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Linkages between atmospheric rivers and humid heat across the United States

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Figure S1: Illustration of the definition of a peak humid-heat day. Days marked 1 and 2 satisfy the requirements of having the highest Tw value within 3 days on either side, as well as Tw having been below the 90th percentile within the preceding 3 days, while day 3 does not. As stated in the text, these requirements can apply to data from an individual gridcell or to a regional (spatial) mean.

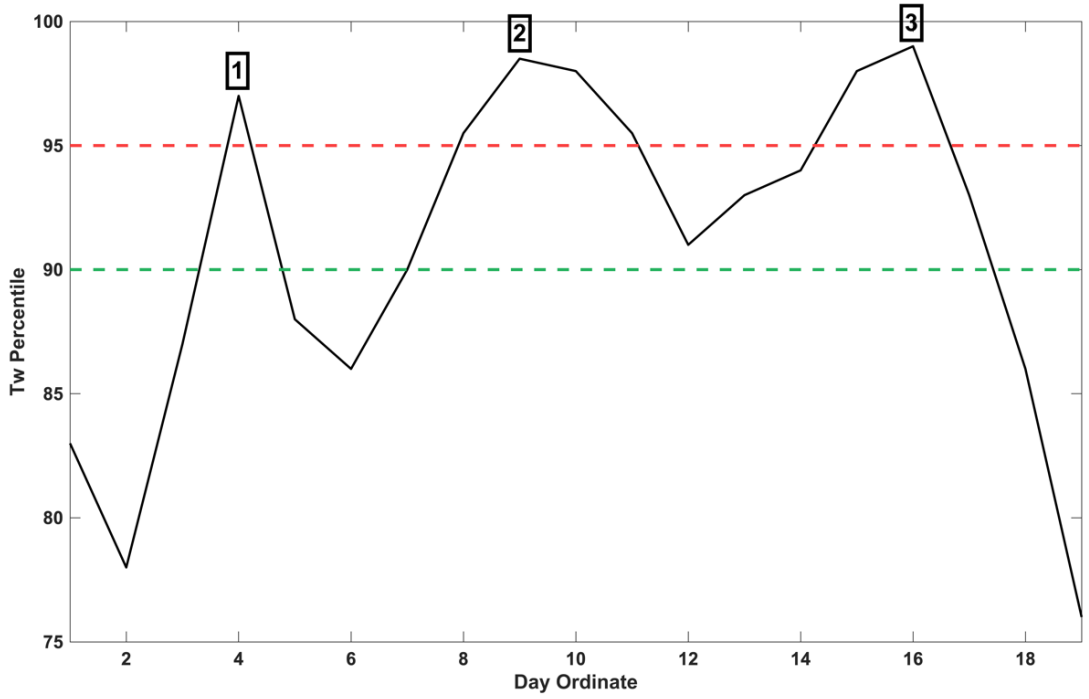

Figure S2: As in Figure 5 but for the Northwest region.

