Marine Intelligence - the value of data
for sea-based applications

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Copernicus Marine Environment Monitoring Service [C M E M S]

Products and Services for marine applications

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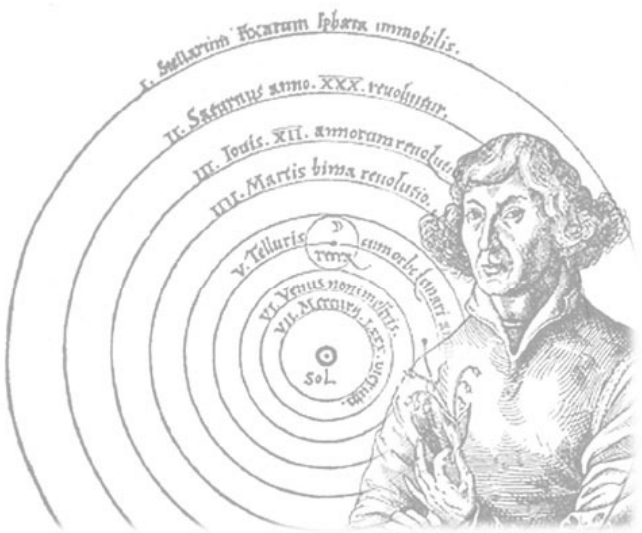
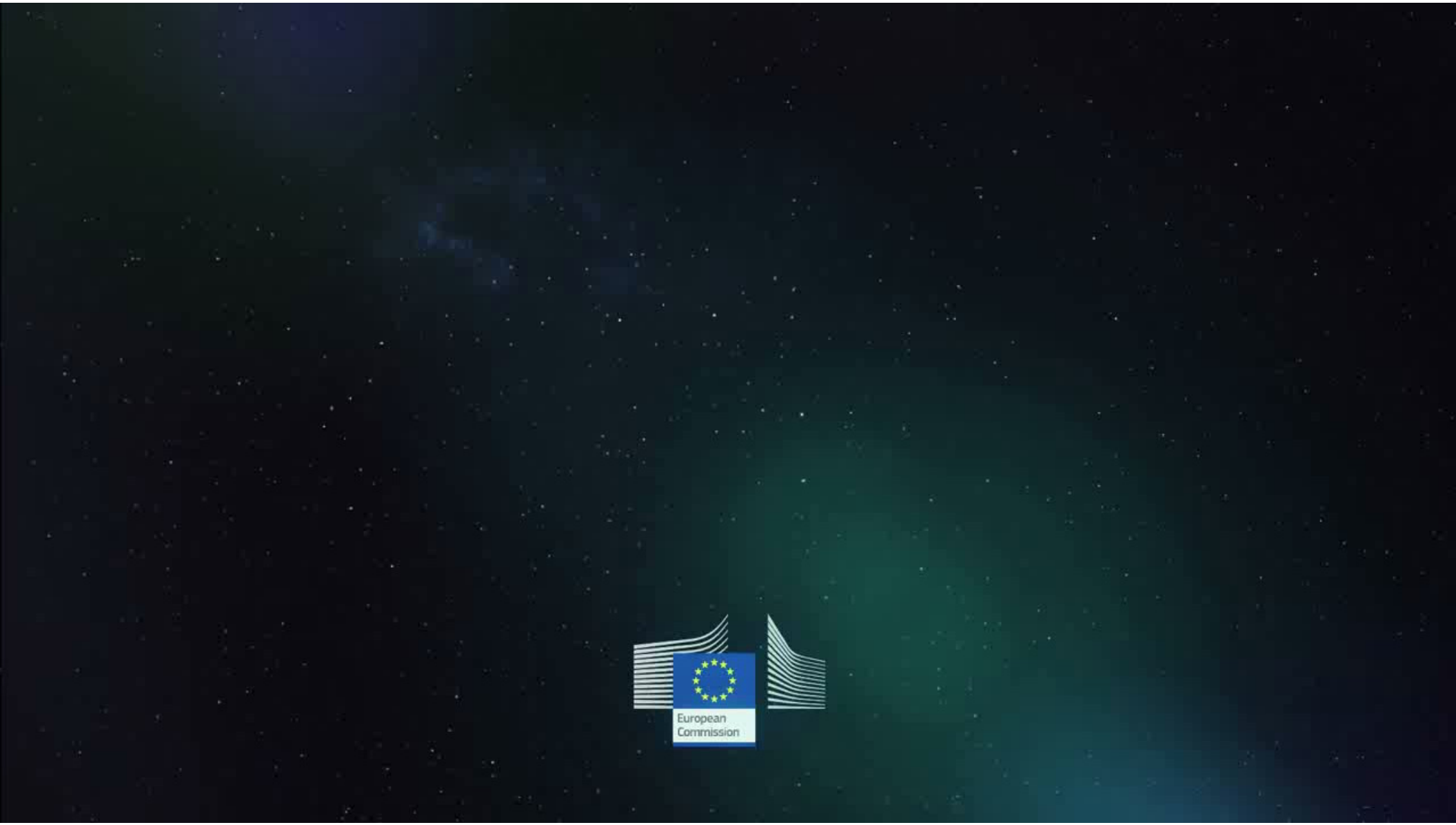
Copernicus ?

