COSS-TT online meeting (1), 10 June 2021

Day 2

Meeting chat information

[10/06 14:12] Pierre De Mey-Frémaux

To Guillaume: What are the main coupling mechanisms involved btw these estuarine processes and the coastal ocean?

[10/06 14:14] Fraser Davidson

To Guillaume: Is there a plan in these "reanalysis" projects to eventually contribute to improved coastal ocean prediction systems with better estuarine/coastal connections ...?

[10/06 14:17] Pierre De Mey-Frémaux

To Fraser: We took note of that important question even if it did not have time for an answer here
(1 liked)

[10/06 14:22] Pierre De Mey-Frémaux

The process your co-chairs have in mind: (open for discussion)
1. Your contribution needed at this meeting: (a) Assess new environment of COSS-TT and CoastPredict: Decade, relevant programmes, projects, experts, GOOS, etc.; (b) Review important topics for TT and areas where we should set strategic objectives; (c) Prioritize and participate in discussions (day 3, if format allows)
2. OPST-4 later in June: OceanPredict-wide equivalent of 1., harmonize w/other TTs
3. Later this year: (a) Ensure representation of TT in decision-making circles in Decade programmes; (b) Help make projects more concrete; (c) Elaborate Strategy Note for TT, with priorities set
4. At the next general COSS-TT meeting (Montréal, April 2022): (a) Discuss/endorse; (b) Adjust TT membership as needed.

[10/06 14:23] Guillaume Charria

To Fraser: Indeed, it is one extent to those projects that we will explore.
(1 liked)

[10/06 14:31] Mauro Cirano (UFRJ)

Maybe, we can identify the projects that will fit in more than 1 topic. For instance, one of my projects monitors the entrance of a coastal city which has a highly impacted bay.

[10/06 14:35] Naoki HIROSE (Kyushu Univ.)

CoastPredict and COSS-TT are so similar now. Can anybody define their relationship (or difference) clearly?

[10/06 14:38] Mauro Cirano (UFRJ)

To my understanding, that is the whole idea. For me, CoastPredict is more focused on the end user and products that will benefit the society

[10/06 14:39] Fraser Davidson

For Machine Learning and AI, these can be used to improve (not necessarily replace) prediction systems ocean models: i.e. identifying correcting model bias, model parameter estimation, model process estimation ....

[10/06 14:42] Naoki HIROSE (Kyushu Univ.)

Thanks, Mauro. Okay, I understand now us being the "expert group" contributing to CoastPredict, right?

[10/06 14:42] Mike Herzfeld

Head of estuary fluxes are so important for driving hydro & BGC in estuaries. Hydrological catchment models that predict water quantity and quality can fill this role but requires a different area of expertise....

[10/06 14:51] Pierre De Mey-Frémaux

To Herzfeld, Mike (O&A, Hobart): Wonderful, how brave of you to attend at these hours ;-)

[10/06 14:53] Villy Kourafalou

To Naoki HIROSE (Kyushu Univ.) and Mauro Cirano (UFRJ): This is an important discussion that we will carry out tomorrow

Naoki HIROSE (Kyushu Univ.)

Got it!

[10/06 14:55] Pierre De Mey-Frémaux

We took note of those important points

[10/06 14:56] Fraser Davidson

To Ivan Federico: Very nice overview presentation of iP9 NAVIgating in the COASTal ocean: in this project are you considering exploiting the IHO S-100 and WMO S-400 E-NAV formats... What level of end user engagement are you considering... additionally what level of interaction with routing/software developers for ship navigation computers or portable pilot units is envisaged in this project...

[10/06 14:57] Jeffrey Polton, NOC

To Ivan Federico re: P9. NAVICOAST: Would this framework accommodate changing forecasts or forecast uncertainty?

[10/06 14:59] Yannis Androulidakis

Ivan thank you, FYI two on-going projects for ship emissions and navigation safety respectively. We could interact for more info and potential cooperation

[10/06 14:59] Yannis Androulidakis

https://marine.copernicus.eu/services/use-cases/emerge-modeling-ocean-pollution-ship-emissions

EMERGE: Modeling ocean pollution from ship emissions | CMEMS

MET Norway is partner and work package leader on EMERGE - Evaluation, control and Mitigation of the Environmental impacts of shipping, an innovative 4-year research project looking to find solution...

marine.copernicus.eu

[10/06 14:59] Yannis Androulidakis

http://accuwaves.eu/index.php/en/

[10/06 14:59] Youyu Lu

Save navigation and pollution prediction are two focuses of Oceans Protection Plan in Canada. Now at 5th year of phase 1, under planning for phase 2

[10/06 15:02] Kirsten Wilmer-Becker

Can all presenters please send their presentation to kirsten.wilmer-becke@metoffice.gov.uk or upload it to the website at https://oceanpredict.org/events/8th-coss-tt-meeting/#event-presentation-uploads

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[10/06 15:24] Pierre De Mey-Frémaux

Sorry for the rush everybody! There will be much more discussion time tomorrow, so please take note of your questions/comments!

[10/06 15:24] Alexander Kurapov

To Pierre: You picked it correct, pretty much. To say more precisely, we want to assess accuracy of coastal ocean models (not global HYCOM) using multi-year in--situ data.

[10/06 15:27] Pierre De Mey-Frémaux

Got it Alex I think, thanks!

