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# Assessing internal changes in the future structure of dry–hot compound events: the case of the Pyrenees

**Marc Lemus-Canovas and Joan Albert Lopez-Bustins**

*Correspondence to:* Marc Lemus-Canovas (mlemus@ub.edu)

**SUPPLEMENT**

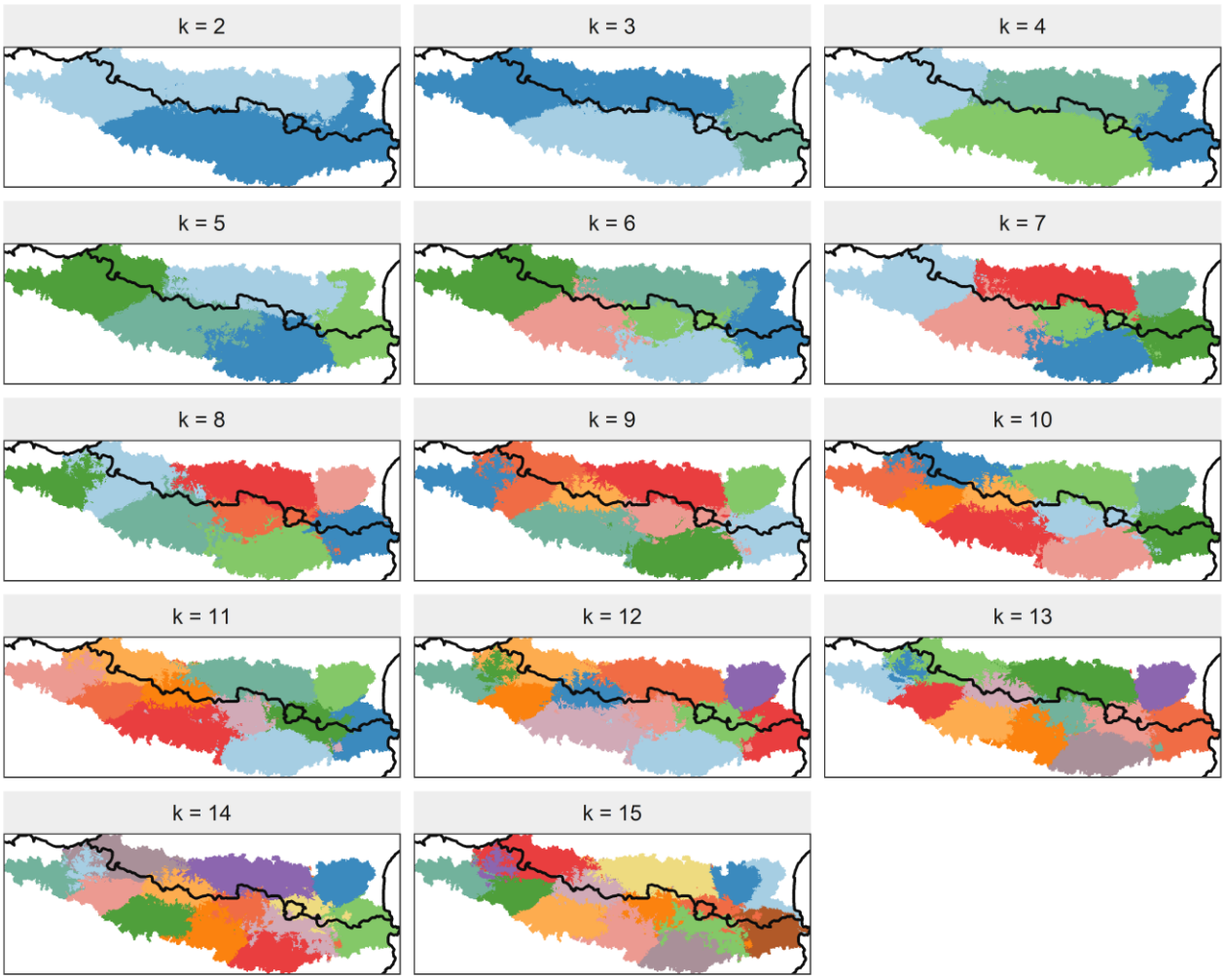



**Figure S1. Regionalization of spring and summer precipitation and temperature during the 1981–2015 period for k = 2, 3..., 15 clusters.**

