



DATA FOR THE UN OCEAN DECADE

A EUROPEAN FOCUS

Data from EUMETSAT towards Marine Applications

Dr Hayley Evers-King, Lead Marine Applications Expert (EUMETSAT)



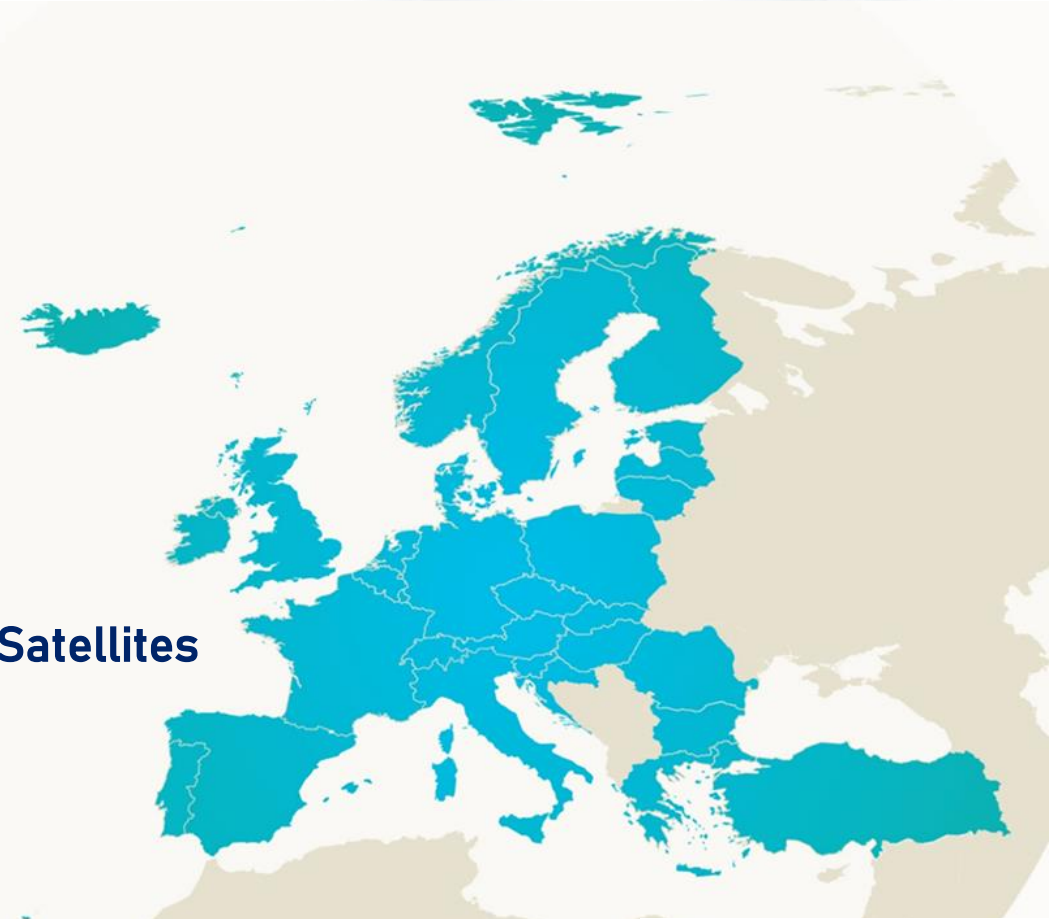
PROGRAMME OF THE
EUROPEAN UNION



In collaboration with
the UN OD Data
Coordination Office



EUMETSAT – operational satellite data for Europe

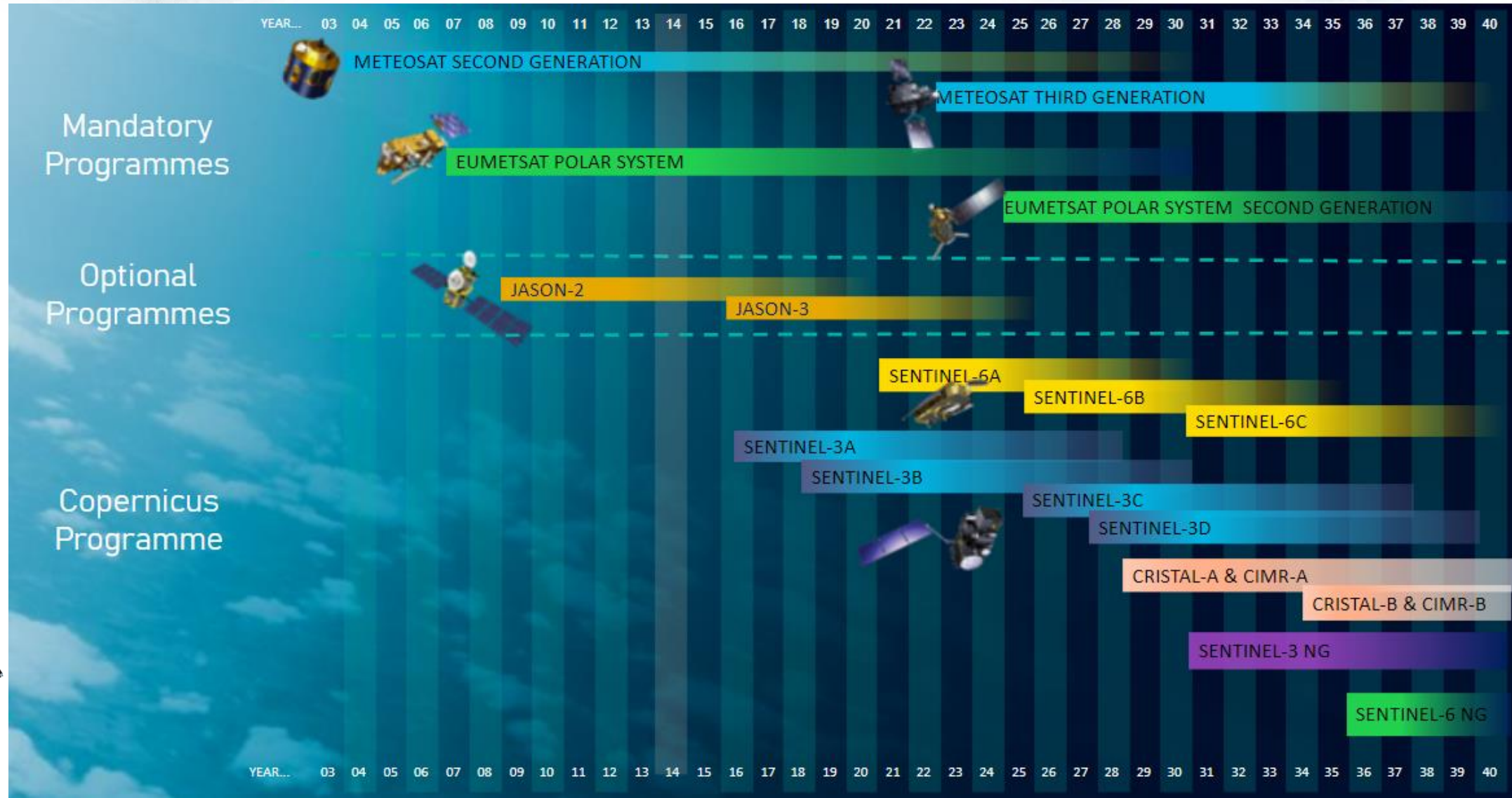


The European Organisation for the Exploitation of Meteorological Satellites

