

Supplementary Figures:

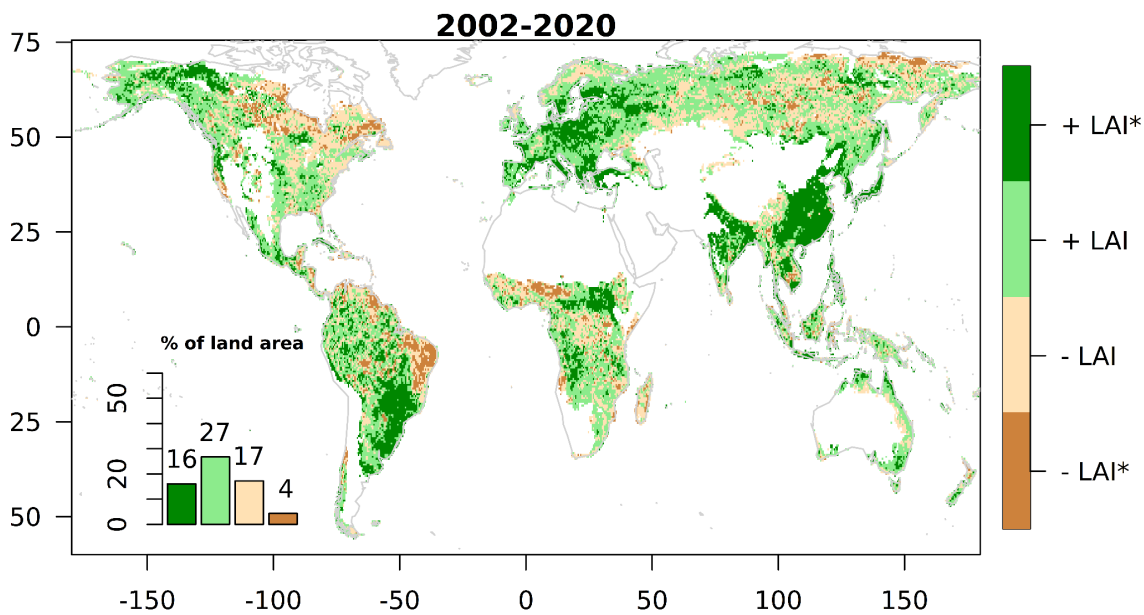


Figure S1: Similar to Figure 1b, but for MODIS.

