



Euro-GOOS

Coastal and Shelf Seas Modeling

Working Group

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GODAE COSS-TT Meeting Lecce 2013, Italy

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OUTLINE

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- *The work and scope of the group - Terms of Reference*
- *The Members*
- *Out coming of the first meeting*
- *Conclusions*



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Euro-GOOS

EuroGOOS is an Association of Agencies, founded in 1994, to further the goals of [GOOS](#), and in particular the development of Operational Oceanography in the European Sea areas and adjacent oceans.

EuroGOOS is established with full recognition of the importance of existing systems in research and operational oceanography in Europe at national and European scales.

EuroGOOS provides a coordinated European approach and response to discussions and initiatives at a pan-European level, and to that extent EuroGOOS interacts with the European Commission and other international and intergovernmental entities



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EuroGOOS priorities

Priority 1:

...

Priority 5: Contribute to the further development of GOOS, in particular by taking the lead in advancing Coastal GOOS

...

Priority 8: Work towards involving all European coastal states, through their operational oceanographic institutions, in EuroGOOS work



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Motivation

In order to guarantee continuity to a large lavished effort by our (European) community in the past few years and in the hope of further and stronger coordinated collaboration between the groups, we felt the necessity to establish a new Working Group within the framework of EuroGOOS.

This is a challenging but also relevant issues.

- The coast and its adjacent areas on and off shore are an important part of a local ecosystem
- More and more of the world's people live in coastal regions
- Coasts also face many human-induced environmental impacts



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Terms of Reference

The EuroGOOS Coastal and Shelf seas Modeling Group main objective is to establish a network of European experts from different coastal oceanography disciplines to discuss, promote and coordinate Coastal Ocean modeling (monitoring) activities in Europe.

The Coastal Modeling-WG meets on yearly basis.



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Terms of Reference

The main objectives of the COSMO-WG are:

- maintain a link between international efforts (with particular attention to the GODAE OceanView Coastal Ocean and Shelf Seas Task Team) and ongoing coastal modelling activities in Europe;
- maintain a continuous link between global/regional and European coastal ocean operational activities at European Level, identifying the requirements to fill the gap between the different scales for a proper downscaling;
- monitor European research activities associated with coastal and shelf seas;
- promote actions aimed at coordinating research associated with coastal and shelf seas activities;
- address the issue of model validations and routine observations in coastal areas;
- identify coastal modelling requirements in terms of numeric and codes;
- address the issue of data assimilation in coastal areas;
- identify common protocols in coastal ocean model nesting and define a strategy for future works;
- create a roundtable of recognized experts from different coastal ocean disciplines (physical and biogeochemical numerical modelling, data assimilation, remote and in-situ observations, validation and operational activities);



List of experts

Round table of recognized experts from different coastal ocean disciplines (physical and biogeochemical numerical modelling, data assimilation, remote and in-situ observations, validation and operational activities).

Chair: Paolo Oddo (INGV, Italy), Ole Krarup Leth (DMI, Denmark)

Ocean Numerical modeling:

Rachid Benshila (LOCEAN IPSL, France) NEMO, Jason Holt (NOC), Eric Deleersnijder (IMMC, Belgium)

Global/Regional Operational Oceanography: John Siddorn (UK Met Office, UK)

Other international groups: Pierre De Mey (LEGOS, France), GODAE COSS-TT

Coastal Observations: Joaquin Tintoré (IMEDEA, Spain)

Biogeochemistry: Letizia Tedesco (SYKE, Finland)

Coastal Operational Applications and Services: Gennady Korotaev (MHI, Ukraine)

Nesting: Paolo Oddo (INGV, Italy)

Relevant Coastal physical processes: Frank Dumas (IFREMER, France)

