



**CoastPredict**

with The Global Ocean Observing System

# Revolutionising Global Coastal Ocean observing and forecasting

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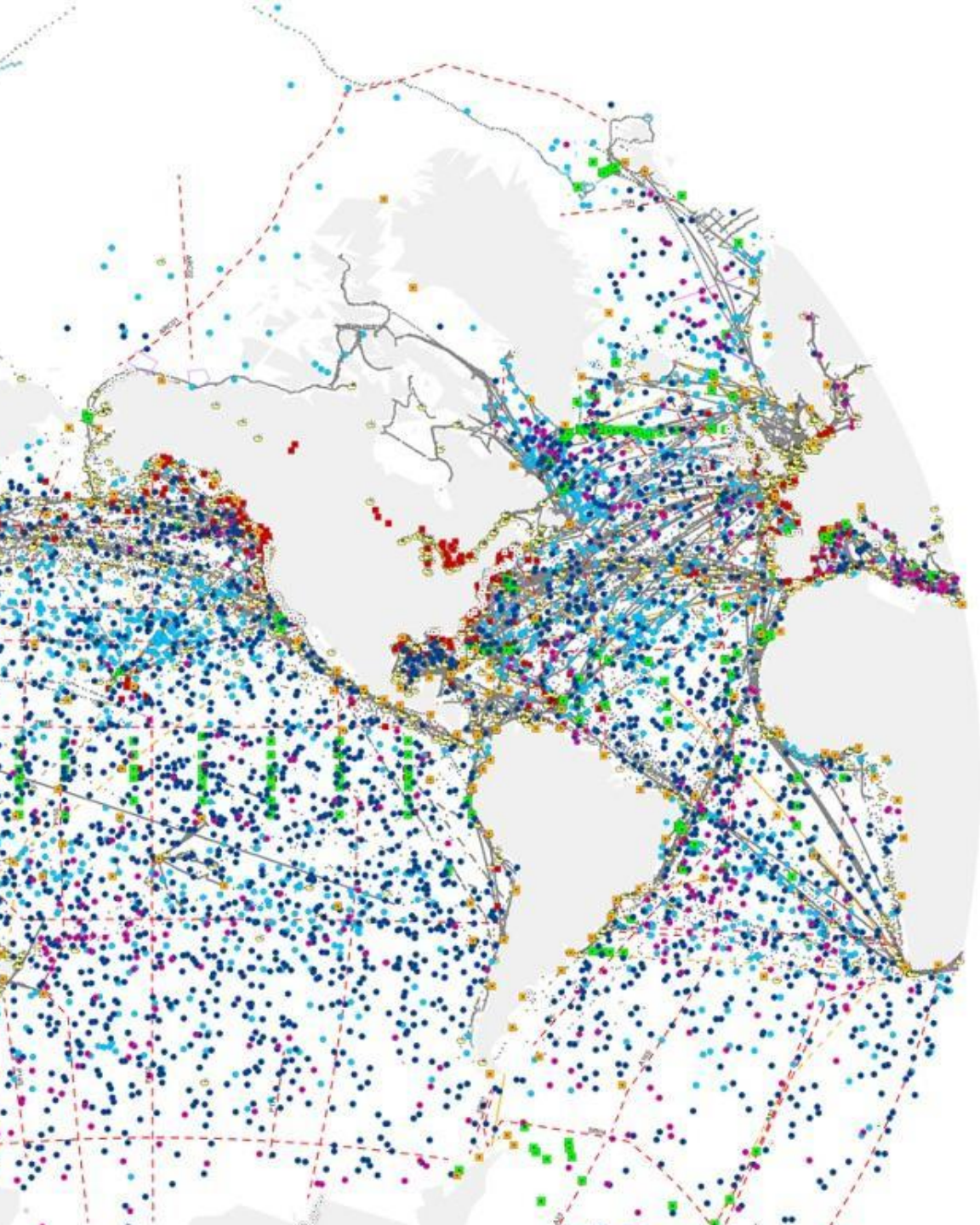


