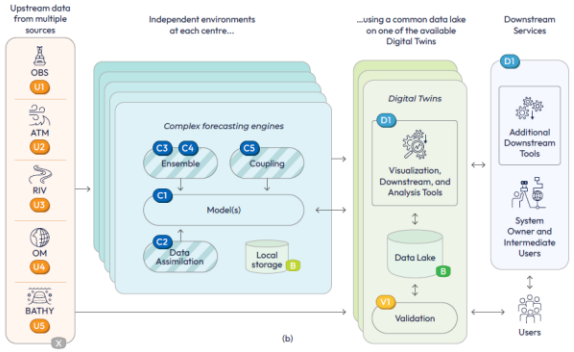
OceanPredict/FORESEA and OceanPrediction DCC connection

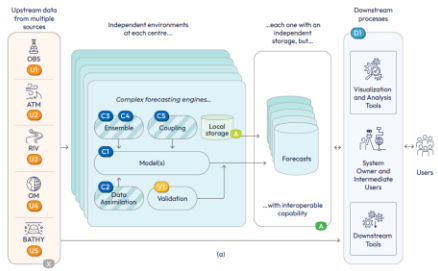
Next steps

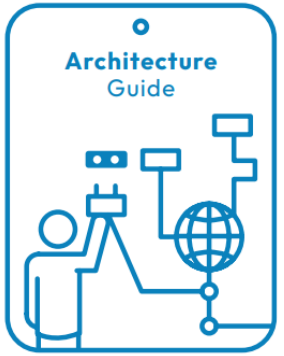
Index

OPERA: Building robust Ocean forecasting services

- The OPERA project will allow us to transform a design on paper into a real product
- An open call ready to be launched in the following weeks
- Can be exploited jointly with Oceanpredict/FORESEA

