

NOTE for Fifteenth GOOS Steering Committee on a new GOOS Global Coastal Ocean Panel

Date: 20/03/2026

Authors: Nadia Pinardi, Emma Heslop, Villy Kourafalou, Joaquin Tintore, Giovanni Copini, Mairead O'Donovan

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Executive Summary

CoastPredict is one of the three GOOS Ocean Decade Programmes that were launched in 2020 to help transform GOOS in key areas. CoastPredict has now been working for five years and its major achievements include: the development of a 180+ global coastal network of affiliated projects and teams ("GlobalCoast"), the establishment of a Decade Collaborative Centre for Coastal Resilience, and GlobalCoast survey providing information on stakeholder needs, and broad consultations with national governments across 3 regional projects to identify coastal resilience needs and connecting people from public and private sector towards revolutionising coastal ocean observing and forecasting.

These CoastPredict achievements have consolidated clear ideas of how coastal ocean observing and forecasting needs to evolve for the future, which are a significant contribution to GOOS towards fulfilling its mission into the coast. It is also contributing through being a home for a coastal observing and forecasting community, related discussions, decisions, and advice, anchored within GOOS.

The programme has reached a level of capacity and momentum under the Ocean Decade that we now believe is important to embed this more formally within the GOOS structure to enable cross GOOS planning and to achieve the transformative development originally envisioned. **CoastPredict suggests that GOOS could achieve this through establishing a Global Coastal Ocean Panel**, perhaps initially as a pilot. This pilot Panel would connect with the other GOOS Expert Panels and the OCG (ICG) to deliver observations and information for coastal resilience to IOC and WMO Members and Member States, through the GOOS governance structure, and to truly deliver an integrated global open and coastal ocean observing system.

1. Rationale

GOOS identified in its strategy a vision for an integrated ocean observing system that delivers the information needed by society, and that integration along the value chain was one vital component that was needed to do this. Additionally, the GOOS Roadmap identified the coastal ocean as an area of focus and CoastPredict was developed in 2020 under the Ocean Decade to undertake transformational work in this area. The first half of the Ocean

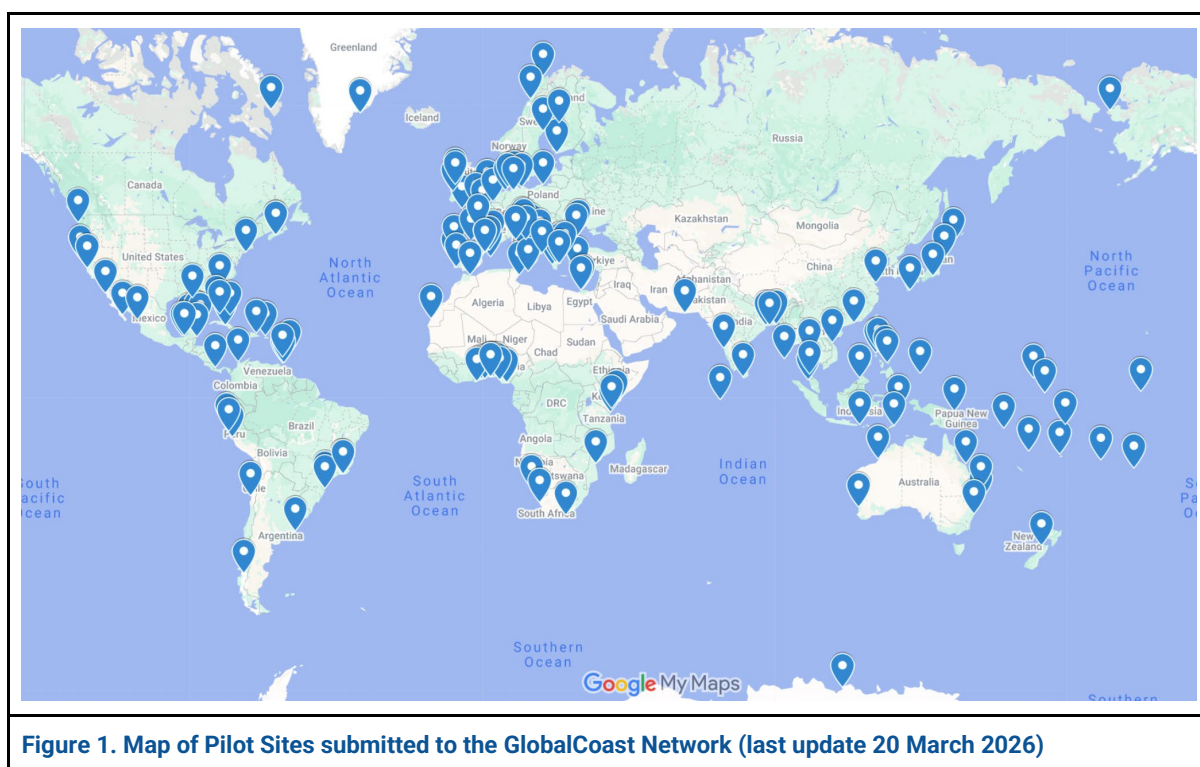
Decade has clearly highlighted the need to enhance science and technology for Coastal Resilience, including services to final users.