What is the Copernicus Programme?



Leader of CALYPSO South
Physical Oceanography Research Group | Department of Geosciences | Faculty of Science
Coordinator: Prof. Aldo Drago | Room 315, Chemistry Building, University of Malta
Msida MSD 2080 Malta
Tel: +356 23 402833; +356 21 440972


European
Commission

www.copernicus.eu

Copernicus
Europe's eyes on Earth

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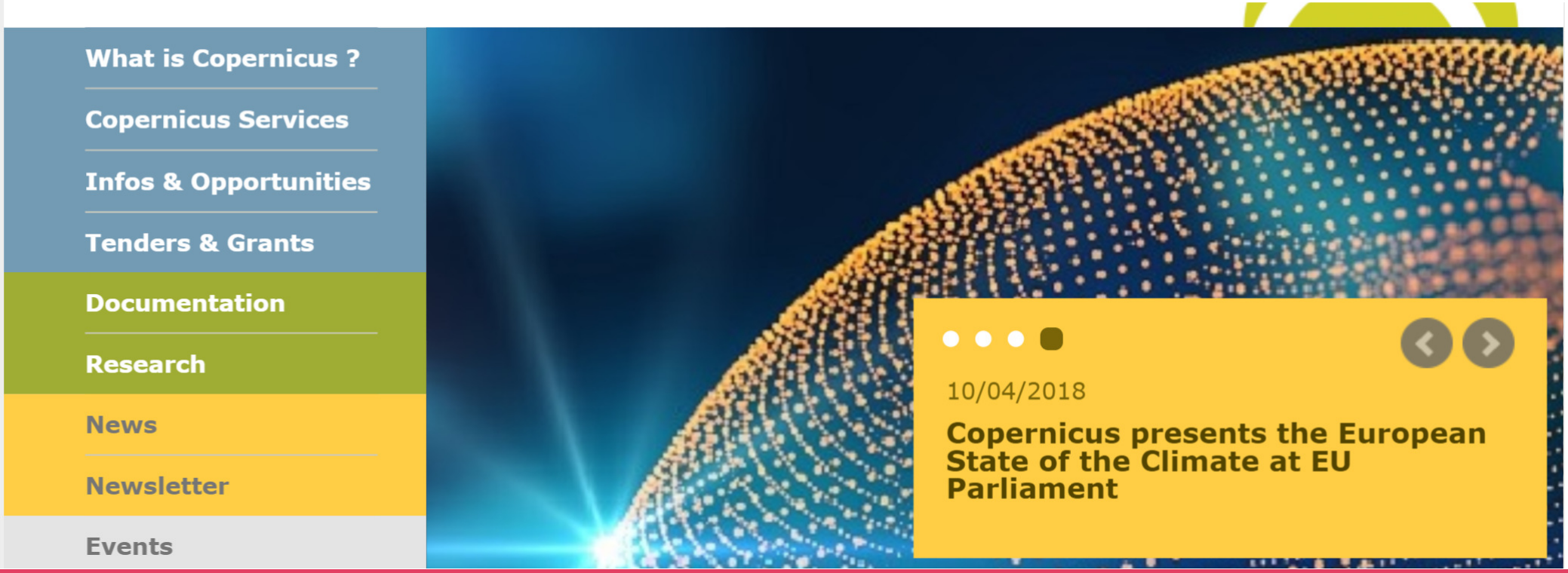

Copernicus Services

Atmosphere
(CAMS)

Marine
(CMEMS)

Land
(CLMS)

Climate
(C3S)

Emergency
(EMS)

Security

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marine.copernicus.eu

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An integrated service

CMEMS is led by Mercator Océan, the French centre for analysis and forecasting of the global ocean.

