EUMETSAT

OSI SAF

OCEAN AND SEA ICE

Ocean and Sea Ice Satellite Application Facility

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OSI SAF - About

The OSI SAF (Ocean and Sea Ice Satellite Application Facility) is the dedicated EUMETSAT centre for processing satellite data at the ocean-atmosphere interface.

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OCEAN AND SEA ICE

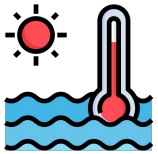
METEO FRANCE
Ifremer
Norwegian Meteorological Institute
Danish Meteorological Institute
Royal Netherlands Meteorological Institute
Ministry of Infrastructure and the Environment

Consortium constituted of Météo-France, as leading institute, and of the following co-operating institutes: MET Norway (Norway), DMI (Denmark), Ifremer (France), KNMI (Netherlands).

Parameters of ocean-atmosphere interface

Sea Surface Winds

- *Speed and Direction*



Sea Surface Temperature

- *Surface temperature*

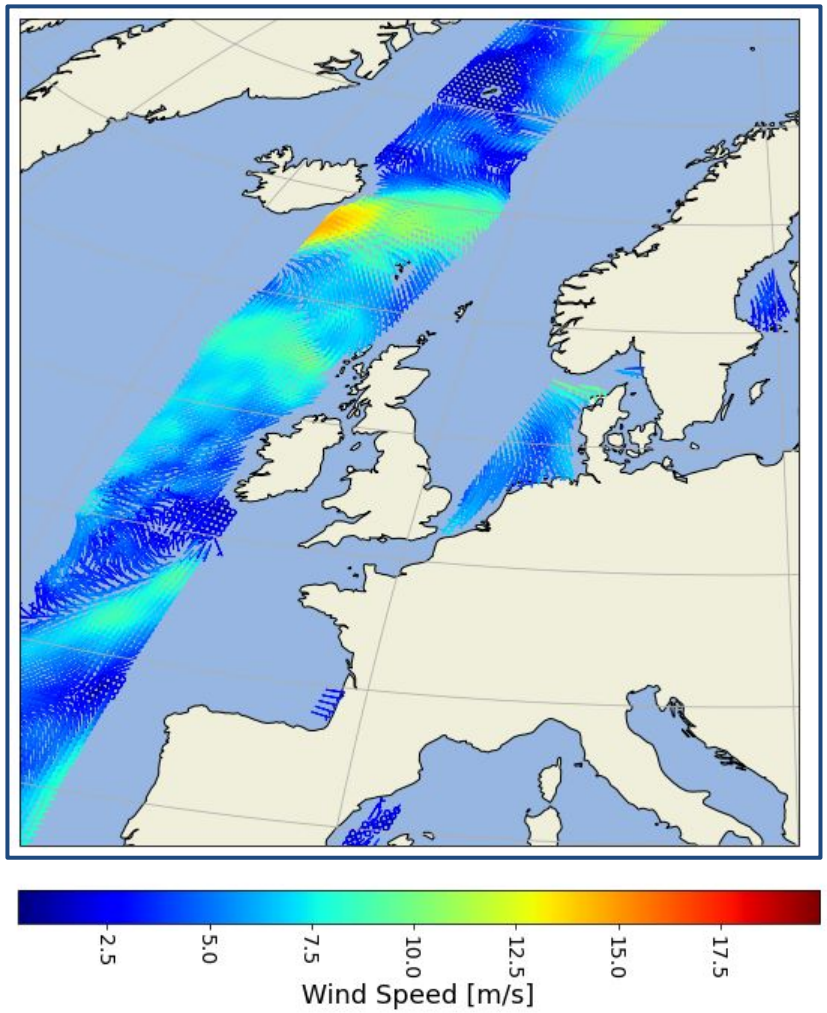
Sea Ice Parameters

- *Concentration, Edge, Type, Emissivity, Drift*
- *IST - Sea Ice Surface Temperature*

Radiative fluxes

- *Downward longwave irradiance and Surface solar irradiance*

Winds - Overview



Winds are derived from scatterometer missions. To ensure global coverage, the objective is to process most of them.

Currently:

