

JERICO-NEXT Malta Summer School 2018
Operational Oceanography for Blue Growth

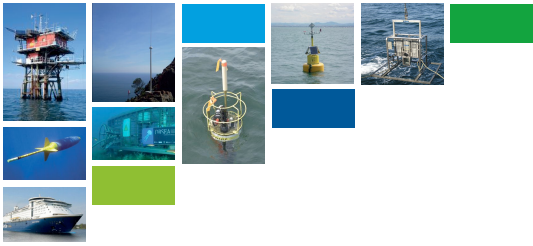
11th July 2018

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?







What is Copernicus ?

Copernicus Services

Infos & Opportunities

Tenders & Grants

Documentation

Research

News

Newsletter

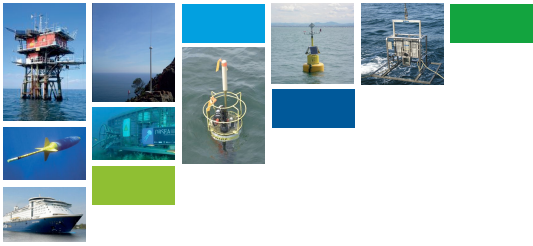
Events



10/04/2018

**Copernicus presents the European
State of the Climate at EU
Parliament**





Value-adding activities are streamlined through **six thematic streams**:

Copernicus Services



Atmosphere
(CAMS)



Marine
(CMEMS)



Land
(CLMS)



Climate
(C3S)



Emergency
(EMS)



Security



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



A screenshot of the marine.copernicus.eu website. The header features the European Commission logo and the text "COPERNICUS MARINE ENVIRONMENT MONITORING SERVICE" with the tagline "Providing PRODUCTS and SERVICES for all marine applications". A navigation menu includes "ABOUT US", "MARKETS & BENEFITS", "NEWS", "SCIENCE & MONITORING", "TRAINING & EDUCATION", and "SERVICES PORTFOLIO". The main content area is titled "ACCESS YOUR OCEAN INFORMATION" and includes a "GETTING STARTED" button. Three main sections are visible: "OCEAN PRODUCTS" (DATA), "OCEAN MONITORING INDICATORS" (TRENDS), and "OCEAN EXPERTISE" (EXPERTISE). A "SHORT-CUT TO SERVICES" sidebar on the right lists "REGISTER NOW!", "SCIENTIFIC QUALITY", "ONLINE TUTORIALS", and "COLLABORATIVE FORUM". Below this is a "LATEST NEWS FLASH" section dated 2018 22 MAR. with the title "CMEMS-732e-A New Service Release on 22 March 2018 - Status on updates INFORMATION" and an "ALL NEWS FLASH" button. The background of the main content area shows a satellite orbiting Earth.

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



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



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



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



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.





Marine
Monitoring

Discover and search for CMEMS products

The screenshot shows the Copernicus Marine Environment Monitoring Service (CMEMS) website. At the top, there is a navigation bar with the Copernicus logo and the text "COPERNICUS MARINE ENVIRONMENT MONITORING SERVICE". Below this is a search bar and a "SHORT-CUT TO SERVICES" menu with icons for "REGISTER NOW", "SOLUTION STATISTICS", "ONLINE TUTORIALS", and "COLLABORATIVE FORUM". The main content area features a "SEARCH YOUR" section with filters for "AREA", "PARAMETERS", "TIME COVERAGE", and "OBSERVATIONS/MODELS". A list of regions is displayed, including "GLOBAL OCEAN", "ARCTIC OCEAN", "INDIC SEA", "EUROPEAN NORTH-WEST SHETLAND SEAS", "MEDITERRANEAN SEA", and "BLACK SEA". At the bottom, there is a banner for the "RAMON MARGALEF SUMMER COLLOQUIA, 6-10 JULY 2015, BARCELONA, SPAIN".

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



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.



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



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

Download



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



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.

Download



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



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



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



Example

YOUR SEARCH ?

Search by keyword

REGIONAL DOMAIN ▶
Mediterranean Sea

PARAMETERS ▶
Temperature

TEMPORAL COVERAGE
From 2018-04-17 To 2018-04-17
 If checked, the search results will only show products containing the whole selected time range

PRODUCT WITH DEPTH LEVEL

COPERNICUS MARINE ENVIRONMENT MONITORING SERVICE Providing PRODUCTS and SERVICES

Search terms OK

ABOUT US MARKETS & BENEFITS NEWS

Found 5 ocean products matching your criteria.

OCEAN PRODUCTS → OCEAN MONITORING INDICATORS → OCEAN STATE REPORT → GETTING STARTED → MY CART My Account

The catalogue has been upgraded and some products accesses still need to be updated. If you face any issue, please check live status.

YOUR SEARCH ?

