

European ocean monitoring and forecasting: products, service and downstream applications

The MyOcean Board

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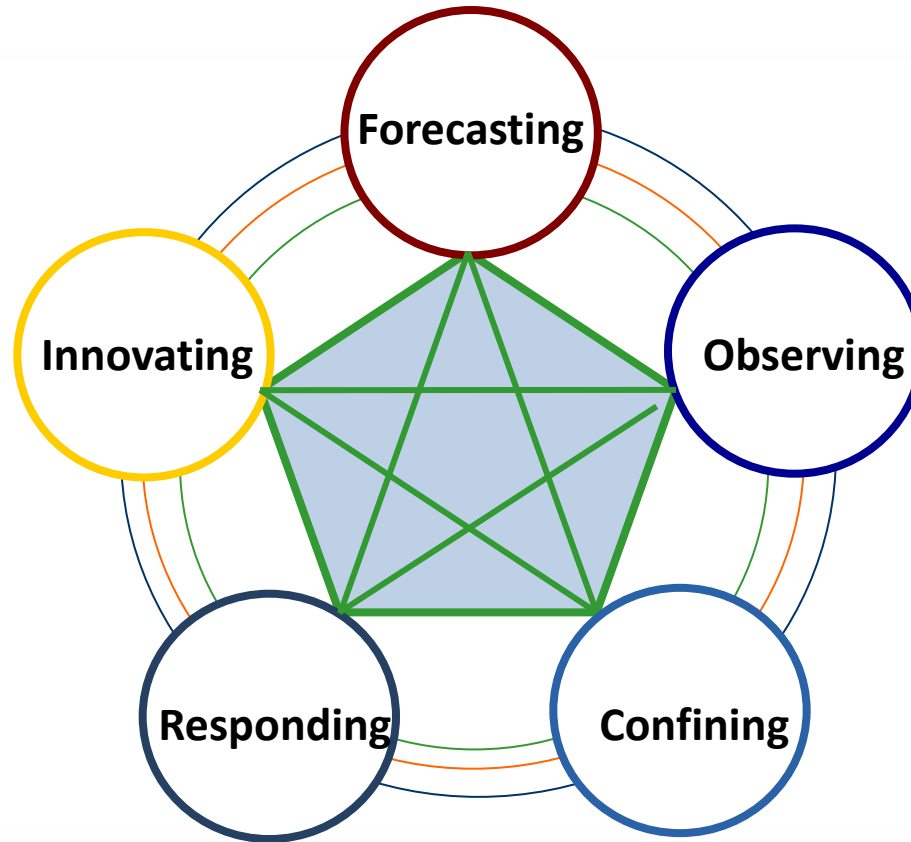
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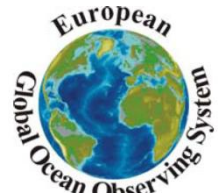
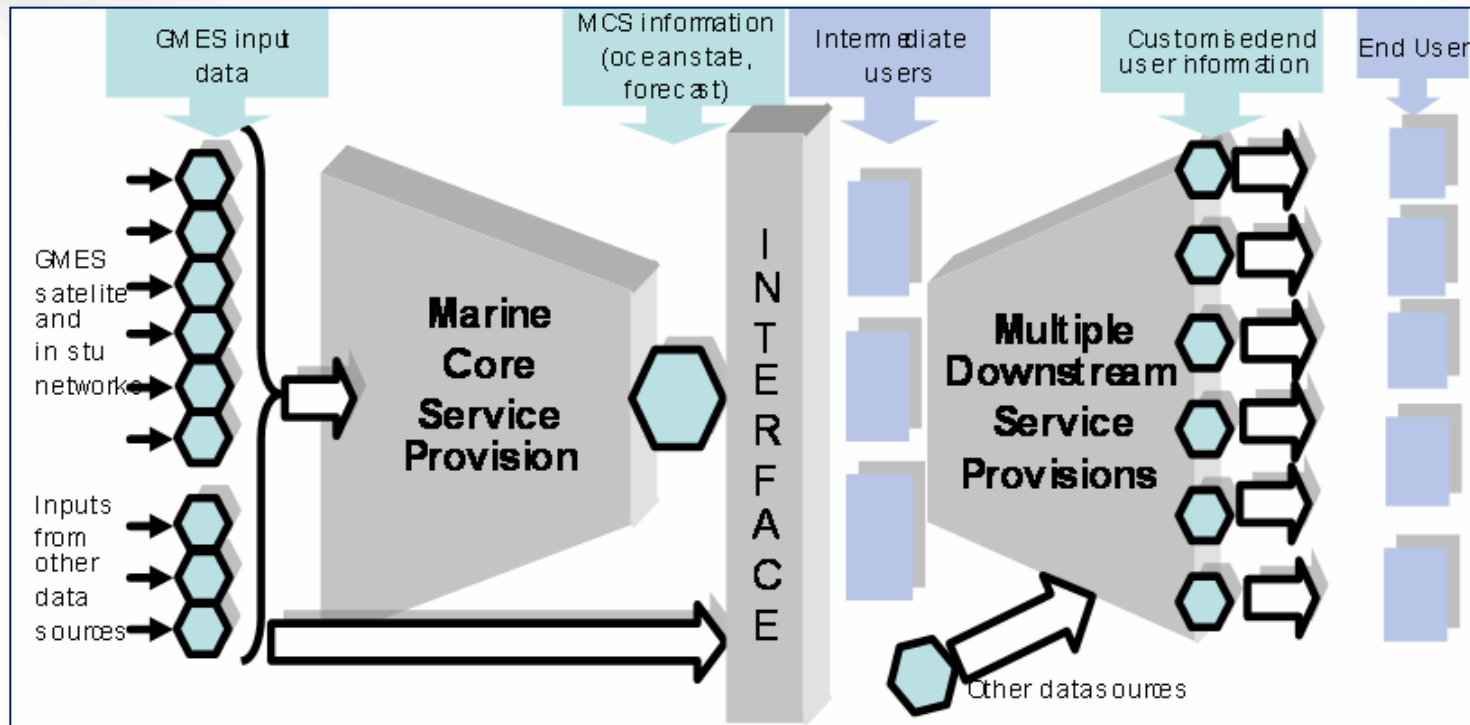
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The grand challenges