- Metop-B and -C satellites,
- CFOSAT,
- HY-2B, HY-2C…

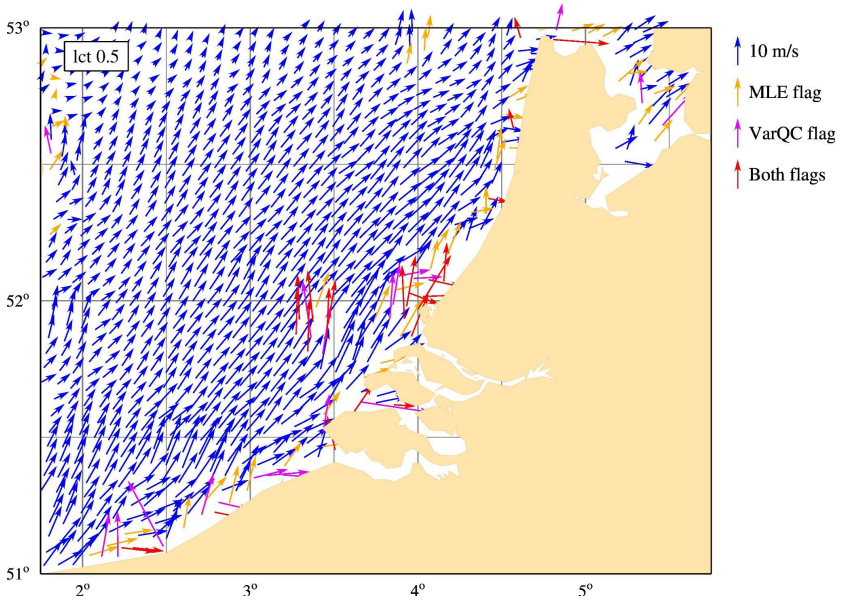
Continuity with:

- Oceansat-3,
- windRAD,
- Metop-SG-B/SCA and MWI

Winds - Continuity

Coastal processing

- Users require high resolution and coastal processing, which we develop for ASCAT now in anticipation of increased SCA accuracy and finer SCA footprints.



Measuring extreme winds

- SCA will be part of the growing OSVW virtual constellation, bettering extremes with cross polarization (VH) and with improved spatial resolution.

Understanding mesoscale processes

- ASCAT wind divergence is associated with moist convective updrafts and downdrafts, as verified with MSG rain products.
- In the SCA and MTG era, MWI and synergies with other sensor complements will aid the further understanding of sub-mesoscale processes.

Sea Ice - Overview

Satellites

- DMSP/SSMIS + GCOM2/AMSR2, Metop/ASCAT
- (MWRI), Metop-SG-B/SCA and MWI

Sea Ice Products

- Near real time
- Climate data records

- Sea Ice Concentration
- Sea Ice Edge
- Sea Ice Drift
- Sea Ice Type
- Sea Ice Emissivity
- Ice Surface Temperature

