

COPERNICUS MARINE SERVICE



Marine Monitoring

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Marine
Monitoring

COPERNICUS MARINE SERVICE

<http://www.marine.copernicus.eu>

The screenshot shows the homepage of the Copernicus Marine Environment Monitoring Service. At the top, there is a header with the European Commission logo and the service name. Below this is a navigation bar with links to ABOUT US, MARKETS & BENEFITS, NEWS, SCIENCE & MONITORING, TRAINING & EDUCATION, and SERVICES PORTFOLIO. A search bar is located on the right. The main content area features a large banner with the text 'ACCESS YOUR OCEAN INFORMATION' and a 'GETTING STARTED' button. Below the banner are three main sections: 'OCEAN PRODUCTS' (with a 'DATA' button), 'OCEAN MONITORING INDICATORS' (with a 'TRENDS' button), and 'OCEAN STATE REPORT' (with an 'EXPERTISE' button). A 'SHORT-CUT TO SERVICES' sidebar on the right lists 'REGISTER NOW!', 'SCIENTIFIC QUALITY', 'ONLINE TUTORIALS', and 'COLLABORATIVE FORUM'. A 'LATEST NEWS FLASH' section on the right mentions 'CMEMS-7324-A' and 'New Service Release on 22 March 2018'. At the bottom, there is a section for 'COPERNICUS MARINE SERVICE AND OCEAN ENERGY EUROPE PARTNERSHIP KICK-OFF IN BRUSSELS' with a 'READ MORE' button, and a promotional banner for the 'Copernicus Marine Service and Ocean Energy Europe Partnership Kick-Off in Brussels' dated April 23, 2018. The footer includes logos for the European Commission, Copernicus, and Mercator Ocean International.

- ONE SINGLE PORTAL
- MARINE PRODUCTS
- OPEN&FREE



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Ocean Data & Information

OCEAN PRODUCTS

Ocean product catalogue, to download or visualize data across more than 10 variables, including historic, current and forecasted data.

DATA



ONLINE CATALOGUE

YOUR SEARCH

Found 151 ocean products matching your criteria.

GLOBAL_ANALYSIS_FORECAST_PHY_001_024

GLOBAL OCEAN 1/2° PHYSICS ANALYSIS AND FORECAST UPDATED DAILY

MODEL: GLO

T bottomT S SSH UN MLD SIC SIT SILV

0.833 degree x 0.833 degree (50 depth levels)

From 2006-12-27 to Present

monthly-mean, daily-mean, hourly-mean

weekly-mean

GLOBAL_ANALYSIS_FORECAST_BIO_001_014

GLOBAL OCEAN BIOGEOCHEMISTRY ANALYSIS AND WEEKLY FORECAST

MODEL: GLO

CHL PHYC2 NCD3 POC4 SI FIC PP

0.5 degree x 0.5 degree (50 depth levels)

From 2012-01-01 to Present

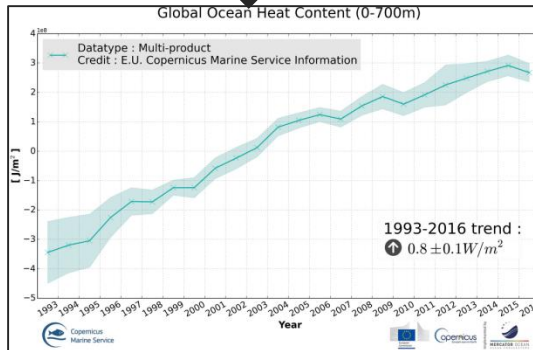
weekly-mean

MORE INFO ADD TO CART WMS Sub-setting

OCEAN MONITORING INDICATORS

Essential variables monitoring the health of the ocean

TRENDS



OCEAN STATE REPORT

Extensive annual analysis on the state of the ocean over nearly 20 years and severe/notable annual events

