Many stakeholders.  
Many observations.  
One ocean.

Working with multiple stakeholders in a global framework to increase the collection and use of ocean data needed to address societal challenges.

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### OBSERVING SYSTEM

Support the development of a global initiative for an enhanced, global, sustained sea and ocean observing system.



### ASSESSMENTS AND REPORTING

Support an enhanced system of ocean assessment through the UN Regular Process for global reporting and assessment of the state of the marine environment.



### DATA SHARING INFRASTRUCTURE

Promote the improvement of global data sharing infrastructure to address the challenges of physical, chemical and biological data.



### REGIONAL OBSERVING CAPACITY

Strengthen collaborative approaches to encourage the development of regional observing capabilities and knowledge networks.



### POLITICAL COOPERATION

Promote increased G7 political cooperation by identifying additional actions needed to enhance future routine ocean observations.

*G7 FSOI Working Group Meeting 28-30 June 2021 – considering joint priorities and activities for each Action Area.*



## Digital Twin Ocean capability (G7 Ocean Navigation Plan Spotlight Activity)

*To bring together G7 digital ocean initiatives, including their relationship to wider digital earth initiatives, and share best practices.*

- Review current seamless data integration, including physical, chemical and biological data, and needs to make our data holdings 'data science ready'
- Review needs for cooperation on ocean modelling (reanalysis, analysis and forecasting)
- Review existing digital twin ocean activities, highlight capabilities and needs, horizon scan regarding new capability developments (including broader environmental digital twinning)
- Identify next steps for bringing together 'building blocks' capability for digital twin oceans and agree on priority areas for development.
- Identify targeted pilot projects to take forward R&D work.

FUTURE OF THE SEAS  
& OCEANS INITIATIVE

## Augmented Observing and Forecasting Capacity for Marine Life (pending)

- Identify the priority actions requiring G7 support to advance the development of a global observing and forecasting system for marine life by 2030, including
- augmenting and standardising species and ecosystem observations;
- enhancing data assimilation, modelling and forecasting capacity;
- increasing observations and baseline data through biodiversity data mobilization actions across the G7; and
- promoting the adoption and use of observing and information management standards for marine biodiversity data.

*Initial consultations: GOOS Bio/Eco Panel, MBON, OBIS, OBON, DOOS, DOSI-Challenger 150, CoastPredict and OceanPredict - ForeSea, SynObs, OSEval-TT, MEAP-TT, COSS-TT*



## Surface Ocean CO2 Monitoring Strategy *(pending)*

Catalyse and facilitate the development of an internationally-agreed strategy for monitoring surface ocean CO2 globally, and build on existing observing programmes, data management structures, and coordination bodies to create a global surface monitoring CO2 network capable of responding to the needs of global and regional policy drivers including the UNFCCC Global Stocktake 2023.

*Develop an internationally-agreed observing strategy required to determine net ocean-atmosphere fluxes to an accuracy of 10% or better regionally and globally, and to monitor global ocean acidification, building on existing infrastructures and making best use of the combination of in situ observing platforms, satellite data, and models to fill gaps.*

*Initial consultations: IOCCP (GOOS BGC panel), Global Carbon Project, GOA-ON, IOC-R, SOCAT, SOCONET, EU ICOS Ocean Theme*



## Observing System Evaluation Framework *(pending)*

Strengthening the sustained ocean observing system is central to the goals of the G7 Future of the Seas and Oceans Initiative. This activity reflects the need to provide a targeted set of priorities to guide coordinated investment by G7 members.

- *Identify gaps and evaluating priorities for coordinated investment*
- *Stocktake of observing system review and evaluation activities*
- *Support for ObsCoDe – e.g., Integrate observing and modelling to support a sustainable ocean and society; increasing the impact of ocean observing through co-design with the modelling community and key user stakeholders; Establish the international capacity and modular infrastructure to co-design and regularly evaluate the observing system.*

*Initial consultations:* GOOS ObsCoDe and OCG; further work needed with OceanPredict OS-Eval TT, WCRP modelling groups, as well as operational forecasters such as Moi / CMEMS.



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