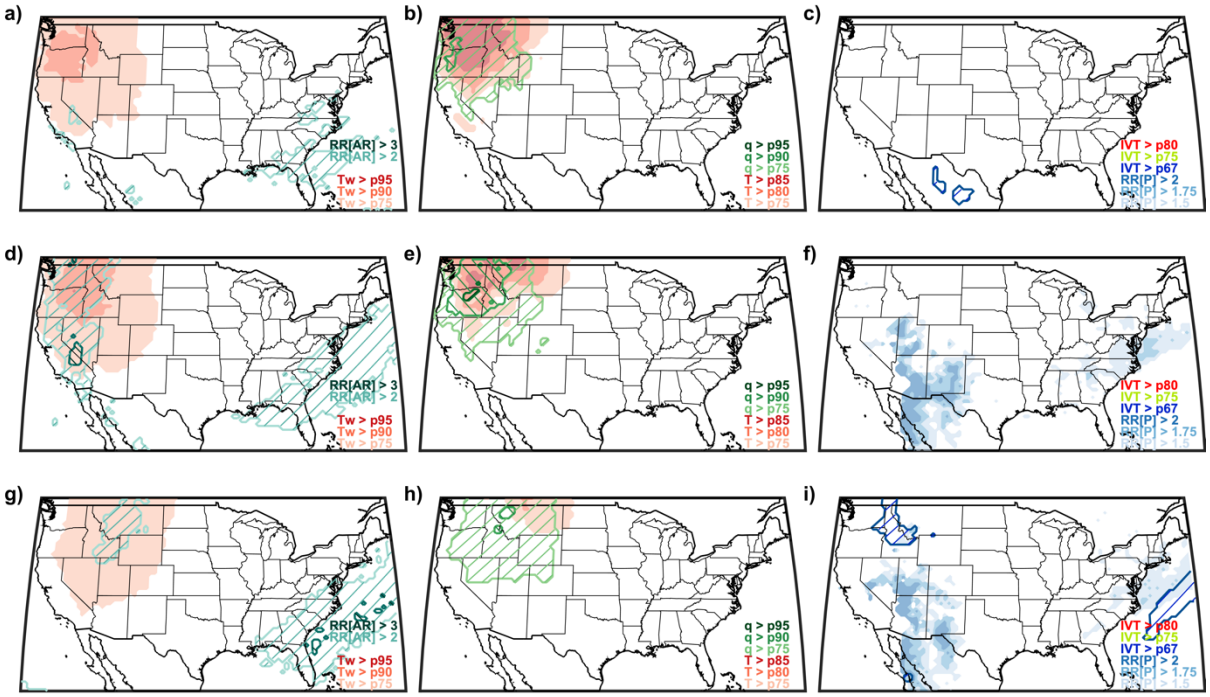

Figure S3: As in Figure 5 but for the Southwest region.

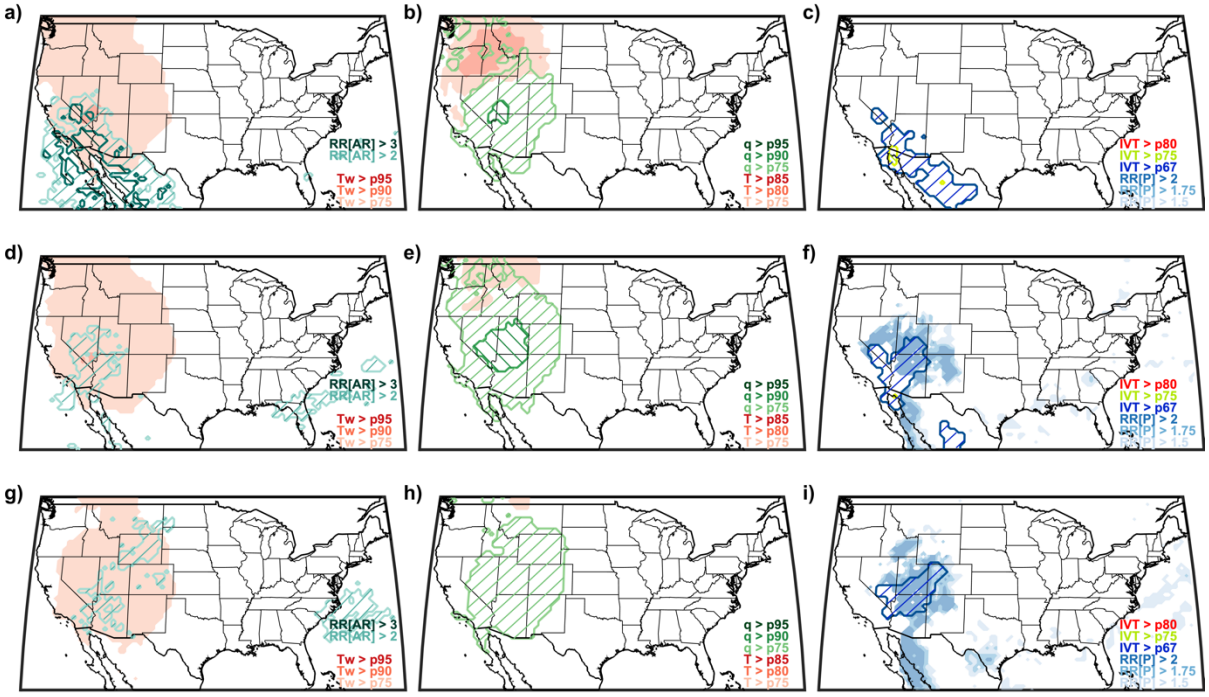

Figure S4: As in Figure 5 but for the Northern Great Plains region.

