



Ocean Observing Co-Design

by The Global Ocean Observing System

Transforming our ocean observing system assessment and design process

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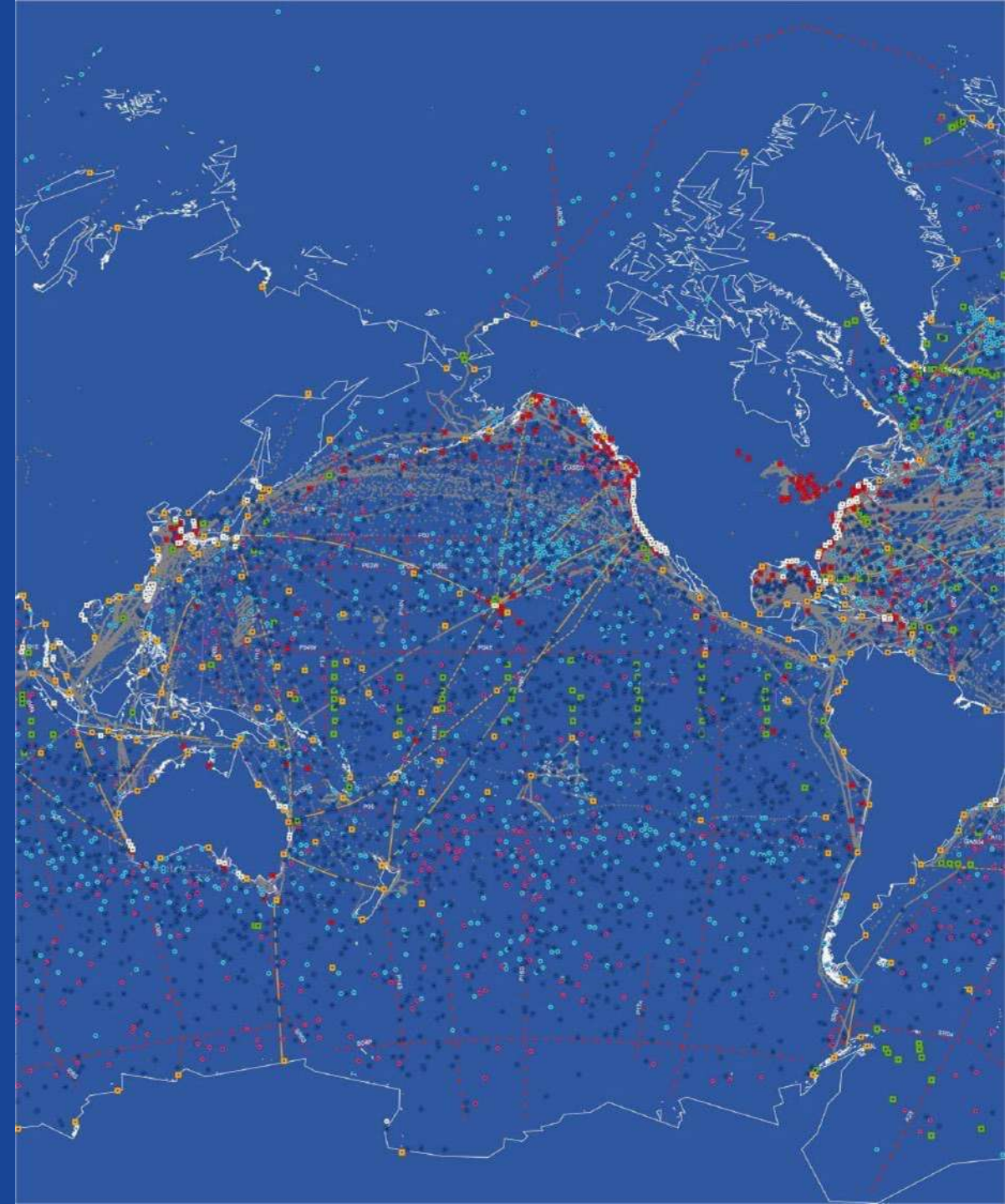
Co-Design Partners, Projects & Co-Design Teams

