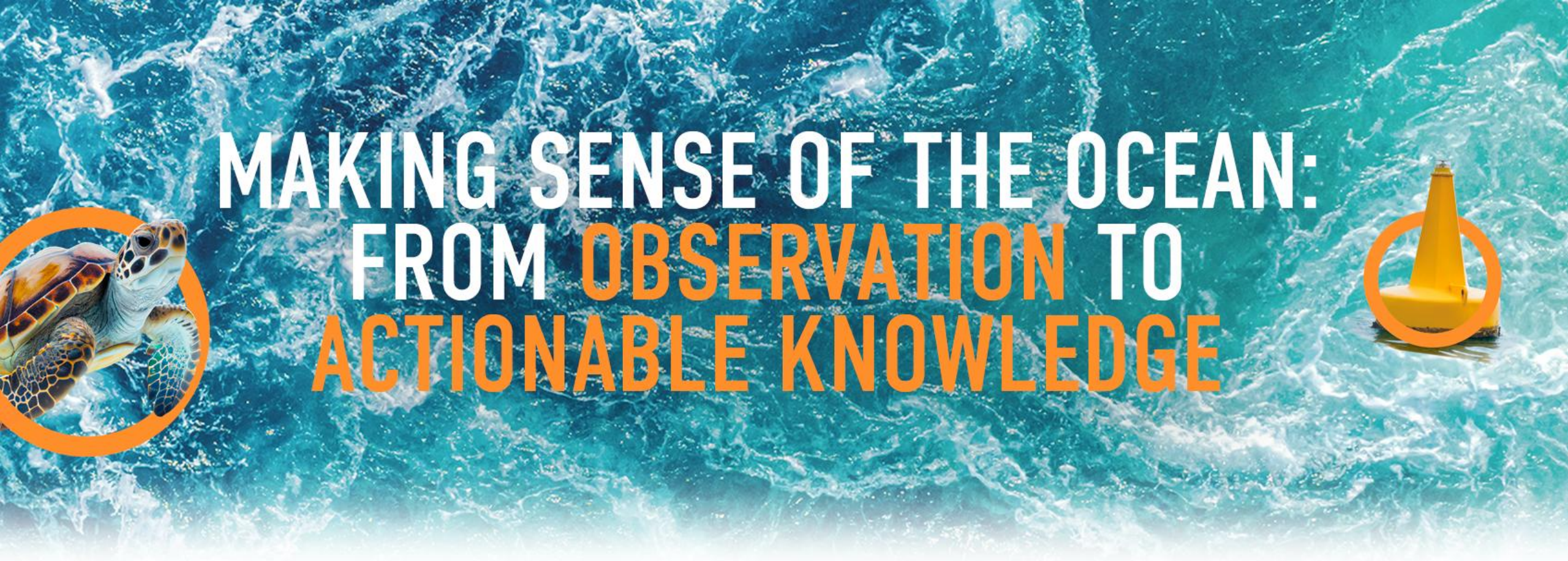


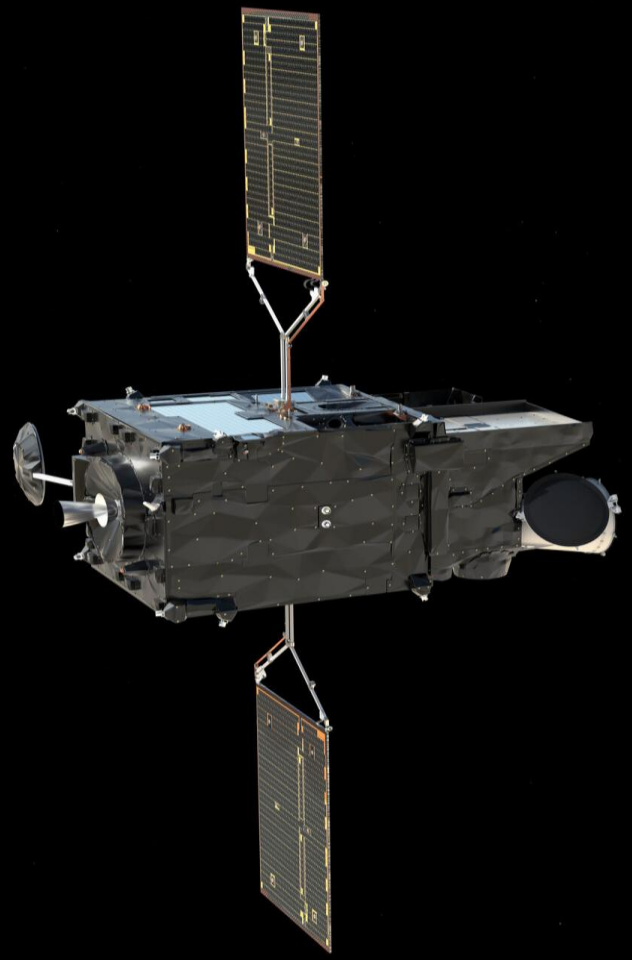
Monitoring Our Oceans From Space

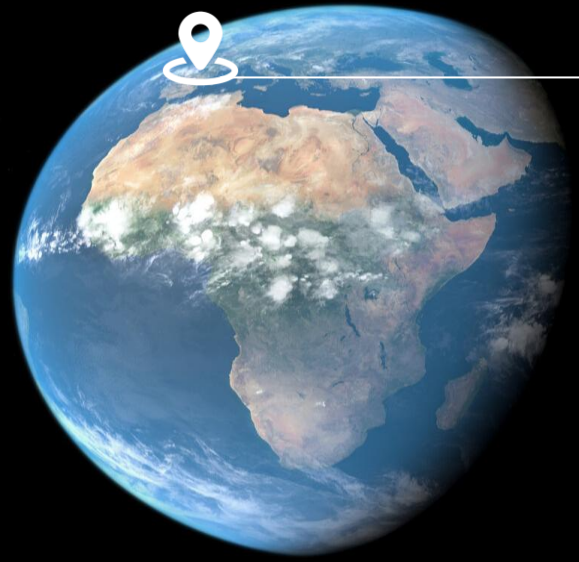
EUMETSAT: Joana Brito, PhD | Earth Observation Support Specialist

joana.brito@external.eumetsat.int

PROGRAMME OF THE EUROPEAN UNION · Copernicus Europe's eyes on Earth · EUMETSAT · Copernicus Marine Service · MERCATOR OCEAN INTERNATIONAL · EMODnet · ECOP · In collaboration with the UN OD Data Coordination Office · Ocean Data Sharing