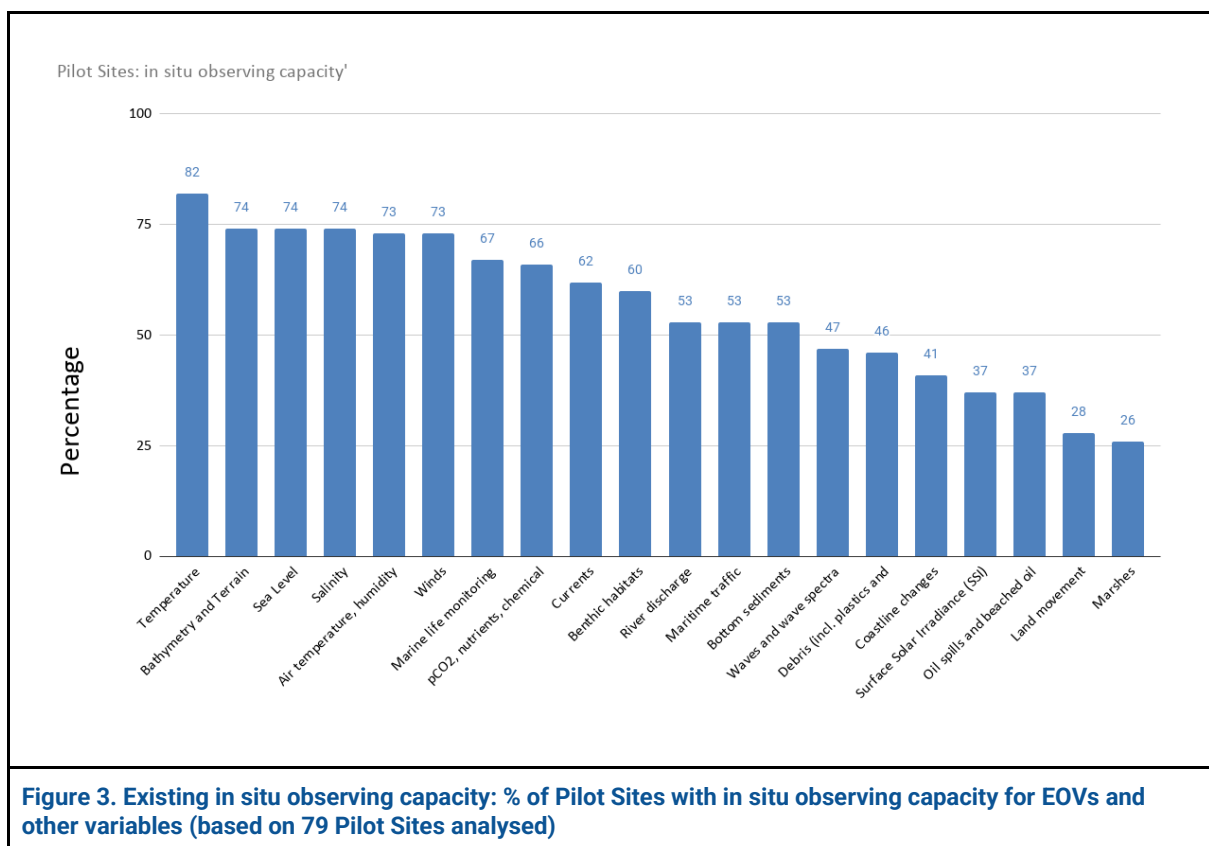
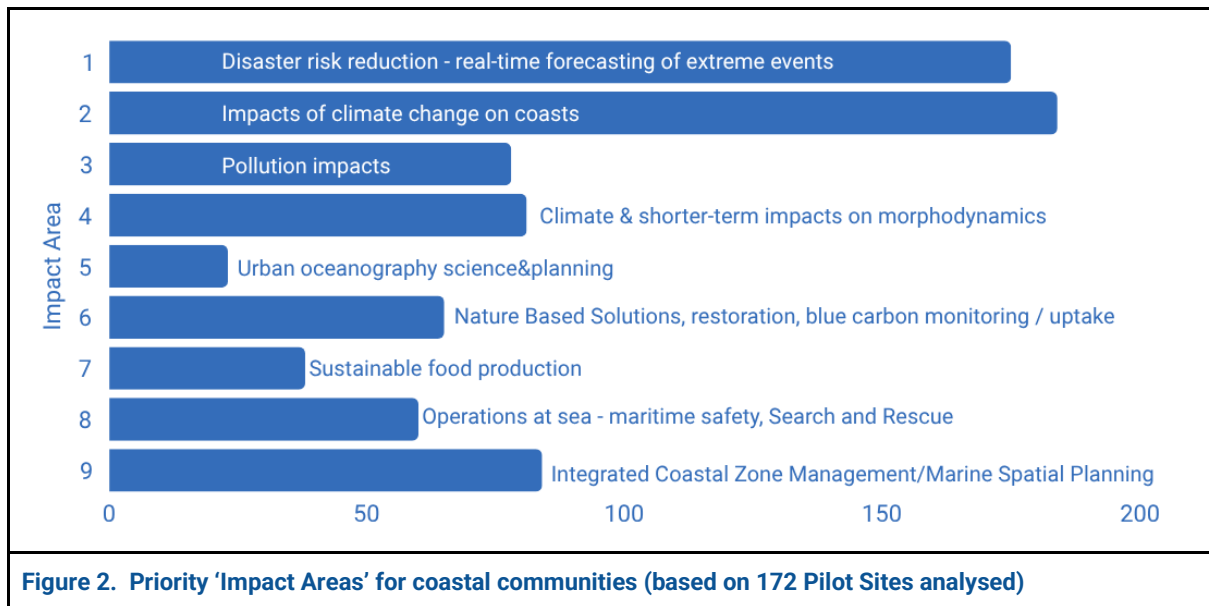
Since its inception, CoastPredict has undertaken the coordination of Decade Actions that are developing the science and technology that could be the basis for an 'Integrated Global Coastal Ocean Framework'. This new coastal focused Framework will allow the development of innovative risk assessment and management solutions, to contribute to all Ocean Decade outcomes and to interface effectively with UN Conventions, as well as connecting ocean information with the people who need it.

