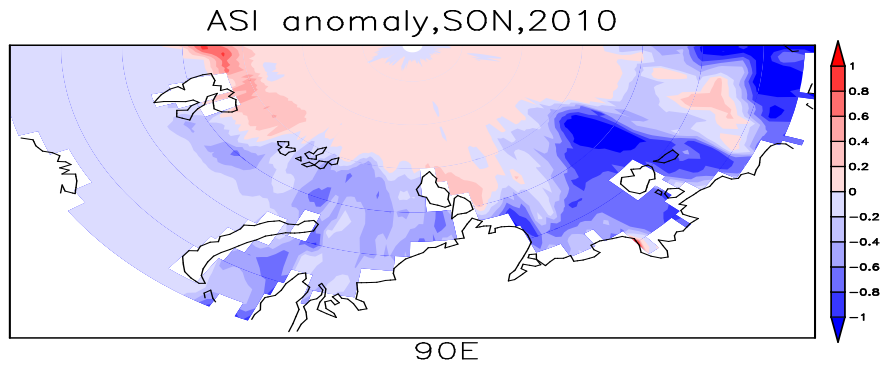


1 **Supplemental Materials**



6 **Figure S1. Anomalies of pre-autumn ASI in 2010**

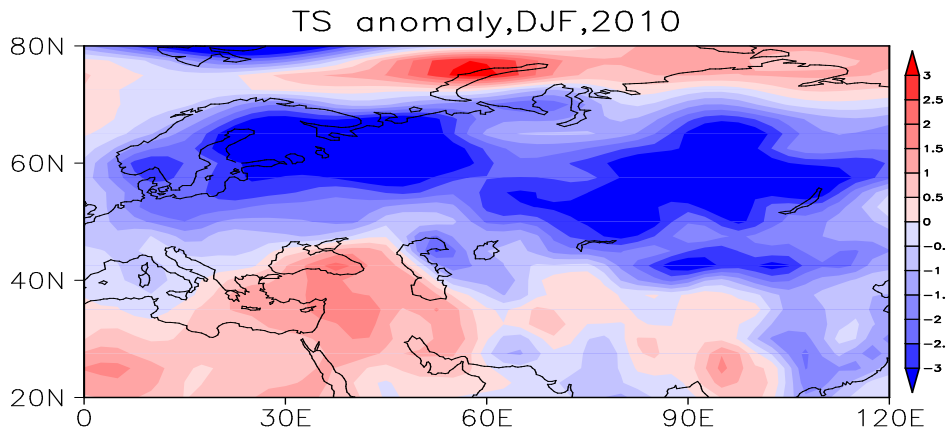
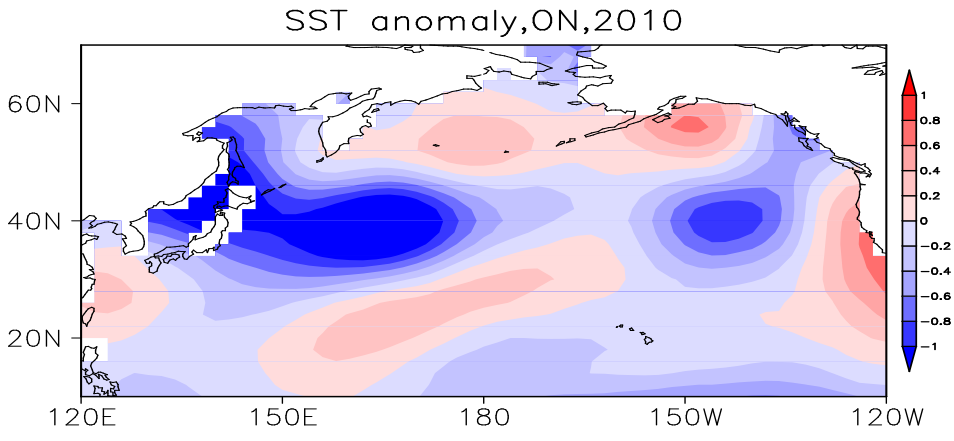
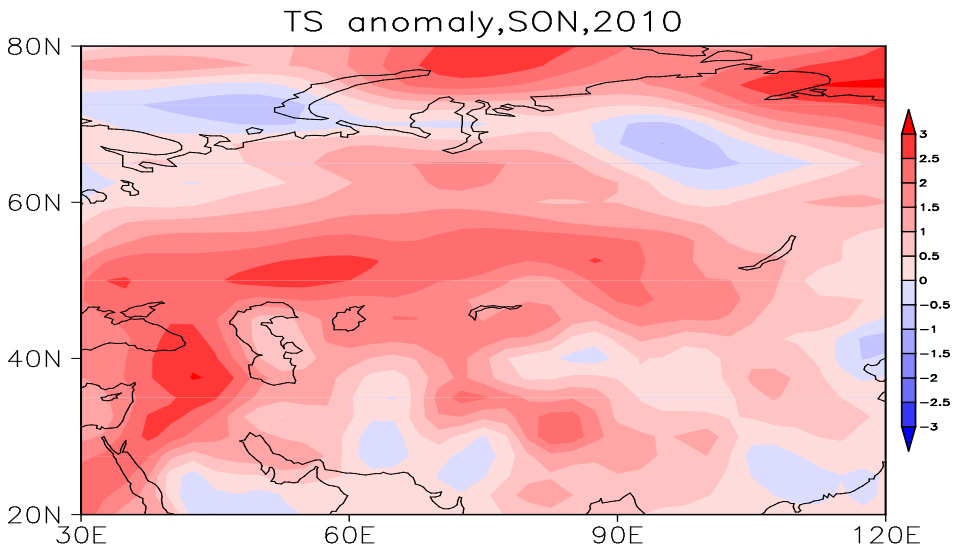