- Located in Darmstadt, Germany
- Founded in 1986, consists of 30 member states
- Two mandates:
 - Weather and Climate data for member states
 - Additional capabilities with EU and beyond:
 - Copernicus programme
 - Particularly with Africa (Weather, and GMES&Africa)



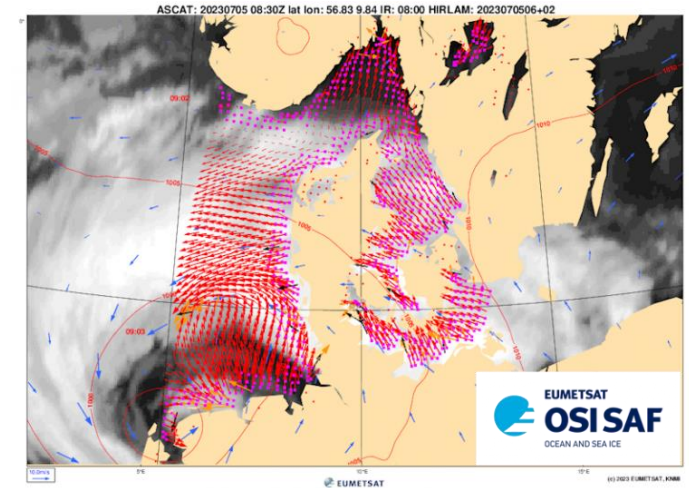
EUMETSAT operated marine missions: Present and planned...



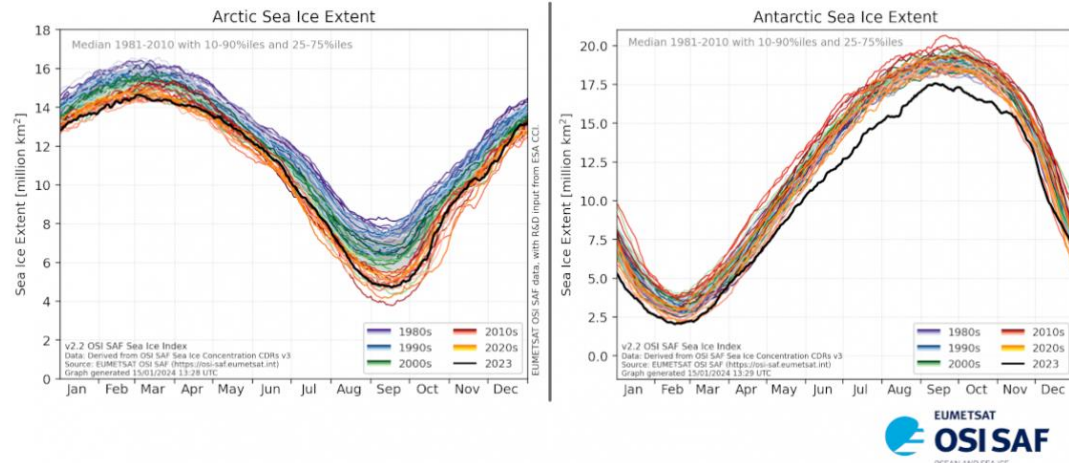
The Ocean and Sea Ice Satellite Applications Facility (OSI SAF)

