Toward Co-designing Sustainable and Fit-for-purpose Ocean Observing

SynObs & Ocean Observing Co-design International Workshop 2026

Mutsu, Japan

24-29 August 2026

Call for Abstracts and Registration

Main Host

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

Invitation

The UN Ocean Decade Project *SynObs* and UN Ocean Decade Program *Ocean Observing Co-design* are organising a joint workshop on

24– 29 August 2026

Shimokita Culture Hall, Mutsu, Japan.

The workshop website is as follows:

https://oceanpredict.org/events/synobs-ocean-observing-co-design-joint-international-workshop/#event-home

Motivation

Ocean observations are an essential component for a wide range of societal applications, across spatial scales from global to local, and temporal scales from days to decades. Their value is realised not only through sustained observing networks, but through their effective integration into numerical models, data assimilation systems, and impact assessment frameworks that translate observations into actionable information. In turn, models can also be used through sensitivity experiments, to optimize the ocean observing system.

This workshop aims to bring together everyone working across the full value chain of ocean observing system co-design, including observations and data management to modelling, data assimilation, and impact evaluation, to exchange experiences, assess progress, and plan future activities. In particular, this workshop aims to integrate the achievements made so far by SynObs and Ocean Observing Co-design, and to plan their future activities. By linking observing system co-design with modelling-based evaluation, synthesis techniques (including emerging Artificial Intelligence (AI)/Machine Learning (ML) approaches), and societal impact assessment, the workshop seeks to strengthen the feedback loop between observations and models. This integrated perspective is essential for guiding the design, optimisation, and sustainability of future ocean observing networks and for ensuring that observations deliver maximum benefit to science, services, and society.

Abstract Submission

Abstract submission for oral and poster presentations is now open, and will be closed on

27 March 2026.

The submission web page is as follows:

https://oceanpredict.org/wp-admin/admin-ajax.php?action=frm_forms_preview&form=synobsworkshop2026-abstractsubmission

Acceptance of abstracts will be confirmed by 30 April 2026.

We will accept both on-site and online presentations. The timeslot for oral presentations will likely be 15-20 minutes. On-site poster presenters will be provided with space to display their posters, and the workshop will include a designated poster session. Online poster presenters will be given a web space to upload their posters; however, no dedicated on-line poster session is planned. Both on-site and online poster presenters will have a 2 min flash-talk slot. Due to the limited number of available timeslots, some abstracts submitted for oral presentations may be accepted as poster presentations.

Registration

Registration for both in-site and online participants will open on 6 April 2026 and will be closed on **22 May 2026.**

We anticipate about 50 international on-site attendees. Acceptance of the registration will follow the policy of the main host (JMA/MRI) and will be confirmed by 29 May 2026.

Attendance

We warmly invite the following groups and individuals to the SynObs/Co-design workshop:

- Members of the two UN Ocean Decade activities (SynObs and UN Ocean Observing Co-design)
- Researchers working on:
  - co-design of the ocean observing networks or systems
  - evaluation of the impact of ocean observations on ocean, climate, and weather prediction systems and other applications
  - development of ocean data assimilation systems or other methods that enhance effective use of ocean observations

Theme of the workshop

1. **Development of data assimilation and other techniques for effective use and impact assessment of ocean and interface observations**
   - **1.1.** Data assimilation and other synthesizing methodologies (including AI/ML) for effective use of ocean (physical and BGC) and interface observations.
   - **1.2.** Observation data processing, quality control, delivery and other applications for improving use of observation data.
   - **1.3.** Methodology for the observation impact assessment and optimal design of the observation network (OSEs, OSSEs, adjoint sensitivity studies, ensemble-based evaluation, etc.).

2. **Evaluation of the impact of ocean observations on ocean, weather and climate predictions and other applications**
   - **2.1.** Achievements of the coordinated experiments for the observation impacts (SynObs Flagship OSEs).
   - 2.2. Evaluation of synergy between satellite and in-situ observations or among various in situ observation platforms.
   - 2.3. Evaluation of air-sea interface observations for model forcing fields and data assimilation.
   - 2.4. Observation impact studies for the social benefit applications close to end-users (including applications for fishery, marine transportation, marine ecosystem management, marine pollution, etc.).
   - 2.5. Observation gap analysis and model uncertainty assessment

3. **Sharing experiences of co-designing ocean observing systems**
   - 3.1. Strategy, methodology, and best practice for co-designing ocean observing systems.
   - 3.2. Co-designing ocean observing networks across coastal-shelf-deep sea continuum: synergy between open-ocean and coastal observations (i.e., interaction between boundary currents and coastal/regional seas, polar ocean/sea ice).
   - 3.3. Use of ocean observing system evaluation in guiding co-design of ocean observing systems.
   - 3.4. Co-designing the ocean observing system for better understanding of tropical cyclones and improving their prediction.

