Supplement of
Temporal Characteristics and Atmospheric Drivers of Onsets and Terminations of Soil Moisture Droughts in Europe

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**Figure S1.** The mean duration of onsets and terminations of droughts over Europe during 1980–2020. N indicates the median of the number of drought events over the study region. The standard deviations of the mean duration across the five soil moisture datasets are shown in the right-most panels.

**Figure S2.** same as Fig. S1: 2000–2019 for SoMo, 2000–2020 for other four datasets.
**Figure S3.** Relationship between (a) the mean duration of onsets and mean cumulative $\Delta (P-E)$ during the onsets, and (d) the mean duration of terminations and mean cumulative $\Delta (P-E)$ during the terminations. Thick solid lines indicate the linear regression lines between the two variables. The numbers indicate the regression coefficients denoting the degree of the relationship. When the estimated coefficients are statistically different from zero at a 95% confidence level based on the Wald test, the values are denoted with **.

**Figure S4.** Mean circulation associated with drought onsets over each subregion for each season.
Figure S5. Same as Fig. S4 but for terminations.
Figure S6. Same as Fig. S4 but for non-drought dry periods.