

Appendix

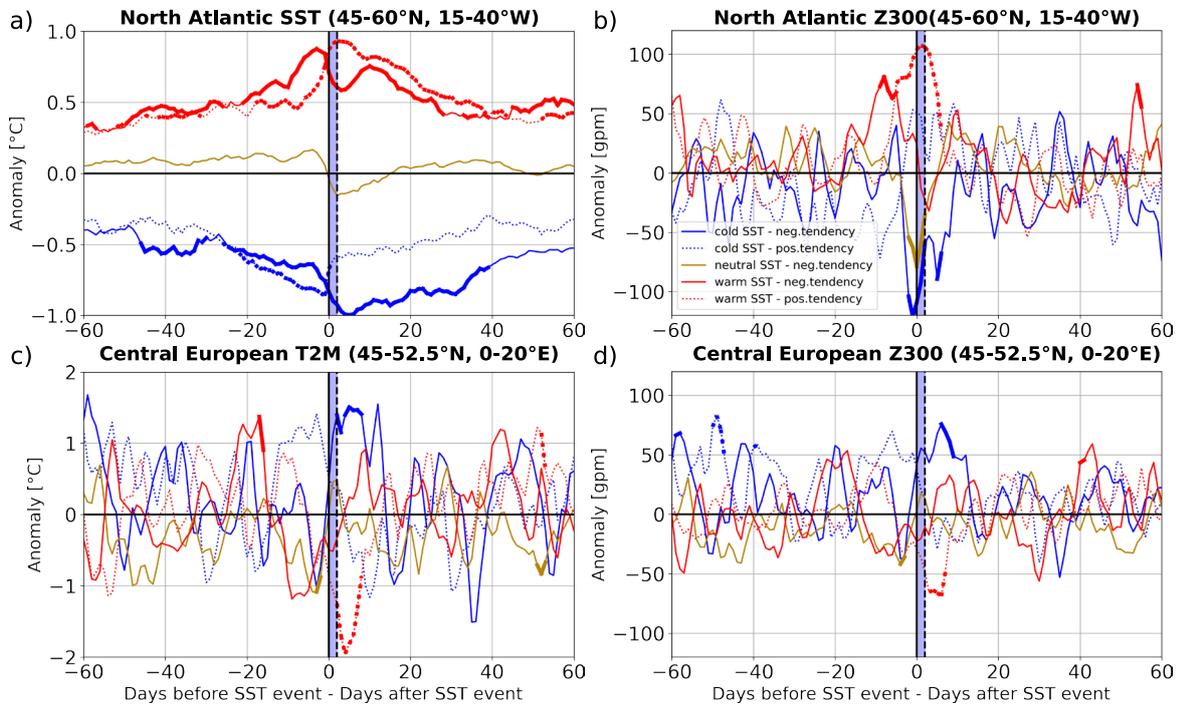


Fig. A1: Same as Fig. 2, but here without the 5-day running mean applied.

