



OCEAN-DRIVEN SOLUTIONS FOR A **SUSTAINABLE ECONOMY** AND **RESILIENT COMMUNITIES**

Matching Copernicus Marine Service Data to Challenges

Marine Delorme



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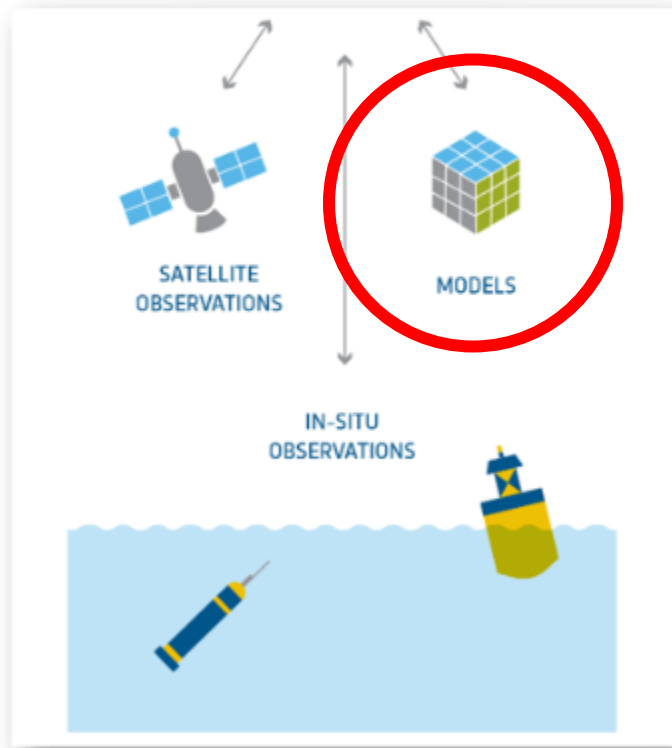


In collaboration with
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Copernicus Marine Service offer

