Ocean reporting activities of the Copernicus Marine Environment Monitoring Service

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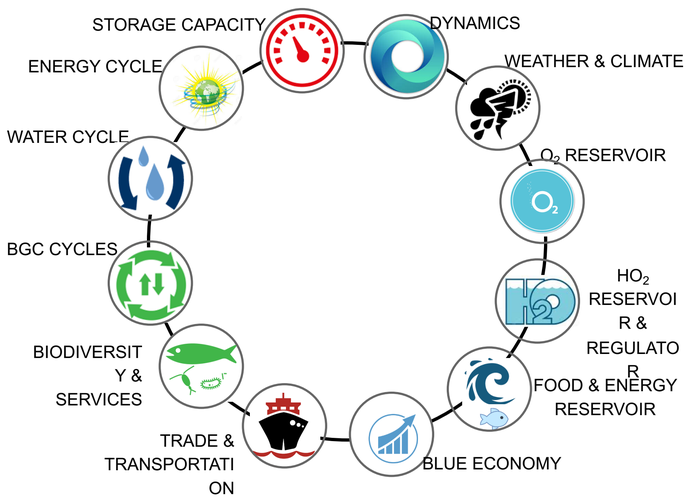
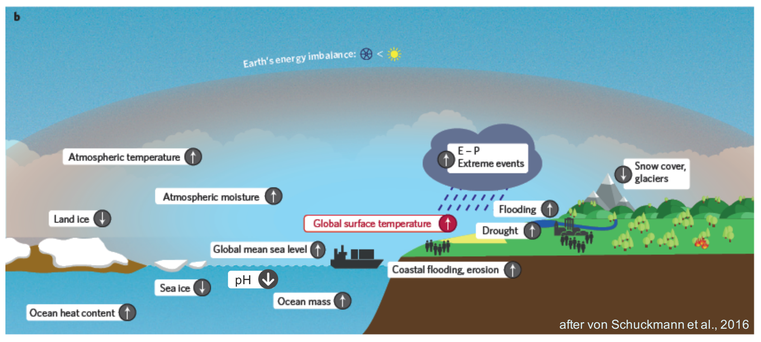
THE WORLD OCEANS DRIVE GLOBAL & REGIONAL SYSTEMS



GLOBAL WARMING: PRESSURE ON THE MARINE ENVIRONMENT



WARMING OF THE OCEANS

ACIDIFICATION OF THE OCEANS

CHANGES OF OCEAN CRICULATION

INCREASING OCEAN MONITORING NEEDS

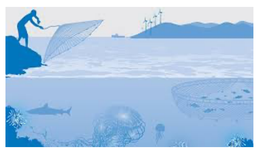
SUSTAINABLE DEVELOPMENT GOALS

Recognized at the highest levels

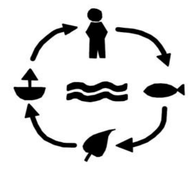
(e.g. UN/Agenda 2030/SDG, IPCC/Ocean&Cryosphere, OECD/the future of ocean economy, G7/future of the oceans and seas)

Blue Growth and Societal Challenges

To understand and predict the evolution of our weather and climate



For an increasing number of ocean services and the development of the blue economy



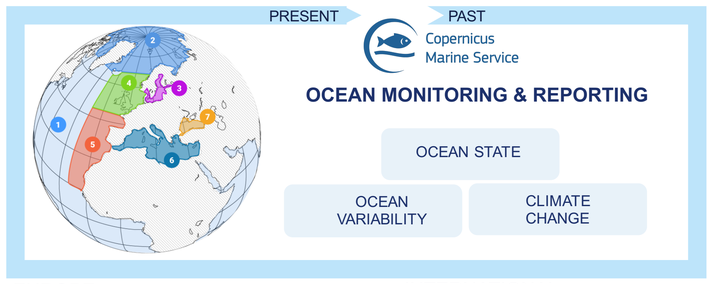
Better and sustainable management of the oceans and its resources.

The Copernicus Marine Service ocean reporting provides a comprehensive and state-of-the art assessment of the state of the global ocean and European regional seas for the ocean scientific community as well as for policy and decision makers. It will contribute to the reporting tasks and activities of European environmental agencies (e.g. EEA) and international organizations (e.g. IPCC, UN SDGs 13 & 14). In addition, the report aims at increasing general public awareness about the status of, and changes in, the marine environment.

COPERNICUS MARINE SERVICE MONITORING & REPORTING:

OBJECTIVE

Develop a fundamental source of CMEMS value-added information and indicators for the monitoring & reporting of the European regional seas and the global ocean state, variability and change from the past to the present.

