



Supplement of

Predictability of a tornado environment index from El Niño–Southern Oscillation (ENSO) and the Arctic Oscillation

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Supplemental figures S1–S8

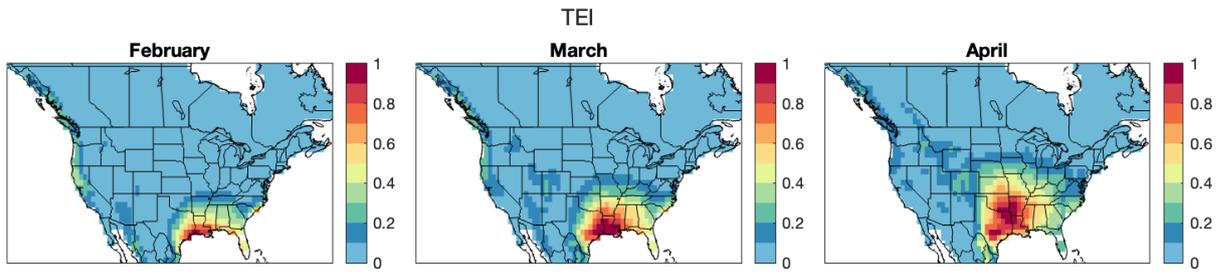


Figure S1. The February, March, and April CFSv2 TEI forecast climatologies. Units are tornadoes per $1^\circ \times 1^\circ$ grid box.

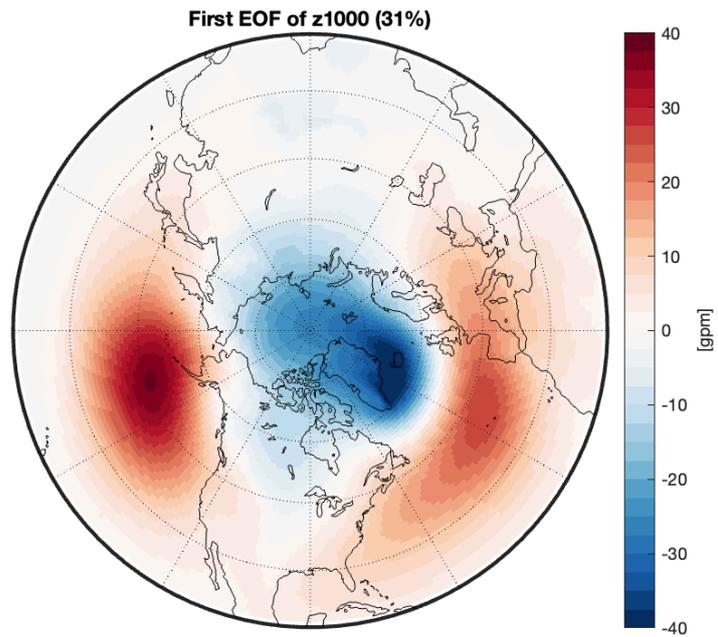


Figure S2. First EOF of CFSv2 Z1000 anomalies whose time series is used to define the AO index (positive phase). The fraction of area-weighted November–May explained monthly variance is 31% and units are gpm.

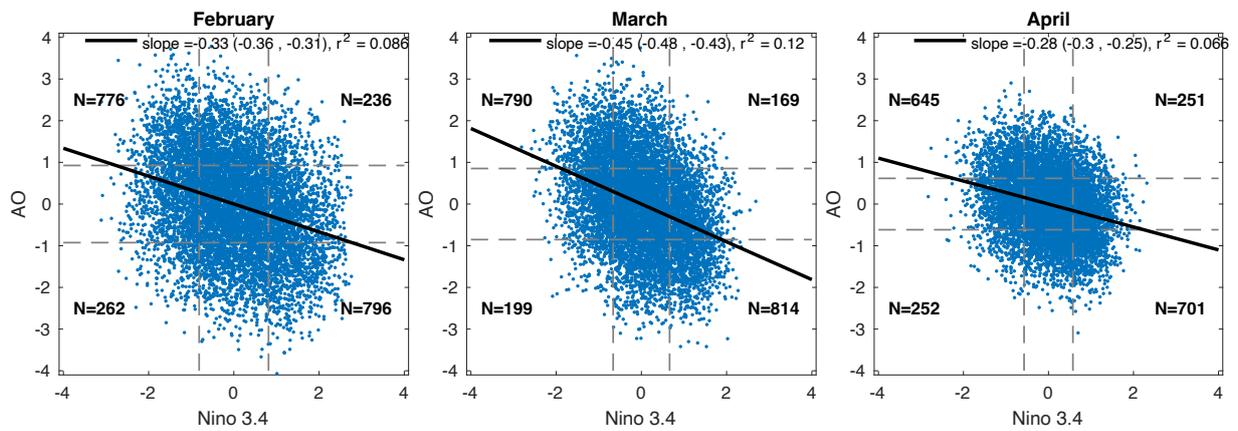


Figure S3. Scatterplots of February, March, and April CFSv2 forecasts of the Niño 3.4 and AO indices. The solid black line is the least-squares fit. The legend shows slope (per degree of Niño 3.4), 95% confidence intervals, and r^2 value. Gray dashed lines mark plus and minus 0.76 standard deviation and N is the number points in each corner which define the bivariate Niño 3.4/AO composites.