DATA SOURCES



TEMPORAL COVERAGE



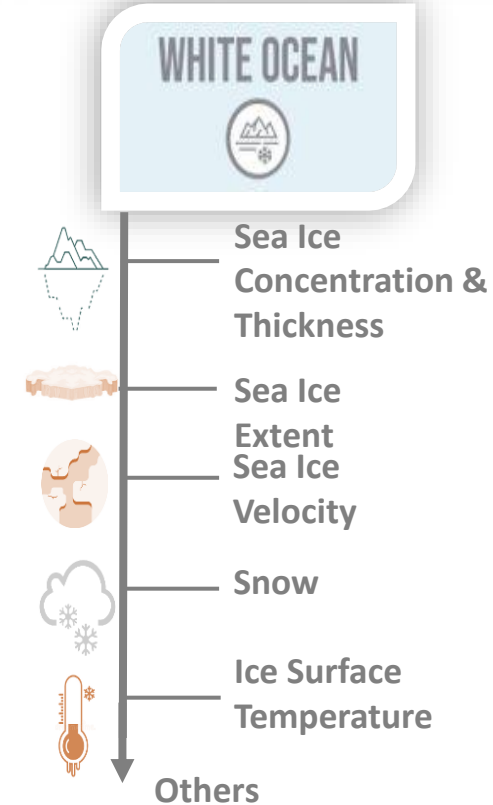
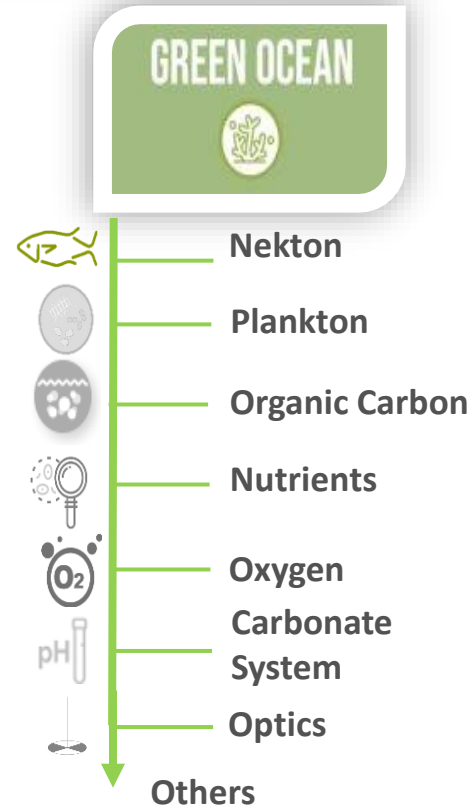
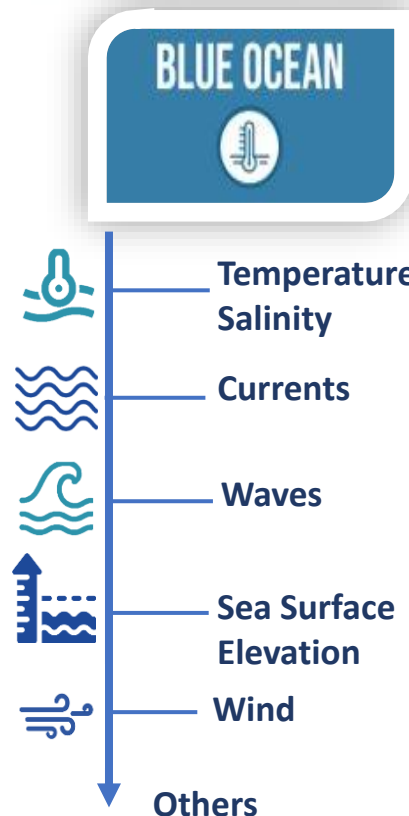
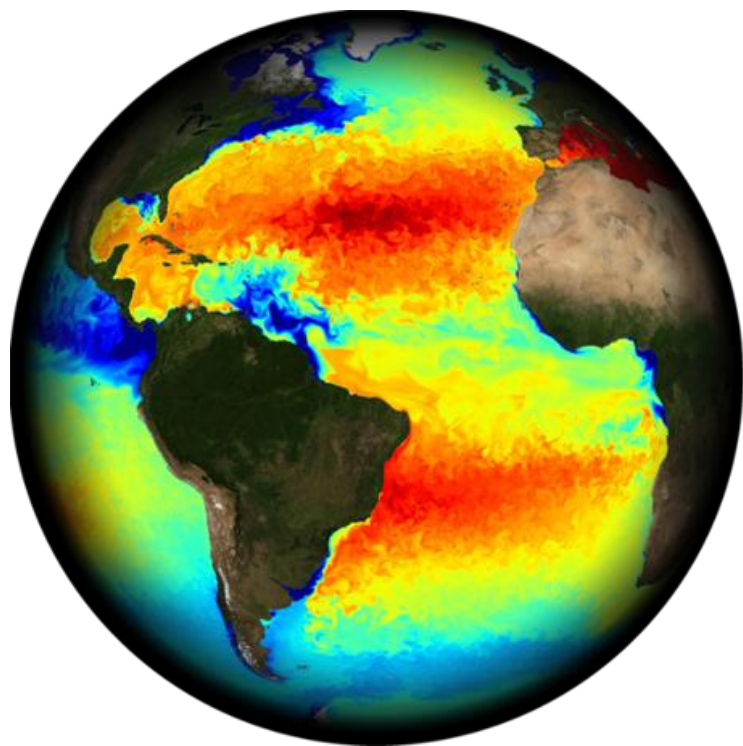
GEOGRAPHICAL COVERAGE

COPERNICUS MARINE REGIONAL OCEAN PRODUCT DIVISIONS

- ① Global Ocean
- ② Arctic Ocean
- ③ Baltic Sea
- ④ European North West Shelf Seas
- ⑤ Iberian Biscay Ireland Seas
- ⑥ Mediterranean Sea
- ⑦ Black Sea



Copernicus Marine Service offer



One single access point

Copernicus Marine Data Store

Home > Marine Data Store

Filters

FREE-TEXT SEARCH

Free text

TIME RANGE

jj/mm/aaaa

jj/mm/aaaa

Covering full interval

WITH DEPTH 36

DEPTH RANGE

UNIVERSE

Blue Ocean 199

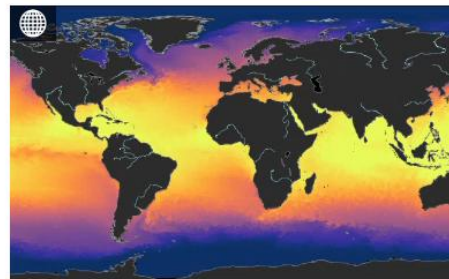
White Ocean 40

Green Ocean 78

MAIN VARIABLES

Products 284*

MOST POPULAR



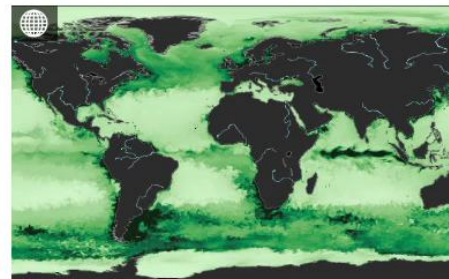
Global Ocean Physics Analysis and Forecast

