

A world map showing altimetry data. The map uses a color scale from purple (low) to red (high) to represent sea level anomalies. The data is overlaid on a satellite-style map of the world, showing continents and oceans. The map is partially obscured by a dark blue semi-transparent box containing text.

Monitoring and modelling of extreme waves using altimetry

Eumetsat short course 44

13 March 2024, 12:00 UTC (13:00 CET)



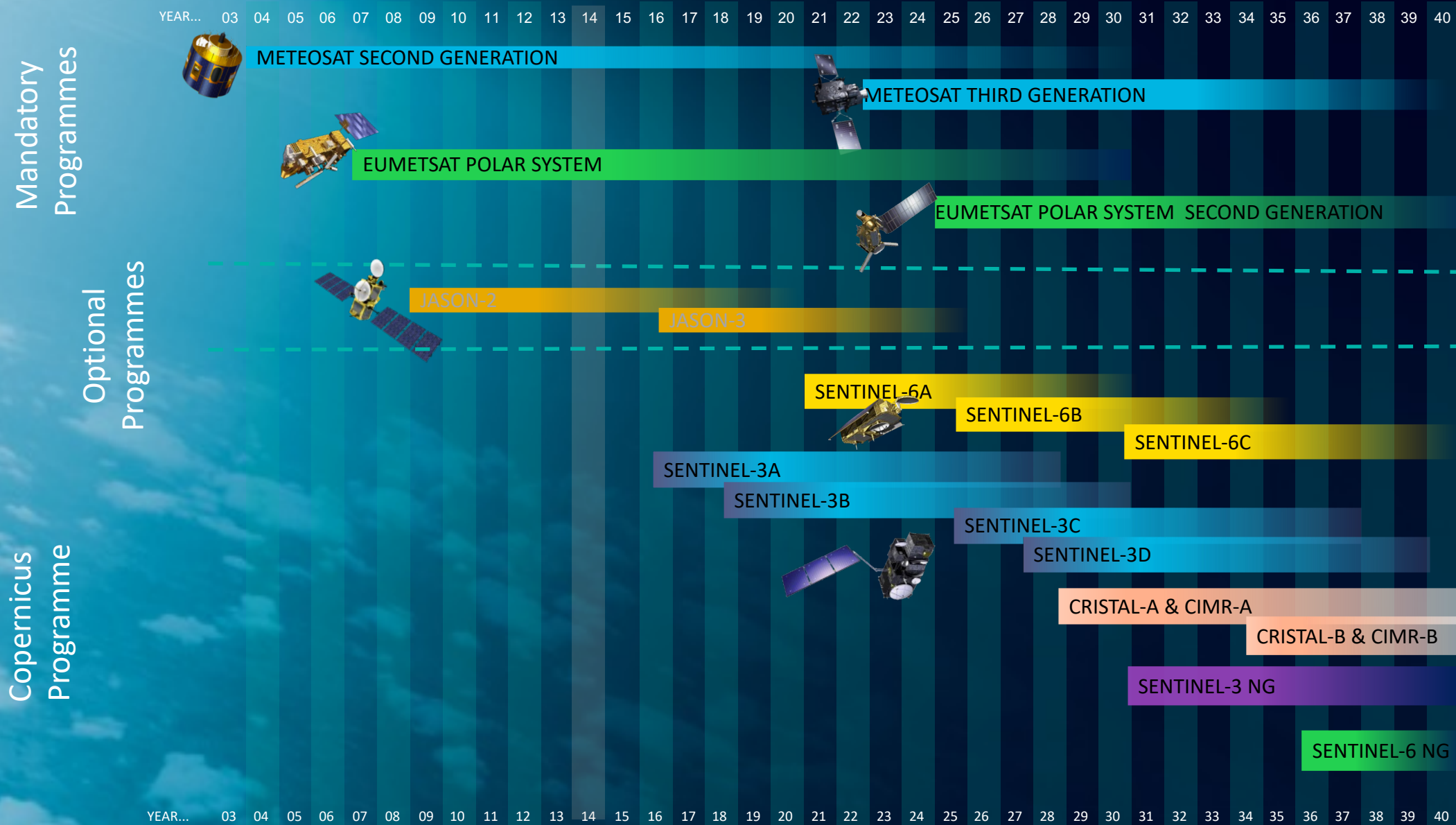
The European Organisation for the Exploitation of Meteorological Satellites