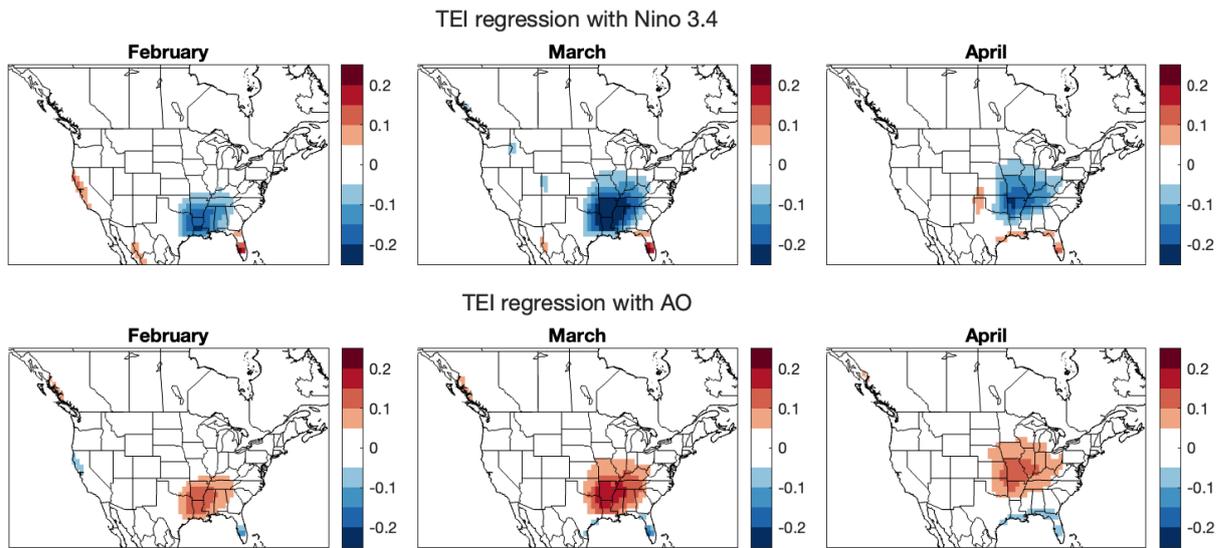


Figure S4. Regression of CFSv2 forecasts of February, March, and April TEI with concurrent Niño 3.4 and AO indices. Units are number of tornadoes per $1^\circ \times 1^\circ$ grid box per C° (top row) and per standardized unit (bottom row).