GLOBAL_ANALYSISFORECAST_P... 001_024
Models

Global, 0.083° × 0.083° × 50 levels

1 Jan 2019 to 14 Oct 2024, hourly, daily,...

Temperature, salinity, sea surface height



Global Ocean Biogeochemistry Analysis and Forecast

GLOBAL_ANALYSISFORECAST_B... 001_028
Models

Global, 0.25° × 0.25° × 50 levels

1 Oct 2021 to 11 Oct 2024, daily, monthly

Chlorophyll, nitrate, oxygen, phosphate

Online catalogue
marine.copernicus.eu

Nearly 300
scientifically qualified
products & Ocean
monitoring indicators

User driven

Common format
(Netcdf)

Open and Free



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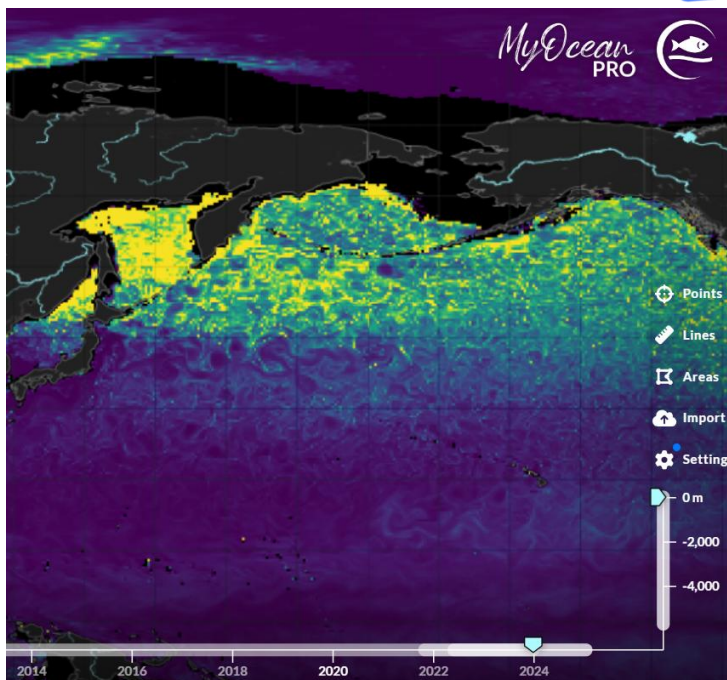
Blue markets

The Copernicus Marine Service supports all sectors of the blue economy

- | | | |
|--------------------------------------|--|-------------------------------|
| 1 POLAR ENVIRONMENT MONITORING | 5 SCIENCE & INNOVATION | 9 MARINE FOOD |
| 2 CLIMATE & ADAPTATION | 6 POLICIES & OCEAN GOVERNANCE & MITIGATION | 10 COASTAL SERVICES |
| 3 OCEAN HEALTH | 7 EDUCATION, PUBLIC HEALTH & RECREATION | 11 TRADE & MARINE NAVIGATION |
| 4 MARINE CONSERVATION & BIODIVERSITY | 8 EXTREMES, HAZARDS & SAFETY | 12 NATURAL RESOURCES & ENERGY |

