Data, Observation & Modelling

Wed. Nov 11, 2026 4:00 PM - 5:30 PM JST | Wed. Nov 11, 2026 7:00 AM - 8:30 AM UTC | Room B (Kujaku) (2F)

Oral A1 Environmental Variability and Prediction

Chair: Sung Yong Kim, Hiromichi Igarashi

4:30 PM - 4:45 PM JST | 7:30 AM - 7:45 AM UTC

[gv57-3Qb-03] JAXA Ocean Missions and its Applications to Model and Analysis

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JAXA operates several ocean missions and produces various geophysical parameters related to ocean environmental monitoring, such as sea surface temperature (SST), ocean color, sea surface wind speed, sea ice concentration, sea ice motion vector, etc. Those ocean products are distributed to public on a near-real-time basis via internet. They are used not only for scientific purposes, such as climate studies, but also for operational applications in meteorological agencies, maritime safety, fisheries and navigation services for polar vessels. While satellite observations are essential in ocean environment monitoring, they have disadvantages that some important parameters and information under the ocean surface cannot be observed by satellites. To demonstrate capability of satellite-based ocean data and enhance their effectiveness at the maximum, JAXA collaborates with model development organizations to utilize satellite data into their ocean models.
The Japan Agency for Marine-Earth Science and Technology (JAMSTEC) assimilates satellite-based SST into their high-resolution regional ocean model around Japan on a near-real-time basis to produce short-term forecast of ocean status, called JCOPE-T DA (Miyazawa et al., 2017, 2021) and JCOPE-T 1ks, to produce temporally gapless ocean information with higher accuracy. Analysis and forecast by JCOPE-T DA and 1ks are available from the JAXA web site (https://www.eorc.jaxa.jp/ptree/ocean_model/).
For long-term analysis of ocean state, an ensemble ocean analysis product, LORA Ver. 1.0, is created by a regional ocean data assimilation system, sbPOM-LETKF, which is developed by RIKEN under collaboration with JAXA (Ohishi et al., 2024). LORA Ver. 1.0 is also available via JAXA web site (https://www.eorc.jaxa.jp/ptree/LORA/index.html). RIKEN is currently developing the next version of LORA to extend its coverage to quasi-global area with 0.25-degree grid.

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