Global Ocean Observing System

Session 4: GOOS and its “users” - Ocean Decade actions

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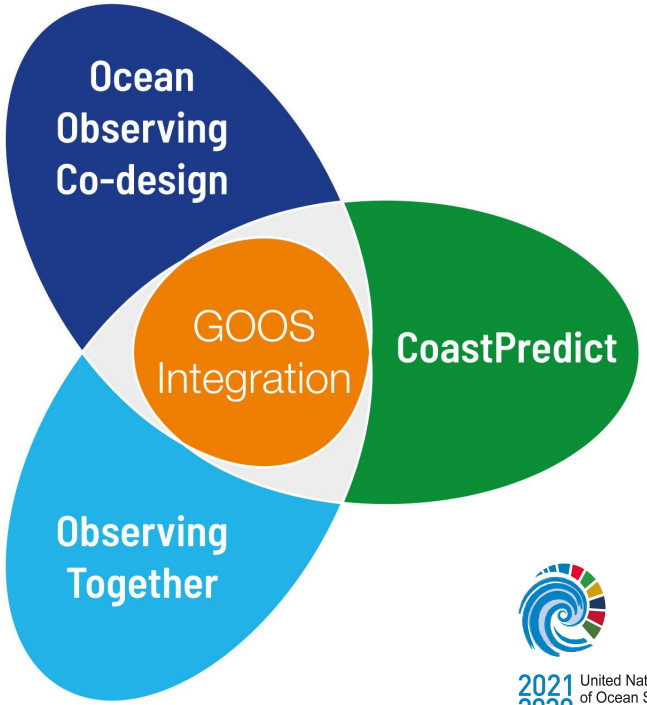
15th GOOS Steering Committee meeting (SC-15) | 25-27 March 2026 | Hyderabad, India

GOOS OCEAN DECADE PROGRAMMES

3 GOOS Ocean Decade programmes

Transformational for GOOS across key themes:

- connected value chain
- connection to users
- observing value & new funding/resource
- advance areas: coast, tropical cyclones



2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Revolutionise & co-design global coastal ocean observing and predicting

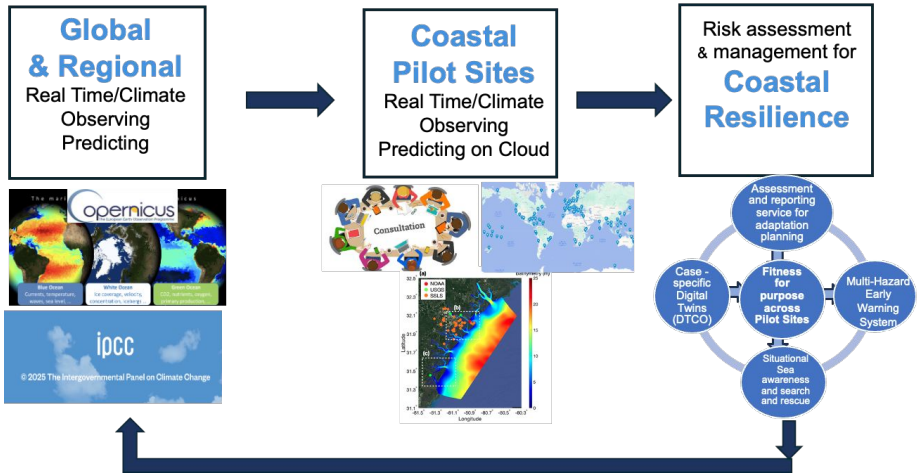
Ocean Observing Co-Design

Observing and predicting the global coastal ocean

Co-design and implement an **integrated coastal ocean observing and predicting system to address coastal challenges**: storm surge, climate impacts, coastal erosion, shipping/ports, hypoxia, marine heatwaves, carbon sequestration, etc.

Deliver the design and demonstration of integrated observing and predicting systems for decision-makers and coastal communities, helping them identify short-term risk management options and plan for long-term mitigation and adaptation.

