

9th COSS-TT meeting Welcome & Meeting objectives

COSS-TT co-chairs:

Villy Kourafalou

Alexander Kurapov

Pierre De Mey-Frémaux



oceanpredict.org/events/coss-tt-international-coordination-meeting-9

2-4 May 2023, ECCO, Montréal, Canada

Welcome to this 9th COSS-TT meeting held in Montréal. It comes after the 8th meeting held online last year, and is the first face-to-face COSS-TT meeting since the Madrid meeting hosted by Puertos del Estado on September 19-21, 2018.

We are very happy to meet you all again in person. Thank you all for your faithful participation during these three days, in person or online.

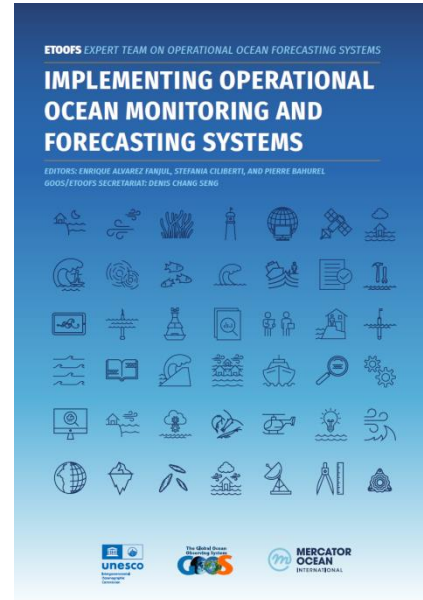
A triple THANK YOU / Un triple MERCI to our ECCO hosts, in particular Greg and Jean-Philippe, who in the end had to prepare three meetings (2020, postponed, 2021, postponed, and finally this one)!

THANK YOU to Kirsten for her great help and skill at shaping up this meeting and interacting with all of you!

- Alexander Kurapov, NOAA is now a co-chair of the Task Team.
- After 2 TT meetings cancelled in 2020 and 2021, the **8th COSS-TT meeting** was held online on 12-13 April 2022 > scientific presentations (21), discussion on major science challenges, on Decade actions, on evolutions of our ToRs, Focus Areas, and membership.



- TT members wrote coastal sections of ET-OOFS “Guide on Operational Ocean Monitoring and Forecasting Systems” >. The Guide was officially published by UNESCO in June 2022.
 - The TT contributed to a 10-page all-in-1 table >> with large-scale, regional, coastal and local ocean forecasting systems, many from OceanPredict and from the COSS-TT.
- Coastal Systems Information Table updated (Pierre, Mauro, Kirsten), available on web site.
- The TT pursues a significant involvement in UN Ocean Decade. (*Dedicated session*)



NOAA Coastal Ocean Modeling Seminars:
<https://coastaloceanmodels.noaa.gov/seminar/>

- A contribution to COSS-TT goals by NOAA partners
- A pathfinder event to facilitate exchange of ideas and science discussions via WWW
- A community of 250+ ocean modelers and scientists (from Alaska to Finland and Africa; NOAA, other agencies, academia, private sector)
- 2-4 seminars / month, since 2019
- Focus on **science in support of coastal ocean modeling and forecasting systems**



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NOAA Coastal Ocean Modeling Seminars

Past Seminars (in reverse chronological order)

7 February, 2023

Impacts and Dynamics of Hurricane-induced Ocean Adjustments along the U.S. Southeast coast
Kyungmin Park (Pacific Northwest National Laboratory)

31 January, 2023

Remote internal wave forcing of regional ocean simulations near the U.S. West Coast
Oladeji Siyanbola (University of Southern Mississippi)

- *A need to extend the effort to the other side of the globe*
- *Other ways to use online interaction to exchange science?*

- Restore and re-enforce international links between coastal ocean modelers through *in-person communication*
- Scientific presentations and discussions:
 - Review advances in the coastal ocean forecast systems development and implementation (**FA-2**)
 - Review new science in support of our activities:
 - **FA-1** – Science in support of Coastal Ocean forecasting
 - **FA-3** – Seamless integration between Coastal/Regional systems and Large scale systems
 - **FA-4** – Synergy between altimetry and modelling in coastal regions
 - **Special theme 5** – Machine Learning contributions to regional and coastal data analysis and forecasting
- UN Ocean Decade session:
 - How can the COSS-TT community meet the challenges of the Decade, and engage in concrete contributions to the projects which are now starting?
 - Help identify a roadmap towards concrete involvement -- set priorities
- “Business” TT meeting
 - Focus Areas, Decade actions, membership, etc.
 - Reporting in plenary