At both poles

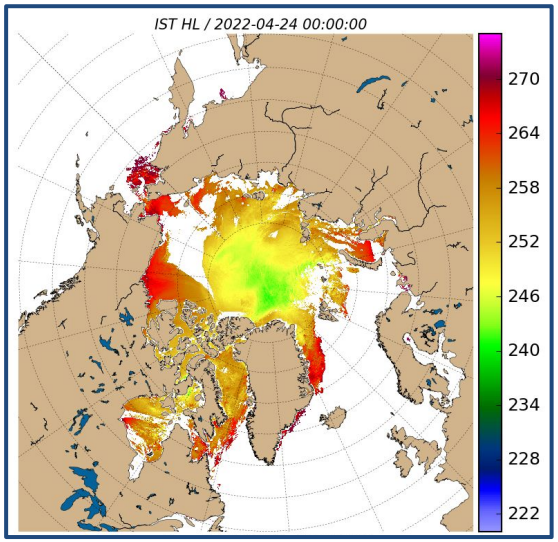
New foreseen products

- Sea Ice Age
- Sea Ice Index
- Icebergs

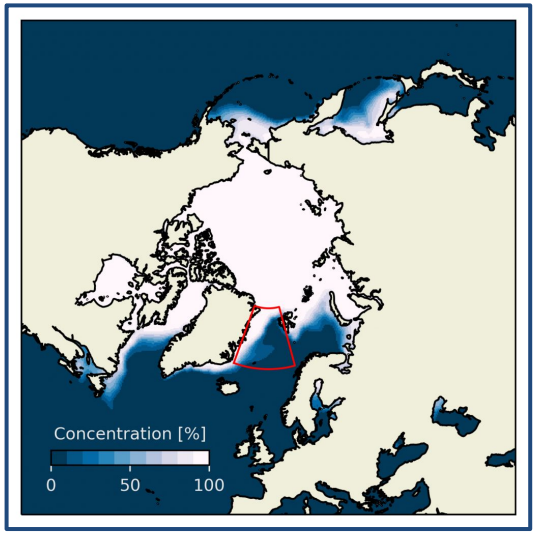
Improve

- the uncertainty estimates
- the validation procedures

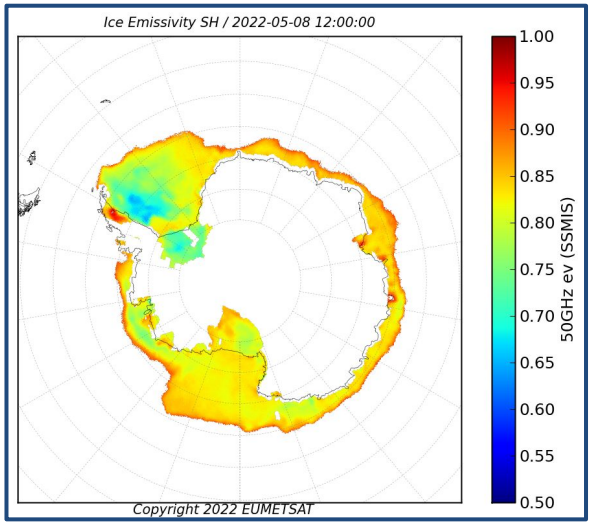
Sea Ice - Gallery



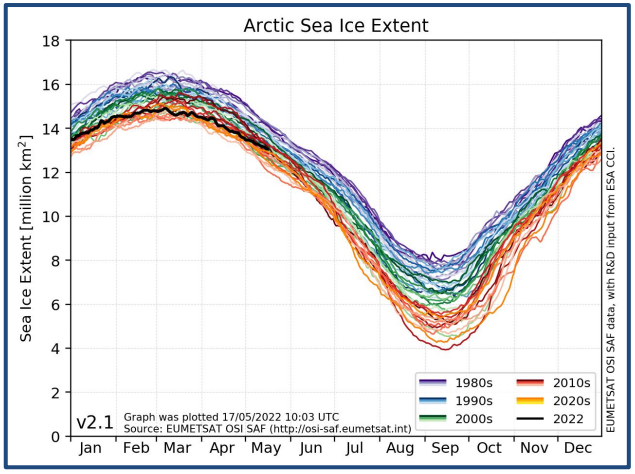
Ice surface temperature



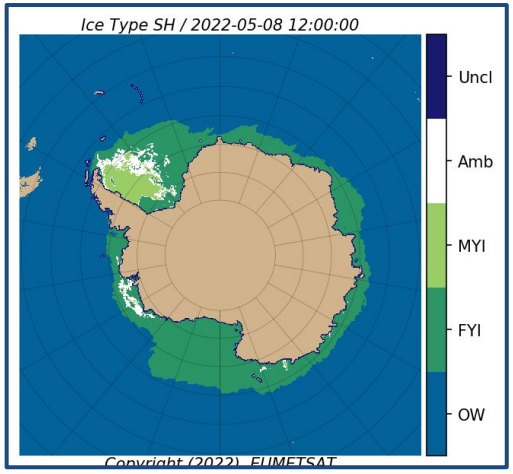
Sea Ice Concentration



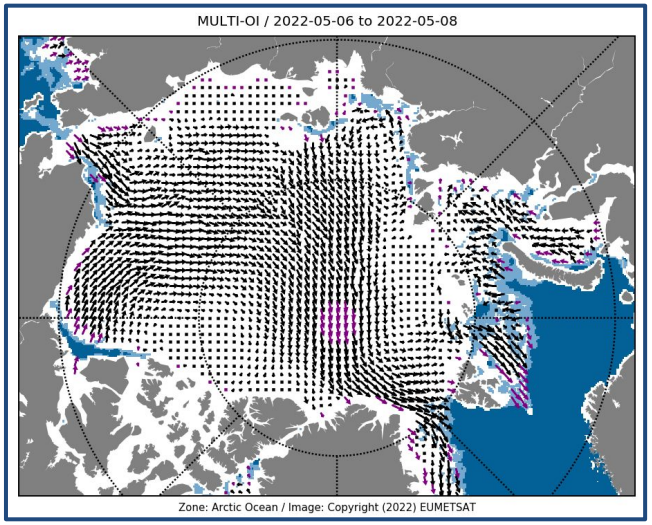
Ice Emissivity



Sea Ice Extent



Sea Ice Type



Sea Ice Drift

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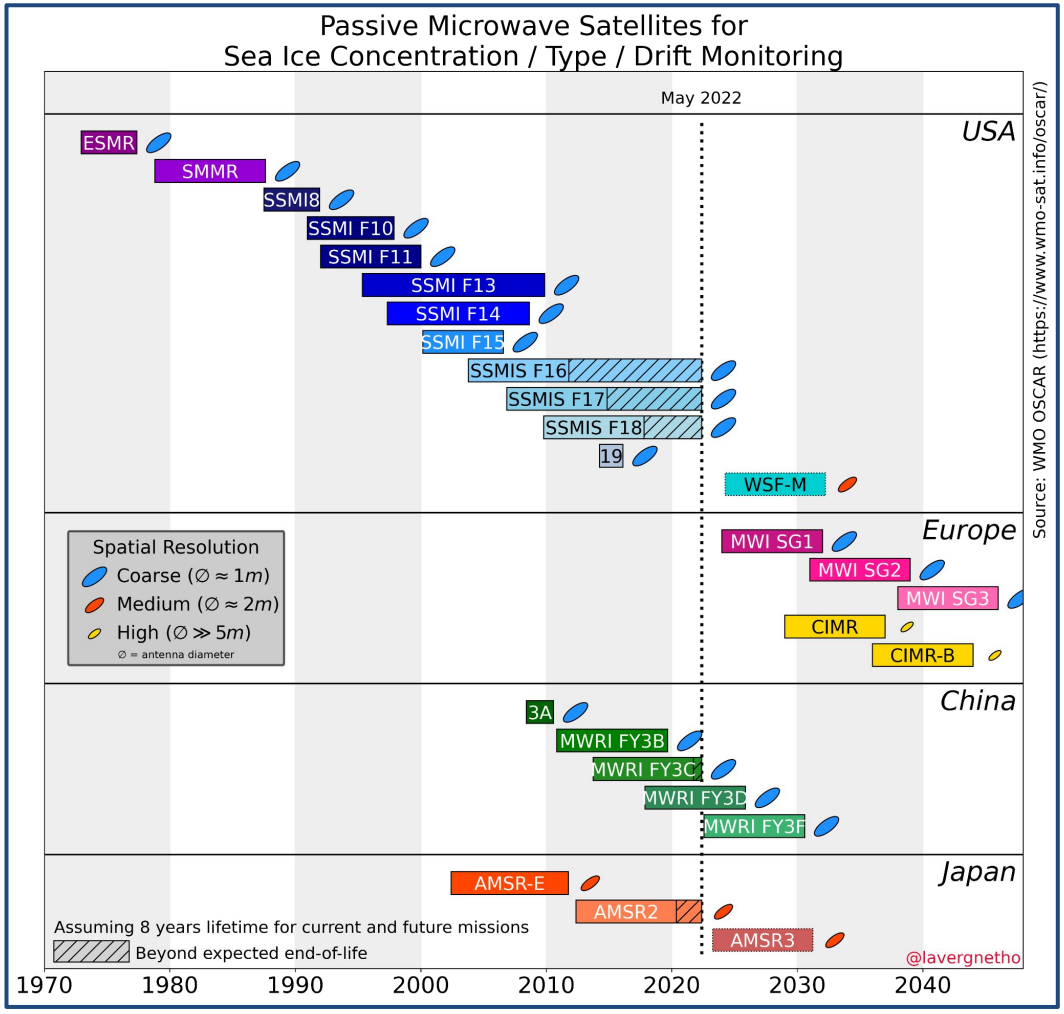
Sea Ice - Continuity



Sea Ice Satellite Chronology - T. Lavergne

Continuity of monitoring

- 40+ years data record of passive microwave missions
- EUMETSAT's MicroWaveImager (MWI) mission will extend this time series and allow continuity of the climate monitoring.
- Japan and China have operated similar missions making the constellation a true international endeavour.
- From the 2030s, the Copernicus Imaging Microwave Radiometer (CIMR) mission will introduce higher fidelity and higher spatial resolution to the constellation.
- EPS-SG with the METimage, MWI and SCA instruments will ensure the continuation of all the OSI SAF sea ice products.