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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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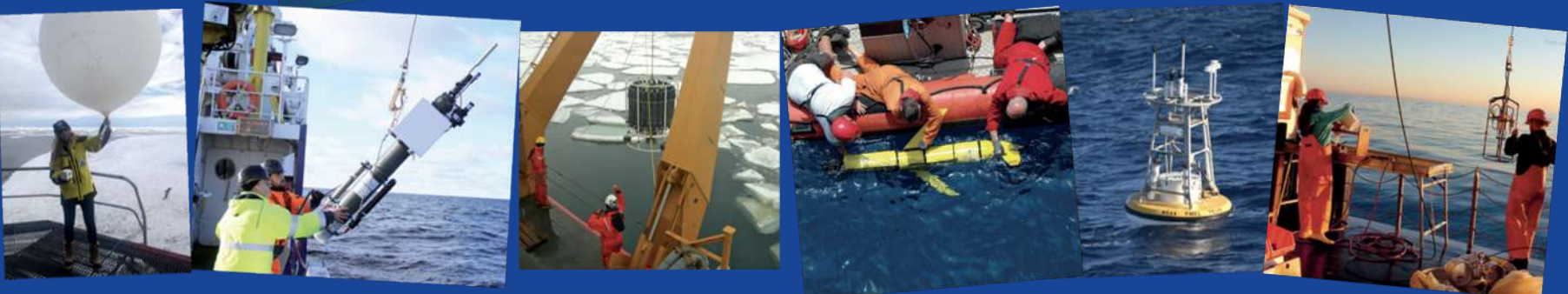
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The Global Ocean Observing System



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. ”