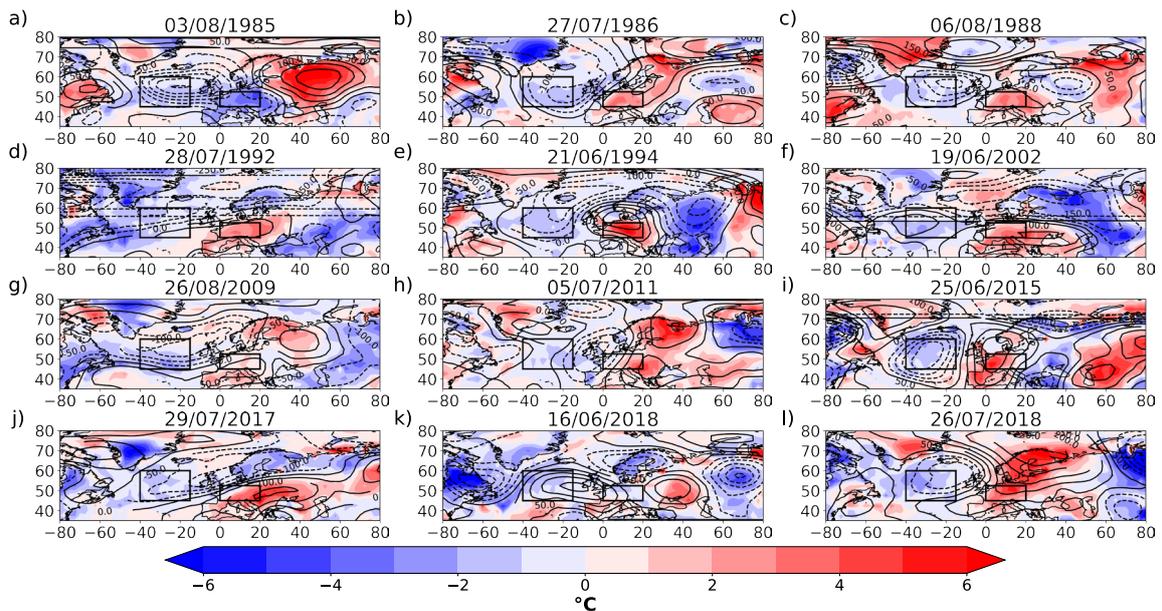


Fig. A2: Maps of SST (ocean) and T2m (continent; coloured) and Z300 (contours) anomalies based on the state 5 days after the onset of the respective 12 cold North Atlantic SST events with a negative tendency; the title includes the respective date of the event consistent with the dates listed in Table 1.

