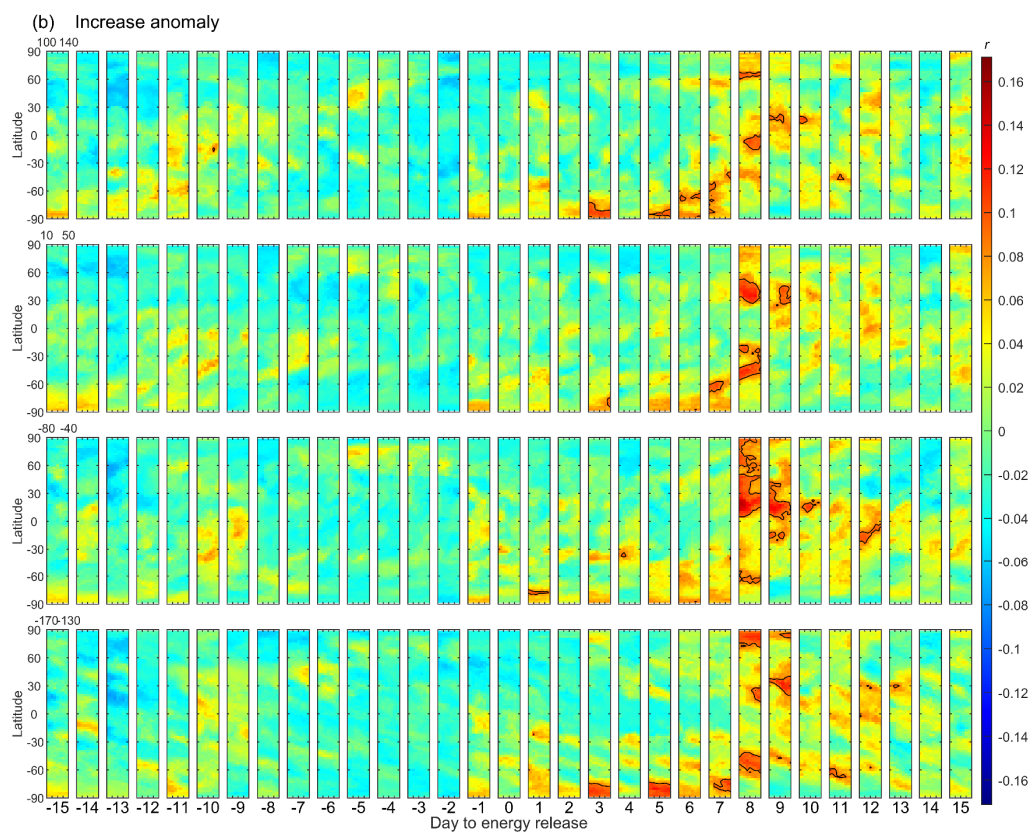


## Supplementary material S2

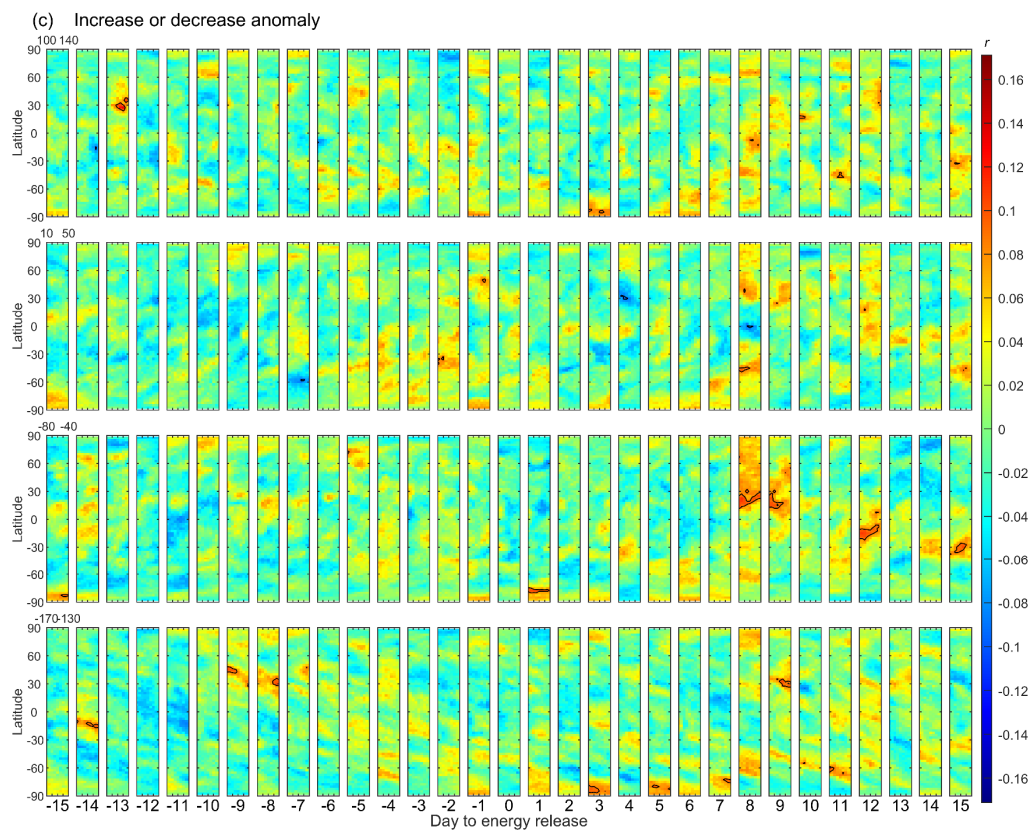
110–130 °E



**Figure S1.** Temporal and spatial distributions of correlation coefficient between daily seismic wave energy release within 110–130 °E and occurrence times of TEC decrease anomalies. Panels from left to right represent -15 to 15 days from the seismic wave energy release (D). Top to bottom panels display four selected longitude sectors centered over 120, 30, -60, and -150 °E, respectively, each with a width of  $\pm 20^\circ$ . The x-axis of each panel denotes the 40° longitude range, and the y-axis denotes latitude. The contour denotes  $r_{\alpha=0.01} = \pm 0.086$ .