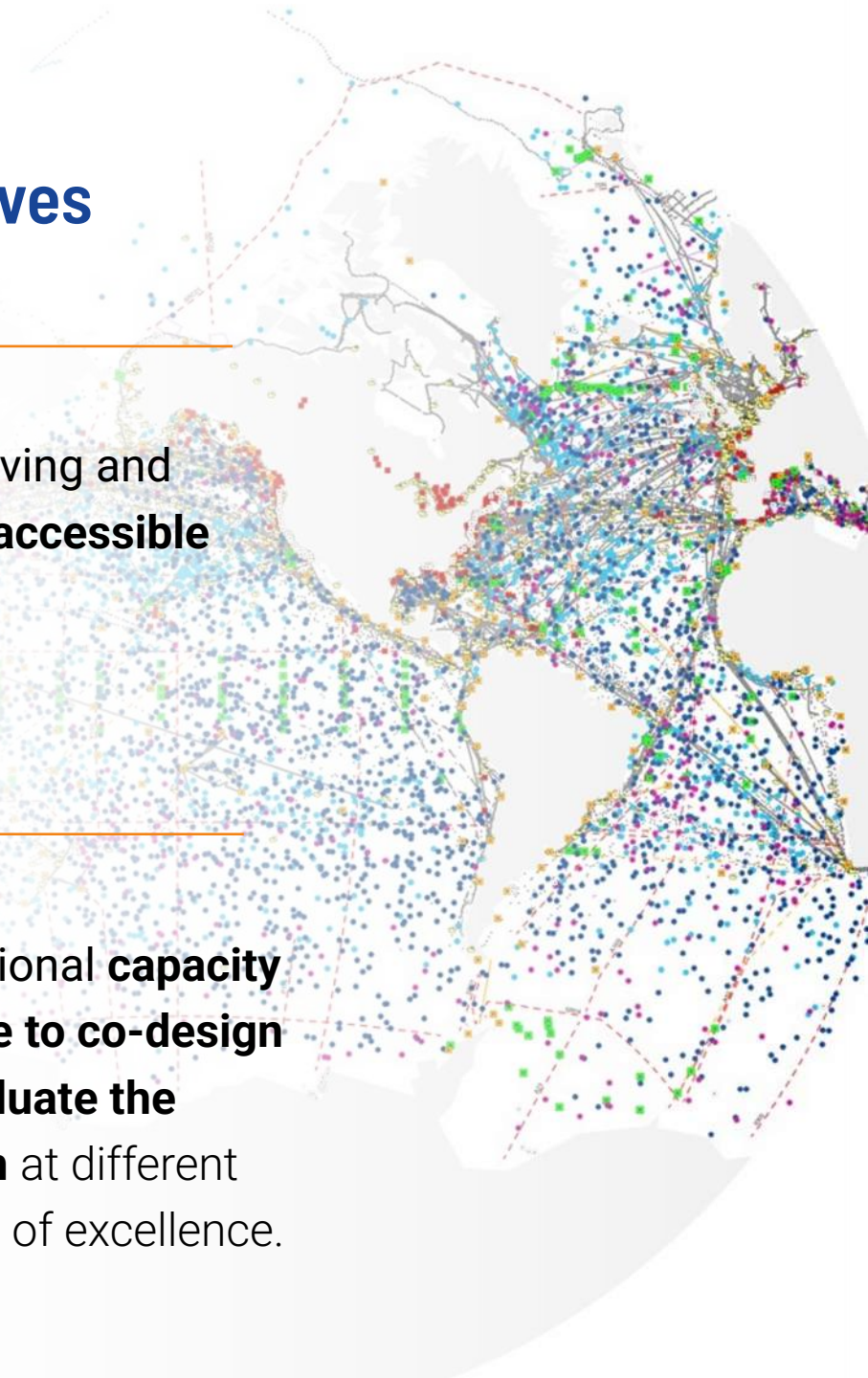


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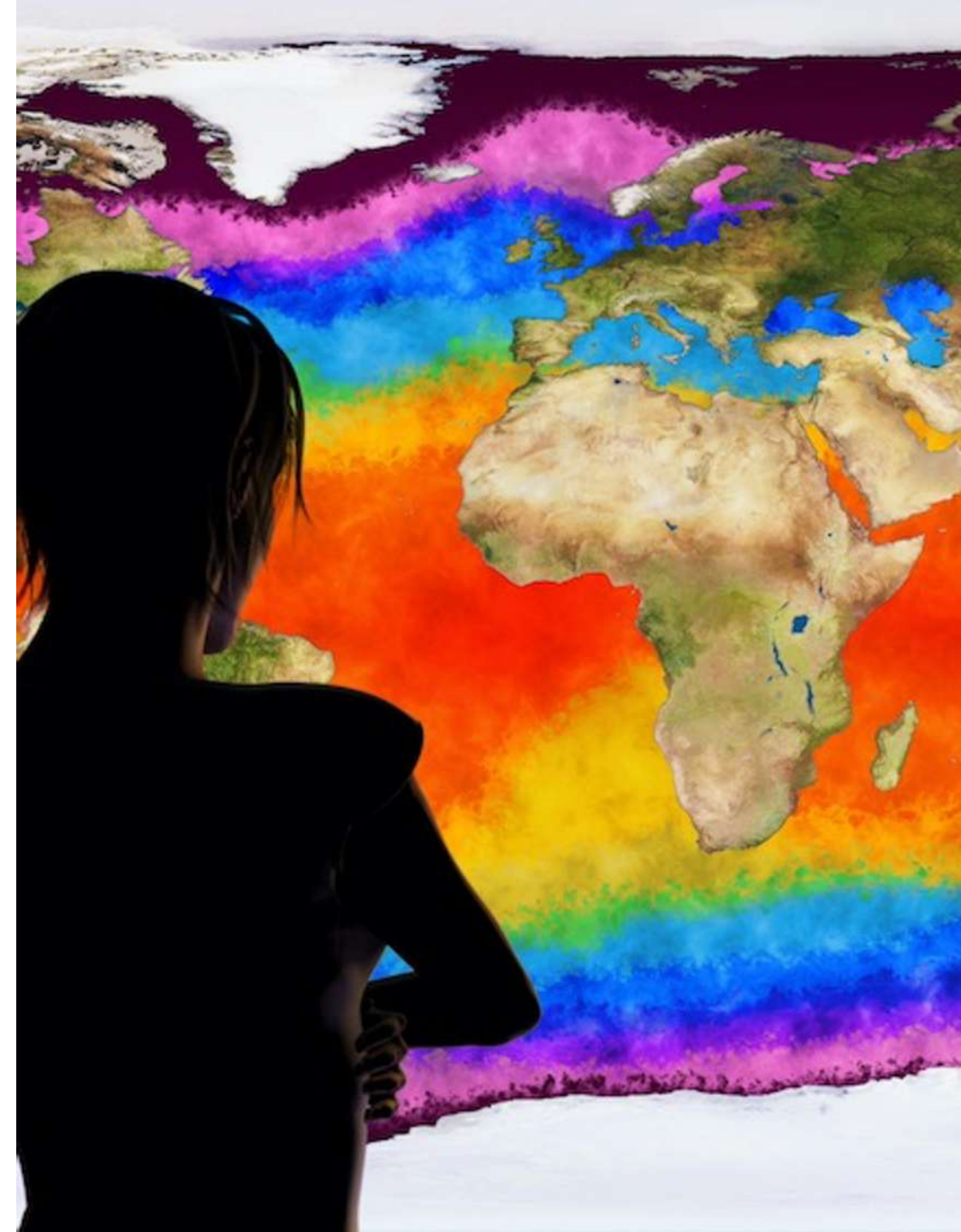
— Ocean Observing Co-Design Programme objectives