2021 United Nations Decade  
2030 of Ocean Science  
for Sustainable Development

This programme is endorsed by the **UN Decade of Ocean Science**

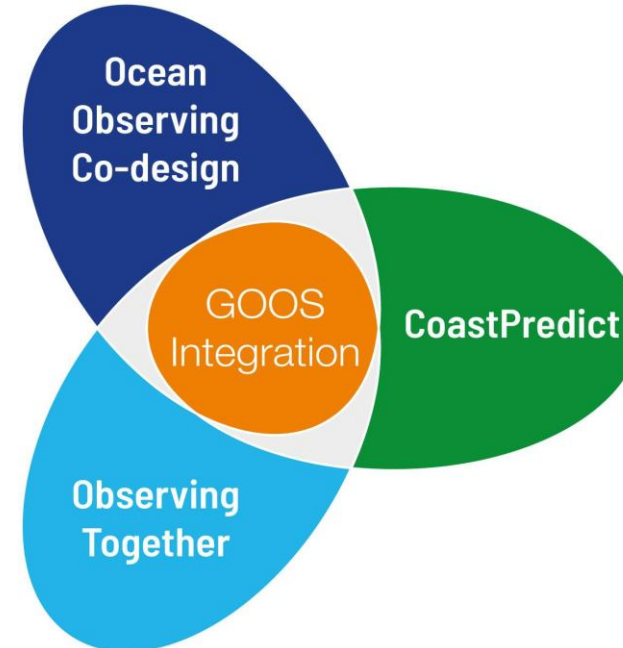






## 3 TRANSFORMATIVE PROGRAMMES FOCUSING ON KEY AREAS OF:

- CO-DESIGN
- COASTAL
- CAPACITY DEVELOPMENT







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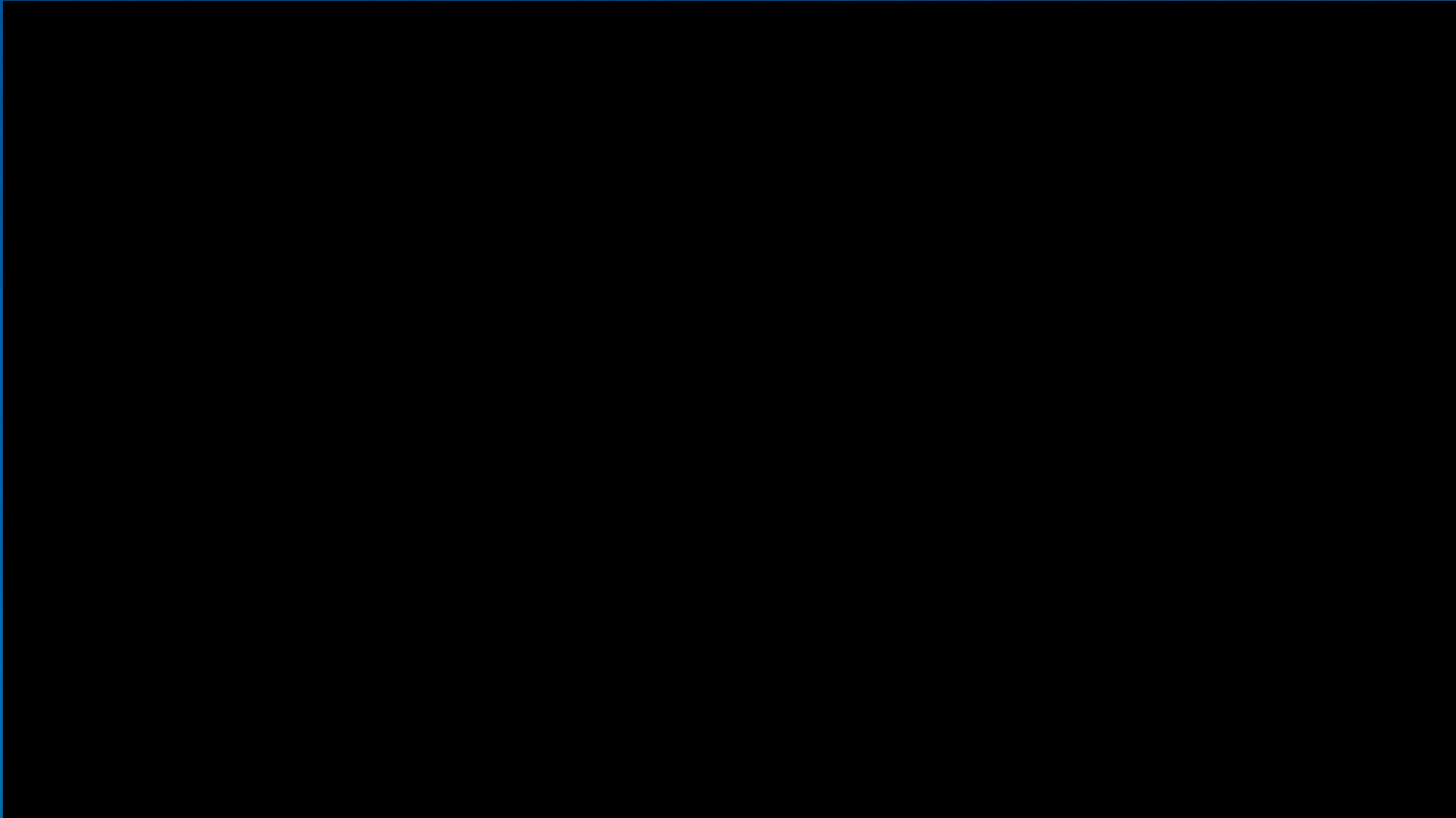
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## Outline

- ❖ high level objectives
- ❖ solutions
- ❖ implementation plan



# WHY COASTPREDICT ?



## CoastPredict high level objectives

1. A **predicted** global coastal ocean;
2. The upgrade to a **fit-for-purpose** oceanographic information **infrastructure**;
3. Co-design and implementation of an **integrated coastal ocean observing and forecasting system** adhering to **best practices and standards**, designed as a global framework and implemented locally.