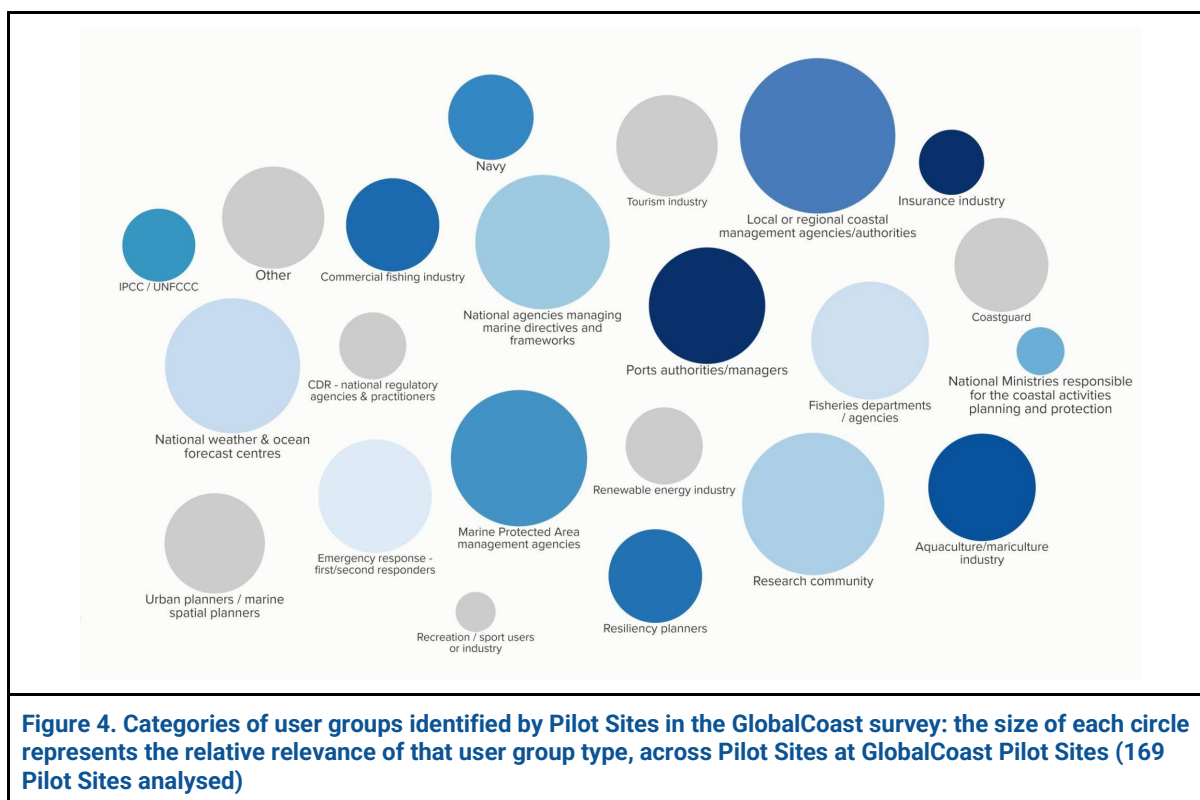
2. CoastPredict progress and advancements

