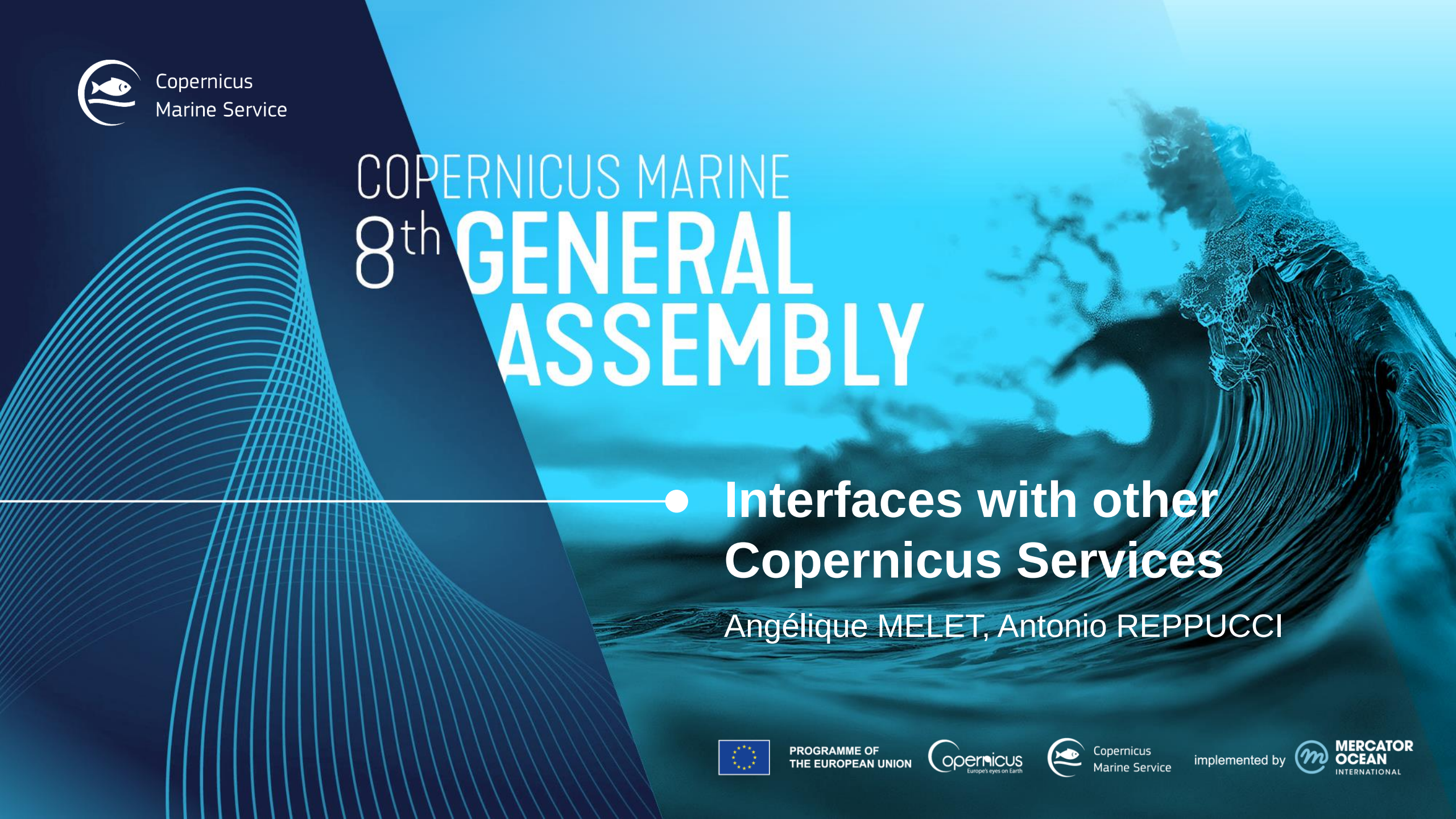
Copernicus
Marine Service

COPERNICUS MARINE
8th GENERAL ASSEMBLY

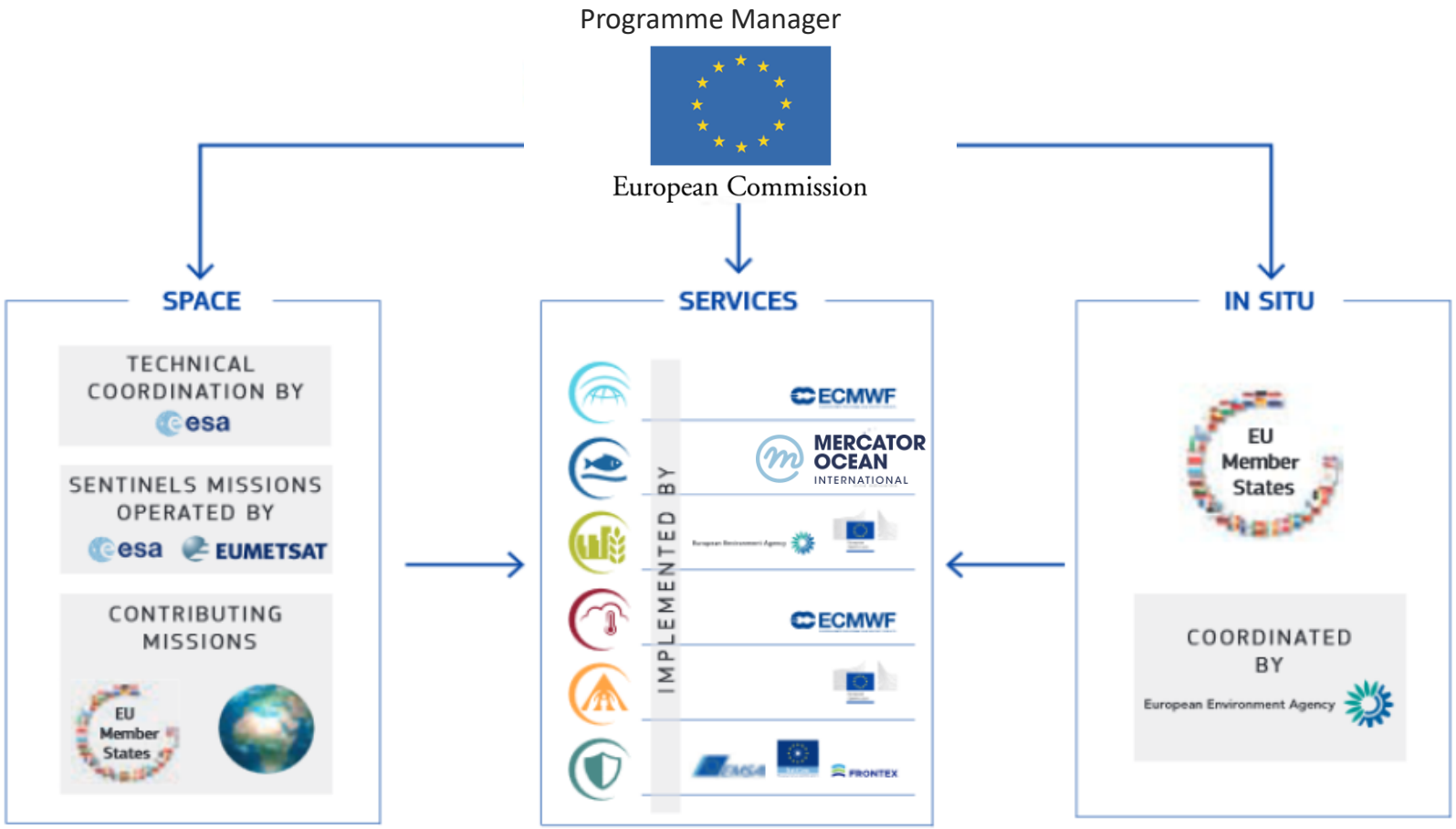


