



# Ocean Observing Co-Design

by The Global Ocean Observing System

## Transforming our ocean observing system assessment and design process

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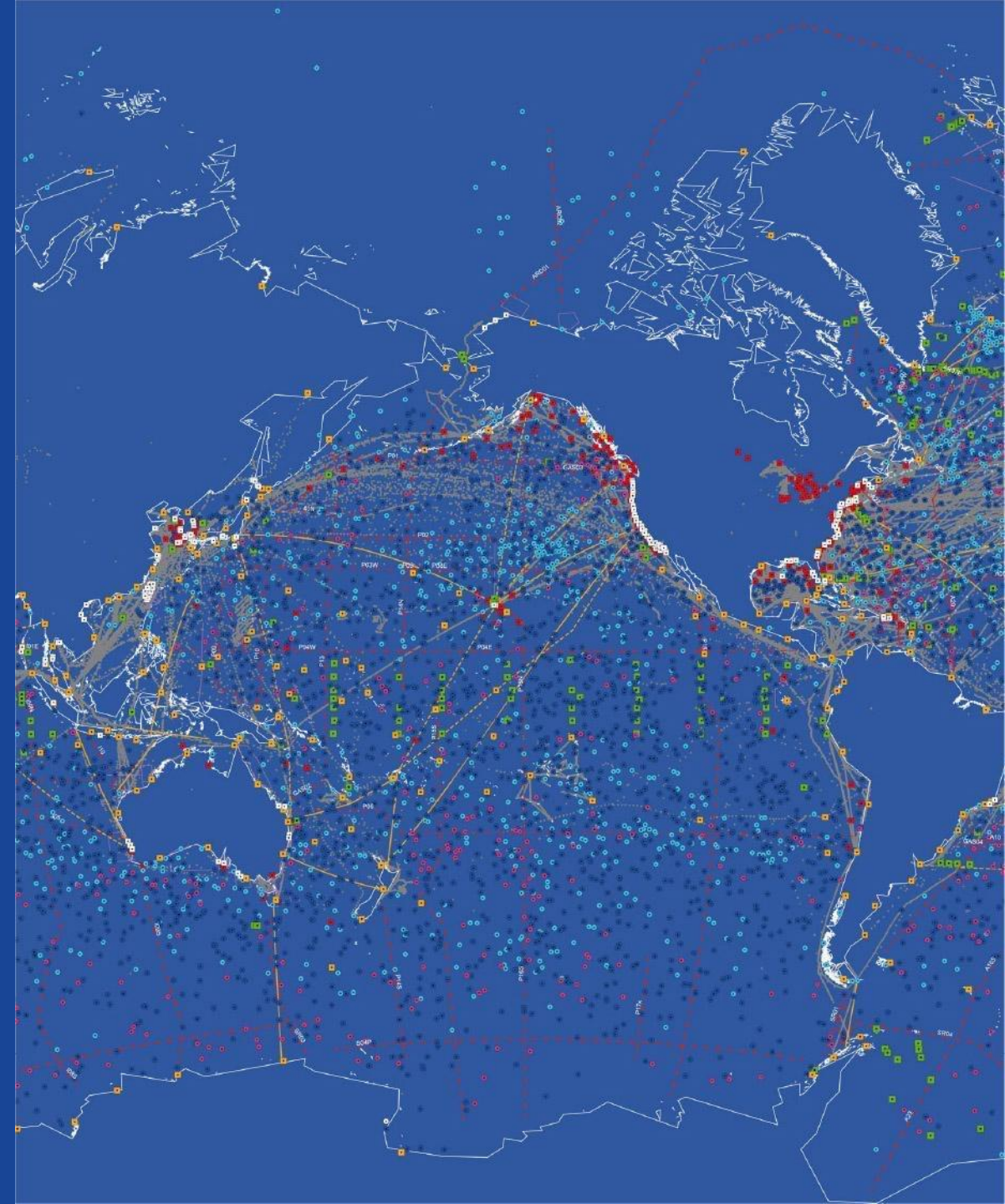
Co-Design Partners, Projects & Co-Design Teams

Support: Andrea McCurdy, Ocean Leadership, Ann-Christine Zinkann, NOAA; Mairéad O'Donovan, GOOS



2021 United Nations Decade  
of Ocean Science  
2030 for Sustainable Development

This programme is endorsed by the UN Decade of Ocean Science





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## The challenge

We **need new information on the ocean to meet major challenges** across climate change adaptation and mitigation, coastal ocean and weather prediction, food security, human safety and the wellbeing of marine life.