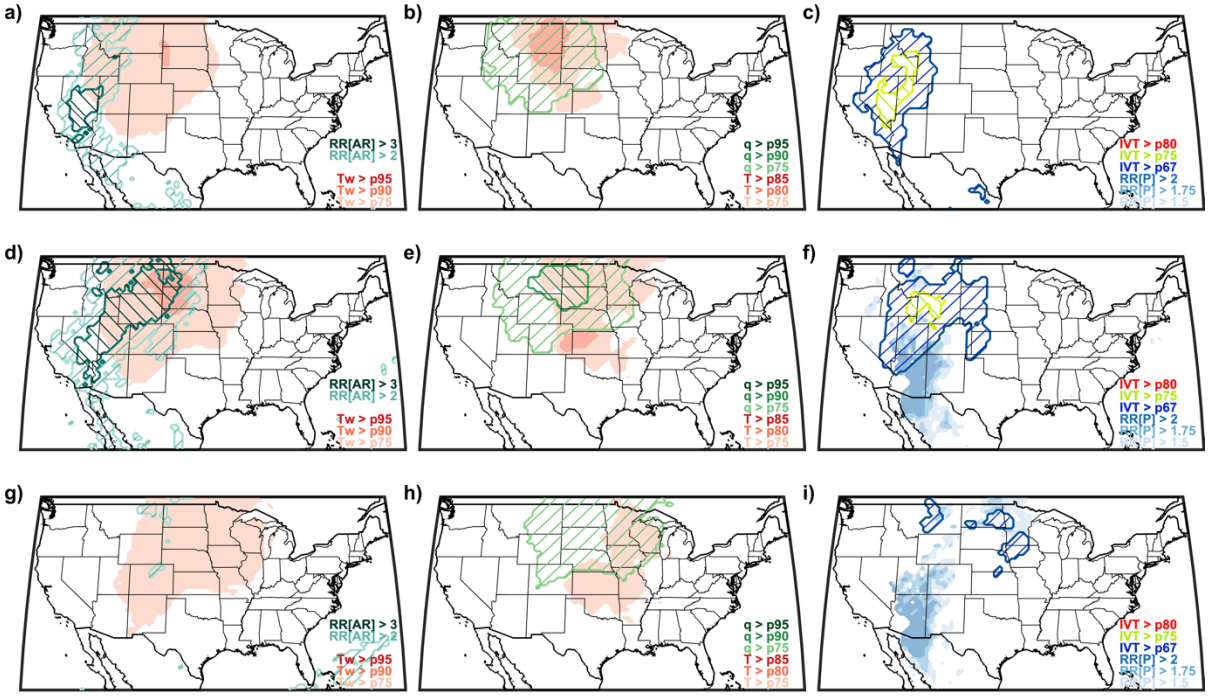

Figure S5: As in Figure 5 but for the Southern Great Plains region.