Sea Surface Temperature - Overview

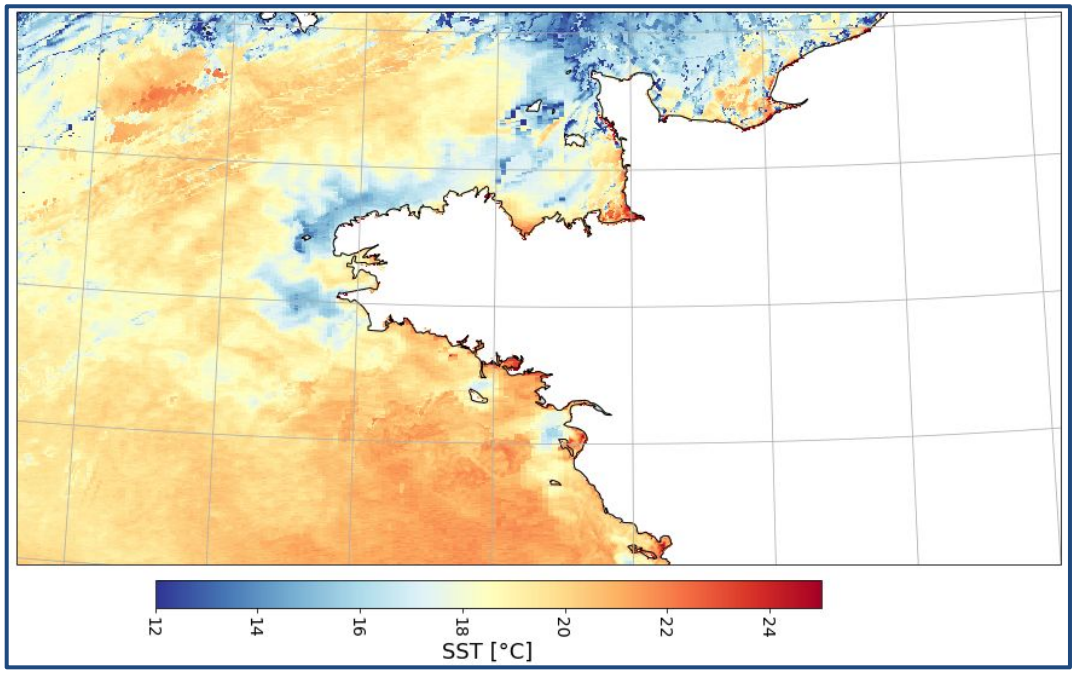
Satellites

- Metop, NOAA, MSG, GOES-East

SST Products

- L2 sensor level products
- Regional Products
- Global Products

North Atlantic Region Product will be stopped

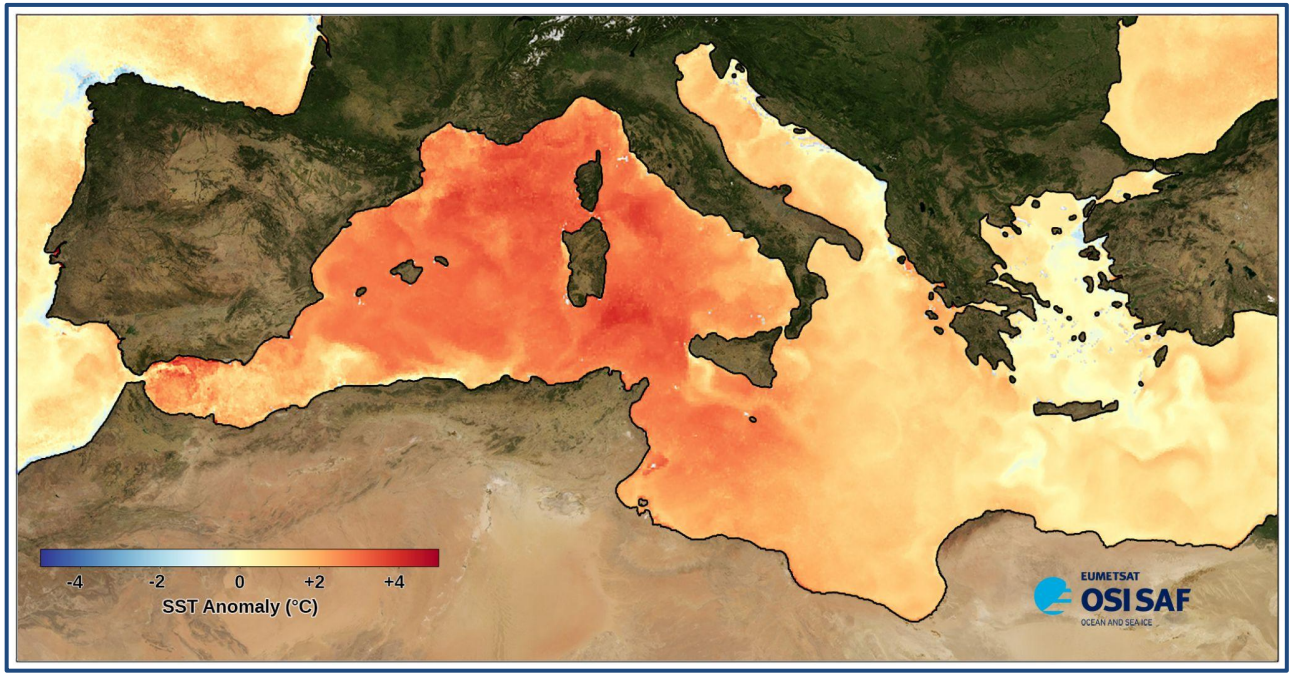


Sea Surface Temperature Metop-B - 06/07/2022

Sea Surface Temperature - Continuity

Climate Application

- Monitoring surface temperature anomalies



Mean SST Anomaly - Metop-B - 20 first days of August 2022

Continuity

- MTG high resolution SST for coastal applications
- Harmonization of the depth of the retrieval homogenization of SSES