- 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)



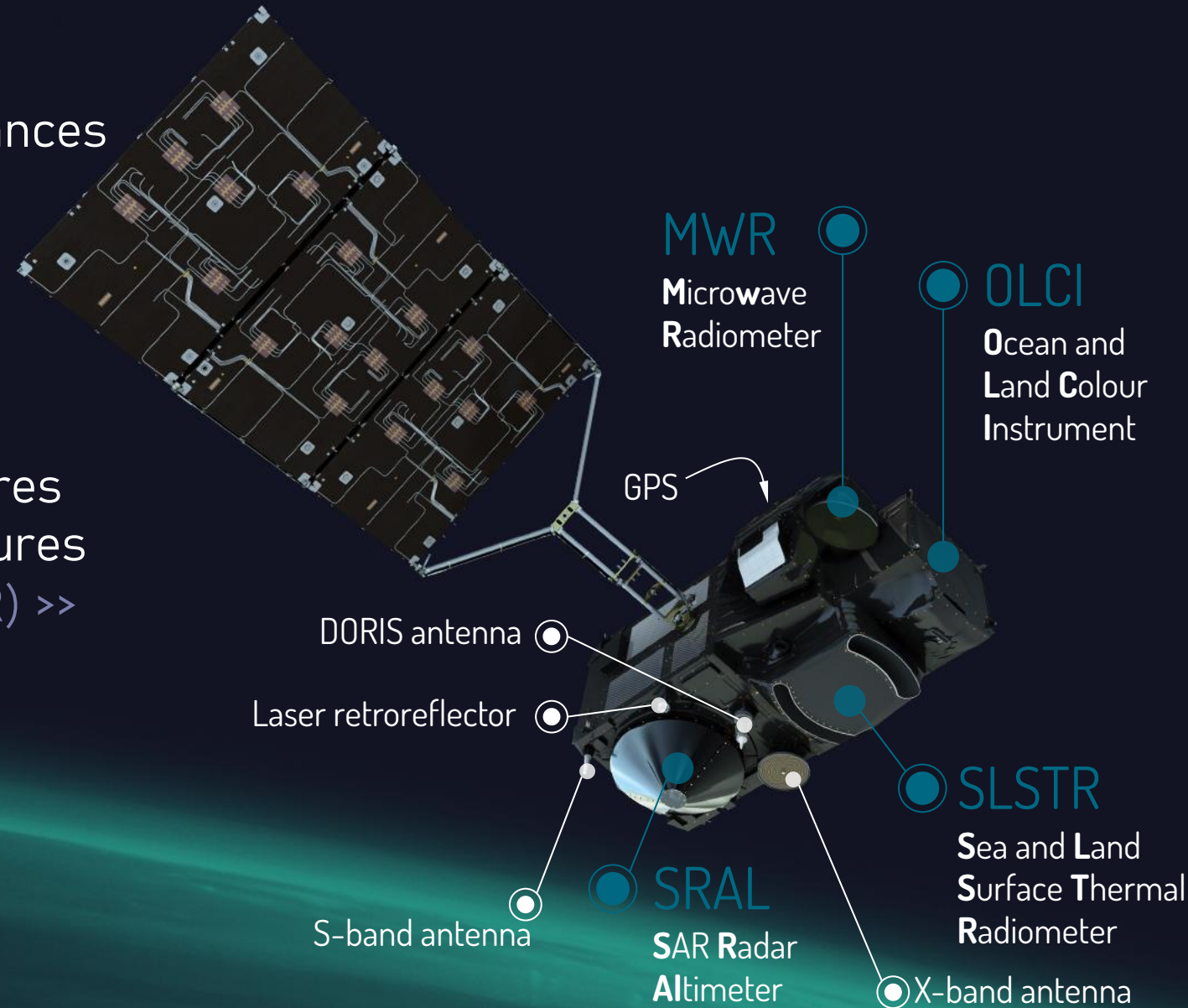


EUMETSAT missions: current and future



Sentinel-3 instruments and variables

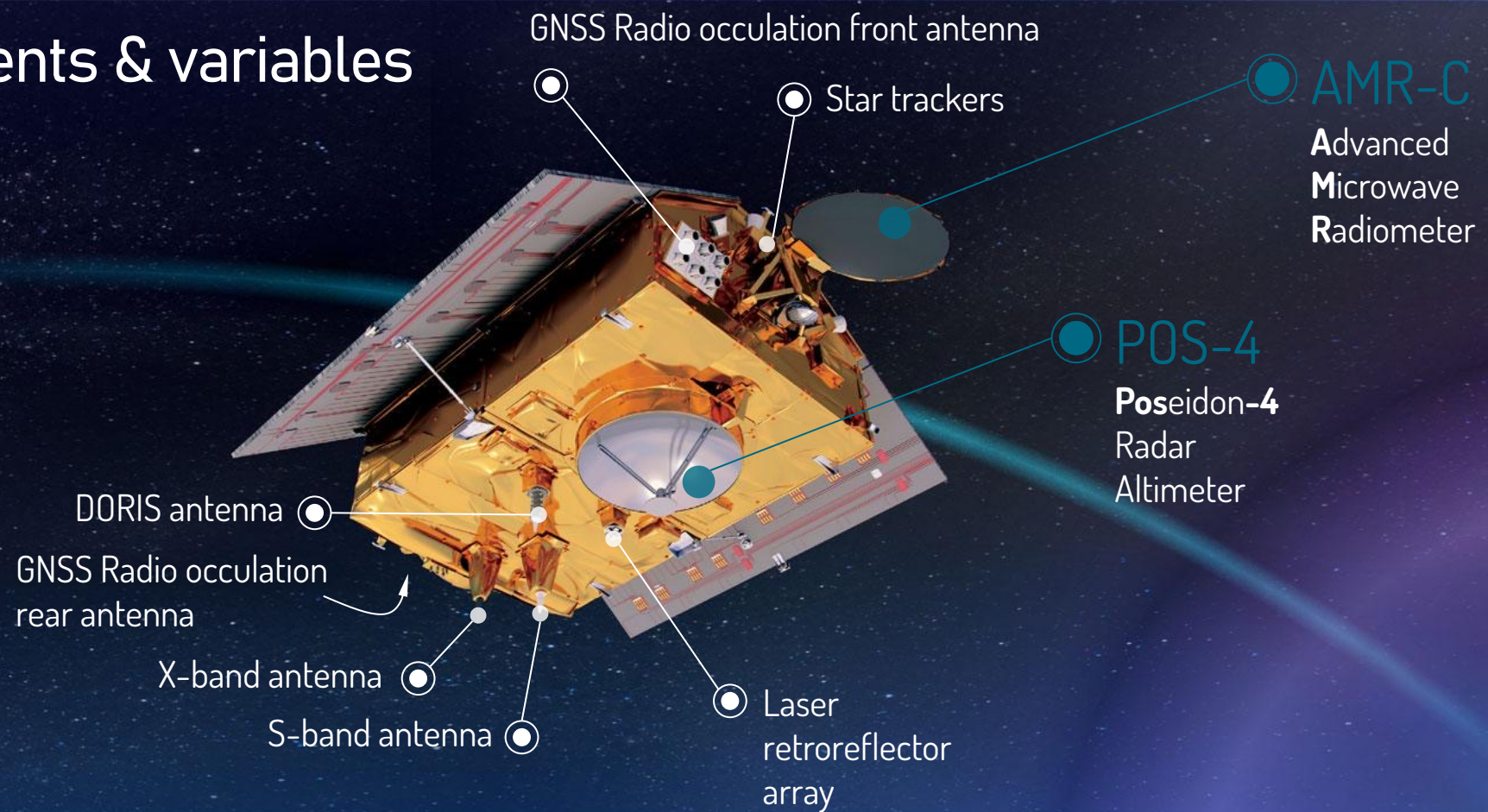
- **OLCI >> visible radiometry**
 - ocean colour: radiances & reflectances
 - 21 bands, 300m
 - chlorophyll, suspended sediment, CDOM
 - PAR / kd490
- **SLSTR >> thermal radiometry**
 - radiances & brightness temperatures
 - Sea and sea-ice surface temperatures
- **SRAL / MWR / POD (DORIS/GNSS/LRR) >>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





