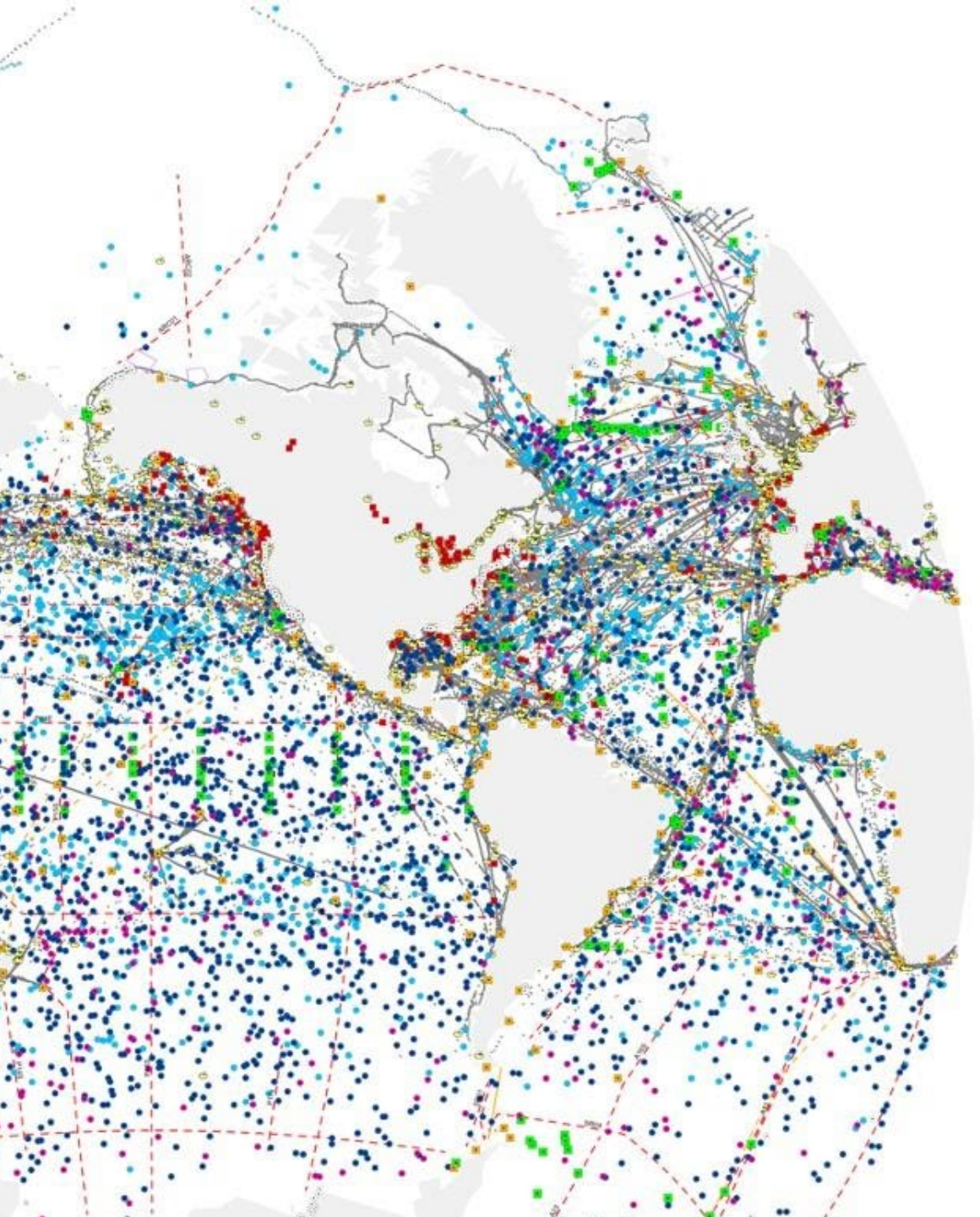
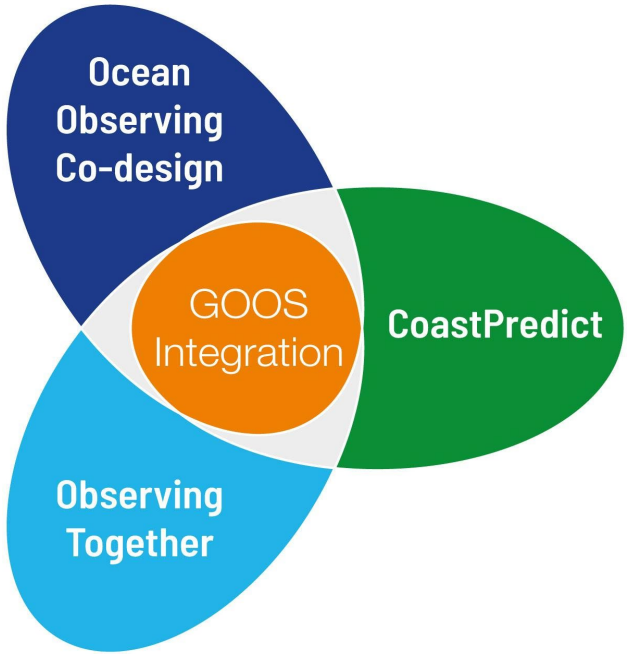
GOOS | At the heart of the Ocean Decade

