Supporting Information for

Two different phytoplankton blooming mechanisms over the East China Sea during El-Niño decaying summers

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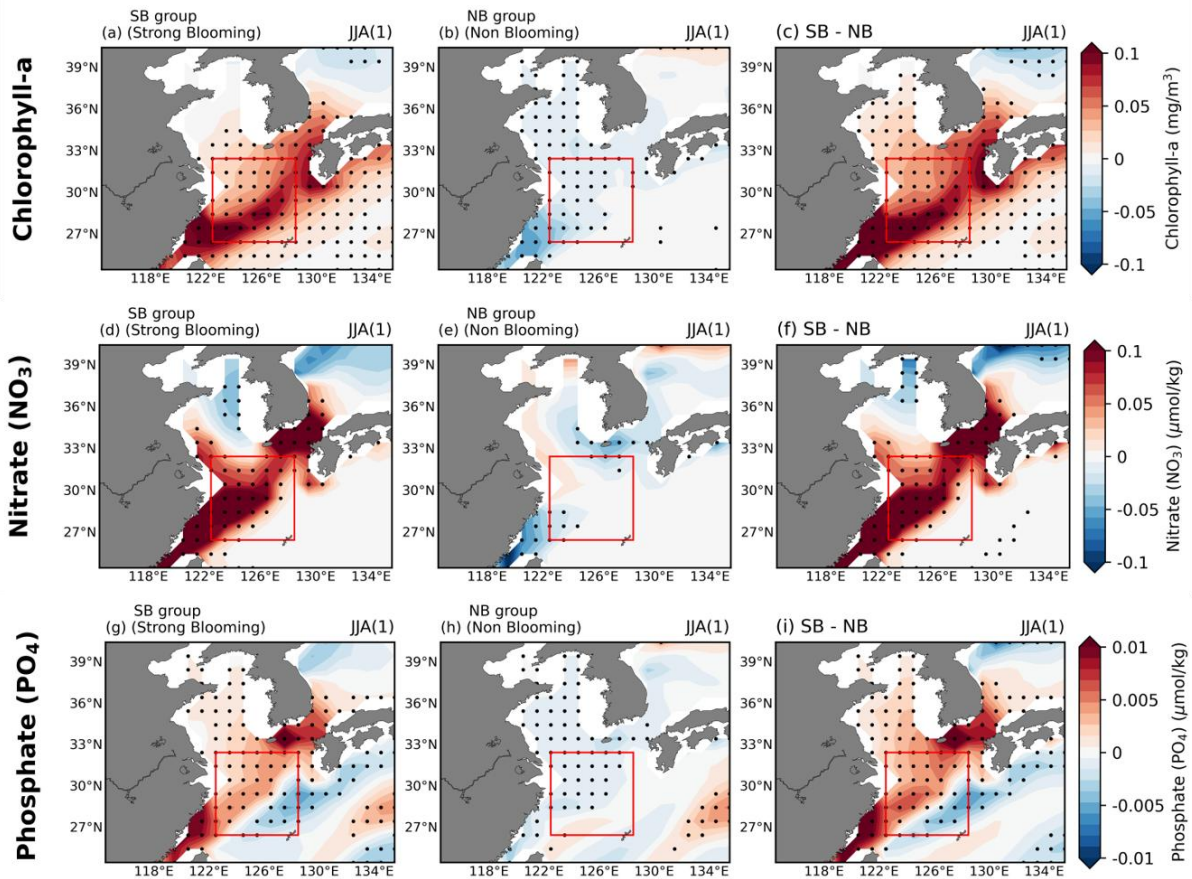
Figure S1. (a-c) Composite maps exhibiting the 3-month average of Surface Chlorophyll-a (SCHL) anomalies for the Strong Blooming (SB) group, Non-Blooming (NB) group and the difference between the two groups during the El Niño decaying summers. **(d-f)** Composite maps exhibiting the surface nitrate (NO_3) anomalies of the SB group, NB group and difference between the two groups during the El Niño decaying summers. **(g-i)** Composite maps exhibiting the surface phosphate (NO_3) anomalies of the SB group, NB group and difference between the two groups during the El Niño decaying summers. Black dots indicate the responses are statistically significant at the 95% confidence level by using the bootstrap method.