European Organisation for the Exploitation of Meteorological Satellites





WHO

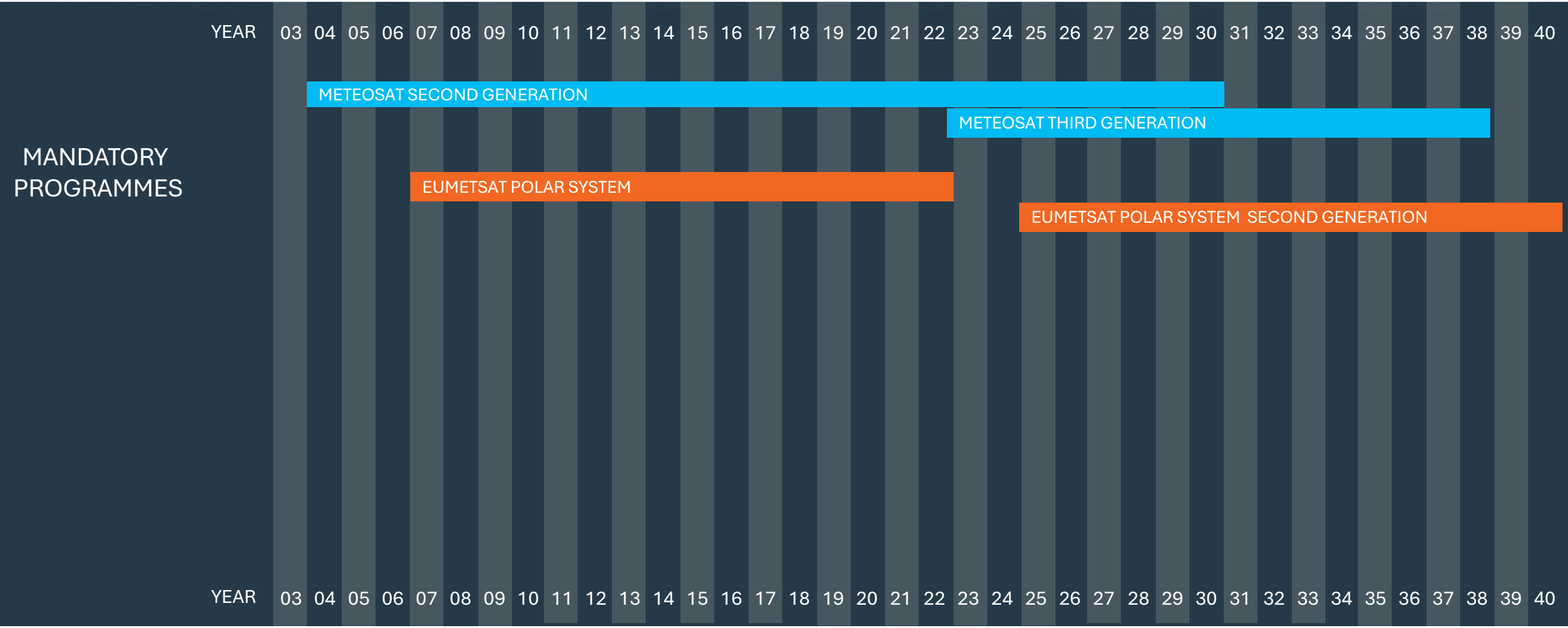
European operational satellite agency for monitoring weather, climate and the environment

WHAT

Operate a system of meteorological satellites that observe the atmosphere and ocean and land surfaces – 24 hours a day, 365 days a year

#EUdata4OceanDecade

EUMETSAT monitors our weather, climate and oceans from space



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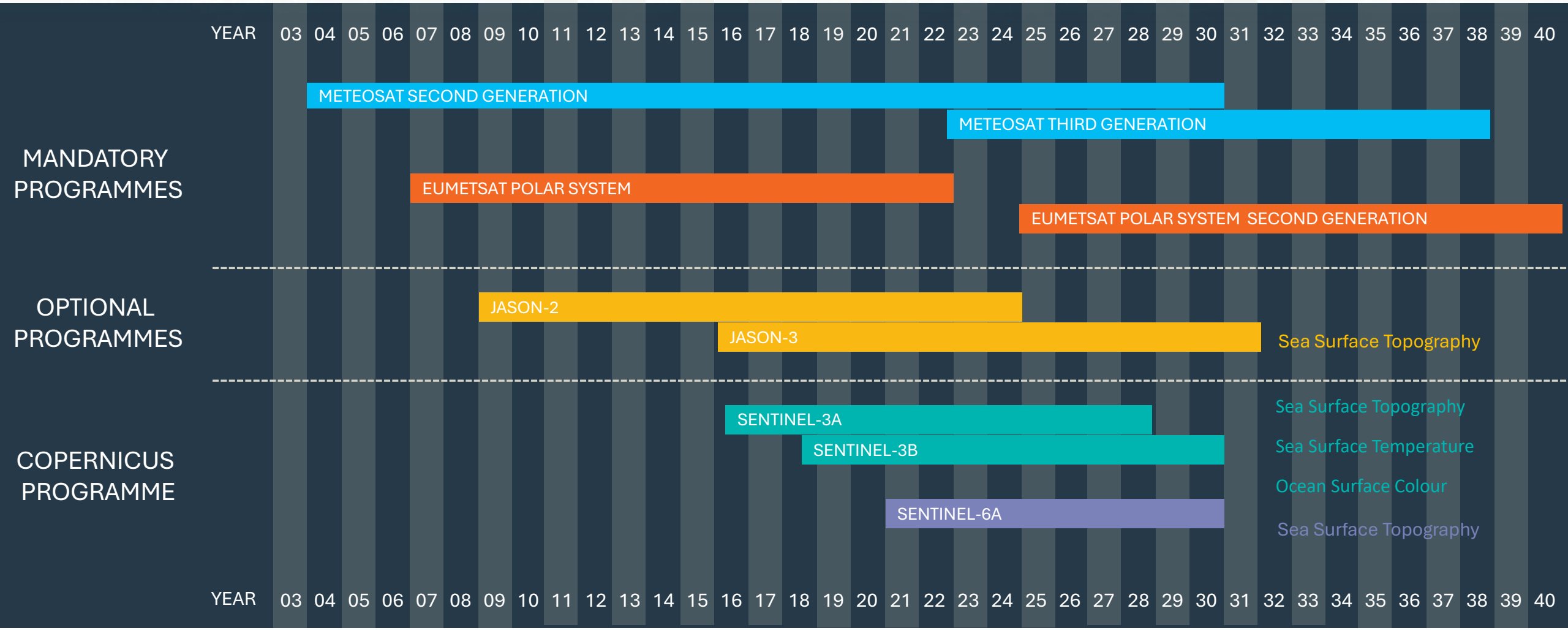
EUMETSAT monitors our weather, climate and oceans from space



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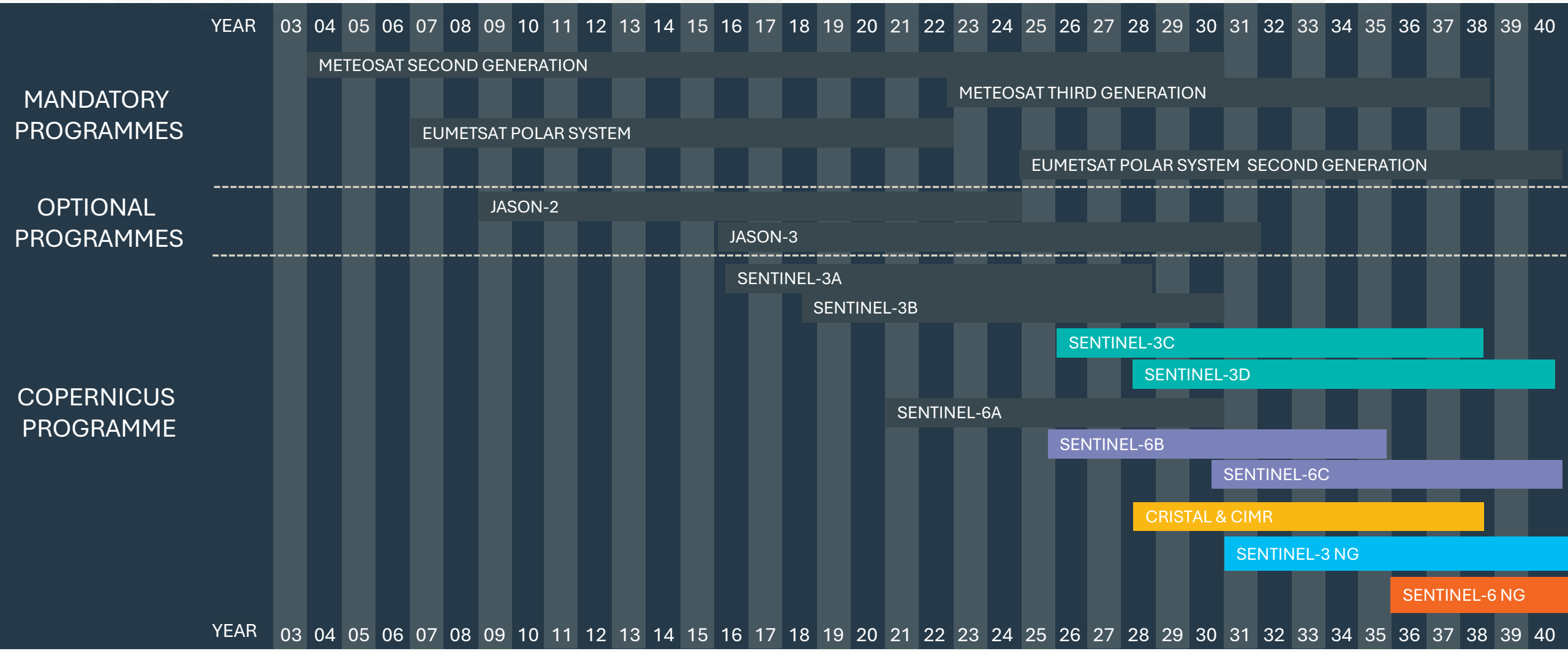
EUMETSAT monitors our weather, climate and oceans from space



