

MAKING SENSE OF THE OCEAN: FROM OBSERVATION TO ACTIONABLE KNOWLEDGE



Modelling our oceans

Mercator Ocean international - Copernicus Marine Service

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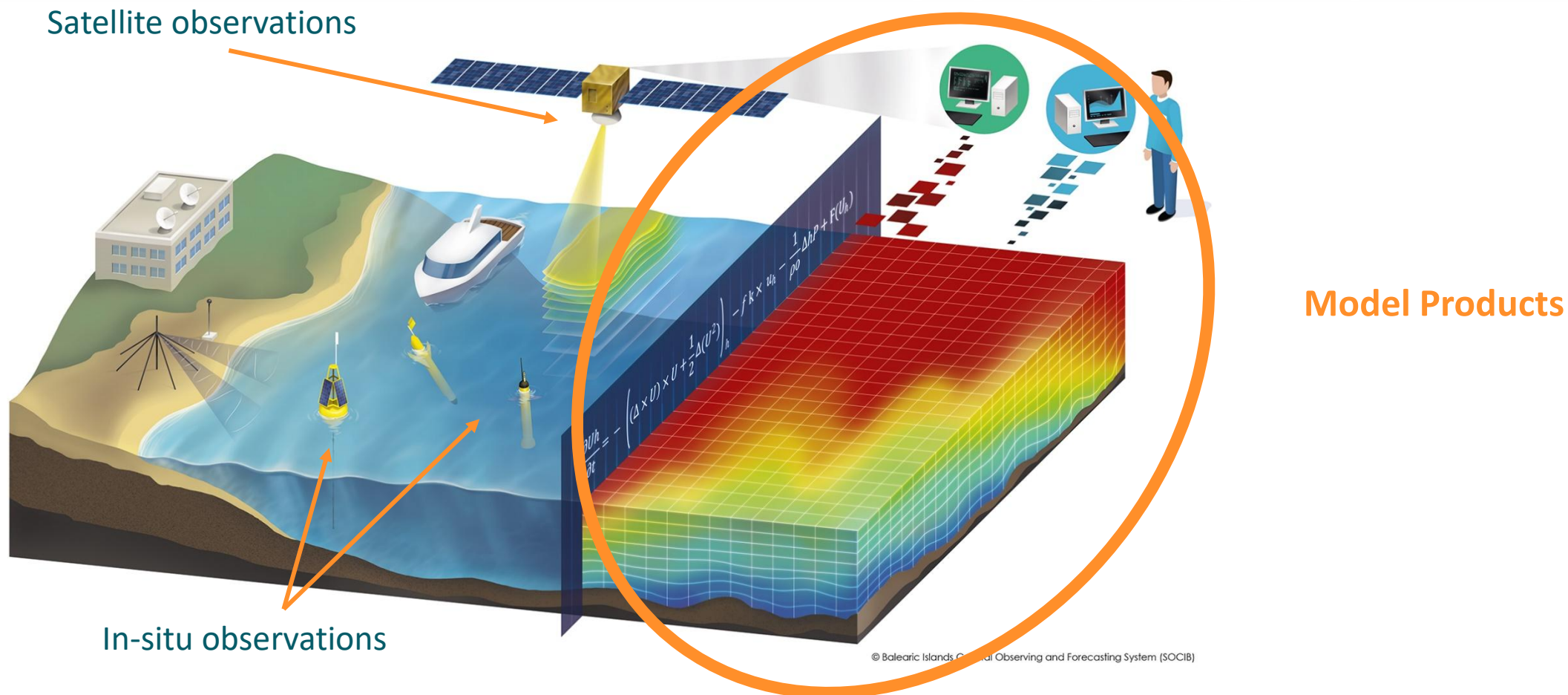
PROGRAMME OF THE
EUROPEAN UNION



In collaboration with
the UN OD Data
Coordination Office



What are ocean Model Products?



From Forecasts to Reanalyses

i	Description
🔔	Notifications
📄	Data access
✉	Contact
DOCUMENTATION	
📖	User Manual
📄	Quality Information Document
📄	Synthesis Quality Overview
📊	Product Quality Dashboard
🗺	Roadmap
📄	Licence
📄	How to cite

Overview

The Operational Mercator global ocean analysis and forecast system at 1/12 degree is providing 10 days of 3D global ocean forecasts updated daily. The time series is aggregated in time in order to reach a two full year's time series sliding window.

