## Supplemental Informations

Here, we would like to add two supplemental figures for the submitted manuscript, Koseki et al.
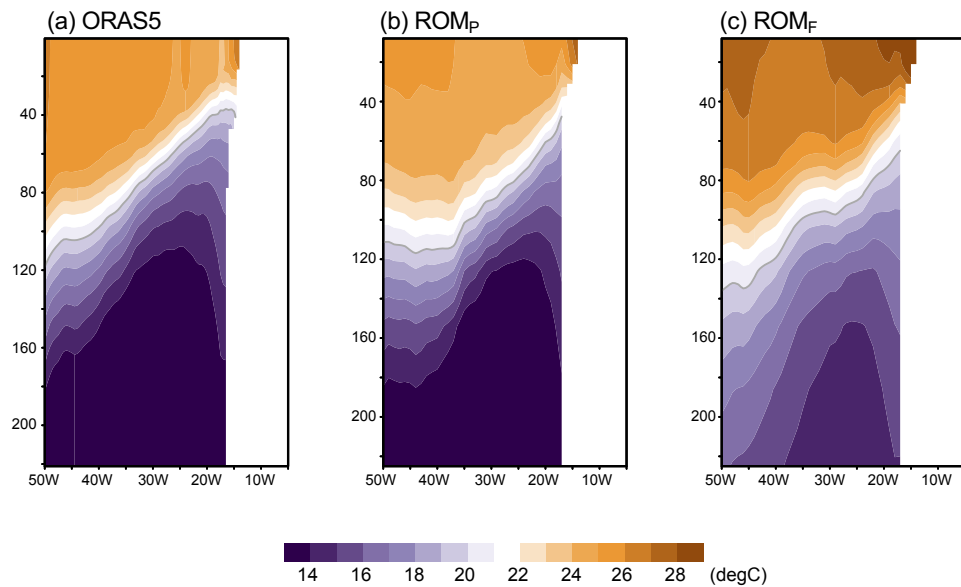
**Figure S1**.
Depth-longitude section of climatolgical ocean temperature in March avearged between 9°N and 12°N for (a) ORAS5 reanalysis and (b) ROM$_P$ , and (c) ROM$_F$, respectively.
The gray contour denotes the ocean temperature of 20°C, a proxy for the thermocline depth.
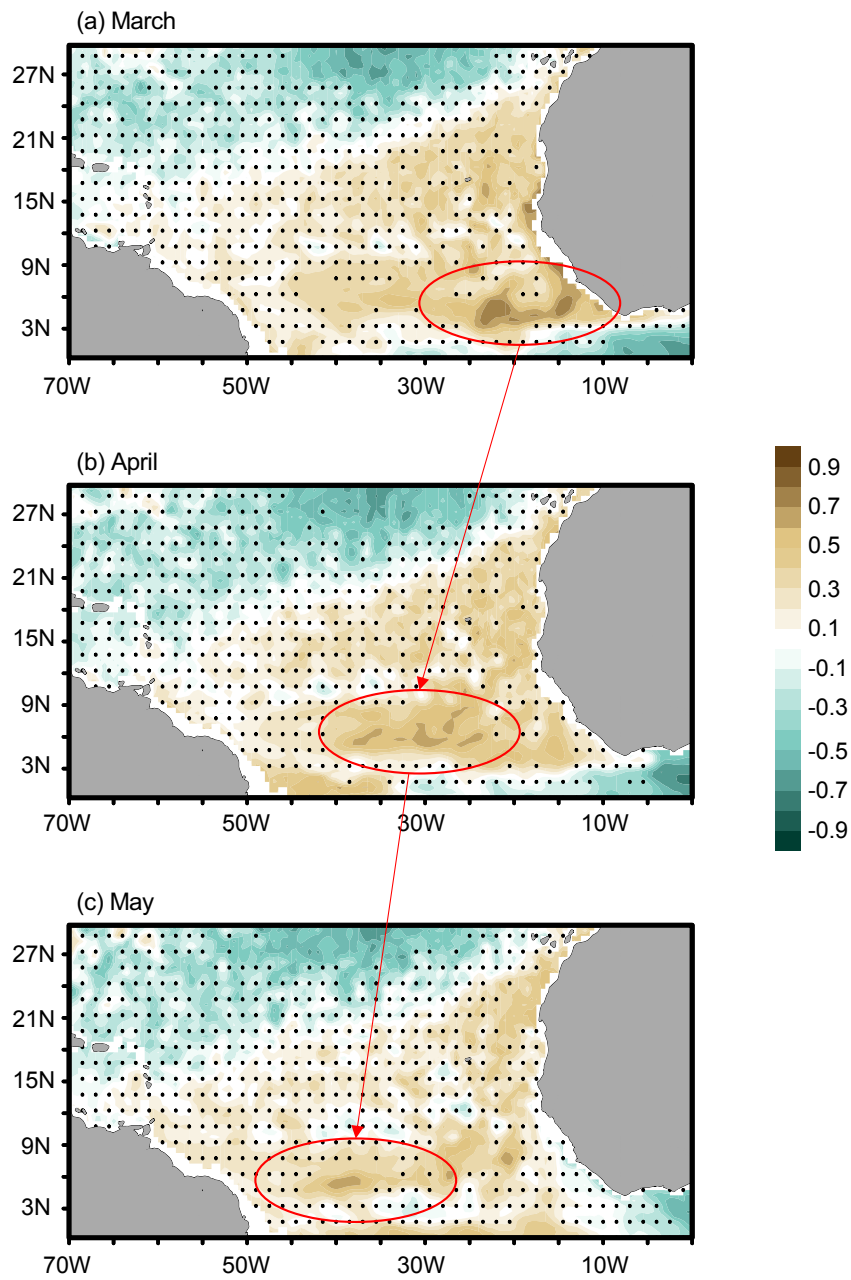
**Figure S2**.
Lag-correlation plots between March Dakar Index (SST over 9°N-14°N and 21°W-17°W) and ocean temperature at 41m depth in ROM$_P$ from March to May. Dots denote no significance of correlation. The red circle and arrow are the highest correlaiton and indication of westward propagation by eye.