# Interfaces with other Copernicus Services

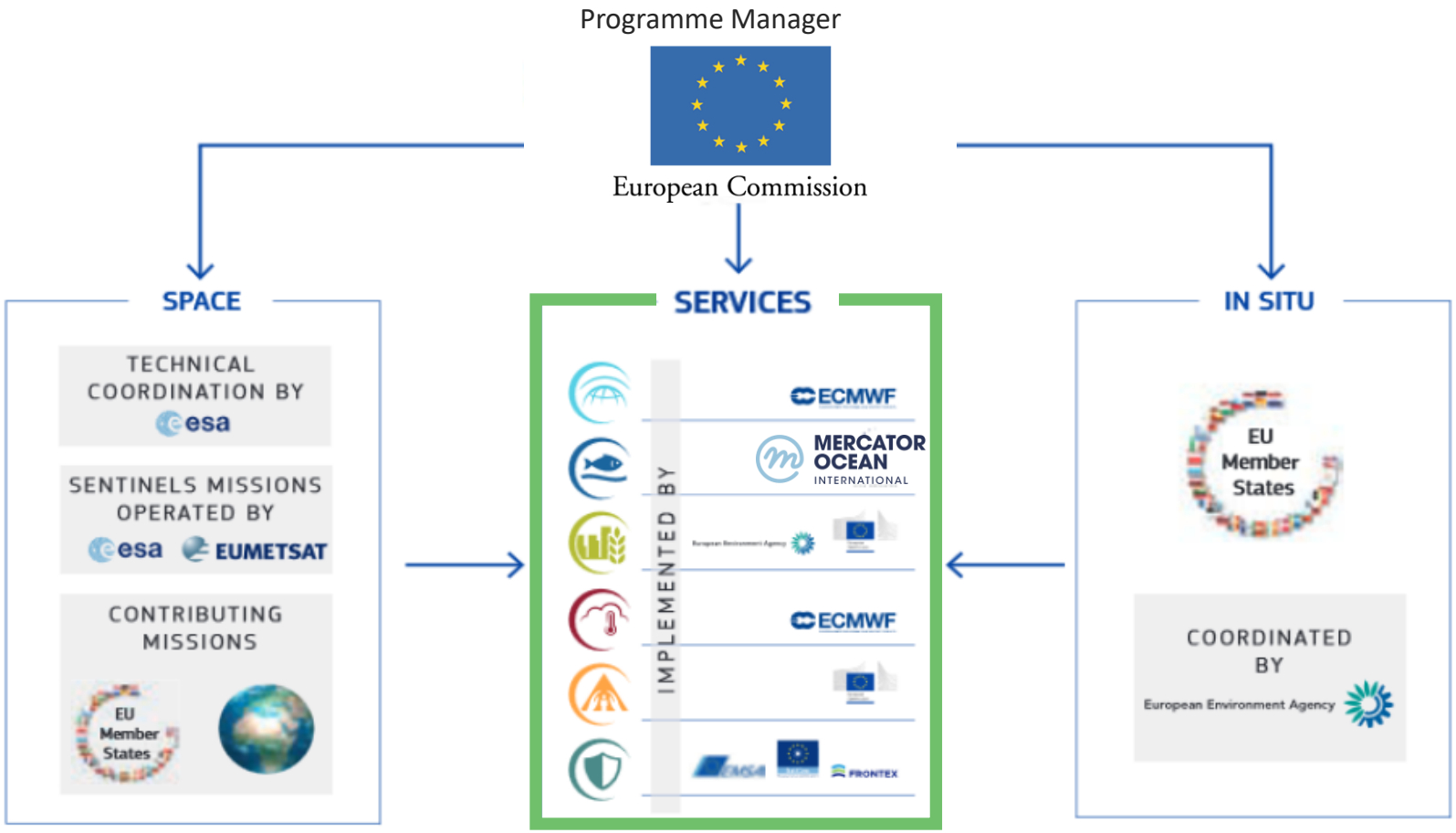
Angélique MELET, Antonio REPPUCCI

PROGRAMME OF THE EUROPEAN UNION
Copernicus Europe's eyes on Earth