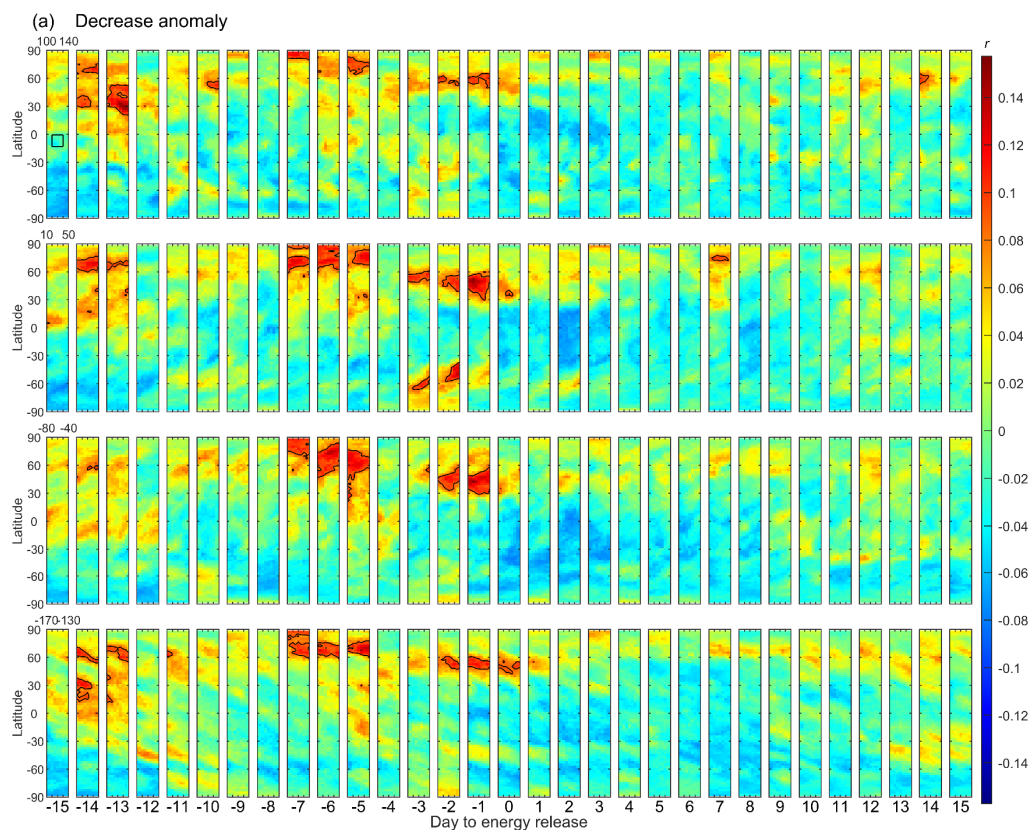


**Figure S2.** Same as Figure S1 for the results of occurrence times of TEC increase anomalies.



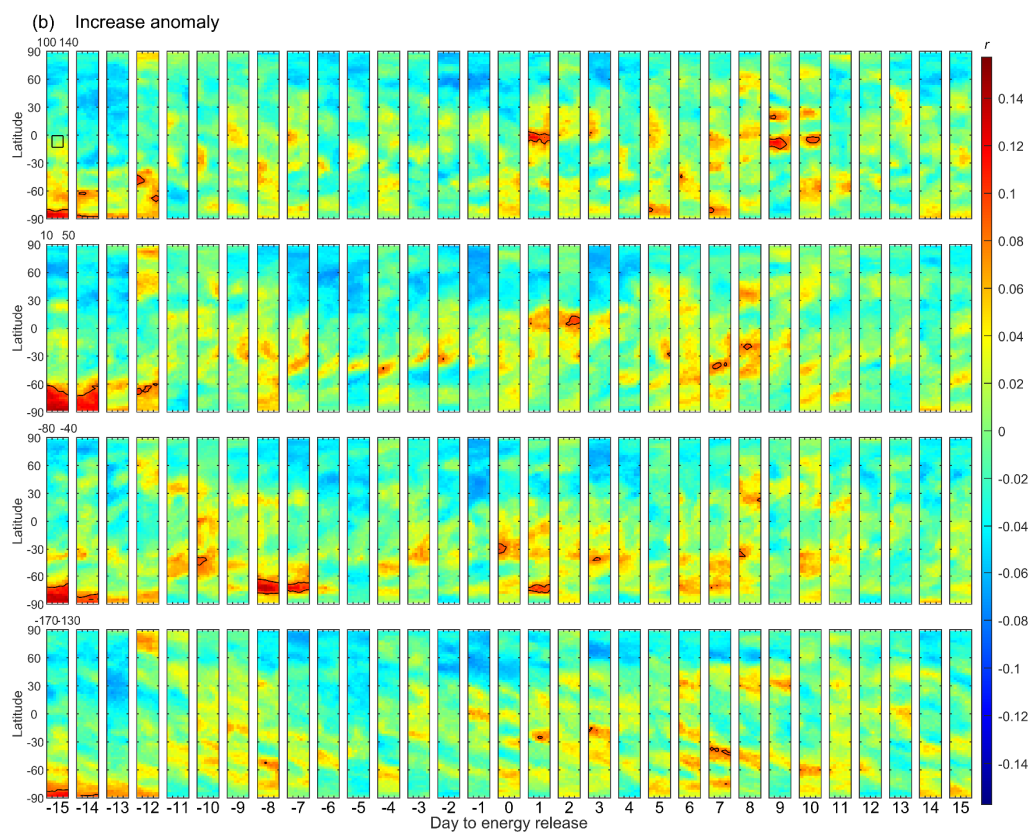
**Figure S3.** Same as Figure S1 for the results of occurrence times of both TEC increase and decrease anomalies counted together.

## Region A

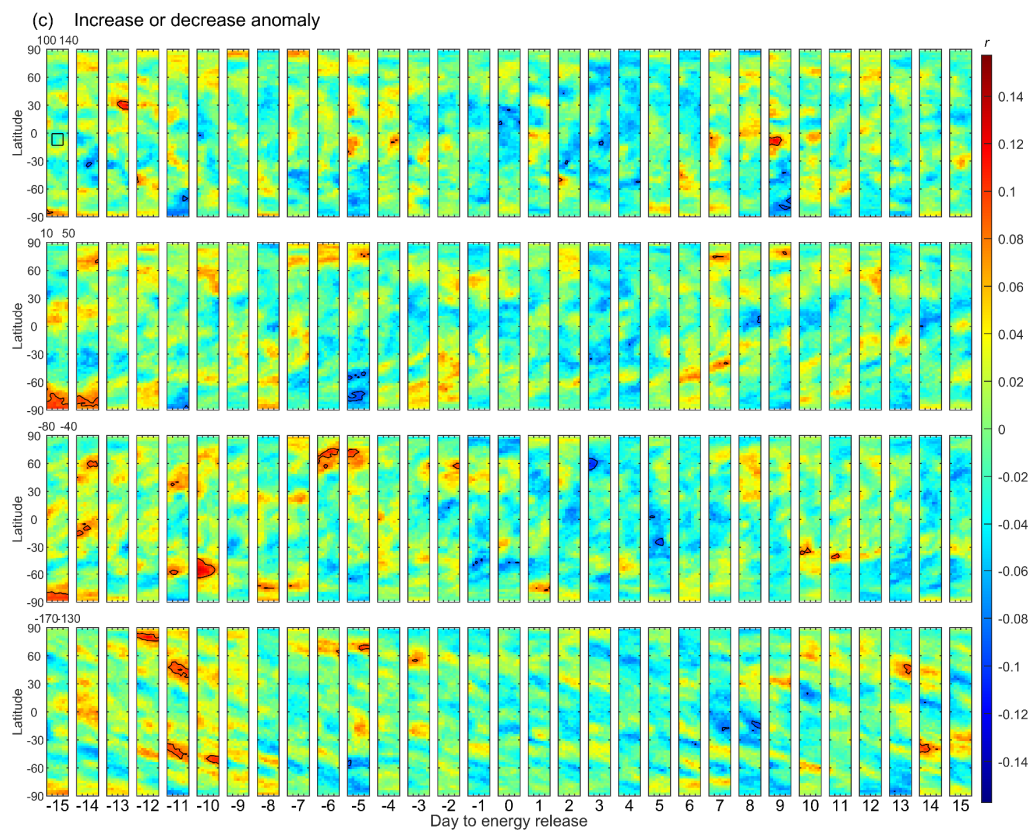


**Figure S4.** Temporal and spatial distributions of correlation coefficient between daily seismic wave energy release within Region A and occurrence times of TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01} = \pm 0.086$ . The black box on the top first panel indicates Region A.