EXPERTISE



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OCEAN
INTERNATIONAL



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OCEAN DATA, A PUBLIC GOOD

REANALYSES
~25 years



REAL-TIME
Daily, hourly

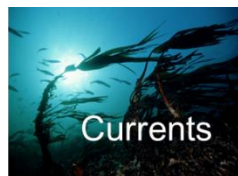


FORECAST
5 to 10 days

**ESSENTIAL
OCEAN
VARIABLES**



- 1 Global
- 2 Arctic
- 3 Baltic
- 4 NWS
- 5 IBI
- 6 Med Sea
- 7 Black Sea



Currents



Temperature



Salinity



Sea
surface
elevation



Sea ice



Surface
wind



Waves



Transparency
Turbidity
Reflectance



Oxygen



Primary
production



Plankton



Nutrients



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OCEAN**
INTERNATIONAL

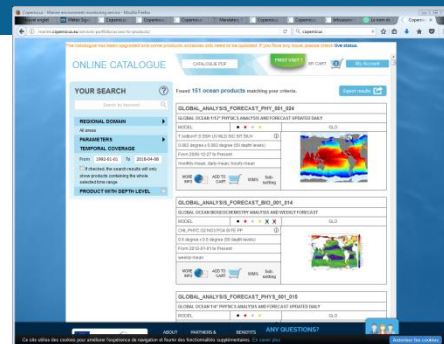


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Marine.copernicus.eu

ACCESS TO DATA & INFORMATION

Free and open access to
worldwide Ocean information
marine.copernicus.eu



• SEARCH
& BROWSE



• DISCOVER
& VISUALISE



• REGISTER



• DOWNLOAD



• COMPUTE



• JOIN UP



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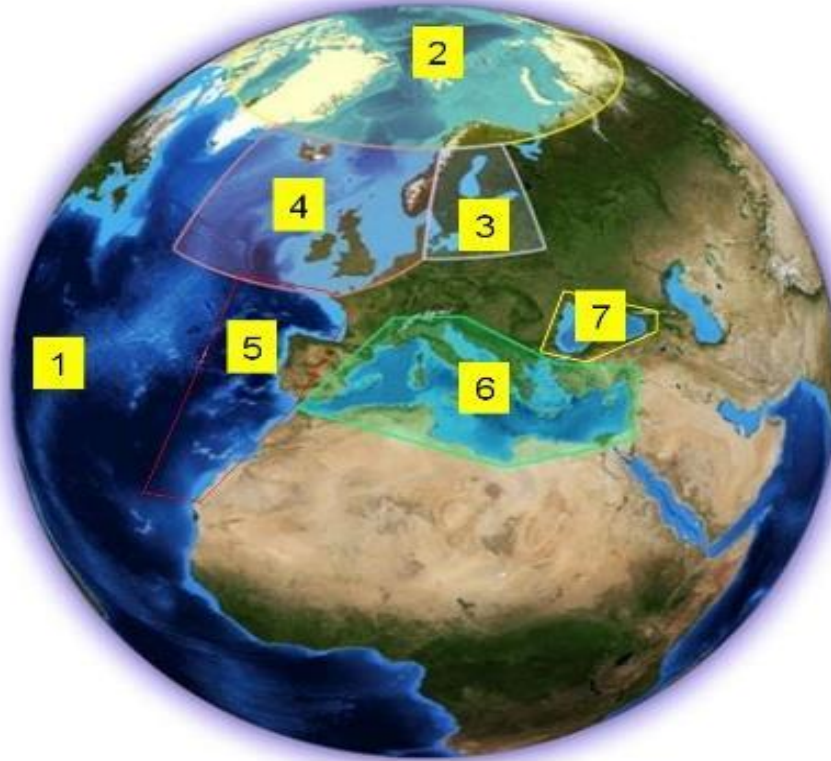


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GLOBAL OCEAN AND EUROPEAN REGIONAL SEAS



- 1. Global
- 2. Arctic
- 3. Baltic
- 4. NWS
- 5. IBI
- 6. Med Sea
- 7. Black Sea



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OUR USER' APPLICATIONS ARE ABOUT:

MARITIME
SAFETY



Copernicus Marine Service supports safety at sea and pollution response

COASTAL
& MARINE



Copernicus Marine Service contributes to coastal management and environmental

➤ **More than 13 000 subscribers worldwide**
➤ **2/3 are active users**

RESOURCES



to the sustainable management of marine resources

WEATHER,
CLIMATE
& SEASONAL
FORECASTING



The Copernicus Marine Service synthesizes the ocean state and health for the preceding 20 years and helps improve seasonal forecasting



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OUR TARGETS :



POLICY-MAKERS



PUBLIC SERVICES



BUSINESS



SCIENCE



NGOs



GENERAL PUBLIC



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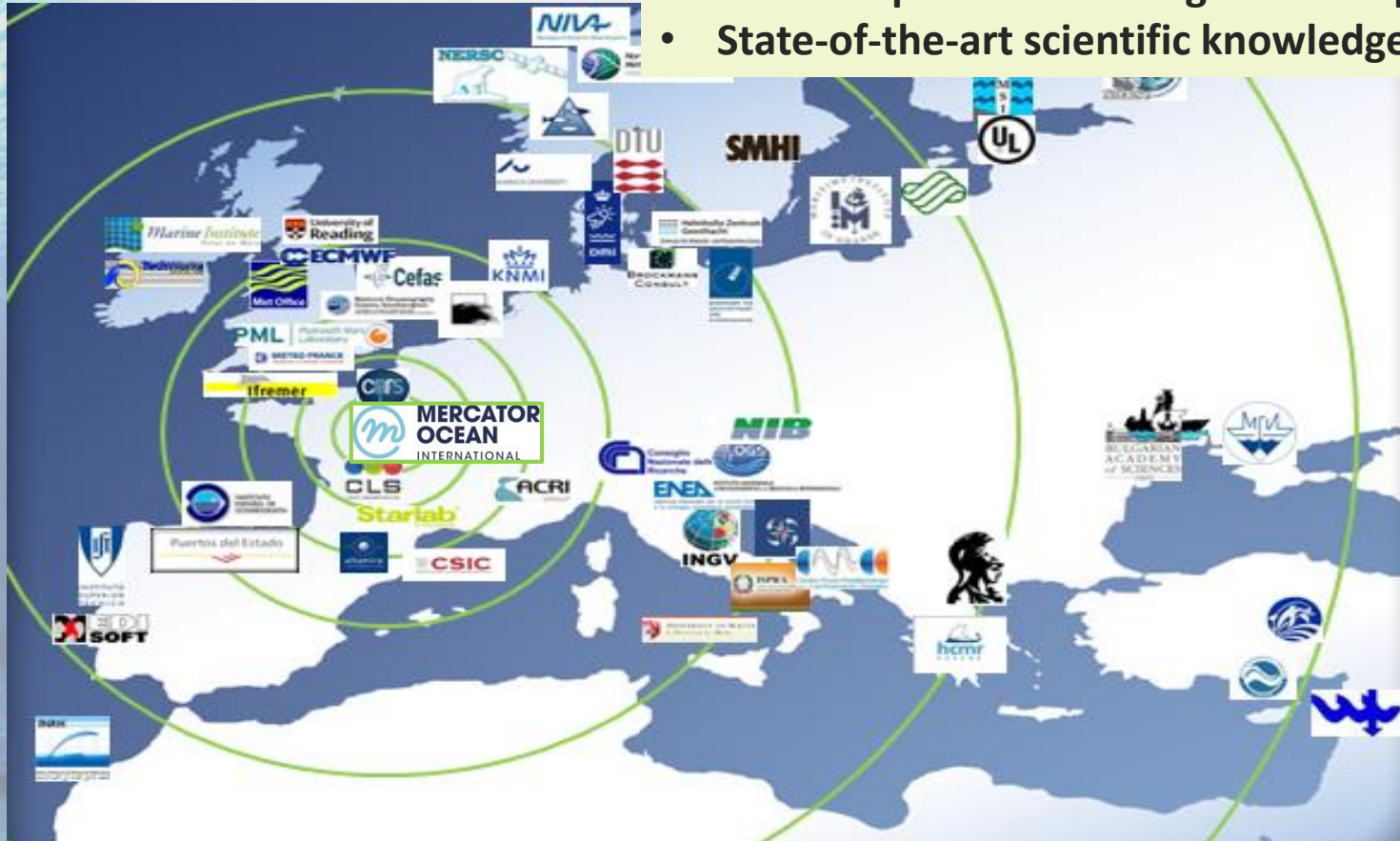
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DATA PROVIDERS

