

Welcome to the 4th International Coordination Workshop of the GOV COSS Task Team

Pierre De Mey, LEGOS/U. Toulouse

Villy Kourafalou, RSMAS/U. Miami

Science program organized together with:

- GOV Intercomparison and Validation Task Team (GOV IV-TT) – *F. Hernandez and G. Smith*
 - ARCOM workshop organizers – *C. Dufau, B. Mourre and J. Wilkin*
 - European COST-EOS project – WG4: *M. Drévillon et al.*



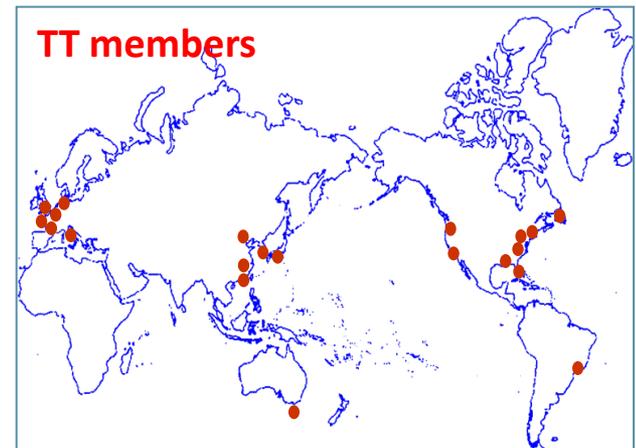
GOV COSS-TT International Coordination Workshop IV (ICW-4)
Instituto Superior Técnico, Lisbon, Portugal, 31 August-4 September 2015

- Task team membership
- Goals and achievements so far
- This meeting
- Beyond this meeting
- Practical info

TT membership as of August 2015

Name	Institution, City	Country
Barth, Alexander	U. Liège	Belgium
Chao, Yi	RSS and UCLA, Los Angeles, CA	USA
Chassé, Joël	DFO, Mont-Joli, QC	Canada
Choi, Byoung-Ju	Kunsan National U.	Korea
Cirano, Mauro	REMO, Rio de Janeiro	Brazil
De Mey, Pierre	CNRS / LEGOS, Toulouse	France
Dumas, Franck	IFREMER / Previmer, Brest	France
He, Ruoying	NCSU, Raleigh, NC	USA
Herzfeld, Mike	CSIRO, Hobart	Australia
Hirose, Naoki	Kyushu U., Fukuoka	Japan
Gan, Jianping	Hong Kong U. of S&T	China
Kourafalou, Villy	U. Miami / RSMAS, Miami, FL	USA
Kurapov, Alexander	Oregon State U. / COAS, Corvallis, OR	USA
Liu, Guimei	NMEFC, Beijing	China
O'Dea, Enda	UK Met Office, Exeter	UK
Oddo, Paolo	INGV, Bologna	Italy
Pinardi, Nadia	U. Bologna	Italy
Pullen, Julie	Stevens Institute of technology	USA
Richman, Jim	NRL, Stennis Space Ctr., MS	USA
Stanev, Emil	HZG, Hamburg	Germany
Van der Westhuysen, André	NOAA/NWS/NCEP	USA
Zhu, Jiang	IAP, Beijing	China

- Some members have substitutes
- Membership to be updated at Business mtg. (Wed)



- COSS-TT is engaging the international Coastal Ocean and Shelf Seas modeling/forecasting community (COSS-COMM)
- International Coordination Workshops are open to the COSS-COMM
- > 100 people in COSS-COMM mailing list at the moment



Goals and achievements so far

...is one of the GODAE OceanView task teams

...fosters international collaboration to advance science and applications in support of coastal ocean forecasting

...focuses on coastal and shelf dynamics, open ocean processes that control shelf break exchanges, as well as land-sea interactions through estuaries and inlets

...aims to help achieve a seamless transition framework from the global to the coastal scales.

Two types of systems within GOV:

- LOFS – Large-scale Ocean Forecasting Systems (represented in GOVST)
- COFS – Coastal Ocean Forecasting Systems (represented in COSS-TT, and in GOVST via TT co-chairs)

Some systems not as clear-cut (e.g. regional, some national systems).

Three workshops helped define priority areas where science is needed for the development of Coastal Ocean Forecasting Systems:

1. **Monitoring** of physical and biogeochemical parameters in coastal regions (in particular permanent/long-term)
2. Development of fine-scale coastal ocean **models**
3. **Integration**: Downscaling the ocean estimation problem from large-scale to coastal-scale models, data and forcings, coastal data assimilation and prediction, consistent validation metrics
4. Coastal-scale atmosphere-waves-ocean **couplings**
5. **Ecosystem response** to the physical drivers (added at ICW3)
6. **Probabilistic approaches** and risk assessment in the coastal ocean, including extreme events

A few activities and achievements so far

- The Task Team acts as a link between the international **Coastal Ocean Forecasting community** and GODAE OceanView.
- A **Coastal Systems Information Table** is available (last update May 2014).