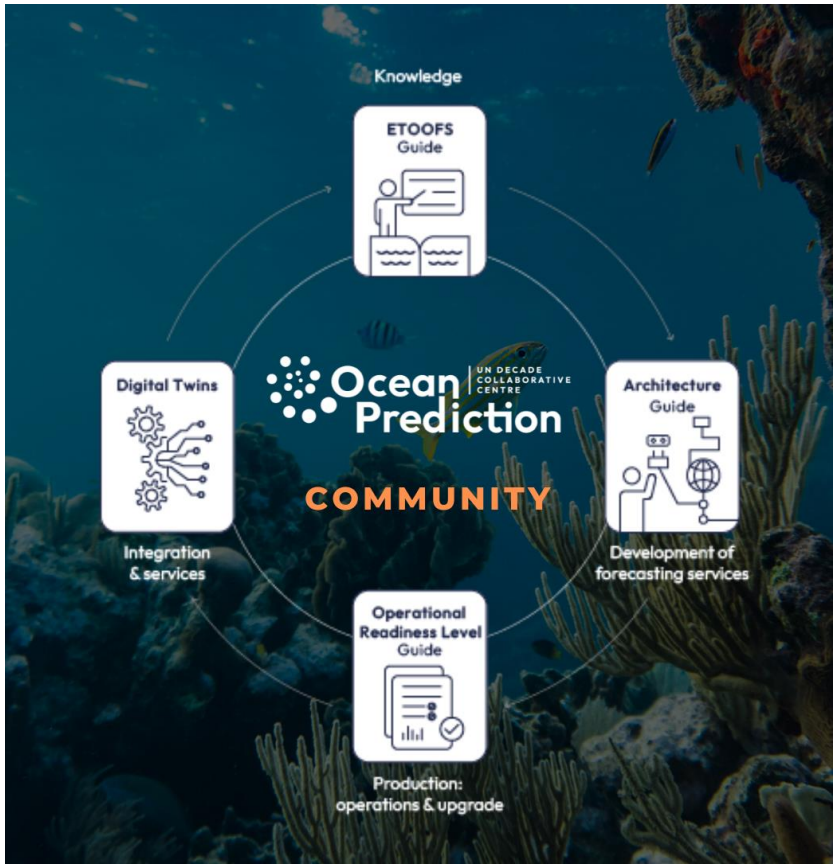






OPERA: Capacity building & knowledge sharing

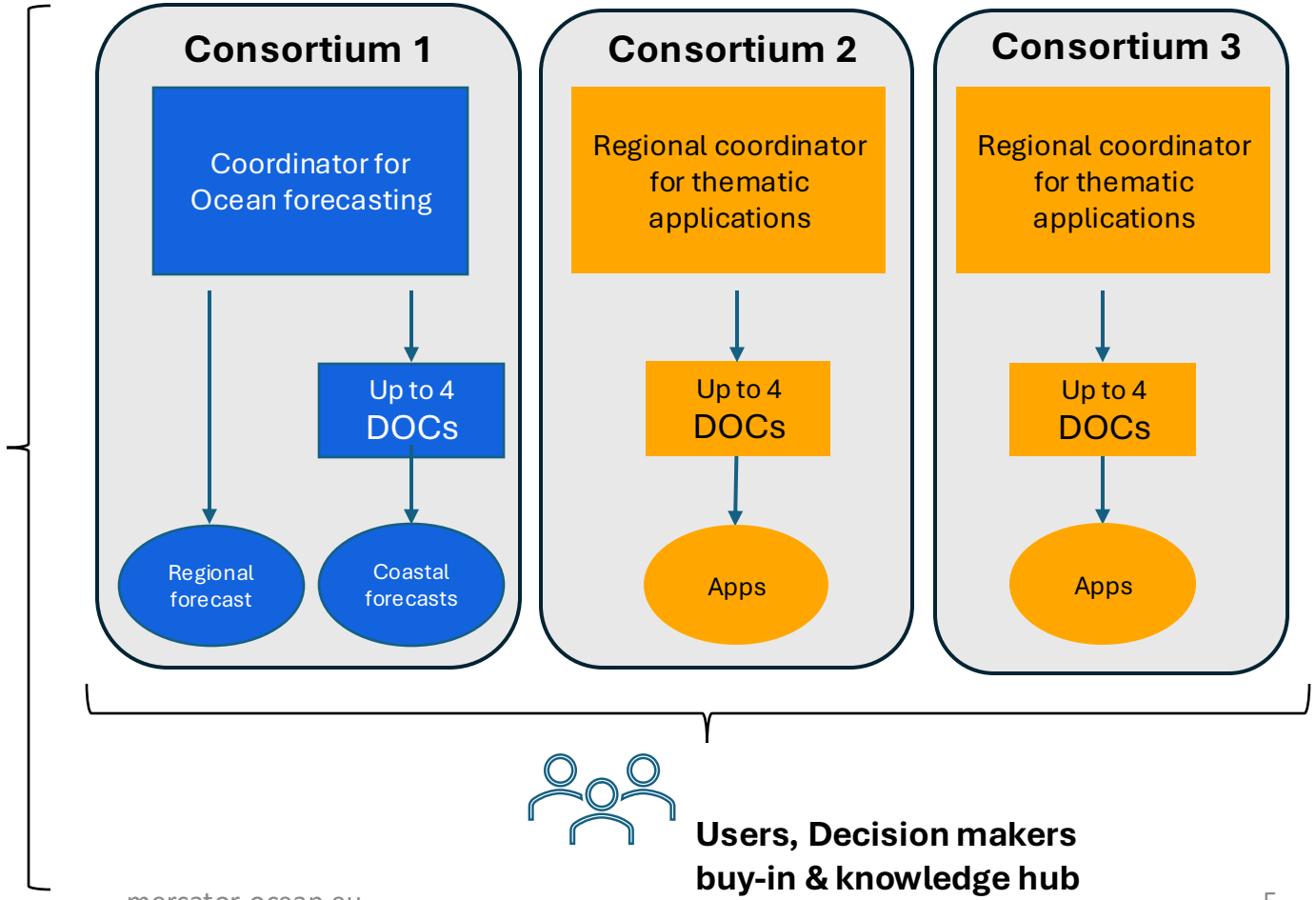
- The virtuous loop for ocean forecasting as a guideline for capacity development during the OPERA project
- A call to design the tools already launched
- Massive Open Online Courses on Ocean understand and learn to use the virtuous loop components for applications and forecasting services
- Oceanpredict/FORESEA community to be part of the initiative