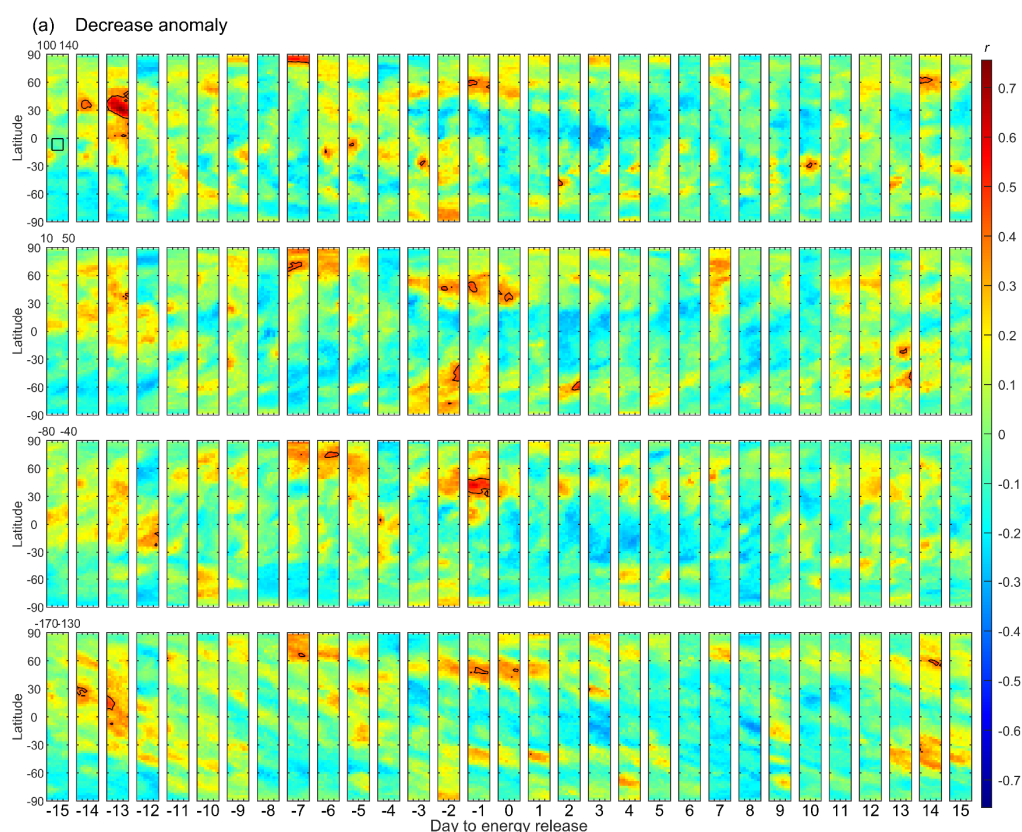


**Figure S5.** Same as Figure S4 for the results of occurrence times of TEC increase anomalies.

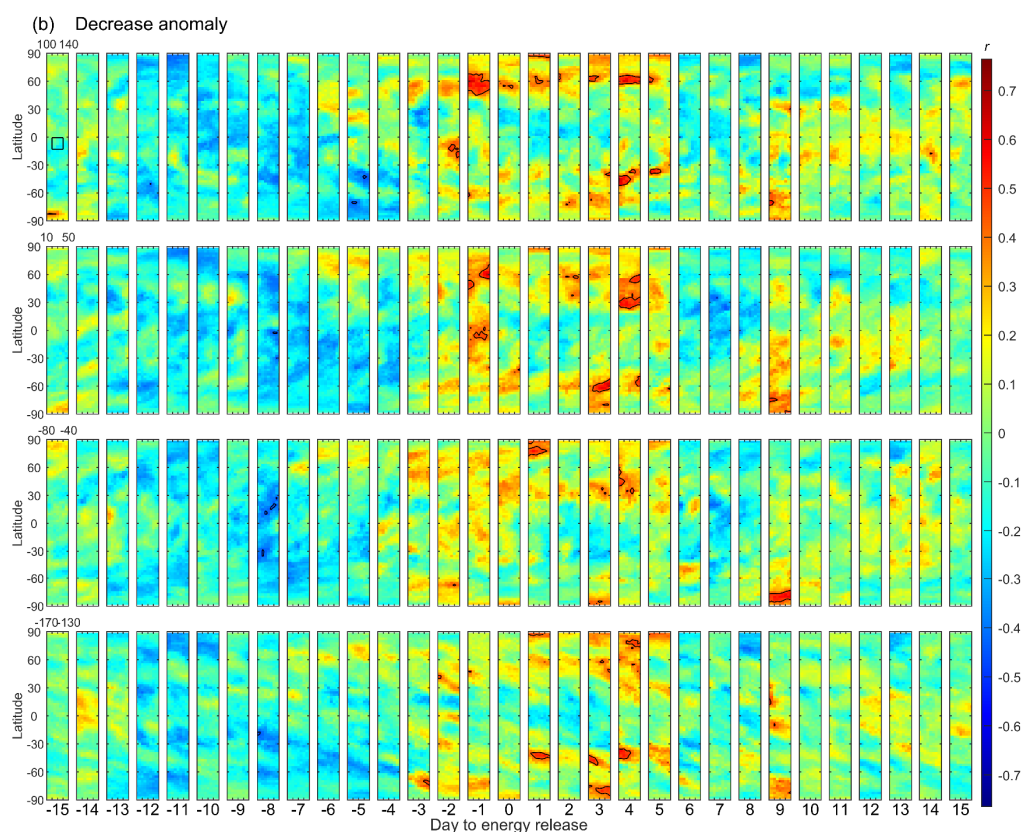


**Figure S6.** Same as Figure S4 for the results of occurrence times of both TEC increase and decrease anomalies counted together.

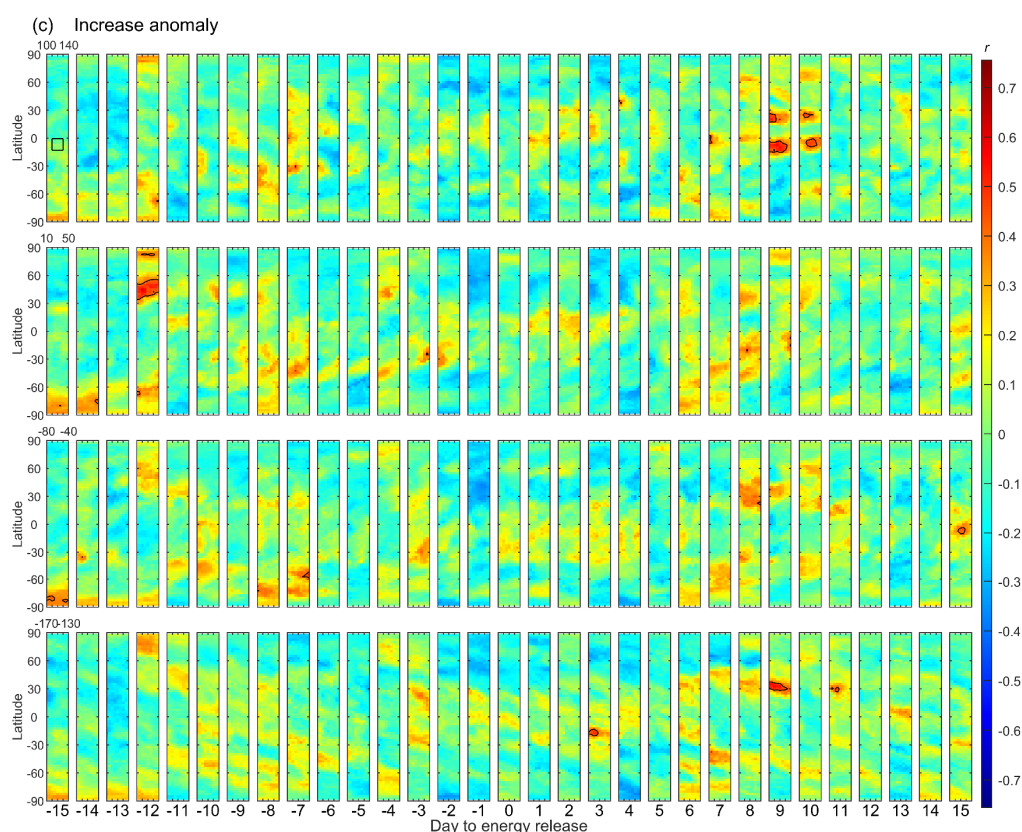




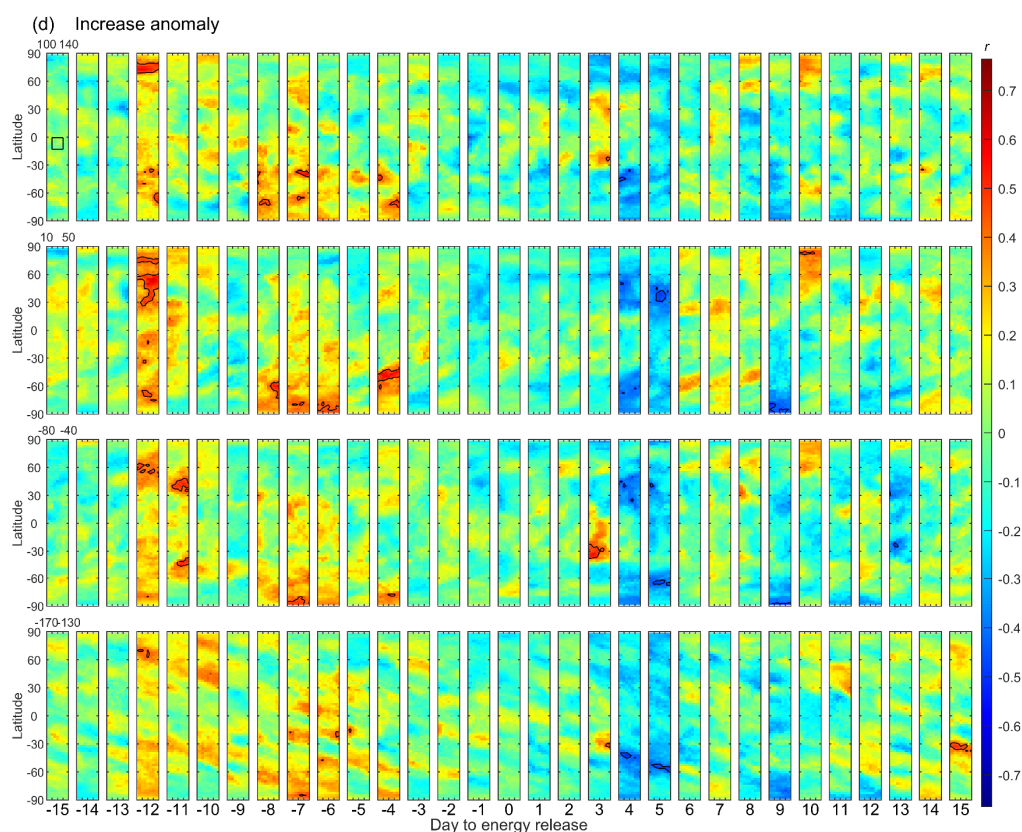
**Figure S7.** Same as Figure S4 for daily seismic wave energy release  $\geq M5.5$  with outliers within Region A and for TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.



