

Copernicus Marine Service Model Products

#MarineData4Asia

Valentina Giunta

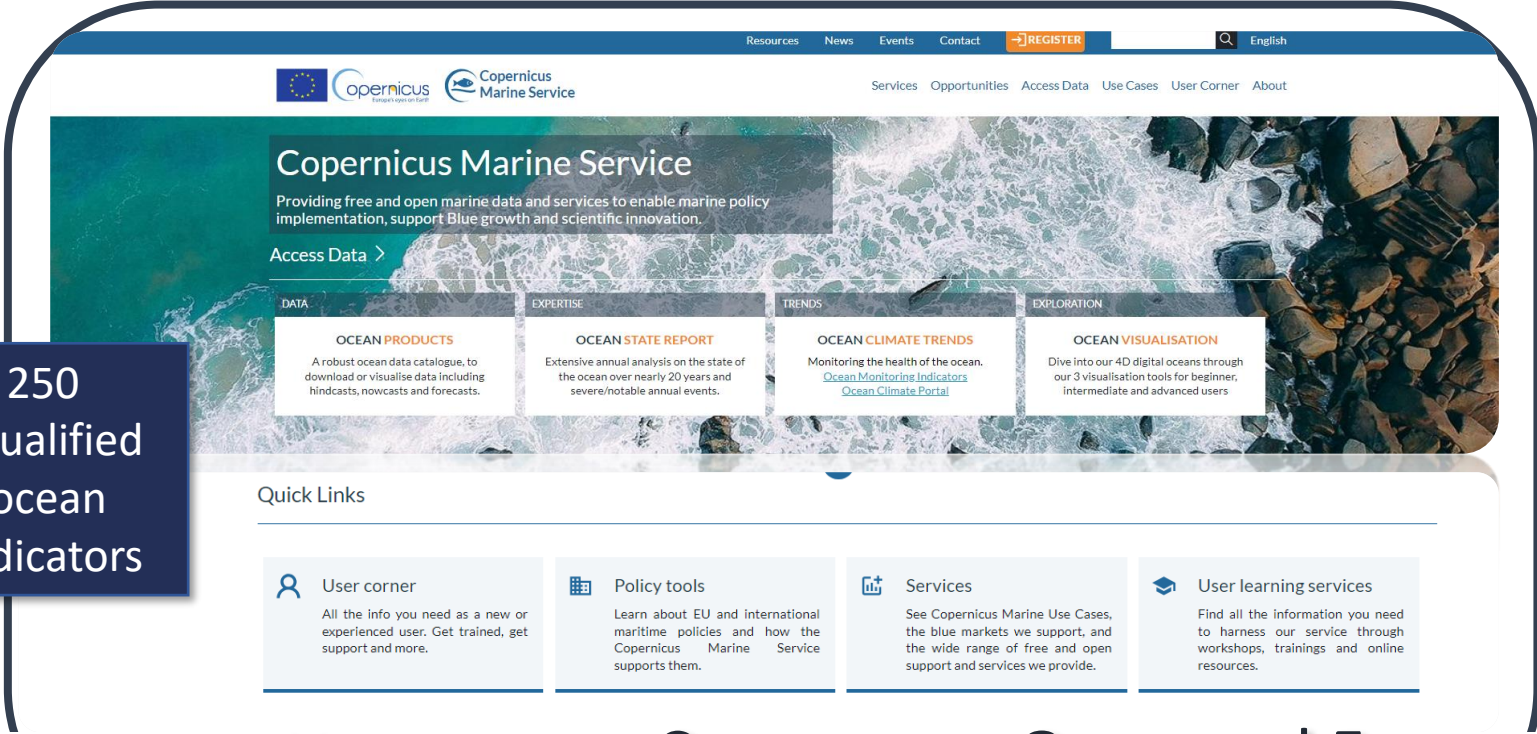
Product Analyst

Mercator Ocean International