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

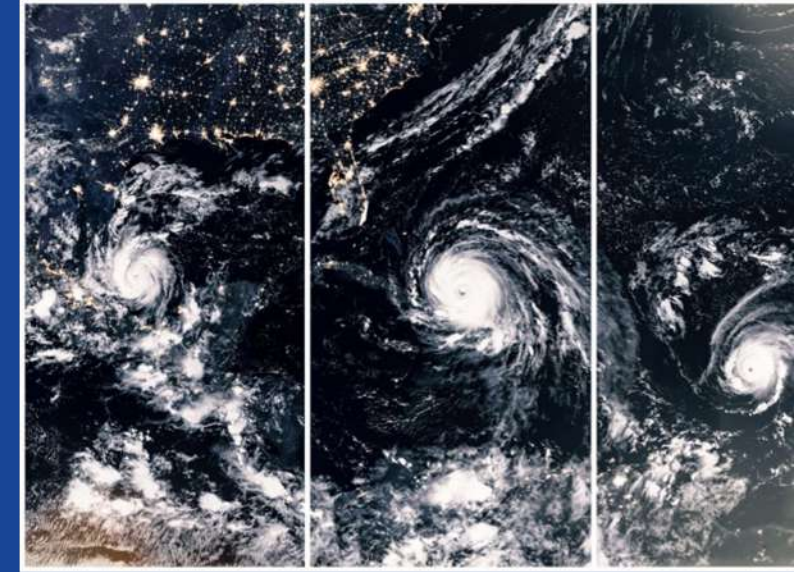
- Better track the **current state** and **future variability** of the ocean
- **Predict** and **warn** more skillfully
- **Manage** ocean resources and **assess** the impact of action towards a sustainable ocean
- **Empower** society to adapt to change
- **Incentivise investment** to lift the ocean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





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Approach by 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 boundary ocean currents system** that drive climate and productivity
 - **Improving Storm Surge predictions** for vulnerable communities
 - **Marine Life 2030:** building global knowledge for local action