**Figure S8.** Same as Figure S4 for daily seismic wave energy release  $\geq M5.5$  without outliers within Region A and for TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.

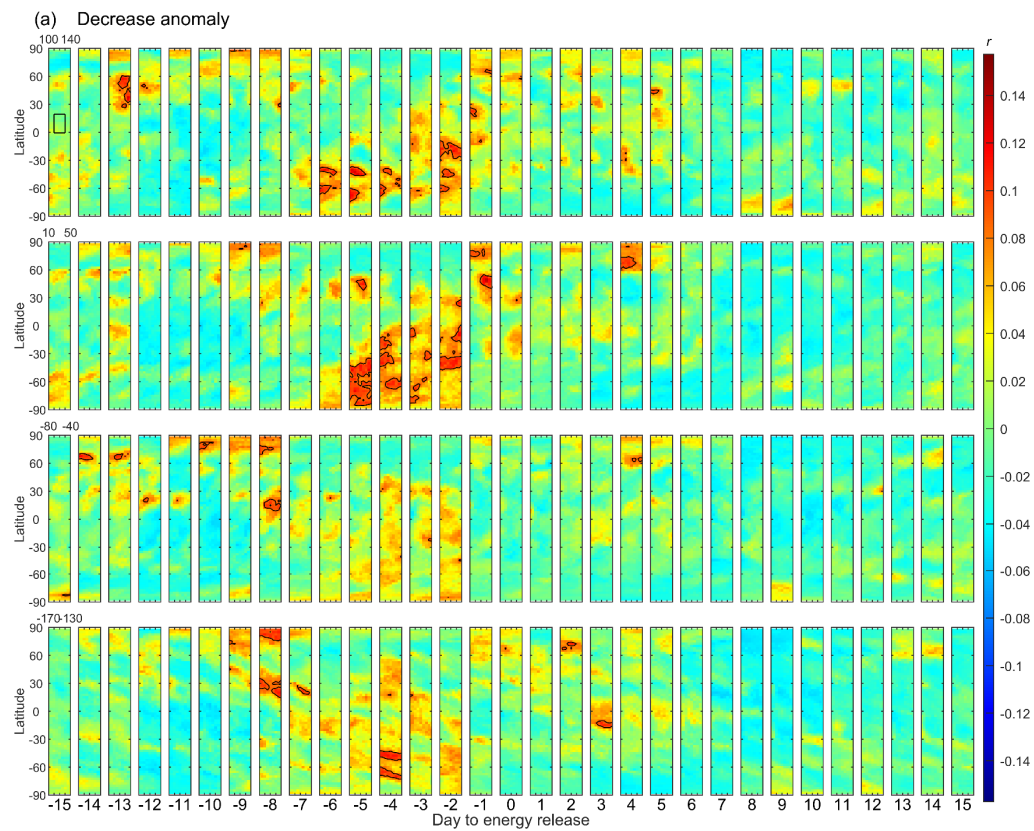


**Figure S9.** Same as Figure S4 for daily seismic wave energy release  $\geq M5.5$  with outliers within Region A and for TEC increase anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.



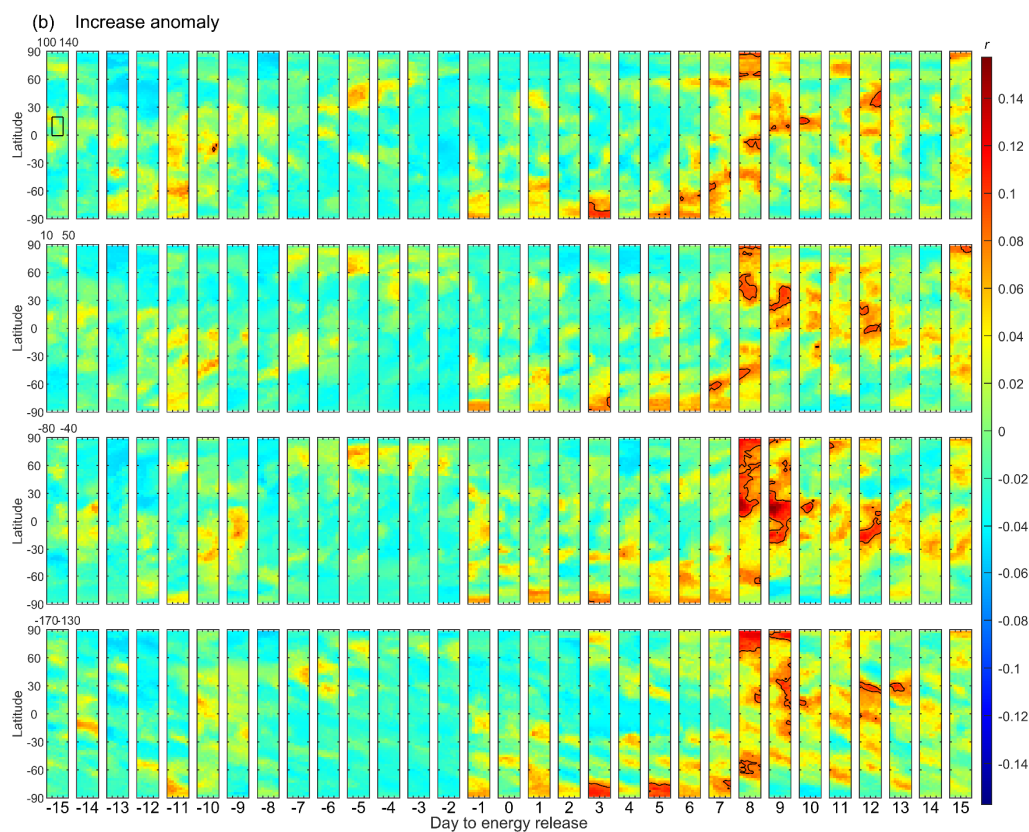
**Figure S10.** Same as Figure S4 for daily seismic wave energy release  $\geq M5.5$  without outliers within Region A and for TEC increase anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.