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# COASTPREDICT WILL RE-DEFINE THE “COASTAL OCEAN”

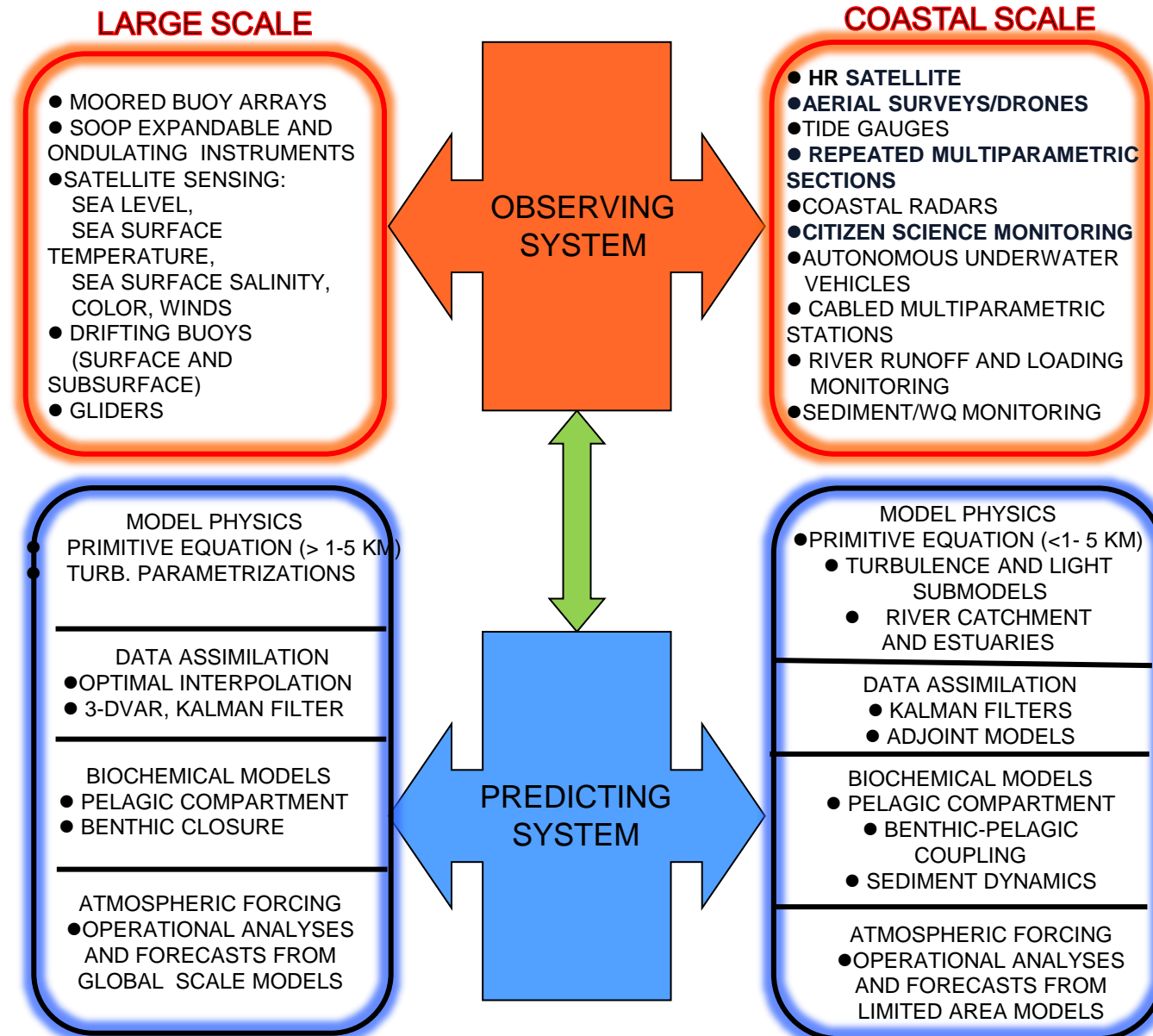
*The basic concept of a **Global Coastal Ocean** has been defined about a decade ago in five Volumes of *The Sea* - Vol. 10 to 14, Harvard Univ. Press*

## PROPOSED STARTING DEFINITION:

the coastal ocean - that area, extending inshore from the estuarine mouths to river catchments affected by saltwater, to the urban settlements on the one side and on the other side to the offshore, from the surf zone to the continental shelf and slope where waters of continental origins meet open ocean currents.

# 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**

# The CoastPredict solution: transform the OBSERVING

Example: Internet sea level low-cost  
Sensors (USA)

Example: the Species Observation System  
for taxa recognition (Norway)

