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

4:15 PM - 4:30 PM JST | 7:15 AM - 7:30 AM UTC

[gv57-3Qb-02] Extreme Climate and Ocean Digital Twin by JAMSTEC/APL

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Every month, we produce two-year climate predictions in real time to investigate the seasonal predictability of the climate system and find ways to utilize seasonal climate forecast information. Although significant advances have been made in seasonal climate prediction and its social applications, more needs to be done to support users' behaviours and decision-making by connecting the value chain from the ocean observing system to numerical seasonal climate forecasts and end users. To this end, we are developing the 'Extreme Climate and Ocean Digital Twin' at JAMSTEC/APL. Moving beyond predicting three-month temperature and precipitation averages, we are beginning to provide information on the seasonal characteristics of extreme events, such as tropical cyclones, coral bleaching and heatwaves. Our forecast outputs are provided via a data server, and we are also developing a new visualization tool with a 'twin mode' to enable users to compare the real situation with virtual forecasts. These new digital tools could facilitate the collaborative development of the digital twin between scientists and specific end users. Intermediate users may be key.

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