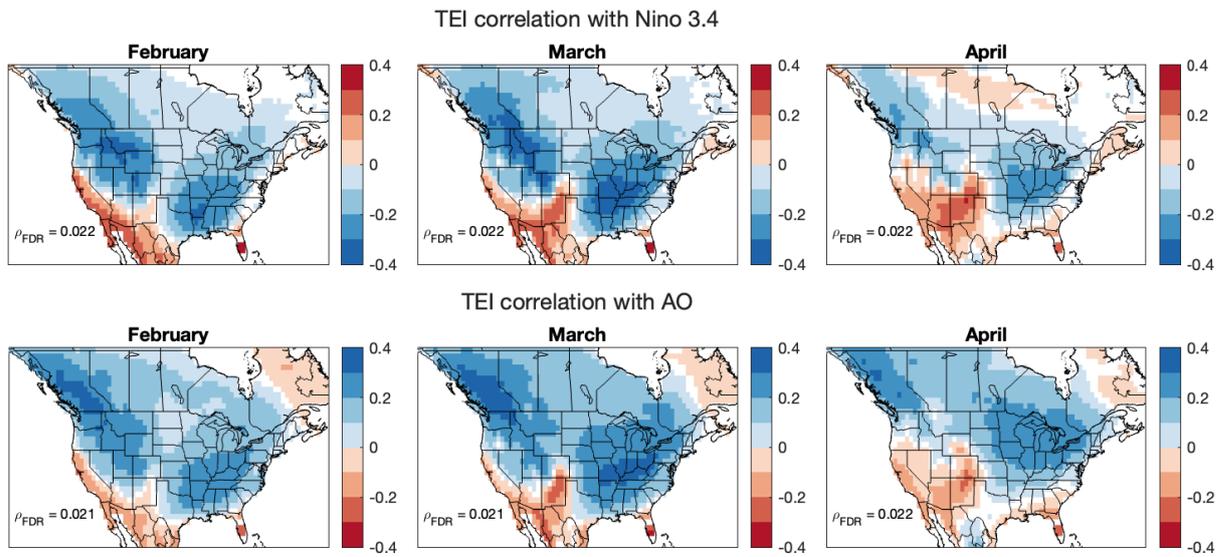


Figure S5. Correlation of TEI with the Niño 3.4 and AO (note reversed color bar for AO) indices in CFSv2 forecasts of February, March, and April. Only grid points where the False Discovery Rate (FRD) procedure with FDR=5% rejects the null hypothesis of no correlation are shaded. All statistically insignificant correlations have amplitude less than ρ_{FDR} which is shown on each map.

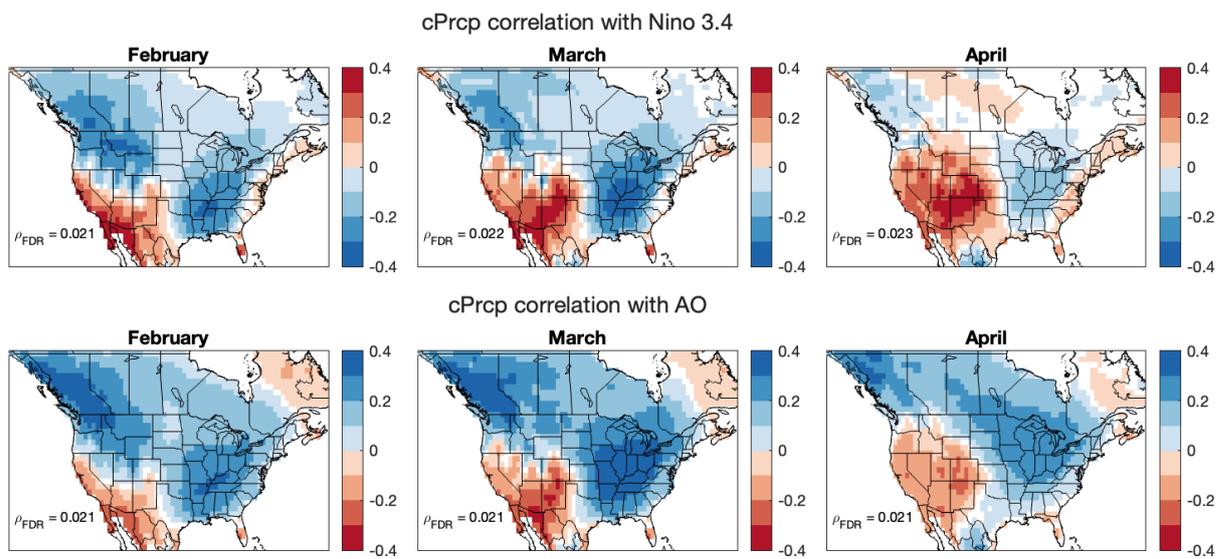


Figure S6. As in Figure S5 but for cPrpc.

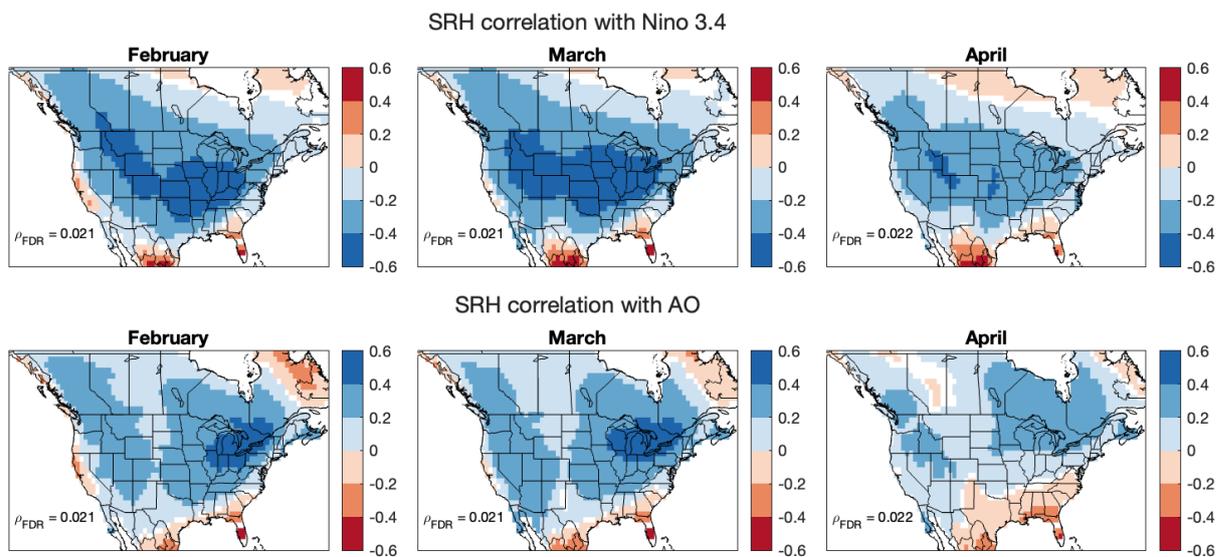


Figure S7. As in Figure S5 but for SRH. Note the different colorbar range.