CoastPredict has built a global coastal ocean community, which started in 2023 with the 'GlobalCoast' initiative, working towards an integrated framework and relocatable solutions for coastal ocean observing and predicting.

- **'GlobalCoast' now has 186 Pilot Sites in over 65 countries, identified through an international survey that queried priority needs, key user groups and existing capacity for coastal ocean observing and prediction.** A summary of the GlobalCoast Pilot Sites is presented below as Figures 1-5, valid at 20 March 2026 as the Pilot Site submission remains open.







- **A GlobalCoast Network MOU was established in 2025 to outline shared goals and a collective commitment to advancing coastal ocean observing and predicting:**
 - 69 signatory organisations;
 - Representation from 37 countries
- **Prototypes of solutions for coastal ocean observing were developed and consolidated in CoastPredict's 'Menu of Solutions' (working document) used to frame 3 major regional projects for the Adaptation Fund:**
 - 52 affiliated projects demonstrating and developing methodologies and solutions;
 - Mix of technologies for coastal observing systems, including reliable citizen science and cost-efficient sensors e.g. FVON (emerging GOOS Network);
 - 'ProtoCoast' prototype developed for a regional infrastructure for data, cloud-based and open for private public sector interoperable with existing GOOS and other infrastructure;
 - Key partnership with the satellite community through CEOS-COAST (Coastal Observations, Applications, Services and Tools).
- **Regional projects co-designed with local partners and Member States:**
 - 3 regional project proposals in development. Two with Concept Notes submitted - South East Asia Seas (Indonesia, Malaysia, Philippines, Thailand) and Caribbean (Bahamas, Barbados, Colombia, Dominican Republic, Grenada, Jamaica, Mexico, Trinidad & Tobago). National partners nominated as 'Executing Entities', national governments engaged in co-design, and regional IOC Subcommissions are fully engaged (key to authority, national participation, regional priorities and delivery) . One associated regional project in the Pacific Islands is led by SPC (GOOS GRA).