Radiative Fluxes

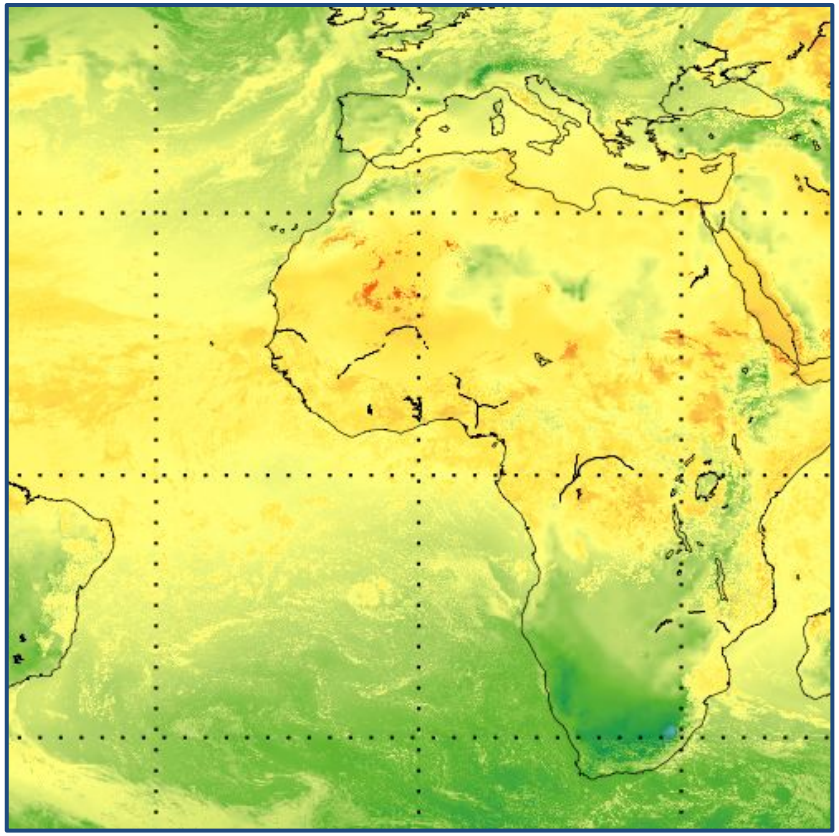
Satellites

- MSG, GOES-East

Products

- Downward Longwave Irradiance
- Surface Solar Irradiance

Discontinuation by 2026



Meteosat 0° hourly DLI 20/08/2021

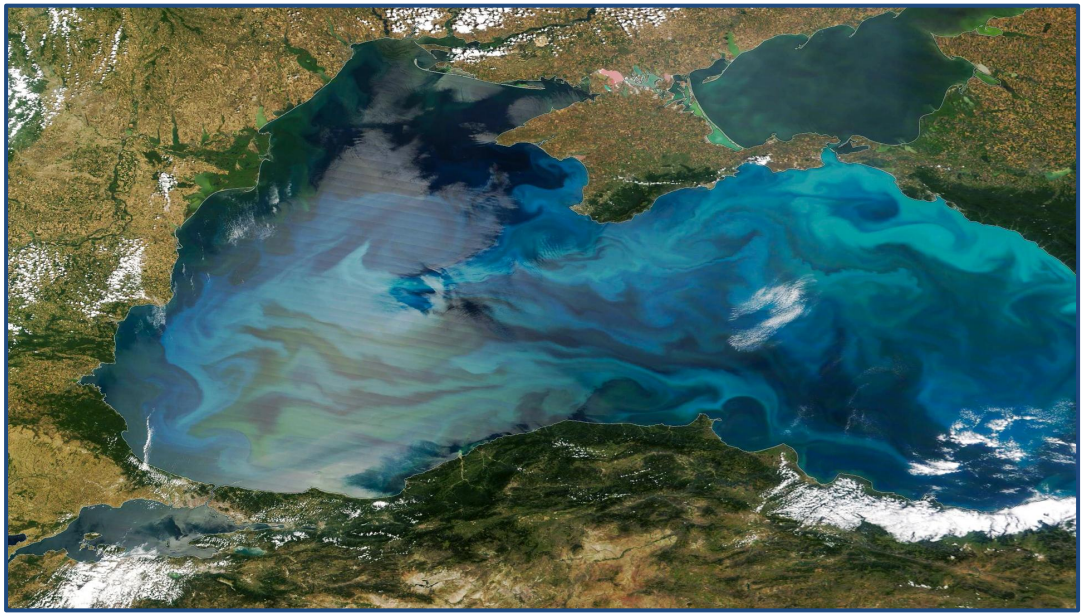
Ocean colour

Satellites

- MTG-I (Mono sensor, L2 L3)

NEW

Ongoing study by EUMETSAT marine team



Black Sea captured by TERRA 06/07/2022

Research and development

- Preparation for ocean colour related products, exploiting MTG/FCI visible and near infrared channels