Figure S2. Anomalies of winter TS in 2010

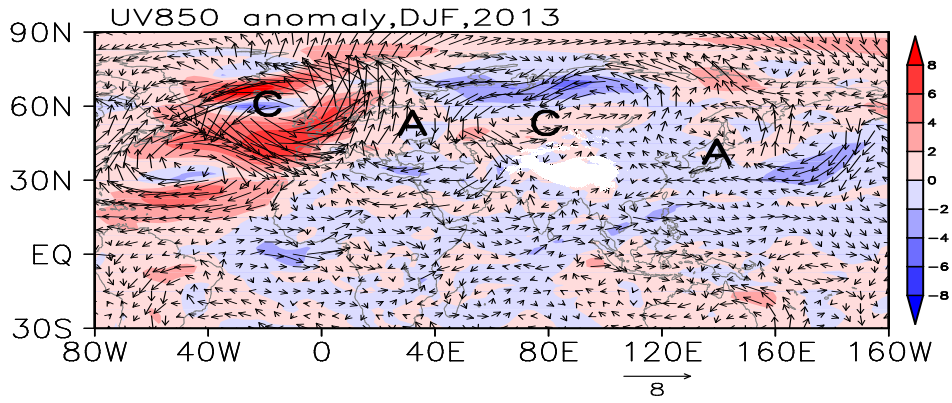


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12 **Figure S3. Anomalies of ON SST in 2010**



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15 **Figure S4. Anomalies of pre-autumn TS in 2010**

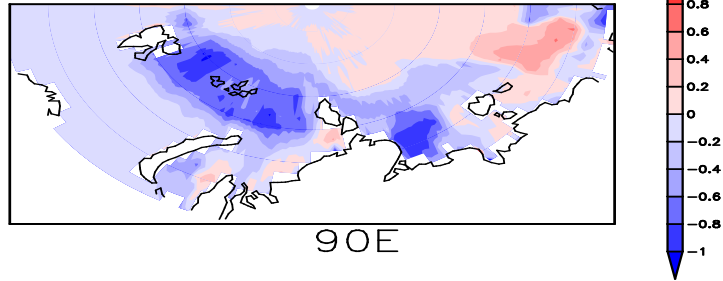
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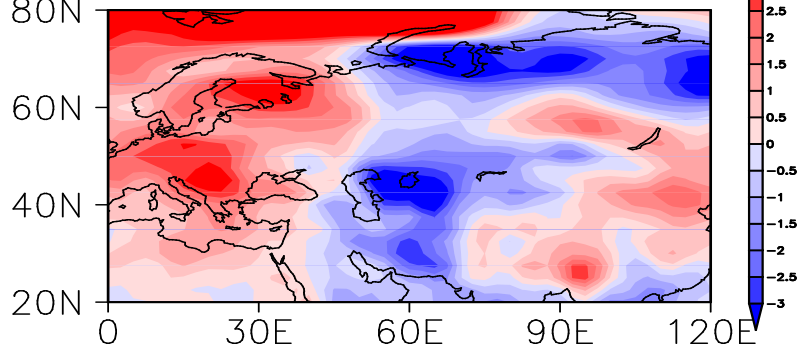
Figure S5. UV850 (arrow) and speed (shade) anomalies in 2013. A and C represent anti-cyclone and cyclone, respectively.

