

OSEval Task Team

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Goals and expected outcomes of the TT activities

- Share experience between the OSEval TT members and enhanced discussion on ocean observation impact assessment in real time analysis and forecasts: results, methods, best practices...
- Enhance the communication between OceanPredict and observational communities and international organization linked to ocean observing network management
- provide consistent and scientifically justified requirements and feedbacks to observational agencies.



TT activities since last OPST meeting in February 2023

- No virtual meetings except on SynObs,
- Participation of different members of different OP TTs in the ObsCoDe (Ocean Observing Co-Design) UN decade GOOS programme exemplars:
 - Tropical Cyclones, Boundary Currents, Marine HeatWaves (other exemplars: Marine Life, Storm Surge and Ocean Carbon Cycle)*
 - Goal: Strengthening ocean observation and modelling integration through co-design of a fit-for-purpose ocean observing system
 - SynObs is collaborating with ObsCoDe
- Assimilation of Total Surface Current Velocity (A-TSCV) workshop (ESA project – OceanPredict) in June 2023



Communication with observing networks through presentations, exchanges:

- First **Data Buoy** Cooperation Panel Mediterranean Training Workshop on Ocean Observations and Data Applications – 2-4 May 2023 (presentation)
- **OceanGliders** (*the glider component of GOOS*): proposition of having a glider DA TT to ensure the link with prediction systems (Ann-Kristin and Elisabeth from OP) (initiated by Victor Turpin on OceanGliders side)
- **Smart Cable**: what is the interest of having Bottom Pressure Sensors on telecommunication cable across ocean basin for OP? *Already used by some Tsunami Forecasting Systems.*
- **EuroGO-ship real time CTD data**: interests in having them? (today DT – to check)

Close connections with **Argo, TPOS**.

GOOS connections (outside ObsCoDe UN Decade):

- **GOOS Observations Coordination Group** OCG-14 Hybrid Meeting, 6-8 June 2023, Cape Town, South Africa (WMO WIGOS – GOOS)



The SynObs activities were introduced at the following meetings:

- COSS-TT annual meeting
- WCRP WS on improving climate model using observation
- GOOS Observation Coordination Group MT14
- EuroSea&OP Joint WS
- Ocean Prediction DCC West Pac. & Marginal Sea RG Meetings
- S2S summit (by M. Balmaseda)
- CLIVAR SSG (By. M. Balmaseda)
- Joint working group with OOPC and CLIVAR GSOP? (Proposed by P. Oke)
- WMO S2S project supports the Flagship OSEs (F. Vitart in ECMWF)

TPOS also supports the flagship OSEs for evaluating the new TPOS design. (W. Kessler)



- Keep the table on the **use of observations in OceanPredict Systems up to date:**

<https://oceanpredict.org/observations-use/#section-argo-profiling-floats>

- **Resume virtual meetings with chosen thematics**

and invite people from the observing networks to the meetings when relevant.

Planned presentations of OSEval studies at different conferences:

- WMO workshop on the impact of Various Observing Systems on NWP and Earth System Prediction, planned in May 2024: Yosuke member of the SOC: discussion ongoing on the science questions to be raised.

Abstract Submission deadline: 15 Dec. 2023

- OP 2024 Symposium

Observations table(s) (operational centre usage)

Levels	Description
Level 0	Not used at all
Level 1	Used for validation (The system is constructed independently from the data)
Level 2	Not assimilated but used for input data (The system depends on the data), or assimilation scheme is currently being developed
Level 3	Assimilated on the research basis
Level 4	Assimilated indirectly in operation (as the ingredient of objective analysis or forcing data)
Level 5	Assimilated directly in operation (The data are assimilated without combining with other data)

Argo (profiling floats) Moorings Ship Other In-situ Altimeter SST Ice Other Remotely Sensed Ref

Platform: Profiling floats (Argo floats)

Latest update: 27 January 2022
Level descriptions as in graphic above.

Center/Institute	System Name	Trajectory	Temp.	Salinity	Oxygen	Chlorophyll	Notes
BoM (CSIRO)	OceanMAPS	Level 1	Level 5	Level 5			
CHM-REMO	RODAS		Level 5	Level 5			
ECCC	GIOPS (global 1/4°)	Level 1	Level 5	Level 5			
	RIOPS (Pac-Arctic-NAtl 1/12°)	Level 1	Level 5	Level 5			



Frontiers Special Issues

For the 1st issue

19 abstracts submitted

Contribution from DA-TT, COSS-TT, (MEAP-TT?), Fishery observation group, and WMO S2S as well as OS-Eval TT and SynObs members covering a wide range of the activities:

Global to coastal scales;

Real time ocean monitoring / coupled simulations

OSE / OSSE-design / diagnostics

Present/future satellite observations, in situ observations (Argo, fishing vessels data...)

Manuscript Summary Deadline: 15 Oct 23

Manuscript Deadline: 25 Feb 24

2nd special issue

SynObs detailed results including those by volunteer analysis groups
planned in 2025/2026.



OSEval TT – Links with other TTs, OPOS and UN Decade

DA-TT: Support of DA development for enhancing use of observation data.
Contribute to the Frontiers special issue.

CP-TT: OS-Eval for the coupled prediction systems (also collaborate with WMO S2S)

IV-TT: Diagnostics of the SynObs flagship OSE results using the class-4 metrics, etc.

COSS-TT: SynObs introduction in the COSS-TT annual meeting
Contribution to the Frontiers special issue.

Support PredictOnTime in CoastPredict which COSS-TT leads.

MEAP-TT: Support the proposal of the OSM2024 science session
Contribution to the Frontiers special issue.

OP PO : SynObs webpage etc.

Collaborations with external communities:

ObsCoDe, CoastPredict, OP DCC, GOOS, TPOS, Argo, CLIVAR-GSOP, OOPC, WMO S2S, WMO JET-
EOSDE, science teams for future satellite mission (SSS, Surf. Velocities, ...)



- More and more requests from the “in situ ocean observing network” to express **the ocean observation need/showcase their usefulness for the ocean prediction systems:**

SMART cable (Ocean Bottom Pressure), fishing vessel observation, low cost sensors, ...

- Today, the OSEval TT mostly focus on physical variables but there are expectation for **coastal observation impact assessment** (COSS-TT contribution) and also for **BGC observations *and soon ecosystem observations***? **Extreme events:** do we need specific/targeted observations ?
- **Report in real time on the use and impact of observations** (grey/black lists, obs. Sensitivity diagnostics (DFS, FSOI, SRF, ...))
- **WMO Rolling Review of Requirements:** identified OP/OSEval TT as a point of contact to fill the survey for "ocean prediction" (with different requirements depending on “ocean applications”)

Evolving landscape with different actors interested in ocean observation "impact" in prediction systems: GOOS, WMO and UN Decade DCC/programs with the concept of “the value chain”.

➤ should be discussed at the level of OP with the TTs/ST/OPOS WG.