Strategy



CoastPredict

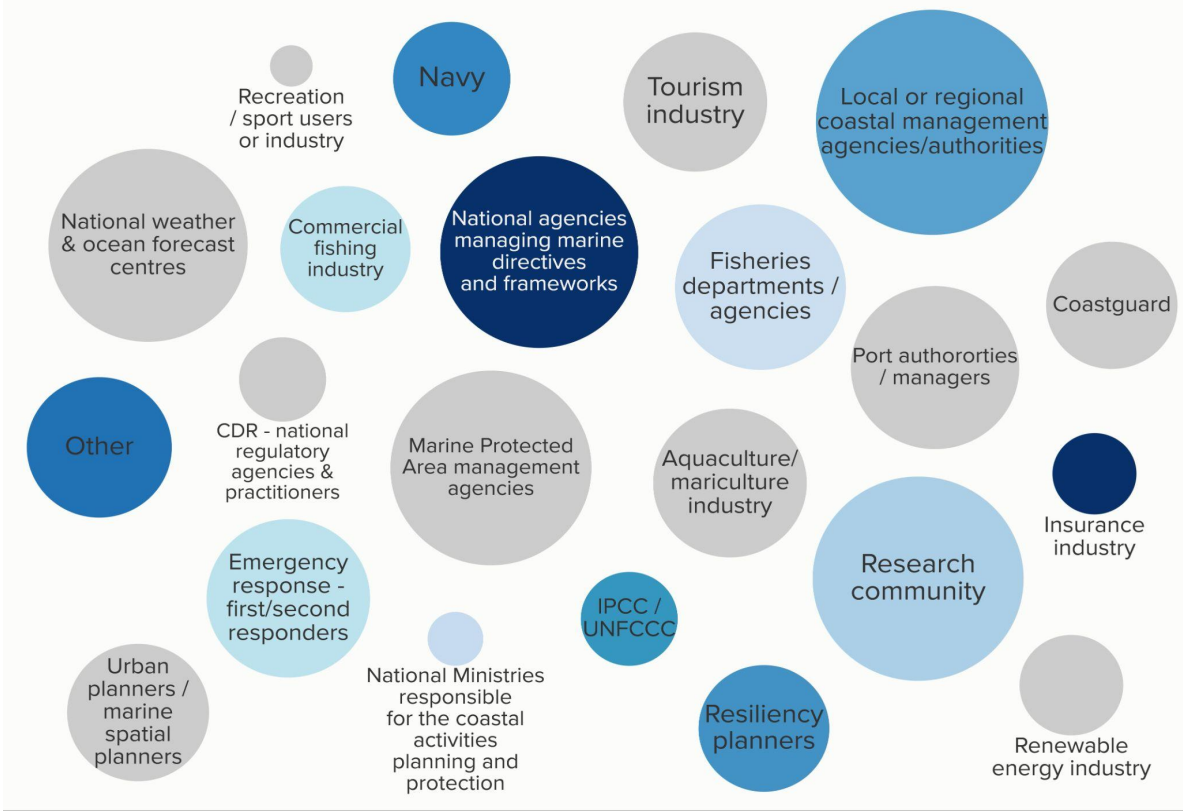
Development GlobalCoast Network

GlobalCoast Network:

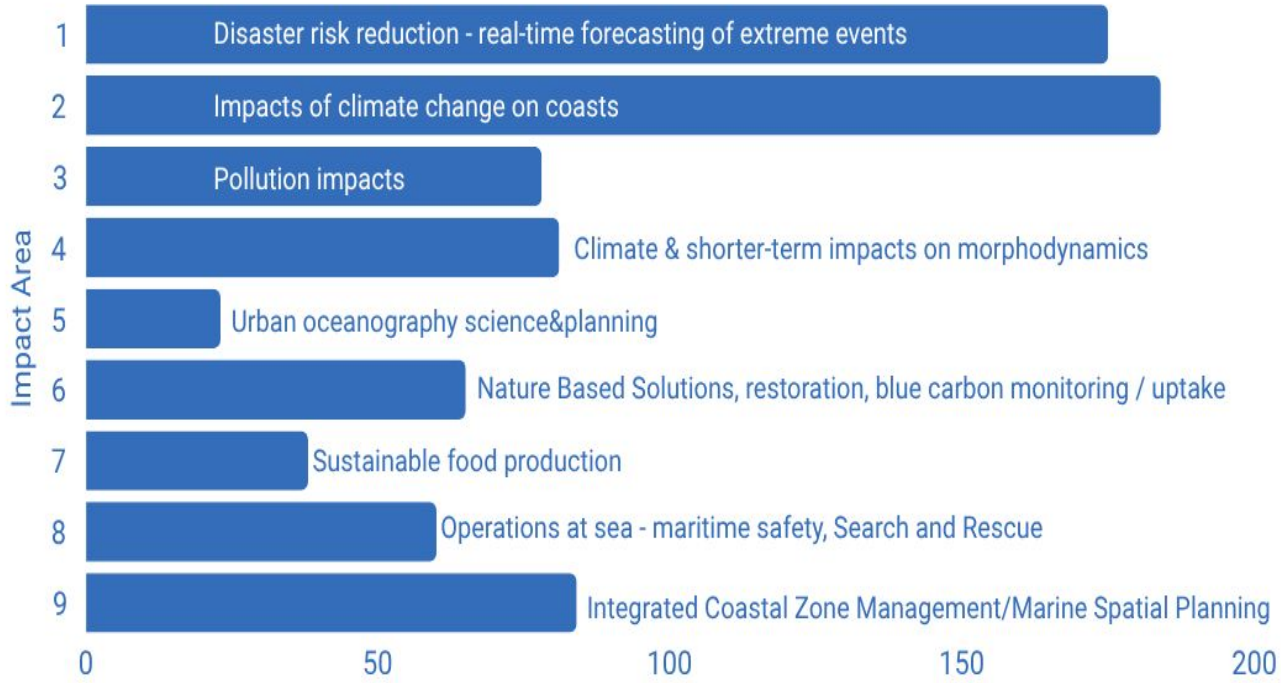
- Established 2023, still growing
- **186 Pilot Sites** in 65 countries
- GlobalCoast Network **MoU** signed by 69 organisations
- Highlighted regions for adaptation funds

Connecting to users

- **Pilot Sites are locally led**
- Existing coastal ocean observing and prediction capacity examined - EOVs measured / gaps
- Key **user groups** types
- Priority **impact areas**