• **Coastal Ocean Forecasting: system integration and validation.**

Kourafalou V.H., P. De Mey, M. Le Hénaff, G. Charria, C.A. Edwards, R. He, M. Herzfeld, A. Pasqual, E. Stanev, J. Tintoré, N. Usui, A. Van Der Westhuysen, J. Wilkin and X. Zhu, 2015. *Journal of Operational Oceanography*, doi:10.1080/1755876X.2015.1022336.



ICW3, Rincon, Jan 2014

- **C**oastal Ocean Forecasting community
- **K**ourafalou V.H., P. De Mey, M. Le Hénaff, G. Charria, C.A. Edwards, R. He, M. Herzfeld, A. Pasqual, E. Stanev, J. Tintoré, N. Usui, A. Van Der Westhuysen, J. Wilkin and X. Zhu, 2015. *Journal of Operational Oceanography*, doi:10.1080/1755876X.2015.1022336.
- **M**ore work is being done
- **W**ork is being done
- **d**oing work
- **IC**W3, Rincon, Jan 2014
- **T**wo scientific publications have been published
- **p**ublications have been published
- **A** **COS** Topical Collection of papers (2014) is being finalized in *Occ. Dynamics*.



This meeting

Main points regarding TT:

- Overall very positive evaluation
- Findings: *“The core emphasis of GOV is the global ocean. However, it is clear that many of the key uses for forecast models are in coastal and shelf seas. Having a Task Team focussed on **connecting GOV to research communities working in coastal and shelf seas modelling and to applications of operational coastal model systems** is therefore essential.”*
- *“Consistent with the GOV strategic plan, the challenges in this Task Team’s science strategy document need to be prioritized by the ‘value add’ of **collective action**.”*
- *“Focus should be on the **interfaces** between GOV systems and coastal models and applications. ”*

Focus Areas for COSS-TT

(As agreed at 2014 Beijing GOV Science Team meeting)

- FA1: Discuss science to enable/support the development of COFS and applications
- FA2: Work towards better integration between COFS and LOFS via downscaling (models & data), and in particular illustrate the added value of downscaling
- FA3: Link with the active region and discuss how altimetry can enable new applications in the



THIS WORKSHOP...

- FA1: Discuss science to enable/support the development of COFS and applications

- FA → Session 1: Science in support of COFS (Mon, Tue, Thu)
- FA → Session 2: Science in support of applications (Thu)
- FA → Session 4: Linkages with other groups (Fri)
- FA → TT business meeting (publication plan) (Wed)

and discuss how artimetry can improve the forecast quality and enable new applications in the regional/coastal oceans

THIS WORKSHOP...

- FA1: Discuss science to enable/support the development of COFS and applications
- FA2: Work towards better **integration between COFS and LOFS** via downscaling (models & data), and in particular **illustrate the added value of downscaling via consistent metrics**
- FA3: Li → **Session 3: Metrics and downscaling (Thu)**
(in collaboration with the GOV IV-TT and the COST EOS project)

THIS WORKSHOP...

- FA1: Discuss science to enable/support the development of COFS and applications
- FA2: Work towards better integration between COFS and LOFS via downscaling (models & data), and in particular illustrate the added value of downscaling via consistent metrics
- FA3: Link with the active **regional/coastal altimetry community** and discuss how altimetry can **improve the forecast quality and enable new applications** in the regional/coastal oceans

→ Altimetry for Regional and Coastal Ocean Models (ARCOM) Pilot Workshop embedded in COSS-TT workshop **(Tue, Wed)**

- I. Discuss the interest of sea level measurements for the regional/coastal ocean modellers and COFS
- II. Present the available altimetry missions and products; discuss recent advances and projects
- III. Discuss how altimetry can improve the forecast quality and enable new applications in the regional/coastal oceans
- IV. Discuss how to use altimetry products in R/COFS for assimilation and validation
- V. Establish a community of practice to advance complementary uses of coastal altimetry in regional/coastal modelling and prediction, involving the COSS community and the regional altimetry groups

Beyond this workshop (~3 years, 2 meetings)

We need concrete, medium-term goals.

To be discussed during this meeting (in particular at Wed BM):

- What are the important science topics and tools in support of coastal ocean forecasting? To be used to prepare next meetings and special issues.
- COSS metrics and added value of downscaling: decide feasible, concrete actions to be taken by voluntary COFS and LOFS and discussed at next workshops.
 - How do we better involve LOFS? E.g. national systems in GOVST.
- Find a sustainable niche and format/frequency for ARCOM, and define linkages with COSS, CAW etc.
- Define linkages between the TT and other bodies inside/outside GOV.

Other suggestions welcome.

People willing to help through concrete actions welcome.

- Photo: *Thu lunchtime*
- Session chairs
 - Please send a short summary of your session to Kirsten Wilmer-Becker before 15 September (only one summary per session). Thanks!
- Poster session: *Wed 1400-1530*
 - Presenter: please be at your poster
 - All: please participate actively
- Task team business meeting: *Wed 1530-1630*
 - TT members should attend
 - Open to all
- MiTiN workshop: *Fri pm*
 - Optional but recommended



A useful, active, and pleasant workshop to all!