The CMEMS offers a **unique access to oceanographic products** through an online catalogue.

Users can download products according to their needs in a unique format (NetCDF) and benefit from **quality and validation information** for each of them.

ACCESS TO DATA

Marine Monitoring Service

Access to Data and Information

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Search and Browse

- 140 products
- Key physical and biogeochemical ocean parameters (currents, temperature, chlorophyll…)
- Global ocean and 6 European regional seas
- Analysis, forecast and long time series
- Models and observations (Satellite or in situ)

Discover and Visualise

- Visualise, analyse, interpret and share the data you need
- Access to quality information per product

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An Open and Free service

Users can benefit from following **services provision without any registration**:

- To discover the catalogue of products
- To get in-depth information on products
- To view products
- To access information on products quality
- To get news about products & services : "Newsflash" also accessible through an RSS field
- To use technical FAQs
- To learn latest improvements on products
- To exchange and share on an interactive web-based forum meant for current or future CMEMS users, for scientists implied in ocean knowledge, for CMEMS partners and more generally for the whole CMEMS community.

Discover and search for CMEMS products

Marine Monitoring

Copernicus Europe's eyes on Earth

European Commission

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Access to products

Users can **download** any CMEMS product provided they are **registered**.

Register

- To download data
- To benefit from customised services and from a manned-expert helpdesk
- To share your requirements with us

Registration is required to **download**, but search and viewing are not.

Download

- Select and download the data sets you need
- One-off download or by scripts

With **your login/password** delivered when you first registered, you can **access all products** from the online catalogue.

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Downloading products from the online and interactive catalogue

The interactive catalogue allows users to select products according to:

- **7 geographical areas** : GLOBAL Ocean, ARCTIC Ocean, BALTIC Sea, Atlantic-European North West Shelf-Ocean, Atlantic-European South West Shelf-Ocean, MEDITERRANEAN Sea, BLACK Sea.
- **Parameters**: Temperature, Salinity, Currents, Sea Ice, Sea Level, Wind, Ocean Optics, Ocean Chemistry, Ocean Biology, Ocean Chlorophyll.
- **Time Coverage**: FORECAST, NEAR REAL TIME, MULTI-YEAR, TIME INVARIANT products (either from OBSERVATIONS or MODELLING).
- Models or Observations (Satellite or InSitu)
- Grid type
- Time span
- Vertical coverage
- Processing Level
- Temporal resolution

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Downloading products from the online and interactive catalogue

Users are offered different on-line downloading options:

- To download the **whole product**

- To extract and download **only a part of a product** (per area, per variable, for a period of time, some depths).

- To **download automatically** by using scripts (python) for a regular use.

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What for?

Compute

- Use data as you wish for calculation, estimation, rating, producing indicators…
- Integrate data into other models
- Merge data with your own ones

CMEMS supports a large range of applications in a variety of domain such as:
- Maritime Safety
- Coastal and Marine Environment
- Marine Resources
- Weather, Seasonal Forecasting and Climate activities

