CoastPredict - Integrated Global Coastal Ocean Observing and Forecasting
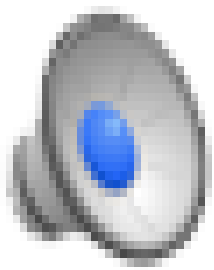
Lead Contacts: Nadia Pinardi (**nadia.Pinardi@unibo.it**) and Villy Kourafalou (**vkourafalou@rsmas.miami.edu**) and Joaquin Tintore (**jtintore@socib.es**)

Theme: **A predicted global coastal ocean where society understands and can respond to changing ocean conditions**

Synergistic Partners: OceanPredict, GOOS, Ocean Visions, EquiSea, Ocean Best Practice System, CEOS-COAST, Geo-Blueplanet

Web Link to more program information

https://www.coastpredict.org/

Open consultation open in February 15 2020

230 signatures
from 40 countries

100 comments,
25 Projects submitted

International
Steering committee,
Advisory committee
almost completed

Initial steering group:
N.Pinardi,R. Santoleri, J.Tintore,
V.Kourafalou, P.De Mey-
Fremaux, H.Brix, E.Di Lorenzo,
K.Cobb, B. Baschek

Connections to international
partners:

OceanPredict,, GeoBluePlanet,
ESA-Coastal, etc.

UN Decade cross-
Programme/Projects:

GEOS (**Global Ecosystem for
Ocean Solutions)** and
**Pogramme for Capacity
Building**

https://www.coastspredict.org/

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)

Coastpredict **will redefine** the "coastal ocean"

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 to the **offshore,** from the surf zone to the continental shelf and slope where waters of continental origins meet open ocean currents.*

Coastpredict Overaching Goal and Main Decade OUTCOMES

MAIN Overaching Goal:

A predicted coastal ocean where society understands and can respond to changing ocean conditions

Outcomes:

1. Integrated knowledge of the global coastal ocean from **events** to CLIMATE;

2. Integration of coastal and open ocean **observing and modelling** systems;

3. Improved, **multidisciplinary and extended range predictive capabilities for the coastal zone;**

4. Innovative and sustainable applications for coastal solutions/services.

Potential "Themes" for projects/studies of different duration during the Decade

1. Characterization of the **Global Coastal Ocean physical-sedimentary-biological-chemical dynamics**.

2. The **Global Coastal Ocean Observing System** and the data assimilation/fusion (satellite and in situ) for assessments and predictions

3. **Early warning systems and impact-based forecasting** in the Global Coastal Ocean

4. Promote the **inclusive participation of the coastal communities in the design and implementation of solutions,** irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

5. Connect the "predicted coastal ocean" outcomes to **sustainable seafood production and responsible consumption in the global coastal ocean**.

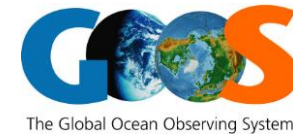# What will it be the "transformative science" in Coastpredict?

1) Coastpredict will use innovative observational technologies, innovative numerical modelling and data assimilation, big data analysis tools to set ocean best practices for coastal predictions, the frontiers of multidisciplinary ocean science;

2) Coastpredict will advance science and propose solutions that will improve citizen welfare, protect marine natural environments and property, advance sustainable economic developments of the coasts

3) Coastpredict will produce an organizational change in the Global Coastal ocean communities, coordinating them across the oceans forming an internationally coordinated COASTAL STAKEHOLDER GROUP capable of establishing a fruitful relationship with Unesco, UN agencies and other international organizations

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3) Coastpredict will produce an organizational change in the Global Coastal ocean communities, offering the coordination of a new **Global Coastal Ocean Network** capable of representing Members States needs and supporting policy development for the global coastal areas

Coastpredict will be co-designed with international programs

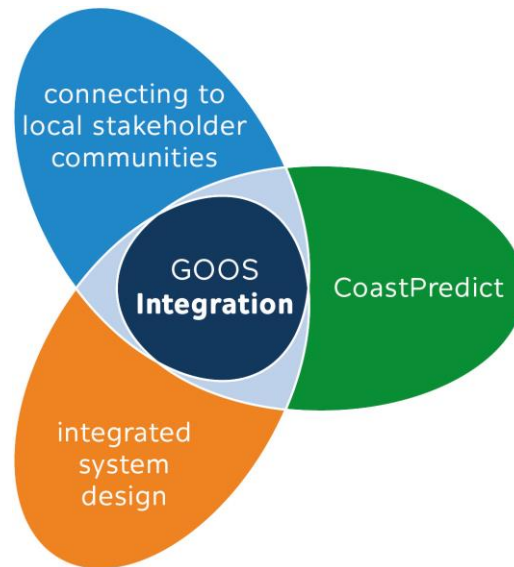developing #OceanDecade programme proposals

Connecting to many local stakeholder communities as providers and users of ocean observations, deepening engagement and participation in GOOS

lead developers: Molly Powers and Kim Currie

Working across networks and platforms to actively design the system needed to deliver an integrated, responsive, and sustained observing system for climate, forecasts and early warnings, and ocean health

lead developers: David Legler and Sabrina Speich

Integrated observations, forecasting and technology to deliver essential information in coastal applications

lead developers: Nadia Pinardi, Villy Kourafalou, Joaquín Tintoré

coastpredict.org

contact point: **decade@goosocean.org**

The WMO participation up to now

Steering Comm Members
- **Dr Chris Davis, NCAR, WWRP**
- **Dr. Sarah Jones, DWD**
- **Ba Thuy, Nguyen, Vietnam Hydro-met office**
- **John Siddorn, MetO**

What else is needed?

A structural link to INFCOM and SERCOM?

DEADLINE of presentation of Decade Programme is JAN 15, 2021