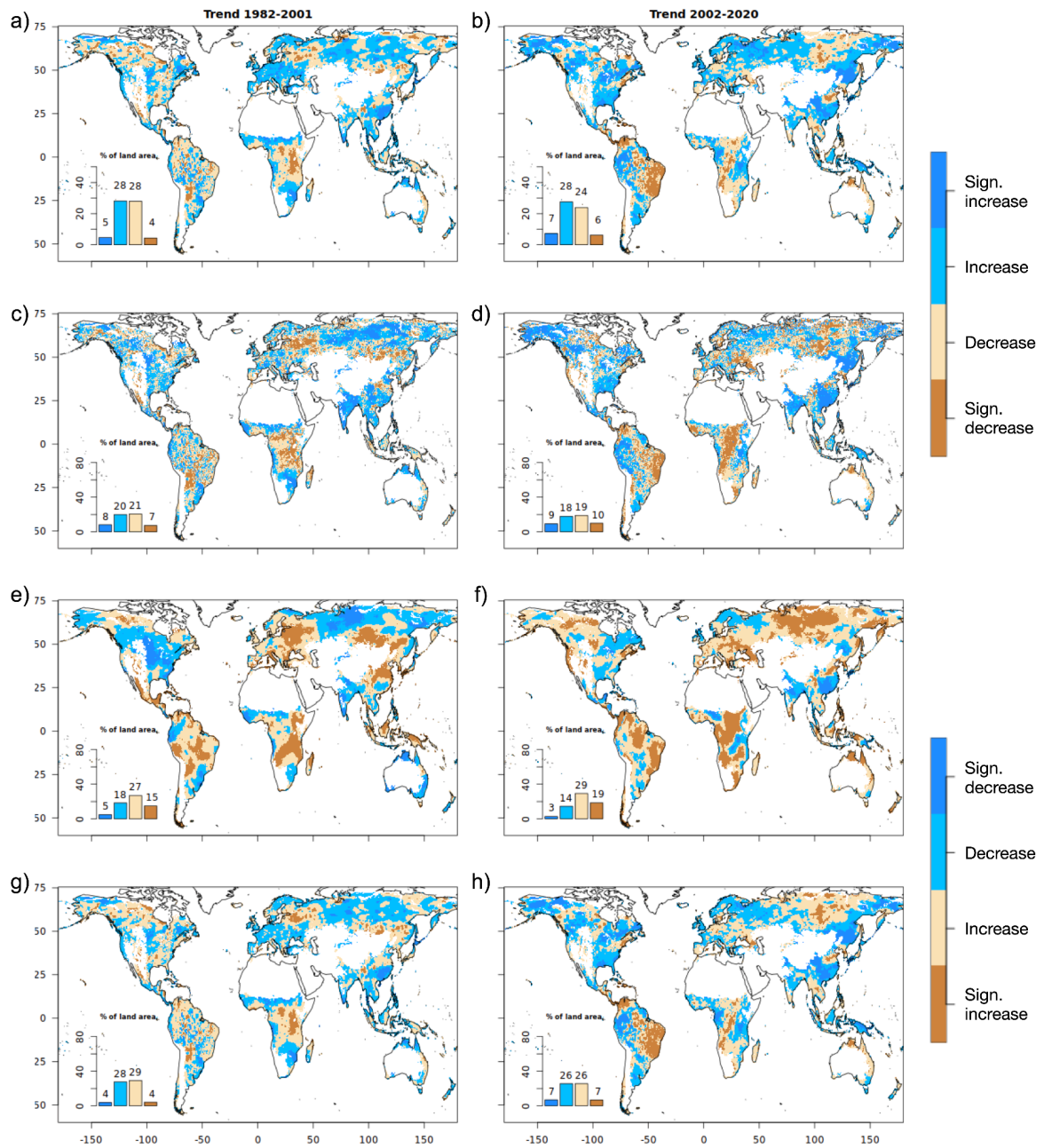


Figure S2: Trends of considered water-related variables during 1982-2001 and 2002-2020. Significance denoted at the 95% level by the asterisks (see methods). (a-b) Precipitation. (c-d) root zone soil moisture. (e-f) VPD. (g-h) Dryness index. All trends are determined as the difference between the two considered decades, and significance is assessed through bootstrapping (see methods).