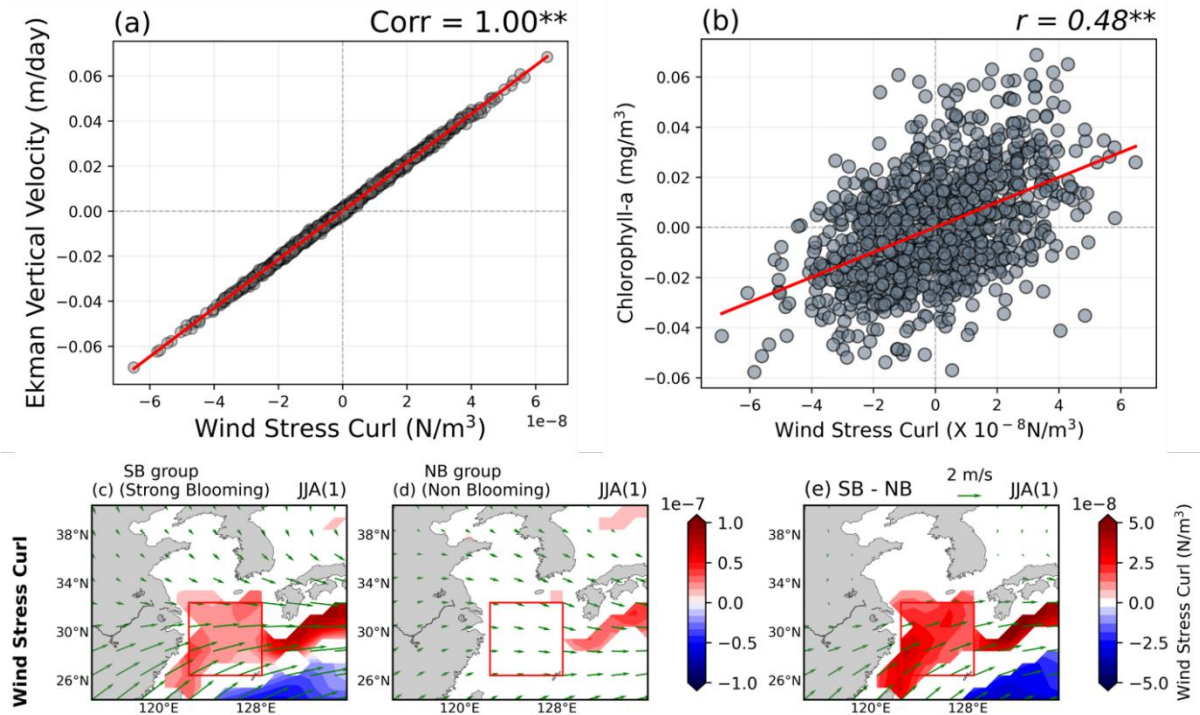
Figure S2. (a) The relationship between area-averaged Wind Stress Curl (WSCL) and Ekman Upwelling (EKU) in the target area during the decaying summer season of El Niño events. **(b)** The relationship between area-averaged Wind Stress Curl (WSCL) and SCHL anomalies in the target area during the decaying summer season of El Niño events. **(c-e)** Composite maps exhibiting the EKU anomalies during the El Niño decaying summer season for both groups, as well as the difference between the two groups. All the shadings and vectors are expressed only in the region where the responses are statistically significant at the 95% confidence level.
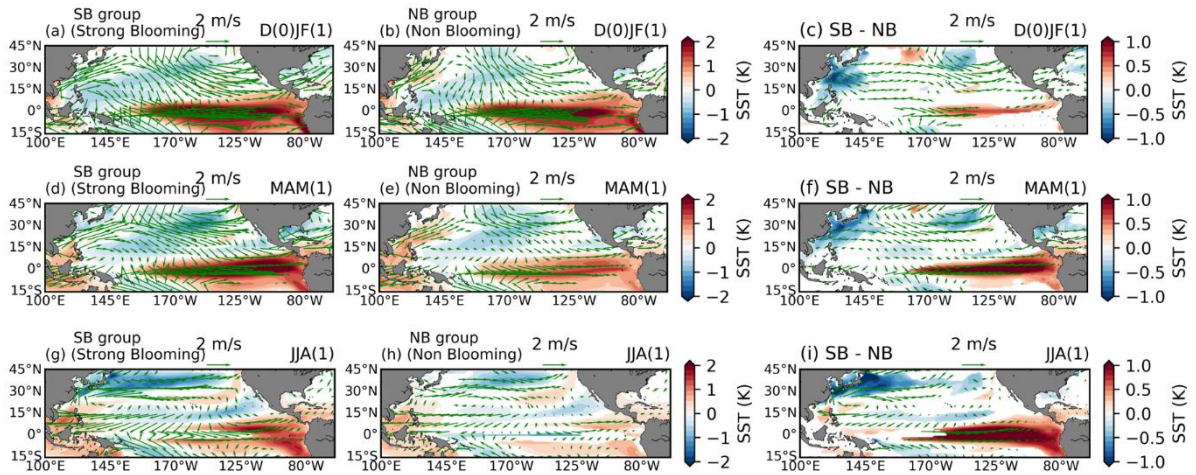
Figure S3. The figures exhibit the evolution map of Sea Surface Temperature (SST) anomaly patterns from the El Niño mature phase to the decaying summer season. **(a-c)** Composite maps exhibiting the SST anomaly patterns for the SB, and NB group and the difference between the two groups during the El Niño mature phase. **(d-f)** Composite maps exhibiting the SST anomaly patterns for the SB, and NB group and the difference between the two groups during the following spring season of the El Niño mature phase. **(g-i)** Composite maps exhibiting the SST anomaly patterns of the SB, and NB group and the difference between the two groups during the decaying summer season of El Niño mature phase. All the shadings and vectors are expressed only in the region where the responses are statistically significant at the 95% confidence level.