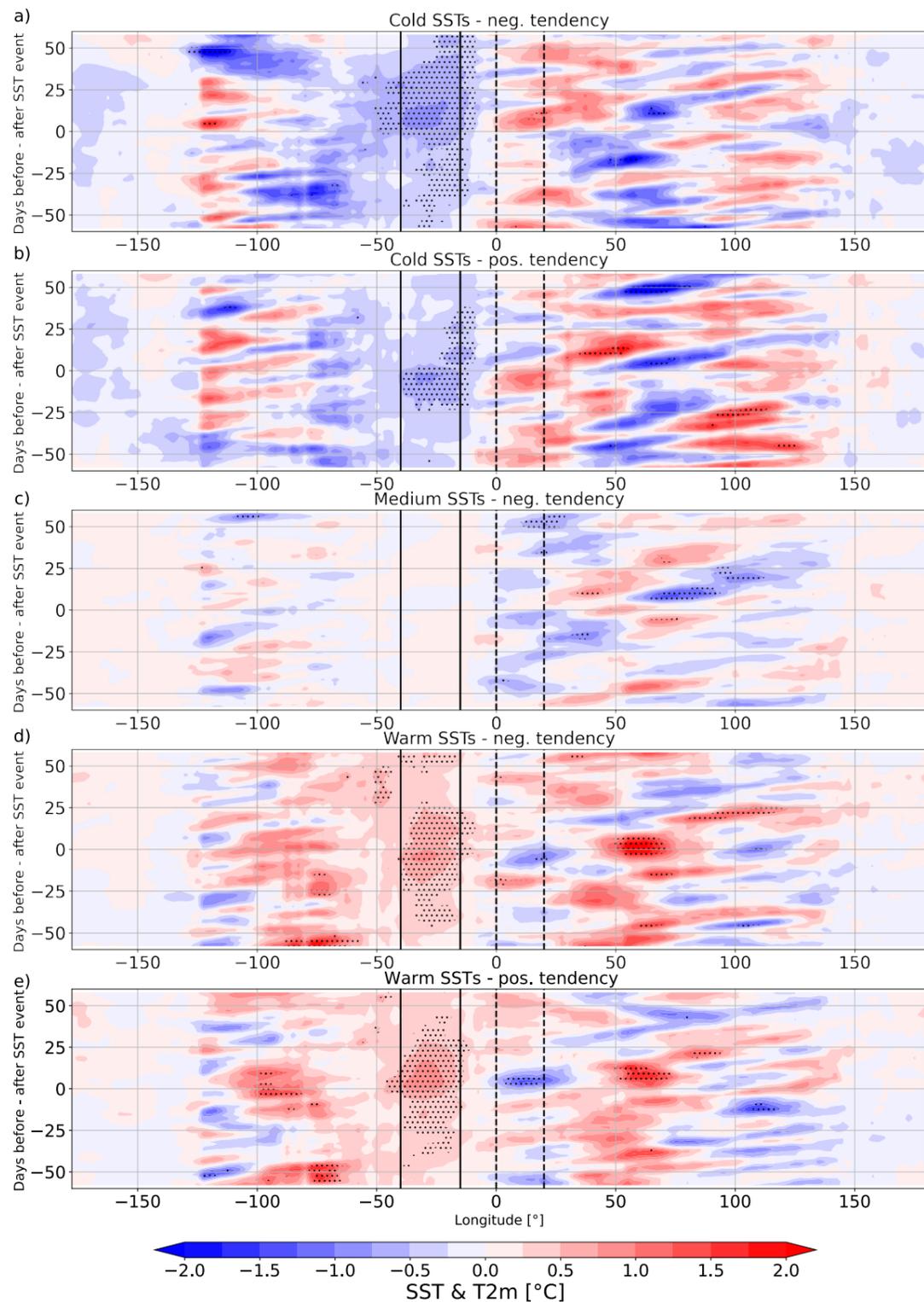


Fig. A3: Hovmöller diagrams of SST (ocean) and T2m (continent) anomalies obtained after a latitudinal average over 40 – 60 N based on composite mean of all 5 composites based on North Atlantic SSTs; stippling indicates significance according to the 95% confidence interval based on the bootstrap method; solid vertical lines illustrate the longitude boundaries of the North Atlantic box (15 – 40°W) and dashed lines the boundaries of the European box (0 – 20°E).