Connecting to users

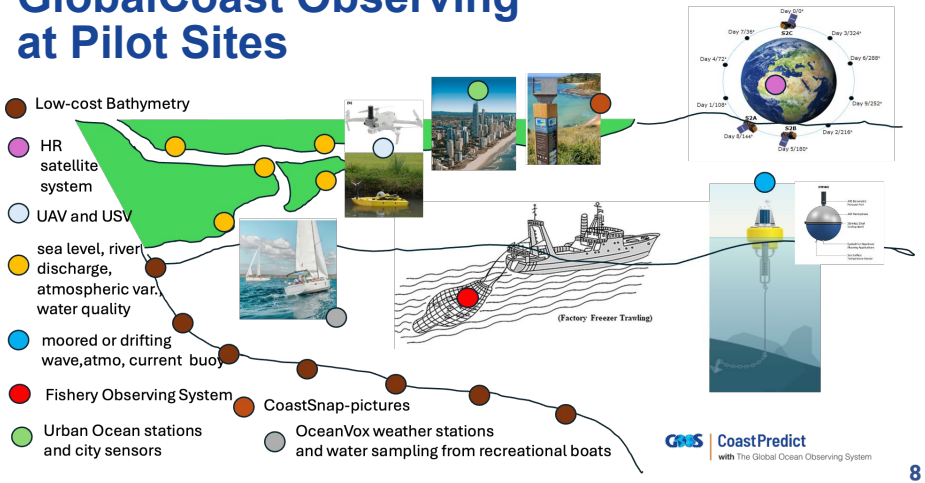


CoastPredict key updates

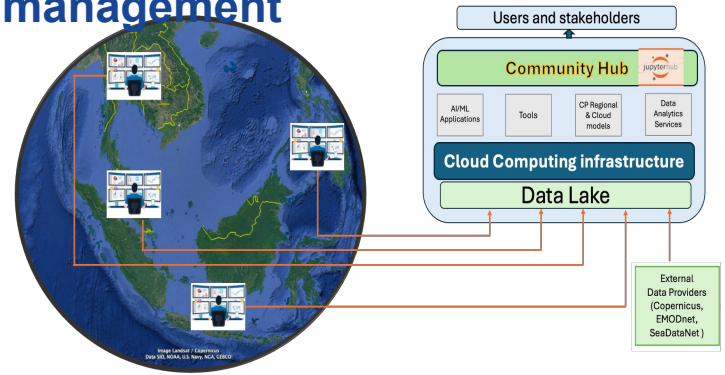
- **GlobalCoast Network established 2023 and continuing to grow:**
  -186 Pilot Sites in 65 countries
  GlobalCoast Network MoU signed by 69 organisations in 37 countries
- **Key insights on priorities needs of coastal communities through pilot site survey:**
  -Priority needs defined at Pilot Sites: integrated observing and predicting for risk assessment and management
- **2 Regional projects submitted for funding:**
  -South-East Asia Seas (4 countries); Caribbean (8 countries)
  -One associated project is in development in Pacific Islands (led by SPC)
- **Prototypes of solutions for coastal ocean observing:**
  -52 affiliated projects demonstrating methodologies and a mix of technologies for coastal observing systems, including cost-efficient e.g. FVON
  -'ProtoCoast' prototype - interoperable regional infrastructure for data, cloud-based, private-public collaboration.
- **Key Partnerships:**
  -satellite community through CEOS-COAST
  -private sector, especially for co-delivery of services

Implementation elements and demonstration sites

GlobalCoast Observing at Pilot Sites



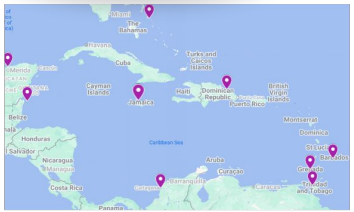
GlobalCoast cloud-based data management



Initial demonstration PIlot Sites

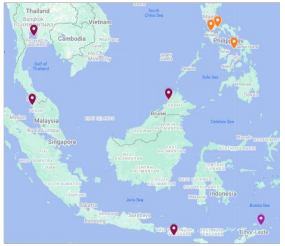
8 countries
Bahamas
Barbados
Colombia
Dominican Republic
Grenada
Jamaica
Mexico
Trinidad & Tobago

9 Pilot Sites



4 countries
Indonesia
Malaysia
Philippines
Thailand

8 Pilot Sites



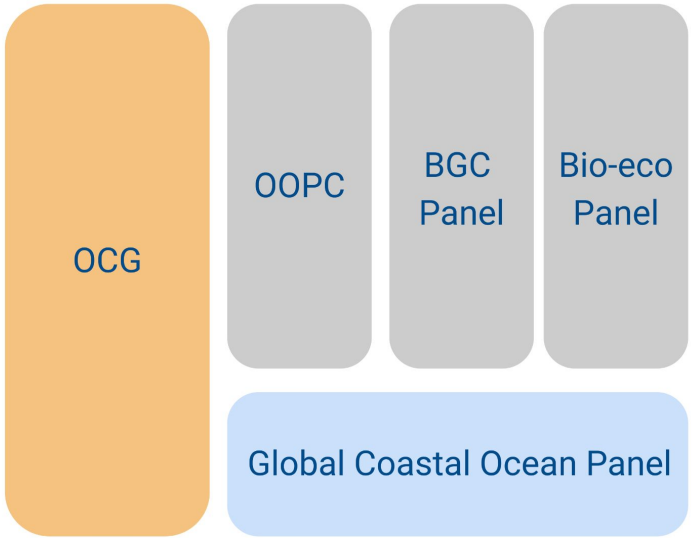
Next steps

CoastPredict momentum and maturity is important to align and embed in GOOS

Suggest **establishing a Global Coastal Ocean Panel**

- Align with GOOS vision - integrated ocean observing - value chain integration - address coastal priority
- Connect with GRAs, OCG (ICG), Expert Panels
- Focus for coastal resilience for GOOS, IOC and WMO Member States

CoastPredict offers its Network as a means to address the full value chain and deliver consistency in approach



