Atmospheric
Chemistry
and Physics

Supplement of

Influence of lower-tropospheric moisture on local soil moisture–precipitation feedback over the US Southern Great Plains

Gaoyun Wang et al.

Correspondence to: Yizhou Zhuang (zhuangyz@atmos.ucla.edu)
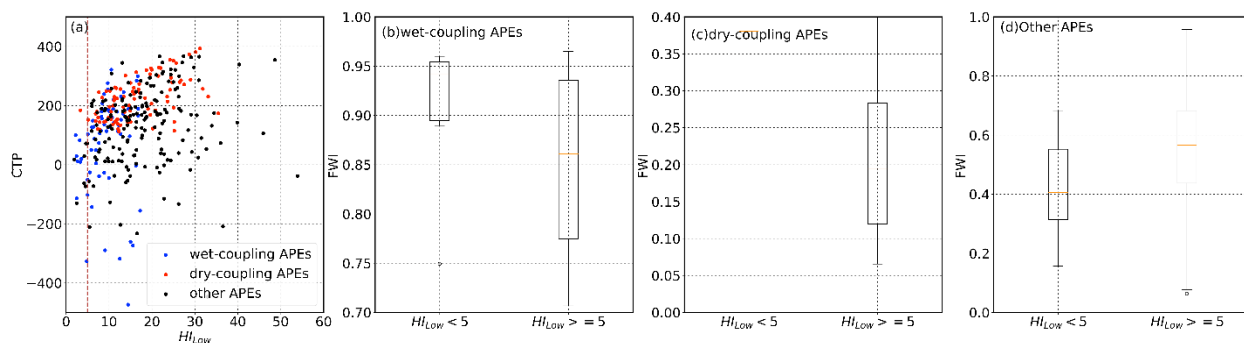
Supplements

Figure S1: (a) Distribution of CTP versus HI$_{Low}$ for three APE categories: wet-coupling (blue), dry-coupling (red), and other (black) APEs. (b) Distribution of FWI for the wet-coupling APEs, subdivided into two groups based on HI$_{Low}$ values: HI$_{Low}$ < 5°C and HI$_{Low}$ ≥ 5°C. (c) Same as b, but for dry-coupling APEs. (d) Same as b, but for other APEs. In each boxplot in (b)-(d), the box represents the interquartile range (IQR), which spans from the first quantile (Q1) to the third quantile (Q3) of the sample; the red line inside the box represents the median value; value larger than Q3+1.5×IQR or smaller than Q1-1.5×IQR is regarded as outlier and marked as a hollow dot; the whiskers extends to the furthest value that is not an outlier.
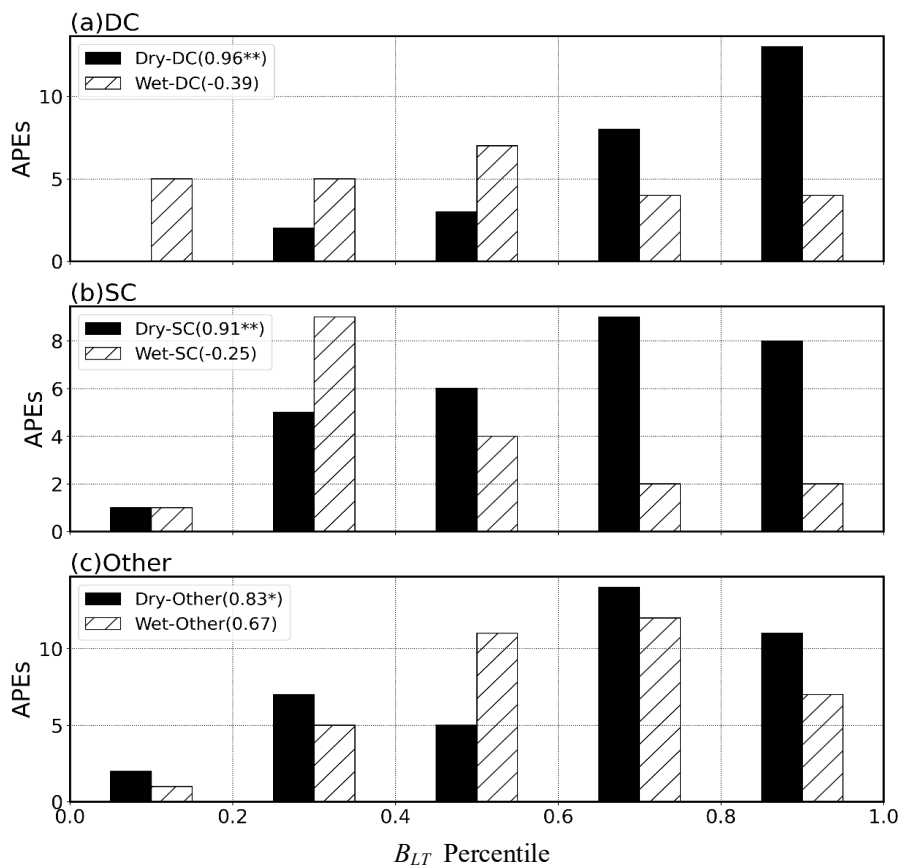

Figure S2: Distribution of (a) deep convection (DC), (b) shallow convection (SC), and (c) congestus APEs over wet- and dry-coupling conditions as a function of B_{LT} percentile with every 0.2 bins. Their correlation coefficients with B_{LT} percentiles are shown in the legend, where one asterisk marks significance at p<0.1 and two asterisks indicate significance at p<0.05.

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