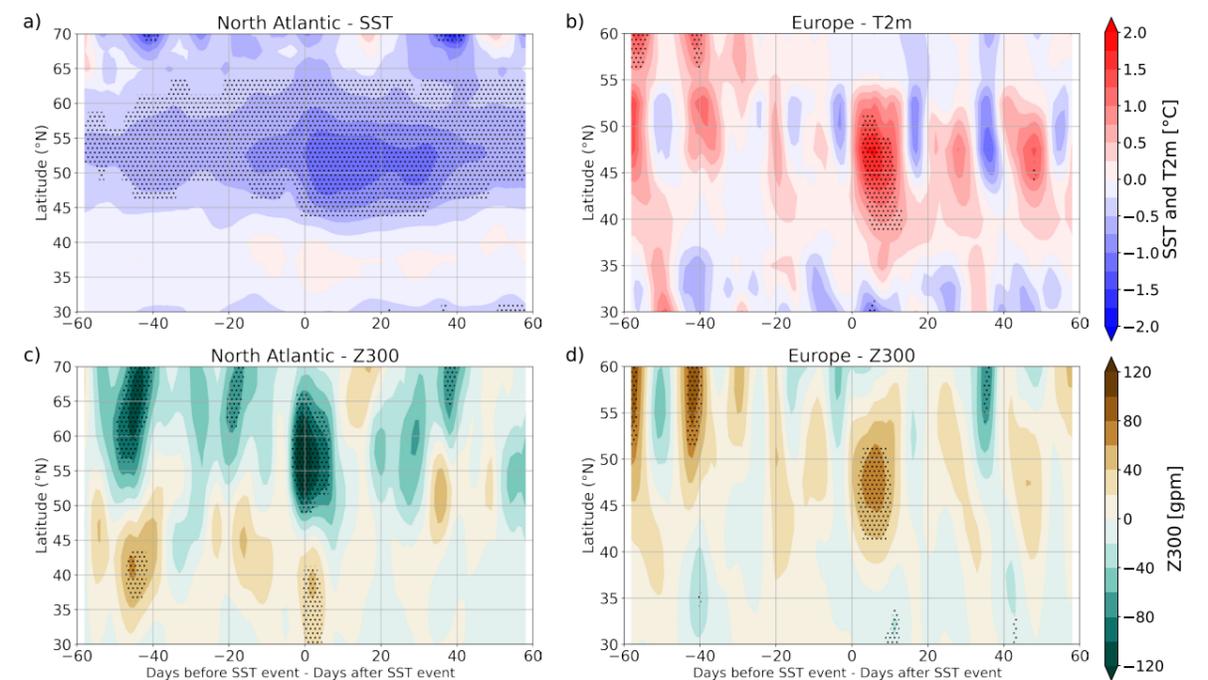


Fig. A4: Hovmöller diagrams based on composite mean of cold North Atlantic SST events with a negative tendency obtained after a longitudinal average for a) North Atlantic SST anomalies (15 – 40°W) and b) European T2m anomalies (0 – 20°E); c) and d) Same as a) and b) but for Z300 anomalies; stippling indicates significance according to the 95% confidence interval based on the bootstrap method.

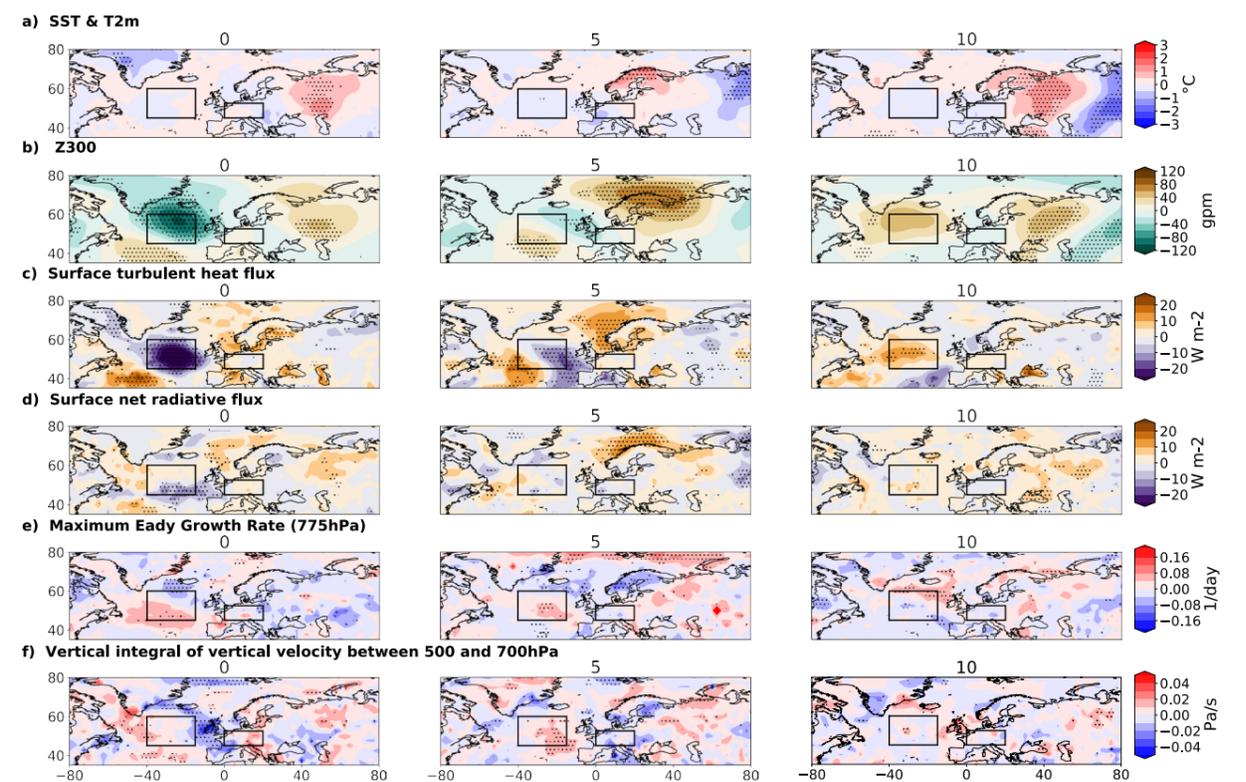


Fig. A5: Same as Fig. 4, but here for composite of neutral SST events with negative tendency.