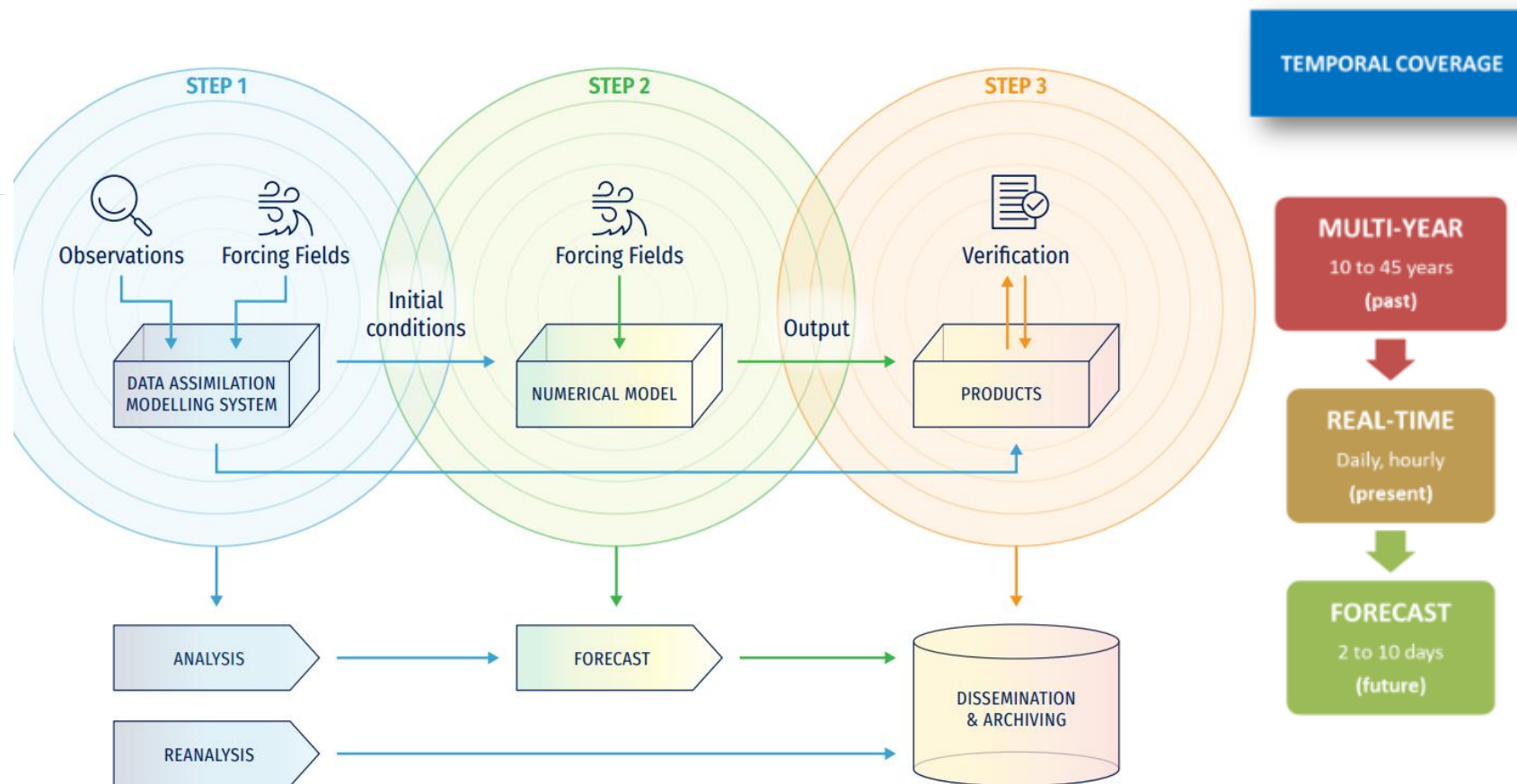
This product includes daily and monthly mean files of temperature, salinity, currents, sea level, mixed layer depth and ice parameters from the top to the bottom over the global ocean. It also includes hourly mean surface fields for sea level height, temperature and currents. The global ocean output files are displayed with a 1/12 degree horizontal resolution with regular longitude/latitude equirectangular projection.

50 vertical levels are ranging from 0 to 5500 meters.

This product also delivers a special dataset for surface current which also includes wave and tidal drift called SMOC (Surface merged Ocean Current).

DOI (product):

<https://doi.org/10.48670/moi-00016>



Resolution & Variables of Model Products



BLUE OCEAN

- Temperature
- Salinity
- Currents
- Waves
- Sea Surface Elevation
- Wind
- Others

GREEN OCEAN

- Nekton
- Plankton
- Organic Carbon
- Nutrients
- Oxygen
- Carbonate System
- Optics
- Others

WHITE OCEAN

- Sea Ice Concentration & Thickness
- Sea Ice Extent
- Sea Ice Velocity
- Snow
- Ice Surface Temperature
- Others

From Science to Society

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 |



The Copernicus Marine Data Store

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

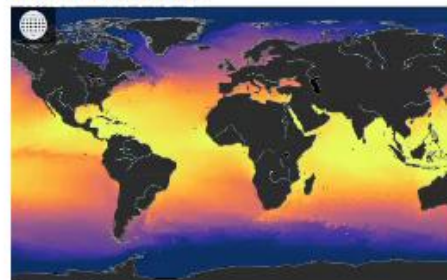
Blue Ocean 218

White Ocean 44

Green Ocean 78

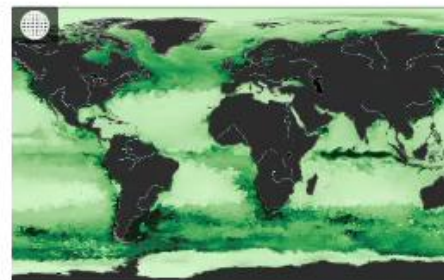
Products 303 in Copernicus Marine Service