UNESCO | IOC | WMO | UN environment | International Science Council



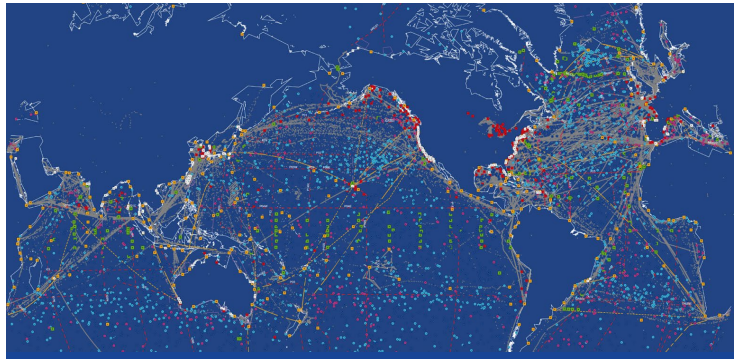
3 TRANSFORMATIVE PROGRAMMES FOCUSING ON KEY AREAS OF:

- CO-DESIGN
- COASTAL OCEAN
- CAPACITY DEVELOPMENT



Transformational for GOOS and the Ocean Decade

2021 2030 United Nations Decade of Ocean Science for Sustainable Development



Ocean Observing Co-Design

Transforming our ocean observing system assessment and design processes

Co-chairs:
David Legler, NOAA, USA
Sabrina Speich, IPSL, FRANCE

CoastPredict

Revolutionising Global Coastal Ocean observing and forecasting

Co-chairs:
Nadia Pinardi, UNIBO, ITALY
Joaquín Tintoré, SOCIB, SPAIN
Villy Kourafalou, Univ. of Miami, USA

Observing Together

Connecting ocean observers and the communities they serve to transform ocean data access and availability

Co-chairs:
Molly Powers, SPC, FIJI
Alvaro Scardilli, Naval Hydrographic Service, ARGENTINA