Multi sensor, near-real time and climate data records

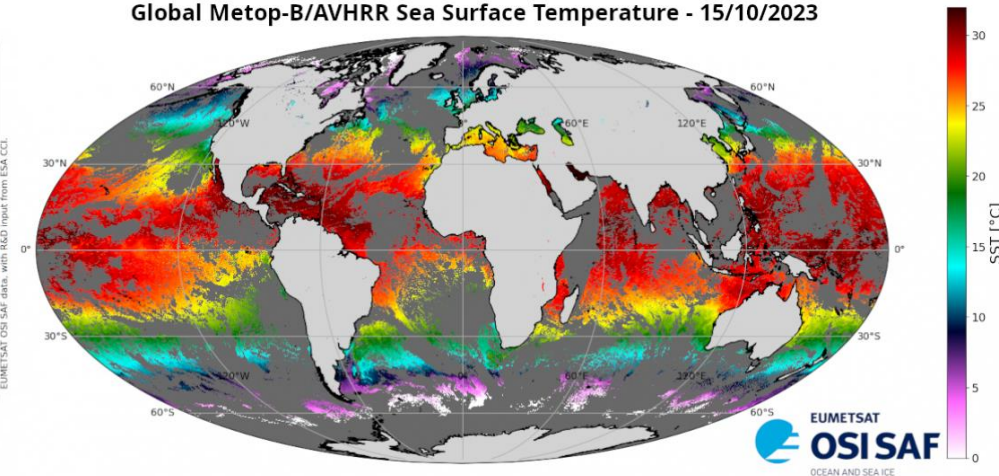
- Sea Surface Winds
- Sea Surface Temperature
- Sea Ice Parameters
- Radiative Fluxes