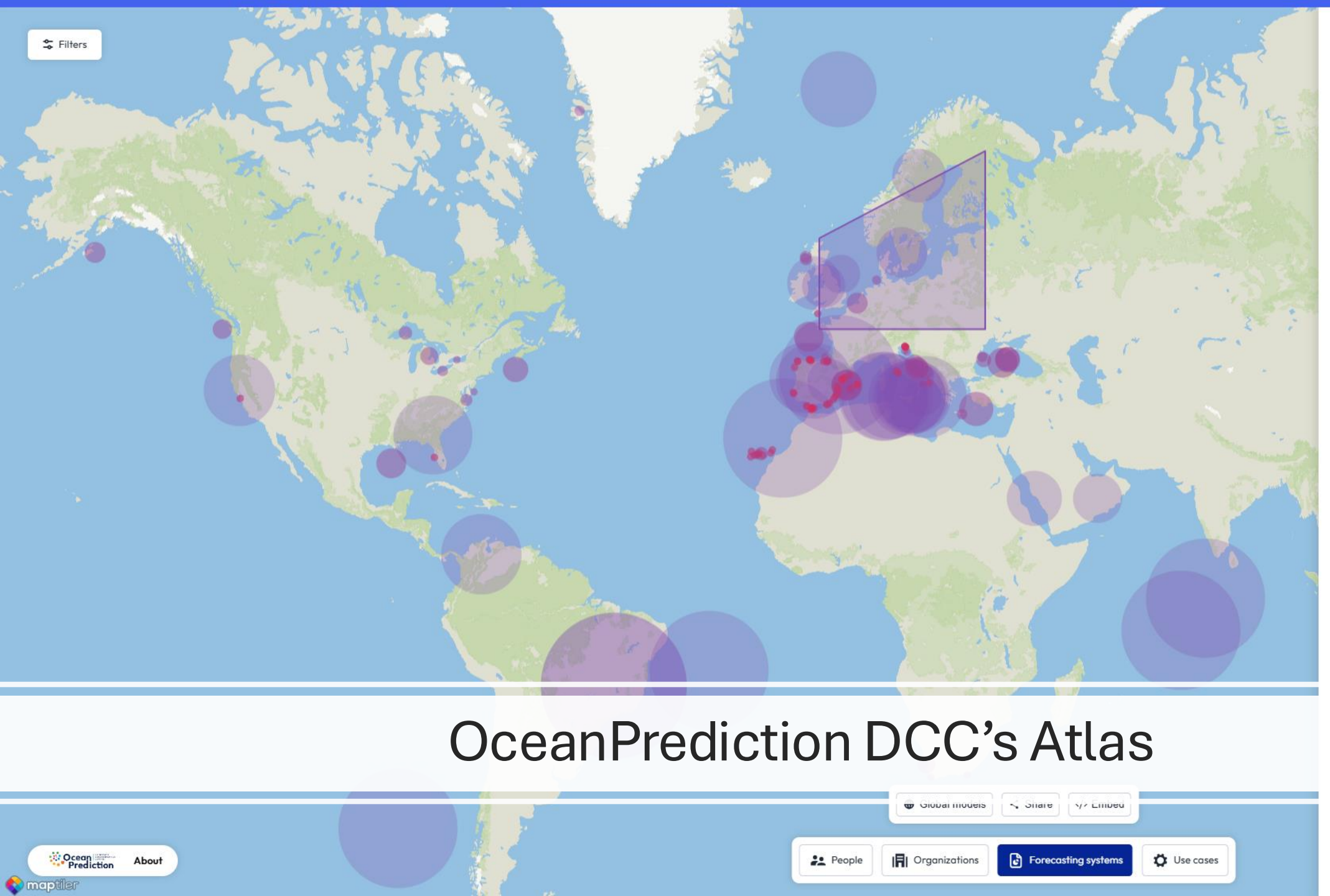


OPERA's Technology Transfer Team

Technology Transfer Team

Co-design, Communication, user uptake, technology and knowledge transfer





OceanPrediction DCC's Atlas

DKSS - DMI storm su

Ocean Basins & Regions of interest Global

Contact information

Organization(s) in charge of the system: Danmarks M

DOI: https://doi.org/10.3389/fmars.2021.657720

Link to system webpage or reference paper: https://

Link to output data repository (Opendap or similar):

Contact e-mail: tar@dmi.dk

Main description

Year of start of operations: 2001

System presently active: Yes

Describe the main applications of the system: Coasta

Boundary conditions to other OOFS: No

Employing ensemble techniques: No

Data policy: All generated data is freely available

Employing dynamic coupling: Yes

Atmospheric forcing

Forced or obtaining boundary conditions from atmos

Organization provider: DINI-HARMONIE + ECMWF

Atmospheric model: HARMONIE-AROME

Temporal resolution: 1 hours

Variables employed: Atmospheric pressure, Variables

Maximum spatial resolution: 2 km

Models

Other circulation or sea level model

Type of model: Circulation

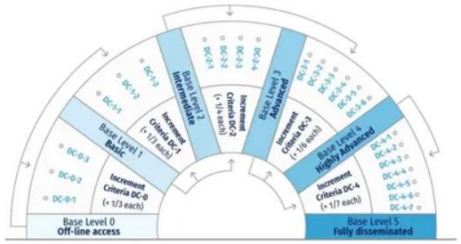
Numerical model: Other circulation or sea level mode