**For this we need to better integrate observations and models** to produce useful ocean knowledge and establish clear priorities for investment in ocean observing for the future.



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# The Global Ocean Observing System



Climate, Forecasts, Biodiversity,  
Fisheries, Aquaculture, Pollution,  
Transport,  
Mineral exploitation,  
Ocean Health, ...



“Ocean Observing Co-Design will develop a more **user-focused co-design process** to create a truly integrated, responsive ocean observing system.

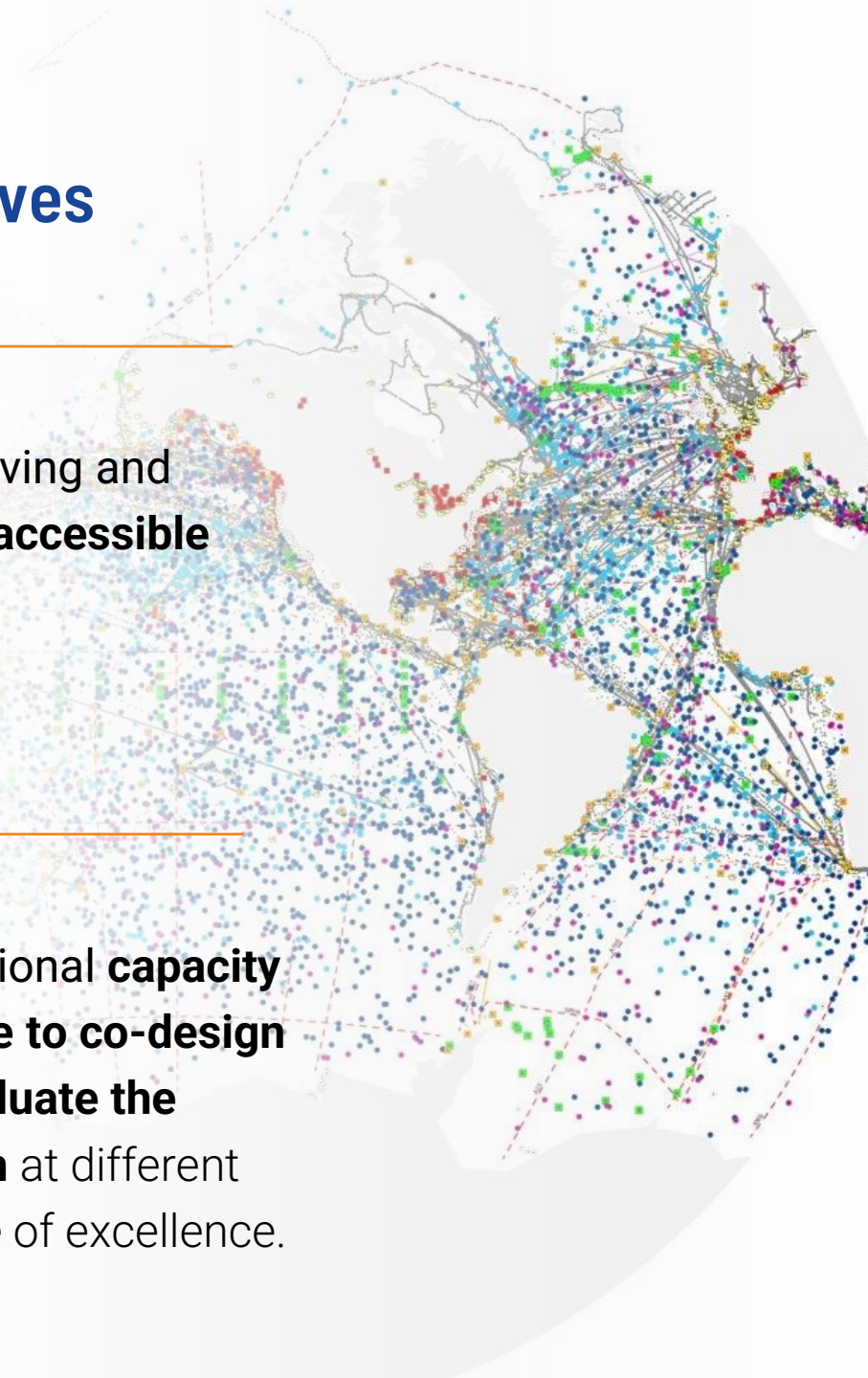


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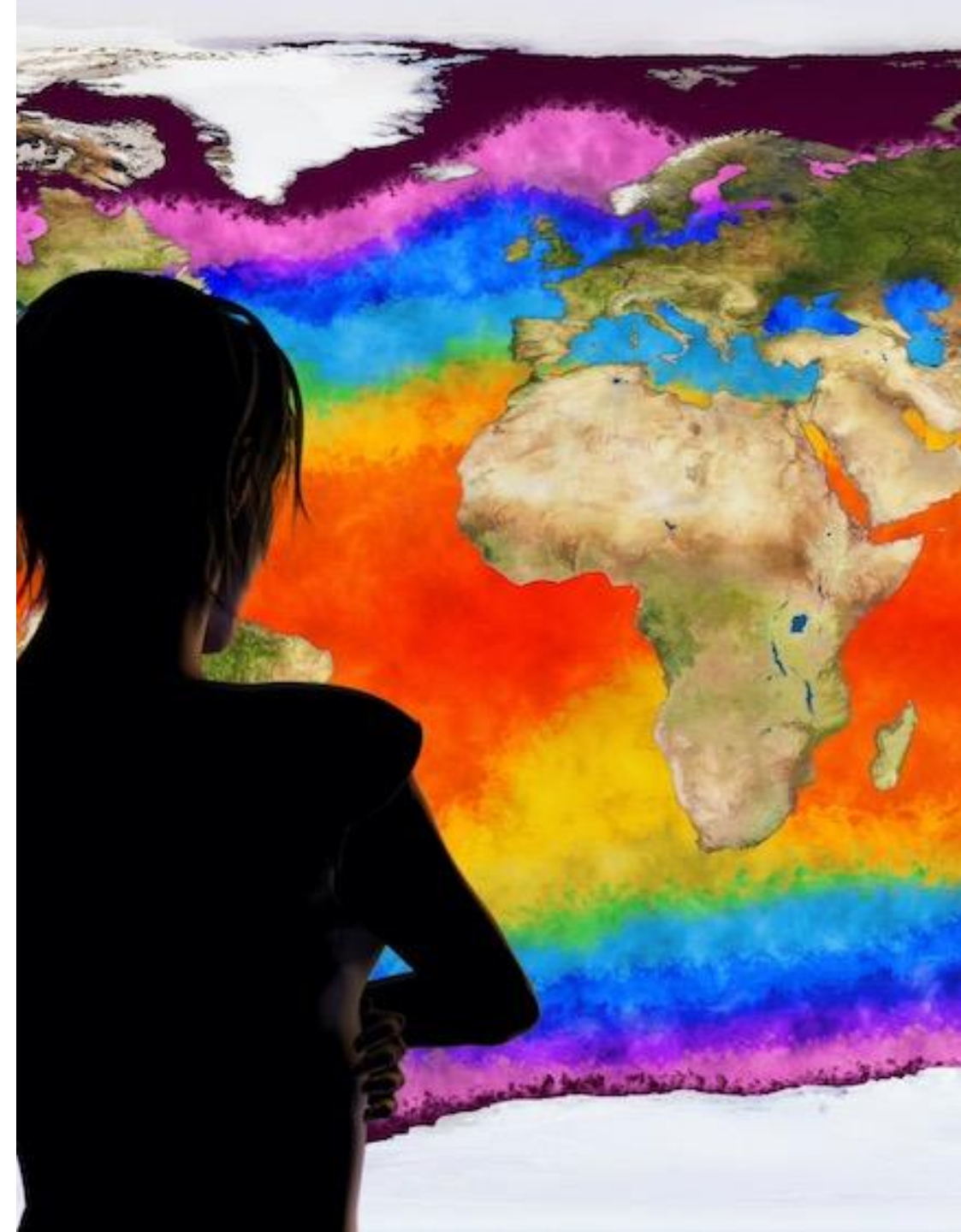
## — Ocean Observing Co-Design Programme objectives