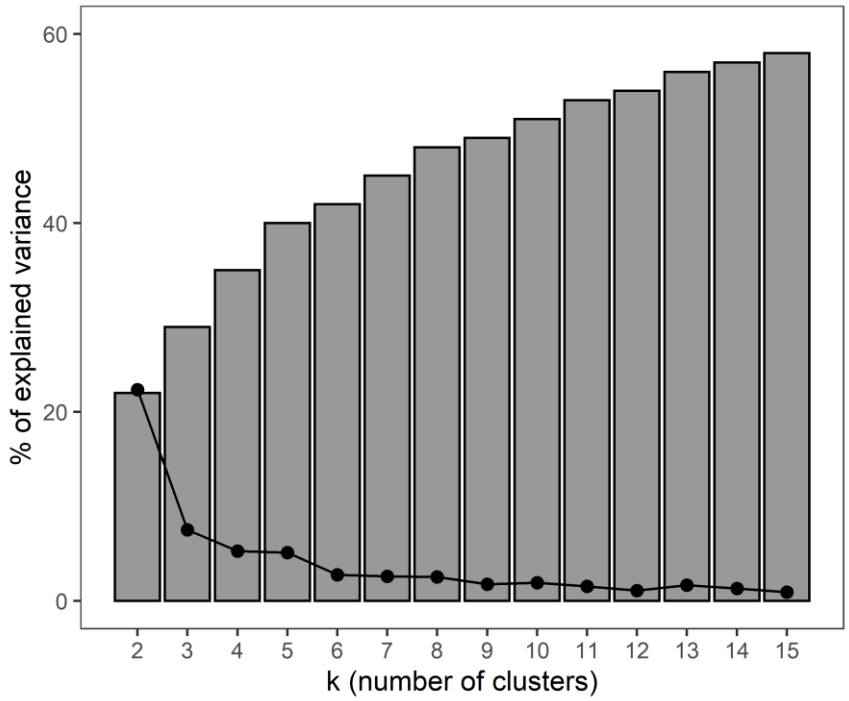



**Figure S2. Scree test for the number of clusters. The slope changes considered for the selection of the number of regions were k = 5 and k = 8, the latter being the definitive number of regions.**