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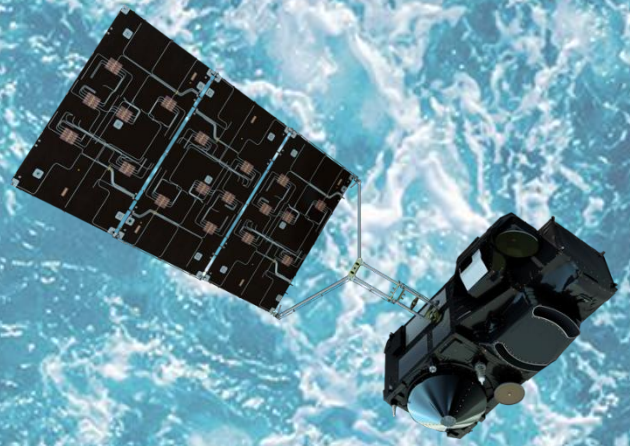

Challenge 7:
Sustainably Expand The Global Ocean Observing System

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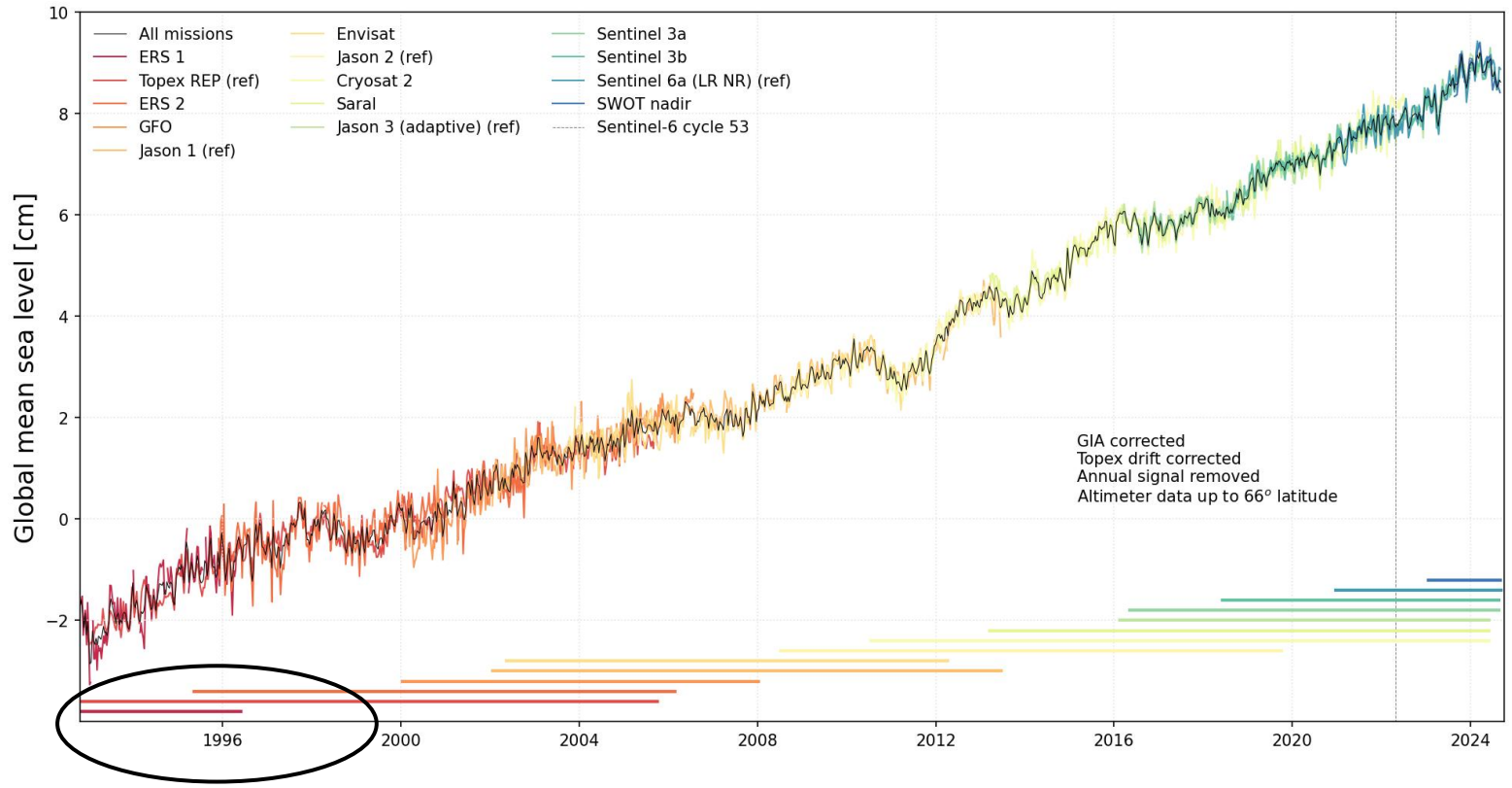
Challenge 7: Expand The Global Ocean Observing System