1. — Provide national government funders the **information needed to target investment globally, regionally and locally.**
2. — Make ocean observing and information more **accessible and impactful.**
3. — **Develop system diagnostics, tools and reporting capability** to better assess fitness-for-purpose across evolving requirements and use-inspired needs.
4. — Establish international **capacity and infrastructure to co-design and regularly evaluate the observing system** at different scales by a centre of excellence.



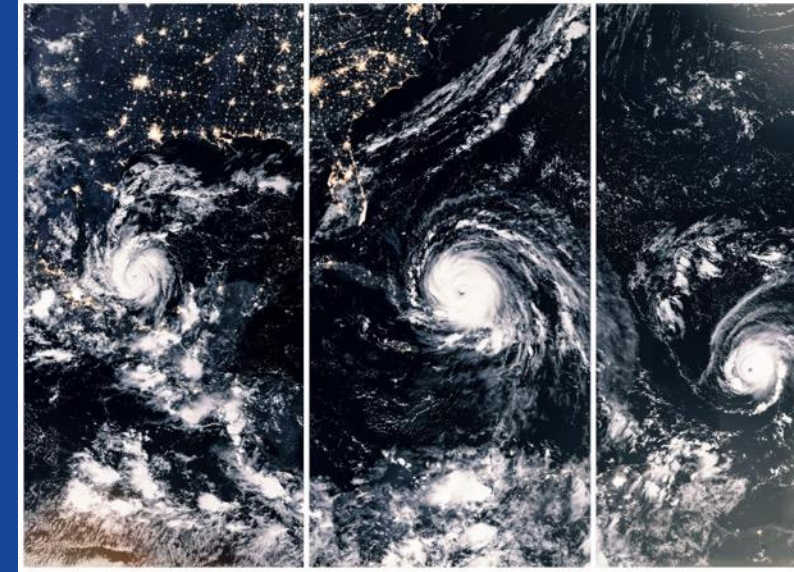
## — PROGRAMME BENEFITS

- Better track the **current state** and **future variability** of the ocean
- **Predict** and **warn** more skillfully
- **Manage** ocean resources and **assess** the impact of action towards a sustainable ocean
- **Empower** society to adapt to change
- **Incentivise investment** to lift the ocean observing system in key exemplar area
- **Look at a problem holistically** - integration along the chain from implementers to users





# Why exemplars?



## — THE EXEMPLAR AREAS

- **First set of exemplar areas** around use areas
  - **Improving carbon data** to inform climate targets, such as net zero.
  - **Advancing cyclone forecasting** to save lives and property
  - **Monitoring marine heatwave** impacts on biodiversity and economies
  - **Observing key ocean currents** that drive climate and productivity
  - **Improving Storm Surge predictions** for vulnerable communities
  - **Marine Life 2030:** building global knowledge for local action