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





Marine User Support and Training Resources

copernicus.eumetsat.int

EUMETSAT Helpdesk

OPS@eumetsat.int

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

Courses

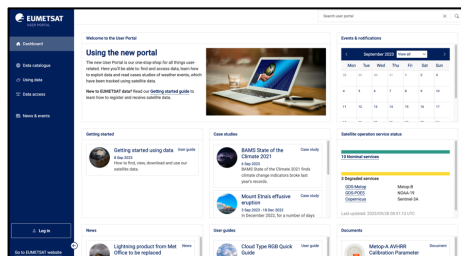


Supporting Marine Earth Observation Applications

AI FOR EARTH MONITORING MOOC



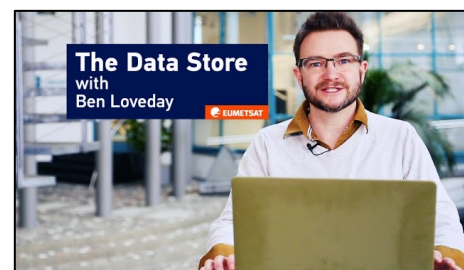
User portal (first release available!)



Copernicus & mandatory missions
Data access

EUMETSAT User Support Resources


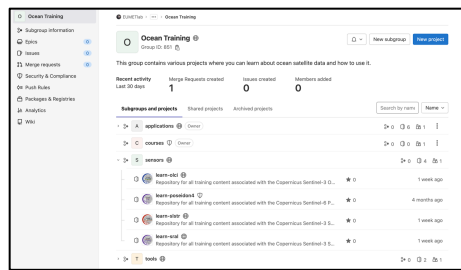
Video tutorials



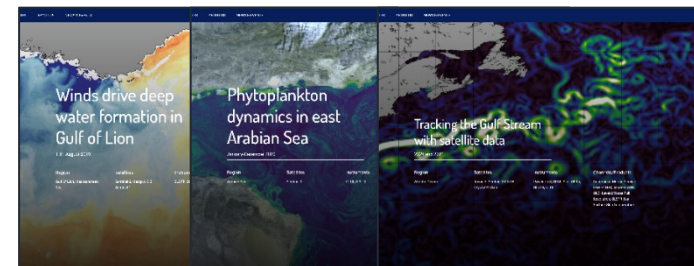
YouTube




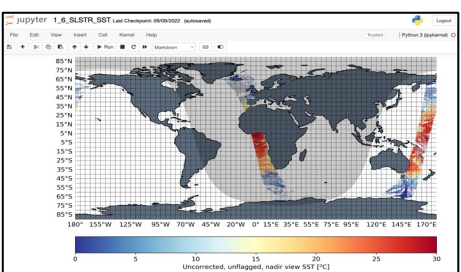
Code distribution

Case studies



Jupyter Notebooks

Cloud services






- Understand the altimeter significant wave height measurements, and the complementarity of other data sources
- Know how to access altimetry data at EUMETSAT.
- Understand why this is interesting for marine weather models & forecasts (global dataset, extreme & statistics, etc.), and what are the limitations
- Learn about recent developments (SAR–altimetry) & their impact on wave height measurements
- Know how to extract and use significant wave height.

Q&A: [slido.com](https://www.slido.com) #EUMSC44



Thank you!
Questions are welcome.