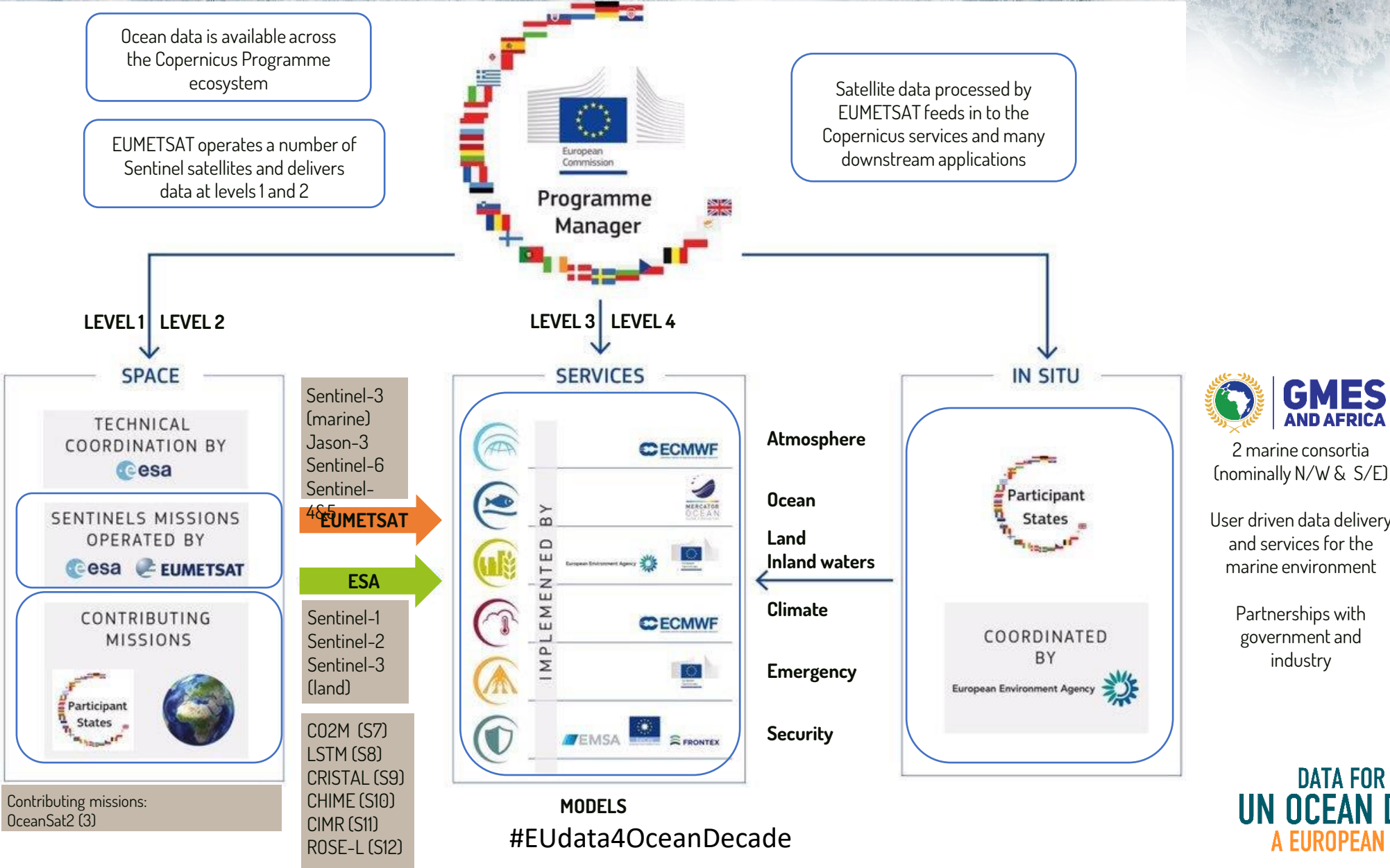
SEA ICE INDEX



Global Metop-B/AVHRR Sea Surface Temperature - 15/10/2023



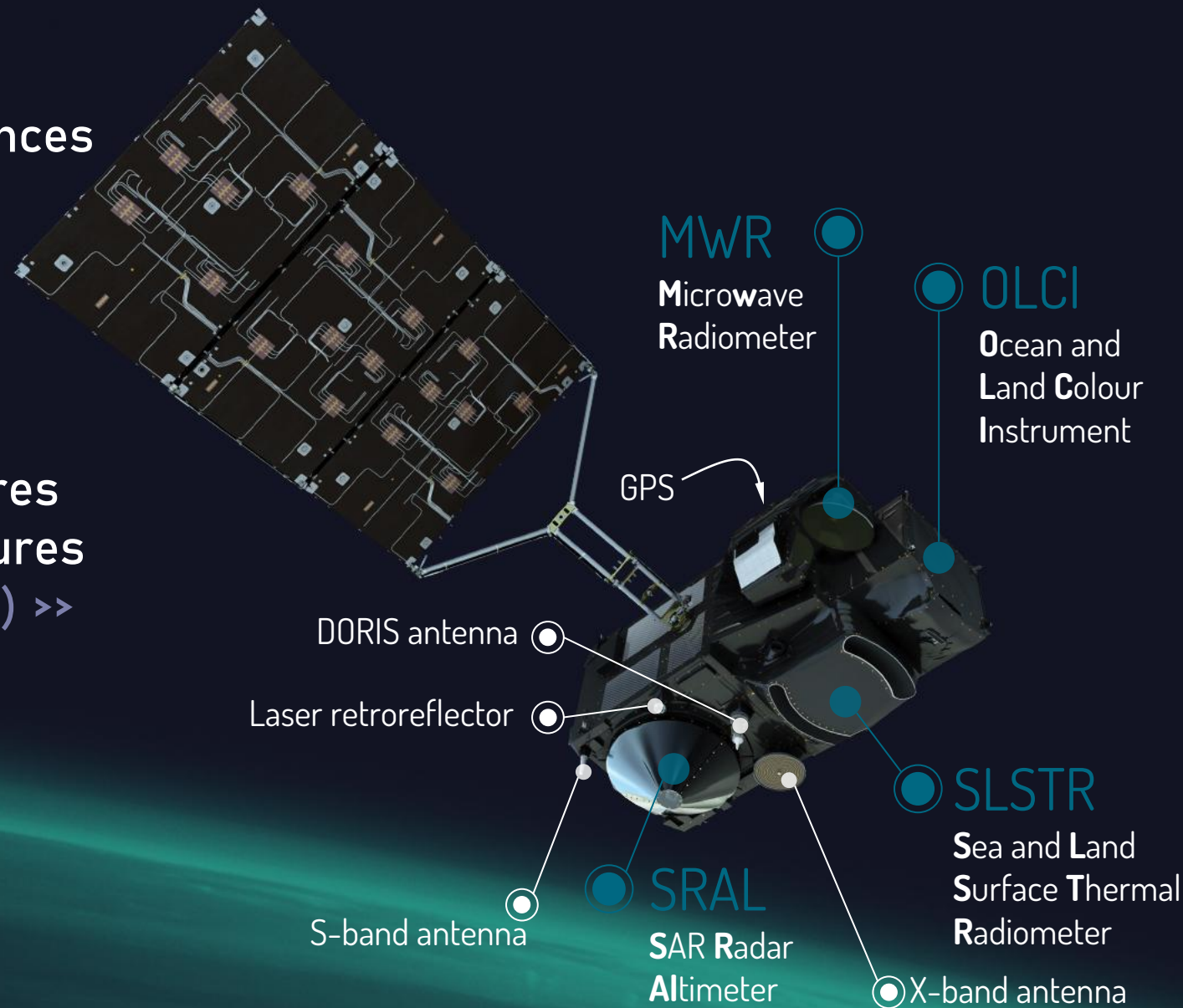
EUMETSATs role in Copernicus





Sentinel-3 instruments and variables

- **OLCI >> visible radiometry**
 - ocean colour: radiances & reflectances
 - 21 bands, 300m
 - chlorophyll, suspended sediment, CDOM
 - PAR / kd490
- **SLSTR >> thermal radiometry**
 - radiances & brightness temperatures
 - Sea and sea-ice surface temperatures
- **SRAL / MWR / POD (DORIS/GNSS/LRR) >> surface topography mission**
 - Sea surface height
 - Significant wave height
 - Wind speed



