CoastPredict
with The Global Ocean Observing System

GlobalCoast: A transformative Network for integrated Coastal Ocean monitoring and prediction systems

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Programme endorsed by

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

coastpredict.org

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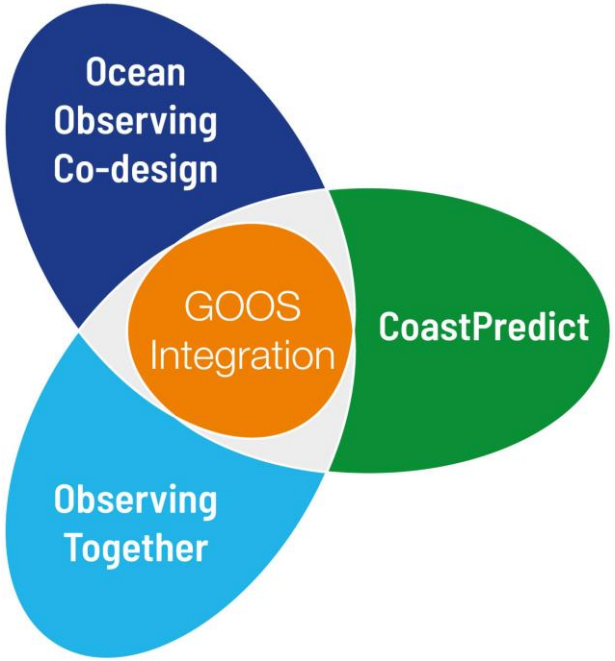
CoastPredict Programme:

A predicted global coastal ocean from events to climate



The Global Ocean Observing System

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Upgrade to a fit-for-purpose oceanographic information infrastructure that integrates latest technology and methods for coastal ocean observation and prediction.

Objective

Provide decision-makers and coastal communities with integrated observing and predicting systems

to identify solutions for managing risk (short-term) and planning for mitigation and adaptation (long-term)

In the context of future climate and ocean change

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326 engaged institutions (Steering Committee & Pilot Sites) including

At the heart of the Ocean Decade

Sub-Commission for the Caribbean and Adjacent Regions
unesco
Intergovernmental Oceanographic Commission
Subcomisión para el Caribe y Regiones Adyacentes

UNIVERSITY OF GHANA

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

SOCIB Balearic Islands Coastal Observing and Forecasting System

OceanPredict
Advancing the science of ocean prediction

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

Pacific Community
Communauté du Pacifique

Ocean best practices

cmcc
Centro Euro-Mediterraneo sui Cambiamenti Climatici

CEOS Committee on Earth Observation Satellites

MIAMI

Ocean Prediction
UN DECADE COLLABORATIVE CENTRE

UNIVERSITY OF THE PHILIPPINES 1908

Deltares

MERCATOR OCEAN INTERNATIONAL

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Synergies

- OceanPredict:
  - Coastal Ocean and Shelf Seas Task Team
  - SynObs Project (ForeSea Program)
- Decadal Collaborative Center for Ocean Prediction (Mercator)
- Decadal Collaborative Center for Coastal Resilience (Univ. of Bologna)
- Cities with the Ocean & Ocean Rise and Coastal Resilience Coalition (UNESCO-IOC)
- Sustainable Ocean Planning (UNESCO-IOC)

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Drivers & opportunities

Fragmentation of knowledge & efforts

- Establish international network for Global Coastal Ocean innovation and solutions

Large data gaps: coastal zone & Global South

- Equitable & free access
- Development & sharing of knowledge, resources & services

Technology gaps

- Coastal & urban models for the future
- Accessible observing technologies
- Delivery of services & big data

Services don't exist & trust in solutions is low

- Involve coastal managers & communities
- Demonstrate services
- Public & private partnerships

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‘GlobalCoast’
- Our Framework for Implementation -

to create globally replicable solutions, standards, and applications that enhance coastal resilience for both natural and built environments

- **Innovation accelerator**: testbeds in different coastal regions (characteristics of similarities and differences)
- **Seamless integration**: from open ocean to coasts and estuaries/cities/ports (natural & built environments)
- **Global collaboration**: methods and solutions that are developed globally and implemented locally
- **User focus**: stakeholder co-design

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GlobalCoast Network

134 Pilot Sites
> 70 countries
> 225 partner institutions

- systematic comparison of solutions and services across remote coastal regions
- synergistic and robust science-based products
- “compare and contrast” to identify global coastal areas where similar (or individualized) solutions can be implemented, tested, and refined

