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The role of spring dry zonal advection in summer drought onset over the US Great Plains

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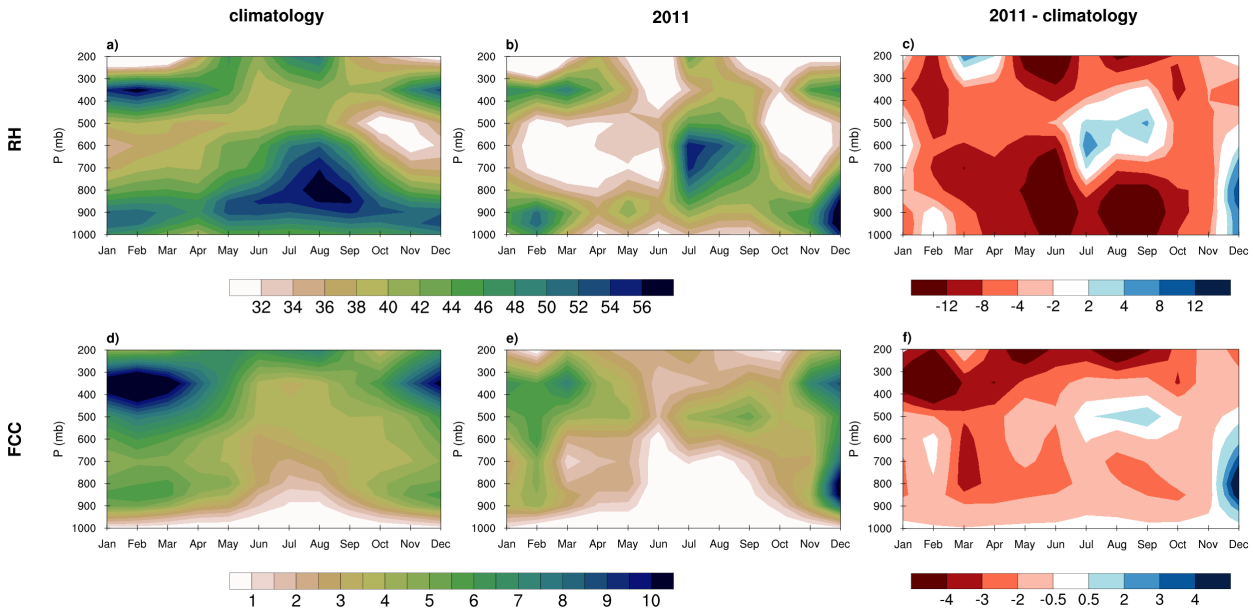

Figure S1. Same as Figure 2 but for (a, b, and c) Relative humidity (%) and (d, e, and f) fraction of cloud cover (%).