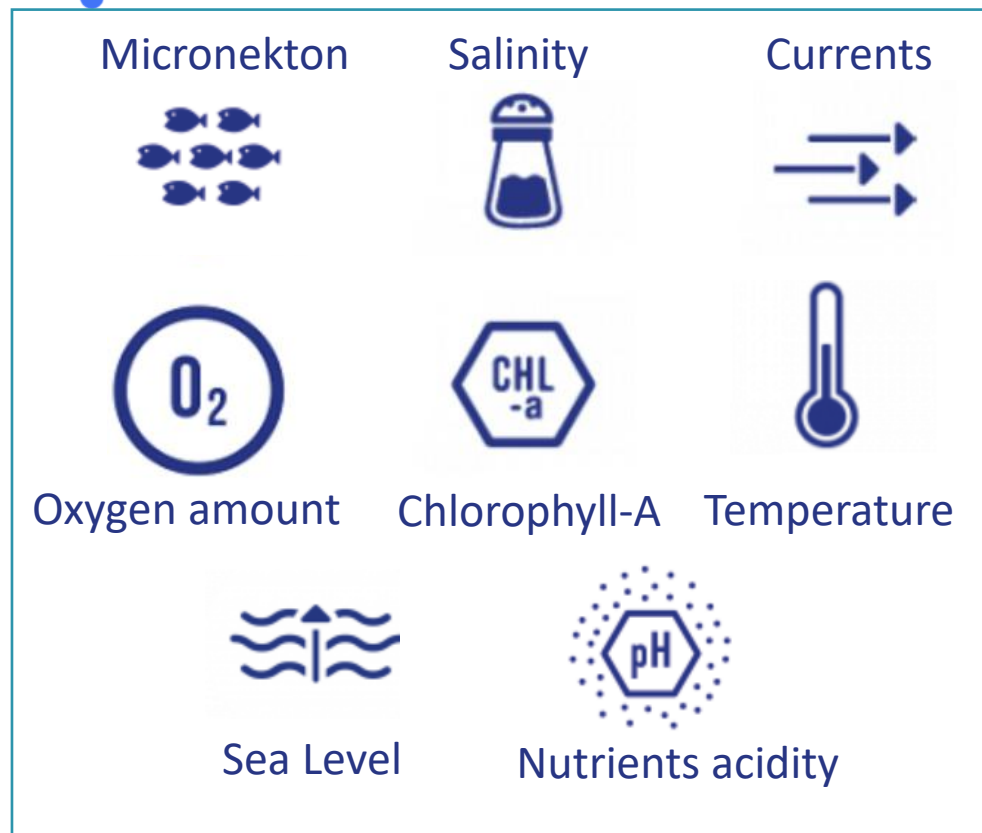


Challenge 3 Sustainably feed the global population



Global Ocean low and mid trophic levels biomass content hindcast (micronekton)

Variables available



Sectoral impacts

Better identification of fish stock recovery areas

Better planning of aquaculture farm sitting and management

Better knowledge of surrounding oceanic conditions for aquaculture farm sitting

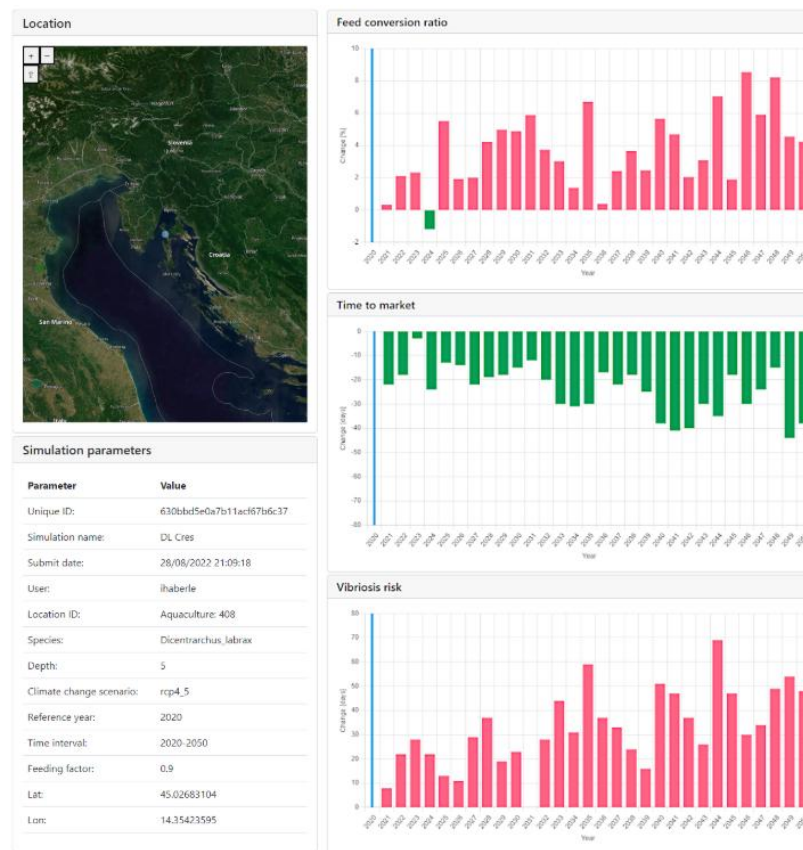
Challenge 3 Sustainably feed the global population

PerfeCt – Performance of Aquaculture under Climate change

This tool provides a GIS framework to estimate relative changes of three simple aquaculture performance factors:

- Time-to-market
- Food conversion ratio
- Risk of disease

It transforms science-based results into easily accessible and understandable information useful for aquaculture managers, investors and policy makers