3. Benefits to GOOS and Member States of a Coastal Ocean Panel

Key benefits of creating a Panel for the coastal ocean

- Better connect to Member States needs - deliver what many vulnerable countries require;
- Focus on coastal environment but integrate fully with GOOS, OCG/ICG and other Panels;
- Strengthen work with GRAs / IOC Subcommissions in developing regions, has already been effective for the regional Adaptation Fund projects
- Global panel that brings recommendations to GOOS for coastal design, user needs and technology, with GOOS oversight and support of IOC and WMO;
- Locus for connection of satellite and private sector for coastal ocean observing;
- Full value chain approach;
- Take advantage of the transformative approaches tested within the Ocean Decade.

4. Suggestions for next steps

- GOOS SC considers creating a Global Coastal Ocean Panel as a pilot in 2026 and identities the connections that such a Coastal Panel would need to develop and maintain for GOOS (Figure 5);
- CoastPredict has created a Working Group ('Coastal observing and cloud data ingestion') that could represent a building block for this Panel, and the recent *"Observing System Design for Coastal Resilience"* Workshop outlined several areas for potential work – see Annex 1 (Summary of Workshop themes and participants).

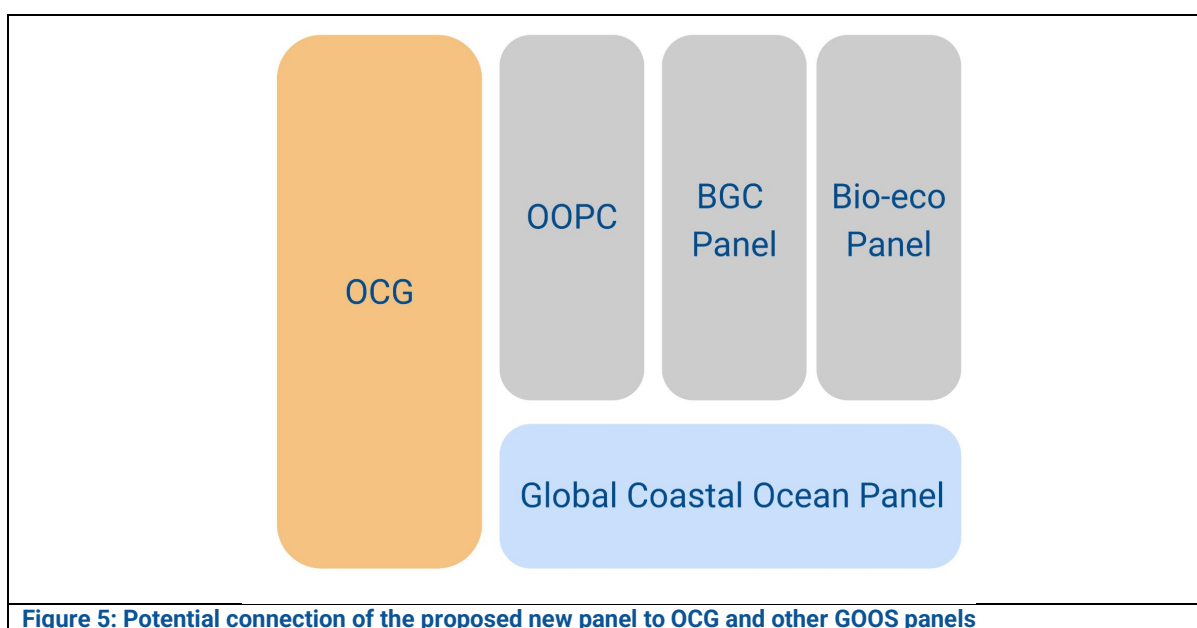


Figure 5: Potential connection of the proposed new panel to OCG and other GOOS panels