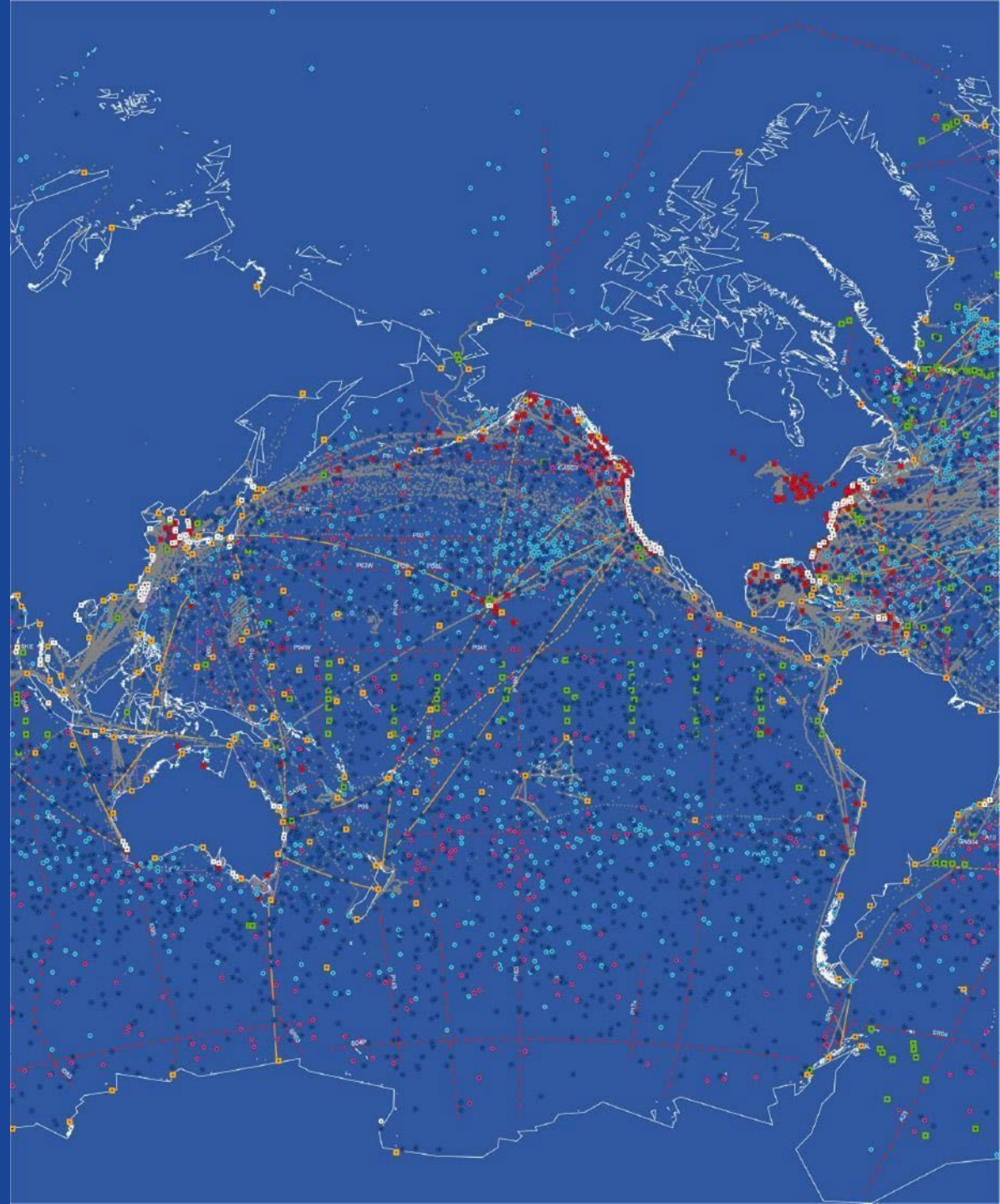
Ocean Observing Co-Design

by The Global Ocean Observing System

Transforming our ocean observing system assessment and design process

Programme leadership: David Legler, NOAA; Sabrina Speich IPSL; Emma Heslop, IOC/UNESCO

Programme support: Andrea McCurdy, Ocean Leadership; Mairéad O'Donovan, GOOS - IOC UNESCO; Ann-Christine Zinkann, NOAA



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Exemplars – how they work

CO-DESIGN: a continuous, collaborative, iterative process involving all stakeholders - observing system implementers, data managers, modeling/assessment, service providers & / or users

> focus on specific user groups

> map value chain & evaluate existing connections to identify appropriate level of 'user' to participate in co-design

> elevate collaboration with existing elements of the value-chain i.e. ocean observing system components / modelling / services

> co-develop observing system design, assess Return On Investment

> develop recommendations for addressing gaps in the value-chain

↓

Develop best practices

↓

Implement recommendations as part of GOOS infrastructure tools that track, evaluate, and communicate recommendations

