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

5:00 PM - 5:15 PM JST | 8:00 AM - 8:15 AM UTC

[gv57-3Qb-05] The Weather Extremes Archive

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Climatic extremes, such as heat waves, cold spells, wet and dry spells, and marine heat waves, have significant socioeconomic and ecological impacts. Despite the existence of various disaster archives, no dedicated, publicly accessible database comprehensively catalogs global climatic extremes. This project addresses that gap by developing an online archive of climatic extremes, designed to facilitate scientific collaboration, inform policymakers, and support media coverage. As a pilot project, we focus on heat extremes, with atmospheric heat waves and cold spells identified using ERA5 2-m air temperature, and marine heat waves identified using OISST sea surface temperature. In both cases, extremes are defined as highly unusual temperature anomalies that persist over time. They are further grouped into extreme events using connected component labeling to provide a spatiotemporally coherent representation of large-scale, persistent climatic anomalies. The archive comprises a static database of past events, presenting statistics on extremes, maps of affected areas, and timelines showing the evolution of each event, as well as an interactive analysis tool for data exploration.

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