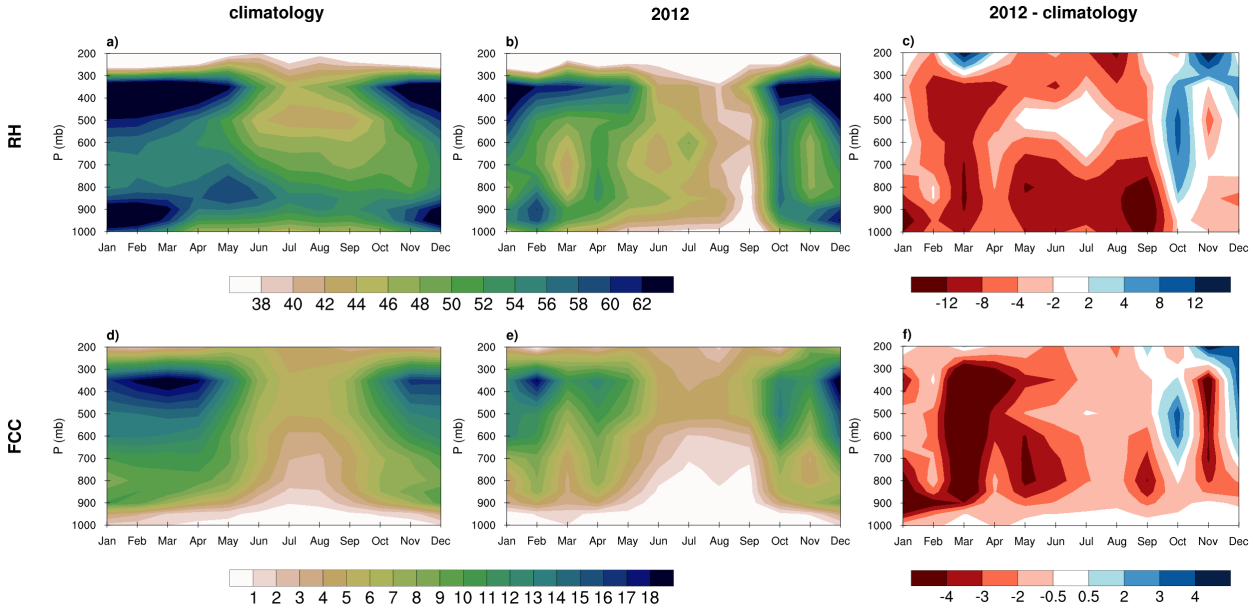

Figure S2. Same as Figure S1 but for the NGP in 2012.