[10/06 15:28] Jeffrey Polton, NOC

Re: Seamless integration with larger-scale estimates. @Gregg's presentation was very interesting. And this is perhaps an obvious statement. Building a software infrastructure for verification and validation is expensive and runs the risk of not being very versatile for new models/obs/regions. A common Validation/Assessment framework for larger and coastal scales seems essential and fundamental.

[10/06 15:31] Pierre De Mey-Frémaux

To Jeffrey Polton: Added your point to the slide, thanks.

[10/06 15:33] Gregory Smith (ECCC)

To Jeffrey Polton: I hadn't mentioned this, but this is an area for which the JWGFVR has been quite successful. They have a common shared package for calculation of different metrics. This has been found to be a major breakthrough for them, as previously they had mixed results from different approaches, due in many cases to errors in implementation as metrics become more complicated. Using a common approach fostered sharing of methods and lead to correcting various bugs!

To Gregory Smith (ECCC): So, it there still a technological challenge in this respect?

To Jason Holt: In the frame of the JPI CE2COAST project we are evaluating ESM performances for forcing regional models and correcting them. We will make simulations for the coastal regions for the next 40 years using corrected ESM outputs. several regions are concerned (NWCS, Peru, Med Sea, ..). There is a toolbox for the ESM evaluation (CMIP based) but I am not aware of one for the regional models. Could you please send me the link to your GMD paper?

To Pierre De Mey-Frémaux: Yes, as metrics become more sophisticated the technical implementation can have a larger effect. Use of common tools can significantly improve efficiency.

Just to remark the importance of regional services to promote (glo/reg/coast) model intercomparisons exercises (as proposed @Fabrice). Also, important to share well-established operational model validation tools (usually with subregional capabilities) to assess added value of dynamical downscaling (nice examples in the IBI-ROOS region; MyCOAST Project intercompare 7 coastal solutions with the CMEMS IBI regional one). This kind of multi-partner multi-model comparative exercises strength the regional community and enhance the understanding of model products available (also increasing the knowledge on operational evolutions). These approaches certainly benefit the teams downscaling the regional solution at specific coastal areas since they can demonstrate the added value of counting with their products. Certainly, important to quantify the value chain of their coastal services. For this multi-model comparisons at coastal scales, it is important going further of the classical point-to-point statistic metrics. Inclusion of spatial validation methods to avoid double penalty (as Greg commented) is critical to compare different resolution models at coastal scales.

To Yannis: We have expertise at the NOC around the use of submarine telecoms cables for the type of early warning system you describe. If you are interested in expanding your collaborators I can put you in touch.

Storm surge is an excellent example of basin->regional->coastal->local scale impacts. i.e. "Ready-set-go" approach to having early warnings from long lead time forecasts getting updated in higher resolution systems at progressively shorter lead times. Consistency between systems is essential!

To Jason T. Holt: Coastal Ocean Modelling Intercomparison Project would be a good project to help glue all the different flavours of models together and take advantage of the numerical diversity in approaches. Were you thinking of standard operational skill metrics like SST, SSS etc? Marcos García Sotillo has a related comment about intercomparison exercises.

Joanne, thanks! of course we are interested, and we will be happy to collaborate.

[10/06 15:46] Joanna E. Hopkins
Yannis - what is your email?

[10/06 15:46] Yannis Androulidakis
I fully agree Gregory. The large scale of this phenomenon is ideal to relate open ocean with local-scale areas

[10/06 15:48] Mauro Cirano (UFRJ)
For ICOFS, one important thing is to have a user-friendly interface focused on the end users

[10/06 15:49] Yannis Androulidakis
Joanne: iandroul@civil.auth.gr

[10/06 15:50] Rafael Schiller
Mauro Cirano completely agrees with you. Understanding the expectations of end users and delivering data in the right way are key for partnerships and long existence of projects in the Urban Ocean.

[10/06 15:52] Jason T. Holt
To Marilaure: Next-generation regional ocean projections for living marine resource management in a changing climate

[10/06 15:54] Jason T. Holt
To Marilaure: This [paper by Drenkard et al is accepted in ICES-Journal of Marine Science](#) - out soon. Should help on some guidelines.

[10/06 15:56] Fraser Davidson
adding to @Pierre 's comment which coast would be most predictable, least predictable ...

[10/06 15:56] Grégoire Marilaure
To Jason T. Holt: Is it already available?

[10/06 15:58] Jeffrey Polton (NOC)
Prompted by Holt, Jason T. talk: Future predictability of coastal ocean will be constrained by the boundaries. Is predictability enhanced by having multiple ensemble members forced by different coarser resolution parents, or to invest effort in increasing the resolution everywhere?
Edited

[10/06 15:59] Jason T. Holt
To Marilaure: Not available yet but should be soon (was accepted with minor revisions in April)

[10/06 15:59] Paolo Oddo
I think the deterministic approach will not work at that scales.

[10/06 15:59] Mauro Cirano (UFRJ)
Maybe we can start 10 minutes early tomorrow?

[10/06 15:59] Mauro Cirano (UFRJ)
So that Alan can present

[10/06 16:00] Mauro Cirano (UFRJ)
Ok

[10/06 16:01] Jason T. Holt
Sorry I can't make it tomorrow thanks for a great meeting

[10/06 16:01] Mauro Cirano (UFRJ)
Thank you everyone

[10/06 16:01] Jennifer Veitch
thank you