25th of January 2024

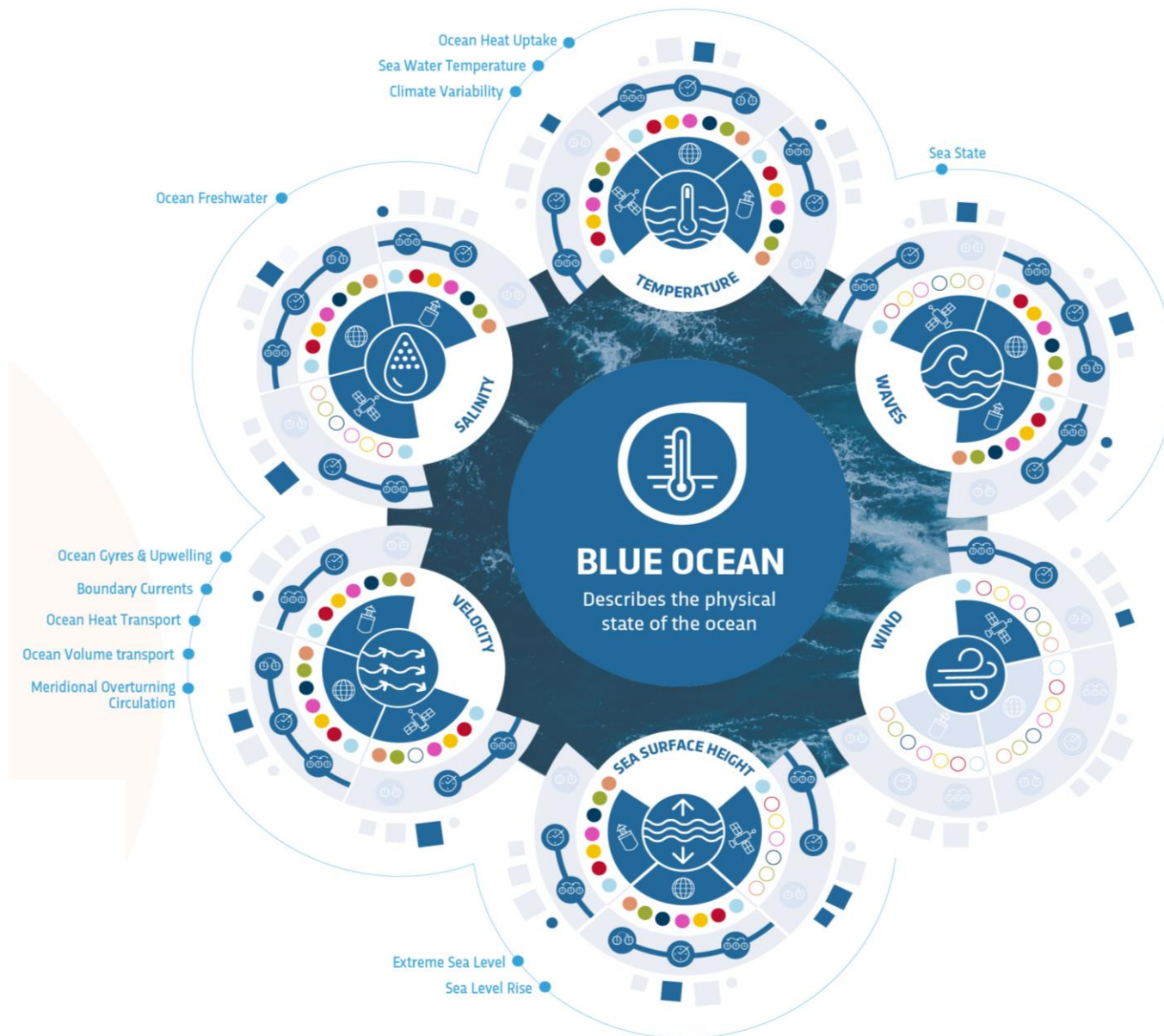
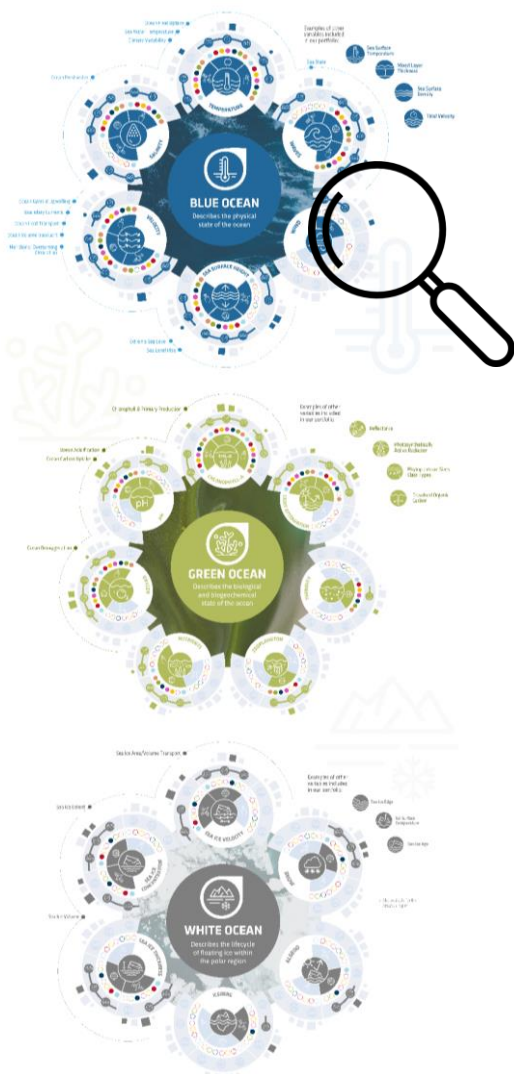
#MarineData4Asia
SINGLE ACCESS POINT
marine.copernicus.eu