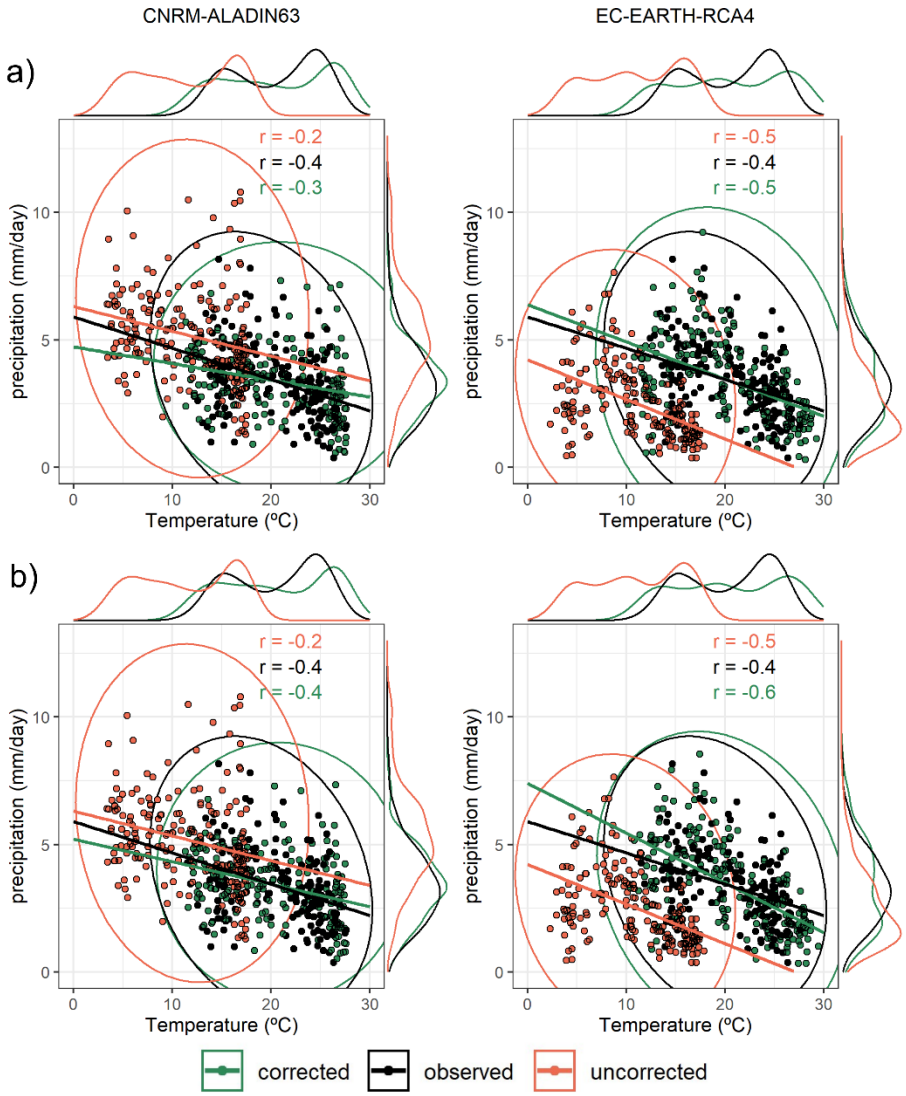



**Figure S3. Distribution of mean daily temperature versus mean daily precipitation from March to August (1981–2005) for the NMED region and for two RCM: CNRM-ALADIN63 and EC-EARTH-RCA4. UBC method (a); MBC method (b). Fitted lines, area of distribution and density distributions in green color are referred to bias corrected model, in black are referred to observed data, and in red are referred to raw/uncorrected model. Pearson correlation values (r) are also shown.**