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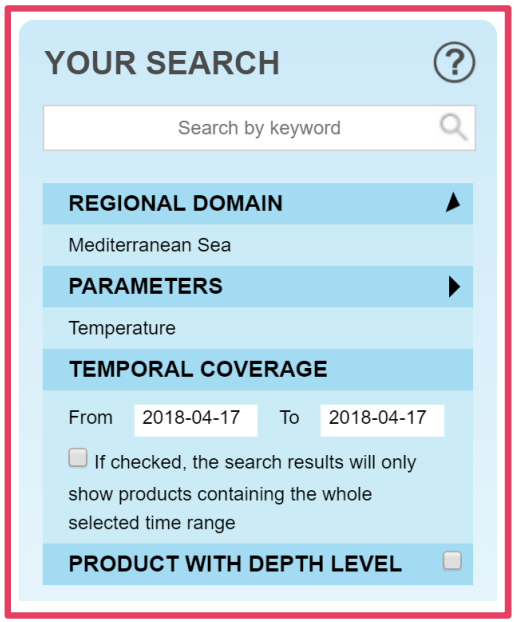
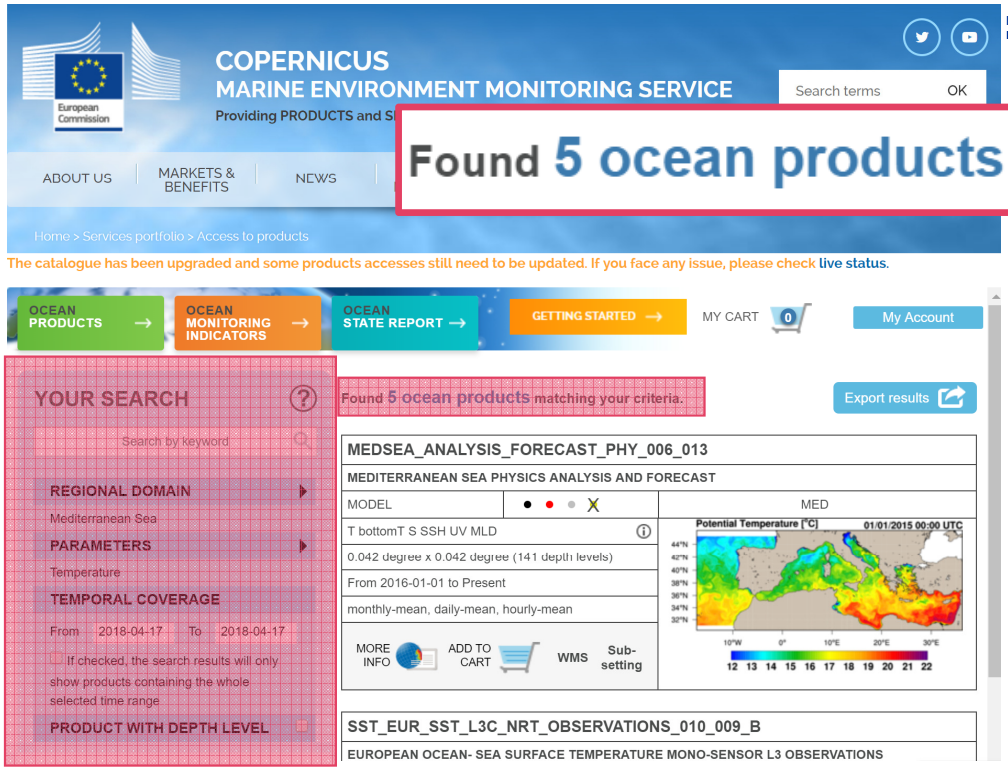
Example





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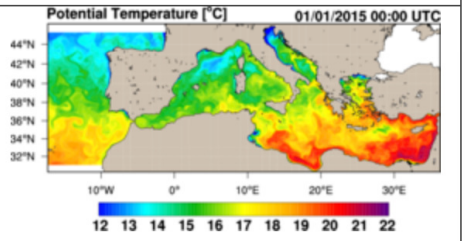
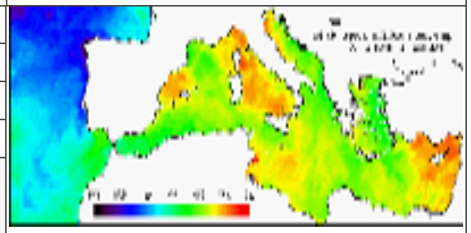
Example

MEDSEA_ANALYSIS_FORECAST_PHY_006_013		
MEDITERRANEAN SEA PHYSICS ANALYSIS AND FORECAST		
MODEL	● ● ● X	MED
T bottomT S SSH UV MLD ⓘ		
0.042 degree x 0.042 degree (141 depth levels)		
From 2016-01-01 to Present		
monthly-mean, daily-mean, hourly-mean		
MORE INFO ADD TO CART WMS Sub-setting		