More than 250
scientifically qualified
products & ocean
monitoring indicators







User driven Common format (NetCDF) Open and Free

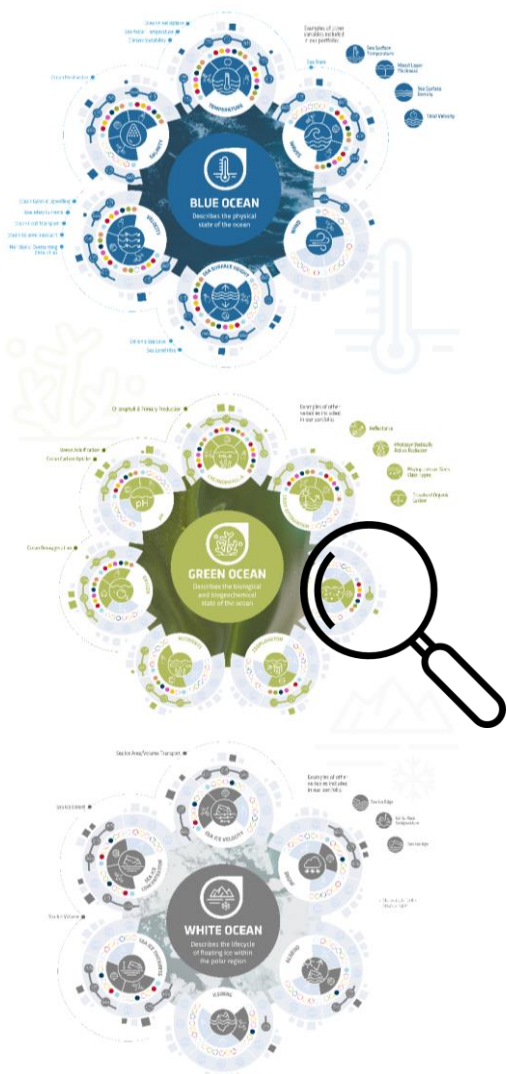
DATA IN A NUTSHELL-BLUE OCEAN







EXAMPLES OF OTHER VARIABLES INCLUDED IN OUR PORTFOLIO:

-  SEA SURFACE TEMPERATURE
-  MIXED LAYER THICKNESS
-  SEA SURFACE DENSITY
-  TIDAL VELOCITY

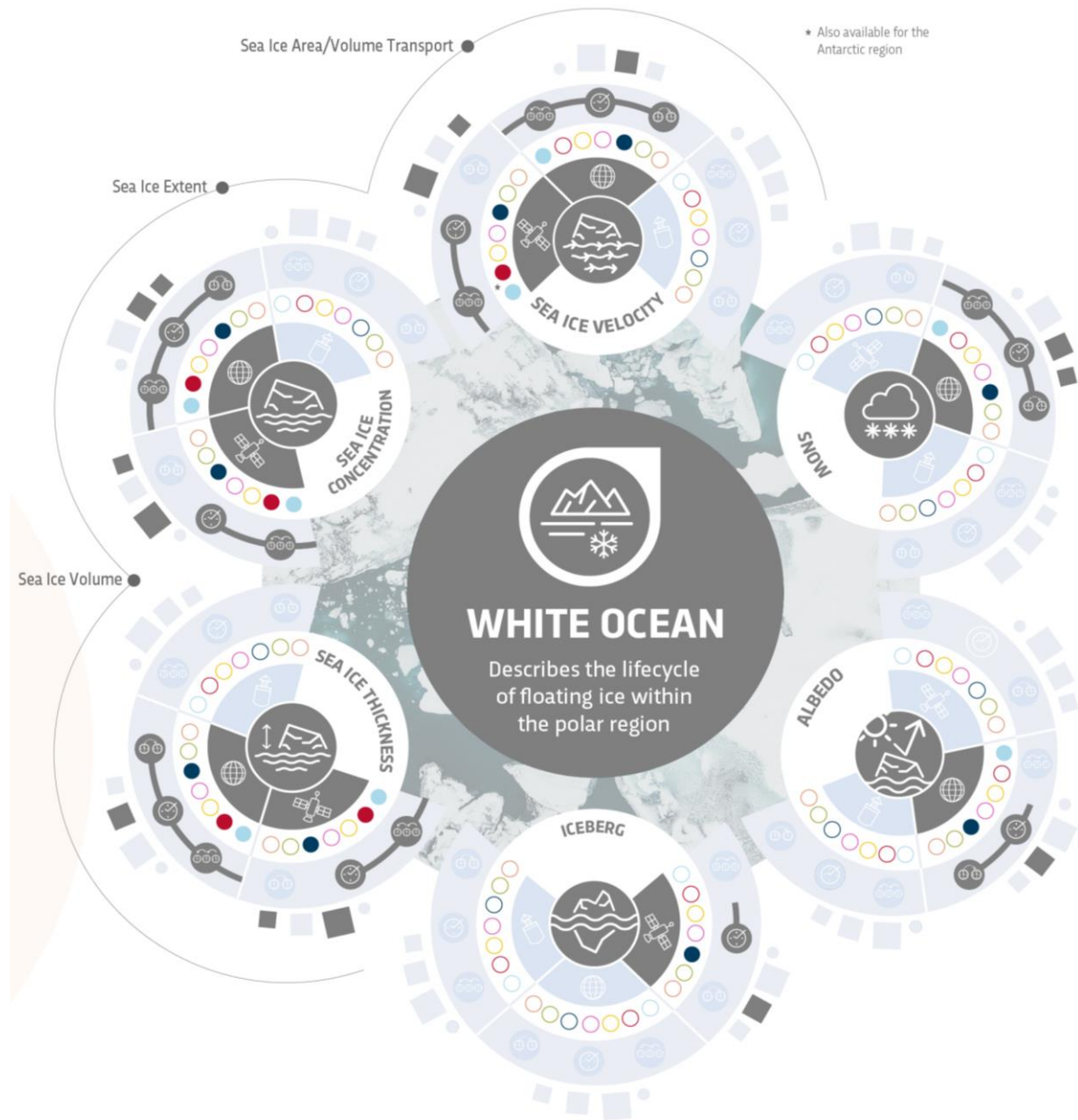
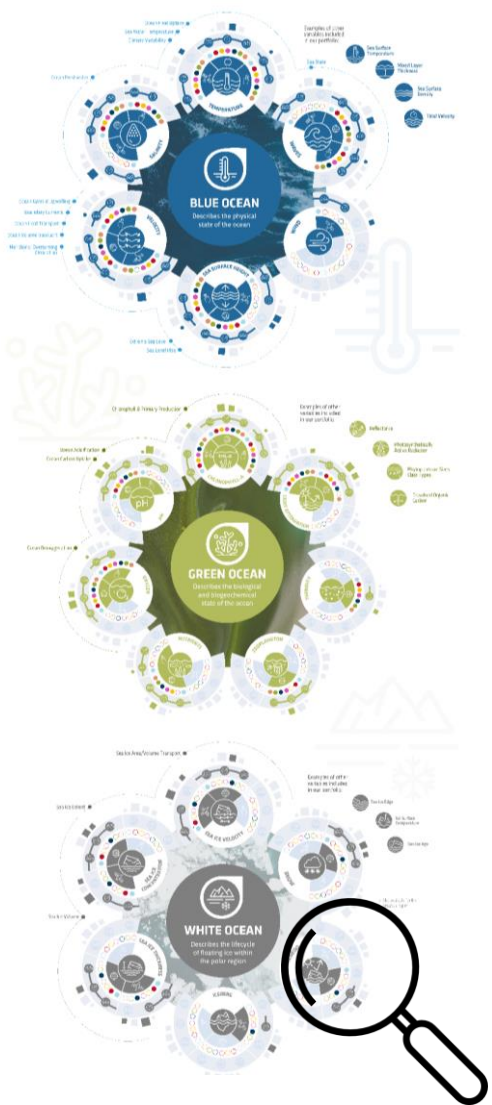
DATA IN A NUTSHELL – GREEN OCEAN