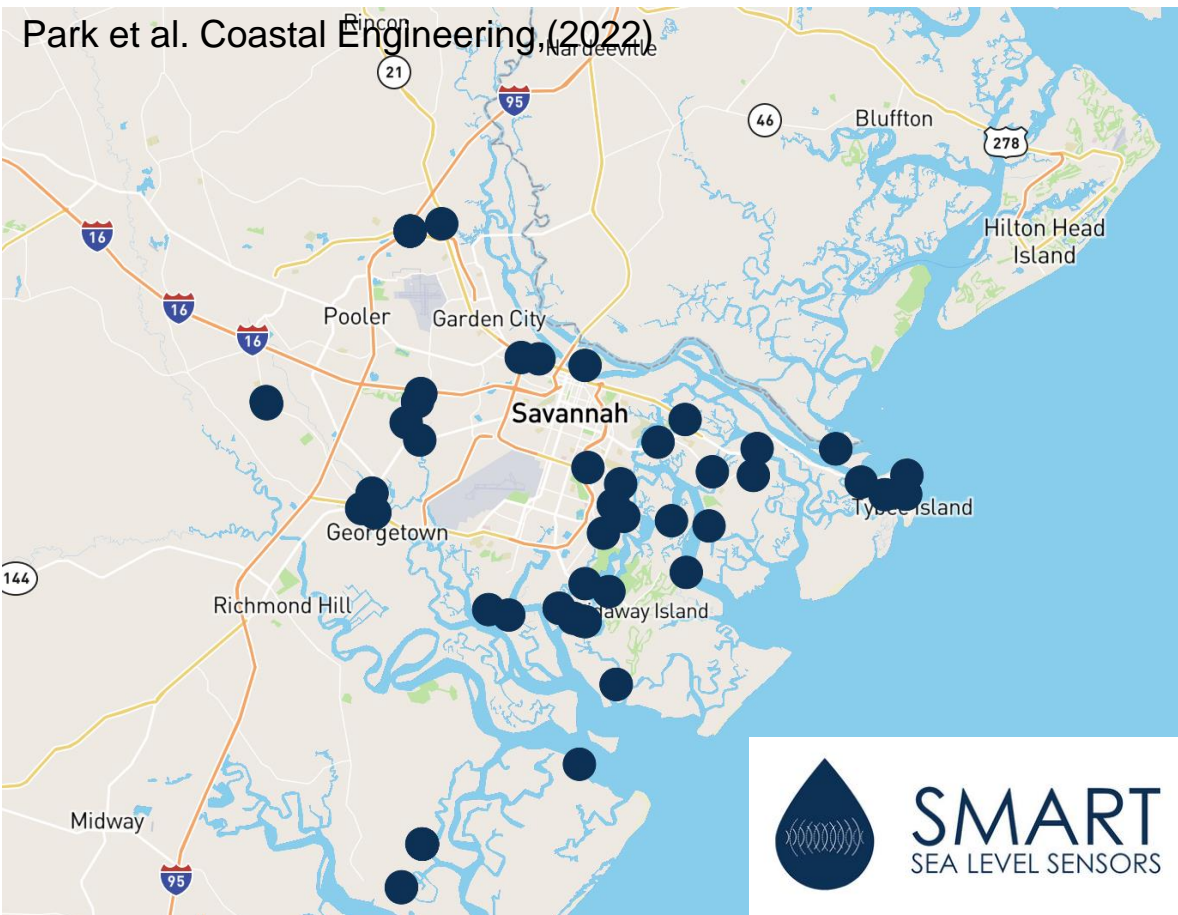
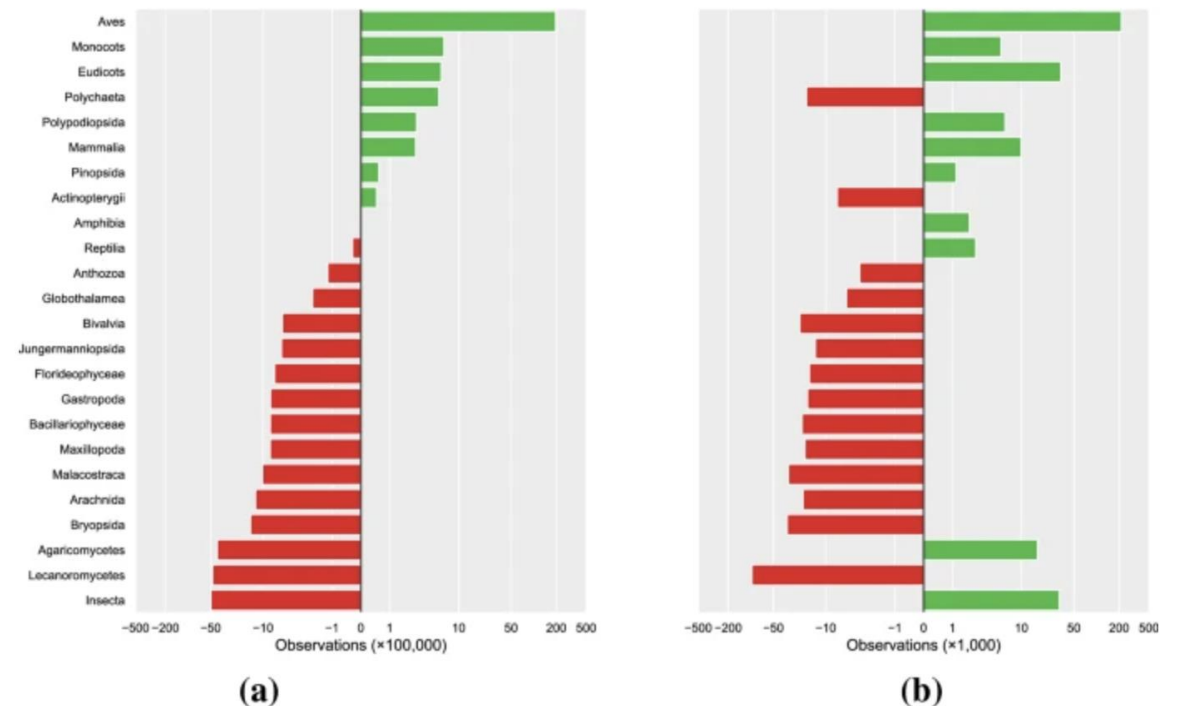