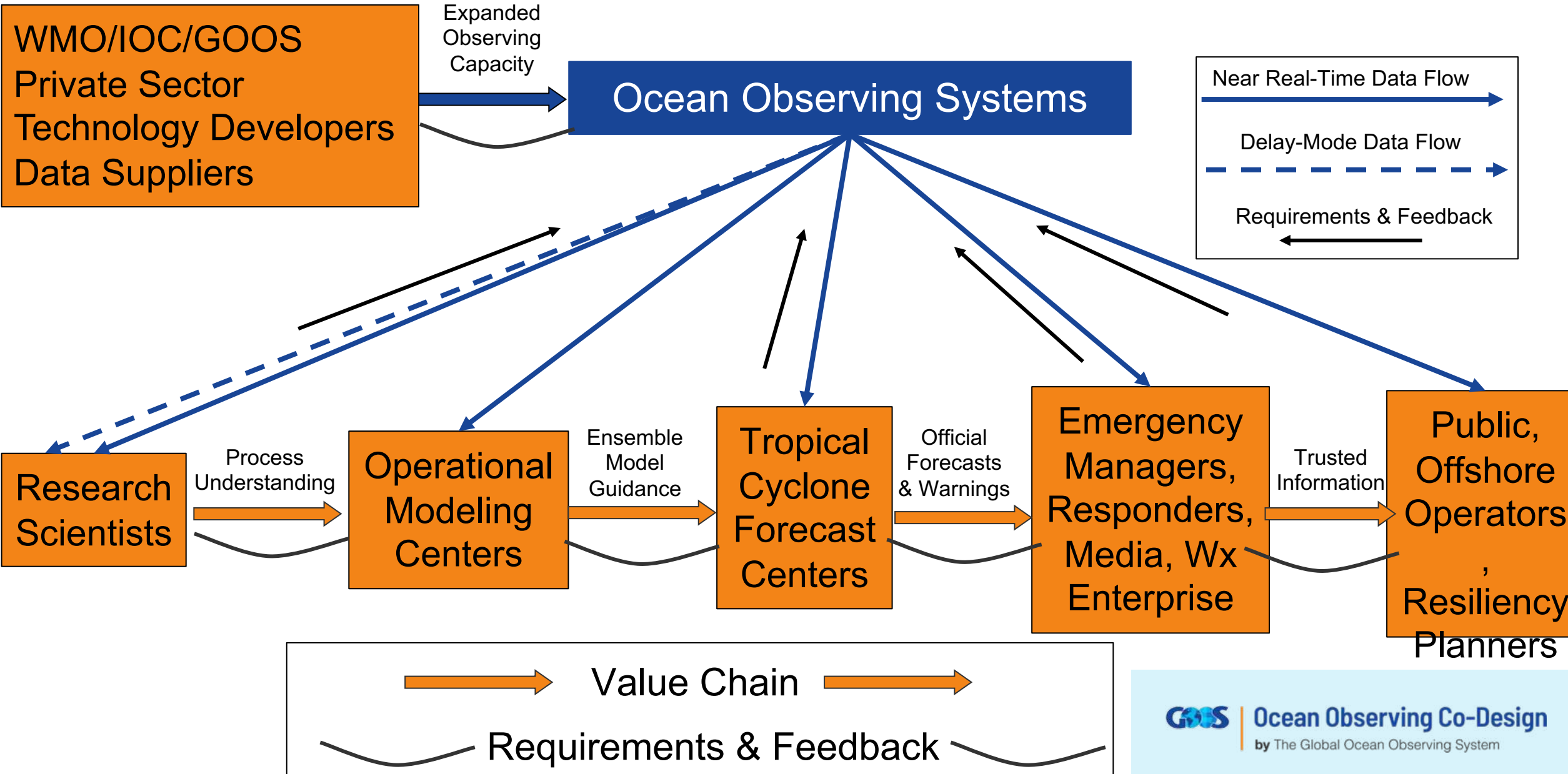


— Ocean Observing Co-Design Workshop (7-9 June 2022) & Exemplar meetings

- **Survey of lessons learnt from different international effort** (regional ocean observing systems, operational ocean and atmosphere forecasting systems, ...)
- **Engagement across observation-modeling communities** and 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 (end 2022) and further observingco-design implementation
- **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
- Ideas/priorities for **additional exemplars**, particularly those that move towards an integrated ocean observing system



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Do not hesitate to join us
— (programme and exemplars,
including new exemplars
that promote integration)

www.goosocean.org

Thank you!

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