

Symposium toward Synergistic Observation Networks for Ocean and Earth System Predictions (SynObs Kick-off Meeting)

*Joint meeting of the Observing System Evaluation (OS-Eval TT) and
Coupled Prediction (CP-TT) Task Teams of OceanPredict*

Tsukuba, Japan

15-18 November 2022



Hosted by

Japan Meteorological Agency (JMA)/ Meteorological Research Institute (MRI)

Japan Agency for Marine-Earth Science and Technology (JAMSTEC)

/Research Institute for Global Change (RIGC)

Invitation

The Observing System Evaluation (OS-Eval TT) and the Coupled Prediction (CP-TT) Task Team of OceanPredict are organising a joint workshop on

15-18 November 2022

at the [Tsukuba Center for Institutes](#), **Tsukuba, Japan**.

At this workshop we are planning to officially kick-off the project of the UN Decade of Ocean Science, Synergistic Observing Network for Ocean Prediction (SynObs).

Attendance

Not only the members of the two task teams (OS-Eval TT and CP-TT) are warmly invited to the meeting, but also

- People who intend to participate in or to contribute to SynObs
- attendees of previous events of either team
- OPST and OPAS members
- researchers who work in earth system predictions based on ocean data assimilation or evaluation/design of observation networks

OS-Eval TT and CP-TT members or their substitutes are expressly invited to attend.

For information about the OS-Eval TT and CP-TT please see our [meeting pages](#) on the OceanPredict website.

Tentative agenda

1. Observing system evaluation showcase

- Impact assessment of present and future observation networks
 - Evaluation of large swath sea level anomaly data (SWOT, COMPIRA, ...)
 - Evaluation of the global Argo Array and its evolution (Argo2020 design, BGC Argo)
 - Evaluation of tropical buoys (TPOS2020 design)
- Evaluation of ocean data impacts on coupled prediction and data assimilation
- New methods for designing and evaluating the observation network
- Best practices for observing system evaluation

2. Development for better use of observation data

- Observation operators
 - For new-type observations (Lagrangian trajectories, Ocean current velocities, etc.)

- For coupled data assimilation system (Radiance, Scatterometer, etc.)
- Modelling of the background errors across multi-physics/domains
 - Across the atmosphere-ocean boundary
 - Across the open ocean-coastal sea boundary
 - Across physical and biogeochemical parameters
- Methods for dealing with correlated observation errors
 - Data Thinning and modelling of observation errors

3. Earth System prediction and data assimilation

- Model and data assimilation development for coupled prediction
 - Earth System modelling
 - Initialization technique, including coupled data assimilation
- Best practices for coupled prediction and data assimilation
 - Operational coupled system design
 - How to mitigate the coupling shock
 - How to generate ensemble members
- Ocean observation timeliness requirements for operational coupled systems
- Robust metrics to assess improvements (statistics of observational-innovations, forecast skill, score-cards, etc)

4. Discussion on the future activities of OS-Eval TT, CP-TT, and SynObs.

- Setup of SynObs activities
- CP-TT contribution to UN Decade of Ocean Science (ForeSea and SynObs)
- Communication across modelling and data communities for various earth system domains

Meeting organisation

We will run this workshop as a hybrid event (in-person at the [Tsukuba Center for Institutes](#) and online) with active times between 00:00-08:00 UTC. Our host will provide meeting facilities (meeting rooms, online meeting software, etc.) More details about on-site lunches and breaks, and information about Covid measures will be provided to all those who will attend in person. It might include requests of hand sanitisation and wearing masks.

The meeting will use a web meeting application to allow remote participation.

If the pandemic has not receded sufficiently, the onsite event will be cancelled, and the meeting will be held fully virtual. More information will be provided in a later announcement.

Contacts

Organising committee members:

- [Santha Akella](#), NASA (CP-TT member)
- [Yosuke Fujii](#), JMA/MRI (OS-Eval TT co-chair)
- [Chris Harris](#), Met Office (CP-TT co-chair)
- [Arun Kumar](#), NCEP (TPOS2020)
- [Shuhei Masuda](#), JAMSTEC (OS Eval TT member)
- [Kristian Mogensen](#), ECMWF (CP-TT co-chair)
- [Peter Oke](#), CSIRO (Argo)
- [Elisabeth Remy](#), Mercator Ocean International (OS Eval TT co-chair)
- [Yuhei Takaya](#), JMA/MRI (CP-TT member)
- [Kirsten Wilmer-Becker](#), Met Office (OceanPredict programme office coordinator)