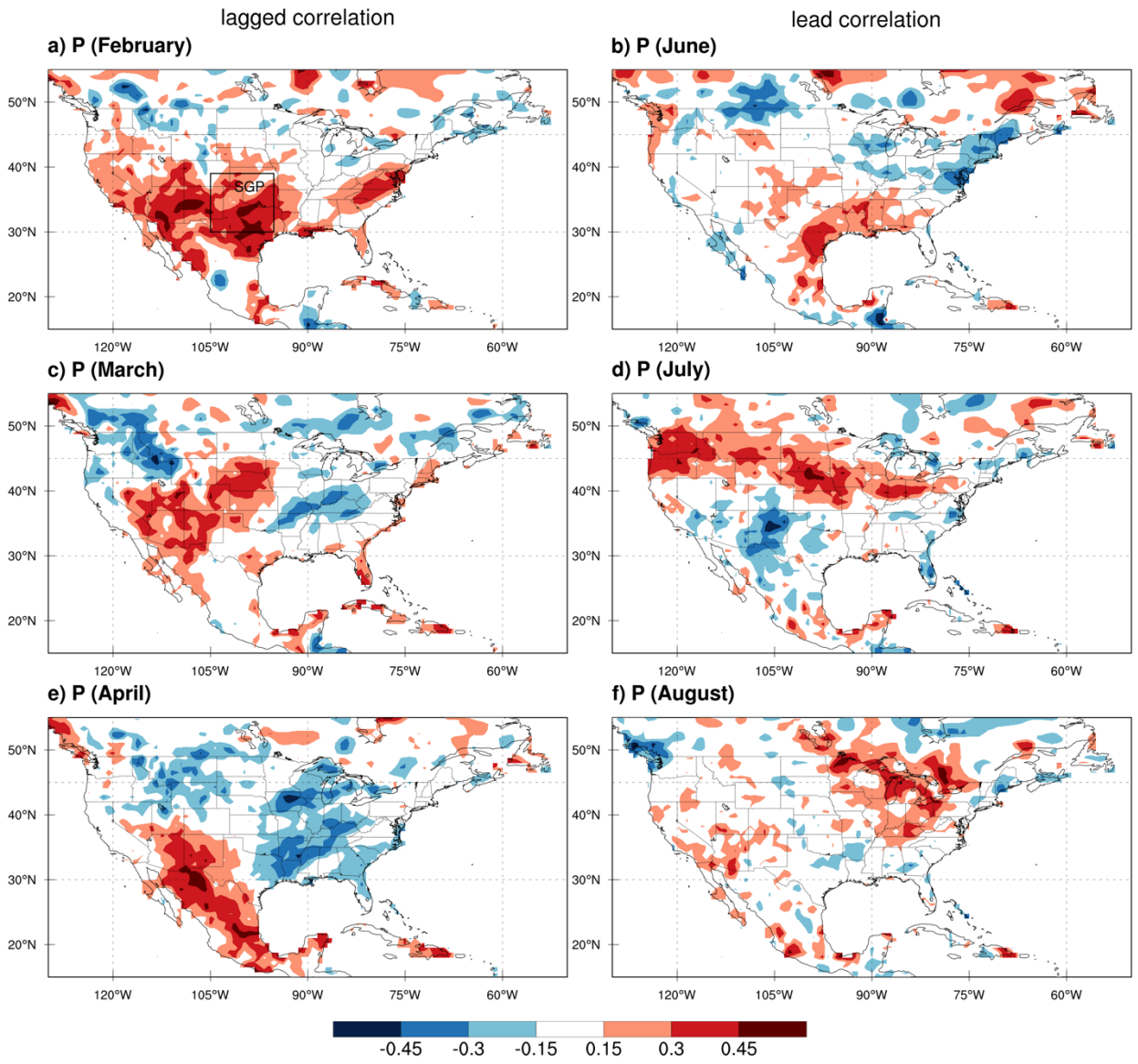

Figure S3. Single point lag/lead correlation maps between the standardized time series of the MAM zonal thermodynamic advection at 700 mb averaged over the SGP (the box in a) with the standardized anomalies of precipitation in a) February, c) March, e) April, b) June, d) July, and f) August using CPC gauged-based precipitation during 1979-2018. The correlation coefficients greater than 0.3 and 0.4 are statistically significant at the 10% and 2% levels, respectively (see section 2.6).

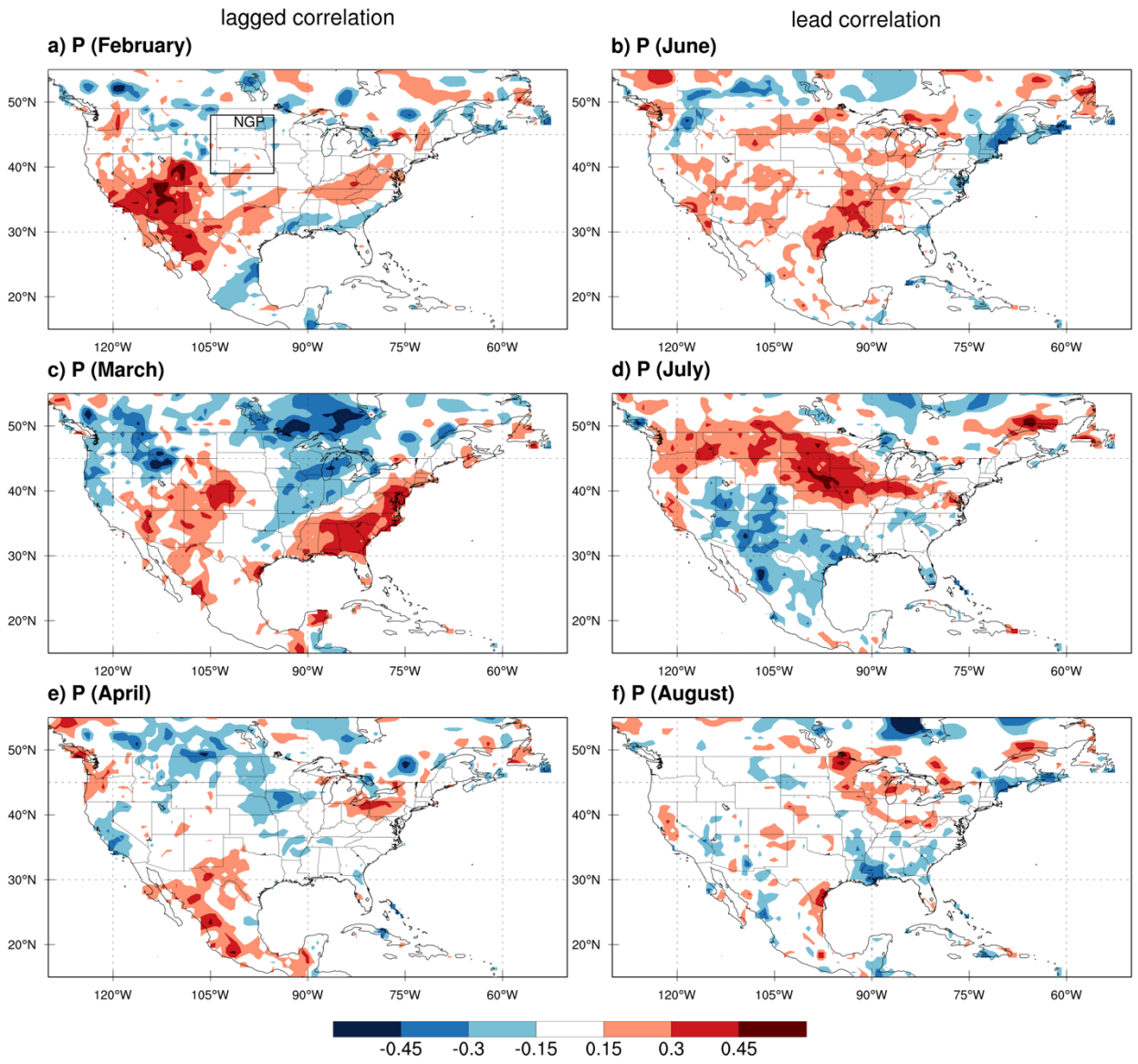

Figure S4. Same as Figure S3 but for the NGP.