EXAMPLES OF OTHER VARIABLES INCLUDED IN OUR PORTFOLIO:

-  REFLECTANCE
-  PHOTOSYNTHETICALLY ACTIVE RADIATION
-  PHYTOPLANKTON SIZES CLASS TYPES
-  DISSOLVED ORGANIC CARBON

DATA IN A NUTSHELL – WHITE OCEAN



COPERNICUS MARINE SERVICE PORTFOLIO

DATA SOURCES

MODEL DATA

INSITU DATA

SATELLITE DATA

TEMPORAL COVERAGE

Multi-Year
~45 years

REAL-TIME
Daily, hourly, 15'

FORECAST
10 days

GEOGRAPHICAL COVERAGE

- 1 Global
- 2 Arctic
- 3 Baltic
- 4 NWS
- 5 IBI
- 6 Med Sea
- 7 Black Sea

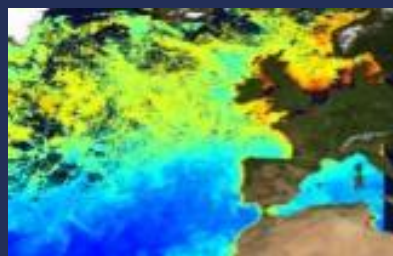


COPERNICUS MARINE SERVICE PORTFOLIO

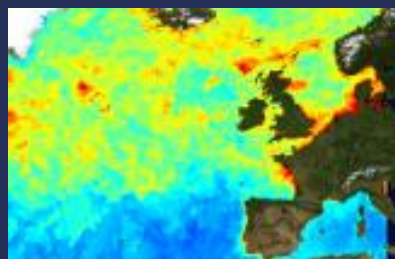
Satellite observation data



- **L3** – daily composite products, single/multi sensor (Along Track or gridded product)