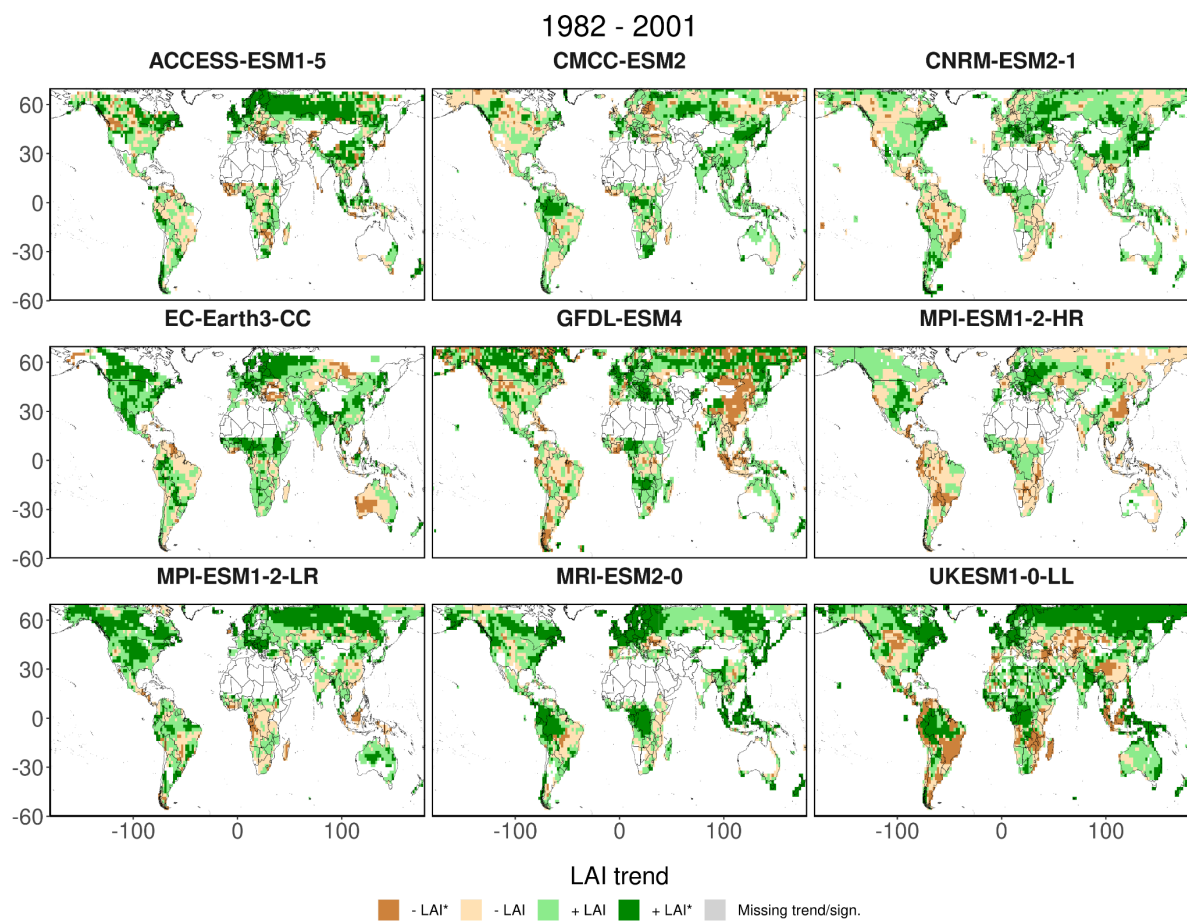


Figure S3: Similar to Figure 2a, but for individual Earth system models.