Copernicus Marine Service
implemented by MERCATOR OCEAN INTERNATIONAL

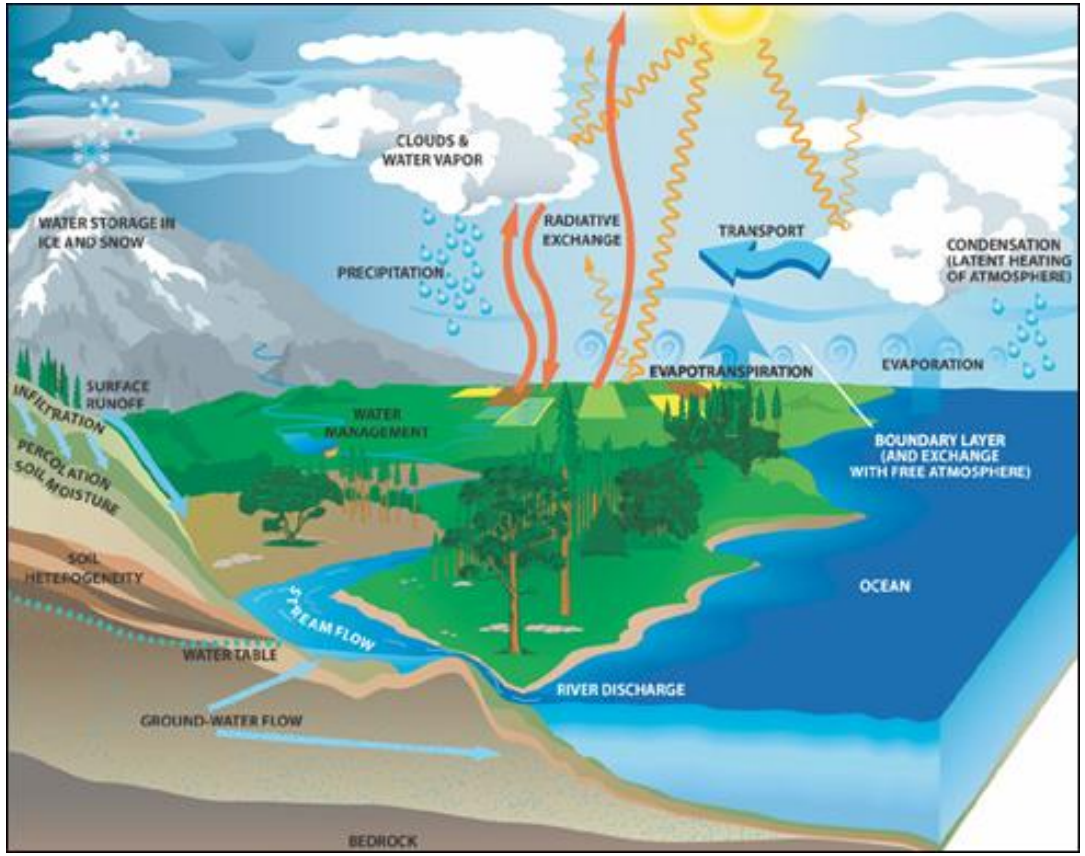
# The Copernicus Programme & its Services