Monitoring Sea Level from Space



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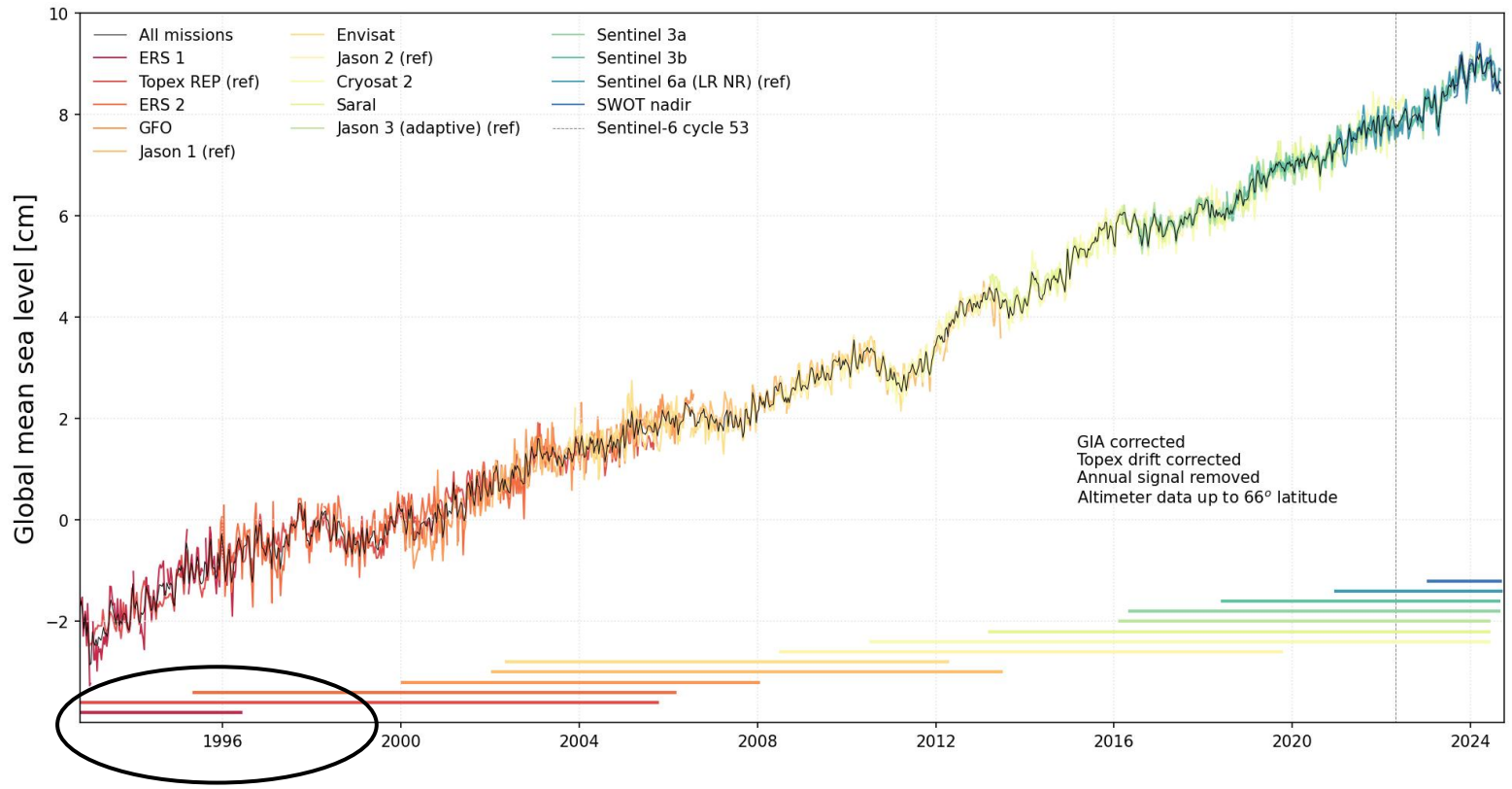
Challenge 7: Expand The Global Ocean Observing System

Monitoring Sea Level from Space



↑ ~ 11 cm

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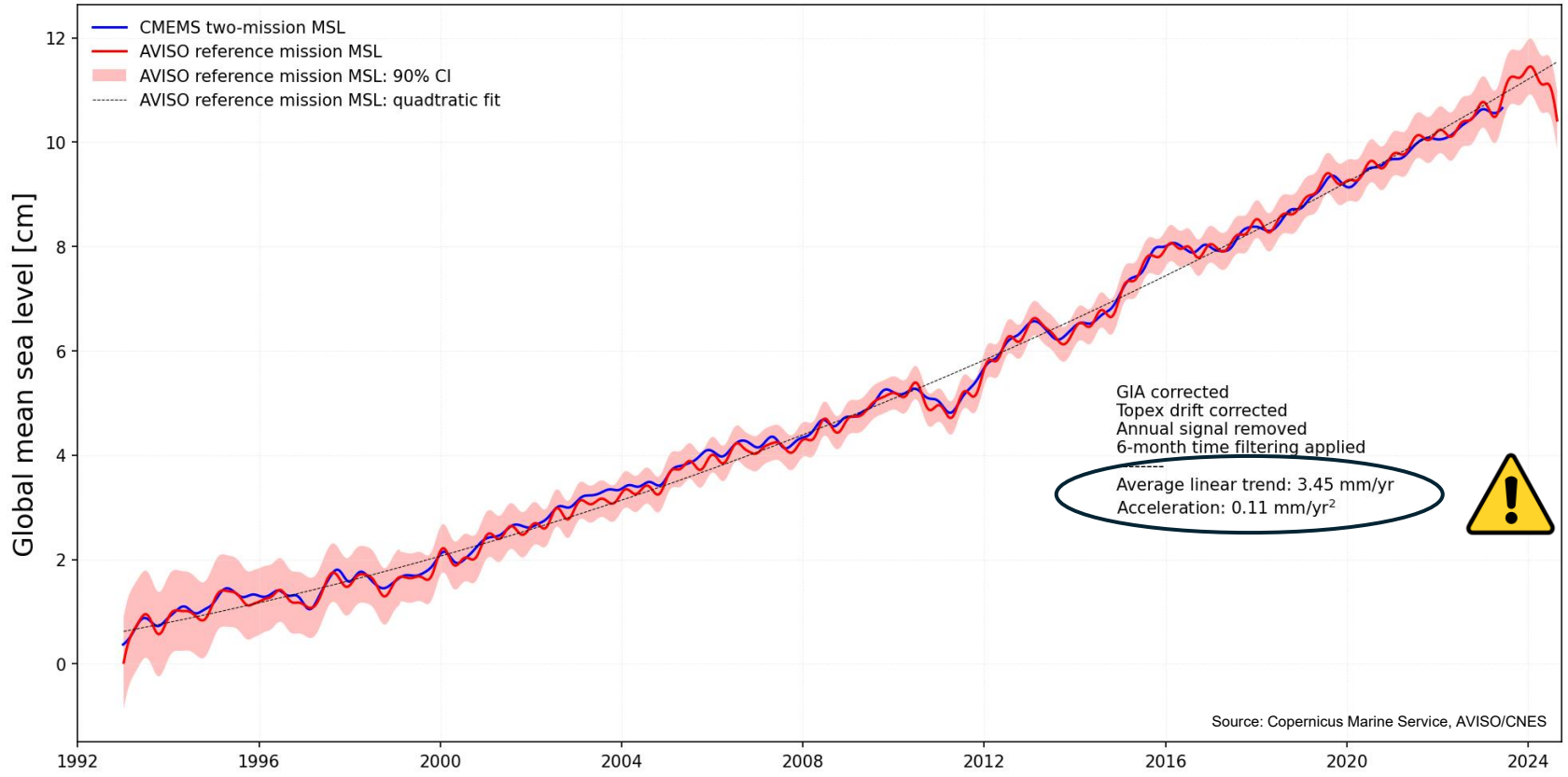
Challenge 7: Expand The Global Ocean Observing System

Monitoring Sea Level from Space



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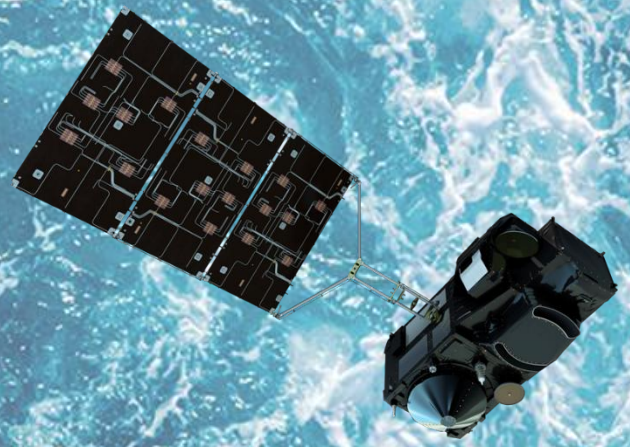

The continuity and precision of the reference altimetry missions - TOPEX/Poseidon, Jason-1, Jason-2, Jason-3, and now Sentinel-6 Michael Freilich – has been key to detect both the rise and acceleration of sea level