Proposal Note prepared for GOOS SC

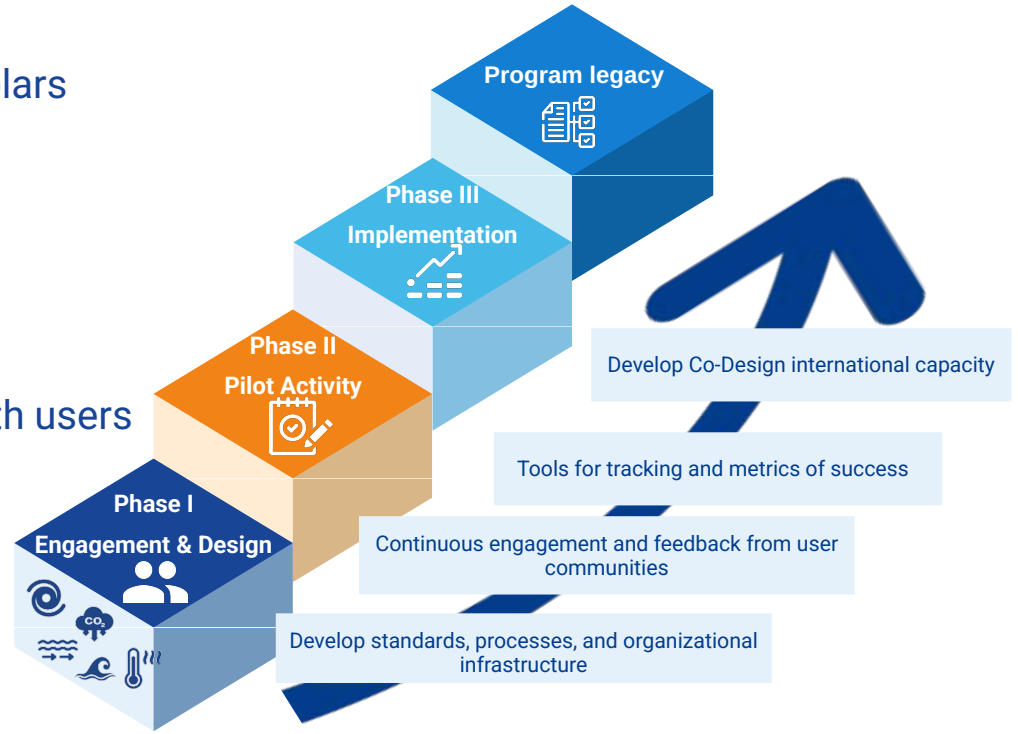
CoastPredict

Leading a transformational shift for GOOS - Co-Design will evolve the ocean observing system to be responsive and user driven

Ocean Observing
Co-Design

IMPLEMENTING CO-DESIGN

- Program leadership
- Develop pilot implementation - Exemplars
- Selected for impact
- Dual focus on capacity and process
- UN Ocean Decade Guide 2021
- Co-Design Workshop 2022
- Partnership building incl. WMO
- 2023-2024 numeround workshops with users



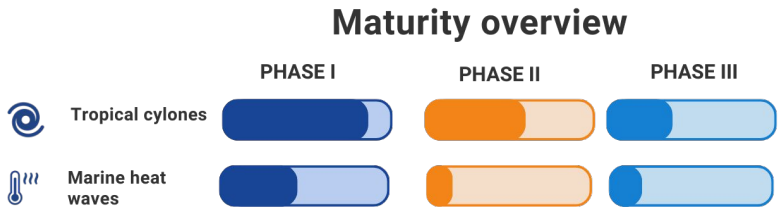
...from concept to established practice

Start with users, not systems

User scoping defines system design success

- Prioritizing target users is essential
- Value chains must be mapped early
- Systems cannot serve all needs at once
- Focus enables delivery & identify what there, connect, partner, and advance not re-invent

Value chain maturity shapes speed



Not all Co-Design starts from the same baseline

- Mature chains accelerate progress
- Immature chains require more effort in relationship building
- Funding needs differ

Regional pilots make Co-Design tangible

- Engagement is anchored in direct benefits
- Supports value chain collaboration on requirements
- Investment mobilizes nationally
- Connection to global brings area expertise & exports global practice & knowledge

Trust, legitimacy and institutional bridges

- Trust builds gradually through sustained engagement
- Relationship building is foundational but time-intensive
- GOOS/WMO support gave stakeholders confidence, opened doors and facilitated engagement

Pilot regionally, where value becomes tangible for users, funders and partners

EXEMPLAR SUCCESS

BOUNDARY CURRENTS

- Science/modelling meeting 2023
- Science and User Workshop 2024
- **Identify needs fisheries, weather, resource management, SAR, etc**
- Pilot Design - filling gaps value chain
- **Key gap WMO RRR SoG (2026) - delivered a proposal & plan**