EOV the model provides quantitative estimate: Curre

Global domain: No

New: Digital Ocean Centers Network

Building together a network of reliable services thanks to the ORL



- A global **network of Digital Ocean Centers** committed to the continuous improvement of their ocean forecasting capabilities through the **adoption of Best Practices**.
- Based on the **Operational Readiness Level (ORL) framework**. Participating centers will use a new tool to evaluate the ORL status of their systems

How to participate?

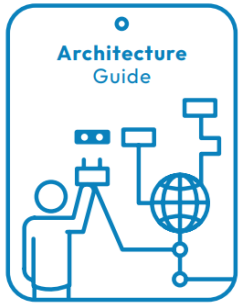
- By being on the Atlas a system is already participating; these are these called "**Engaged Digital Ocean Centers**"
- By computing the ORL (and updating every two years), an institution or company became a "**Certified Digital Ocean Center.**" Call to build the tools already launched

What is the **benefit**?

- Oceanprediction DCC will provide an **assessment service** to improve on the ORL ladder, giving advice that could help in the design of development plans
- We will be able to **monitor the evolution of our community** (in cooperation with OceanPredict) over the years to improve the average values of the ORL

Building robust Ocean forecasting services: data standards

New work is being launched! : recommendations on data Standards for Ocean Forecasting



What are data standards?

Data standards are documented agreements on the **representation, format, definition, structuring, tagging, transmission, manipulation, use, and management of data**..

Why?

- Capacity development
- Facilitate user uptake and model intercomparison
- Integrate with Ocean Observations in a Decade Digital Ecosystem
- Promote the interoperability towards Digital Twins
- …

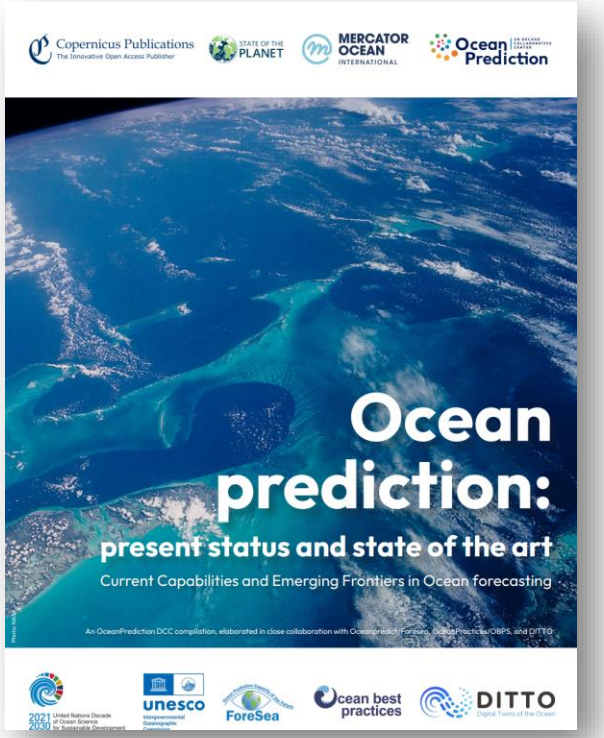
Who?

- MOi, GOOS, IODE, DCOs on Data sharing and observations, Foresea, DITTO, FOCCUS

How?