SST_MED_SST_L4_NRT_OBSERVATIONS_010_004		
MEDITERRANEAN SEA HIGH RESOLUTION AND ULTRA HIGH RESOLUTION SEA SURFACE TEMPERATURE ANALYSIS		
OBSERVATION	L4	MED
SST ⓘ		
0.01 degree x 0.01 degree (Surface only)		
From 2008-01-01 to Present		
daily-mean		
MORE INFO ADD TO CART WMS Sub-setting		

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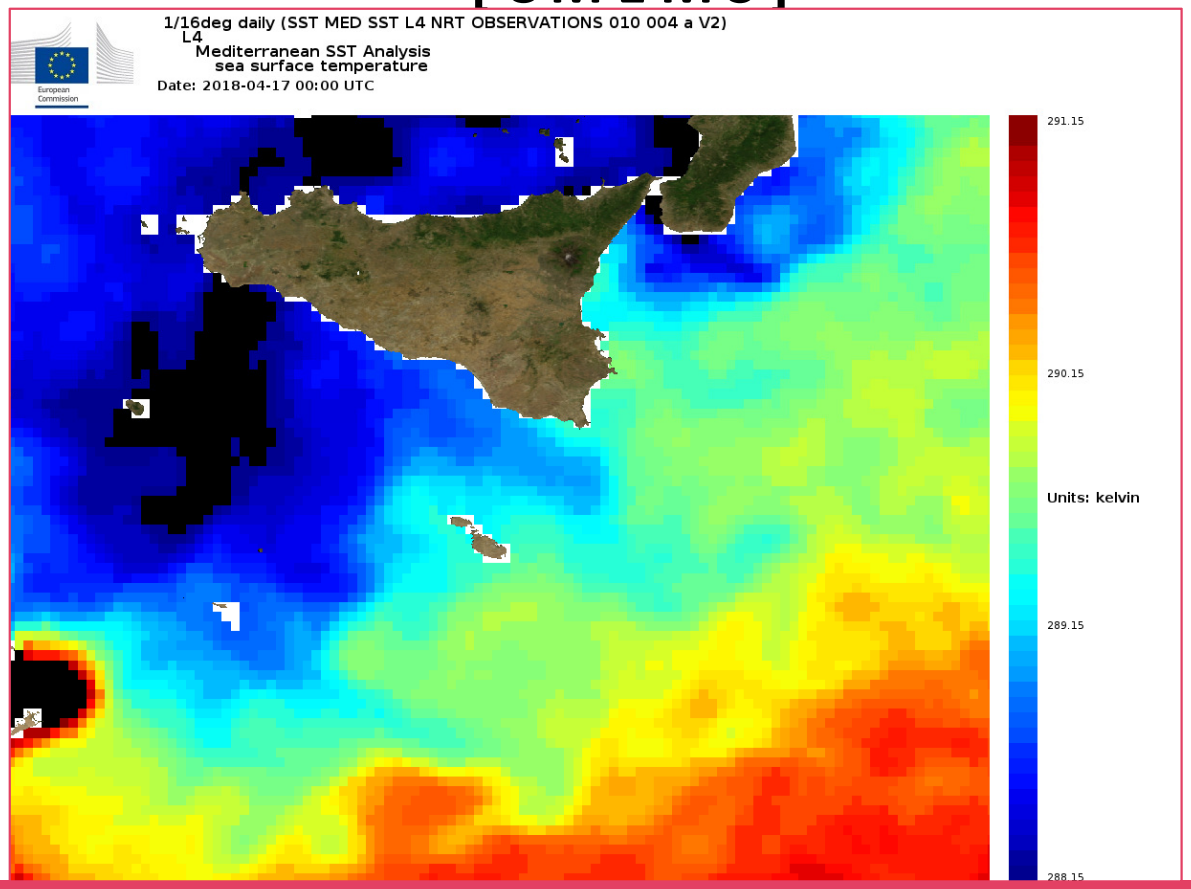