TROPICAL CYCLONES

- Large value to society in improved prediction
- Early value chain mapping - TC forecasting centres
- **Regional planning connection with WMO - RBON etc.**
- Hurricane glider missions & new support
- **Next steps 'blueprint'**

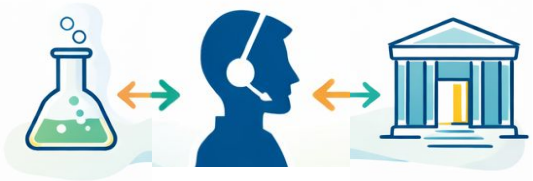
OCEAN CARBON

- Embedded at global level
- Many carbon projects, what are gaps
- **Emerging users (mCDR, Carbon credits, etc.)**
- Pillar 3 of GOOS Carbon Plan
- **Horizon Europe project build funding model** (WMO GHG / Earth System)

Vision looking forward...

Ocean Observing Co-Design

FILLING THE GAPS: RECOMMENDATIONS



Build co-design skills and translators, tools and practices

Funding gaps create structural barriers to advance Co-Design

Tools for assessing co-design implementation and impact

Combine regional pilots with global frameworks

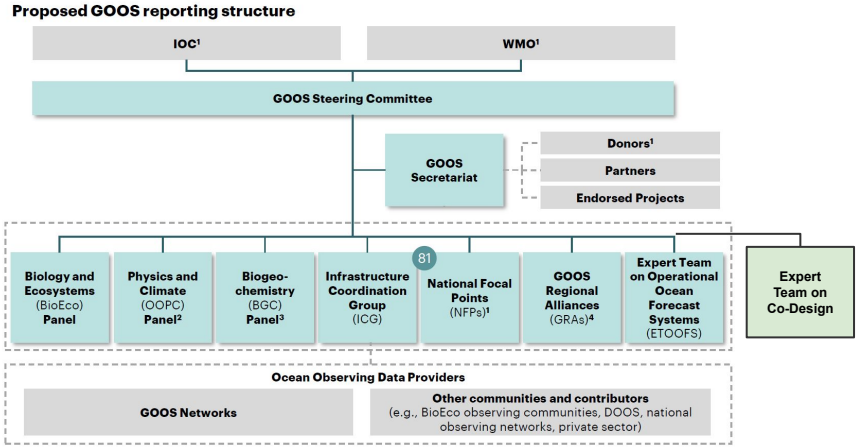
Next steps

Ocean Observing Co-Design is delivering results, insight and impact. How can co-design become foundational element**?**