Search by keyword

REGIONAL DOMAIN ▶
Mediterranean Sea

PARAMETERS ▶
Temperature

TEMPORAL COVERAGE
From 2018-04-17 To 2018-04-17
 If checked, the search results will only show products containing the whole selected time range

PRODUCT WITH DEPTH LEVEL

Found 5 ocean products matching your criteria. Export results

MEDSEA_ANALYSIS_FORECAST_PHY_006_013	
MEDITERRANEAN SEA PHYSICS ANALYSIS AND FORECAST	
MODEL	• • • X
T bottom T S SSH UV MLD	①
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_EUR_SST_L3C_NRT_OBSERVATIONS_010_009_B
EUROPEAN OCEAN- SEA SURFACE TEMPERATURE MONO-SENSOR L3 OBSERVATIONS



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Example

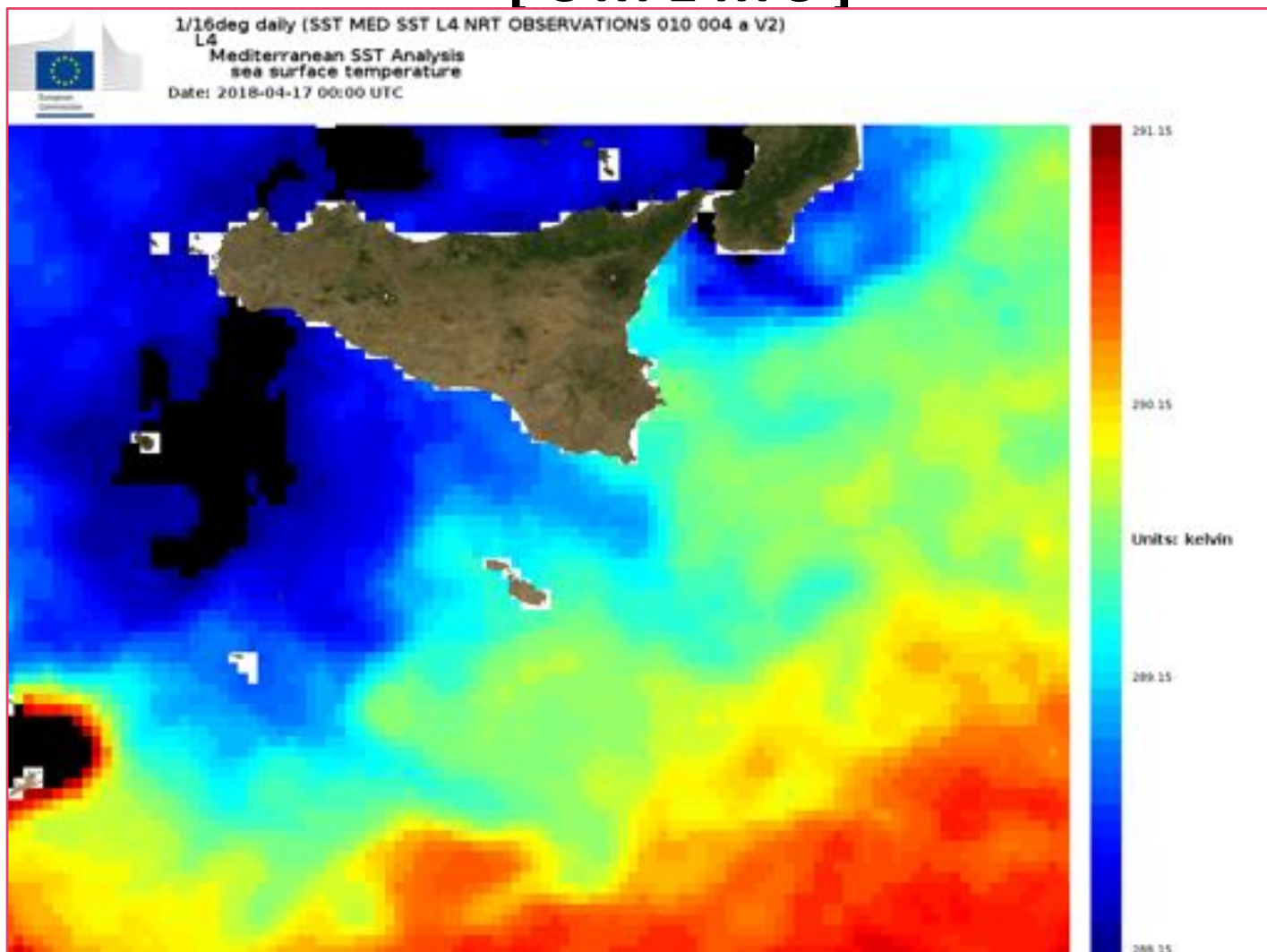
MEDSEA_ANALYSIS_FORECAST_PHY_006_013	
MEDITERRANEAN SEA PHYSICS ANALYSIS AND FORECAST	
MODEL	● ● ● X
T bottom T S SSH UV MLD ⓘ	Potential Temperature [°C] 01.01.2015 00:00 UTC
0.042 degree x 0.042 degree (141 depth levels)	
From 2016-01-01 to Present	
monthly-mean, daily-mean, hourly-mean	
MORE INFO ⓘ	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
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

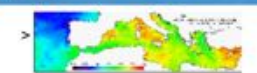


Copernicus Marine Environment Monitoring Service

[C M E M S]