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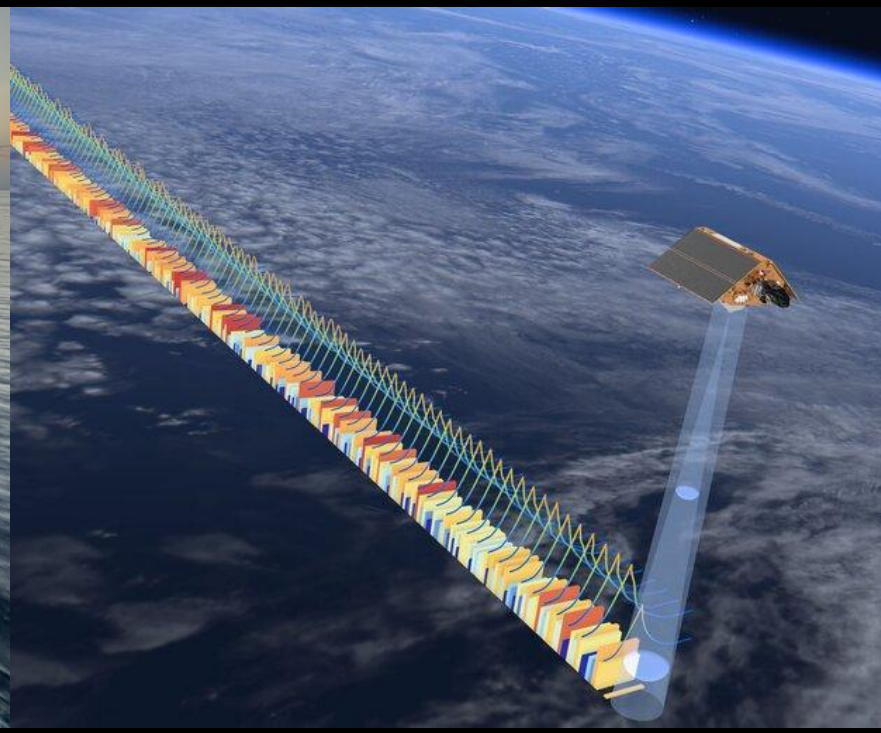
Challenge 7: Expand The Global Ocean Observing System

🚀 **Sentinel-6B will be launched later this year to assume the role of the reference radar altimetry mission!**



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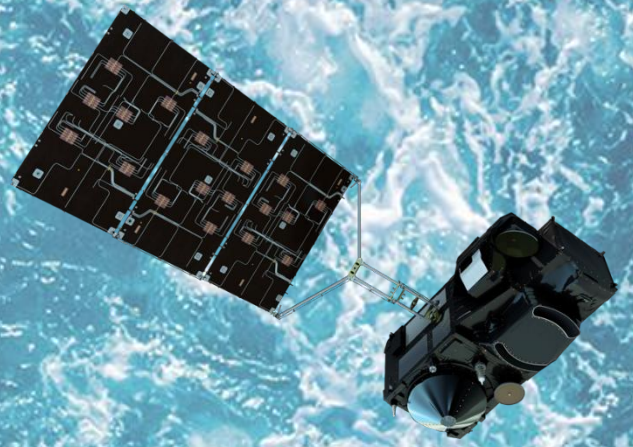

Challenge 8:
Create a Digital Representation of the Ocean

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Challenge 8: Create a Digital Representation of the Ocean

#EUdata4OceanDecade

Challenge 8: Create a Digital Representation of the Ocean

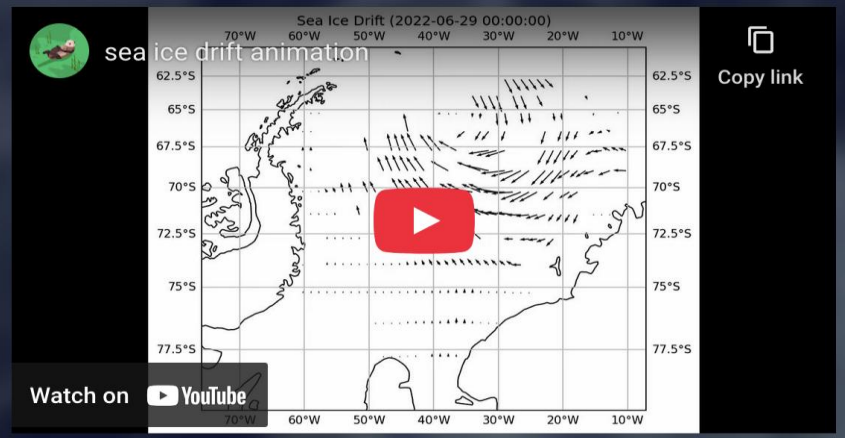
Destination Earth | dea User Stories

A23A

A journey begins...

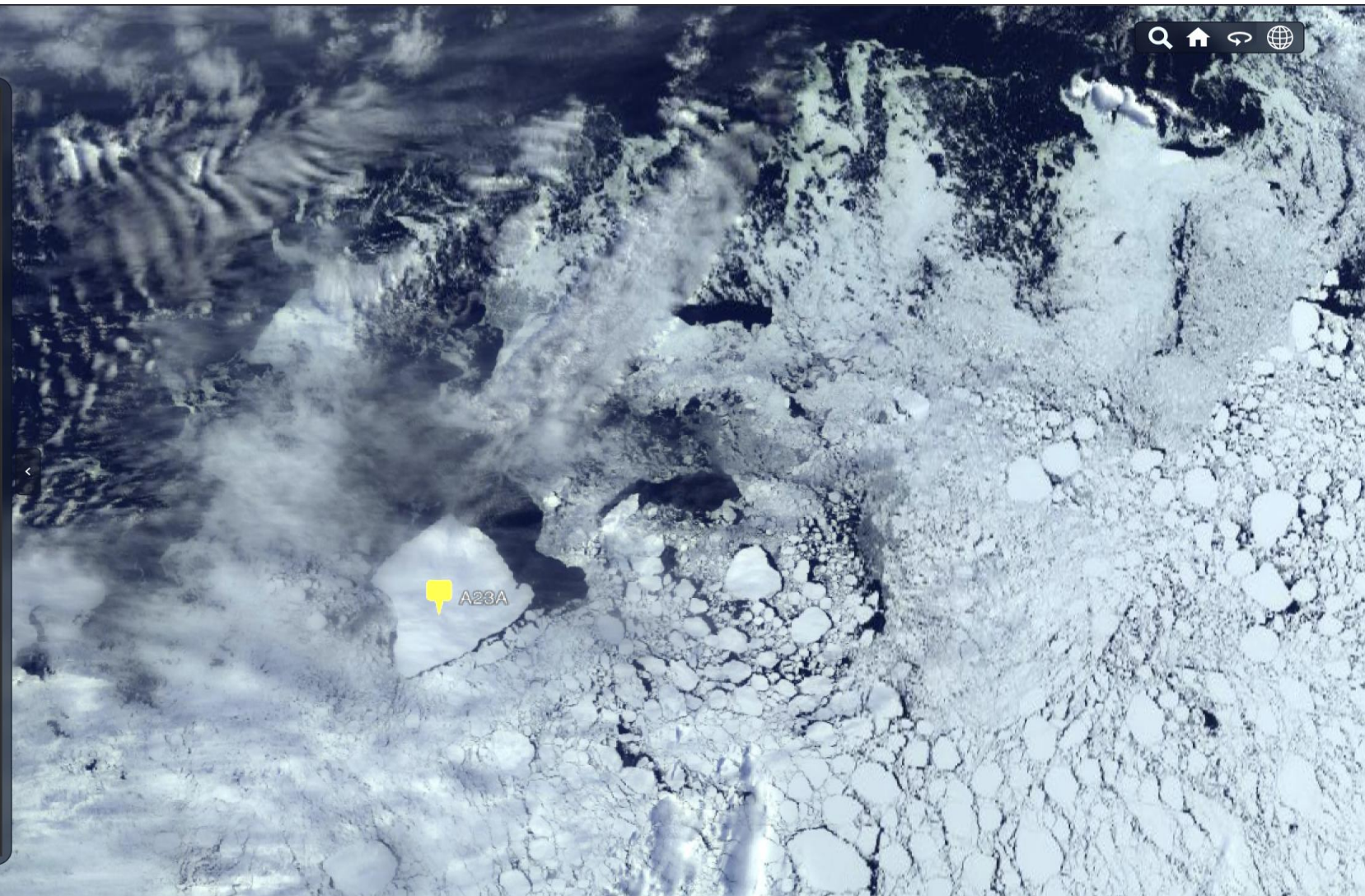
The story of A23A begins over 40 years ago, when it calved from Filchner–Ronne Ice Shelf in 1986. For much of its life after this it remained anchored to the seabed, finally breaking loose in 2020.