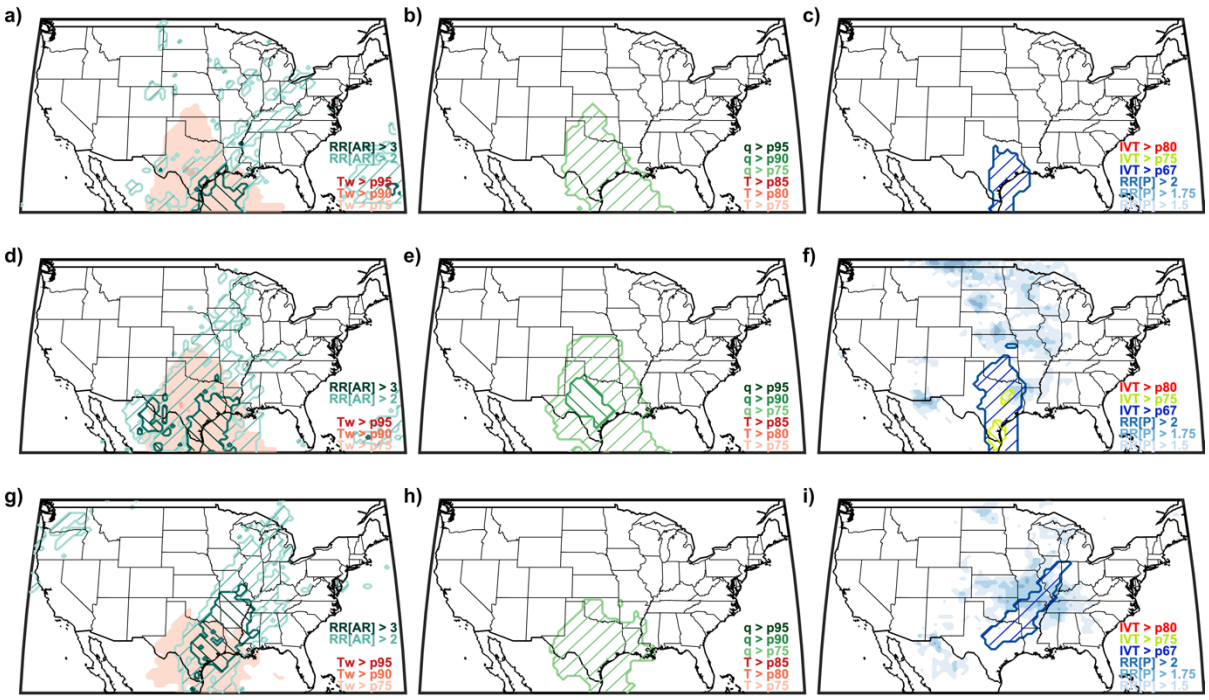

Figure S6: As in Figure 5 but for the Southeast region.

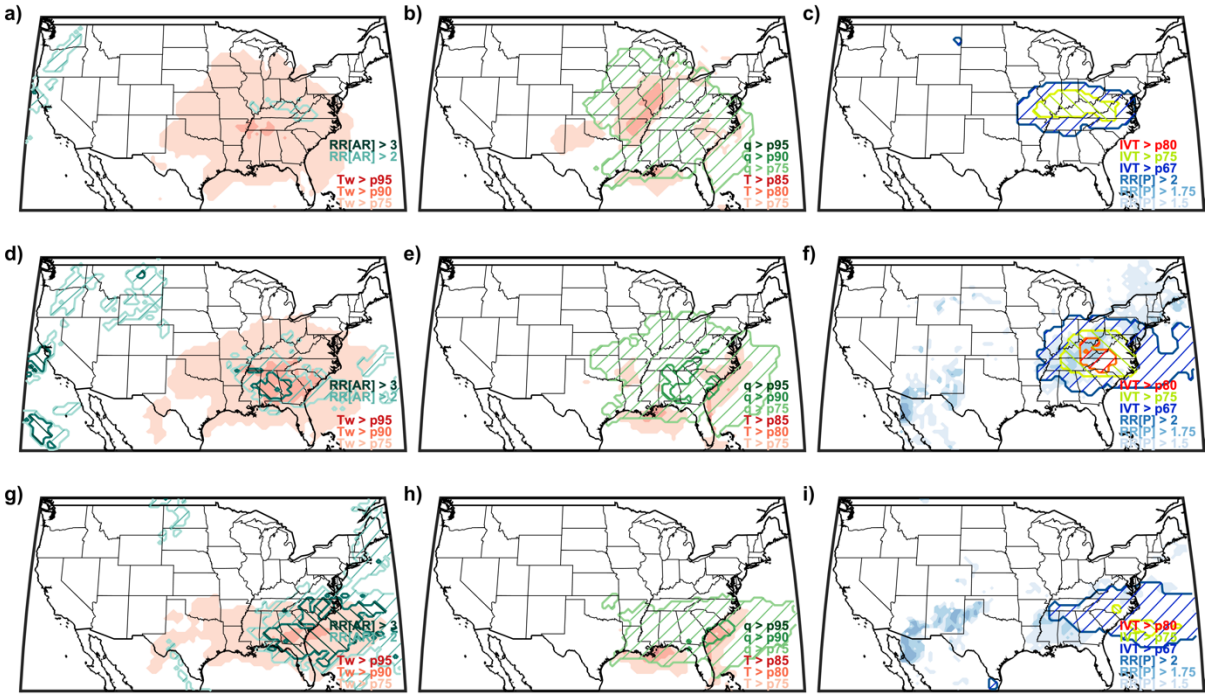

Figure S7: As in Figure 5 but for the Northeast region.