COPERNICUS MARINE ENVIRONMENT MONITORING SERVICE PRODUCT DATA SHEET



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

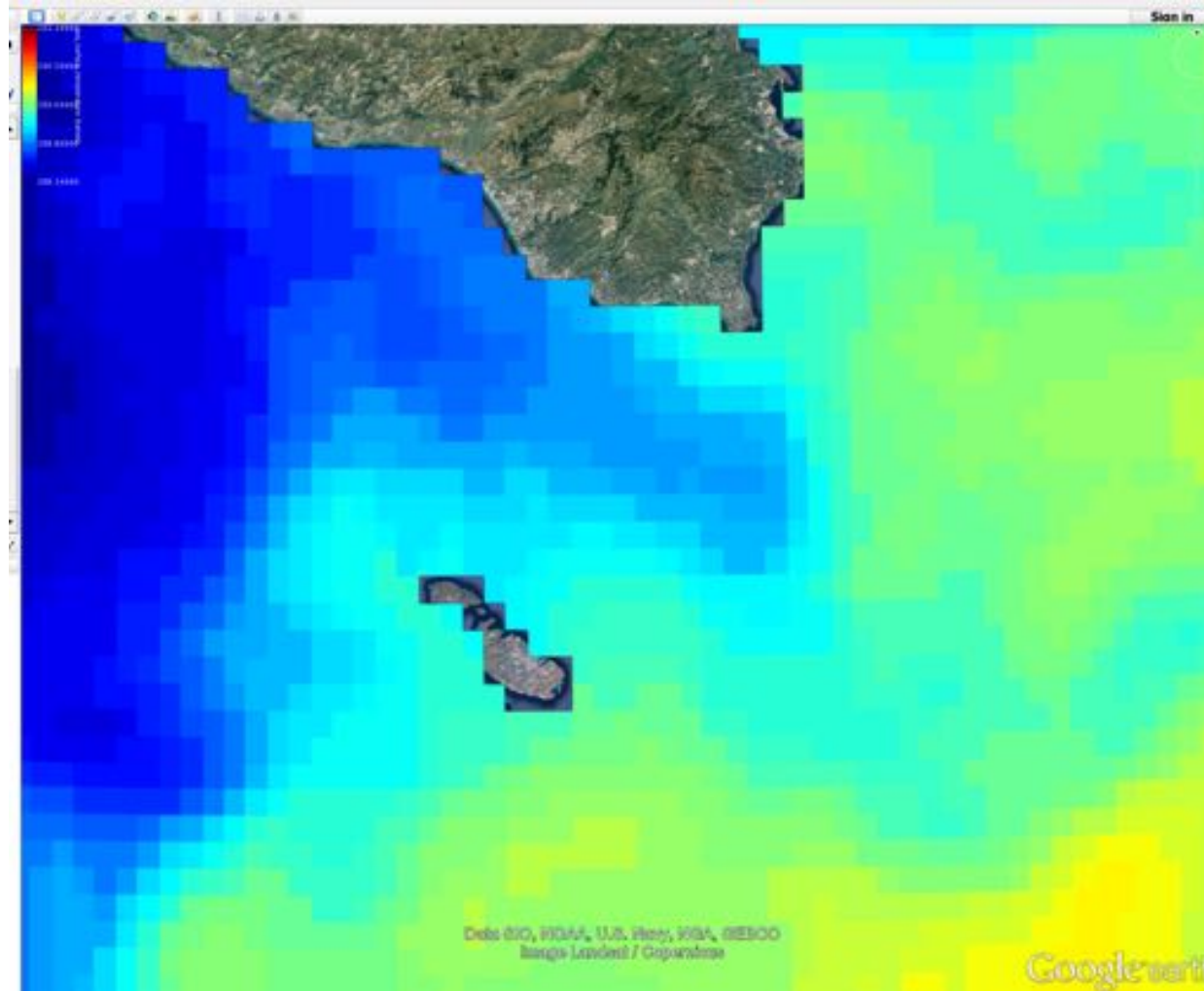
PRODUCT IDENTIFIER	SST_MED_SST_L4_NRT_OBSERVATIONS_010_004	
GEOGRAPHICAL COVERAGE	46.0	Areas : mediterranean-sea
	-18.12	36.25
	30.25	
VARIABLES	sea_surface_temperature (SST)	
OBSERVATION/MODELS	satellite-observation	
PRODUCT TYPE	near-real-time	
PROCESSING LEVEL	L4	
DATA ASSIMILATION	Not Applicable	
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	

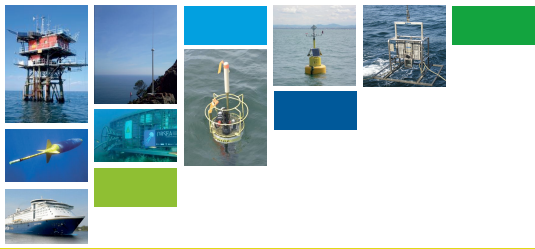


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Thank you

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