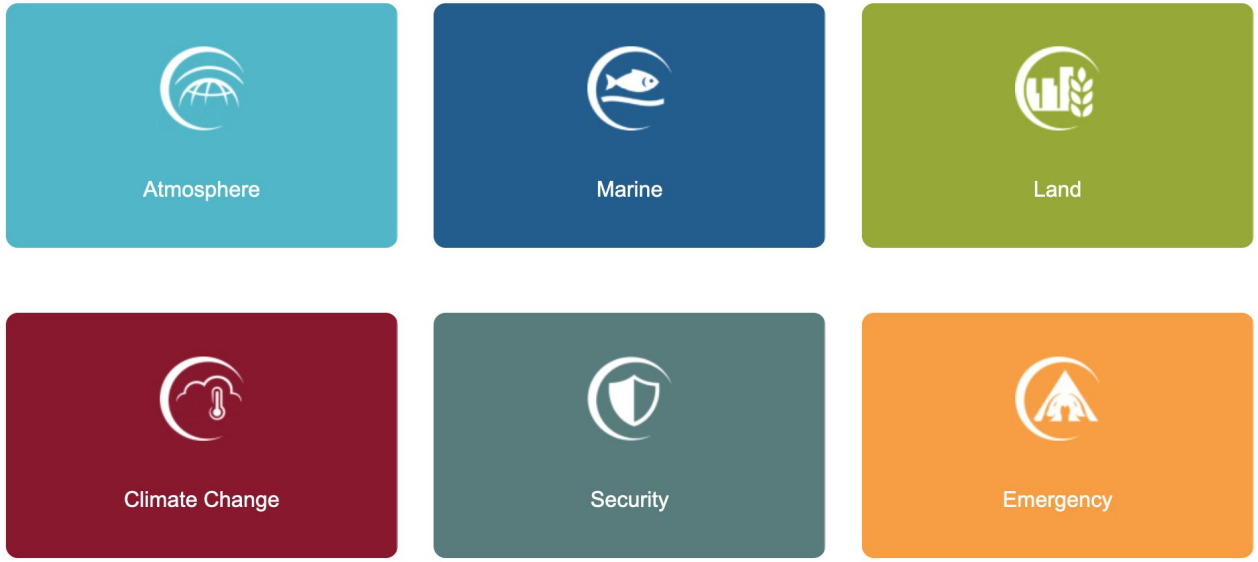
# The Copernicus Programme & its Services



# It’s all connected !




Source: https://smd-prod.s3.amazonaws.com/science-red/s3fs-public/mnt/medialibrary/2010/03/31/water_cycle.jpg




## Copernicus Services working together

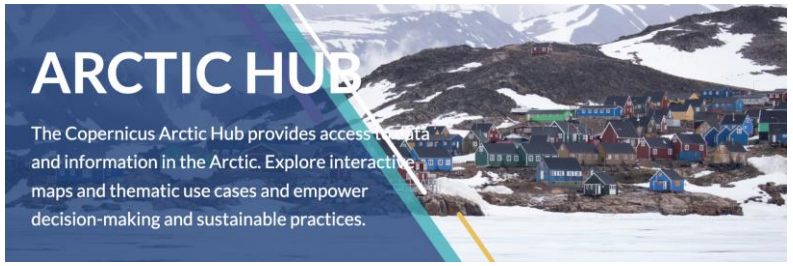
- Service-to-service lines:

*- Providing reference ocean and coastal marine information for the other Copernicus services*

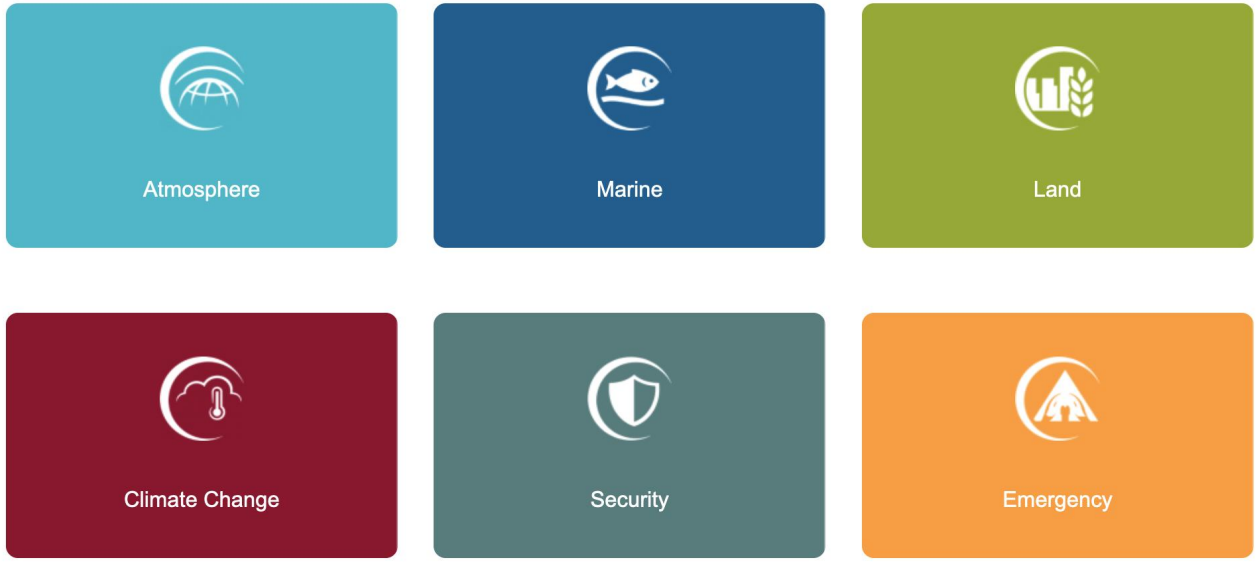
*- Using reference information from other Copernicus services*