- **L4** – daily interpolated and weekly/monthly composites



InSitu observation data



From different networks and platforms



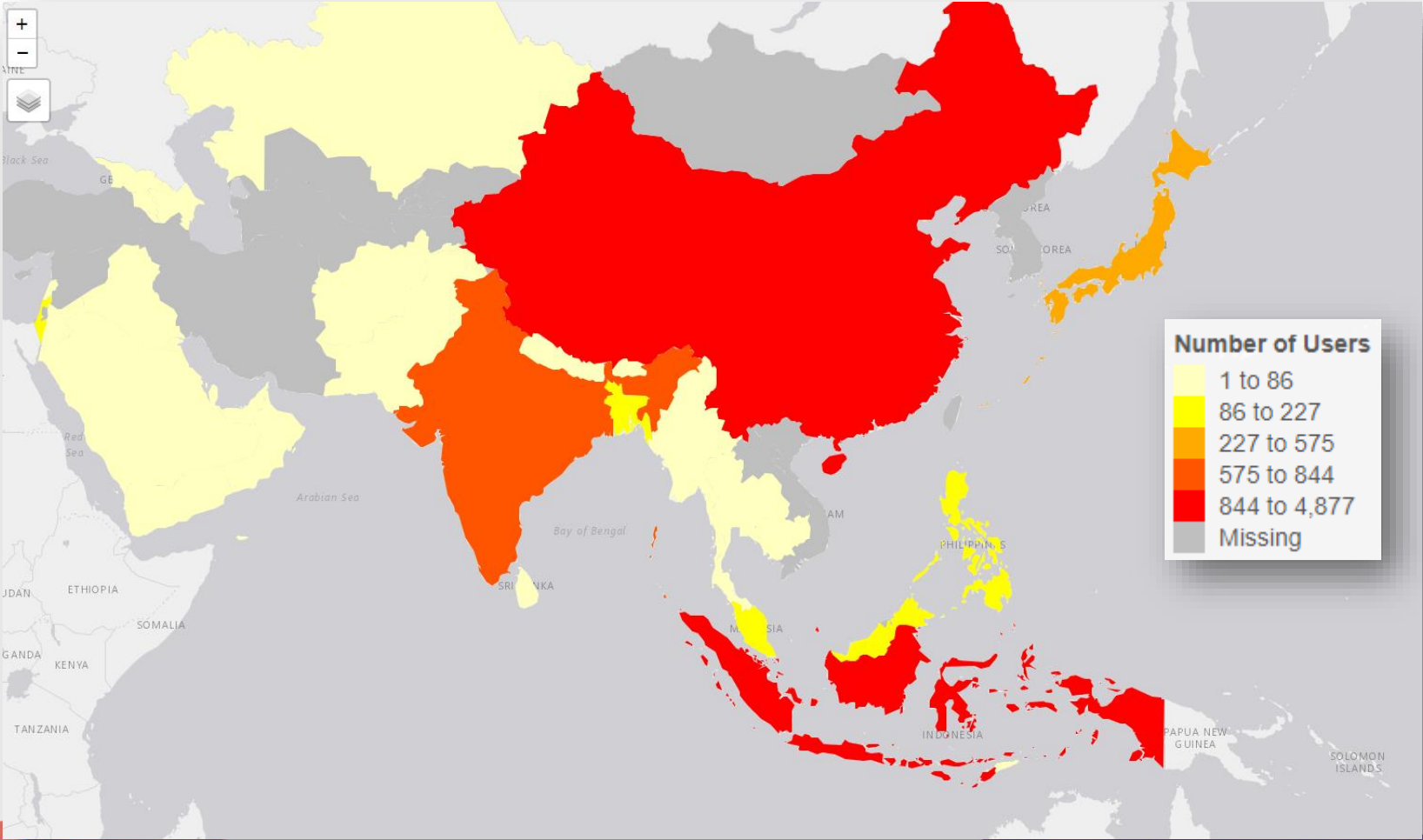
Model data



From 3D numerical representation of the ocean with an assimilation of « real » data



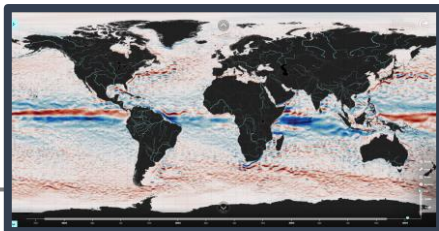
FEATURED PRODUCTS



- GLOBAL ANALYSIS AND FORECAST
- GLOBAL REANALYSIS
- GLOBAL SEA LEVEL
- GLOBAL SST
- GLOBAL OCEAN COLOUR

FEATURED PRODUCTS: GLOBAL ANALYSIS AND FORECAST

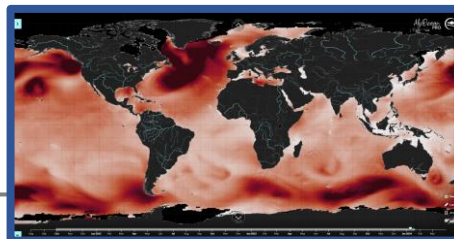
PHYSICS



- 1/12° resolution
- Hourly, daily, and monthly means
- Temperature, salinity, currents, sea level, MLD and others
- 50 vertical levels (0 to 5500m)
- Nov. 2020 to Jan. 2024
- 10 days of 3D global ocean forecasts