Figure 1 Species recognized visually

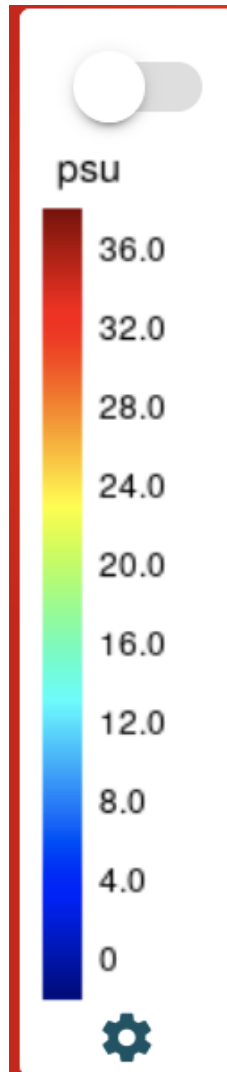
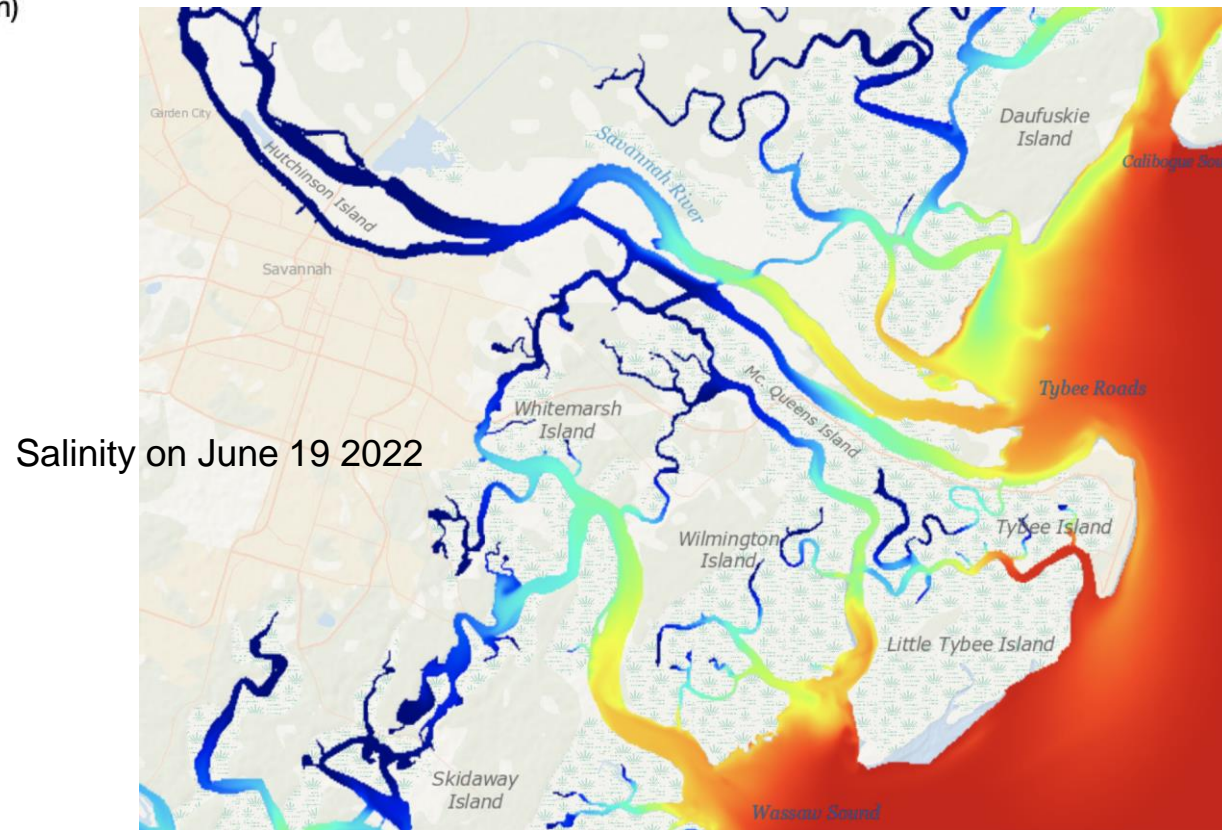
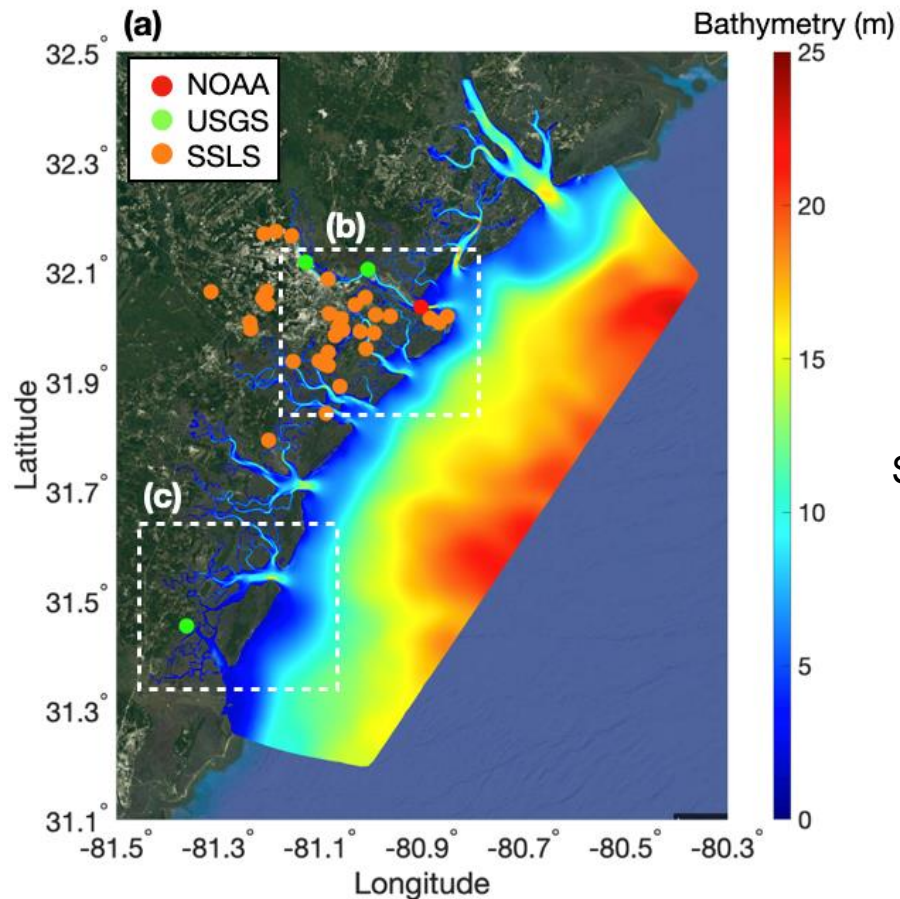
Species recognized by  
image processing