- Examples provided in next slides

# It’s all connected !



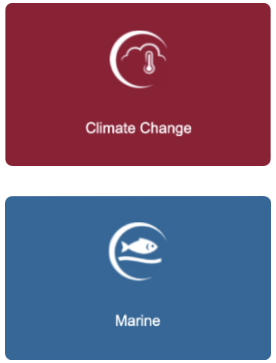




## Copernicus Services working together

- **Copernicus Hubs**: single entry points to data and products generated by different Copernicus services on specific regional or thematic areas

→ Next presentation (Arctic & Coastal)

# Interfaces with the Copernicus Climate Change Service



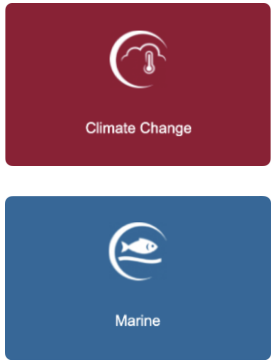

2 complementary types of reprocessing activities for satellite ocean observations:

- **C3S climate Reprocessing** (mostly at global scale) select the most accurate observations and homogeneous time series (reprocessing of Essential Climate Variables - ECVs).
- **Copernicus Marine Service Reprocessing** (global and regional scales) is performed including all observations available at a given time (reprocessing of Essential Ocean Variables or EOVs).

To improve the overall efficiency, develop synergies and reduce the costs of these activities, a **contractual agreement between MOi and ECMWF** was set up in 2023.

▸ Copernicus Marine Service is responsible of the C3S reprocessing activities for ocean ECVs based on ECMWF specifications.

# Interfaces with the Copernicus Climate Change Service



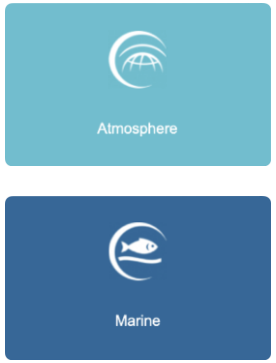

A total of **11 ECVs are produced**:

- sea level and sea surface geostrophic velocities;
- sea surface temperature;
- sea ice concentration, edge, type, drift, surface temperature and thickness;
- chlorophyll-a and remote sensing reflectance.

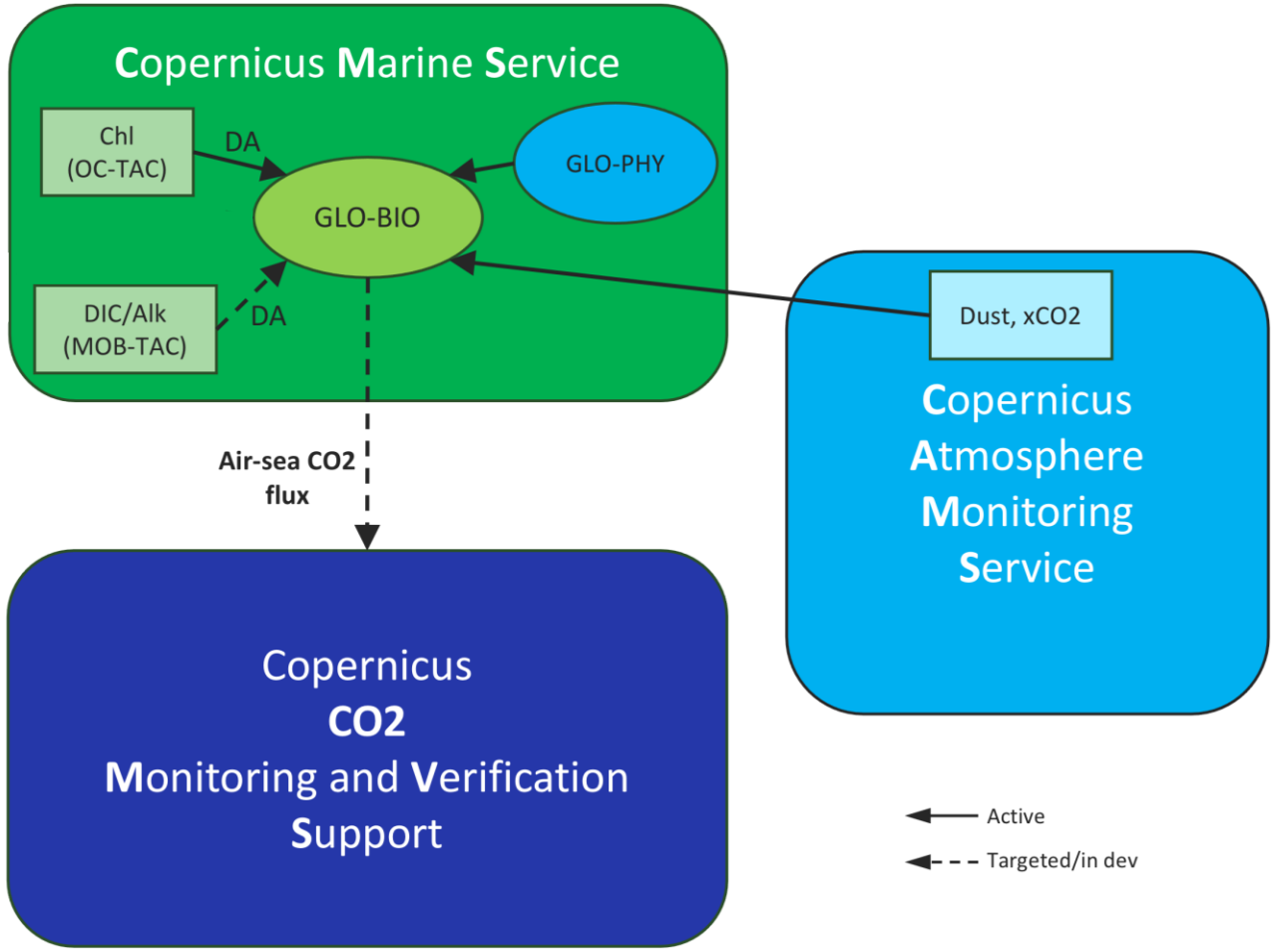
The production of these variables is **under the responsibility of the Copernicus Marine Thematic Assembly Centers (TACs)** which are today responsible for the delivery of Sea Level, Sea Surface Temperature, Sea Ice and Ocean Colour products, or brokered from relevant, related active projects.