4. **Planning future activities of SynObs and Ocean Observing Co-design and their collaboration**
   - 4.1. Future plans of the coordinated experiments for evaluating the ocean observing network (SynObs Flagship OSE) and other SynObs activities.
   - 4.2. Future plans of Ocean Observing Co-design activities, including those for the exemplars.
   - 4.3. Work plan for developing future ocean observing network recommendations and desirable contribution to OceanObs'29.

Workshop Information

- The main international meeting will take place 24-27 August. There will be an additional Japanese Town Hall meeting on 29 August for local attendees and possibly others interested in extending their stay.
- The 30th Data Assimilation Summer School in Japan will be organized together with the workshop in the same week (27-30 August) at the same venue. The summer school will have a joint session with SynObs and Ocean Observing Codesign in the afternoon of 28 August. Participants of the main international meeting can attend the joint session

without registering for the summer school. The summer school will also accept around 10 international students. We will announce the registration procedure for the international students of the summer school later.

- The following side meetings will also take place during the main international meeting (24-27 August) or after the main meeting (28 August).
    - SynObs planning meeting
    - Ocean Observing Co-design Tropical Cyclone Exemplar Meeting
    - Ocean Observing Co-design Coordinating Group Meeting
- Our host plans to allow remote participation to the main international workshop (24-27 August).
- Most events of the workshop will be held at Shimokita Culture Hall (https://shimobun.com/). Our host will take care of providing the meeting rooms, coffee breaks, wifi facilities, and will also offer a workshop reception and some other side events. The hotel rooms for the guests will be reserved by the host (the room charge needs to be paid by the guests). Lunch will not be provided, and participants will be asked to find lunch at restaurants or convenience stores nearby. More information about hotel rooms, lunch options, reception, and side events will be provided later.

Important dates

Call for abstracts open	18 February 2026
Abstract submissions close	27 March 2026
Registration open	7 April 2026
Abstract selection confirmation	30 April 2026
Registration closes for all international attendees (in-person)	22 May 2026
Acceptance of registration	29 May 2026
Deadline for provision of visa information (for the issuing of invitation letters)	10 June 2026
Issuing the invitation letter for visa application	26 June 2026
Registration closes for all attendees	Early August 2026
Workshop	24 -29 August 2026

Organizers and Sponsors

Main Host

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

Local hosts

- Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
- Japan Marine Science Foundation (JMSF)
- UN Ocean Decade Japan (Domestic committee)
- Mutsu City (Local Government)

Supporting International Communities

- Synergistic Observing Network for Ocean Prediction (SynObs, UN Ocean Decade Project)
- Ocean Observing Co-design (UN Ocean Decade Program)
- Global Ocean Observing System (GOOS, jointly organized by WMO and UNESCO-IOC)
- OceanPredict
- CLIVAR (a core project of WMO World Climate Research Program)
- Korea-U.S. Science Cooperation Center (KUSCO)

Other sponsors and fundings

- Habitable Japan (MEXT/JSPS Grant-in-Aid for Transformative Research Areas A)
- MEXT/JSPS KAKENHI Grant Number 25K01073

Contacts

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Science Organising Committee:

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- Stephanie Cuven, Mercator Ocean International (OceanPredict programme office coordinator)
- Yosuke Fujii, JMA/MRI (SynObs co-chair)
- Juliet Hermes, SAEON (Ocean Observing Co-design MHW Exemplar co-chair)
- Andrew Moore, UC Santa Cruz (SynObs member)
- Tammy Morris, SAEON (Ocean Observing Co-design BC Exemplar co-chair)
- Satoshi Osafune, JAMSTEC (SynObs member)
- K. Andrew Peterson, ECCC (SynObs member)
- Hasibur Rahaman, INCOIS (SynObs member)
- Elisabeth Remy, Mercator Ocean International (SynObs co-chair)
- Jun She, DMI (Ocean Observing Co-design Coordinating Group member)
- Cheyenne Stienbarger, NOAA (Ocean Observing Co-design TC Exemplar co-chair)
- Kirsten Wilmer-Becker, Met Office (OceanPredict programme office coordinator)