MOST POPULAR



Global Ocean Physics Analysis and Forecast

GLOBAL_ANALYSISFORECAST_P... 001_024
Models
Global, 0.083° × 0.083° × 50 levels
1 Nov 2020 to 4 Oct 2025, hourly, daily



Global Ocean Biogeochemistry Analysis and Forecast

GLOBAL_ANALYSISFORECAST_B... 001_028
Models
Global, 0.25° × 0.25° × 50 levels
1 Oct 2021 to 26 Sep 2025, daily, monthly

Online catalogue
marine.copernicus.eu

Nearly 300
scientifically qualified
products
(100 models)

User driven

Common format
(Netcdf)

Open and Free



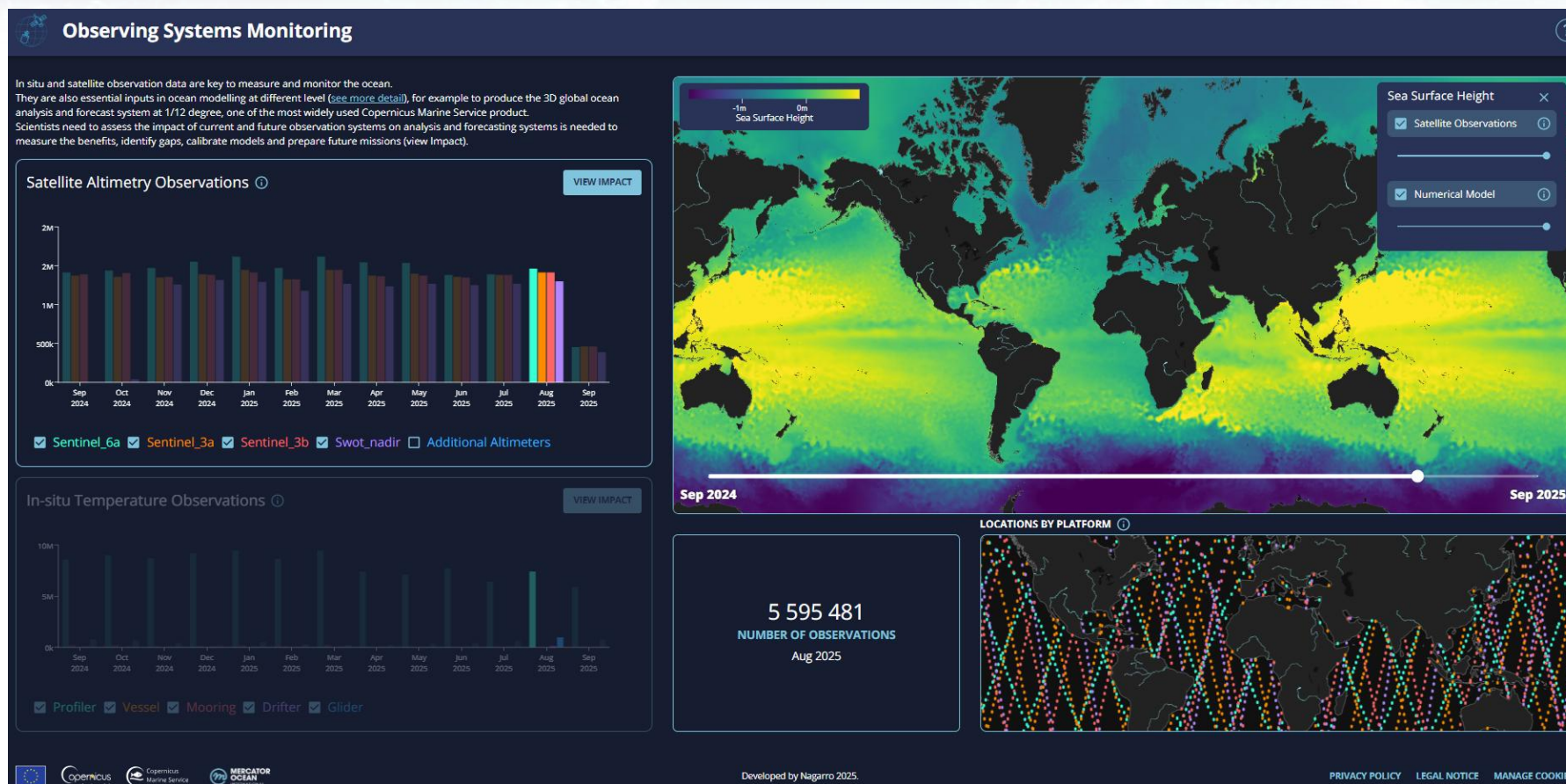
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Observing Systems Monitoring



Observing System Impact Application



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A satellite with solar panels is shown orbiting a vibrant blue ocean with white-capped waves. The satellite is positioned on the left side of the frame, angled towards the center. The ocean's surface is highly textured with numerous small, white foam caps.

THANK YOU

#EUdata4OceanDecade

DATA FOR THE
UN OCEAN DECADE
A EUROPEAN FOCUS