From the Earth System Science for Global Sustainability , 2010



The answer: a Copernicus Marine Service



Marine Core Service
Implementation Group
(April 2007)

A two-fold strategy for community-defined essential state variables

❶ An operational production & service

❷ A continuous dialog with users

The Copernicus marine service: a pan-European network organization

5 Thematic Assembly Centres

Observations

Sea Level



Ocean Color



Sea Surface Temperature



Sea Ice & Wind



In Situ



7 Monitoring and Forecasting Centres

Models

Global Ocean



Arctic Ocean



Baltic Sea



Atlantic NWS



Atlantic IBI

Puertos del Estado

Mediterranean Sea



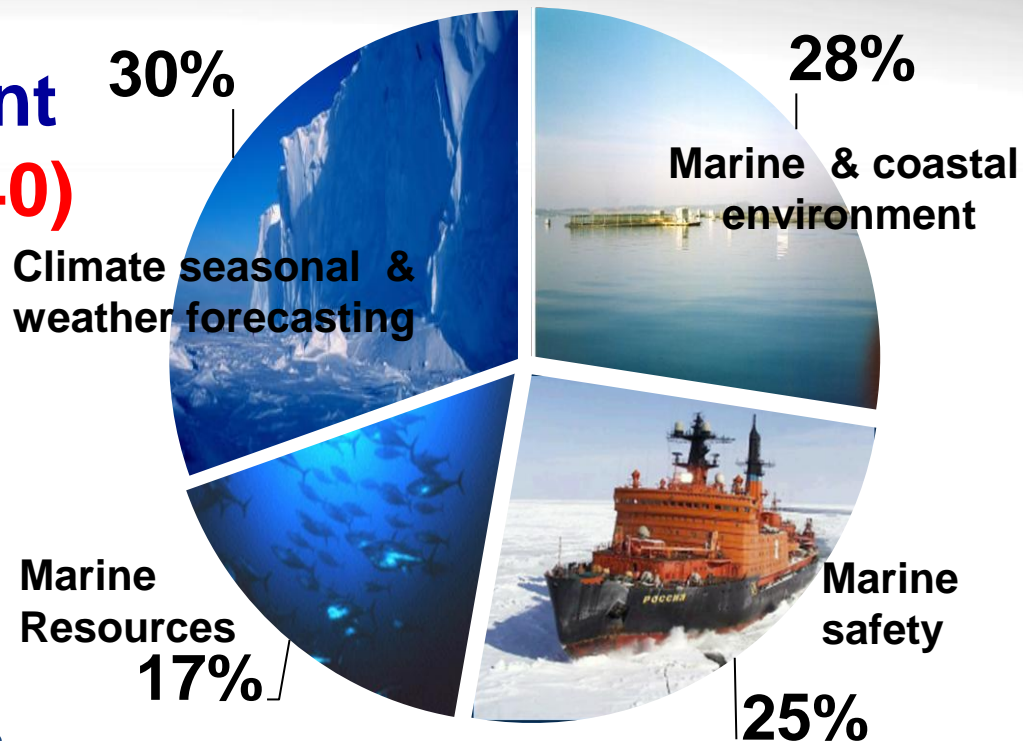
Black Sea



Service Desk

The MyOcean service: stakeholders and end-users

**2300 Users in 92 different
countries (US:141; CA:40)**



**A fair repartition in
application areas**

70% of users using the service
in more than one sector

MyOcean users: Costa Concordia accident response

- MyOcean – Daily scenario forecasts of the possible oil spill drift and spreading