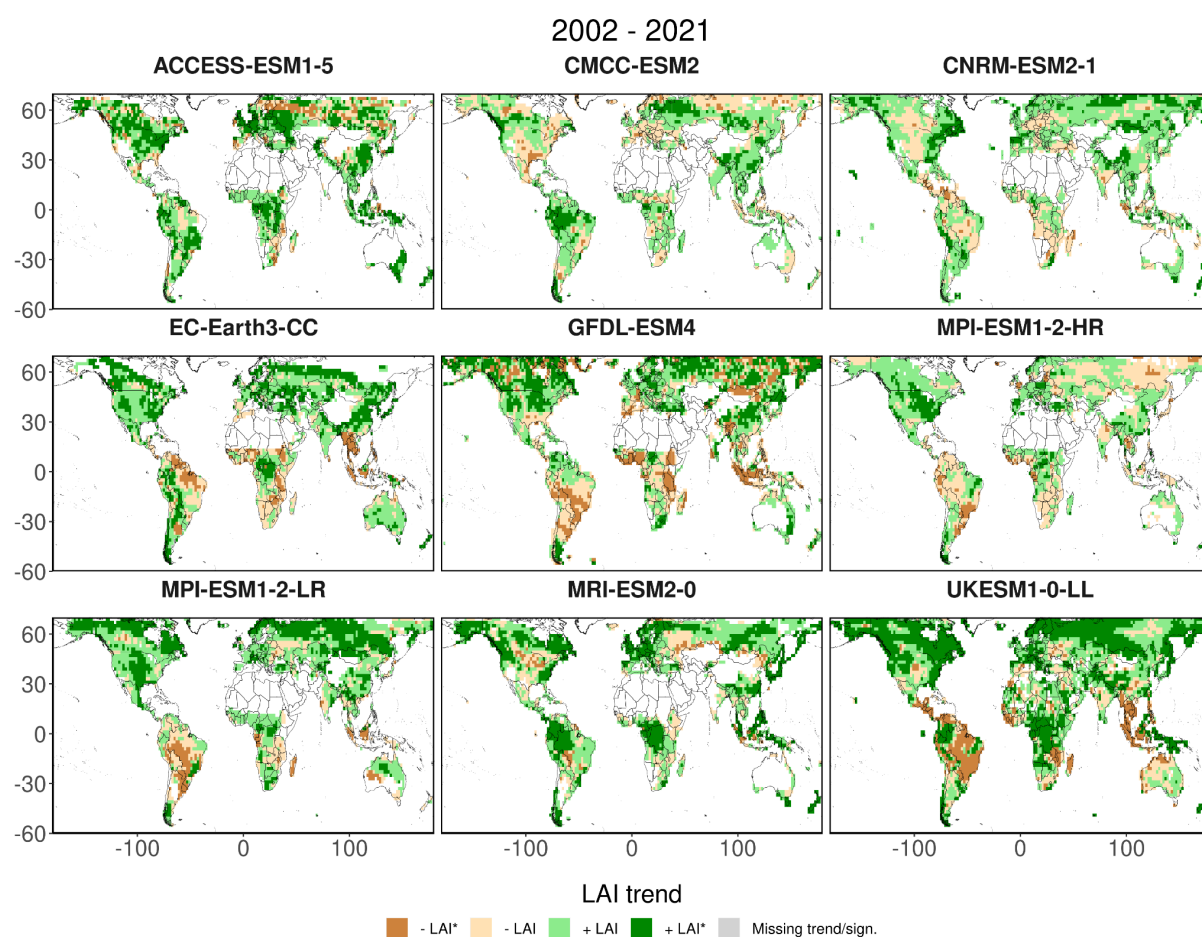


Figure S4: Similar to Figure 2b, but for individual Earth system models.

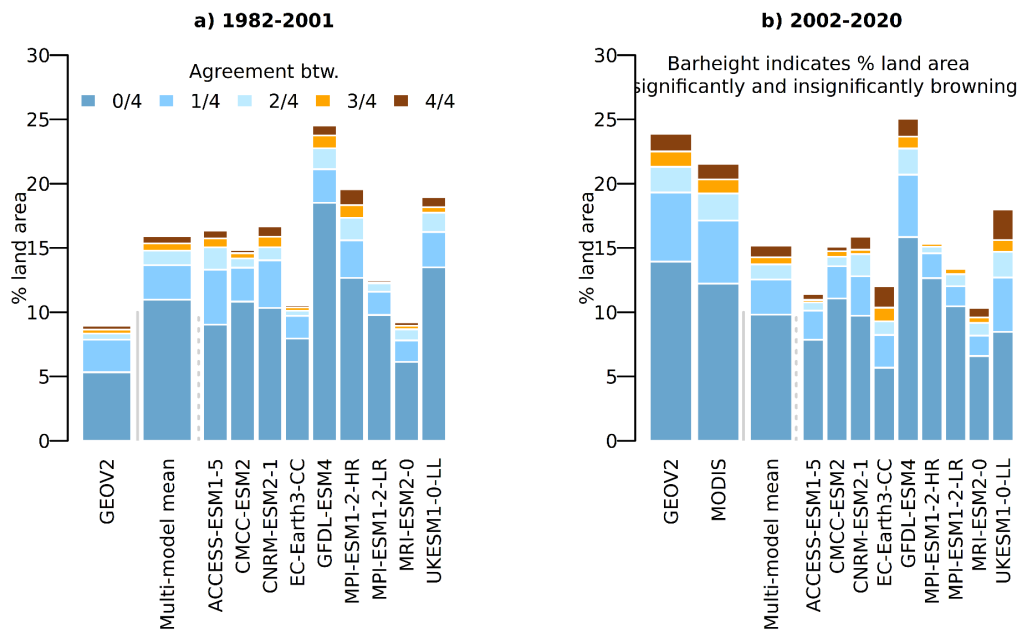


Figure S5. Similar to Figure 3, but additionally considering areas with insignificant browning.