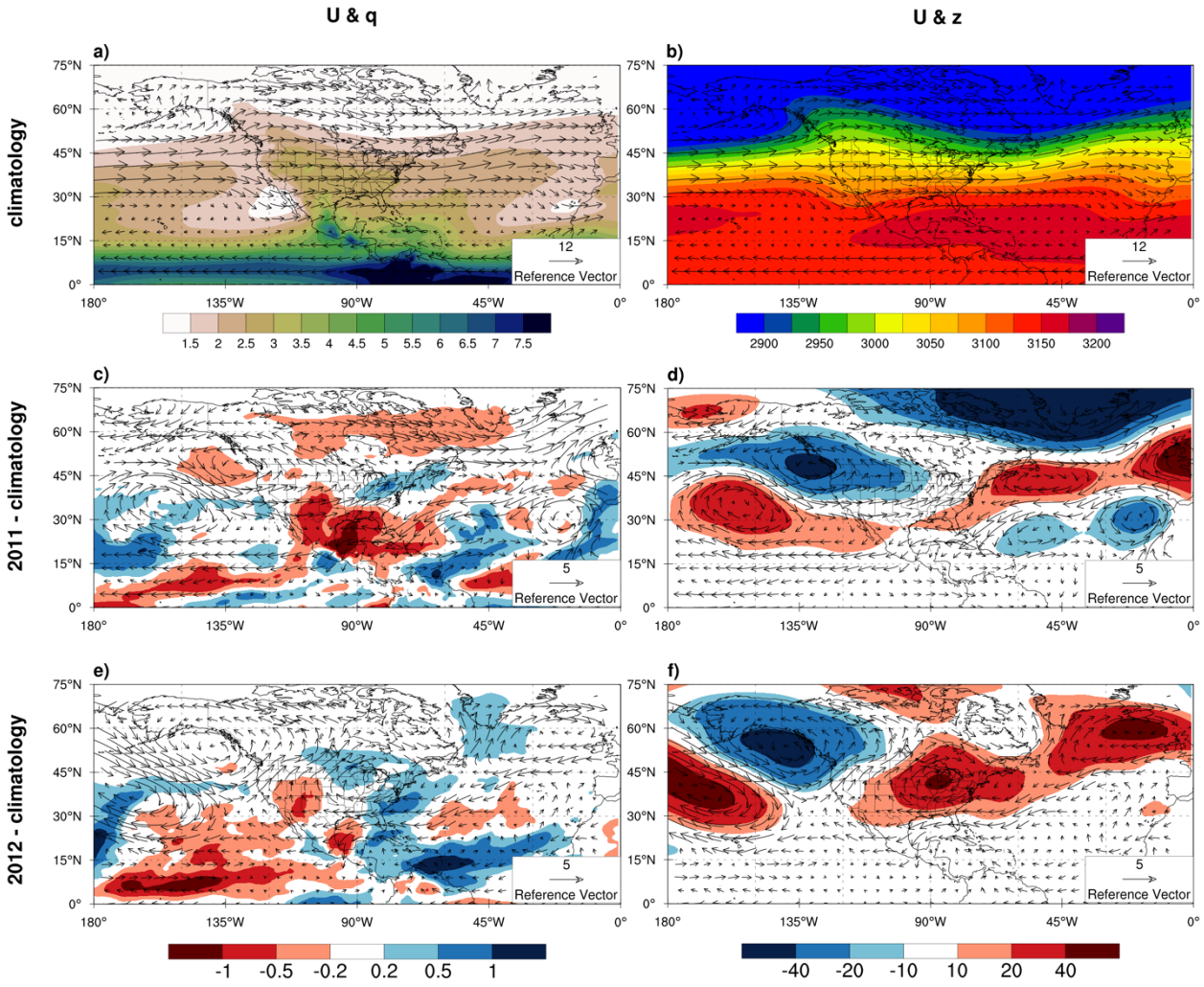

Figure S5. The MAM climatology (a and b;1979-2018) and the 2011 (c and d) and 2012 (e and f) difference fields of 700mb specific humidity (g/kg; a, c, and e) and geopotential height (m; b, d, and f) overlaid by the 700mb horizontal wind (m/s) vectors in ERA-Interim.