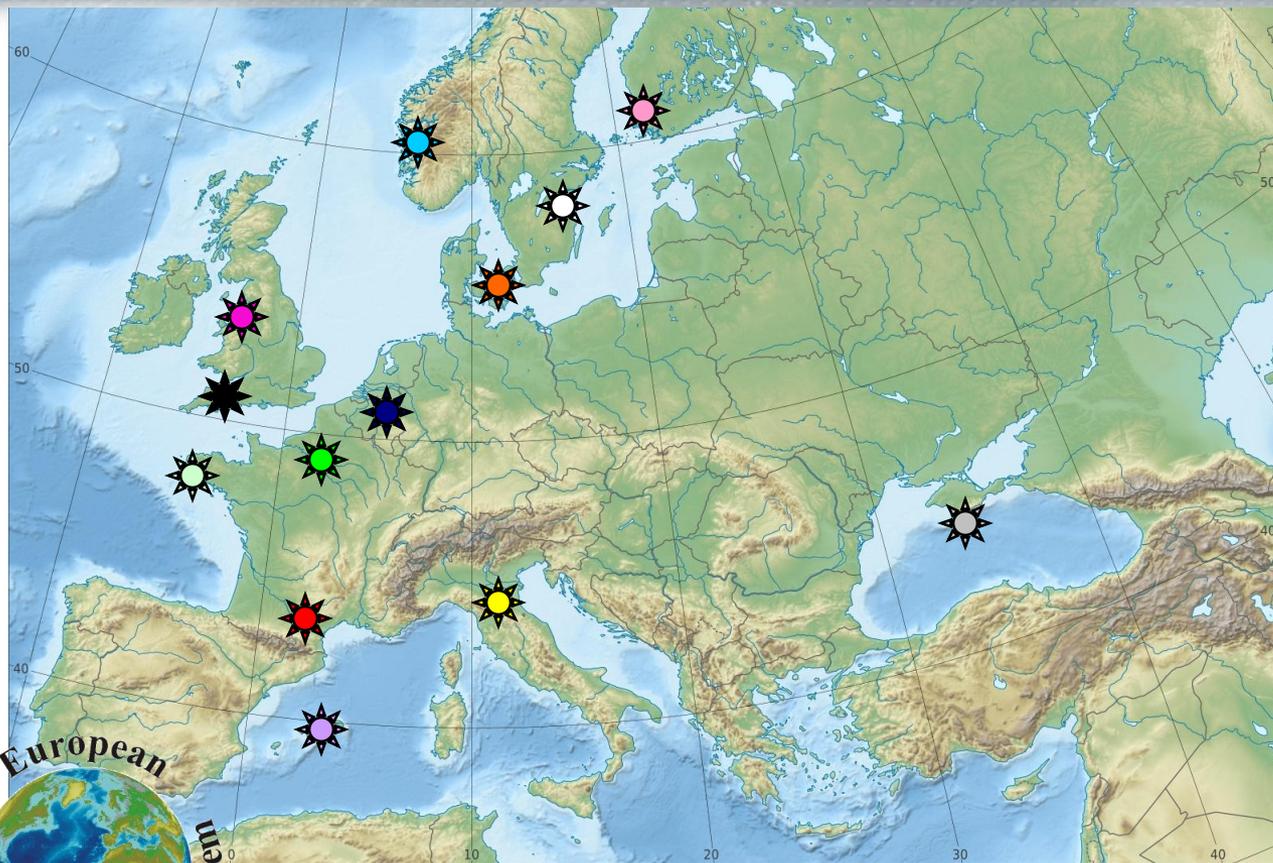
Sea ice: Lars Axell (SMHI, Sweden)

Remote Sensing for coast: Calire Dufau (CLS, France)

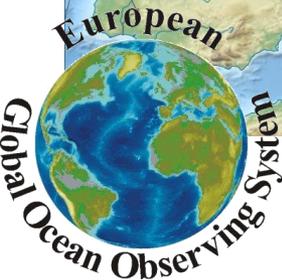
Data Assimilation in coastal areas: Srdjan Dobricic (CMCC, Italy)