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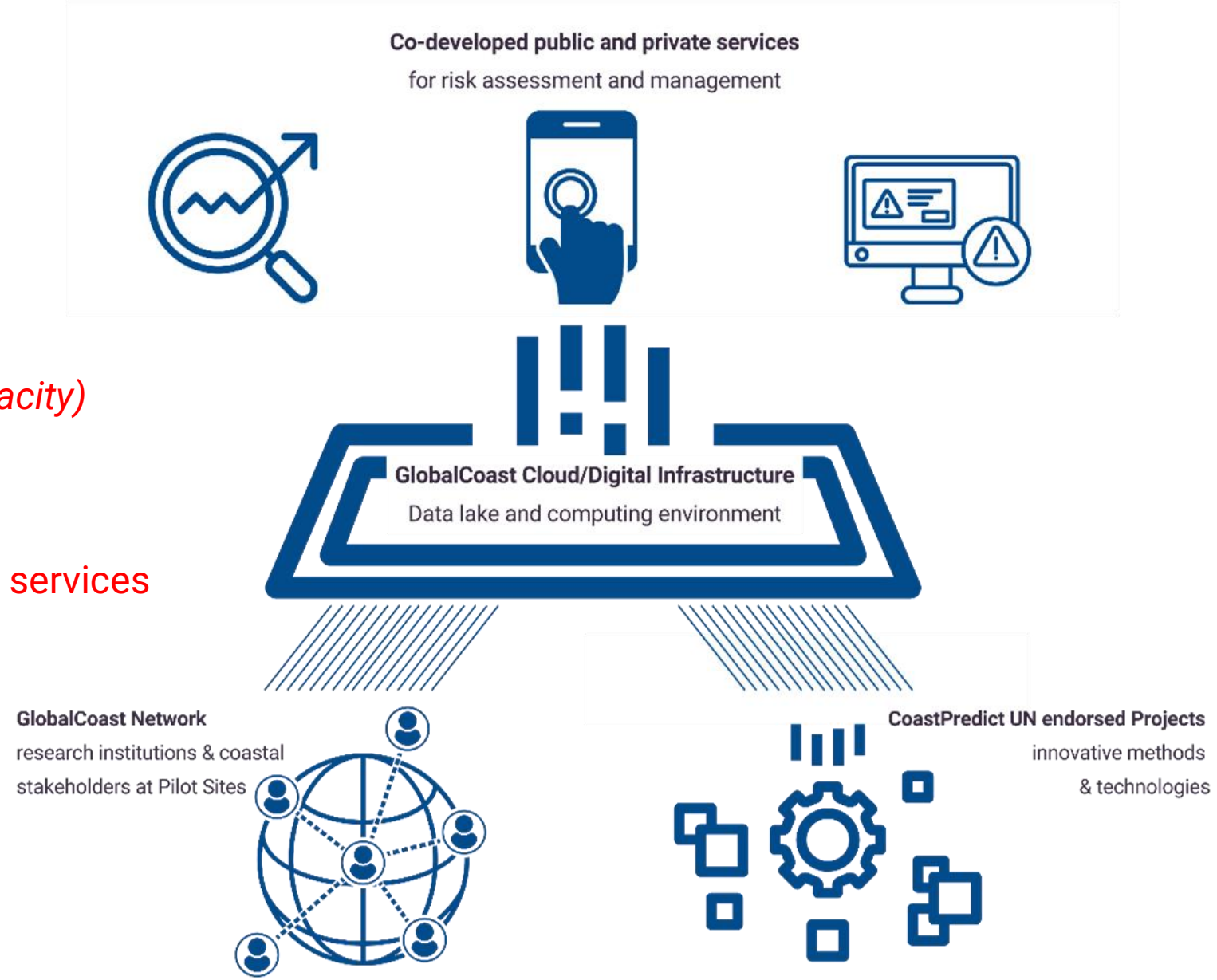
GlobalCoast Framework

- harness opportunities
- overcome barriers *(eg. resource capacity)*
- connect the work globally
- enable public-private collaboration
- replicable solutions
- engage cloud technology to support services