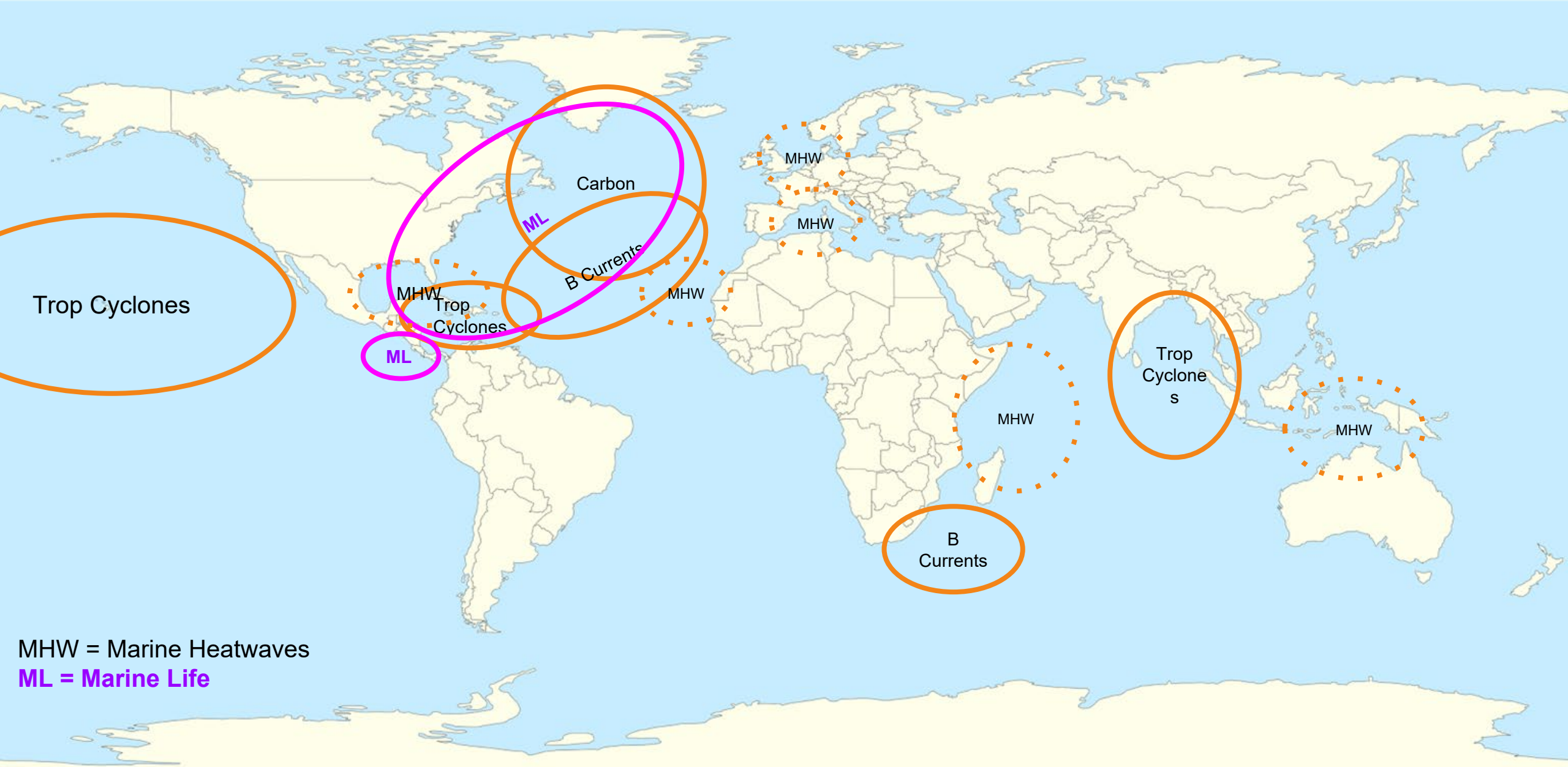
WORKSHOP JUNE 2022 LEARNINGS

- Resourcing co-design processes incl. effective engagement with users
- Paradigm shift away from conventional measure of scientific success
- Demonstrate benefits to society
- Optimising observations to address user needs
- Collaboration across the value-chain

EXEMPLAR PROJECTS

- Active and interactive development of the **co-design process**
- To give **voice** and **visibility to user needs**
- First Exemplar Projects in development:
  - **Tropical Cyclones**
  - **Marine Heatwaves**
  - **Boundary Currents**
  - **Carbon**
  - **Storm Surge**
  - **Marine Life 2030**

PILOT AREAS



MHW = Marine Heatwaves

ML = Marine Life

Observing Together

by The Global Ocean Observing System

Meeting stakeholder needs and making every observation count

Co-chairs:

Molly Powers (Pacific Community)

Alvaro Scardilli (Naval Hydrographic Service, Argentina)

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PRINCIPLES FOR PROJECTS:

- Aim is sustained ocean observations, i.e. not one-off research project observations;
- Engagement with GOOS components (networks, systems, etc);
- Adherence to using and / or contributing to creating community adopted best practices;
- Adherence to FAIR [findable, accessible, interoperable, and reusable] data principles;
- Willingness to share experience and lessons learnt across Observing Together
- Willingness to engage in co-design activities to improve observing system fit for purpose and to optimise the observations to inform stakeholder decision-making

PROJECT DEVELOPMENT SCHEMATIC

Observing Together
by The Global Ocean Observing System

PROGRAMME COORDINATION

GOOS components: OCG, OCEANOPS, ETOOFS, networks

GRAs, CLIVAR, other initiatives

GOOS Ocean Decade Programmes

Ocean Best Practices, IODE, OTGA

SUPPORT & INTERACTION THROUGH:
Expert consultation | Workshops | Knowledge sharing sessions | Co-design / interaction with Exemplars & pilot areas

PROJECT ONBOARDING
>Scope project needs, maturity, opportunities for synergy.
>Identify commonalities with other projects

OPTIONAL: PROJECT SCOPING
> Support to more fully scope & design project & estimated costs

PROJECT DEVELOPMENT

PRIORITIES
> Design based on priority needs v cost
> Implementation plan & timeframe
> Budget based on design & timeframe
> Define metrics for evaluation

BUILD CAPACITY
> Expertise
> Infrastructure
> Data management

SHARE
> Contribute data
> Contribute to knowledge sharing / best practice development

EVALUATE
> Examine metrics
> Re-evaluate priorities

ONGOING SUSTAINED PART OF GOOS

NATIONAL OBSERVING SYSTEMS DEVELOPMENT

- **Enhancing ocean observing system within the Republic of Mauritius**
- **Enhancement of hydrographic and oceanographic observations in the Kingdom of Morocco**

- enhancement of ocean knowledge and forecasting by developing and enhancing national system
- contribute to the regional programmes of African / Indian Ocean regions
- strengthen capacity in terms of platforms and network development
- develop modelling capabilities
- benefit from and adhere to best practices

Photo by Guillaume Baudusseau on Unsplash

END-USER ENGAGEMENT

- **Fisherman Weather Field School (BMKG Indonesia)**
- **AtlantOS-Connect**

- engagement with communities to support understanding of the information provided by weather and ocean services for the benefit of people's safety
- optimisation of fishing & aquaculture activities
- awareness of equipment vital role, to reduce vandalism
- connecting observing to end-user communities via national & regional entities
- identify common challenges and needs of coastal communities

Photo © BMKG / Sekolah Lapang Cuaca Nelayan (SLCN)

NEW OBSERVERS

Sailing 4 Science (NTNU Norway)

- focus on remote, understudied coastal ocean often coinciding with SIDS or low income communities, where capacity building must be carefully co-designed
- deploy frugal innovation, and cost-effective observation tools that exploit recent transformative technologies
- data collection will be important for ocean literacy and awareness activities

GOOS | CoastPredict
with The Global Ocean Observing System

Revolutionising Global Coastal Ocean observing and forecasting

Nadia Pinardi, University of Bologna
Villy Kourafalou, University of Miami
Joaquín Tintoré, Balearic Islands Coastal Observing & Forecasting System
Emma Heslop, GOOS, IOC/UNESCO

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

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CoastPredict update: ENDORSED PROJECTS

Focus Area 1:
Integrated observing and modelling for short term coastal forecasting and early warnings
CORE PROJECT: PredictOnTime will develop systems to observe and predict natural extreme events in the global coastal ocean
2 x AFFILIATED PROJECTS

Focus Area 2:
Earth system observing and modelling for coastal climate monitoring and downscaling
CORE PROJECT: Future Coastal Ocean Climates - downscaled projects for coastal ocean climates and impacts
AFFILIATED PROJECT: European Knowledge Hub on Sea Level Rise

Focus Area 3:
Solutions for integrated coastal management
AFFILIATED PROJECT
>Mangroves as Nature-based Solutions to Coastal Hazards in Eastern Ghana