During summer, when the sea ice breaks apart, its drift can be measured using microwave radiometers (e.g. AMSR). The short animation below shows the daily drift of the Weddell Sea sea ice between 2020 and 2023, covering the period until A23A reached the tip of the Antarctic Peninsula.

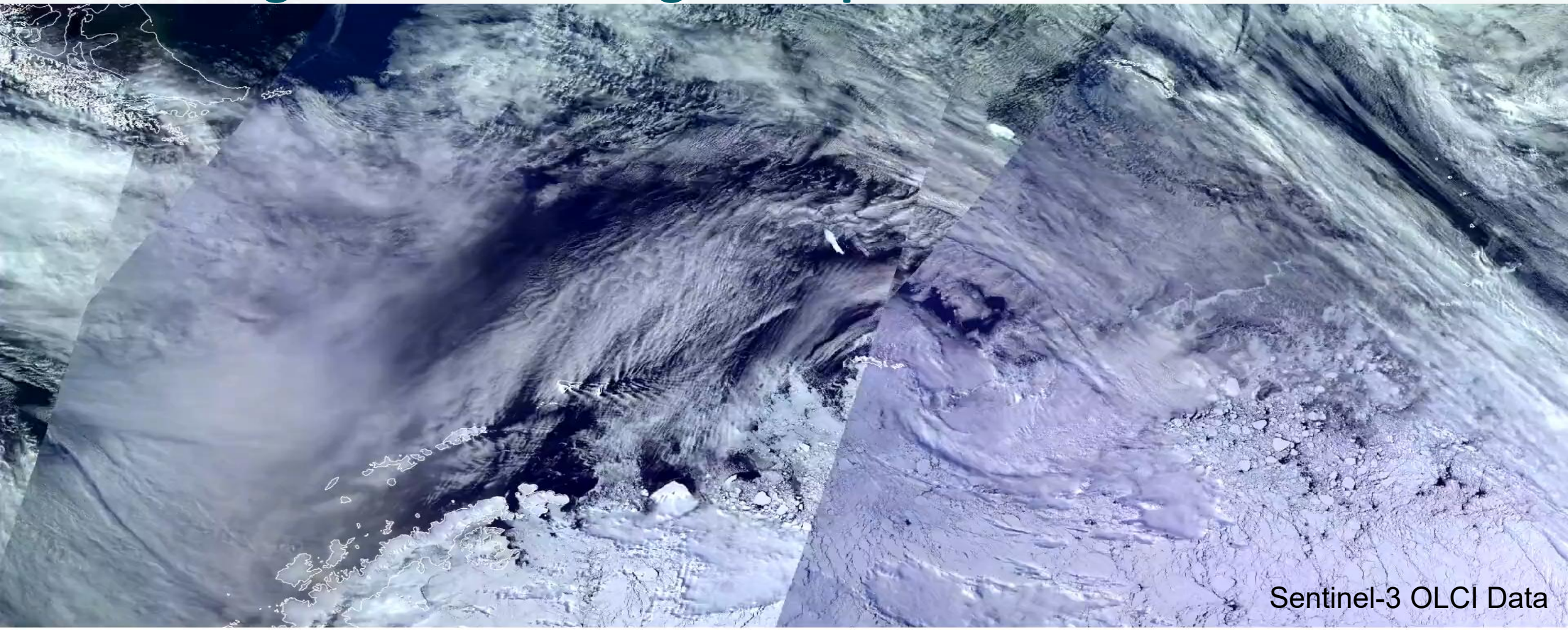


And here we find it, poised at the edge of the Southern Ocean, and captured in this optical image from the Copernicus Sentinel-3 Ocean and Land Colour instrument (OLCI) sensor, taken on 3 November 2023.