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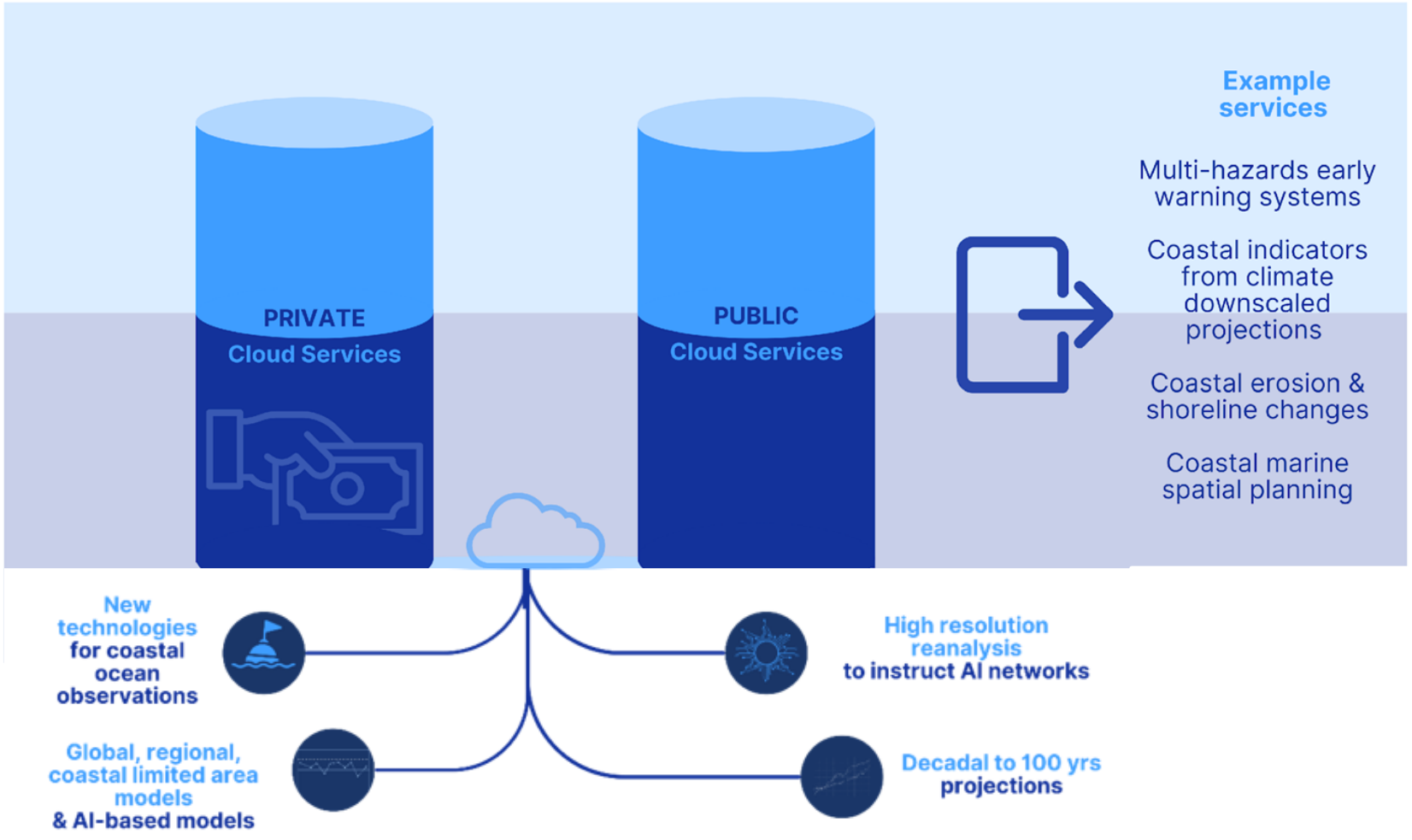
GlobalCoast Cloud

- Pilot Site data & information exchange
- Synergy accelerates progress
- Inter-comparison of methods & solutions



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GlobalCoast Memorandum of Understanding

https://www.coastpredict.org/globalcoast-network-mou/

52 signatories (as of 8 June 2025)

Purpose & Objectives

- Strengthen global coastal observing & prediction systems under the CoastPredict Programme to enhance coastal community resilience against climate change & disasters
- Foster collaborations, capacity building, & technology sharing

Key Actions

- Coordinate GlobalCoast Network activities for integrated coastal solutions
- Promote partnerships & knowledge exchange across pilot sites
- Align efforts with UNESCO-IOC & other international programs
- Develop risk management strategies & early warning systems

CoastPredict
with The Global Ocean Observing System

GlobalCoast Network MOU

52 signatories
(as of 8 June 2025)