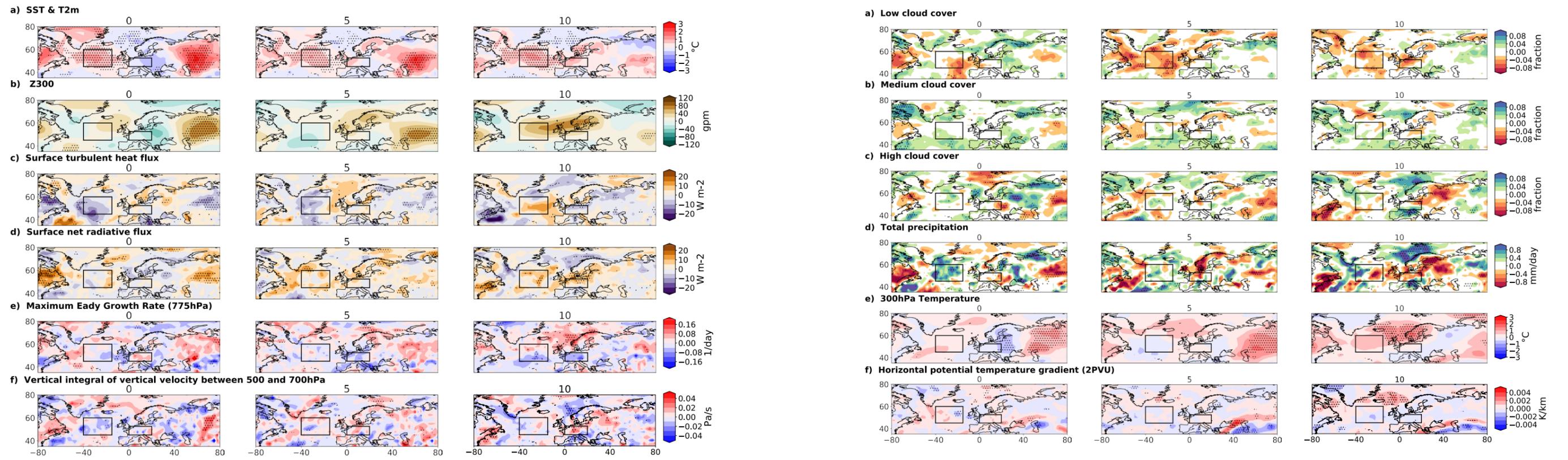


Fig. A6: Same as Fig. 4, but here for composite of warm SST events with negative tendency.

Fig. A8: Same as Fig. 5, but here for composite of warm SST events with negative tendency.