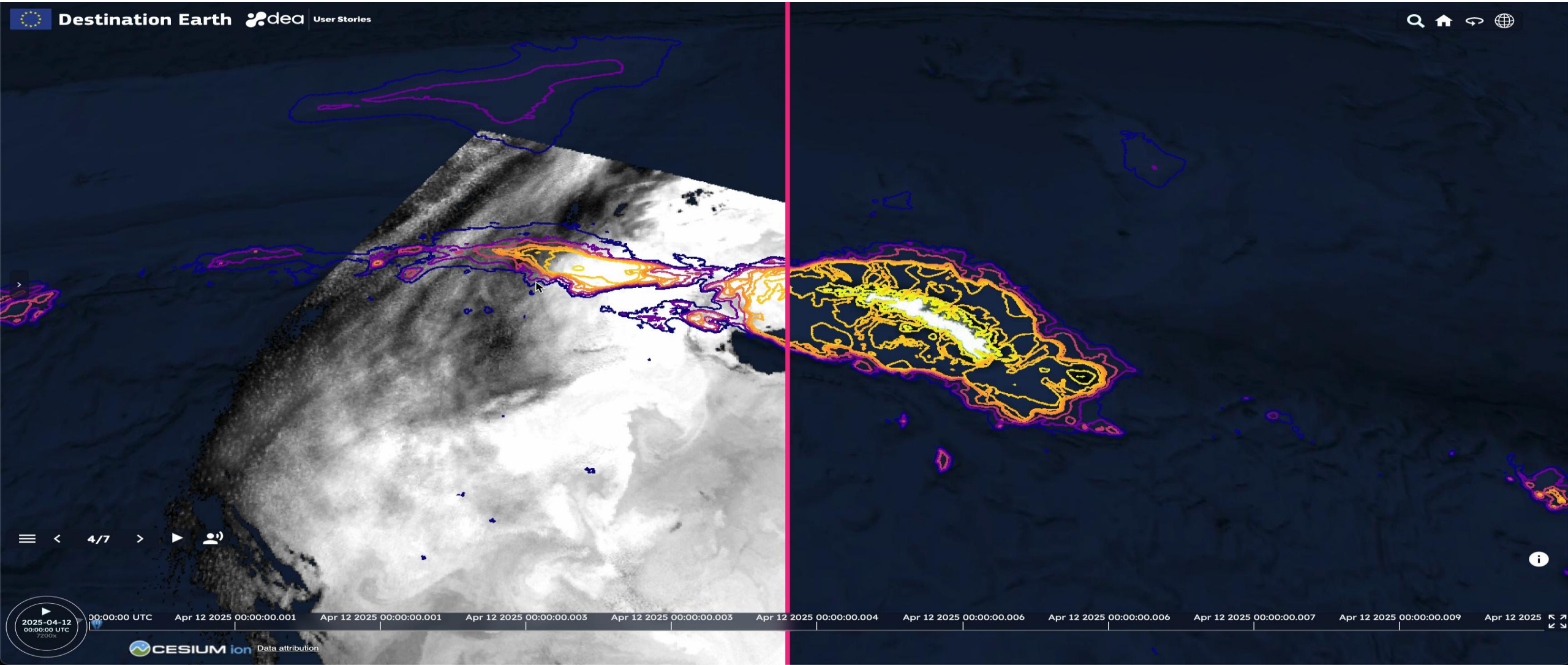
2/7



Challenge 8: Create a Digital Representation of the Ocean



Challenge 8: Create a Digital Representation of the Ocean



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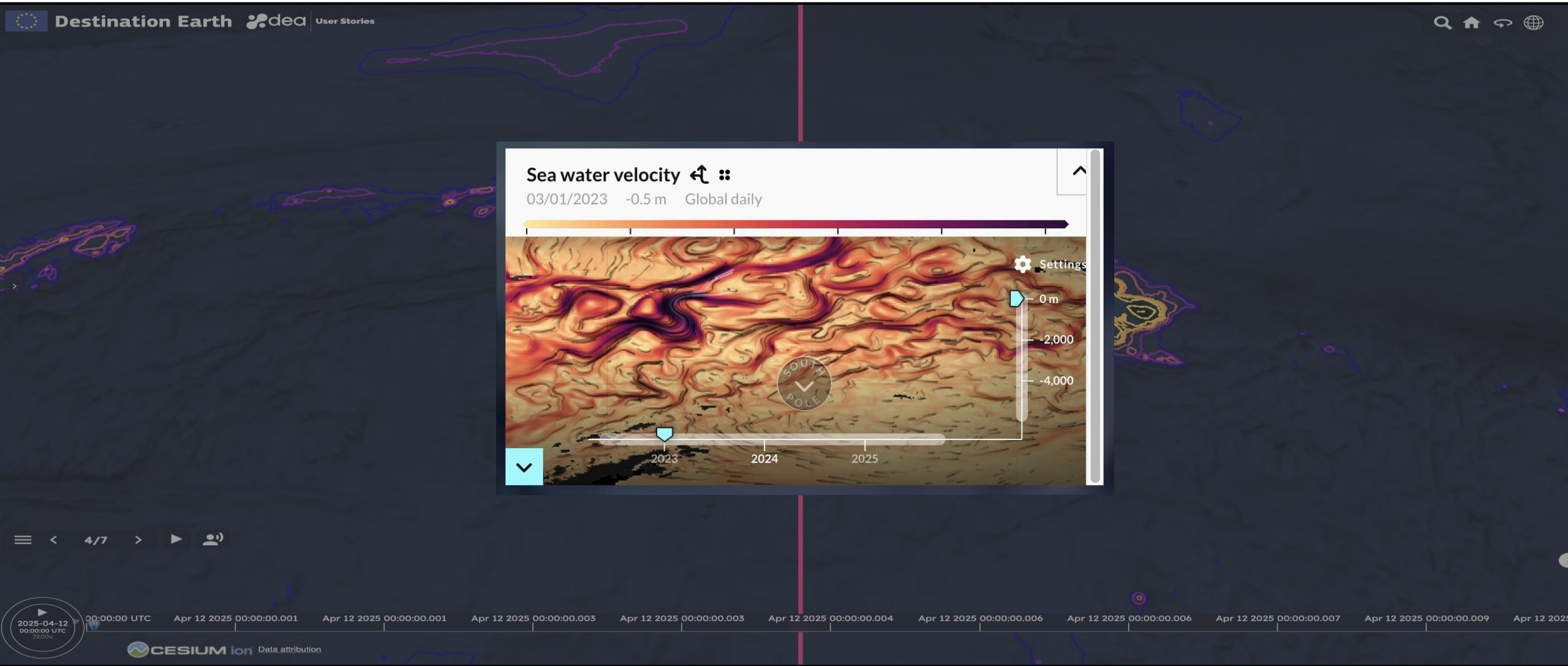

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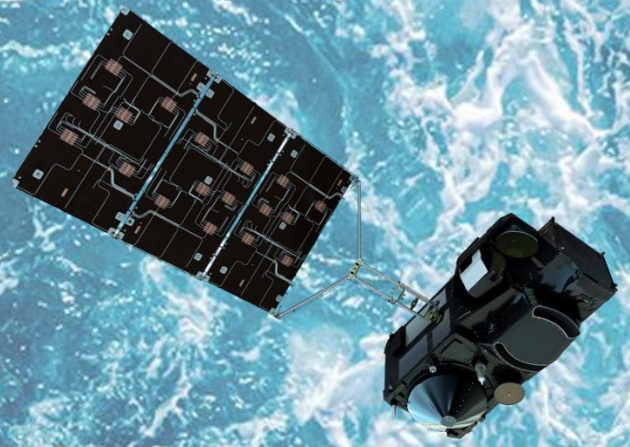

The A23A's story illustrates the power of combining multiple satellite instruments and products to create a digital narrative of the ocean and cryosphere in motion

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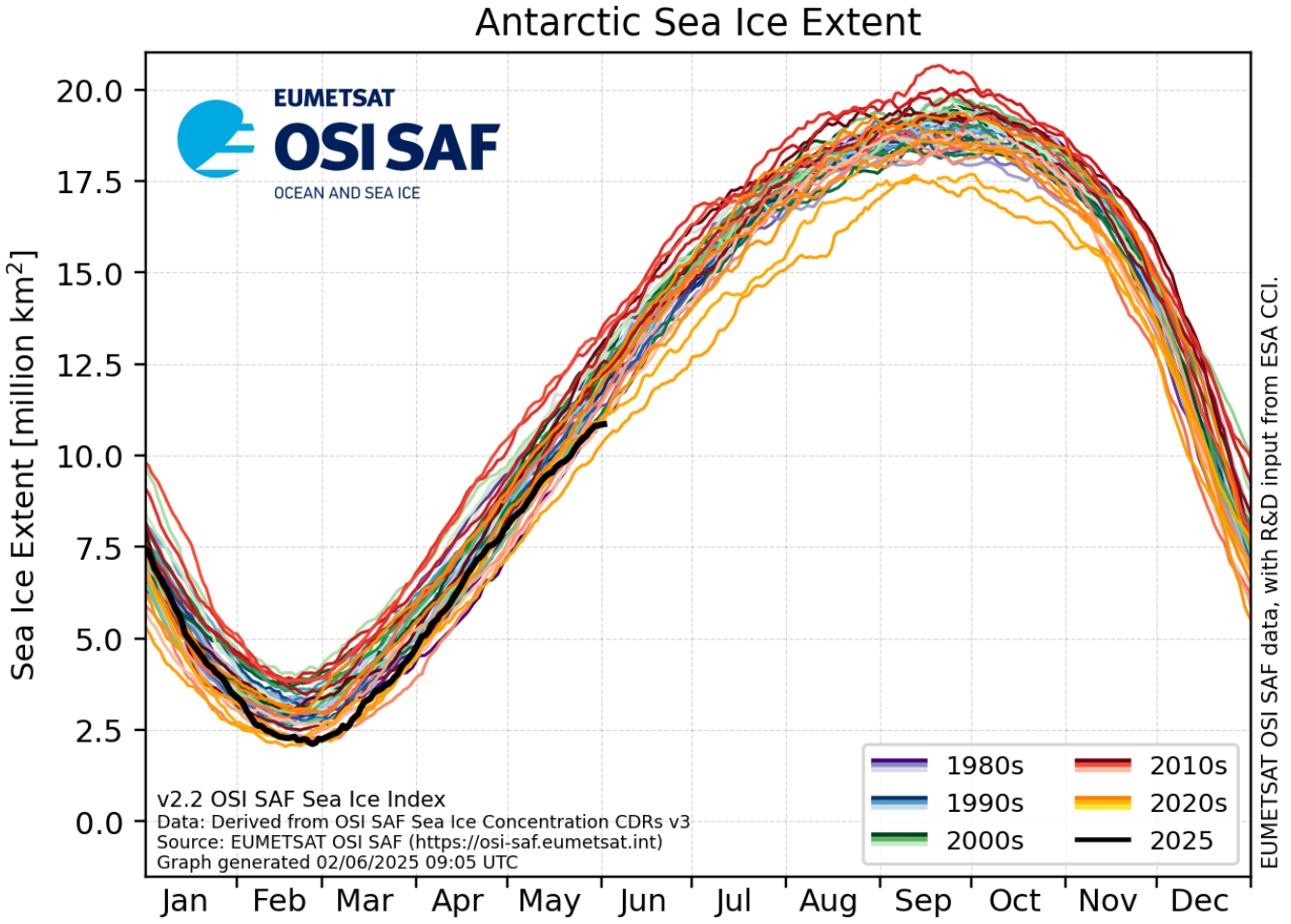
Challenge 8: Create a Digital Representation of the Ocean