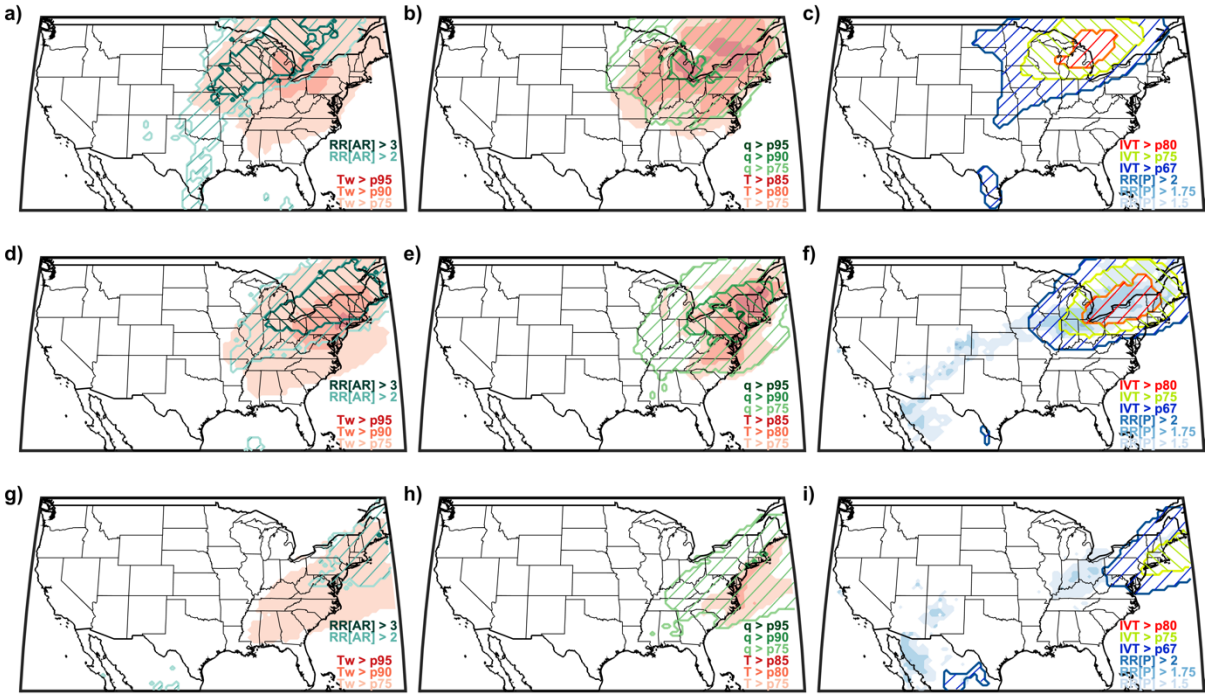

Figure S8: Mean relative extent of humid-heat gridcells in a region, partitioned according to the co-occurring daily terciles of IVT and precipitation in a 100-km radius around each gridcell in a 3-day period. The darkest shading highlights the combination of IVT and precipitation terciles most likely to co-occur with regional humid-heat days.

