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

5:15 PM - 5:30 PM JST | 8:15 AM - 8:30 AM UTC

[gv57-3Qb-06] Recent Thermal Shifts along the Moroccan Atlantic Coast (21°N–36°N): Insights from Sea Surface Temperature Variability and Anomalies, 1993-2026

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Monthly sea surface temperature (SST) data from the Copernicus Marine Service were analyzed for 1993–2026 along four cross-shore transects of the Moroccan Atlantic coast: T1 (32°N), T2 (26°N), T3 (24°N), and T4 (21°N). Each transect includes eight stations extending from the shelf to the open ocean, from 50m to 5000m depths. Their selection reflects the main oceanographic contrasts of the moroccan Atlantic coast/margin in the Canary Current upwelling system, including latitudinal changes in shelf–slope structure, coastline configuration, upwelling intensity, and cape-related circulation. The 1993–2026 records show a pronounced seasonal SST cycle superimposed on strong interannual variability. A persistent cross-shore thermal gradient is evident, with coastal stations generally cooler than offshore stations, consistent with wind-driven coastal upwelling and offshore export of upwelled waters. This gradient is particularly clear along T2, T3, and T4. Recent anomalies from September 2022 to June 2026 reveal marked regional contrasts. At T1, positive anomalies during late 2022–2023 are followed by cooling in 2024 and a pronounced cold event in autumn 2025. T2 shows widespread warming in 2023, especially offshore, followed by weaker near-normal to slightly negative conditions. T3 also exhibits coherent warming in 2023, peaking around mid-year, then weakening through 2024–2026. At T4, warming persists longer, into early 2024, before shifting toward predominantly negative anomalies, especially over the shelf and upper slope. Regionally, 2023 represents the most spatially coherent warm phase, whereas 2024–2026 are characterized by relative cooling and stronger spatial heterogeneity. This evolution suggests a recent reorganization of thermal conditions within the Moroccan upwelling system, potentially linked to changes in wind forcing, Ekman transport, upwelling intensity, and large-scale climate variability such as NAO, EA, AMV/AMO, ENSO-related teleconnections….Further atmosphere–ocean investigations are currently underway to quantify these drivers and assess their impacts on SST.

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