9th COSS-TT meeting
“Business” TT meeting

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2-4 May 2023, ECCO, Montréal, Canada

1. Another look at some of the priorities from the 2021 meeting (Pierre)
2. New TT Focus Areas (Pierre)
3. Decade actions (e.g. GC sites) + beyond this meeting (Villy)
4. Membership (Villy)
5. Next meeting and AOB (Villy, Alex, Pierre)

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- Need for closer interaction with OP “national systems”
- Need for fit-for-purpose OP large-scale estimates for coastal systems (COSS-TT) and CP uses
- Farther reach via “global coastal ocean” concept and CO typology
- Advance and promote good COF practices within an integrated downscaling/modelling/observation framework (OceanObs paper; promotion via ET-OOFS)
 - Definition of suitable coastal in situ observing systems (with OSEval-TT, SynObs, co-design w/GOOS)
 - Good practices for assessment in coastal regions, added value of downscaling (with IV-TT)
 - Good practices for using future altimetry data in coastal regions (with SWOTST?)
- Role of ML/DL in the CO, esp. given our sparse obs. networks (and perhaps AI for digital twins)
- Extend COFS to include estuaries/deltas as an integrated system (up to catchment area)
- Assess the quality of surface current estimates in regional/coastal systems, and develop better approaches
- Coastal vulnerability: advances on coastal relocatable models for emergency situations
- Assess multidisciplinary extended range predictive capabilities for the coastal zone (from events to climate) – test atmospheric forcing capabilities in CO – “Coastal CMIP” (w/ CP-TT?)

See full 2021 Meeting Report on web site for a more complete account

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1. **Science** in support of Coastal Ocean forecasting
2. Coastal and Regional (pre-)operational ocean **forecasting systems** and applications
3. Seamless **integration** between Coastal and Regional systems (R/COFS under COSS-TT) and Large scale systems (LOFS under OceanPredict)
4. Synergy between **altimetry and modelling** in coastal regions

- Basis: several sessions and discussions at the 2021 and 2022 TT meetings
- Evolve TT's Focus Areas – Logic:
 - Refocus our science to better respond to the new challenges; facilitate reporting
 - Better integration with OP/FS: seamless modelling aspects + validation, etc.
 - Coordination with CP: coastal continuum, vulnerability, possibly GlobalCoast
 - Observing infrastructure incl. observations integration with models, OSE/OSSEs
- Adapt TT membership to the new challenges: *(started)*
 - People active in relevant Ocean Decade actions
 - Best Practices re: new FA themes
 - TBFD.
- Keep TT's ToR unchanged: *“Foster international collaboration to advance science and expertise in support of regional/coastal ocean forecasting”*

- **FA-1: Observing infrastructure in the coastal seas, integration with models and with forecasting** (includes potential collaborations with SynObs, OSEval-TT, IV-TT)
 - Best Practices regarding coastal observing systems (satellite & in situ) -- e.g. OSE/OSSE, ...
 - Best Practices for model assessment in coastal regions -- e.g. “added value” type metrics, ...
- **FA-2: COSS modelling and seamless integration with larger-scale estimates** (OP integration)
 - Coastal/regional ocean forecasting systems -- e.g. Systems Information Table, ...
 - R&D: models, data assimilation, ML, downscaling/upscaling -- e.g. gap analysis, new schemes, ...
 - Coastal short time and space scales, comparison with large scale estimates -- coastal added value, ...
- **FA-3: Land-Ocean Aquatic Continuum (LOAC): integration of coastal ocean and estuaries/deltas/wetlands, coastal cities** (potential CoastPredict collaboration, GlobalCoast)
 - E.g. R&D on ML, case/pilot sites for LOAC integration, ...
- **FA-4: Coastal projections & scenarios, coastal vulnerability** (potential CP coll., GC)
 - E.g. R&D on ML or probabilistic estimates, case/pilot sites for coastal vulnerability, advances on coastal relocatable models for emergency situations, ...