Open signing period until:
31 December 2025

Institute

1. Abubakar Tafawa Balewa University (ATBU)
2. Aristotle University of Thessaloniki - School of Civil Engineering
3. Asociacion ProDelphinus
4. Association for Farmers Rights Defense (AFRD)
5. ATLANTIC CoLAB - Associação para um laboratório colaboratio do Atlântico
6. Integrated Marine Observing System (IMOS)
7. Caribbean Coastal Ocean Observing System Inc.
8. Caribbean Institute for Meteorology and Hydrology
9. Centro de Estudos Estratégicos e Planejamento Espacial Marinho (CEDEPEM) | Universidade Federal de Pelotas (UFPel)
10. Cinvestav - Center for Research and Advance Studies
11. CMCC Foundation - Euro-Mediterranean Centre on Climate Change
12. CNR-IAS National Research Council of Italy | Institute of Anthropic impacts and Sustainability in marine environment
13. Cook Islands Meteorological Service
14. European Global Ocean Observing system (EUROGOOS-AISBL)
15. Fugro
16. Helmholtz-Zentrum hereon GmbH
17. IEEE France Section
18. Institut de Recherches Halieutiques et Océanologiques du Bénin (IROHB)
19. Institute of Geosciences, Federal University of Rio de Janeiro
20. Institute of Hydro Engineering of Polish Academy of Sciences
21. Instituto Português do Mar e da Atmosfera, I.P. (IPMA)
22. Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)
23. International Centre for Ocean Governance-University of Dhaka
24. Nanjing Normal University - Jiangsu Center for Collaborative Innovation in Geographical Information Resource Development and Application

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GlobalCoast Network MOU

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Institute

25. Laboratorio Nacional CONAHCyT de Oceanografía (LANCO) (Mexican National Oceangraphy Laboratory)
26. Laboratório Nacional de Engenharia Civil
27. Leibniz-Institut für Ostseeforschung Warnemünde (IOW)
28. Marine Institute
29. National Marine Environmental Forecasting Centre
30. Norwegian Meteorological Institute (MET Norway)
31. Ocean Data Network, Inc.
32. Ocean Rock Base
33. P.P.Shirshov Institute of Oceanology
34. Red Iberoamericana de gestión y certificación de playas - PROPLAYAS
35. Ruđer Bošković Institut (RBI)
36. SC Jailoo SRL
37. SOCIB
38. The Union of Arab Academics (TUOAA)
39. The University of the West Indies
40. Universita' degli Studi di Palermo
41. Universitat Politècnica de Catalunya (UPC)
42. Université de la Réunion
43. University of Bologna - Dipartimento di Fisica e Astronomia
44. University of Calabria - Department of Environmental Engineering
45. University of Cantabria
46. University of Lagos - Department of Marine Sciences
47. University of New South Wales (UNSW)
48. University of the Philippines Diliman
49. University of Tunis
50. Centre for Marine and Coastal Studies (CEMACS), Universiti Sains Malaysia (USM)
51. Xiamen University - College of Earth and Ocean Sciences
52. zORION Research Ltd

DCC - Coastal Resilience (DCC-CR)

Strategic Objectives

Improve science information for all

(Vision 2030 white paper 6; Report on SLR…)

Enhance stakeholder engagement

Community of Practice (Coastal Ecosystem and Community Resilience): 181 members

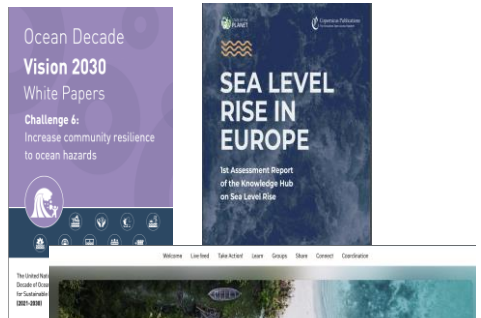
Promote equitable education and training

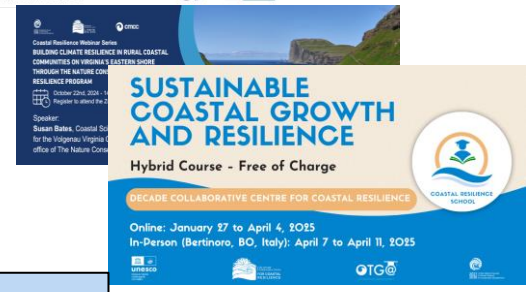
OTGA course on Sustainable Coastal Growth & Resilience

Uphold environmental justice for coastal communities

Mission statement

strengthen the connection between the new science and technology developed in the Ocean Decade and coastal stakeholders, implementing innovative **co-design practices** for **coastal resilience.**





UN Ocean Decade Collaborative Centre for COASTAL RESILIENCE

PARTNER ALLIANCE NETWORK; a strategic framework that fosters synergies among organizations advancing Coastal Resilience under the UN Ocean Decade.

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- Going forward-

CoastPredict/GlobalCoast and the COSS-TT

- MoU sign-in and participation in CP/GC Pilot Sites
- Science in support of solution-based research
- AI-based forecasting: obs very important (connection to GOOS)
- Expand to Global South
- Education, training, ocean literacy, citizen science