- 40+ data providers throughout Europe
- State-of-the-art scientific knowledge



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Implemented by



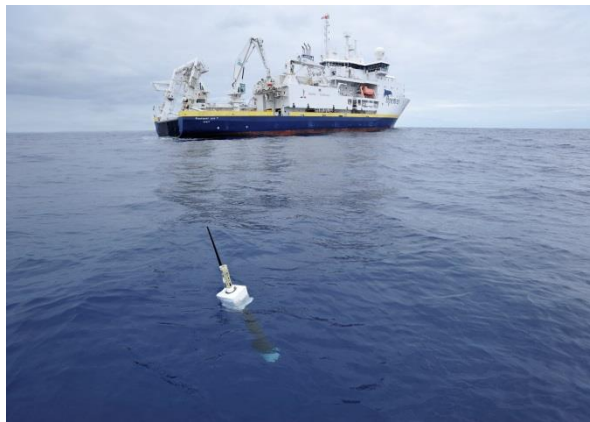


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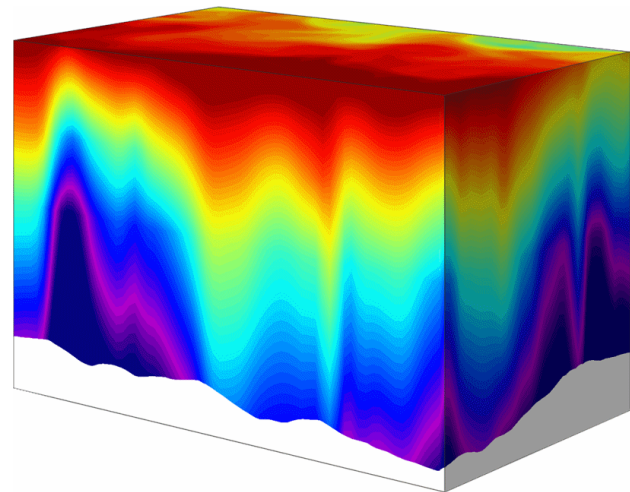
PORTFOLIO GATHERS DATA FROM 3 SOURCES