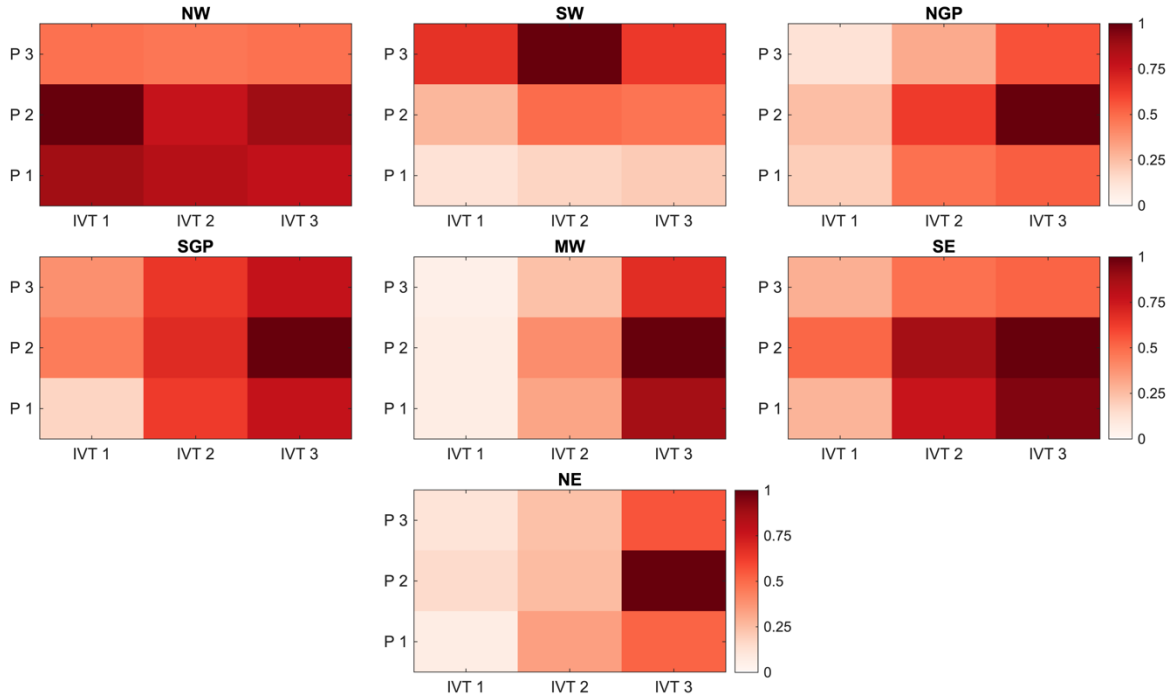

Figure S9: Comparison of Tw and precipitation composite percentiles, averaged across 11 HadISD (https://www.metoffice.gov.uk/hadobs/hadisd/) weather stations and their closest MERRA-2 gridcells in the Midwest region. Stations are Chicago, IL; Columbia, MO; Grand Rapids, MI; Green Bay, WI; Indianapolis, IN; Madison, WI; Minneapolis, MN; Peoria, IL; Saginaw, MI; Sioux City, IA; and Youngstown, OH.