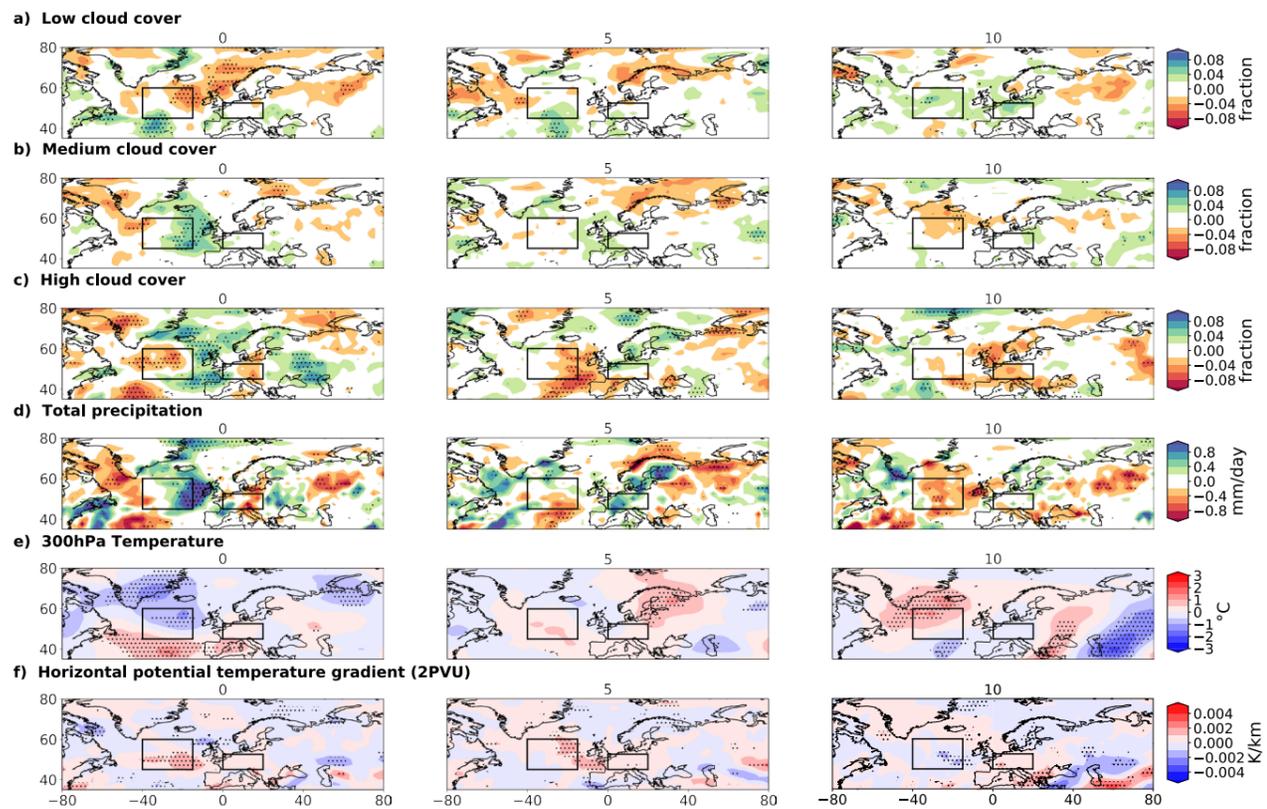


Fig. A7: Same as Fig. 5, but here for composite of neutral SST events with negative tendency.

Composite	Description	Anomaly (lag= -1)	Anomaly (lag= 0, 1, 2)
1	<i>Warm</i> North Atlantic SST events with a <i>positive</i> tendency	$SST < SST_{0.9}$	$SST > SST_{0.9}$
2	<i>Cold</i> North Atlantic SST events with a <i>positive</i> tendency	$SST < SST_{0.1}$	$SST > SST_{0.1}$
3	<i>Warm</i> North Atlantic SST events with a <i>negative</i> tendency	$SST > SST_{0.9}$	$SST < SST_{0.9}$
4	<i>Cold</i> North Atlantic SST events with a <i>negative</i> tendency	$SST > SST_{0.1}$	$SST < SST_{0.1}$
5	<i>Neutral</i> North Atlantic SST events with a <i>negative</i> tendency	$SST > SST_{0.5}$	$SST < SST_{0.5}$
6	European heat events	$T2m < T2m_{0.95}$	$T2m > T2m_{0.95}$

Table A1: List of five composites based on North Atlantic SSTs (1–5) and one composite based on European heat events (6). The parameters SST_q and $T2m_q$ denote the threshold, where q is the quantile. An event is detected when the anomaly crosses the respective threshold for three consecutive days marked as lag= 0, 1, 2.