

Supplementary material

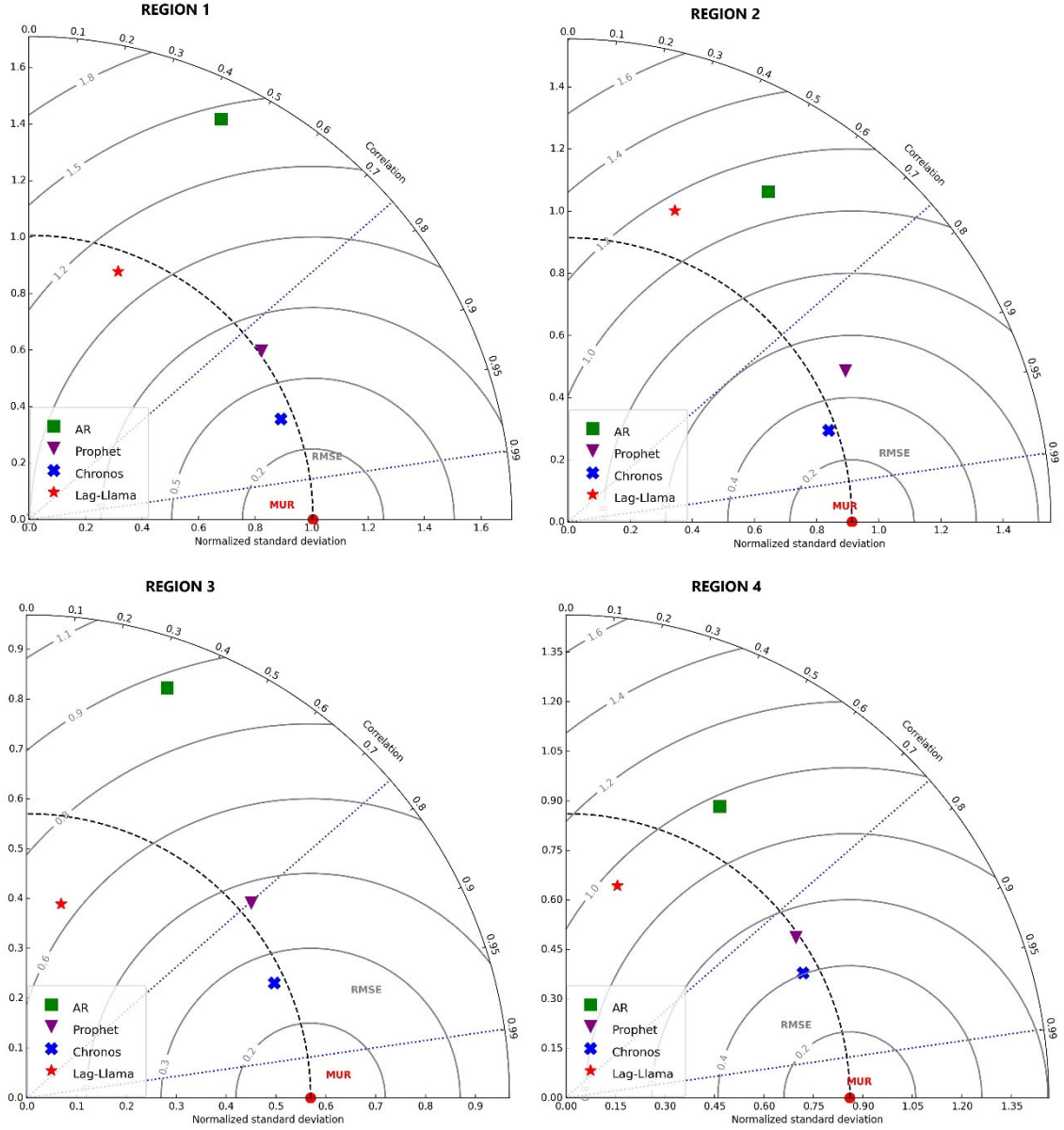


Figure S1. Taylor diagrams of daily SST in four regions using four different models (AR, Chronos, Lag-Llama and Prophet) against MUR, for 7 September 2019 and 31 December 2023 period respectively. Blue dotted lines represent the 0.75 and 0.99 correlation values and gray concentric circles represent the Root Mean Square Error (RMSE)