(a) ASI anomaly, SON, 2013

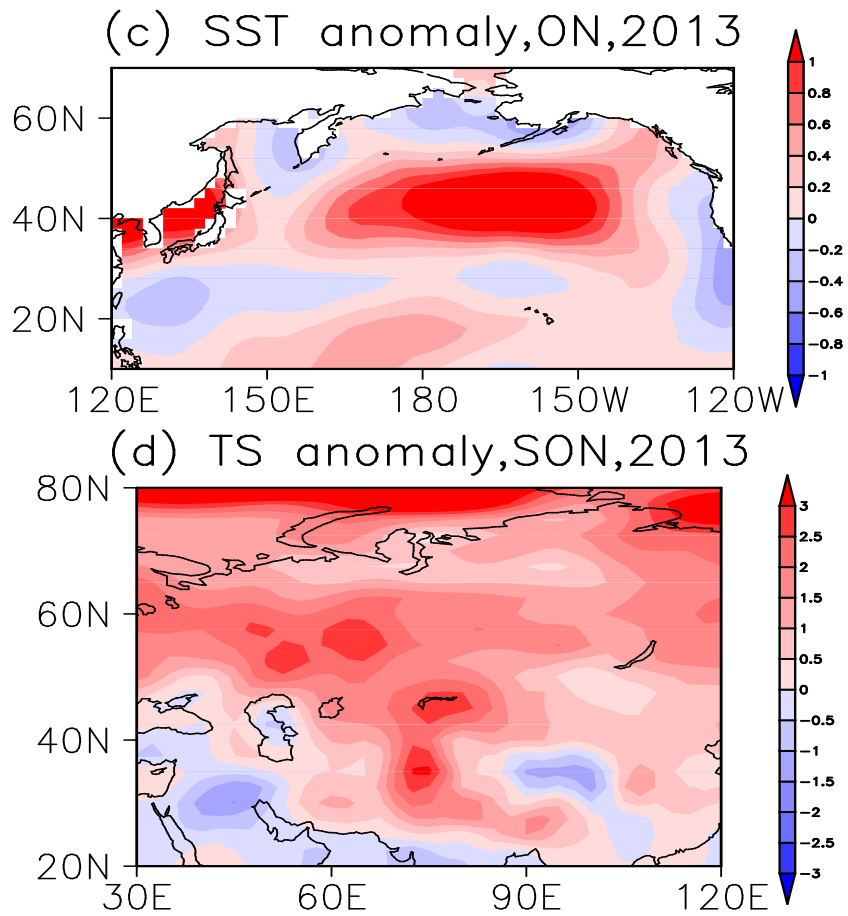


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(b) TS anomaly, DJF, 2013



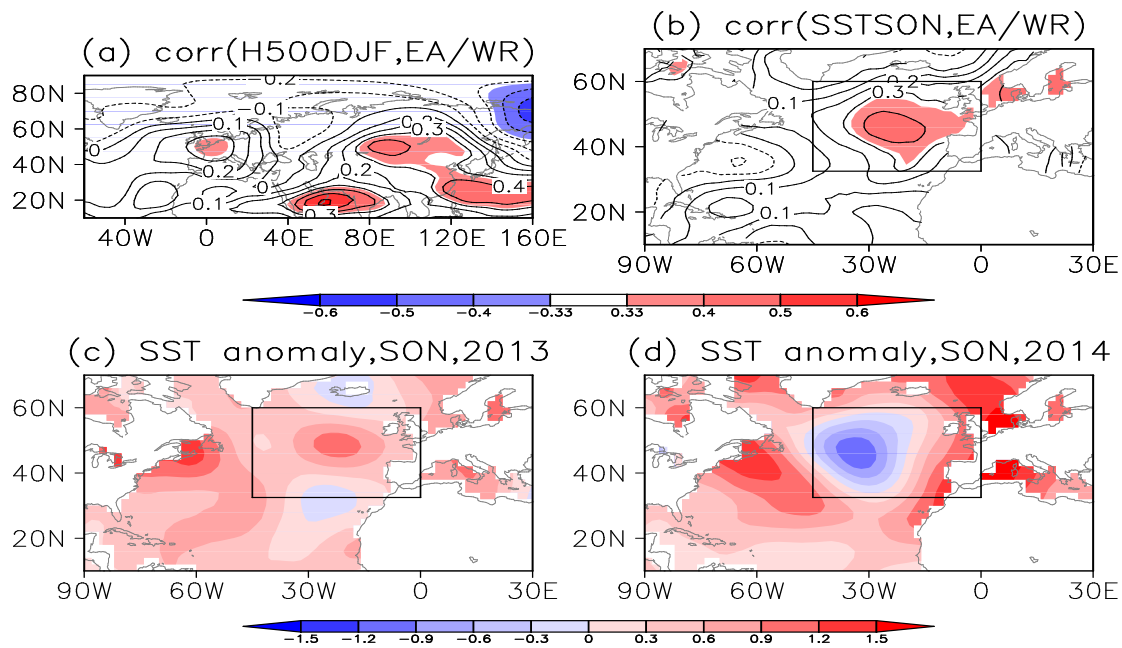
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31 **Figure S6. Anomalies of external forcings in 2013. (a) ASI in pre-autumn, (b) TS in winter, (c) SST in Oct and Nov, and (d) TS in**
 32 **pre-autumn.**



33

34 **Figure S7. Correlation coefficients between EA/WR index and H500 (a) / Atlantic SST in pre-autumn (b). Pre-autumn SST**
 35 **anomaly during SON in 2013 (c) and 2014 (d)**

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