## Region B

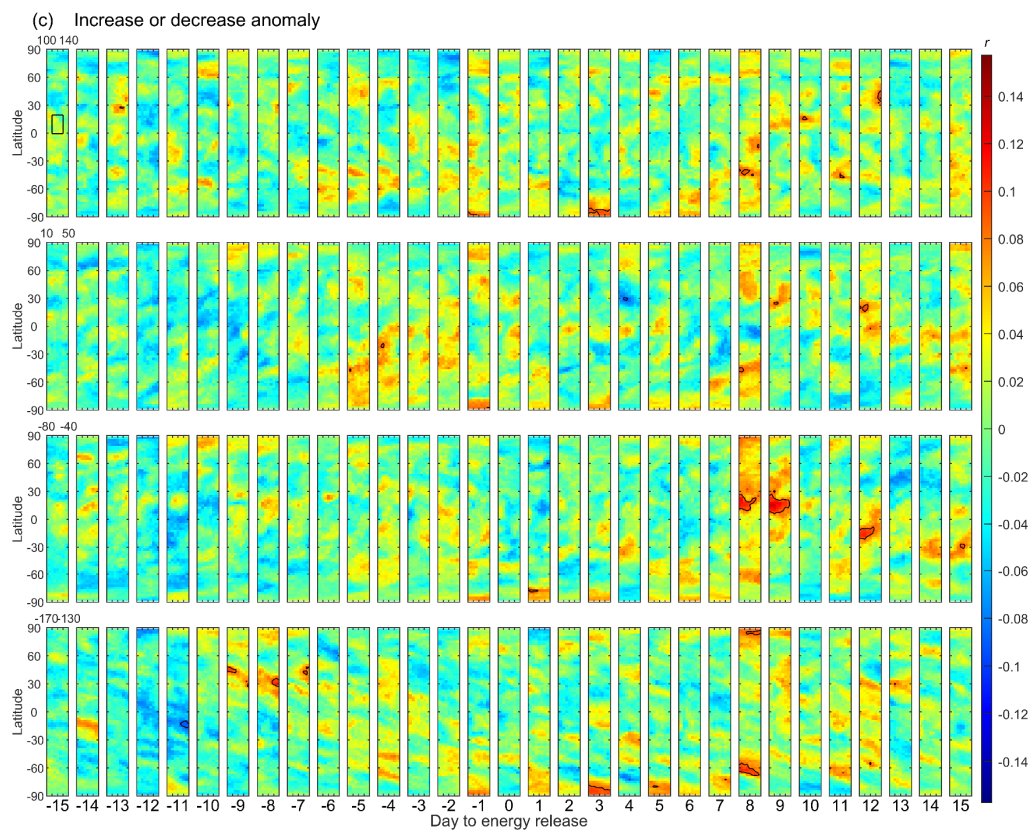


**Figure S11.** Temporal and spatial distributions of correlation coefficient between daily seismic wave energy release within Region B and occurrence times of TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01} = \pm 0.086$ . The black box on the top first panel indicates Region B.

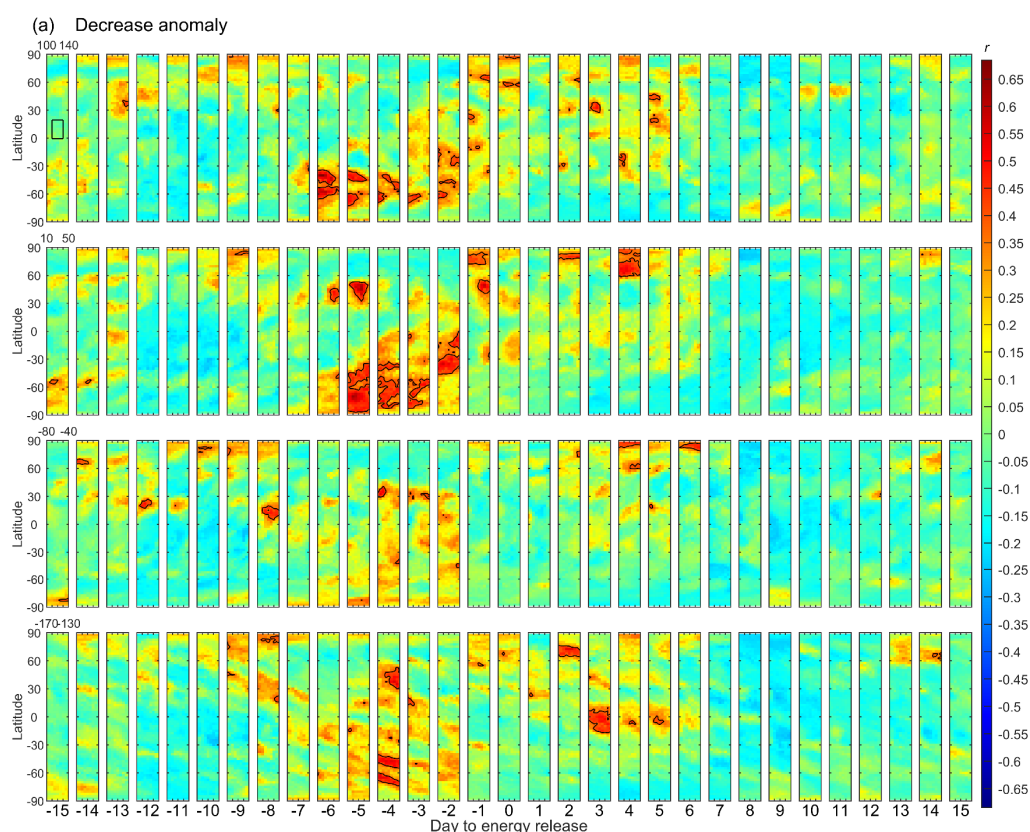




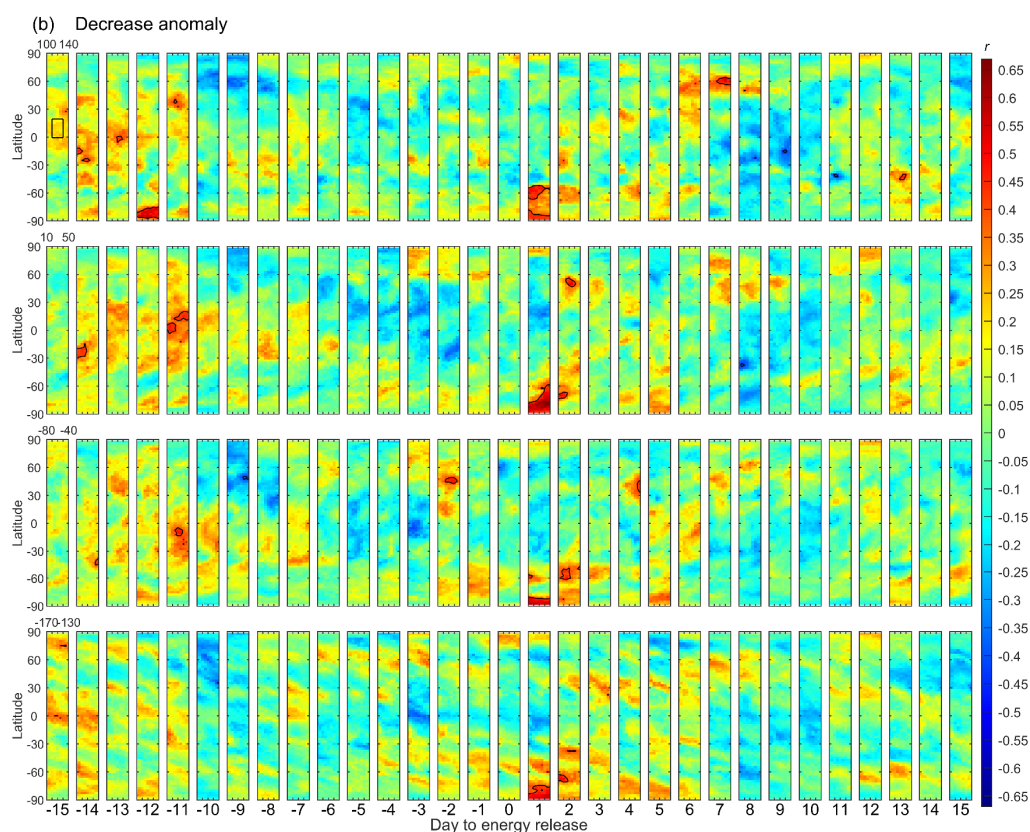
**Figure S12.** Same as Figure S11 for the results of occurrence times of TEC increase anomalies.



**Figure S13.** Same as Figure S11 for the results of occurrence times of both TEC increase and decrease anomalies counted together.