# The CoastPredict solution: transform the MODELLING

Every day a seamless forecast of sea level and salt wedge  
in the estuaries and the coastal zone. Operational: <https://savannah.cmcc.it/>



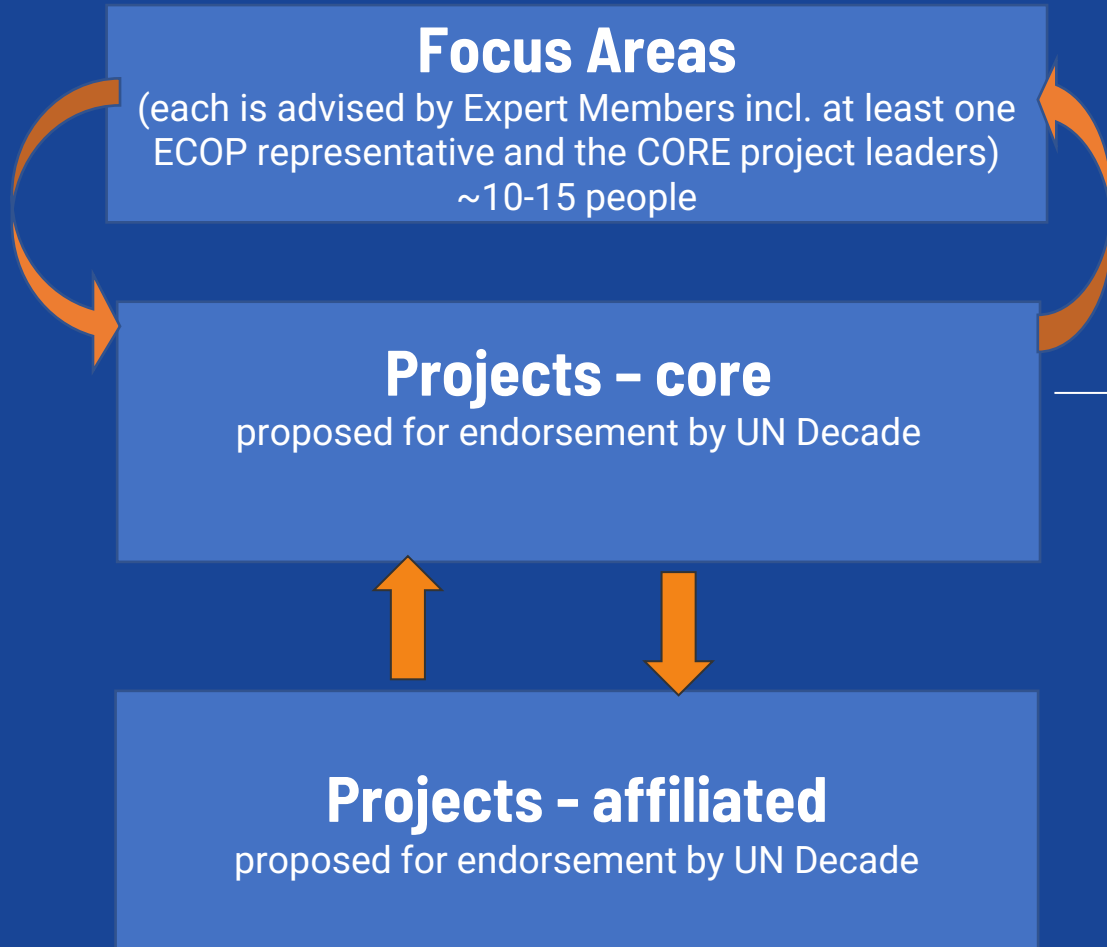
# CoastPredict Implementation strategy



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**Focus Area 1: core-PredictOnTime** - will develop systems to observe and predict natural extreme events in the global coastal ocean in due time and with the appropriate accuracy so that impacts on natural and human