10 world ocean areas where **CORE projects** will be piloted

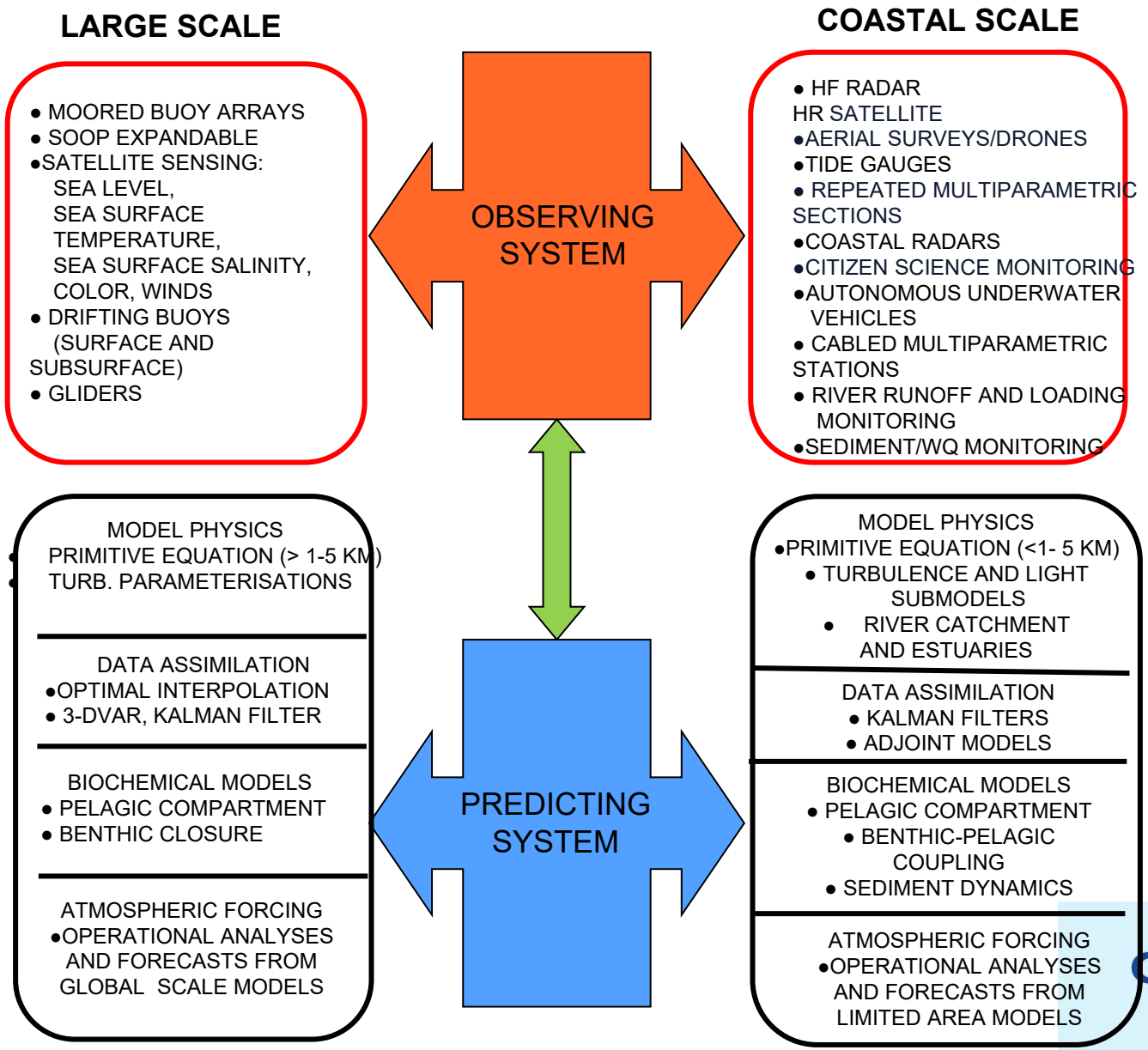
Focus Area 4:
Coastal ocean and human health

Focus Area 5:
International open and free access to coastal information
CORE PROJECT: Coastal Ocean Resource Environment

Focus Area 6:
Equitable coastal ocean capacity

The CoastPredict solution: coastal new technologies and best practices

The challenge: expand operational oceanography to the global coastal ocean



Real time with international standards and protocols, open and free data

Short term predictions and climate coastal downscaling

HOW CAN THE PROGRAMMES ALIGN AND SUPPORT OOPC ACTIVITIES?