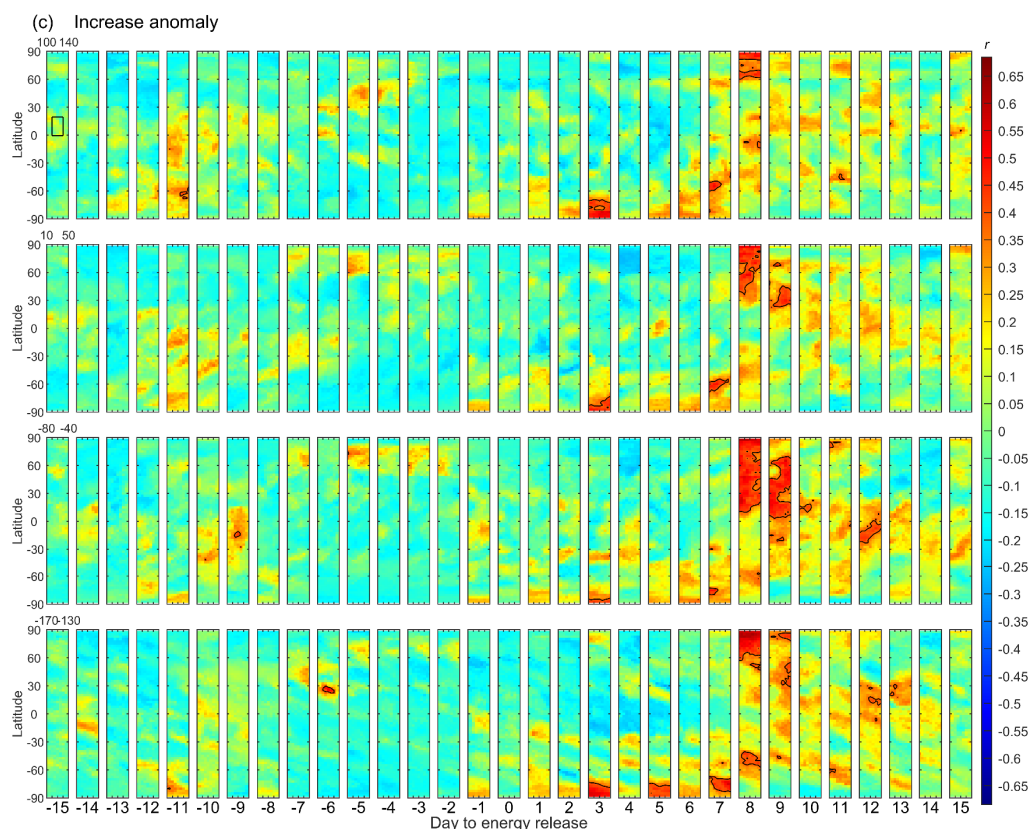


**Figure S14.** Same as Figure S11 for daily seismic wave energy release  $\geq M5.5$  with outliers within Region B and for TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.

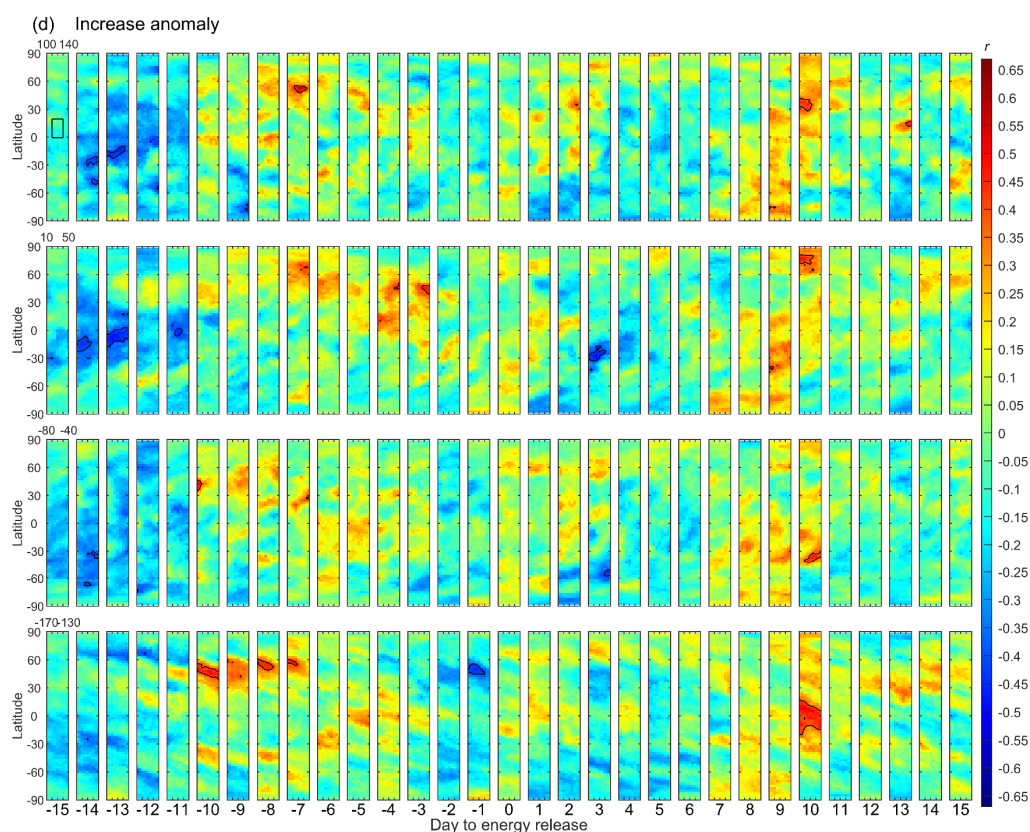


**Figure S15.** Same as Figure S11 for daily seismic wave energy release  $\geq M5.5$  without outliers within Region B and for TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.





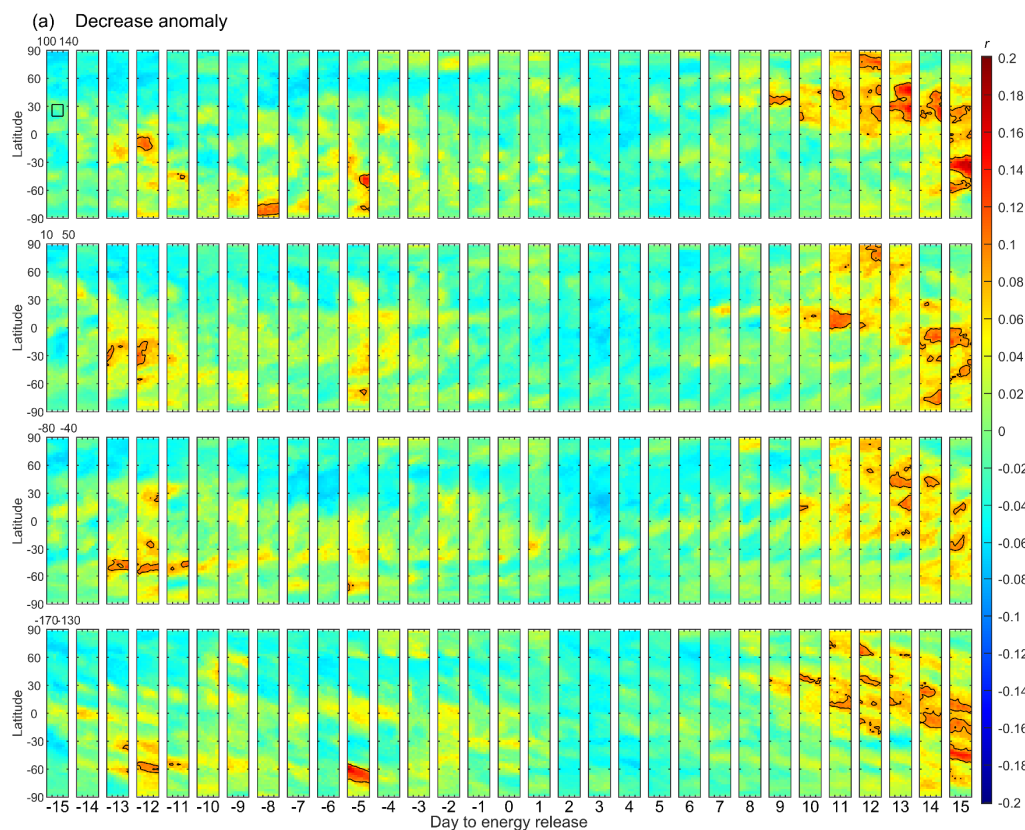
**Figure S16.** Same as Figure S11 for daily seismic wave energy release  $\geq M5.5$  with outliers within Region B and for TEC increase anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.