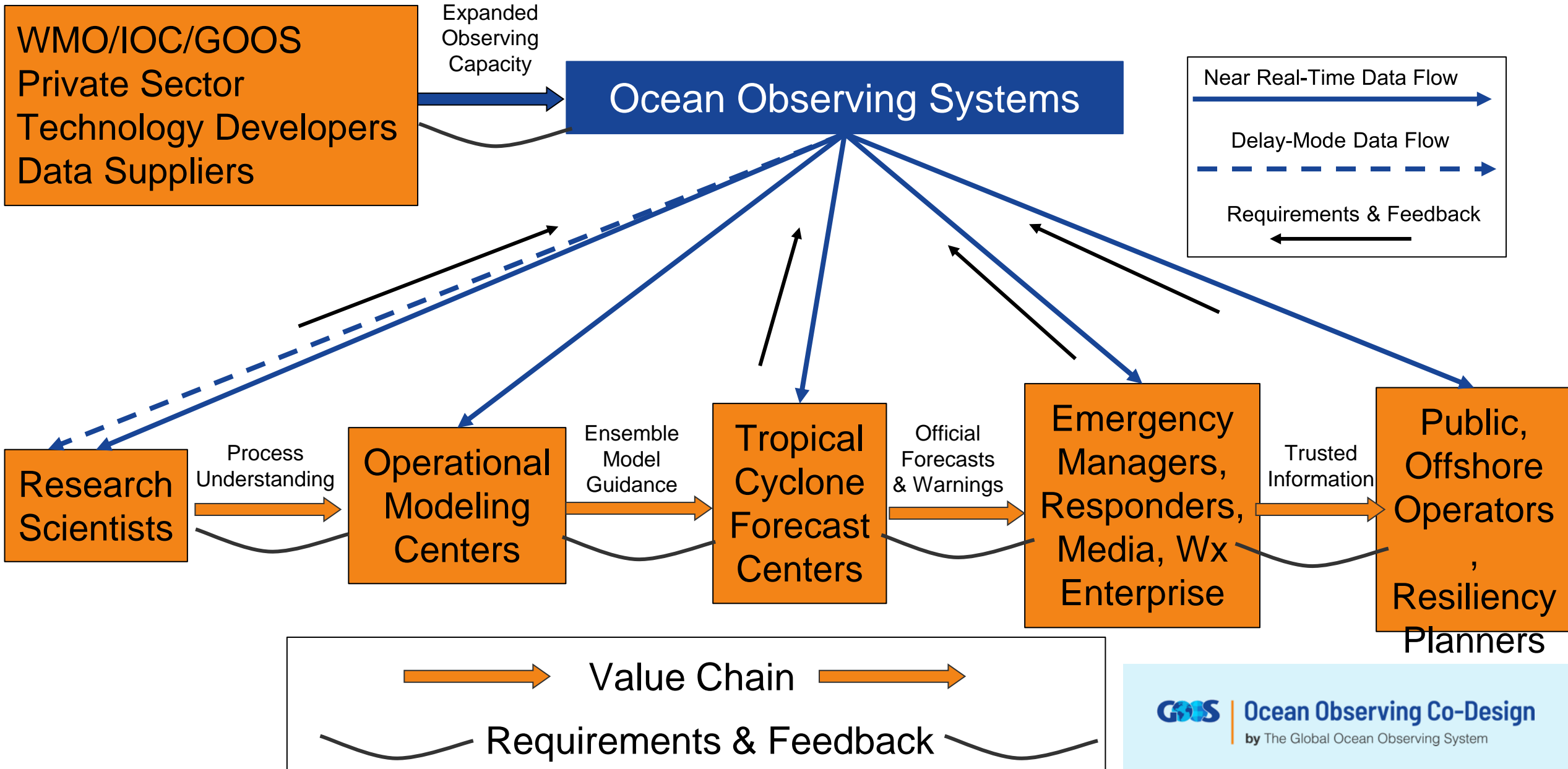


## — Ocean Observing Co-Design Workshop - Exemplar meetings

- Engagement across obs-modeling communities and even some downstream stakeholders
- Emerging potential set of “best practices” for co-design process.
  - **Develop strong benefit statement** (supported through economic impact analysis where possible)
  - **Mapping:** stakeholders and characterise interactions / users / regions / OSSEs



# Stakeholder mapping: Tropical cyclones example





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## What next?

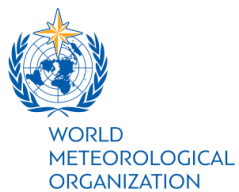
- **Prepare Exemplar project proposals** for Workshop Day 4 Supporters Forum (Oct 2022) and for submission as a UN Decade Project
- **Paper** to present initial summary of co-design best practices 'Co-designing Science for the Ocean We Want' - ICES Journal of Marine Science - abstract submitted
- **Opportunities** at UN Ocean Conference in Lisbon to highlight the Exemplars, benefits and policy connections
- Ideas/priorities for **additional exemplars**, particularly those that move towards an integrated ocean observing system



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— Thank you!



GOOS is sponsored by the **Intergovernmental Oceanographic Commission of UNESCO**, the **World Meteorological Organization**, the **UN Environment Programme**, and the **International Science Council**.