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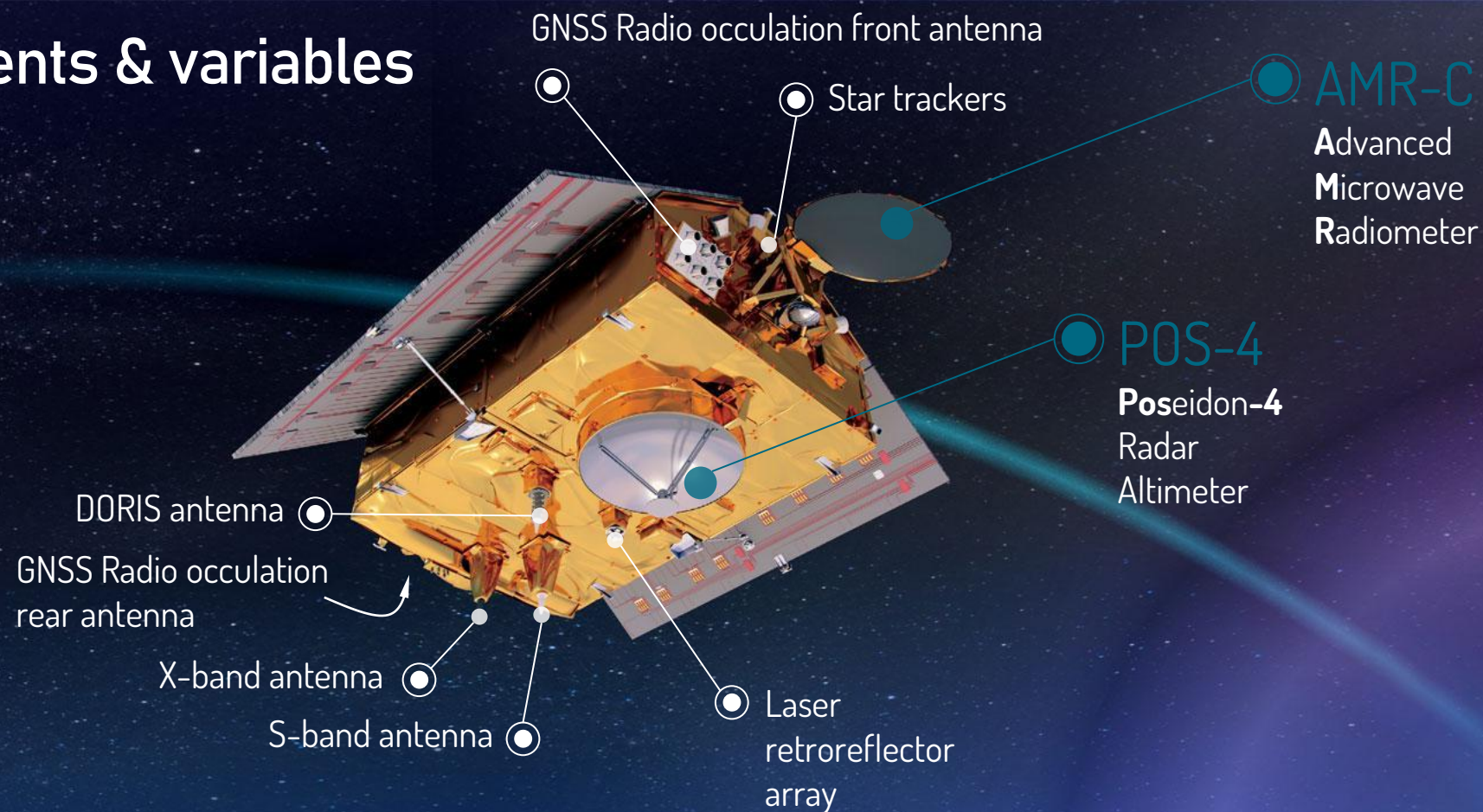
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Sentinel-6 instruments & variables

- **The altimetry reference mission**
 - Back compatible (climate continuity)
 - state-of-the-art (open burst transmission, low noise, improved resolution)
- **POS-4 / AMR-C / POD (DORIS/GNSS/LRR)**
 - Sea surface height
 - Significant wave height
 - Wind speed



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PLUS WEATHER!

copernicus.eumetsat.int



ALTIMETRY
(& SAR)

SEA SURFACE
TEMPERATURE

Ocean currents
Weather forecasting
Storm dynamics
Maritime safety
Eddies
Thermocline

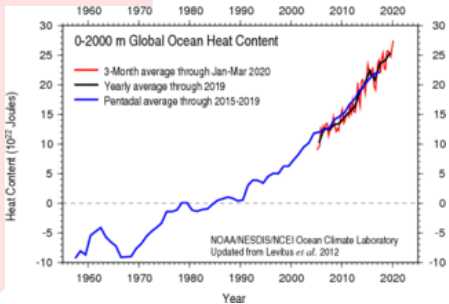
Essential Climate Variables
Climate Model Assimilation
Marine Spatial Planning
Env. Impact Assessment

Disaster response
Insurance Risk
Ocean Fronts
ENSO

Fishing Zones
River plumes
Aquaculture productivity
Coral bleaching
Human health

Pollutant transport
Ice detection
Oil pollution
Internal waves
Debris
Biological transport (blooms, genetics)