**SATELLITE
OBSERVATION**



**IN SITU
OBSERVATION**



**OCEAN MODEL
COMPUTATION**



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C M E M S users in Asia

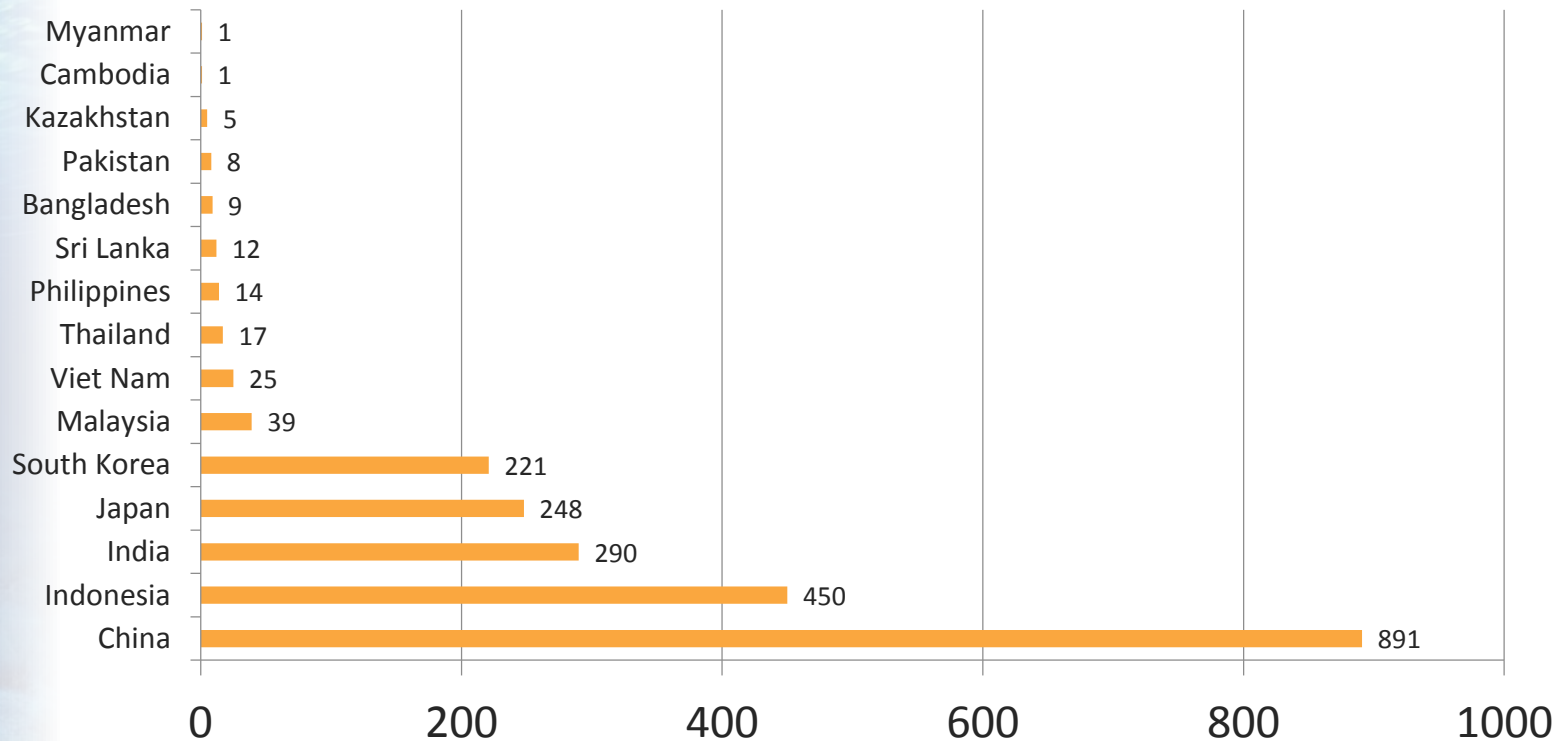
- ✓ **2003 accounts**
- ✓ **355 organisations over 15 countries**
- ✓ **A mean of 5TB of downloaded data each month (since 2017)**
- ✓ **Top 5 family of products downloaded :**
 1. Sea Level
 2. In situ
 3. Global
 4. Arctic
 5. Sea Surface Temperature



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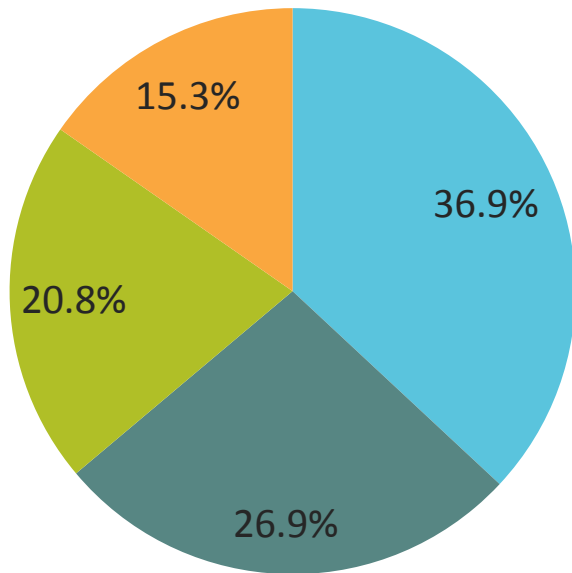
CMEMS users in Asia