Annex 1. Summary of themes from 'Observing System Design for Coastal Resilience' Workshop

The Workshop's discussion was built around four major themes contributing to the 'Observing System Design for Coastal Resilience', and here is a summary of its conclusions, with a larger report to follow:

a. Cost-efficient coastal monitoring design - Cost-efficient monitoring is confirmed to be a high priority for coastal resilience, observing platforms/sensors should be properly interfaced across the land/coastal/shelf continuum. Initial components range from low-cost bathymetric surveys to FVON (Fishing Vessel Ocean Observing Network) and multidisciplinary coastal stations. While cost-efficiency is paramount, it is also crucial that data are of adequate and trusted quality and integrated with existing observations. The coastal region and citizen/industry science offers substantial opportunities for filling gaps in existing systems, co-financing of observations, as well as financial innovation.

b. Vulnerability data - These critical data need to be properly interoperable and integrated into decision support services, especially those for the socio-economic and critical infrastructure data. Gaps in vulnerability data already considered are the spatial and temporal resolution of ecosystem and socio-economic data and the needs for best practices to increase engagement, ownership, capacity building, and co-design with coastal communities for the long-term sustainability and impact of coastal observing systems.

c. Cloud-based data management - This has been confirmed as the primary system for the Integrated Global Coastal Ocean Framework data management. It will enable the immediate sharing of cost-effective observations, facilitate their integration with modelling and service delivery, remove barriers to data accessibility, and accelerate the development of AI-based management tools.

d. Coastal satellite observations - New Earth Observation satellites now enable monitoring of coastal Essential Variables (EVs) at unprecedented resolution. The Integrated Global Coastal Ocean Framework should therefore promote the integration of innovative satellite and in situ coastal observations to maximize the benefits through seamless integration into forecasts and fit-for-purpose products and services.

List of Participants to the 28/02/2026 CoastPredict Workshop 'Observing System Design for Coastal Resilience'

| Surname | First name | Organisation / Institution |
|--------------------------|-------------|----------------------------|
| Azevedo Correia de Souza | Joao Marcos | CIRES / NOAA PSL |
| Benveniste | Jérôme | COSPAR |
| Bethel | Brandon | University of The Bahamas |
| Brantschen | Jeanine | Center for Ocean Solutions |
| Breviere | Emilie | SMHI |
| Castro Muniain | Carles | FVON/ODN |

| | | |
|----------------|-------------|--|
| Closek | Collin | Stanford Center for Ocean Solutions, Stanford University |
| Colson Leaning | Dustin | Environmental Defense Fund |
| Coppini | Giovanni | Euro-Mediterranean Centre on Climate Change (CMCC) |
| Cusack | Christopher | Environmental Defense Fund |
| Garcia-Jove | Maximo | SOCIB |
| Gorringe | Patrick | SMHI |
| Handa | Wanda | Decade Collaborative Centre for Coastal Resilience |
| Holt | Jason | National Oceanography Centre (NOC, UK) |
| Katavouta | Anna | National Oceanography Centre (NOC, UK) |
| Kourafalou | Villy | DCC Coastal Resilience, Bologna |
| Lago | Veronique | University of New South Wales (UNSW) |
| Marcelli | Marco | Tuscia University |
| Murphy | Greg | Fugro |
| O'Donovan | Mairéad | Euro-Mediterranean Centre on Climate Change (CMCC) |
| Pearlman | Jay | Fourbridges |
| Pearlman | Francoise | IEEE |
| Pinardi | Nadia | DCC Coastal Resilience, Bologna |
| Roughan | Moninya | UNSW Sydney |
| Santos | Miguel | FVON / IPMA |
| Signell | Rich | Open Science Computing, LLC |
| Sloyan | Bernadette | CSIRO |
| Sobral | Fernando | UNSW Sydney |
| Taylor | Aubrey | FVON / Environmental Defense Fund |
| Van Vranken | Cooper | FVON and ODN |
| Zarokanellos | Nikos | SOCIB |