Products used

Mediterranean Sea Physics Analysis and Forecast

Mediterranean Sea Physics Reanalysis



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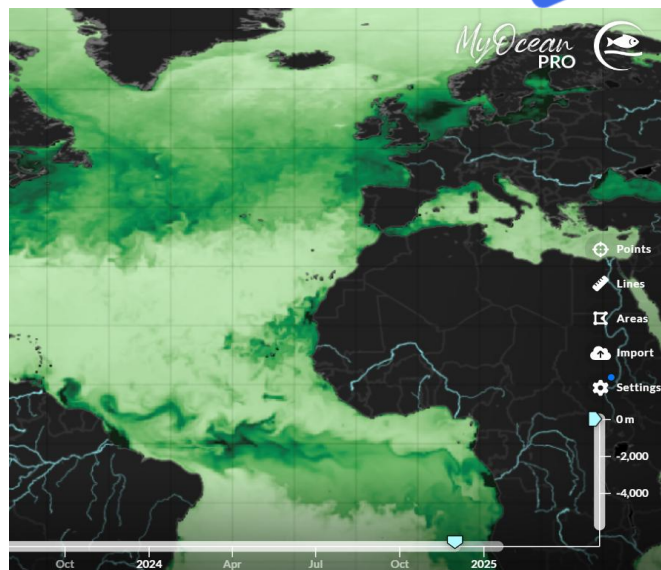


Challenge 4 Develop a sustainable, resilient and equitable ocean economy



Variables available

Sectoral impacts



Chlorophyll-A



Acidity



Micronekton



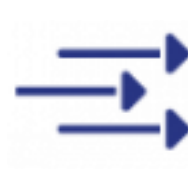
Oxygen



Turbidity



Temperature



Currents



Salinity



Heat content



Sea level



Waves



Sea ice

Safe, sustainable, economical and fast navigation routes

Preservation of species from extinction, understanding of ocean species behaviour and migration routes

Improvement of marine ecosystems resilience

More sustainable exploration and exploitation of ocean energy

Ocean & MSP policy enforcement, MPAs directives

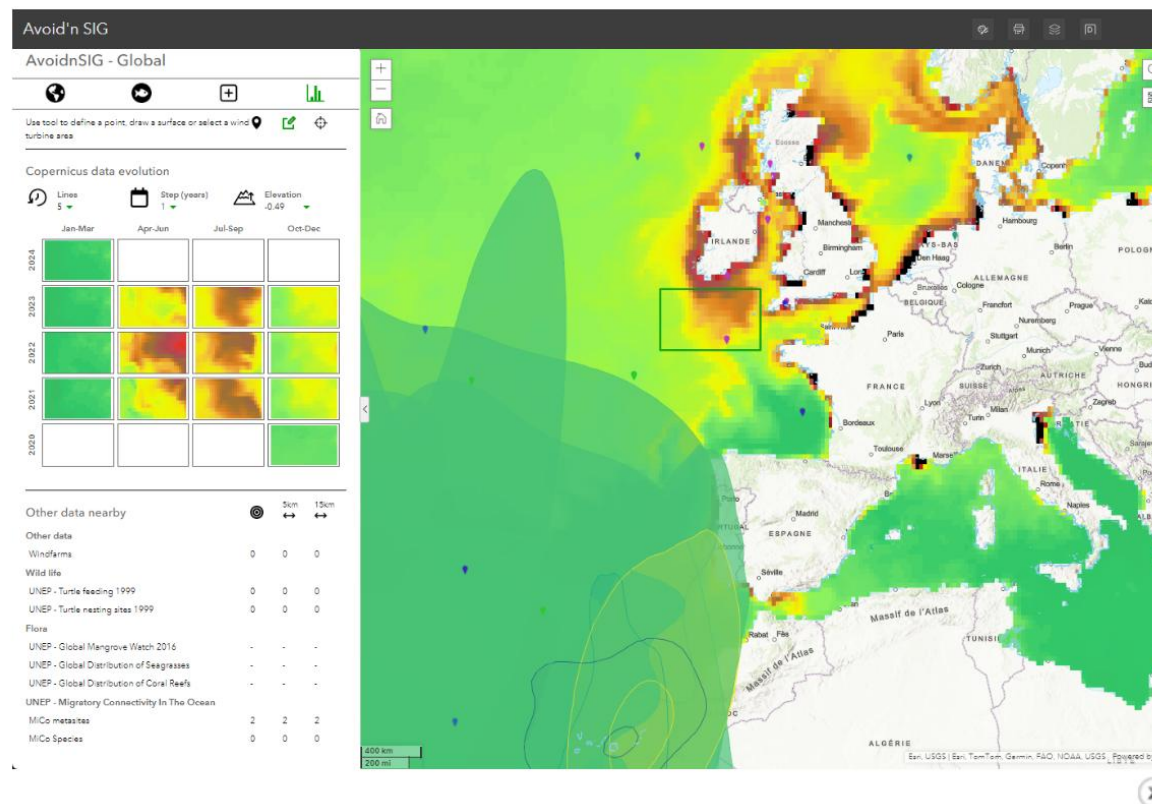
Challenge 4 Develop a sustainable, resilient and equitable ocean economy

