COSS-TT – Communication of TT outcomes

What are the products/knowledge/advances generated by the TT?	How are these advances communicated to the science community, to operational systems, to the public?
Peer-reviewed papers & book chapters (next slide)	Scientific journals (JOO, ODyn, etc.)
Coastal Systems Information Table (2014; next update: 2021)	COSS-TT pages on GOV/OP web site
Special sessions at AGU and OSM (next: 2022)	Outreach to broader scientific community
COSS-TT general meetings (6 so far, next: Montréal 2022) Thematic sessions Systems reviews (incl. large-scale) Meeting reports	Welcome participation of coastal modelling community Welcome participation of large-scale operational comm. Common sessions with other Task Teams Reports on COSS-TT pages on GOV/OP web site
ARCOM (Altimetry for Regional and Coastal Models): common sessions at COSS-TT meetings and CAWs	Outreach to general altimetry community (e.g. at Florence CAW)
Participation in update of **ET-OOFS guide** (coastal downscaling, coastal systems)	ET-OOFS dissemination policy
Active participation in launch of **ForeSea** and **CoastPredict** UN Decade programme (co-chairmanship, steering group)	1st COSS-TT strategy meeting 2021 OP web site and documents (Strategy note 2021)

- **Communication seems adequate**

(non-exhaustive list)

- **2013 GOV Symposium**, JOO (*Kourafalou et al., 2015a,b* + COSS-TT co-authorship in 2 others): synthetic presentation of COSS-TT results and advances

- Chapter in **Blue Planet book** (*De Mey and Kourafalou*, 2014, Cambridge Scholars)

- **OceanObs19**, Frontiers of Marine Science (*De Mey-Frémaux et al., 2020* + COSS-TT co-authorship in 3 others): review advances in integrated coastal ocean modelling, observation and forecasting

- **COSS-TT Topical Collections** in ODyn: publish COSS-TT results, enhance visibility in coastal modelling community
    - **Topical Collection 1**, 2017 (15 papers + Editorial: *De Mey et al*.)
    - **Topical Collection 2**, 2021 (9 papers + Editorial: *Cirano et al*.)
    - **Topical Collection 3** to be started with COSS-TT general meeting 7, 2022

Who uses TT output?

- Coastal Ocean Forecasting Systems operators, esp. via meetings
- Coastal and large-scale modellers, observations and data assimilation specialists
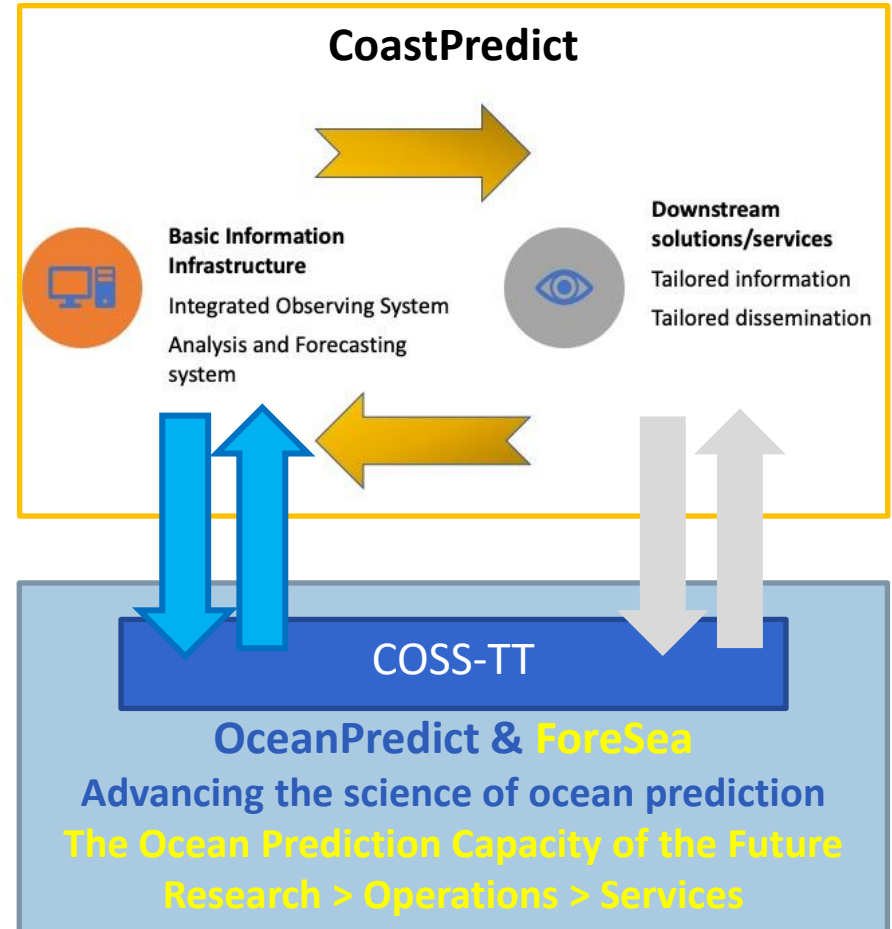- General scientific community

What groups does the TT collaborate with?

- OPST and most TTs (DA, OSEval, MEAP, IV)
- Coastal Altimetry Workshops
- OceanObs
- CoastPredict & GOOS
- ET-OOFS
- JCOMM Expert Team on "Integrated Marine Meteorological and Oceanographic Services within WMO and IOC Information Systems" (IPET-MOIS)
- Local organizers of COSS-TT meetings (2022: Environment and Climate Change Canada)

- **Participation:** Task Team, Decade project leaders, invited external experts
- Discuss the **Task Team's involvement** in the UN Decade of Ocean Science
    - ForeSea, CoastPredict, SynObs, Decade projects
- Discuss areas where we should set **strategic objectives for TT** in decade years
    - Observing infrastructure in the coastal seas, integration with models and with forecasting
    - Integration of coastal ocean and estuaries/inland waters/coastal cities
    - Seamless integration of coastal and larger-scale estimates
    - Climate projections, coastal vulnerability and resilience
- COSS-TT **Strategy note** (fall 2021)
    - Opportunity to revise Task Team's ToRs and scientific objectives **within OP Strategy**
- Next **general COSS-TT meeting** (Montréal and on-line, April 2022)
    - Endorse TT strategy within OP
    - Consider evolution of the list of TT members – as needed for new strategy

OceanPredict
Advancing the science of ocean prediction

- The UN Decade is an opportunity to advance coastal ocean science, operations and services for the benefit of society.

- Need to anchor CoastPredict to COSS-TT coastal ocean modelling, observation and forecasting science and expertise…

- …and beyond the COSS-TT, to global ocean forecasting science, expertise and services (OceanPredict/ForeSea).

CoastPredict

Basic Information Infrastructure

Integrated Observing System

Analysis and Forecasting system

Downstream solutions/services

Tailored information

Tailored dissemination

COSS-TT

OceanPredict & ForeSea
Advancing the science of ocean prediction
The Ocean Prediction Capacity of the Future
Research > Operations > Services

OceanPredict — Advancing the science of ocean prediction

(Still very preliminary and incomplete, no specific order!)

- 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/observing framework (~~~~~~~~~~ promotion via ET-OOFS)
  - Definition of suitabl~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ynObs, co-design w/GOOS)
  - Good practices for a~~~~~~~~~~~~~~~~~~~~~~~~~aling (with IV-TT)
  - Good practices for u~~~~~~~~~~~~~~~~~~~~~~~/OTST?)

> To be harmonized w/ OP Strategy
> To be prioritized in TT Strategy Note
> To be endorsed in Montréal

- 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?)