OCEAN
COLOUR



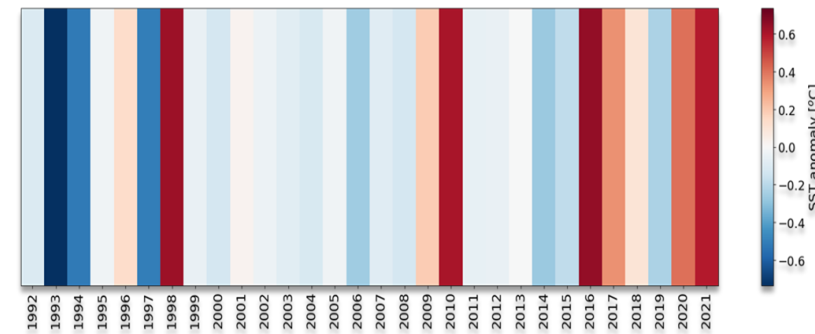
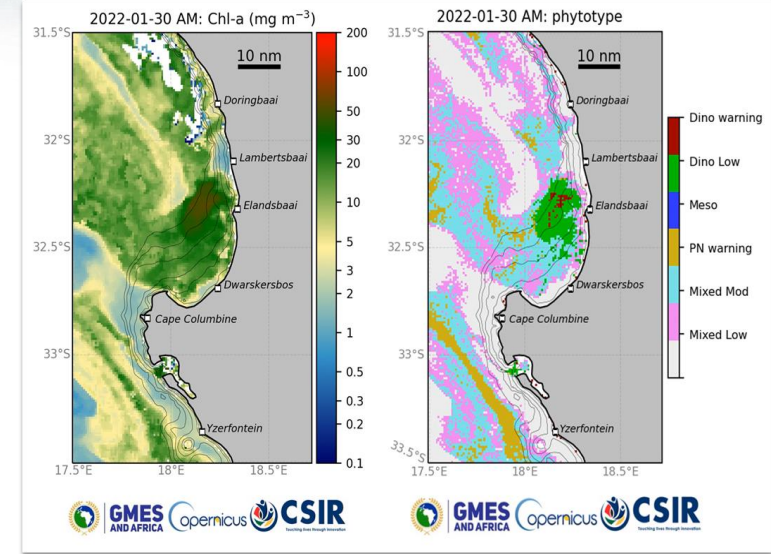
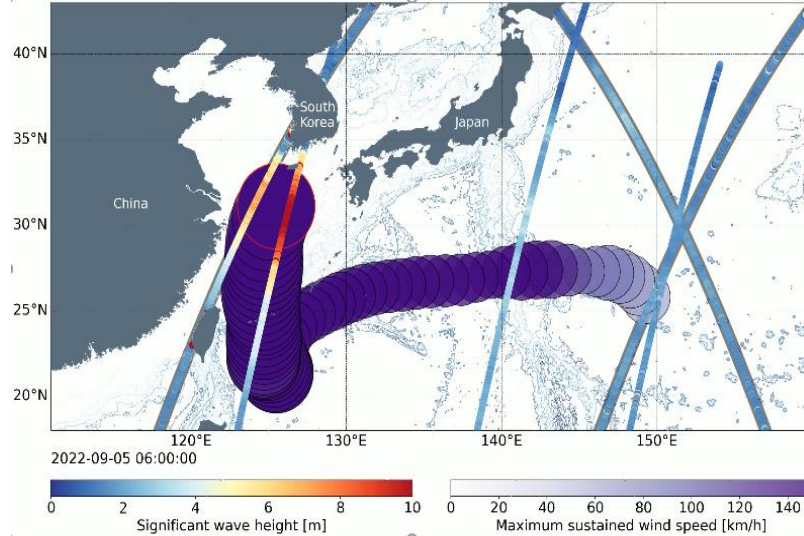
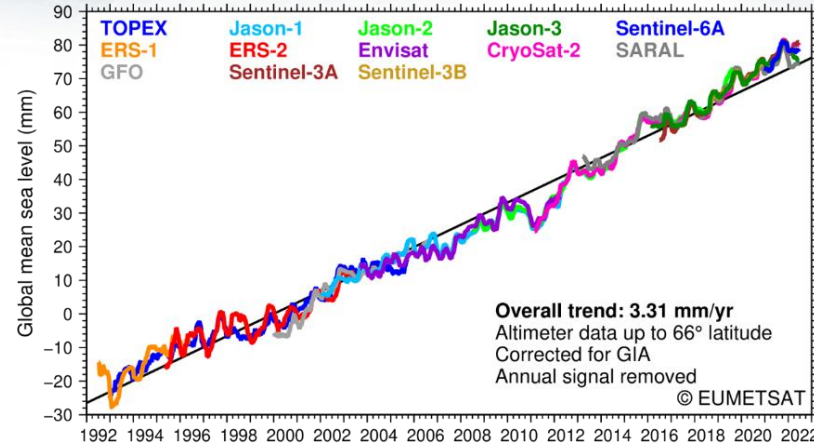
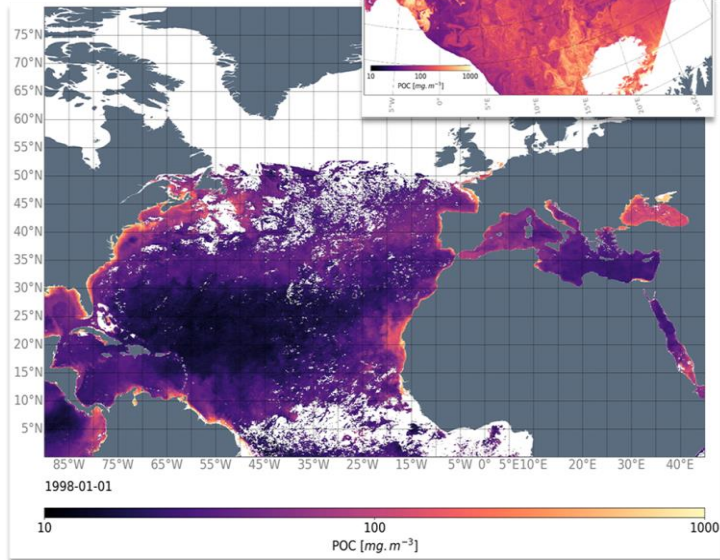
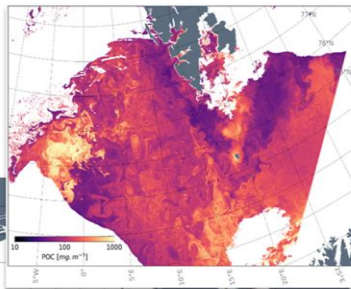
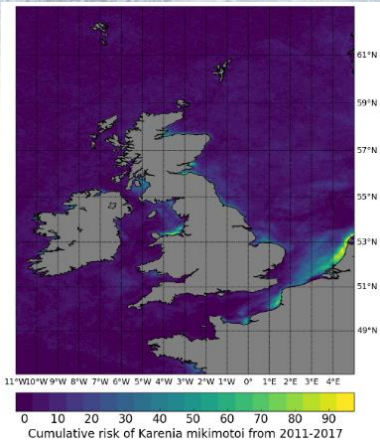
PLUS CLIMATE!