DATA FOR THE
UN OCEAN DECADE
A EUROPEAN FOCUS

Avoid'n GIS - Map marine biodiversity issues to better plan the deployment of offshore wind farms

This tool provides a full-web mapping tool for assessing the impacts of offshore wind farms on marine and coastal ecosystems:

- Analysis of biodiversity in specific areas
- Impact assessment of potential offshore wind farms
- Decision-making support



Products used

Global Ocean Biogeochemistry
Analysis and Forecast

Global Ocean Biogeochemistry
Hindcast



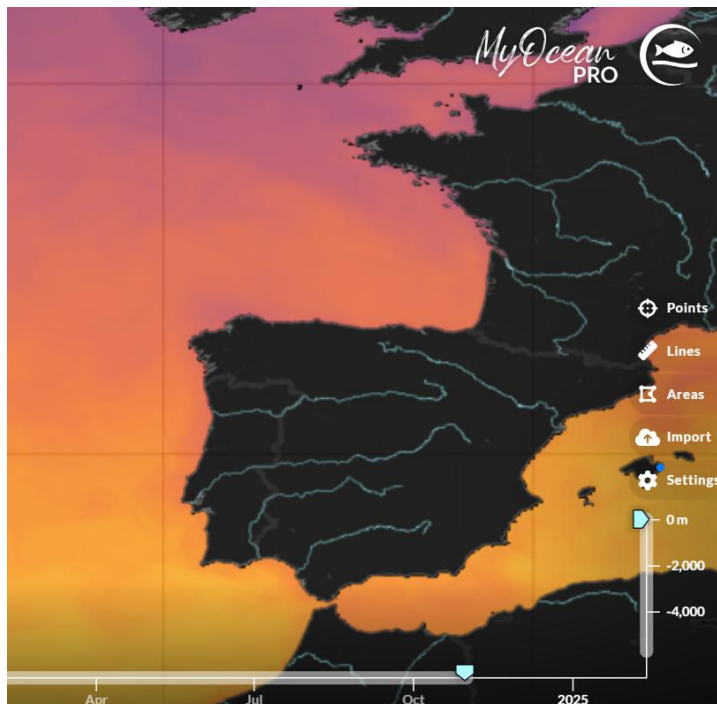
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Challenge 6 Increase community resilience to ocean hazards



Atlantic-Iberian Biscay Irish-Ocean
physics analysis and forecast (sea water
potential temperature)

Variables available



Temperature



Currents



Waves



Sea Level



Sea ice



Salinity

Sectoral impacts

Alert system planning and
monitoring of emergency
response

Minimal response time for
search and rescue at sea

Policy to protect marine
and coastal environment
against extreme events

Pollutant drift modelling

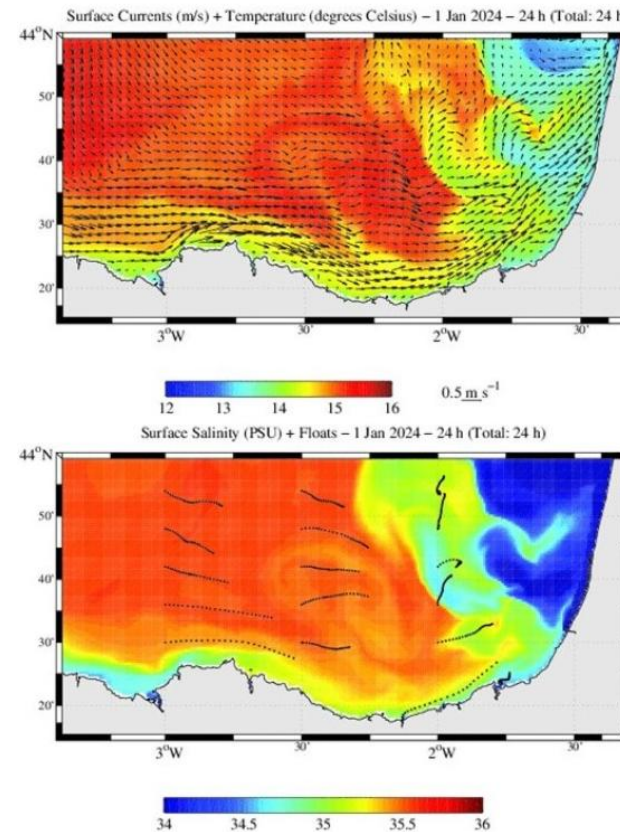
Marine Heatwaves forecast
to protect ecosystems by
reducing pressures
(navigation, tourism, ...)