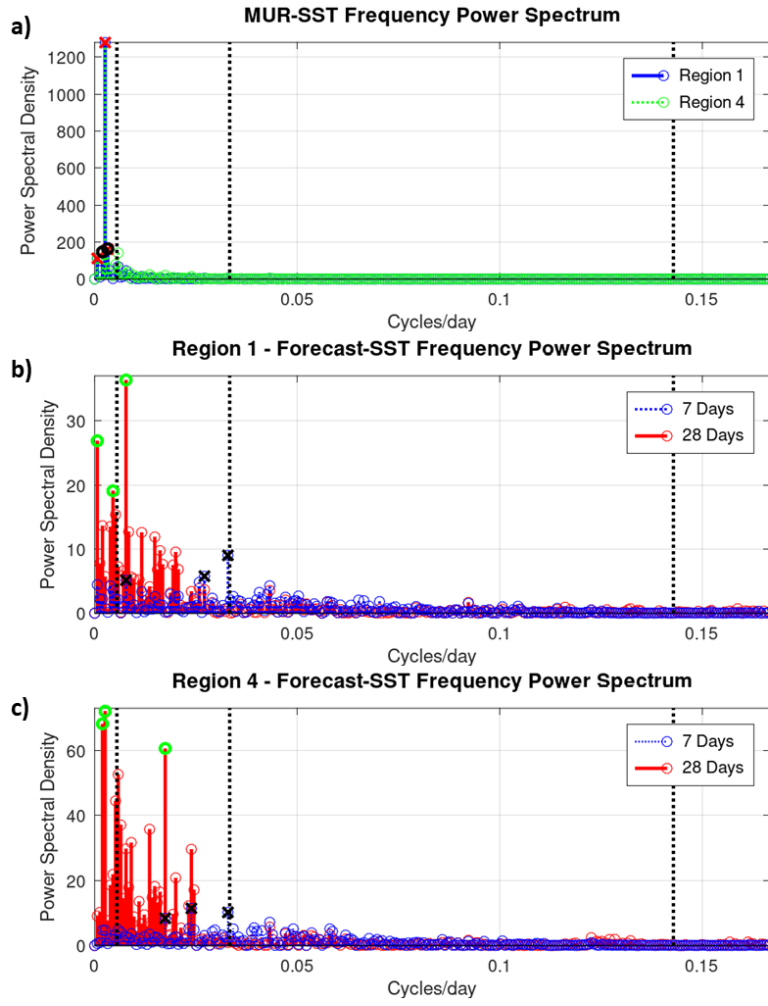


Figure S2. Power spectral density of (a) observed sea surface temperature (SST) and forecast residuals in (b) Region 1 and (c) Region 2, using 7 and 28 days forecast horizons. Vertical dashed black lines indicate 7 days, 30 days and 6 months. In each spectrum, the three frequencies with largest power spectral density are indicated with circles and crosses.

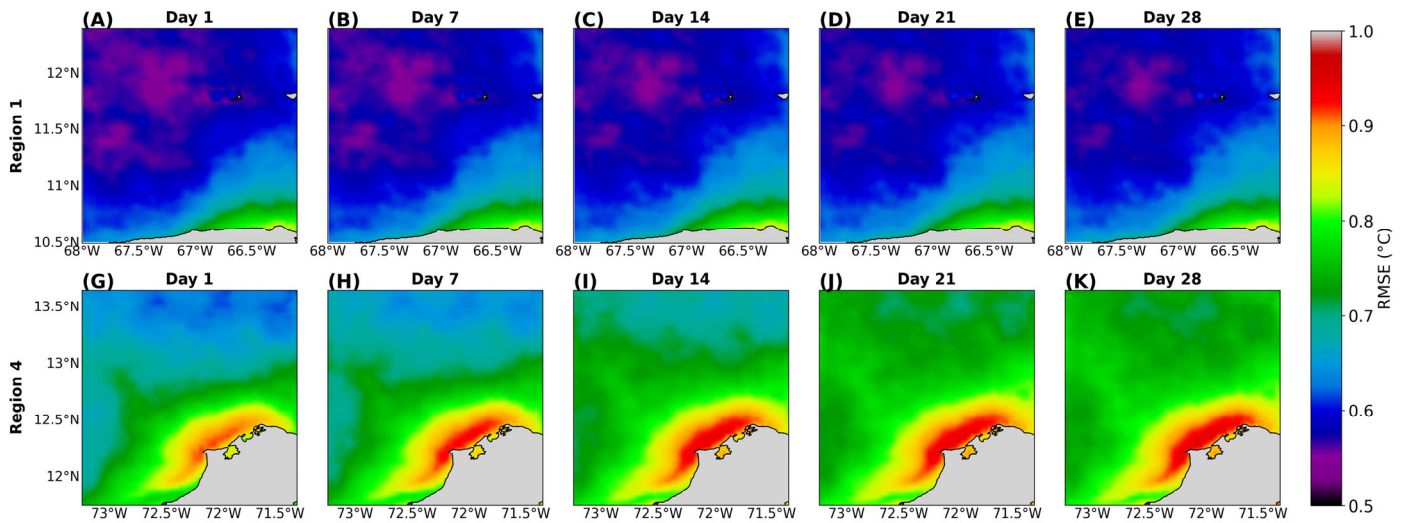


Figure S3. Spatial distribution of Root Mean Squared Error (RMSE) in SST forecasts for Region 1 (A-E) and Region 4 (G-K) at forecast horizons of 1, 7, 14, 21, and 28 days. Error values are shown in $^{\circ}\text{C}$ across all panels.