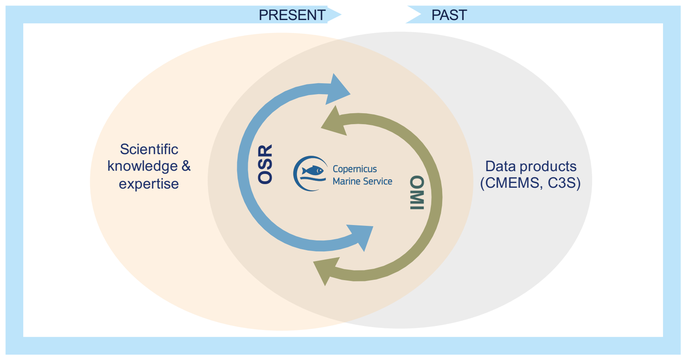


EUROPE: Link to C3S, EEA/MSFD, ICES, EC, EuroGOOS, …

INTERNATIONAL: Link to SDG, BAMS, GCP, WMO, Ocean & Climate platform, …

TOOLS

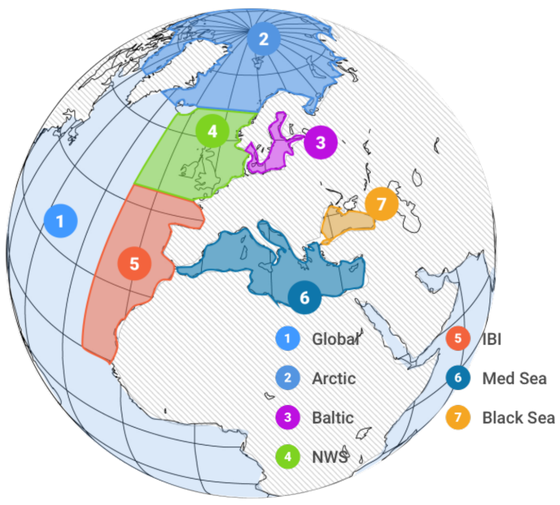
I. Regular release of the peer-reviewed CMEMS Ocean State Report containing a state-of-the-art value-added synthesis of the ocean state, variability and change from the past to present
II. Ocean Monitoring Indicators and related operational framework on the CMEMS web portal.



THE COPERNICUS MARINE SERVICE OCEAN STATE REPORT

The Copernicus Marine Environment Monitoring Service (CMEMS) Ocean State Report provides a comprehensive and state-of-the art assessment of the state of the global ocean and European regional seas

The Ocean State Report draws on expert analysis and provides a 4-D view (reanalysis systems), from above (through remote sensing data) and directly from the interior (in situ measurements) of the blue, white and green ocean.



MULTI-YEAR PRODUCTS

REANALYSES | IN SITU | SATELLITE

NEAR-REAL-TIME PRODUCTS

Use of Copenicus Marine Environment Monitoring Service products from ocean reanalysis, direct observations (in situ) and remote sensing data.

BLUE OCEAN (e.g. hydrography, currents)

WHITE OCEAN (e.g. sea ice)

GREEN OCEAN (e.g. chlorohyll, oxygen)

Scientific integrity is assured through the process of independent peer review in collaboration with the Journal of Operational Oceanography and IMAREST.

- Current collaboration of more than 100 scientific experts from more than 25 different European institutions
- Fundamental step forward into the development of regular Copernicus Marine Service regular reporting

ISSUE #1 & #2:

- Published in the Journal of Operational Oceanography (JOO): Open access
- Summary for policy makers
- Mentioned as Copernicus achievement 2017
- Chair & team medal award
- More than 7500 views since publication

ISSUE #3:

- In press in the Journal of Operational Oceanography

ISSUE #4:

- Accepted in the Journal of Operational Oceanography

ISSUE #5:

- In preparation

More information: http://marine.copernicus.eu/science-learning/ocean-state-report/

THE COPERNICUS MARINE SERVICE OCEAN MONITORING INDICATORS

The Copernicus Marine Service Ocean Monitoring Indicators are the fundamental baseline for regular monitoring to inform on the status and health of the Marine Environment of the global ocean and the European regional seas. The are up-dated on a regular frequency and deliver information from the past to the real time.

VISUALISATION | DOCUMENTATION | DATA DISTRIBUTION

The Copernicus Ocean Monitoring Indicator "package" includes

- ✓ A high quality visualization
- ✓ A set of documentation, including a scientific context and main results, information on the indicator quality and on the products used for its development
- ✓ The numerical values in netcdf format

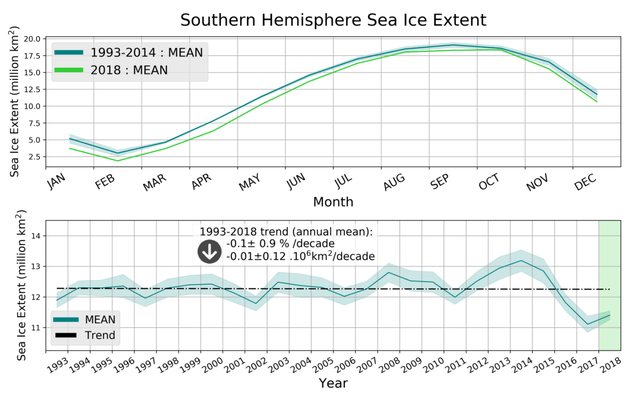
All elements can be downloaded are integrated in the CMEMS catalogue

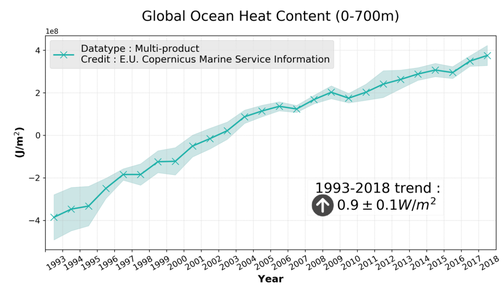
More information: http://marine.copernicus.eu/science-learning/ocean-monitoring-indicators/

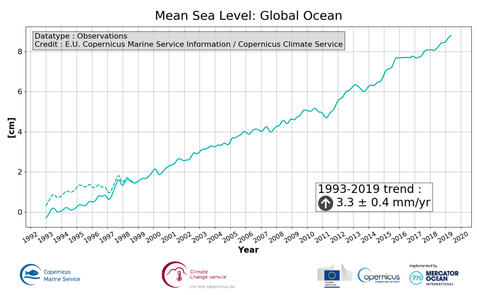
Current available CMEMS Ocean Monitoring Indicators

Ocean heat content | Sea level | Ocean health

Sea ice extent | Temperature & salinity







Next release of additional indicators & updates: June 2020