PLUS LAND!

Our data at work....

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Our data for the UN Ocean Decade

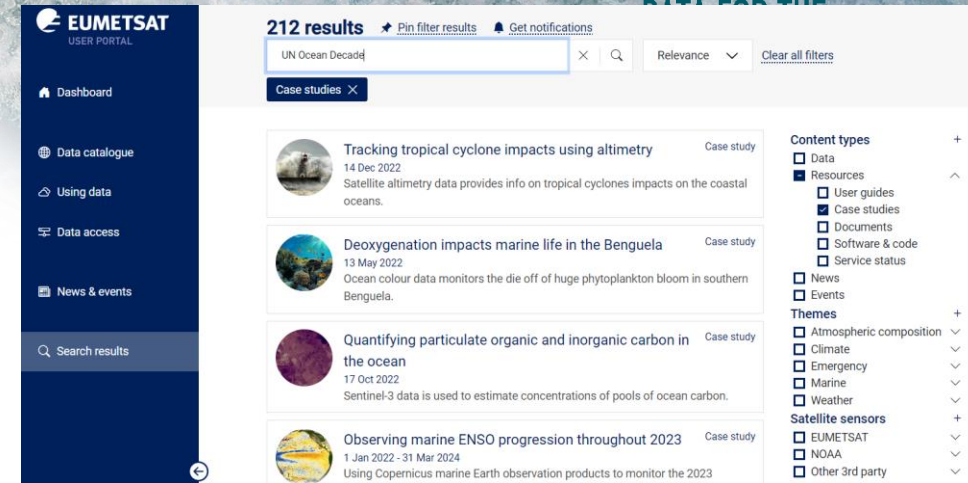
A UNOD endorsed action: A series of case studies designed to show how our data can be used to meet the challenges of the UN Ocean Decade.

Each case study includes:

- Web article – within EUMETSAT case study library
- Jupyter notebook
 - Narrative explaining data and use case
 - Data access
 - Analysis and visualization

Compatibility with WEkEO, also including downstream CMEMS products when appropriate to applications.

<https://gitlab.eumetsat.int/eumetlab/oceans/oceantraining/applications/ocean-case-studies>