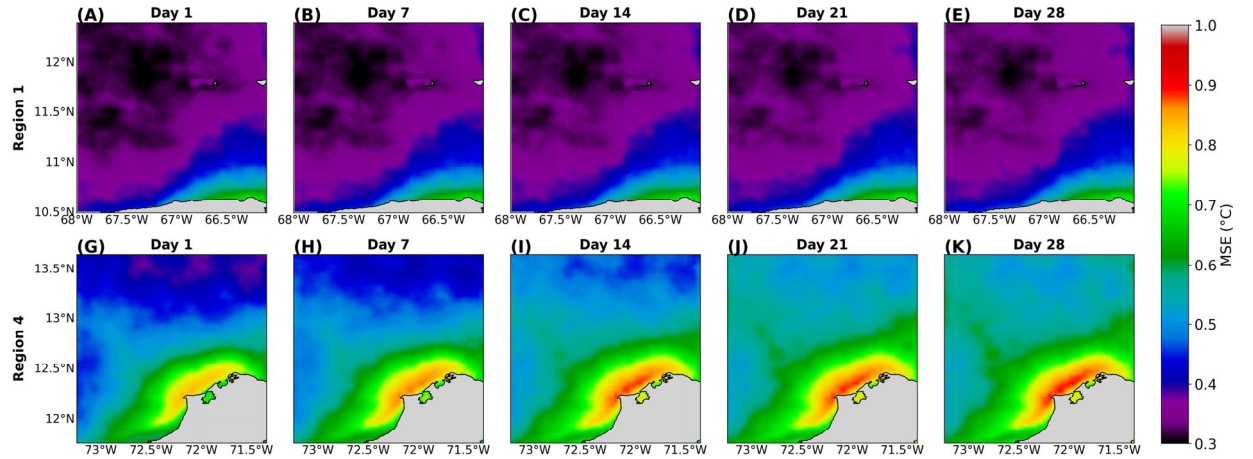


Figure S4. Spatial distribution of Mean Squared Error (MSE) in SST forecasts for Region 1 (A-E) and Region 4 (G-K) at forecast horizons of 1, 7, 14, 21, and 28 days. Error values are shown in $^{\circ}\text{C}$ across all panels.

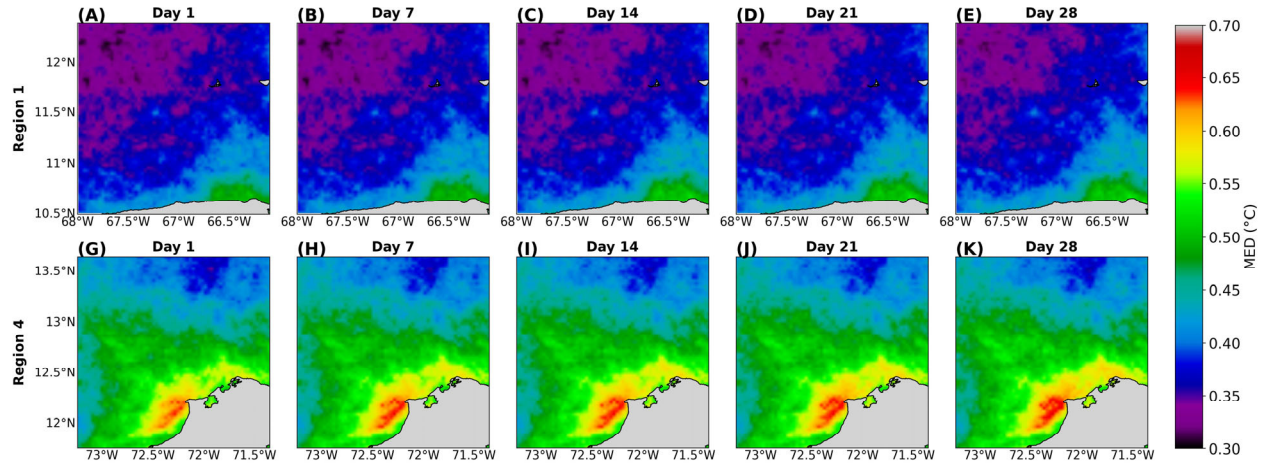


Figure S5. Spatial distribution of Median Absolute Error (MED) in SST forecasts for Region 1 (A-E) and Region 4 (G-K) at forecast horizons of 1, 7, 14, 21, and 28 days. Error values are shown in $^{\circ}\text{C}$ across all panels.