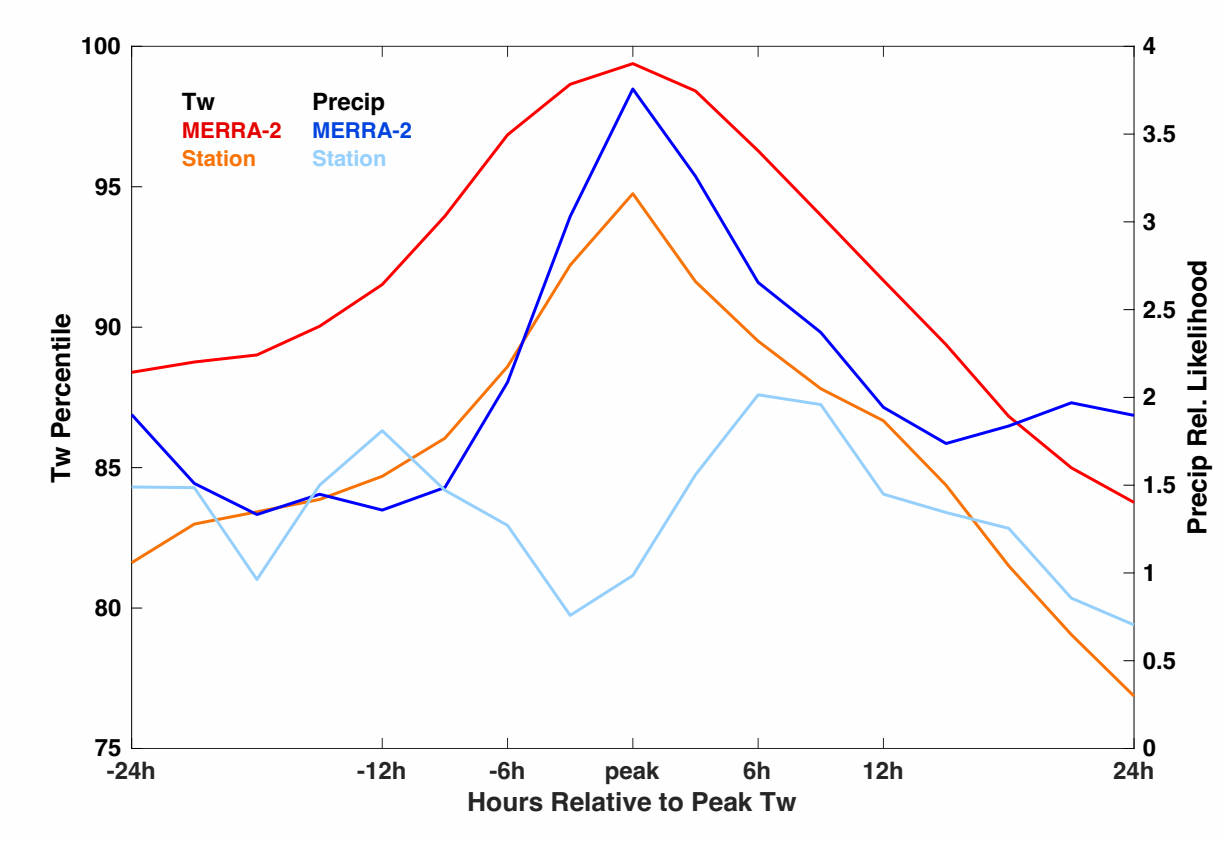

Figure S10: Composite of AR probabilities (contours) and Z500 anomalies (shading) for all AR days at the central gridcells of each region. Light (dark) green contours indicate AR probabilities >50% (>80%), while light red (dark red) shading indicates Z500 anomalies >25 m (>50 m) and light blue (dark blue) shading indicates Z500 anomalies <-25 m (<-50 m).