C3S and Copernicus Marine are working together to **extend the ECVs portfolio to new variables** and ensure a constructive continuation of this joint-venture.

# Interfaces with the Copernicus Atmosphere Monitoring Service




- Use of **CAMS** products to force biogeochemical models in **Copernicus Marine**
- **Service Level Agreement** initiated between **MOi** and **ECMWF** for CO2MVS

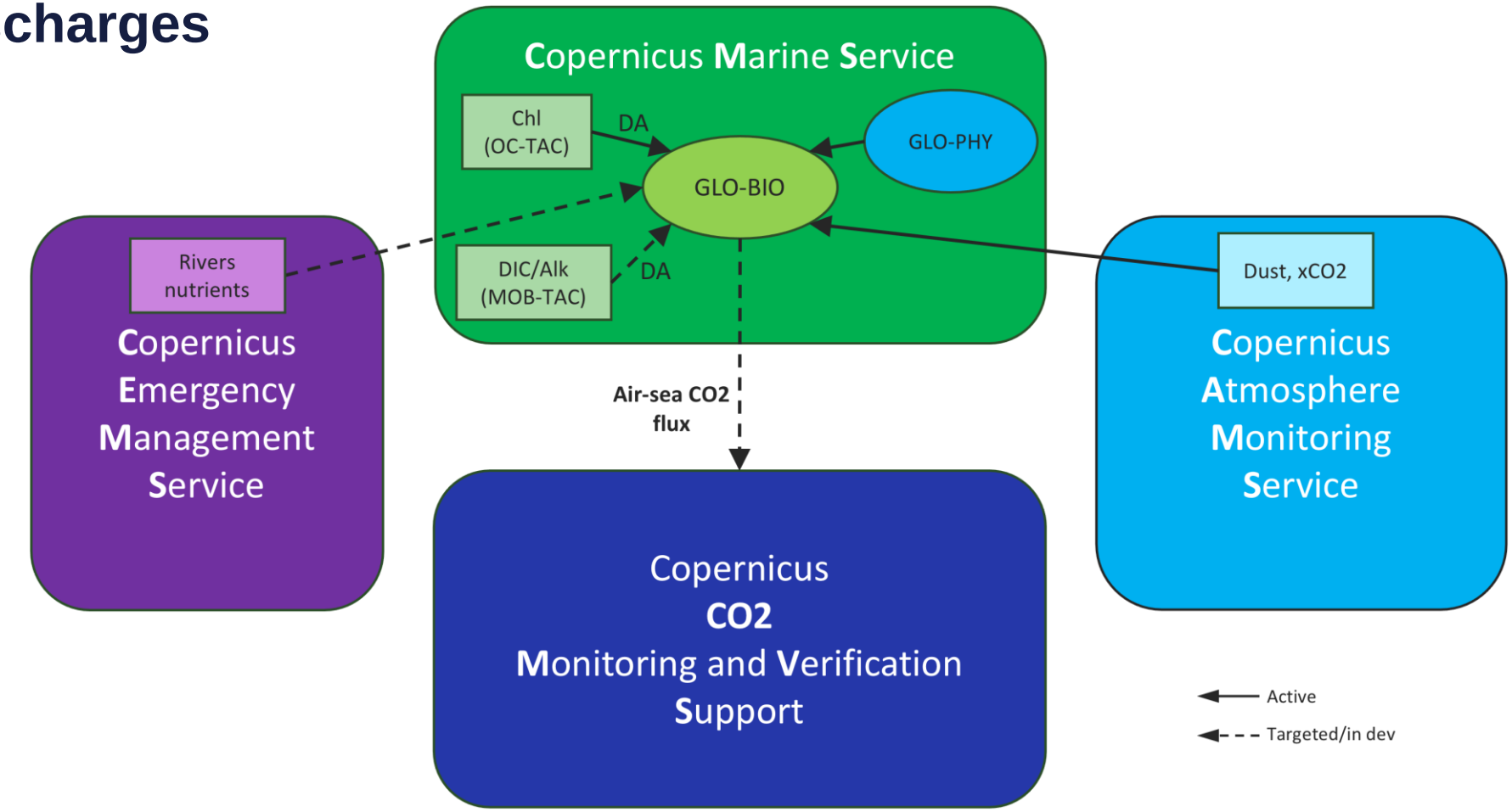


# Interfaces with the Copernicus Emergency Management Service

Emergency