Most representative countries by subscribers





Areas of Benefits



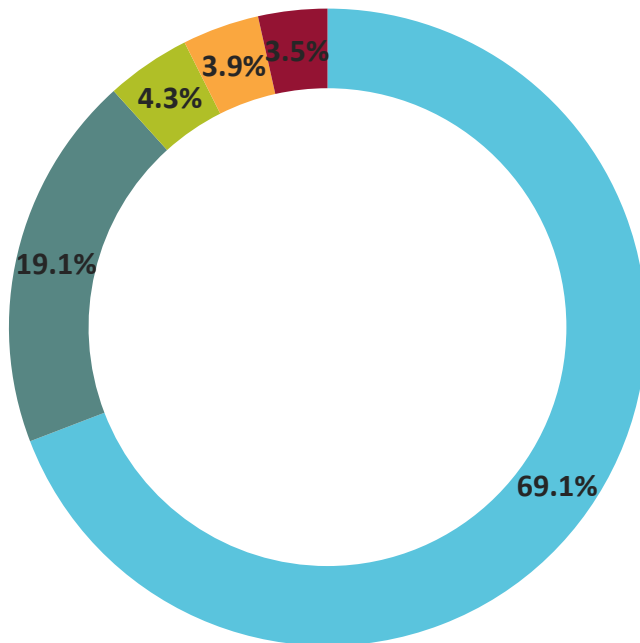
- Climate, Seasonal and Weather Forecasting
- Marine & Coastal Environment
- Maritime Safety
- Marine Resource



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C M E M S u s e r s i n A s i a

Organisation details



■ University

■ Public sector Organisation

■ No organisation

■ Business/Private company

■ Foundation, Association

EXAMPLES OF APPLICATIONS USING CMEMS PRODUCTS THAT ARE DEVELOPED (OR COULD BE DEVELOPED) IN THE ASEAN GEOGRAPHICAL AREA



Marine Monitoring

TAIEX-PI ASEAN Multi-Country Workshop on
Space Applications
18-19/09/2018 - Bangkok



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FORECASTING AND MANAGEMENT CENTER FOR MARINE RESOURCES

MARINE
RESOURCES



INDES



Rationelle

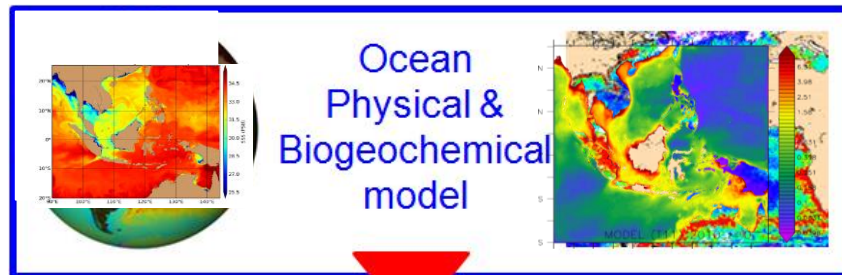
- Predict changes in fishery resource
- Protect them from illegal fishing
- Develop the fish stock on a sustainable way

The Numerical models suite consists of :

- ocean physics (from CMEMS)
- biochemistry (from CMEMS)
- fish population dynamics (from CLS)

The suite of models :

→ Fully operational in Perancak (Bali) since
September 2014





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SAVING FUEL / SHIPPING COMPANY