A23A is part of a much larger story of sea ice change in Antarctica



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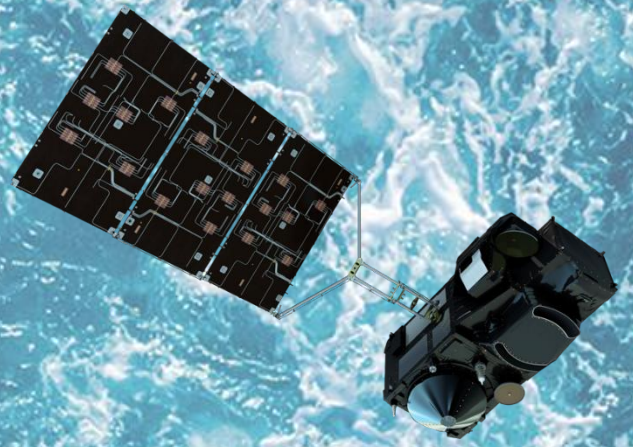

Challenge 9:

Skills, Knowledge, Technology, and Participation for All

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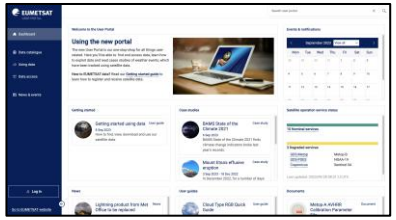
Challenge 9: Skills, Knowledge, Technology, and Participation for All

Capacity & Outreach

User portal

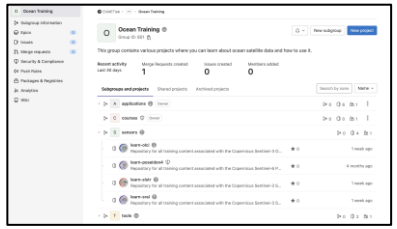
User Guides, Data Application Guides



Code distribution

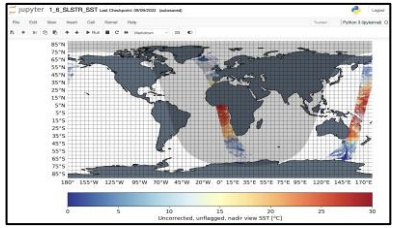
CONDA

GitLab



Jupyter Notebooks

jupyter



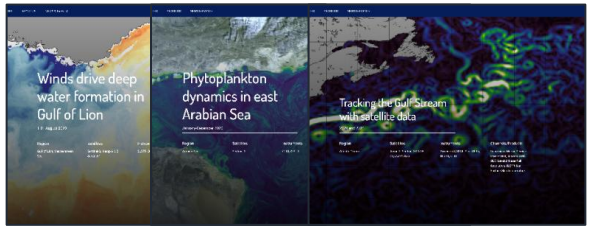
Courses

moodle

Video tutorials

YouTube

Case studies



WEkEO by COPERNICUS

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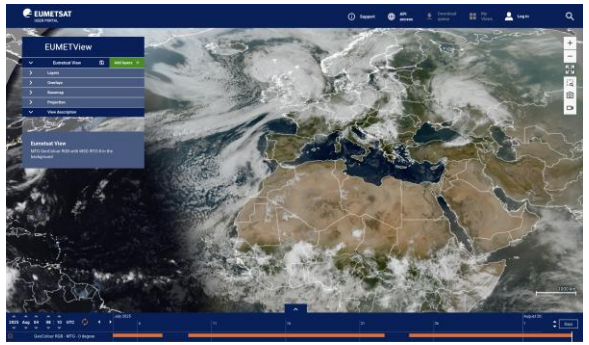
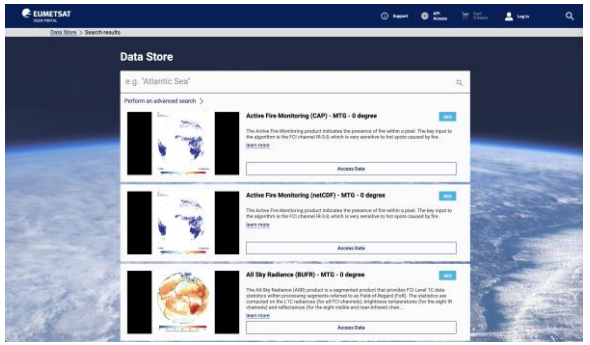
Challenge 9: Skills, Knowledge, Technology, and Participation for All

EUMETSAT Data Services

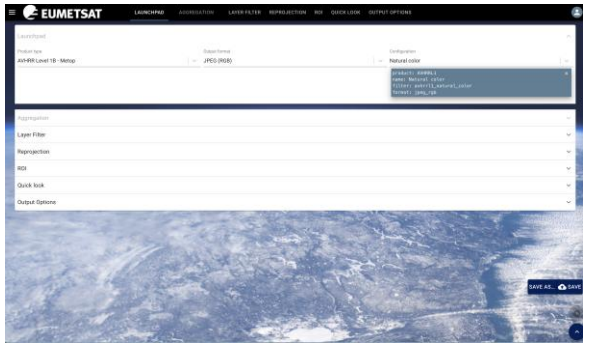
EUMETView



Data Store



Data Tailor



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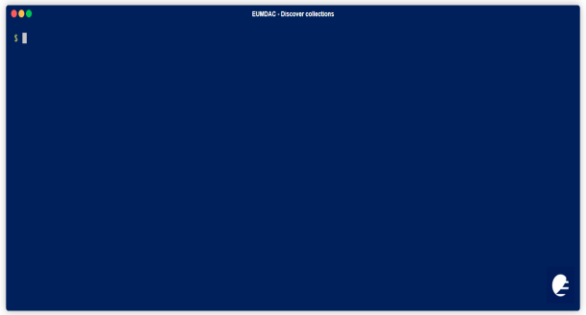

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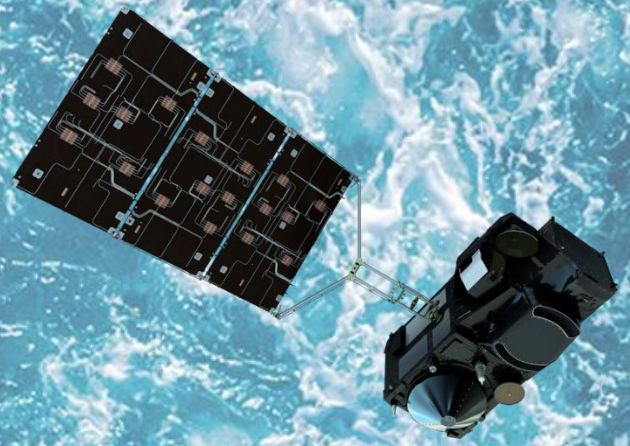

Challenge 10:
Restore Society's Relationship With the Ocean

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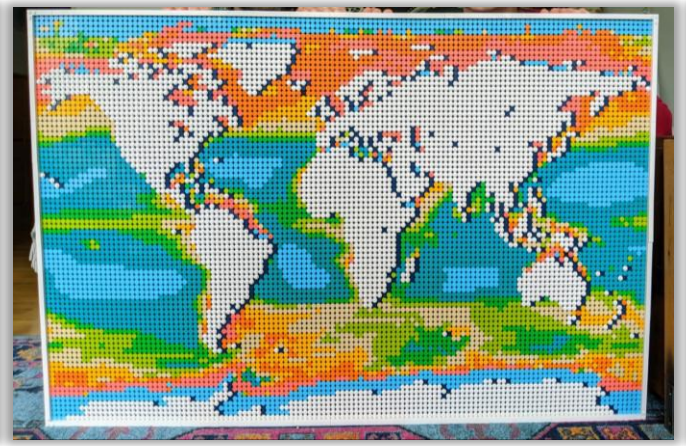
Challenge 10: Restore Society's Relationship with the Ocean



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Thank you!

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