OSI SAF - Outreach activities

Website
- *Updates & new content*

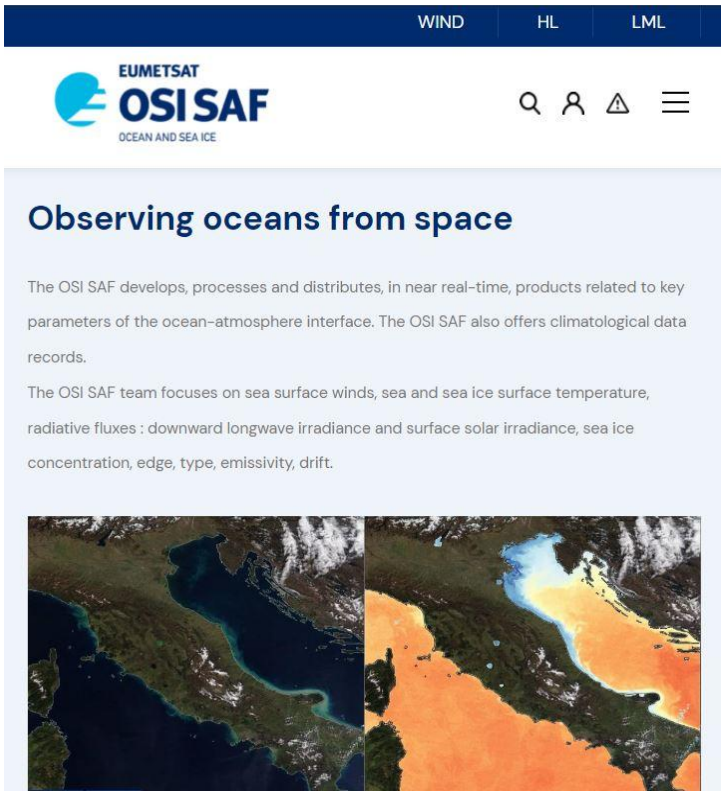
Stories
- *Regular news*

Social Media
- *Twitter feed & user support*

Newsletter

Training activities
- *Webinar & short courses*
- *Development of notebooks*

Stay in touch, register
https://osi-saf.eumetsat.int/



Data access

Acces our data, stay informed :
Register on https://osi-saf.eumetsat.int

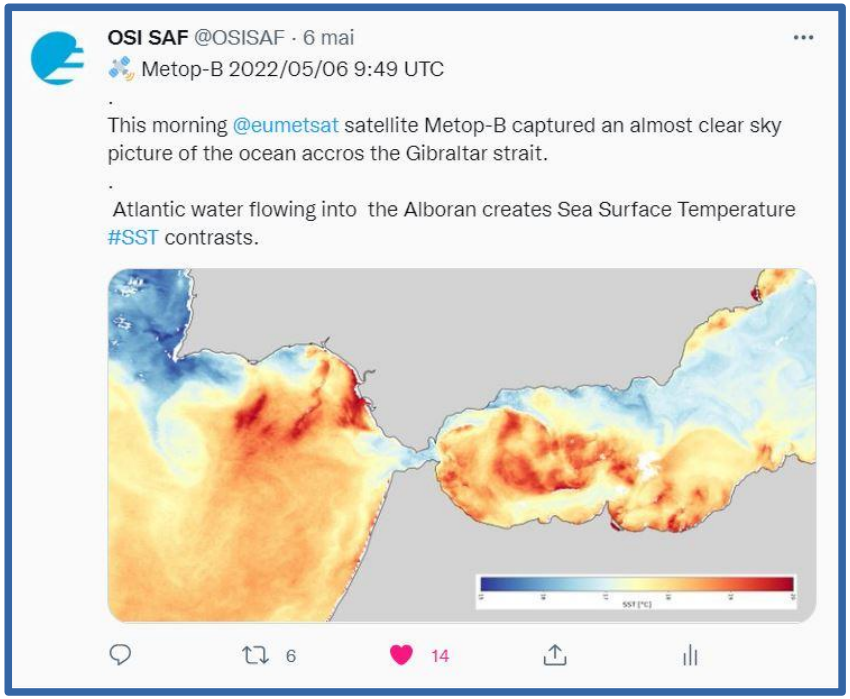
Products

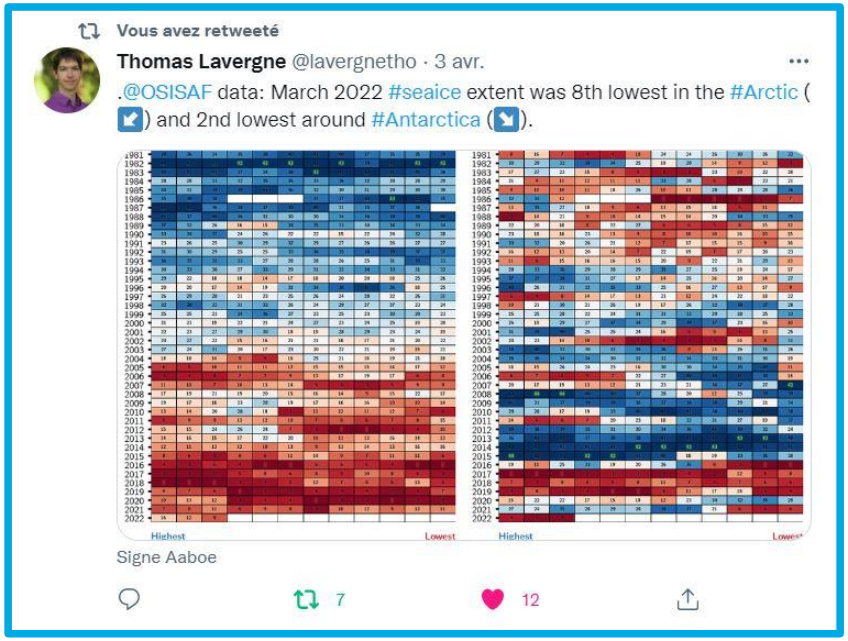