COASTAL
& MARINE
ENVIRONMENT



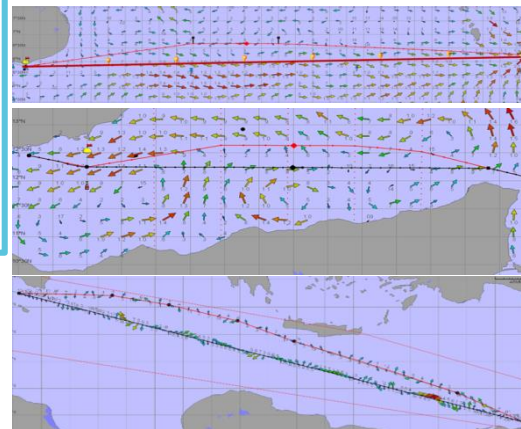
To reduce fuel consumption for ecological & economical reasons

3 options:

- ✓ Optimize engines, propellers, hulls...
- ✓ Improve organization...
- ✓ Take benefit of Meteorology/ Operational Oceanography (**current observations and forecast**)

0,4 % = Average level of savings thanks to « current routing »
(Line Europe-China Q2 2015)

Target : To save 1% thanks « current routing »
(**current forecast reliability**) would lead to 60 000t fuel saving
for the whole fleet so as 180 000t CO₂.



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EXPLORING NEW SOURCES OF ENERGY : OTEC

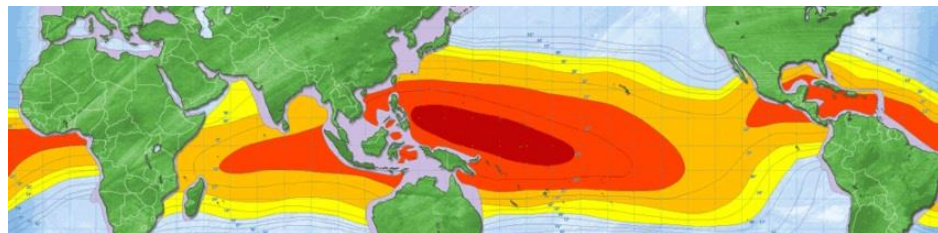
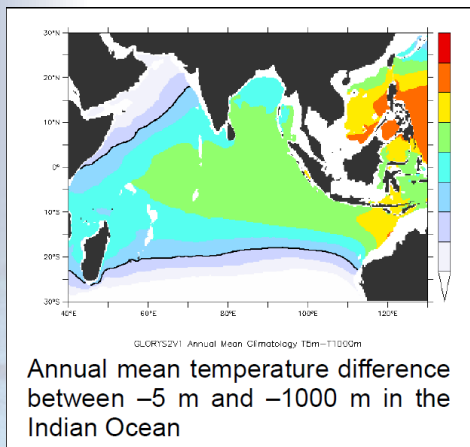
COASTAL
& MARINE
ENVIRONMENT



Seas and oceans cover two thirds of the surface of the globe and store immense amounts of potentially usable energy.

Ocean Thermal Energy Conversion (OTEC) exploits the difference in temperature between warm surface waters and cooler deep water. To be economically feasible there must be a difference in temperature of more than 20 °C between the water at the surface and at depth.

OTEC brings value in tropical regions.



