

Coastal Ocean and Shelf Seas Task Team (COSS-TT)

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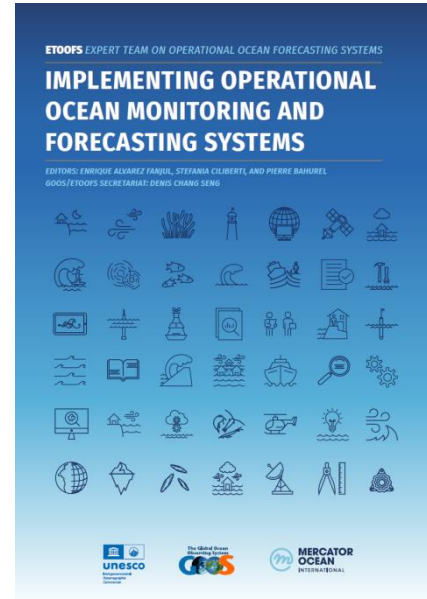


OPST-7, 14-15-16 February 2023, online

- **3rd co-chair:** Alexander Kurapov, NOAA (as announced at OPST-6).
- After 2 TT meetings cancelled in 2020 and 2021, the **8th COSS-TT meeting** was successfully 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.
- As announced at OPST-6, the **9th COSS-TT meeting** will be held in Montréal, Canada on 2-4 May 2023. The format will be hybrid with strong emphasis on in-person attendance. Call for papers is ongoing. *(Next slides)*



- As reported at OPST-5/6, 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 several from the COSS-TT.
- As reported at OPST-5/6, TT pursues a significant involvement in UN Ocean Decade. *(Next slides)*
- NOAA Coastal Ocean Modelling Seminars...



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
- Discussions about the role and format of the TT:
 - How can we cooperate between in-person meetings?
 - How can we be better organized as a Task Team to meet the new challenges?
 - COSS-TT possible involvement in the Ocean Decade.

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- 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** (most OO'19 topics; coll./coord. SynObs/OSEval-TT/IV-TT)
 - Best Practices regarding **coastal observing systems**, remote & in situ (with OSEval-TT, SynObs, possibly co-design w/ObsCoDe via exemplars) – e.g. surface currents from HFR + other obs.
 - Best Practices for **model assessment** in coastal regions, added value of downscaling (with IV-TT)
- **FA-2: Seamless integration of coastal and larger-scale estimates** (OP integration)
 - Downscaling and upscaling R&D
 - Estimates and forecasts of short time and space scales, comparison with large scale estimates
- **FA-3: Coastal continuum, integration of coastal ocean and estuaries/deltas/wetlands, coastal cities** (CP collaboration, GlobalCoast)
 - R&D, case/pilot studies
- **FA-4: Coastal projections, scenarios, coastal vulnerability** (CP collaboration, GlobalCoast)
 - R&D, case/pilot studies
 - E.g. advances on coastal relocatable models for emergency situations

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, ...
- Need coordination/guidance at OP level (*important to discuss during OPST-7/8*)