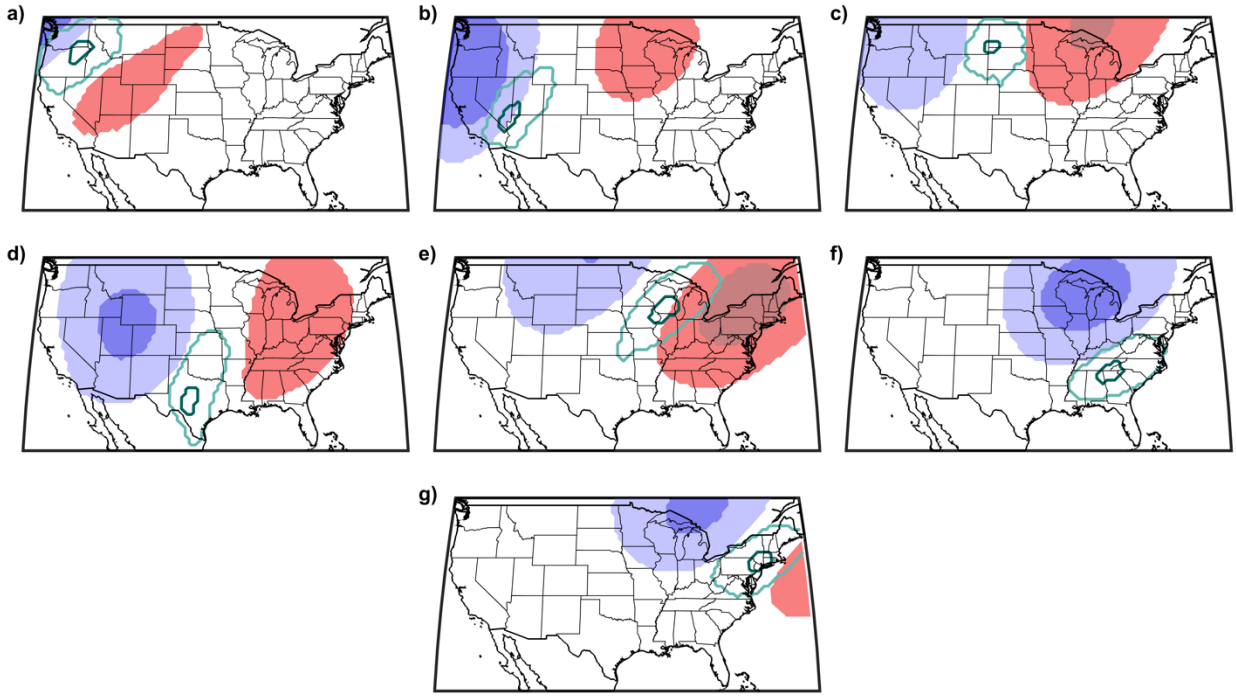

Figure S11: Composite of IVT percentiles (contours) and precipitation percentiles (shading) for all AR days at the central gridcells of each region. Orange (red) contours indicate IVT percentiles >70th (>85th), while light blue (dark blue) shading indicates precipitation percentiles >60th (>80th). These values are chosen to best highlight the regions of interest.

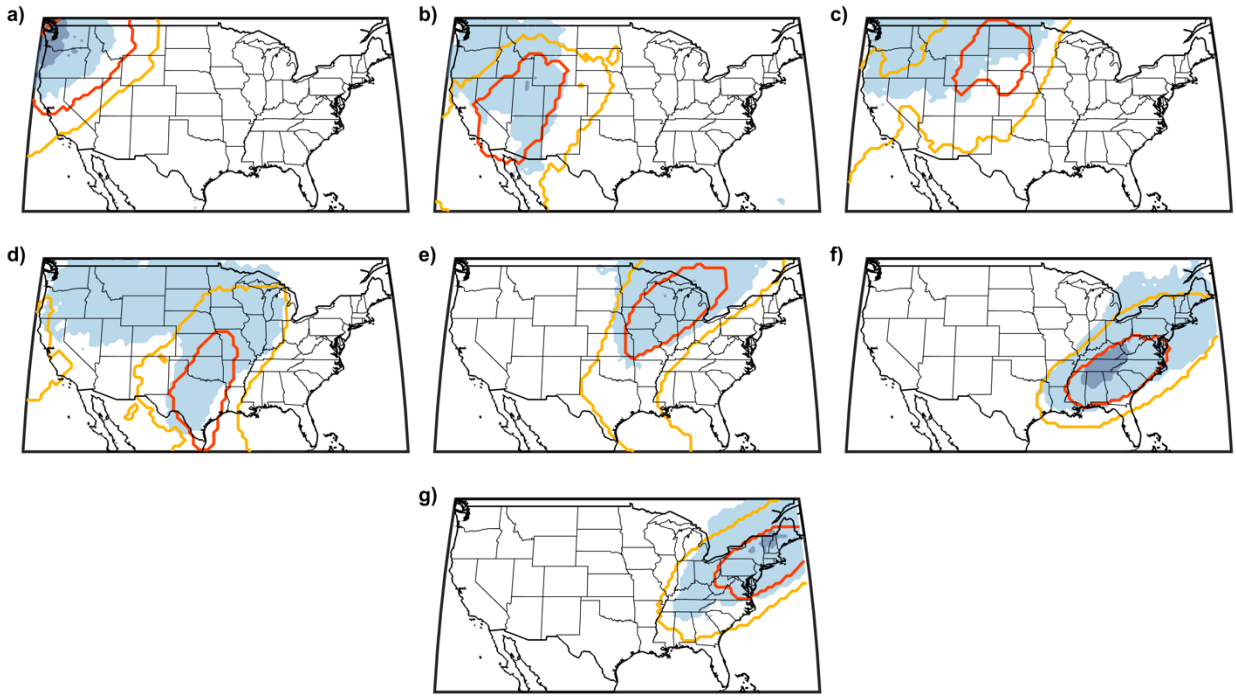

Figure S12: As in Figure 5 but for all humid-heat days.