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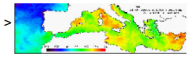
PRODUCT DATA SHEET



MEDITERRANEAN SEA HIGH RESOLUTION AND ULTRA HIGH RESOLUTION SEA SURFACE TEMPERATURE ANALYSIS

PRODUCT IDENTIFIER	SST_MED_SST_L4_NRT_OBSERVATIONS_010_004
GEOGRAPHICAL COVERAGE	46.0 -18.12 36.25 30.25 Areas : mediterranean-sea
VARIABLES	sea_surface_temperature (SST)
OBSERVATION/MODELS	satellite-observation
PRODUCT TYPE	near-real-time
PROCESSING LEVEL	L4
DATA ASSIMILATION	Not Applicable
SPATIAL RESOLUTION	0.01degree x 0.01degree
VERTICAL COVERAGE (m)	Surface
COORDINATE REFERENCE SYSTEM	WGS 84 (EPSG 4326)
FEATURE TYPE	Grid
TEMPORAL COVERAGE	from 2008-01-01 to Present
TEMPORAL RESOLUTION	daily-mean
UPDATE FREQUENCY	daily
PRODUCTION UNIT	SST-CNR-ROMA-IT

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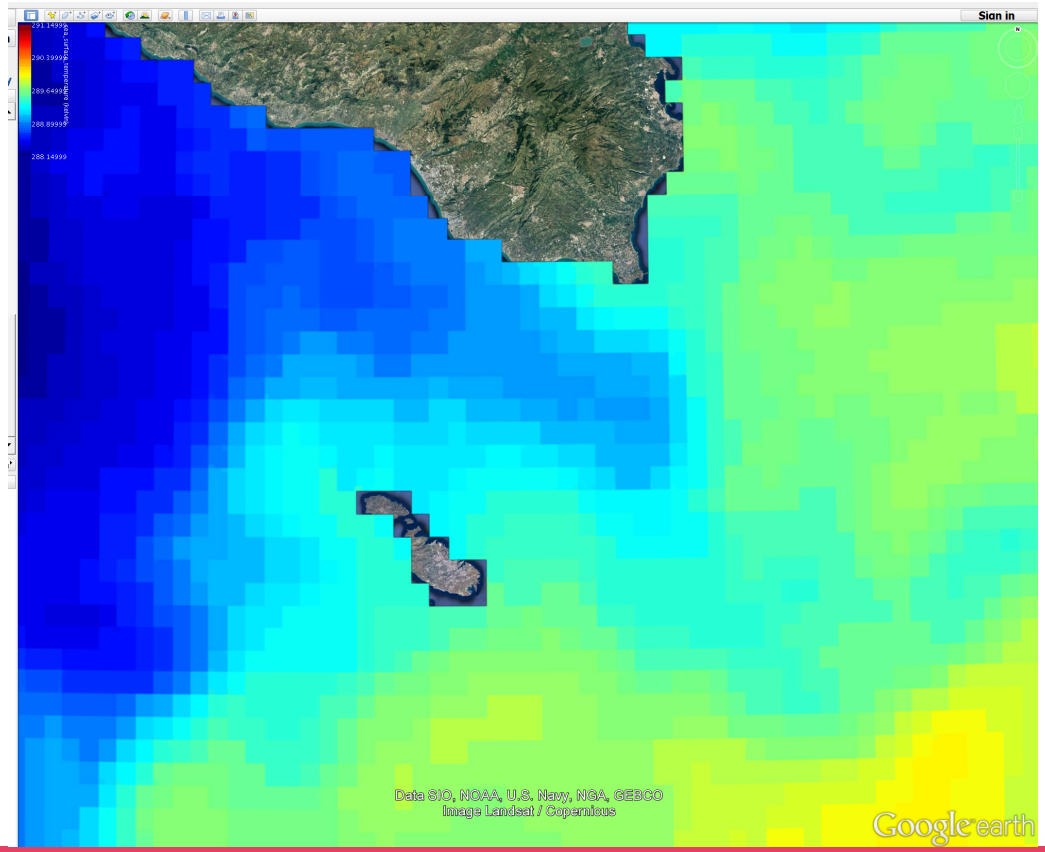
Example



Pro

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Thank you

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