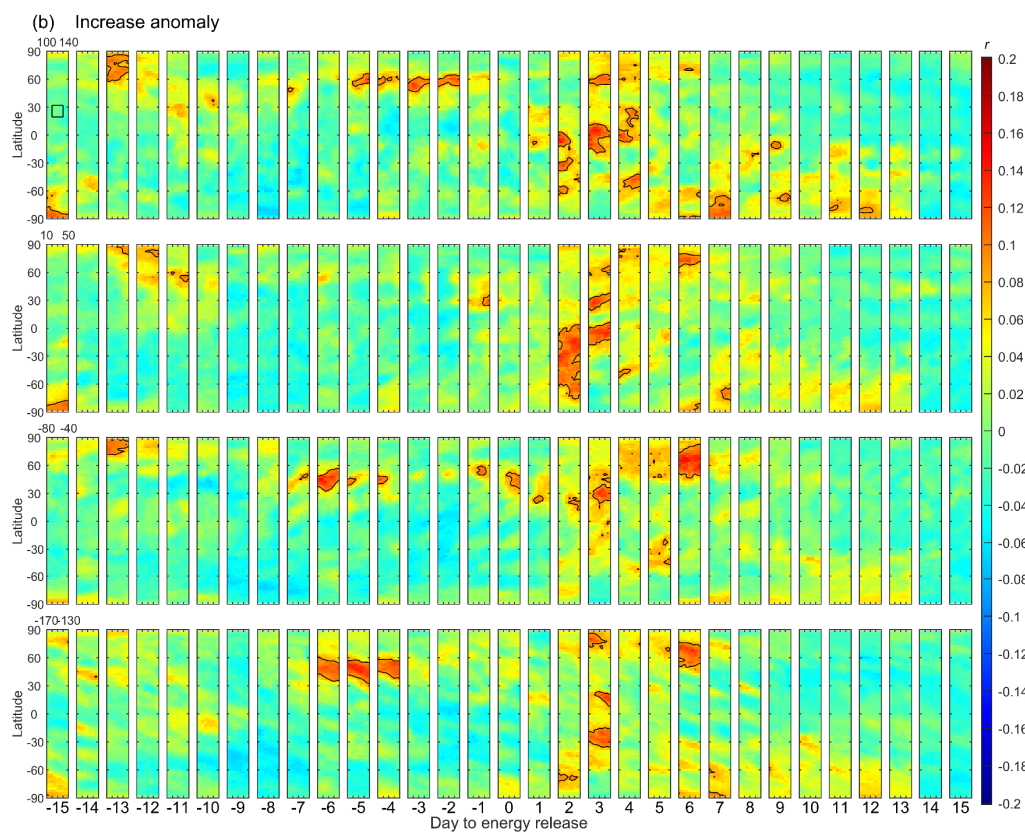
**Figure S17.** Same as Figure S11 for daily seismic wave energy release  $\geq M5.5$  without outliers within Region B and for TEC increase anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.



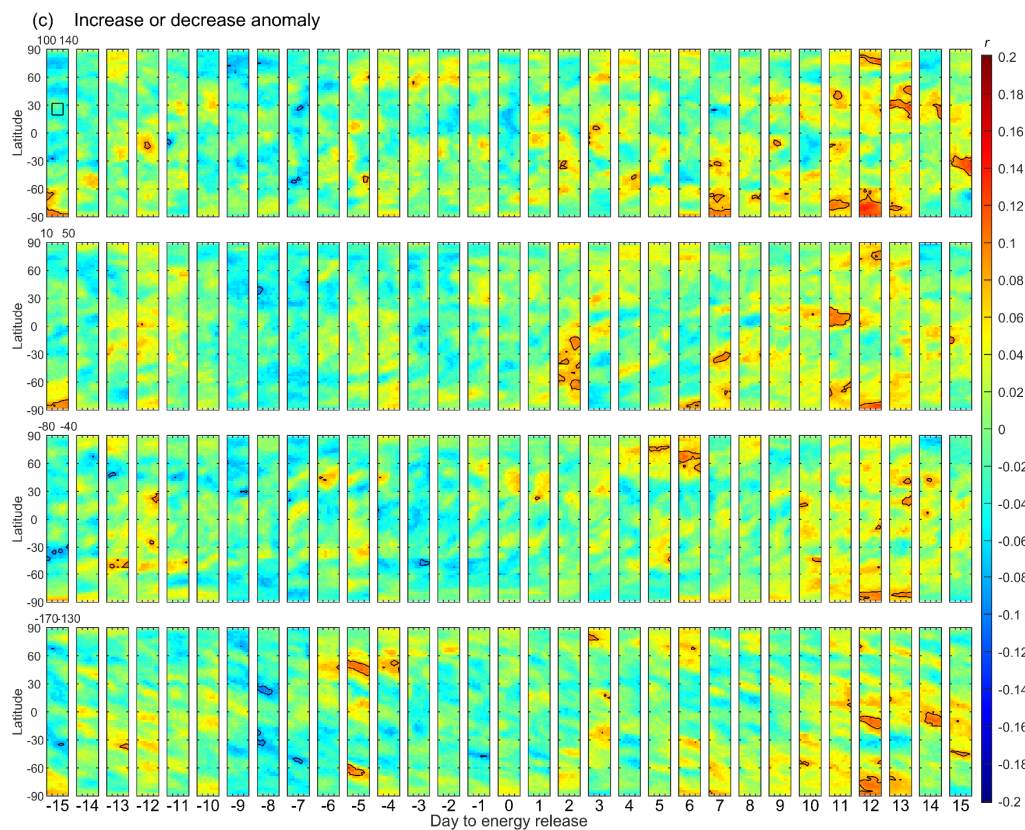
## Region C



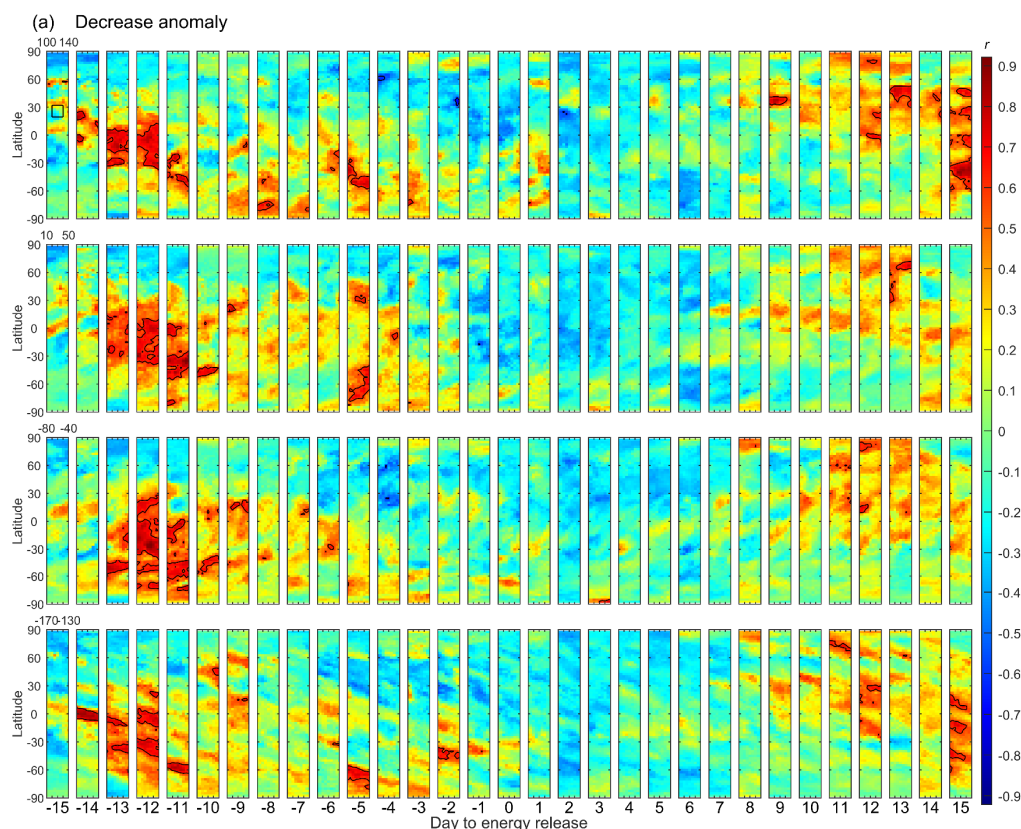
**Figure S18.** Temporal and spatial distributions of correlation coefficient between daily seismic wave energy release within Region C and occurrence times of TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01} = \pm 0.086$ . The black box on the top first panel indicates Region C.