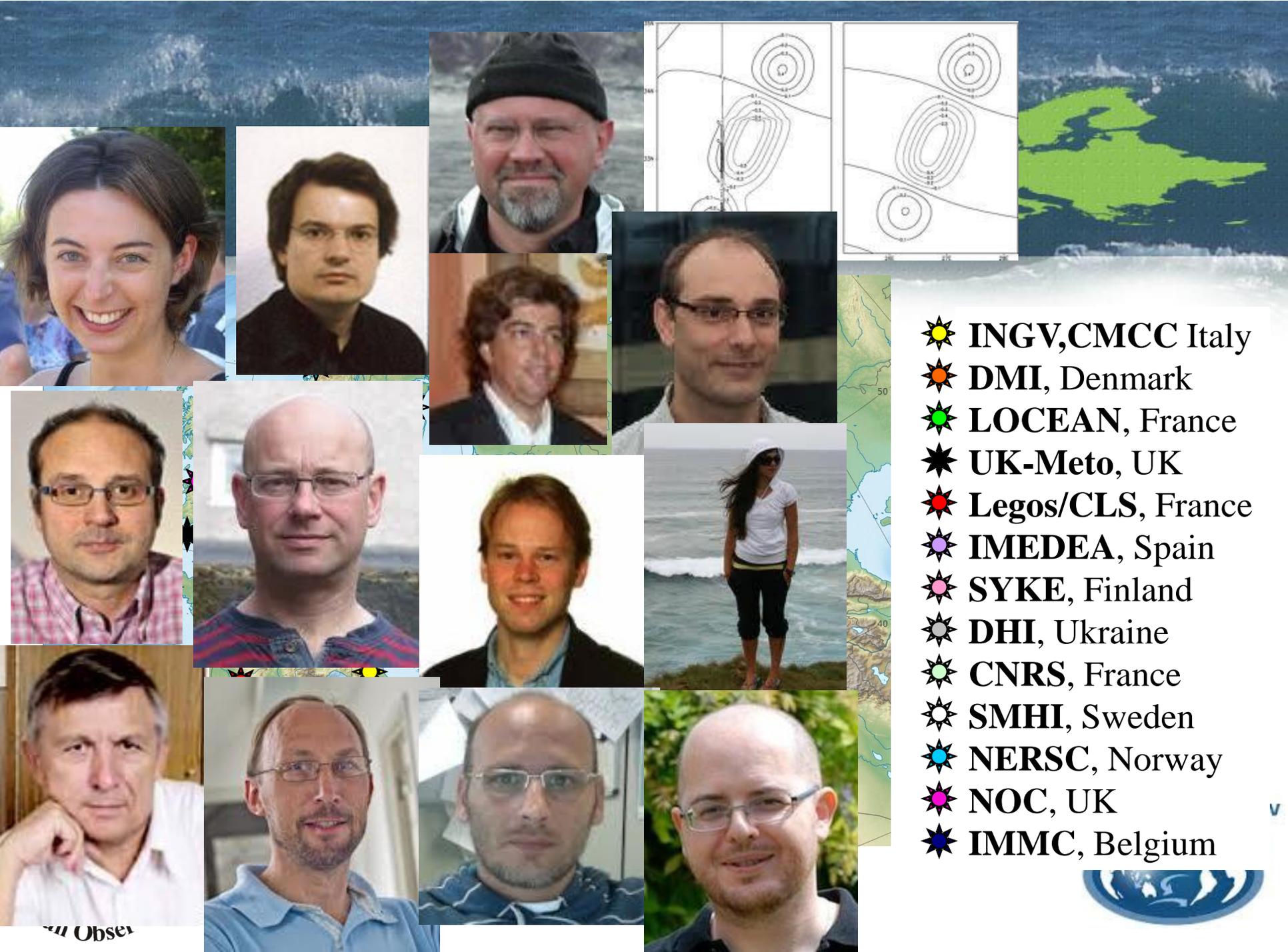
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- ★ **DMI**, Denmark
- ★ **LOCEAN**, France
- ★ **UK-Meto**, UK
- ★ **Legos/CLS**, France
- ★ **IMEDEA**, Spain
- ★ **SYKE**, Finland
- ★ **DHI**, Ukraine
- ★ **CNRS**, France
- ★ **SMHI**, Sweden
- ★ **NERSC**, Norway
- ★ **NOC**, UK
- ★ **IMMC**, Belgium





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1° EuroGOOS Coastal Modeling WG meeting 17 December 2012, INGV Bologna

to **share our ideas** about the status and the needs of coastal ocean modeling focusing on some already identified issues and/or promoting new ones.

On the base of the inputs provided by the presenters identify common ideas that can be supported by the activity of this WG and review the Term Of References accordingly.

In order to guarantee consistency there is a clear need to **consolidate the WG**, define an active **core-team** and **promote this initiative enlarging the number of participants**. Targeted actions to achieve this goal need to be identified during the meeting

We need also to **define an Agenda for the Working Group**, define priorities and identify concrete goals and the actions required.



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First Meeting Results

Relevant physical processes. Are we confident we are not limited by our processes understanding? We need to share our experience. Select only the commons? Identify a set of key processes/variables and validation protocols in selected Test areas (with associated variables)

Common physical processes: rivers input is key problem for coastal, sediment and nutrient volume and fresh water. Sub-mesoscale/mesoscale shelf-slope exchange processes and eddy reproduction. Sea-level and all related processes.

Data Assimilation. Very important maybe more members in the WG.

Model quality, common validation. Define the "Coastal ocean state" and not a single variable.

Model validation and model observation comparison. Identify 3/4/5 areas of the coastal European seas.

Satellite. Coastal altimetry. Coastal model validation.

Coastal models value: Compare coastal and regional models solution with available observations (in-situ and remote) in order to understand and quantify the improvement.

Coastal application of NEMO -> Provide recommendations.

LOBC is common and very relevant





- 1) Document of strategy regarding finite difference Vs. unstructured;
- 2) **Guidelines for NEMO developments towards the coast;**
- 3) **Provide a strategy for “large scale coastal processes” (storm surges, coastal waves) – what would be a sensible strategy with respect to these coastal global processes?**
- 4) Document with best practices for LOBC;
- 5) Update of coastal assimilation in the CSSWG white paper (2007);
- 6) Promote links between coastal altimetry and coastal modeling community.



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First Goal: Shared Document. We start identifying a set of relevant (key) physical processes that can serve for the characterization of the "Coastal Ocean State". On the base of these processes we select some test areas (representing the European Coastal Ocean) and the sub-set (or the entire set) of processes typical of each area. Later define the specific strategy to address all the single issues (data assimilation, validation protocols, satellite data needed, model requirements, LOBC approach, downscaling)



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Conclusions

- Totally convinced
- Successful First Meeting
- The work and scope of the group, with priorities has been reviewed and identified
- Increase the number of Members
- A concrete contribute by the end of 2013



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