Challenge 6 Increase community resilience to ocean hazards

EUSCOMvu - Surface currents for search and rescue in the SE bay of Biscay

This tool provides accurate and timely forecasts of surface currents for:

- Successful rescue of people at sea
- Control of drifting vessels, dangerous objects, marine litter and pollutants



Products used

Atlantic-Iberian Biscay Irish- Ocean Physics Analysis and Forecast

Global Ocean Physics Analysis and Forecast

Global Ocean in-situ Near real time observations of ocean currents



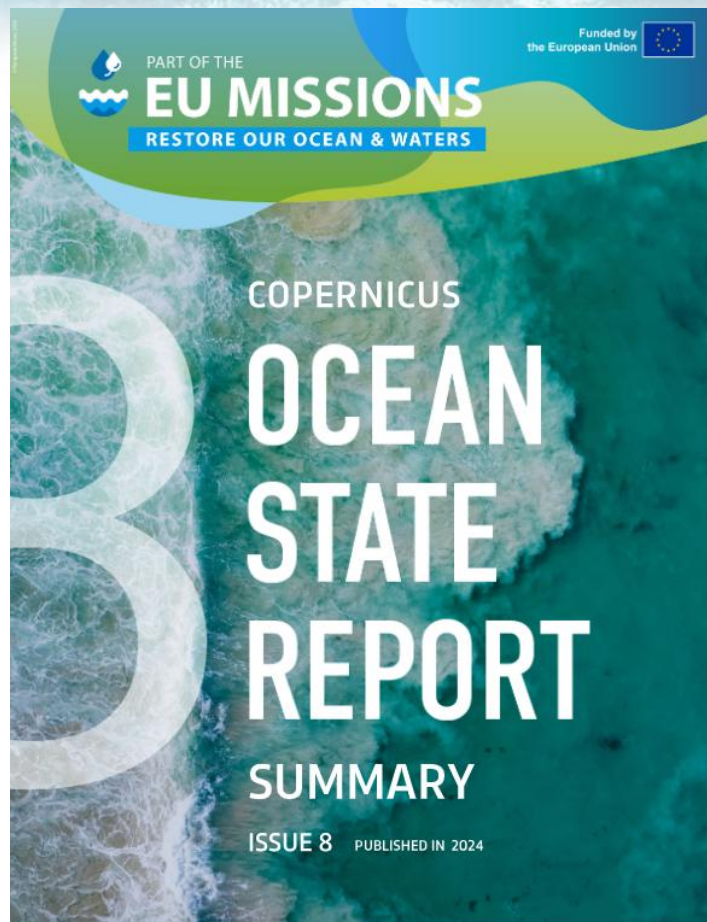
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Additional resources



Ocean Monitoring Indicators

The gateway to essential ocean variables to monitor the health of the ocean.

[Home](#) > [Access data](#) > [Ocean Monitoring Indicators](#)

Ocean Monitoring Indicators (OMIs) are free downloadable trends and datasets covering the past quarter of a century. These are key variables used to track the vital signs of the ocean and changes in line with climate change.

For in-depth explanations on some of these indicators, visit the [Ocean Climate Portal](#).



All regions

Arctic Ocean

Atlantic-European North West Shelf-Ocean

Antarctic Ocean

Atlantic-Iberian Biscay Irish-Ocean

Baltic Sea

Black Sea

Global Ocean

Mediterranean Sea

Ocean Circulation

Ocean Climate

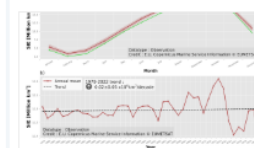
Ocean Variability & Extremes

Ocean Health

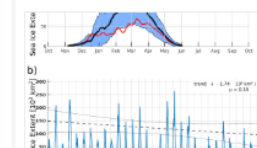
Sea ice change



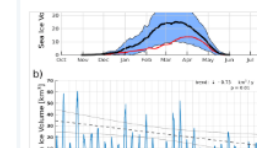
Arctic Monthly Mean Sea Ice Extent from Observations Reprocessing



Antarctic Monthly Sea Ice Extent from Observations Reprocessing



Baltic Sea Ice Extent from Observations Reprocessing



Baltic Sea Ice Volume from Observations Reprocessing

[See all](#)

Copernicus Marine Service Use cases

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English



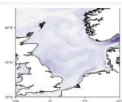
Services Opportunities Access Data **Use Cases** User Corner About

Use Cases

Home > Services > Use Cases

The Copernicus Marine Service provides ocean products and services for many marine applications worldwide. We publish here Use Cases sorted by region, country, market sectors, highlighting examples on how marine data we provide from is used and what are the benefits for users.