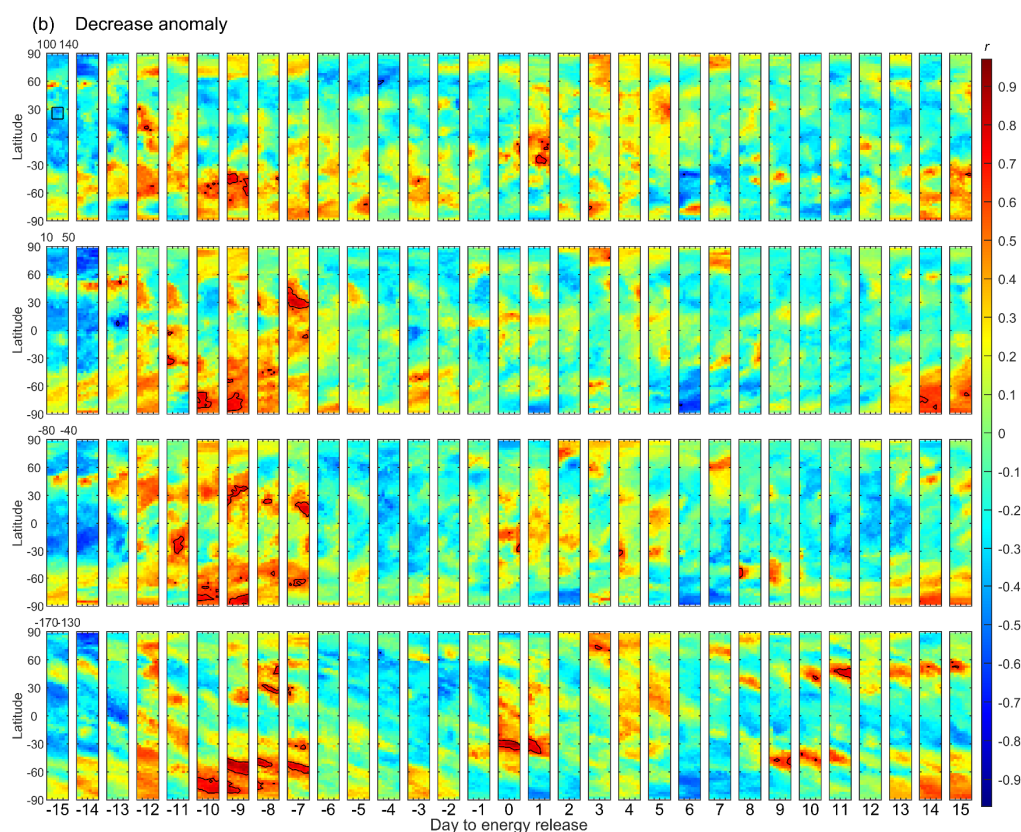
**Figure S19.** Same as Figure S18 for the results of occurrence times of TEC increase anomalies.



**Figure S20.** Same as Figure S18 for the results of occurrence times of both TEC increase and decrease anomalies counted together.

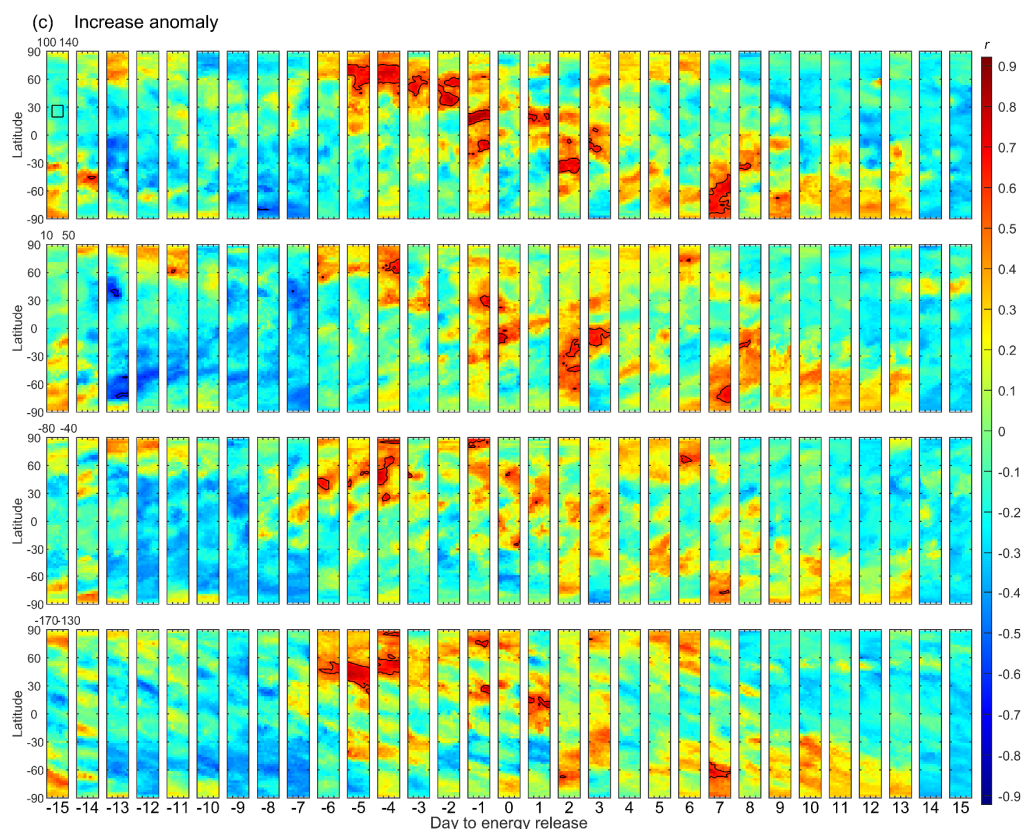


**Figure S21.** Same as Figure S18 for daily seismic wave energy release  $\geq M5.5$  with outliers within Region C and for TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.

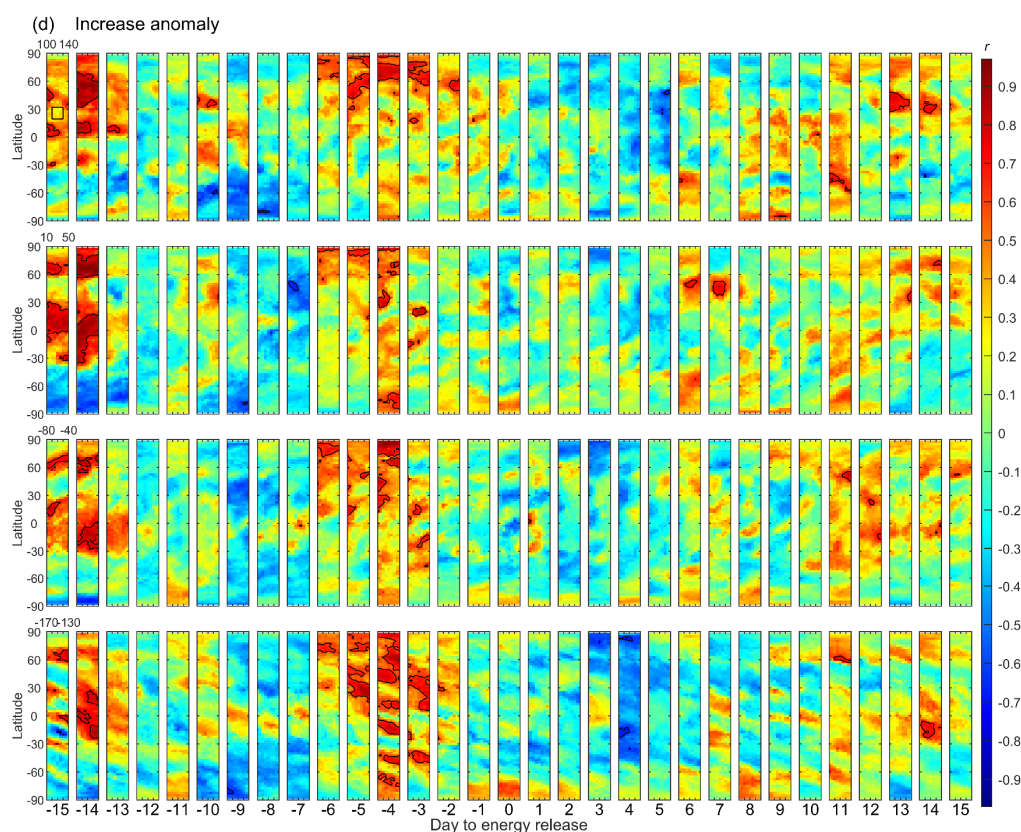


**Figure S22.** Same as Figure S18 for daily seismic wave energy release  $\geq M5.5$  without outliers within Region C and for TEC decrease anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.





**Figure S23.** Same as Figure S18 for daily seismic wave energy release  $\geq M5.5$  with outliers within Region C and for TEC increase anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.



**Figure S24.** Same as Figure S18 for daily seismic wave energy release  $\geq M5.5$  without outliers within Region C and for TEC increase anomalies. The contour denotes  $r_{\alpha=0.01}$  according to sample size at each D.