[Global Ocean Physics Analysis and Forecast | Copernicus Marine MyOcean Viewer](#)

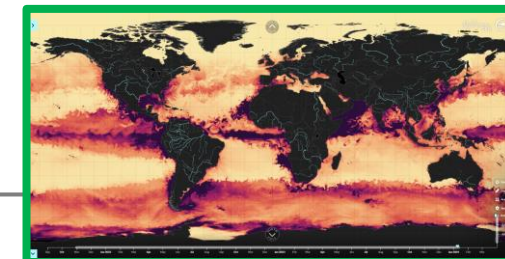
WAVES



- 1/12° resolution
- Hourly
- wave parameters from the total spectrum (significant height, period, direction, Stokes drift) and following partitions: the wind wave, the primary and secondary swell waves
- Oct. 2021 to Jan. 2024
- 10 days forecast of global ocean sea surface waves

[Global Ocean Waves Analysis and Forecast | Copernicus Marine MyOcean Viewer](#)

BIOGEOCHEMISTRY

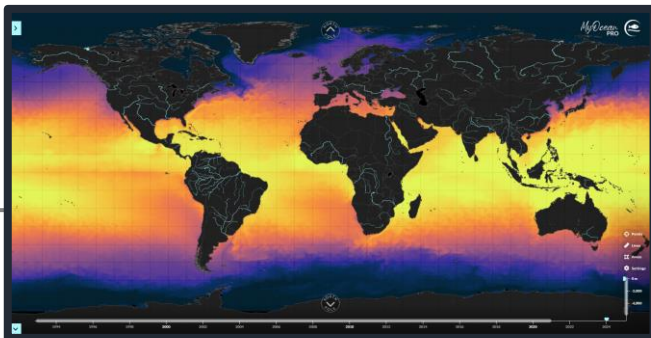


- 1/4° resolution
- Daily and monthly means
- Chlorophyll, nitrate, phosphate, dissolved oxygen, primary production, PH, carbon dioxide and others
- 50 vertical levels (0 to 5700m)
- Oct. 2021 to Jan. 2024
- 10 days of 3D global ocean forecasts

[Global Ocean Biogeochemistry Analysis and Forecast | Copernicus Marine MyOcean Viewer](#)

FEATURED PRODUCTS: GLOBAL REANALYSIS

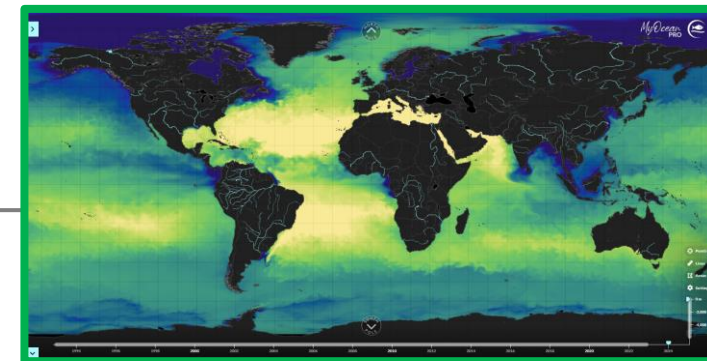
OCEAN PHYSICS



- 1/12° resolution
- Daily and monthly means
- Temperature, salinity, currents, sea level, mixed layer depth and ice parameters from the top to the bottom
- 50 vertical levels
- Jan. 1993 to Oct. 2023
- Covering the altimetry (1993 onward)
- It is based largely on the current real-time global forecasting CMEMS system.

[Global Ocean Physics Reanalysis | Copernicus Marine MyOcean Viewer](#)

OCEAN ENSEMBLE PHYSICS



- 1/4° resolution
- Daily and monthly means
- Temperature, salinity, currents, sea level, mixed layer depth and ice parameters
- 75 vertical levels
- Jan. 1993 to Dec. 2022
- It uses four reanalyses to create the ensemble, covering “altimetric era” period (starting in January 1993)
- The multi-model ensemble approach allows uncertainties or error bars in the ocean state to be estimated.

[Global Ocean Ensemble Physics Reanalysis | Copernicus Marine MyOcean Viewer](#)



THANK YOU



@CMEMS_EU



Copernicus Marine Service



Quarterly newsletter