→ Priorities?

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The Landscape:

- DCO (Decade Coordination Office): GOOS (DCO for Ocean Observing)
- DCC's (Decade Collaborative Centers): OceanPrediction, Coastal Resilience, ...
- Programs: ForeSea, CoastPredict, *DITTO*, *Global Estuaries Monitoring (GEM)*, *Mega-Delta*, *Ocean Cities Network*,...
- Projects: SynObs, PredictOnTime, FLAME,.../ Global Coast

The Challenge: Identify a roadmap towards concrete involvement.

- Presentations/discussions in Montréal: PredictOnTime, FLAME, GlobalCoast, *ForeSea*, DCC-OP
- SynObs/OSEval-TT: ongoing discussions on coastal OSE contributions to flagship OSE (coastal array design and array impact, coastal/shelf extension of ARGO/glider), TT participation in Regional Analysis Group, ...
- Coordination/guidance expected at OP level

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COSS-TT members April 2023

No	First name	Surname	Affiliation	Email address	Country	Status
1	Lucy	Bricheno	NOC	luic@noc.ac.uk	UK	Member
2	Guillaume	Charria	Ifremer/Previmer	guillaume.charria@ifremer.fr	France	Member
3	Byoung-Ju	Choi	Chonnam National University	bchoi@jnu.ac.kr	South Korea	Member
4	Mauro	Cirano	REMO	mauro.cirano@gmail.com mauro.cirano@igeo.ufrj.br	Brazil	Member
5	Pierre	De Mey-Frémaux	LEGOS	demey-redir@neyak.org	France	Co-chair
6	Chris	Edwards	UC Santa Cruz	cedwards@ucsc.edu	USA	Member
7	Ivan	Federico	CMCC	ivan.federico@cmcc.it	Italy	Member
8	Marcos	Garcia Sotillo	Nologin Ocean Weather Systems	marcos.sotillo@nologin.es	Spain	Member
9	Mike	Herzfeld	CSIRO	mike.herzfeld@csiro.au	Australia	Member
10	Naoki	Hirose	Kyushu University	hirose@riam.kyushu-u.ac.jp	Japan	Member
11	Lars	Hole	Met.no	larsrh@met.no	Norway	Member
12	Jennifer	Jackson-Veitch	SAEON	jenny@saeon.ac.za	South Africa	Member
13	Gan	Jianping	Hong Kong University	magan@ust.hk	China	Member

COSS-TT members April 2023 *(cont.)*

No	First name	Surname	Affiliation	Email address	Country	Status
14	Rob	King	Met Office	robert.r.king@metoffice.gov.uk	UK	New member
15	Villy	Kourafalou	University of Miami	vkourafalou@miami.edu	USA	Co-chair
16	Alexander	Kurapov	Oregon State University	Alexander.Kurapov@noaa.gov	USA	Co-chair
17	Bruno	Levier	Mercator Ocean	blevier@mercator-ocean.fr	France	Member
18	Guimei	Liu	NMEFC	liugm@nmefc.cn	China	Member
19	Youyu	Lu	DFO	youyu.lu@dfo-mpo.gc.ca	Canada	Member
20	Paolo	Oddo	UniBo	paolo.oddod@unibo.it	Italy	Member
21	Nadia	Pinardi	Coastal Resilience DCC	nadia.pinardi@unibo.it	Italy	Member
22	Marie-Isabelle	Pujol	CLS	mpujol@groupcls.com		New member
23	Yeqiang	Shu	South China Sea Institute of Oceanography, CAS	shuyeq@scsio.ac.cn	China	Member
24	Emil	Stanev	HZG	emil.stanev@hzg.de	Germany	Member
25	Joanna	Staneva	HZG	joanna.staneva@hzg.de	Germany	Member
26	Peter	Zavialov	P.P.Shirshov Institute of Oceanology RAS	peter@ocean.ru	Russia	Member
Champion						
27	Pierre-Yves	Le Traon	MOI	pletraon@mercator-ocean.fr	France	Champion

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- Online meetings vs. in-person vs. hybrid: discussion...
- Offers for in-person meetings
 - Brittany (G. Charria, Ifremer)
 - ?
- Best time for next meeting?
- AOB
- Thanks to all!