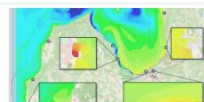
Region: All Country: All Markets: All ☐ Mobile Application ☐ Demo Search



Eutrophication and acidification in marine ecosystems: North Sea use case



Surface currents for search and rescue in the SE Bay of Biscay



Seamless Forecasting for Latvian Seaports, Bridging the Gap Between Inner Ports and Open Seas



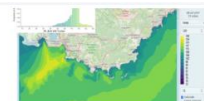
Surface currents forecast in support to safer maritime traffic in the Gulf of Trieste



Meteocean analysis to support Maritime Spatial Planning in the western Black Sea Basin



Monitoring coastal waters of the Lisbon Area (Portugal) in support of EU directive implementation



Coastal Ocean Noise Service in support to the impact assessment of Offshore Windfarms in the Mediterranean Sea



Background and operational information for gas terminals and marine pipelines

Products used

- ATLANTIC-IBERIAN BISCAY IRISH- OCEAN PHYSICS ANALYSIS AND FORECAST
- ATLANTIC-IBERIAN BISCAY IRISH- OCEAN WAVE ANALYSIS AND FORECAST
- GLOBAL OCEAN- IN-SITU NEAR REAL TIME OBSERVATIONS OF OCEAN CURRENTS
- ATLANTIC IBERIAN BISCAY IRISH OCEAN- IN-SITU NEAR REAL TIME OBSERVATIONS
- NORTH ATLANTIC REMOTE SENSING REFLECTANCES, ATTENUATION COEFFICIENT AT 490NM, AND INHERENT OPTICAL PROPERTIES FROM SATELLITE OBSERVATIONS



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Copernicus Marine Service User corner

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E-learning Materials



Copernicus
Europe's eyes on Earth

Copernicus
Marine Service

Services Opportunities Access Data Use Cases **User Corner** About

Home > Services > User Learning Services > E-learning materials

Training/Workshop >

E-learning material >

Jupyter environment >

Level

- Any -

Subject

- Any -

Tool

- Any -

Search



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Beginner level
OCEAN INFORMATION

Arctic Ocean Training 2022 : Discover the Copernicus Marine Service

Jupyter Notebooks ☆ ☆

Intermediate level
OCEAN INFORMATION

Arctic Ocean Training 2022 : Thermohaline circulation

Jupyter Notebooks ☆ ☆

Intermediate level
OCEAN INFORMATION

Assessing Ecosystem Health 2023 : Analysis of Marine Heat Waves

Jupyter Notebooks ☆ ☆

Beginner level
OCEAN INFORMATION

Assessing Ecosystem Health 2023 : Discover the Copernicus Marine...

Jupyter Notebooks ☆ ☆

Beginner level
OCEAN INFORMATION

Baltic Sea Training 2022 : Discover the Copernicus Marine Service

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Intermediate level
MODEL PRODUCTS

Baltic Sea Training 2022 : Eutrophication

Jupyter Notebooks ☆ ☆

Intermediate level
OCEAN INFORMATION

Downloading the products - Africa continent

Jupyter Notebooks ☆ ☆

Beginner level
OCEAN INFORMATION

Iberian-Biscay Irish Region 2023 : Discover the Copernicus Marine...

Jupyter Notebooks ☆ ☆



Help Center & FAQ

Have a question about our services?
Find everything gathered in one intuitive place online.



Contact Us

If you still have unanswered questions, our team of experts just is one click away.



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Copernicus
Europe's eyes on Earth

EUMETSAT

Copernicus
Marine Service

MERCATOR
OCEAN
INTERNATIONAL



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Ocean
Data Sharing

The image is a composite background. The top half shows a bright blue sky with soft white clouds. A thin, wavy line separates the sky from the bottom half, which is an underwater scene. The water is a deep, clear blue. In the foreground, a detailed coral reef is visible, with various types of coral and small fish swimming around. A satellite is positioned in the middle of the image, appearing to float between the sky and the ocean. The satellite has a black rectangular body with several circular instruments and a large, flat solar panel array extending from it.

THANK YOU

#EUdata4OceanDecade

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