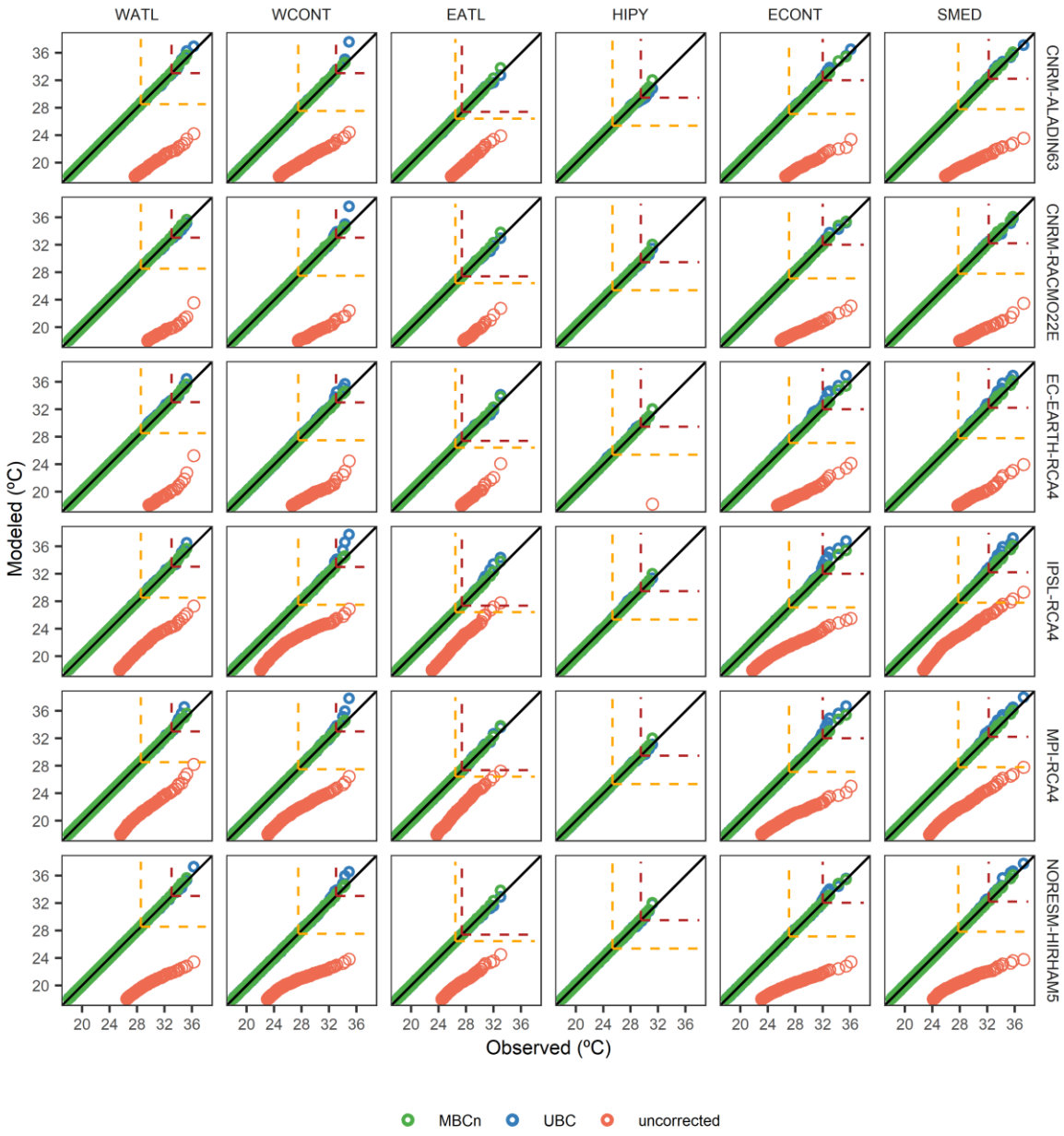
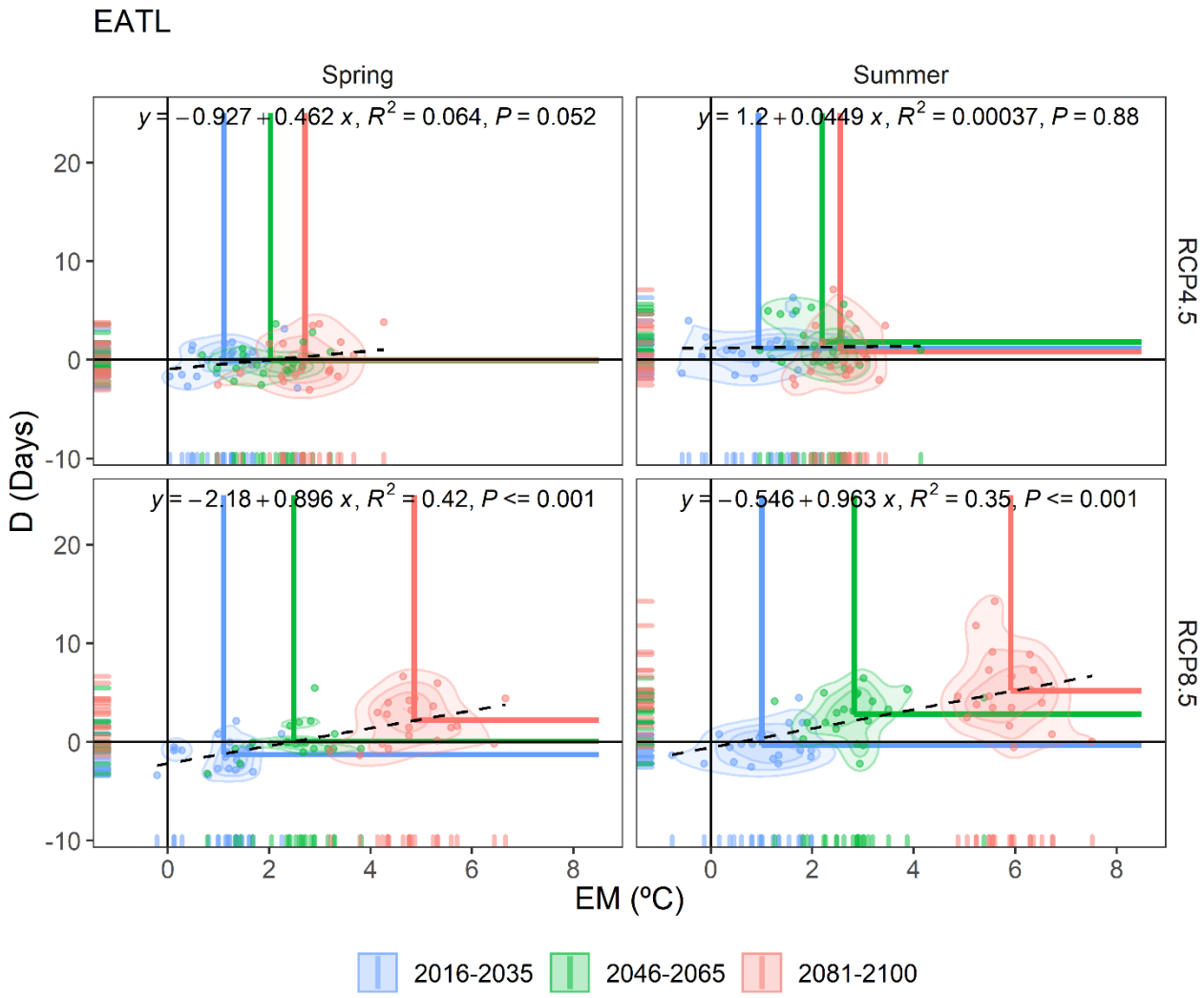