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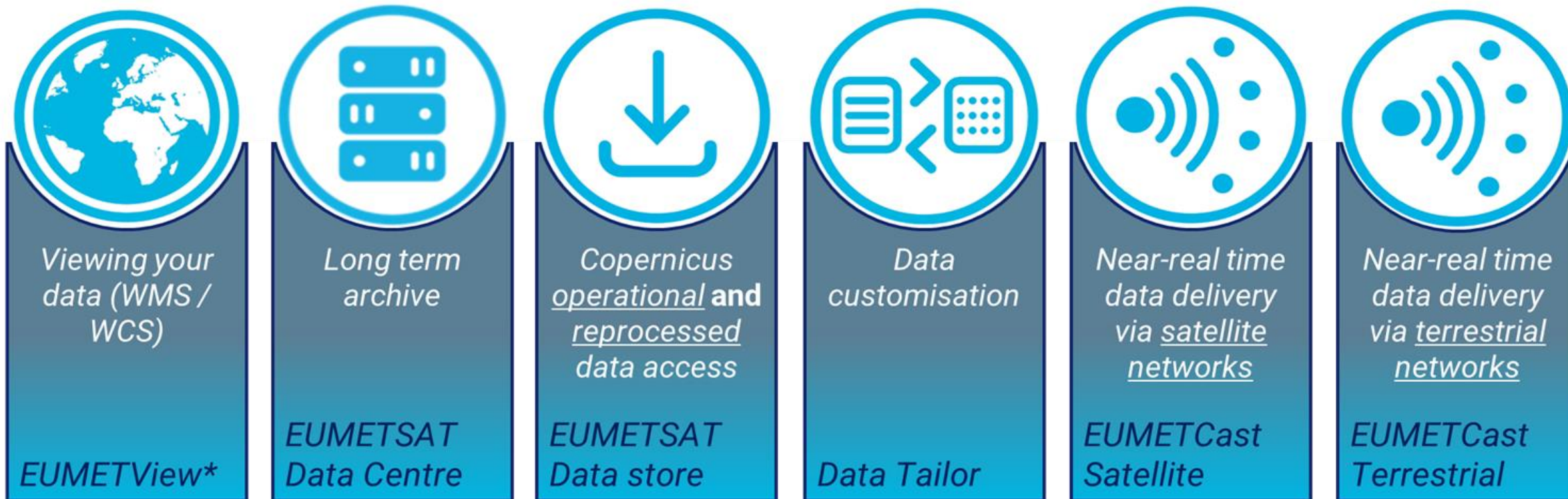


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EUMETSAT Data Access Services

← Pull services Push services →



*new generation



WEkEO provides harmonised access to Copernicus satellite and service data (and more), as well as supporting compute resources – www.wekeo.eu

EUMETSAT Marine User Support and Training

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EUMETSAT Helpdesk

OPS@eumetsat.int

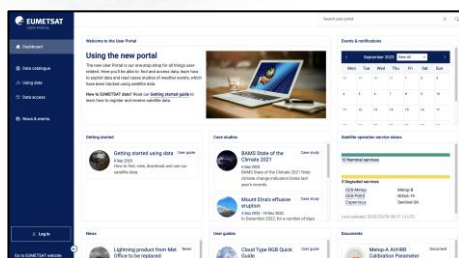
User portal

Courses

Contact the EUMETSAT helpdesk with any questions about EUMETSAT data products or services

EUMETSAT
User
Support
Resources

Copernicus
& mandatory
missions
Data access



moodle



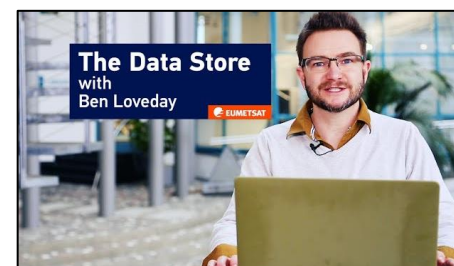
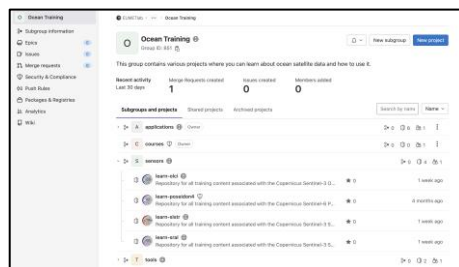
Code distribution

Video tutorials

CONDA



GitLab

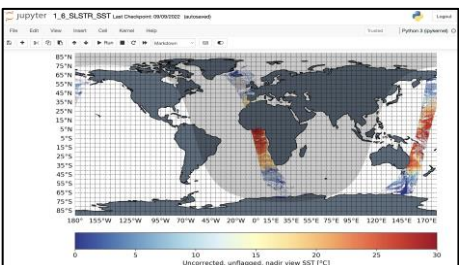


YouTube

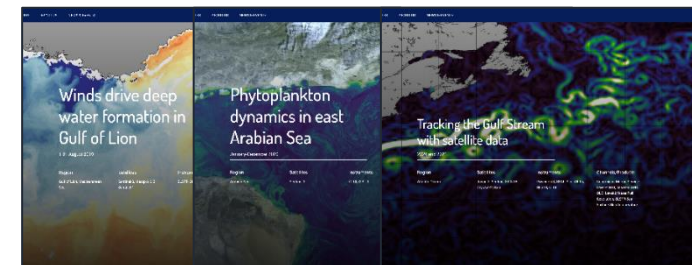


Jupyter Notebooks

Case studies



Cloud
services



FUTURE
FOCUS

Weather and
climate data
like never before

5-6th November 2024 in Lisbon

REGISTER NOW: <https://www.eventsforce.net/marineuserdays>

MARINE USER DAYS



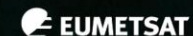
Lisbon, Portugal
5-6 November 2024



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A satellite with solar panels is shown orbiting a turbulent ocean surface. The satellite is positioned on the left side of the frame, with its solar panels extended. The ocean below is characterized by large, white-capped waves, creating a high-contrast, textured appearance. The overall color palette is dominated by various shades of blue and white.

THANK YOU

#EUdata4OceanDecade

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