Marine

## River discharges



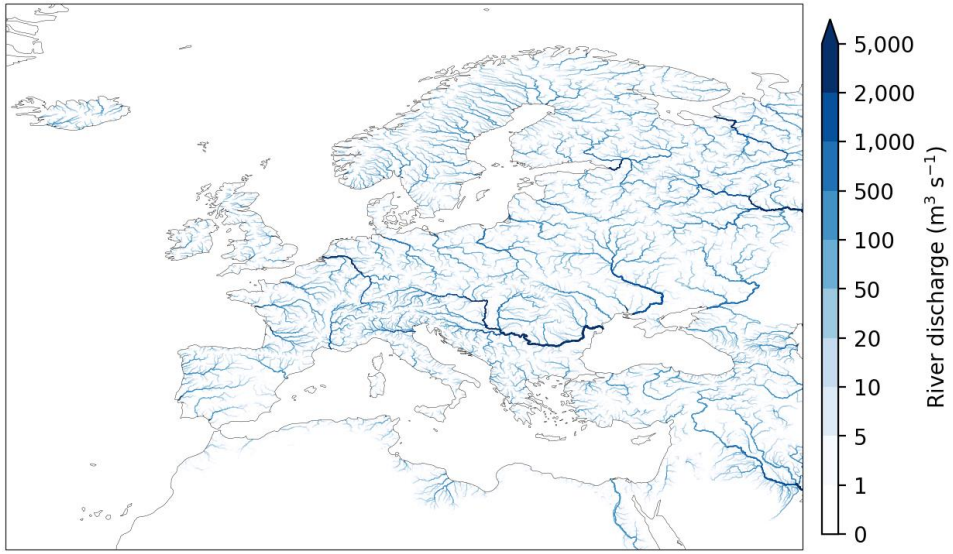
# Interfaces with the Copernicus Emergency Management Service

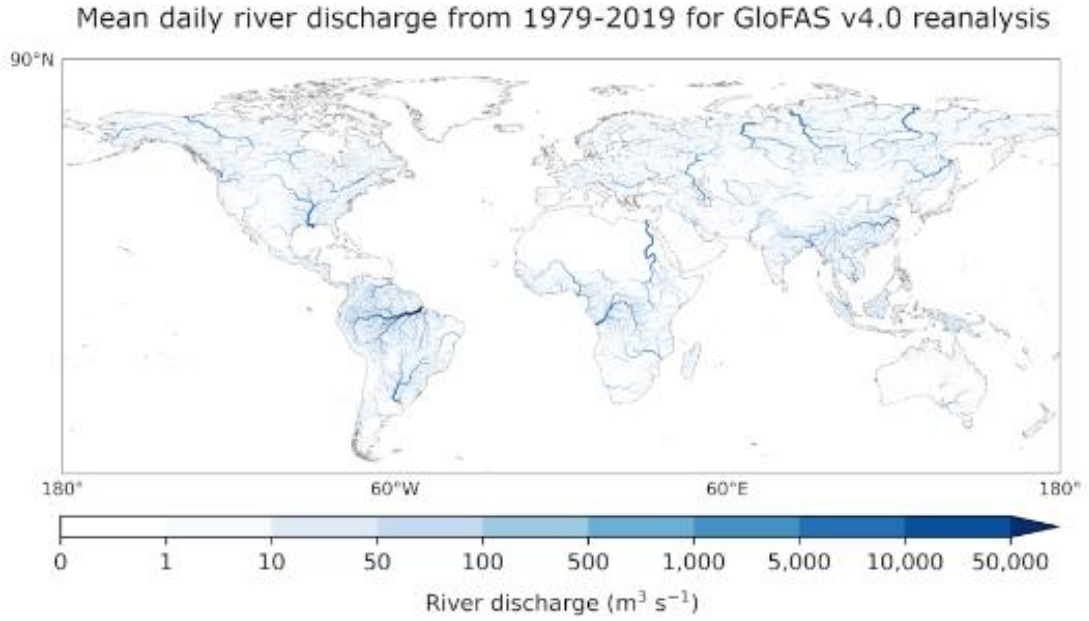
Emergency

Marine

## River discharges

- Comparison of GLOFAS & EFAS river discharges to other datasets (MFCs) and post-processing of outputs
- Testing GLOFAS & EFAS river discharges in Copernicus Marine MFCs (EFAS should be used in next release of Mediterranean Sea forecasting system)