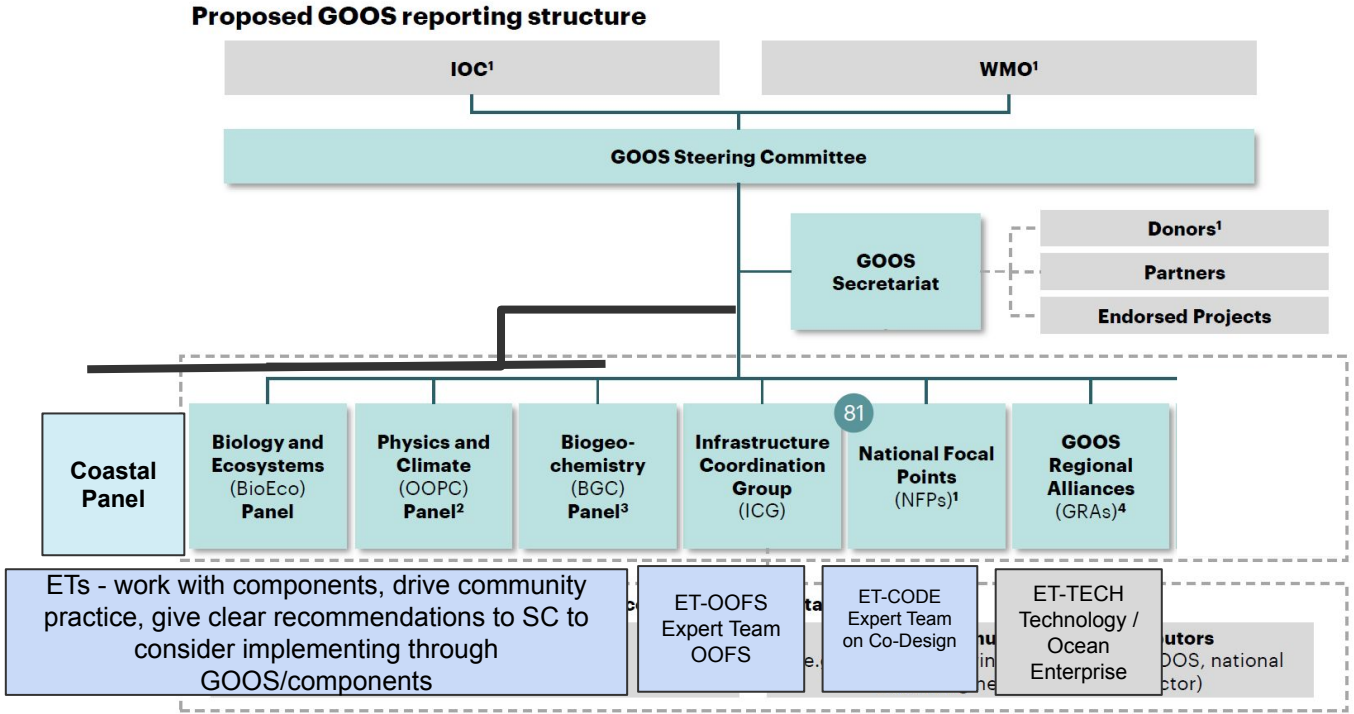
Suggest establishing an **Expert Team on Co-Design** to work on a rolling set of Exemplars and support community of practice

- Align with GOOS vision - integrated system responsive to users - value chain delivering information needed
- Connect with GRAs/WMO RAs, ETOOFS, OCG, Panels
- Locus for investment regionally, advance in capacity to meet priorities, new user and funder dialogues

Ocean Observing Co-Design can offer its current Exemplars as a base - new exemplars decided GOOS SC across delivery areas address high/highlighted need e.g. Sea Level services



Next steps


Proposed GOOS reporting structure
IOC¹
WMO¹
GOOS Steering Committee
GOOS Secretariat
Donors¹
Partners
Endorsed Projects
Coastal Panel
Biology and Ecosystems (BioEco) Panel
Physics and Climate (OOPC) Panel²
Biogeo-chemistry (BGC) Panel³
Infrastructure Coordination Group (ICG)
81
National Focal Points (NFPs)¹
GOOS Regional Alliances (GRAs)⁴
ETs - work with components, drive community practice, give clear recommendations to SC to consider implementing through GOOS/components
ET-OOFS Expert Team OOFS
ET-CODE Expert Team on Co-Design
ET-TECH Technology / Ocean Enterprise

Two key questions for the SC

- Should the committee establish the Global Coastal Ocean Panel and as a Pilot Panel in 2026 and ET-Co-Design as a pilot Expert Team, and how can it be effectively connected with relevant GOOS Components?

- Support for Panel and ET - existing elements can be used but important to acknowledge for future

Ocean Observing Co-Design vision paper

10 Lessons to learn from...
5 Actions to take...
1 Vision to build...

CSIRO
NOAA
DMI
UCAR
RUTGERS–NEW BRUNSWICK
Center for Ocean Observing Leadership
School of Environmental and Biological Sciences
NORCE
SOCIB Balearic Islands Coastal Observing and Forecasting System
CEAN FRONTIER INSTITUTE
Led by DALHOUSIE UNIVERSITY
NRF National Research Foundation
SAEON South African Environmental Observation Network
science, technology & innovation
Department: Science, Technology and Innovation
REPUBLIC OF SOUTH AFRICA
UNSW SYDNEY
unesco Intergovernmental Oceanographic Commission
WORLD METEOROLOGICAL ORGANIZATION
2021 2030 United Nations Decade of Ocean Science for Sustainable Development
ECOSUR
cmcc

Co-Design is not optional, it is the pathway to impact

GOOS Ocean Observing Co-Design

Thank you

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Intergovernmental Oceanographic Commission

WORLD METEOROLOGICAL ORGANIZATION

UN environment programme

International Science Council