resources and assets will be minimized – **with first Co-Design Exemplar – Storm Surge**

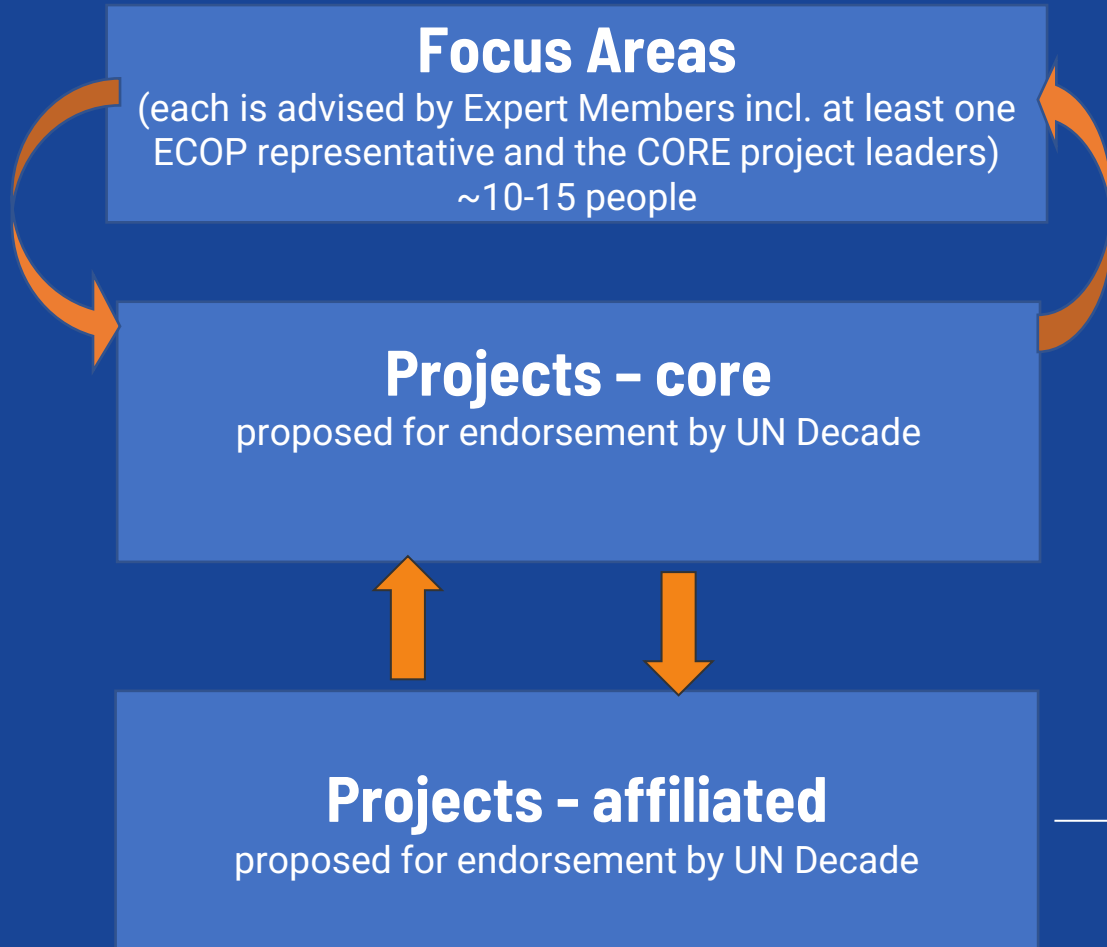
**Focus Area 2: core-FLAME** - Future Coastal Ocean Climates - innovative, high-resolution, downscaled projects for coastal ocean climates and impacts.

**Focus Area 5: core-CORE** - Coastal Ocean Resource Environment - sustainable delivery of high-quality environmental data and information, products to research, industry and government for purposes such as ecosystem health, hazard response and resource management.