- All products on NetCDF format

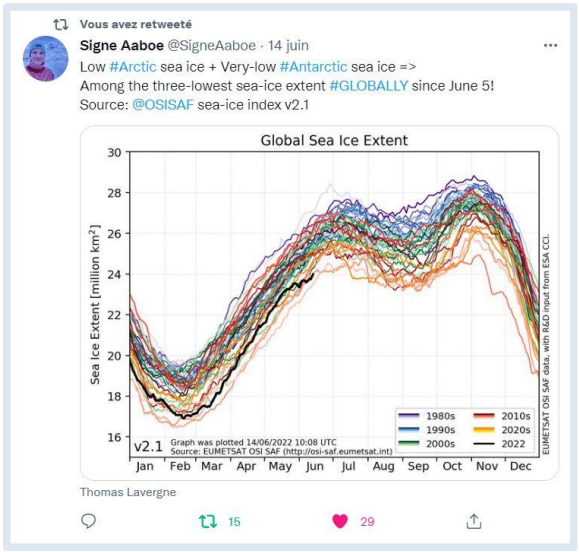
Acces means

- FTP access
- EUMETCast / EUMETSAT Data Centre
- Thredds
- Copernicus redistribution
  - CMEMS and C3S

OSI SAF - Social media







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- Promoting products
- Training
- Sea Ice Status

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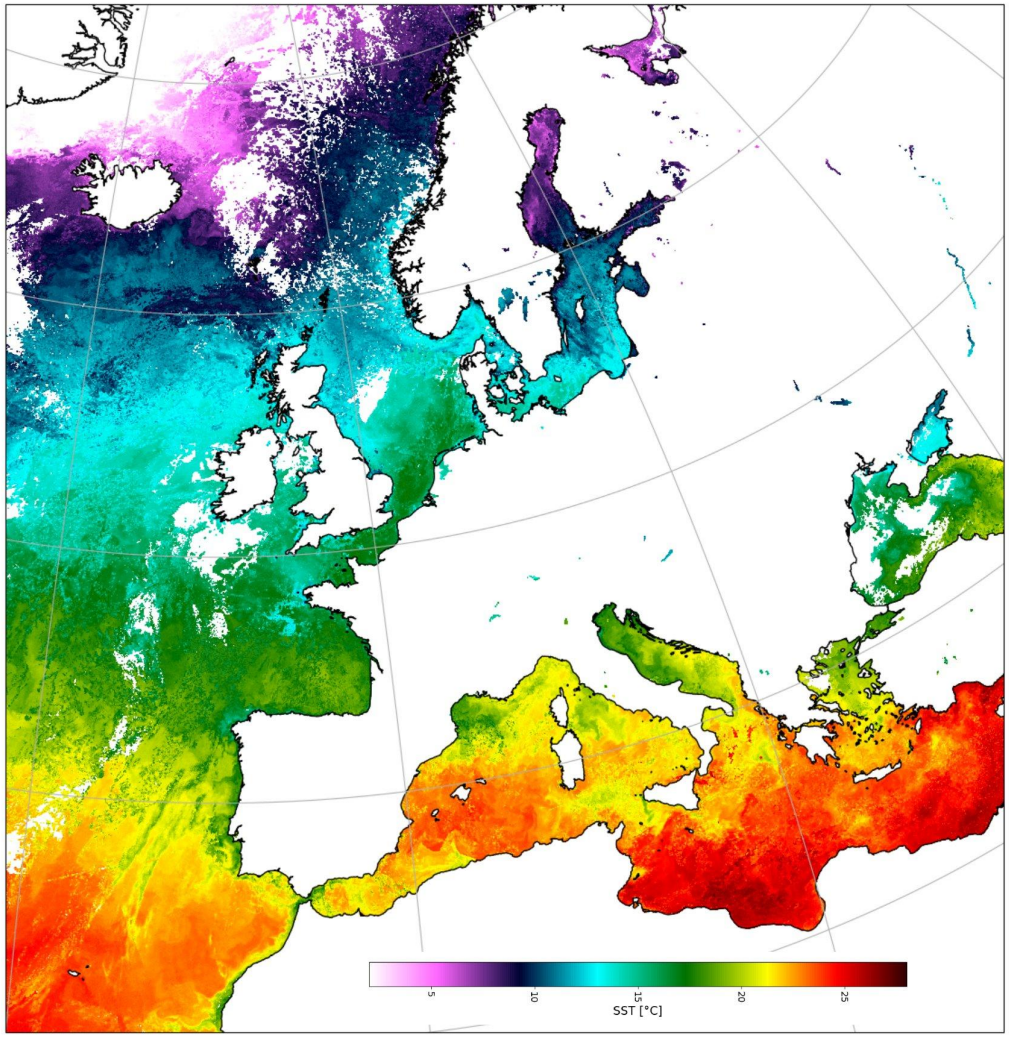
OSI SAF - Thank you !



Thank you !

Looking forward to hear your feedback about OSI SAF products !