**Figure S4. Quantile–quantile plot of observed versus modeled values for temperature for WATL, WCONT, EATL, HIPY,ECONT and SMED regions and all RCMs; green and blue circles are referred to MBCn and UBC methods, respectively. Red circles correspond to the uncorrected RCM series. The yellow top right dashed box shows the 95th percentile of observed daily temperature, while the dark red top right dashed box shows the 95th percentile of observed daily temperature during the occurrence of dry spells of extreme length (95th percentile).**




28

29 **Figure S5. Bivariate probability density functions of D and EM anomalies for the three future periods (2016-2035, 2046-2065**
30 **and 2081-2100) and for the two emission and seasonal scenarios with respect to the historical period (1981-2005) for the EATL**
31 **region. Each point in the scatter plot represents the multi-model annual mean of D and EM in a given year. The intersections**
32 **of the blue, green and red horizontal and vertical lines indicate the mean anomaly value of the bivariate distribution for each**
33 **period. The linear fit regression was computed using the annual mean anomalies of EM and D for the 2016-2100 period. Each**
34 **plot possesses a regression equation and its statistical significance (P, p-value). The figure is generated using the ensemble of**
35 **all RCMs.**

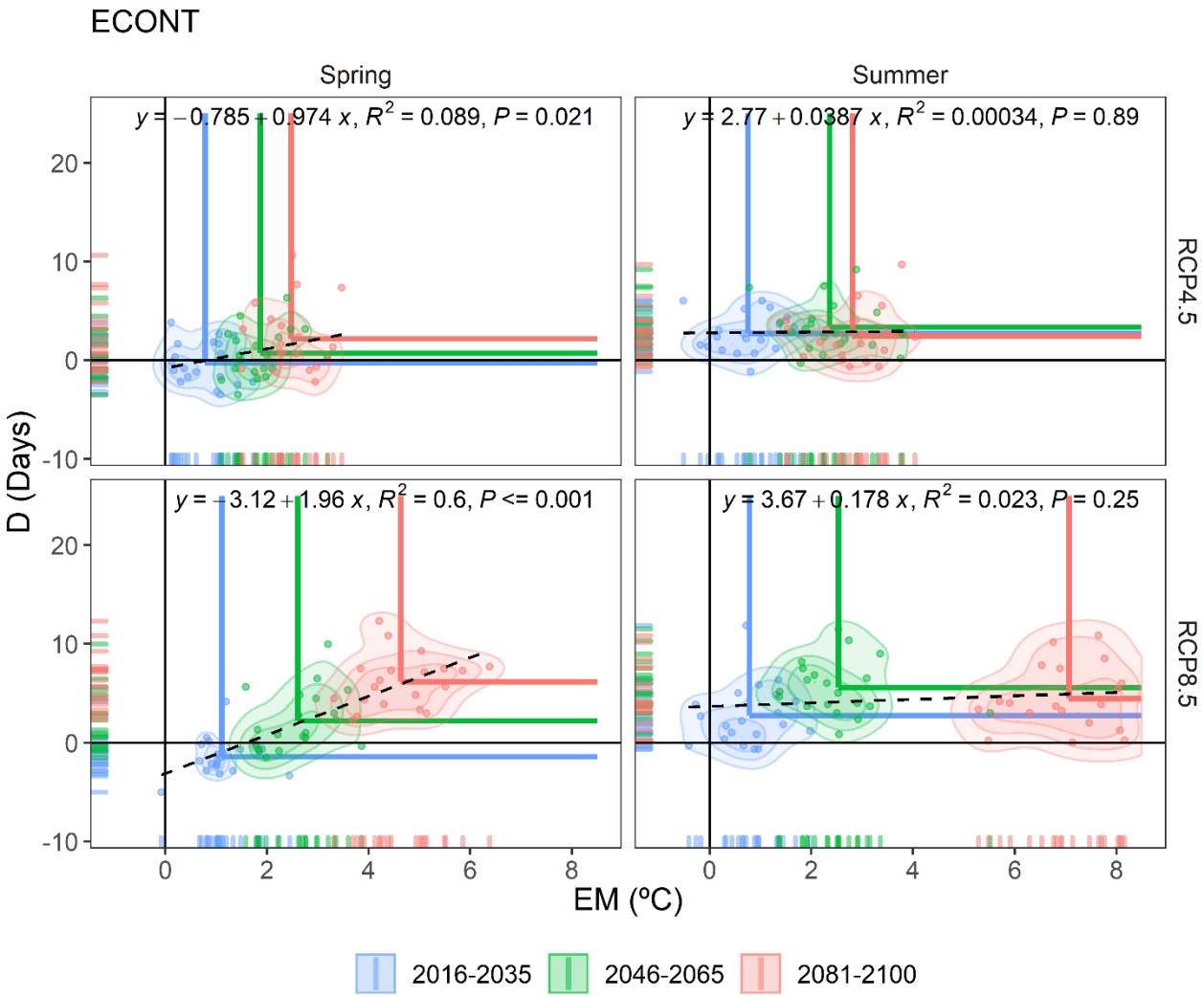



**Figure S6. Same as Fig. S5, but for the ECONT region.**

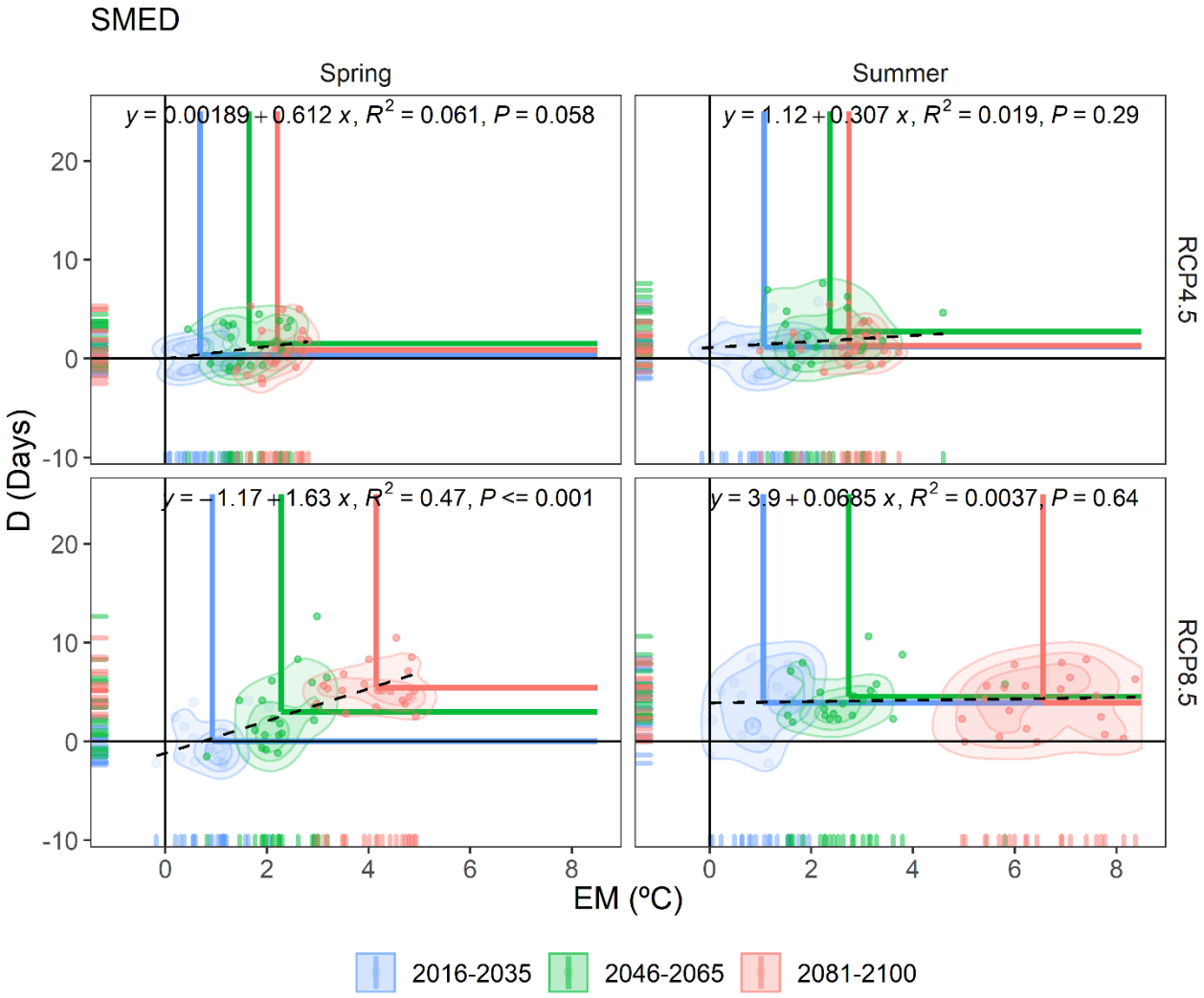



**Figure S7. Same as Fig. S5, but for the SMED region.**

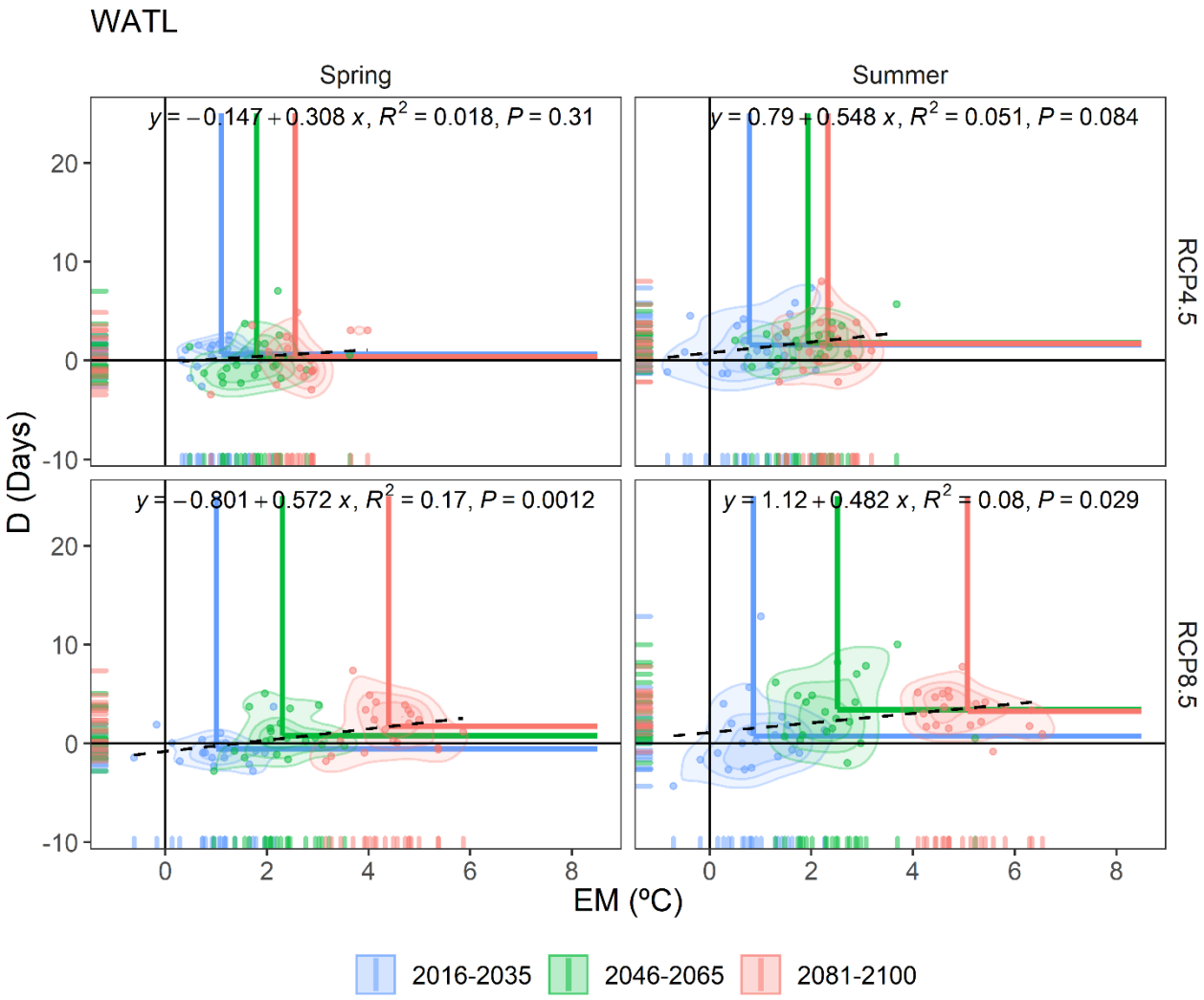



**Figure S8. Same as Fig. S5, but for the WATL region.**

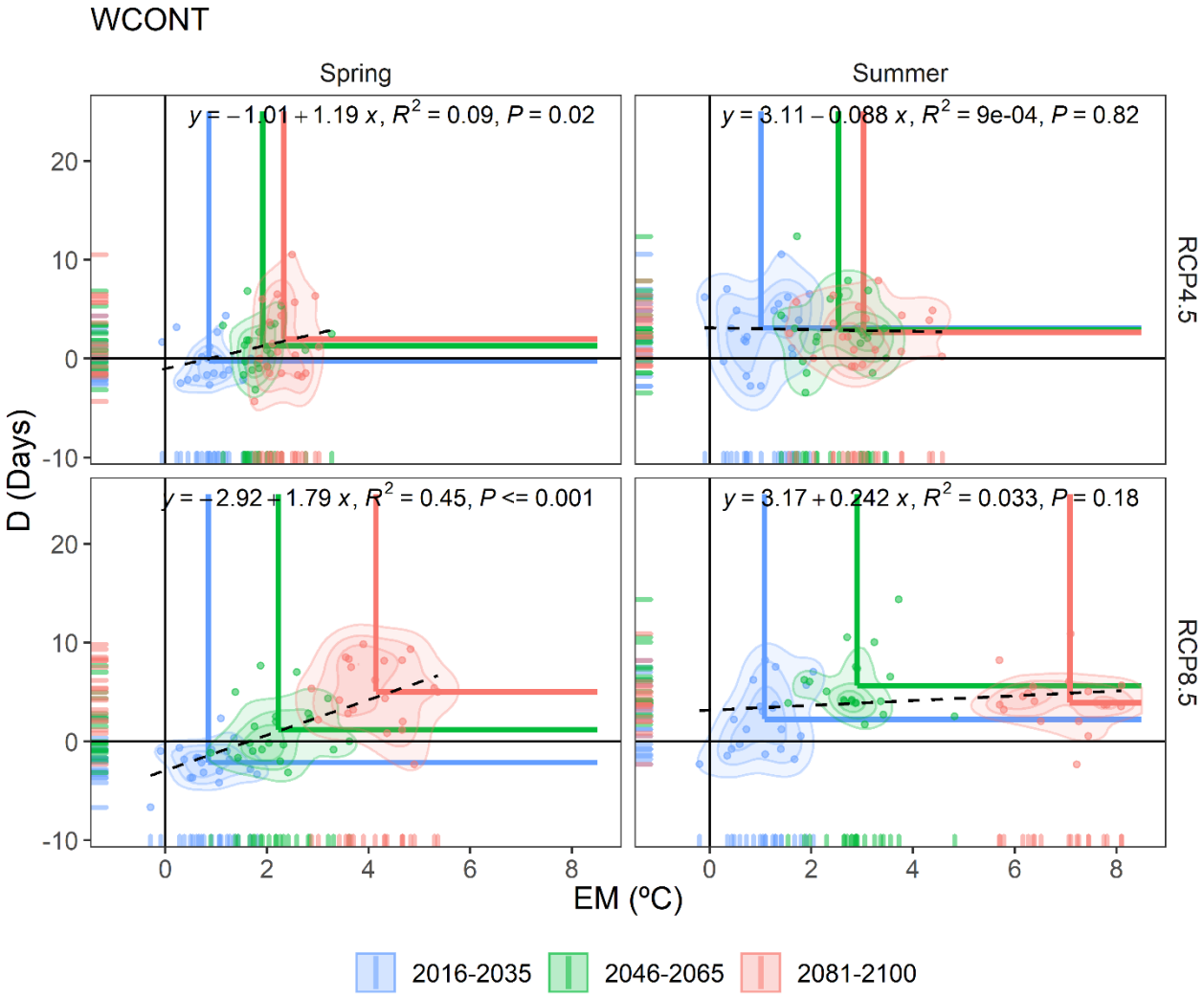



**Figure S9. Same as Fig. S5, but for the WCONT region.**