Currents
forecasted in
the area



Oil spill
scenario
derived locally

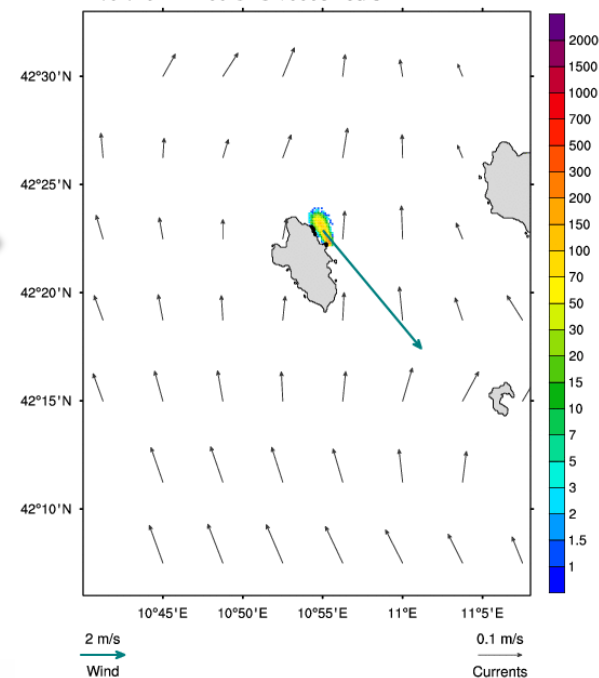


Decision
support for
operations

13th Jan 2012



Surface oil concentration, ton/km²
22/01/2012 12:00 UTC +0006 hours



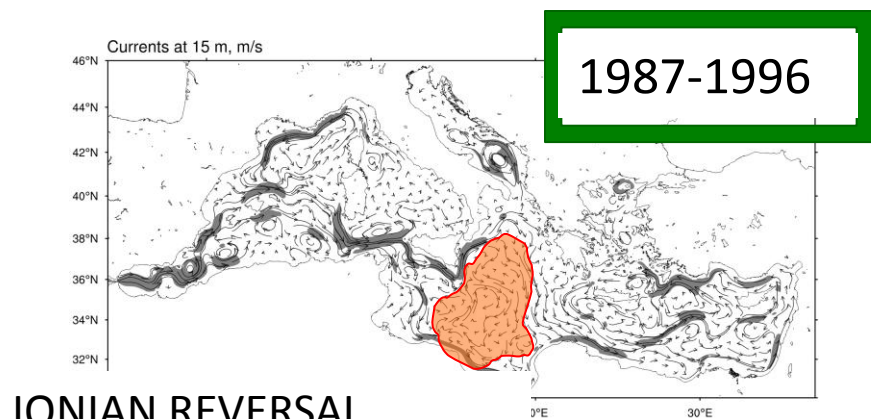
ITALIAN COAST GUARD HEADQUARTERS



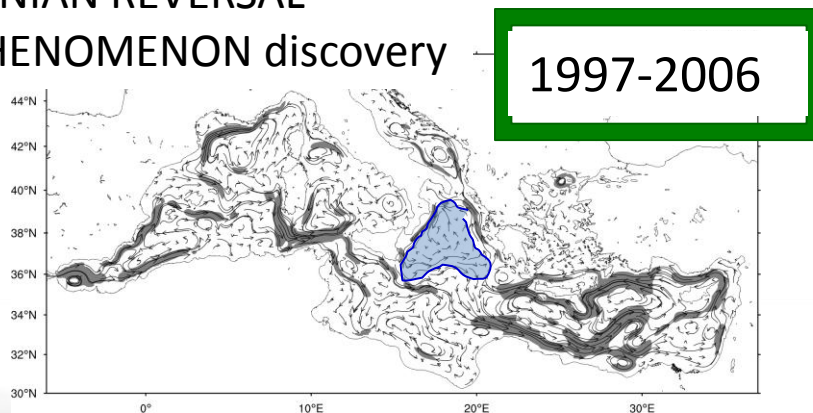
Comando Generale del
Corpo delle
Capitanerie di Porto

MyOcean users: R&D and environmental assessment community

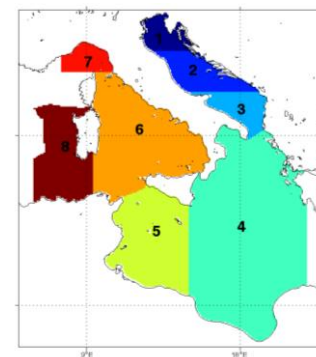
- MyOcean – re-analysis of the past twenty years variability at mesoscale resolution in the Med Sea



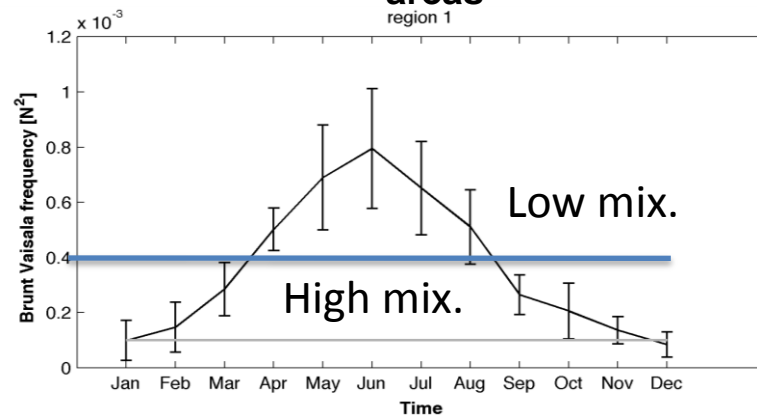
IONIAN REVERSAL
PHENOMENON discovery



Italian EPA: evaluation
of mixing indicator
from re-analysis
and for Italian Seas



Italian Sea
areas
region 1



Suggestions for the EU-US-CA collaboration

- Existing knowledge gaps in ocean forecasting:
 - Establish an efficient, cost-effective ocean *real time monitoring* system, from in situ and satellite, interoperable with atmosphere, land and ecosystem monitoring
 - Increase *ocean forecast skill* to ten days developing more accurate numerical models and data assimilation techniques
 - Develop quality standards for *reconstructions of the past 150 years* of ocean climate via data assimilation techniques
- Sharing knowledge on ocean forecasting:
 - Set up a **Permanent EU-US-CA Round Table** to develop common technological platforms for Observations, Data Management and Ocean Services in the North Atlantic and its marginal Seas