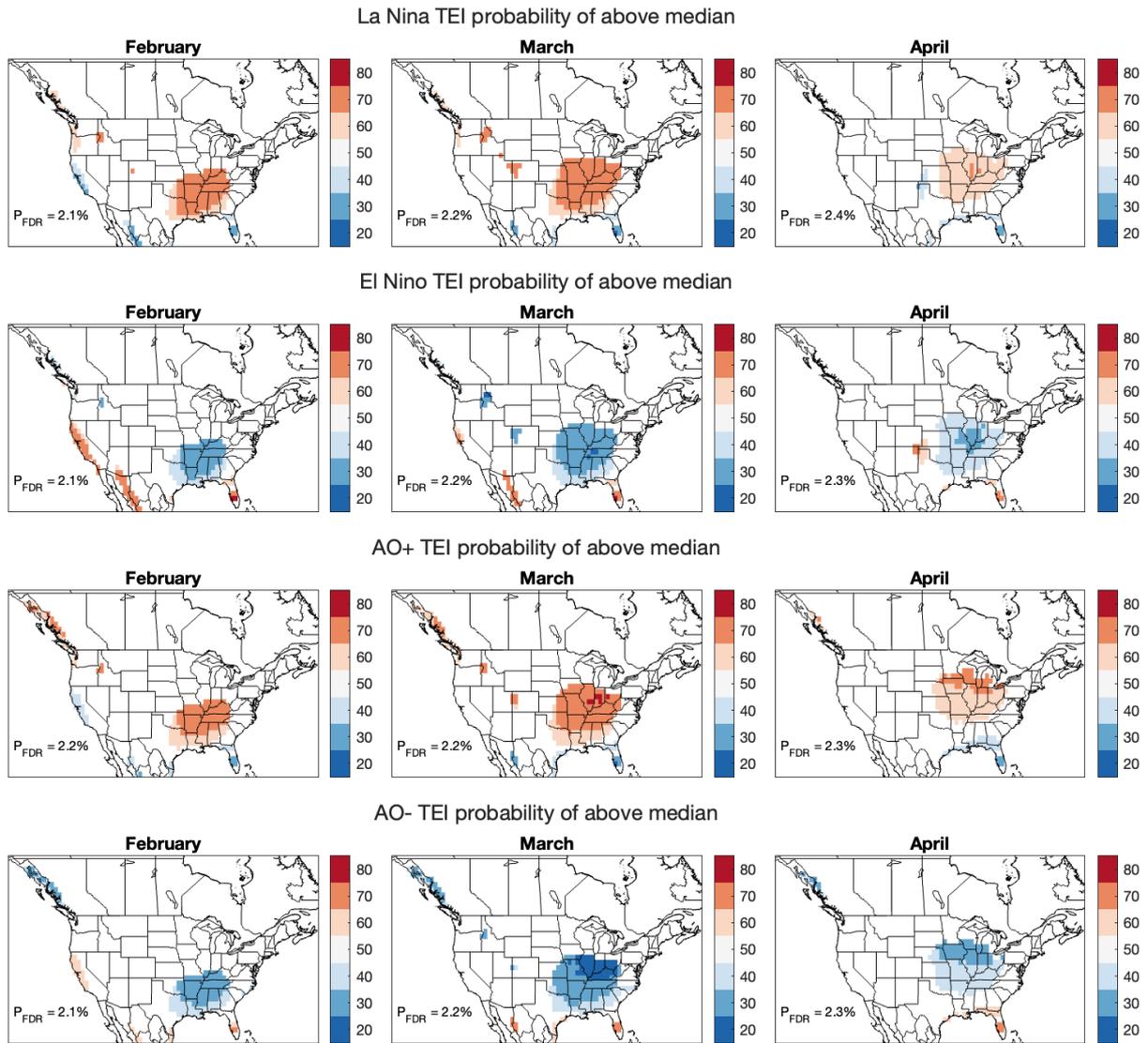


Figure S8. Probabilities of TEI exceeding its median value depending separately on ENSO (top two rows) or AO phase (bottom two rows). Statistically insignificant values, locations with composite amplitude less than 0.05, and shifts away from 50% that are less than 5 percentage points are masked. All statistically insignificant probability shifts away from 50% are less than P_{FDR} which is shown on each map.