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**Focus Area 1: affiliated- Integrating Coastal Hazards Early Warning Systems in the Tropical Americas and Caribbean** submitted by the Regional Office for the Americas and the Caribbean Sea

**Focus Area 1: affiliated- Forecasting the Argentine Sea** – The project is accelerating the capacity for operational forecasting in Argentina –FULLY FUNDED

**Focus Area 2: affiliated- European Knowledge Hub on Sea Level Rise** – Local to regional sea level rise assessments with a clear connection to stakeholder needs, local communities. PARTIALLY FUNDED

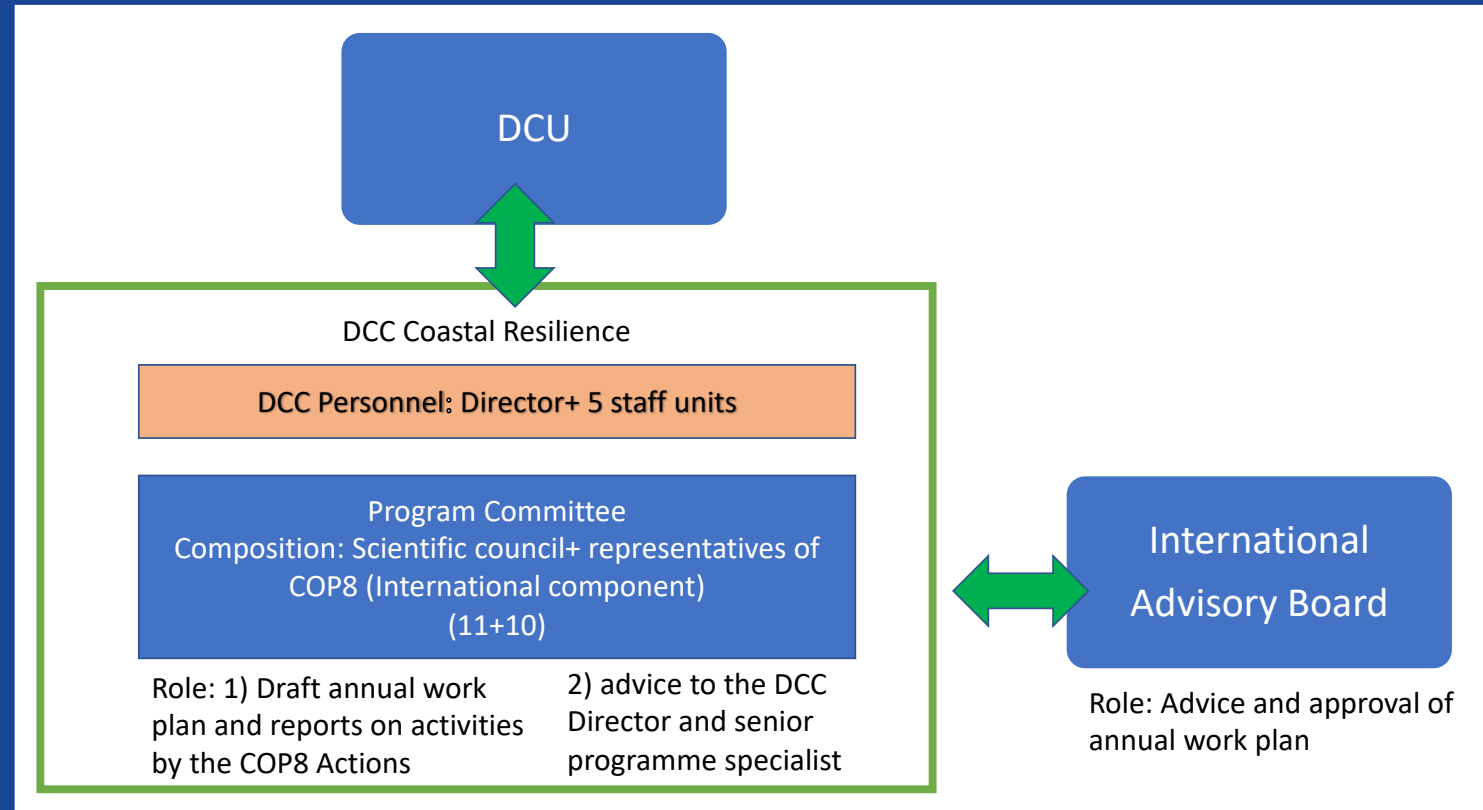
**Focus Area 3: affiliated-** Mangroves as Nature-based Solutions to Coastal Hazards in Eastern Ghana (MANCOGA) endorsed for funding by Meerwissen – FULLY FUNDED



# — DECADE COLLABORATIVE CENTRE COASTAL RESILIENCE IN A CHANGING CLIMATE @University of Bologna

## Functions

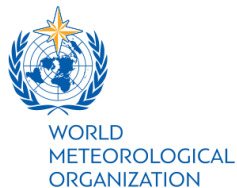
- A) **Strategic:** be a place for strategic thinking and planning of the UN Decade transformative science for sustainable development
- B) Coastal Resilience coordination: Decade actions in the Community of Practice
- C) Communication: Make sure that adequate dissemination tools are developed
- D) Monitoring and reporting: Develop reporting/regular reviews
- E) Resource mobilization



[www.coastpredict.org](http://www.coastpredict.org)  
[info@coastpredict.org](mailto:info@coastpredict.org)

- Next steps
  - Activate the core and affiliated projects
  - Coordinate among the UN Decade Programmes
  - Launch ECOP projects

[goosocean.org](http://goosocean.org) →



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