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Implementation by



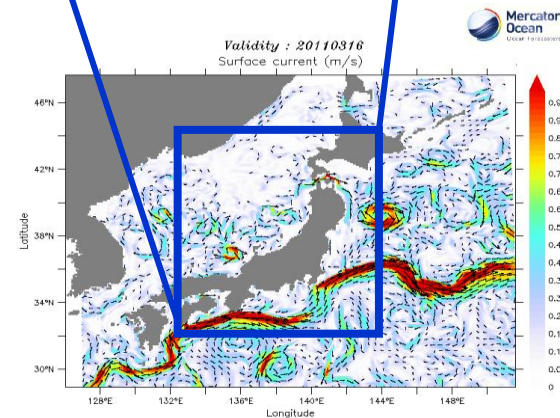
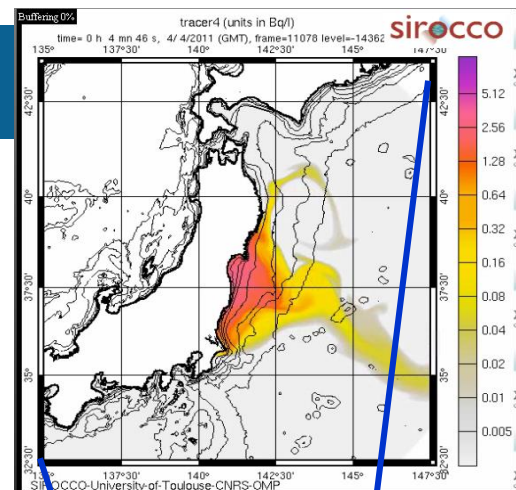
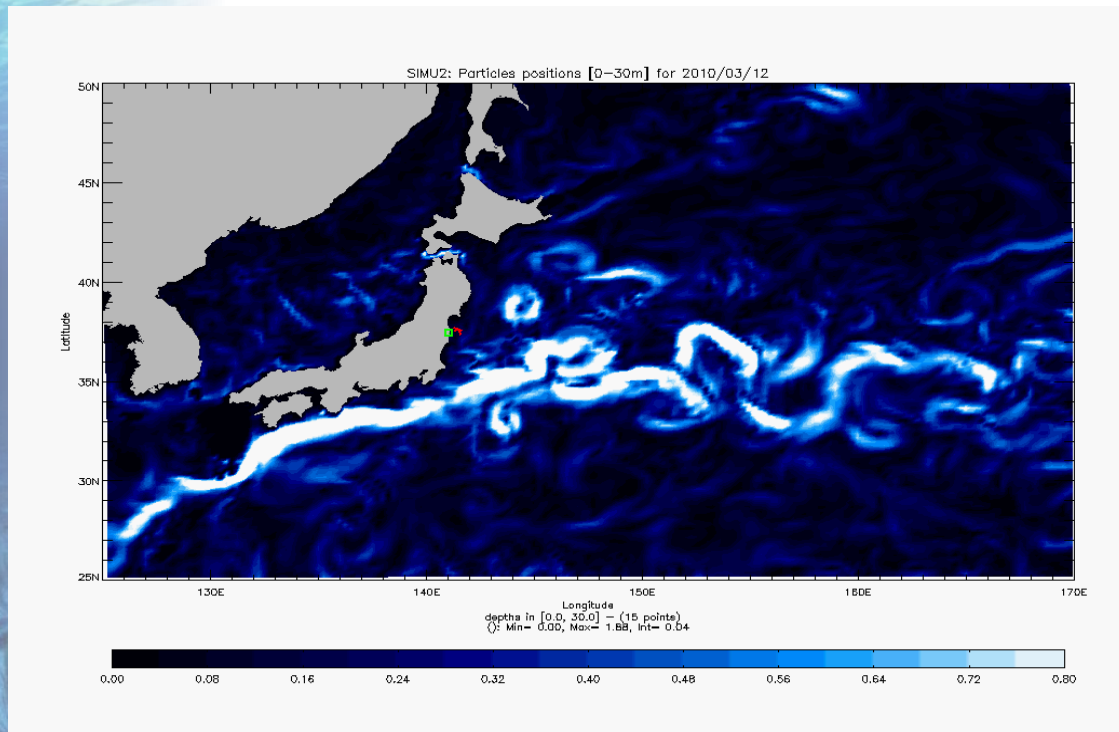
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CONTRIBUTING TO RISK MITIGATION PLAN (FUKUSHIMA)

Immediate overview of the pollution drift



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CONTACT US

JOIN THE COPERNICUS MARINE SERVICE COMMUNITY



Web portal

marine.copernicus.eu

Service Desk's email

servicedesk.cmems@mercator-ocean.eu

Collaborative Forum

<http://forum.marine.copernicus.eu/>



Mercator Océan

@MercatorOcean

Copernicus EU

@CMEMS_EU



MercatorOcean



Linkedin CMEMS partnership Meeting place

<https://www.linkedin.com/groups/8243515>



Tutorials on CMEMS YouTube channel

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