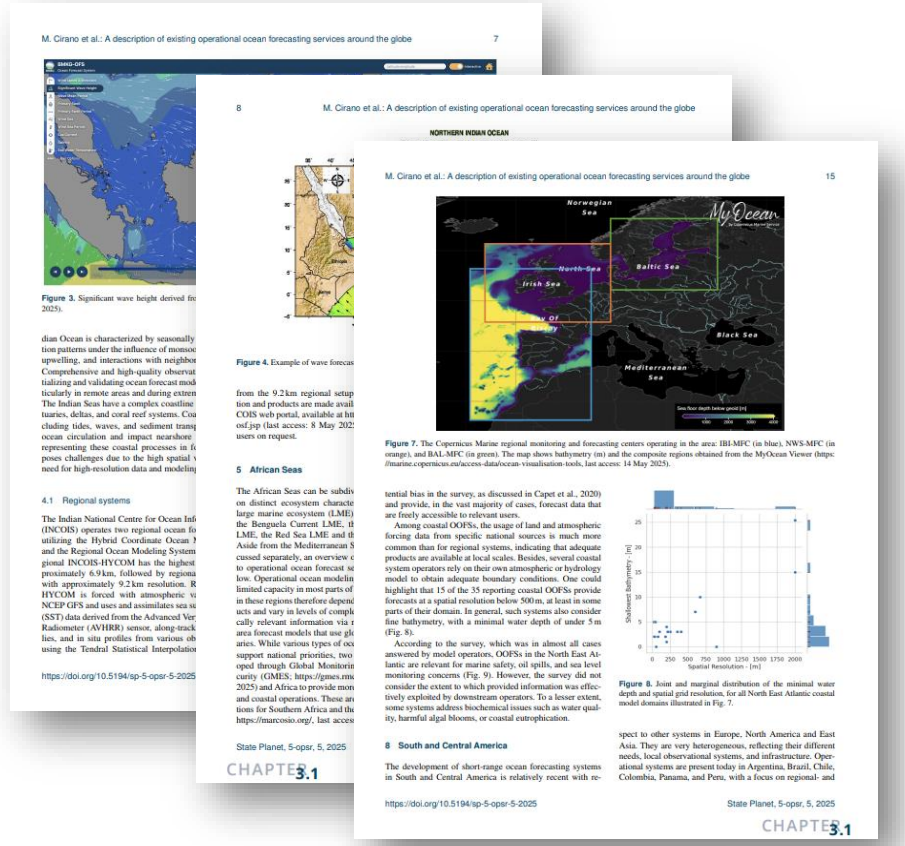
- Building on what is existing: a survey recently launched

OceanPrediction DCC special issue Vol. 2



A special issue (27 papers – 290 pages) describing the status of ocean forecasting from 68 authors from all continents

A second volume, focused on Gaps and Ways forward is on the making

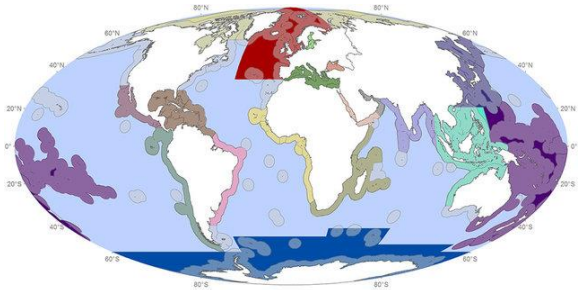


https://sp.copernicus.org/articles/sp-5-opsr.pdf

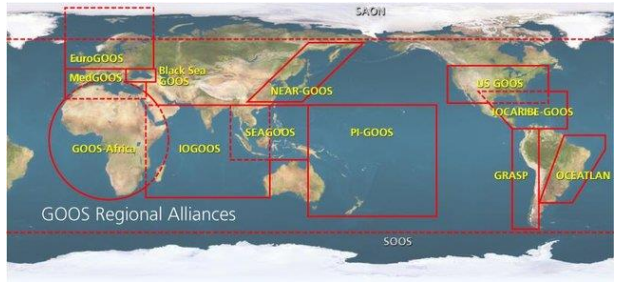
Reagonal Teams: A global and transversal community

Oceanprediction DCC **Regional Teams**: Promoting the implementation and use of ocean forecasting systems worldwide

UNEP regional seas



GOOS regional alliances



- Region 1: West Pacific and MSEA
- Region 2: Indian seas
- Region 3: African seas
- Region 4: Mediterranean and Black Sea
- Region 5: North-East Atlantic
- Region 6: South and central America
- Region 7: North America
- Region 8: Arctic
- Region 9: Antarctic

"Boots on the ground" work:

- Support decade actions related to ocean forecasting
- Identify gaps and ways forward
- Capacity building
- Advocate for the implementation of Best Practices, Standards, and Tools
- …

Reagonal Teams: A global and transversal community

- (almost) All the steering teams are in position
- **Time to create a cross-regional network of specialists!**
- Let's start with a series of meetings per category!
- Open to participation of Oceanpredict/FORESEA