Copernicus Marine Service

# Interfaces with the Copernicus Emergency Management Service

Emergency

Marine

## Towards a European Coastal Flood Awareness System

ECFAS
European Coastal Flood Awareness System

This project has received funding from the European Union's Horizon 2020 programme under Grant Agreement No 101004211

H2020 for the evolution of CEMS [2021-2022]

- Proof-of-concept for a new service line on European coastal marine flood awareness system

→ *Total water levels at the coast from Copernicus Marine for reanalyses and forecasts (ocean physics and waves)*

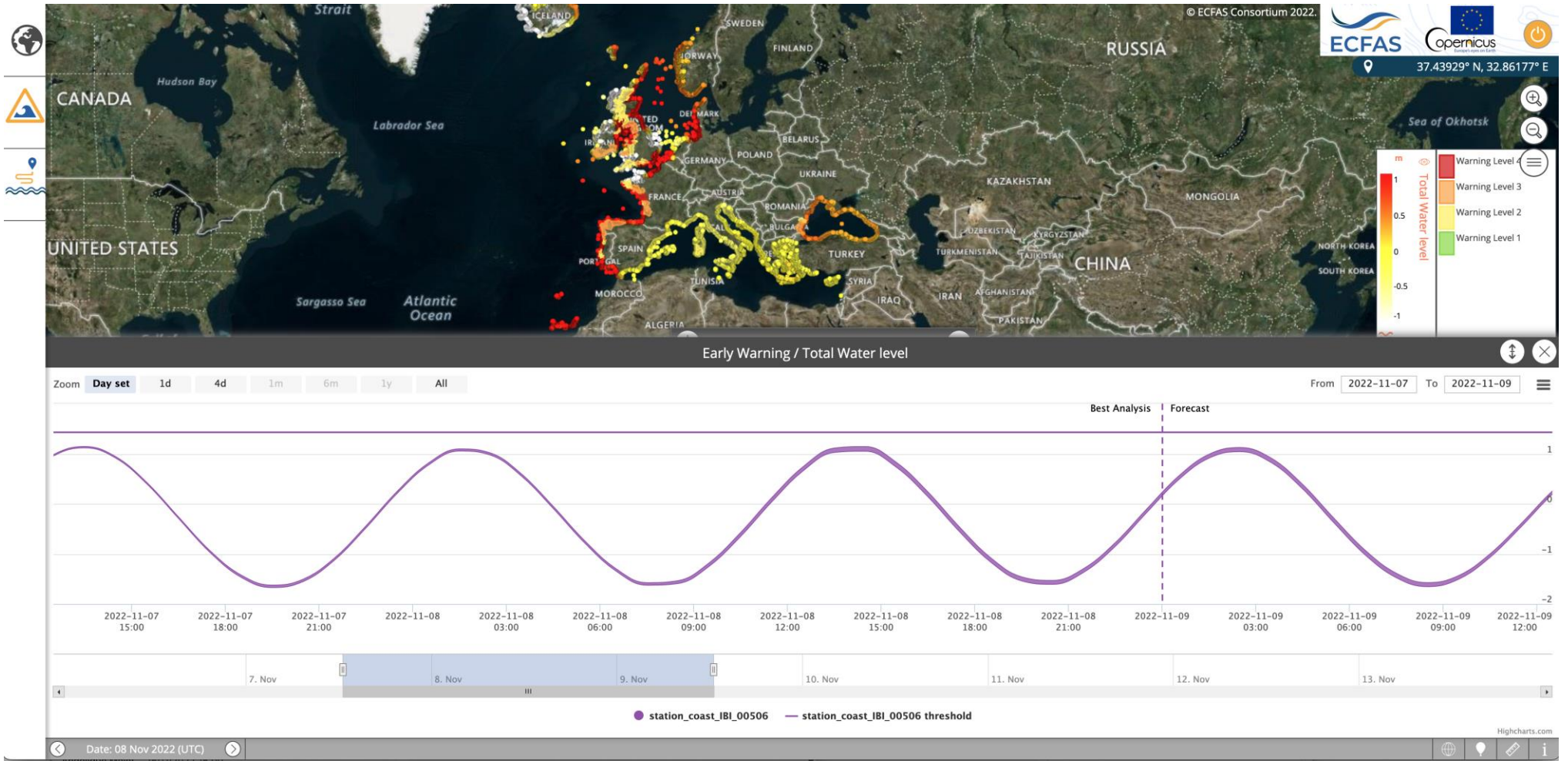
- Possibility for a service-to-service line for forecasts of total water levels
- Inclusion of the pre-service in the Copernicus Coastal Hub in 2024 until it could be integrated in CEMS

# Interfaces with the Copernicus Emergency Management Service

Emergency

Marine

## Towards a European Coastal Flood Awareness System




Copernicus Marine Service

# Further discussion during the next round table