Co-Design

- **Supporters Forum Session for GOOS Panels - November 29 @ UTC 1400**
- GOOS Implementation Plan actions - potential synergies relate to Ocean Observing Co-Design - focal points to engage with relevant exemplars?

CoastPredict

- Core projects engagement - coastal climate Focus area?
- CoastPredict General Assembly January 17-18 2023

Observing Together

- Support the projects as expertise required

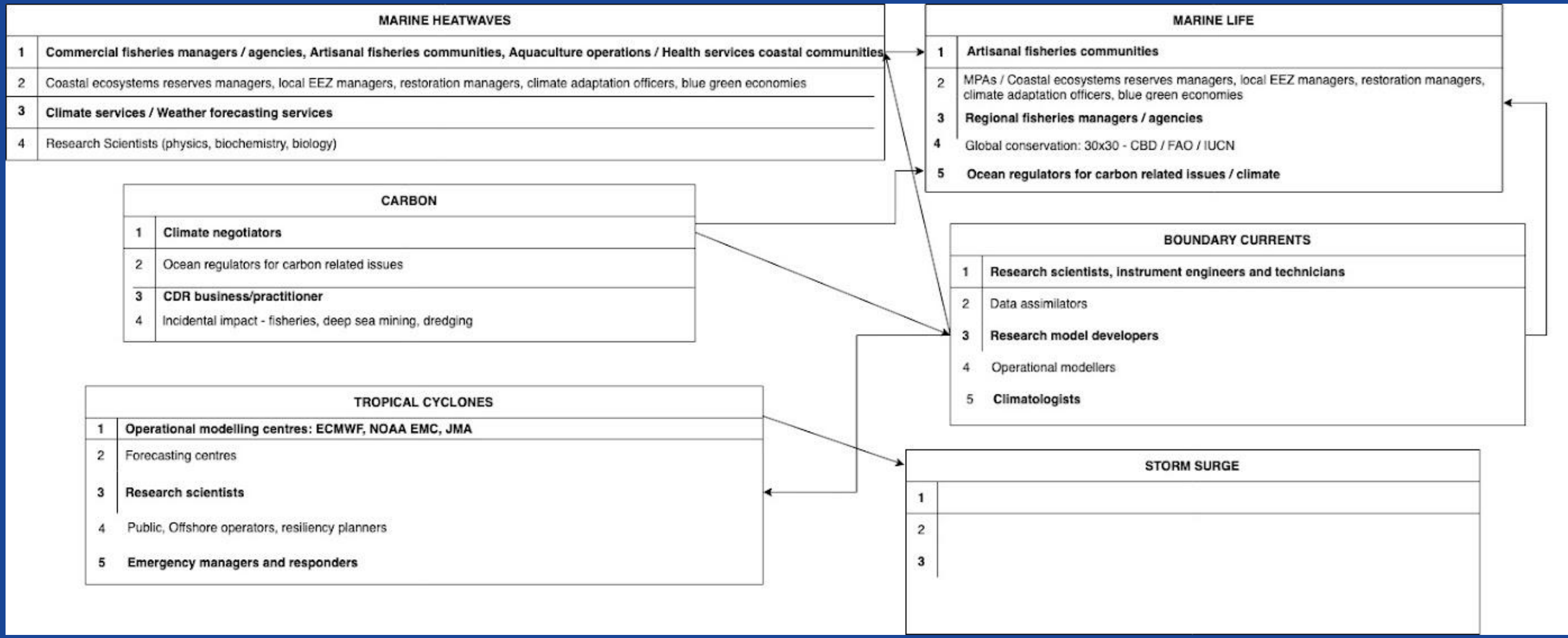
Observing Together
by The Global Ocean Observing System

Thank you

goosocean.org

Programme support:
Mairéad O'Donovan
m.o-donovan@unesco.org

TARGET USER COMMUNITIES



CoastPredict update: DECADE COLLABORATIVE CENTRE for COASTAL RESILIENCE hosted by University of Bologna

- Started 1 Sept 2022
- All agreements between UNIBO and funders concluded
- Director nominated: N.Pinardi
- Office space defined
- Two personnel units joining Oct. 5 and 17: Junior programme specialist and admin person
- Senior Programme Specialist/Chief Scientist call for application published
- Next week calls: 1) Senior Communication Officer; 2) Information system Officer
- International representatives procedures being established