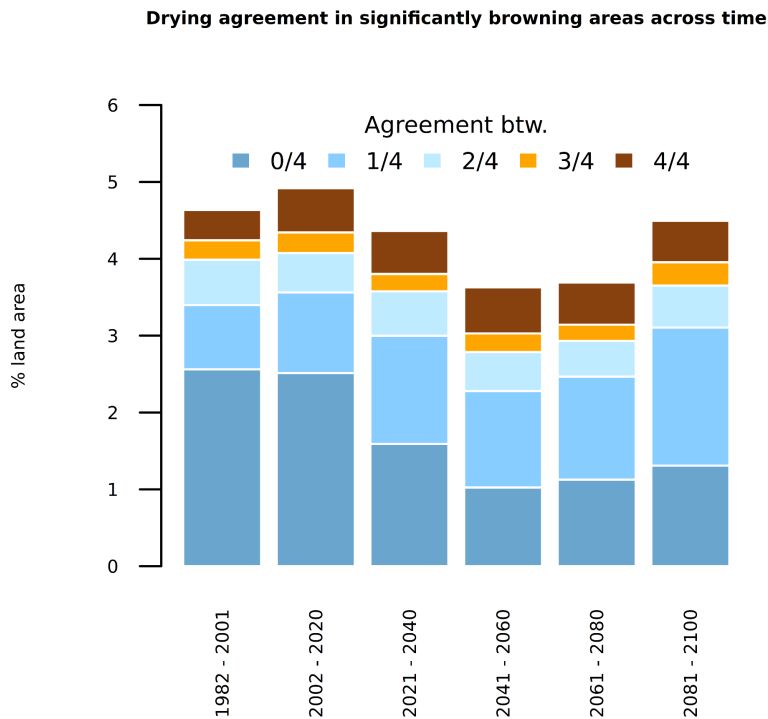


Figure S6. Similar to Figure 3, but for multi-model mean results for 20-year periods until the end of the century.

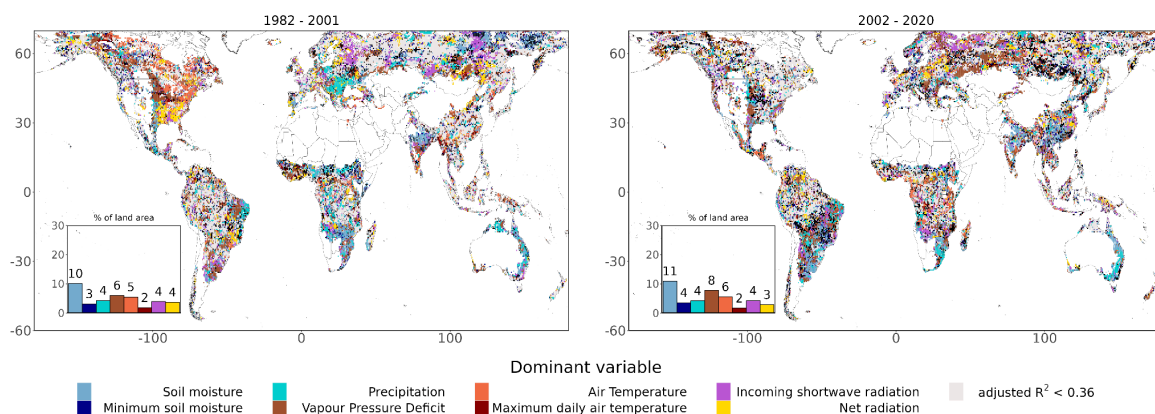


Figure S7: Similar to Figure 4a,b but showing individual water or energy variables detected as main drivers of inter-annual LAI variations in regression-based analysis. Black dots indicate that several variables are equally relevant.

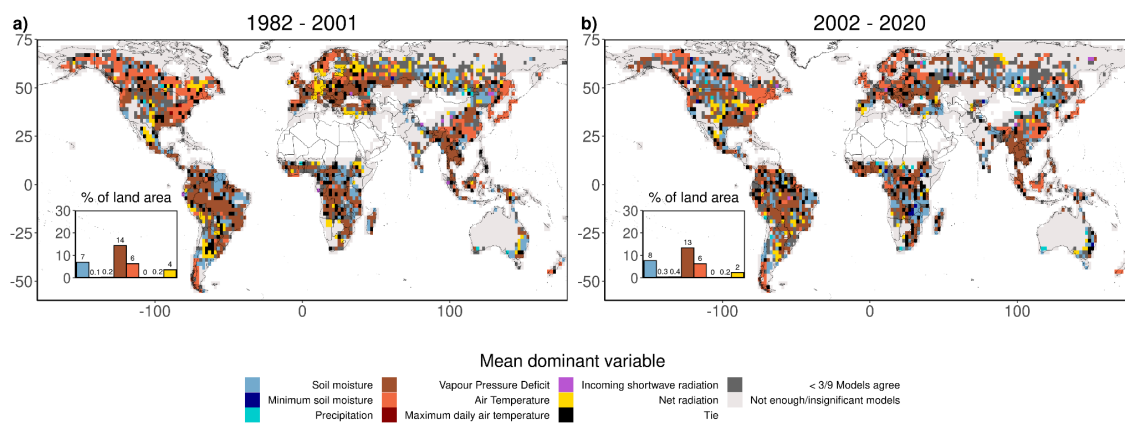


Figure S8: Similar to Figure 5a,b but showing individual water or energy variables detected as main drivers of inter-annual LAI variations in regression-based analysis.

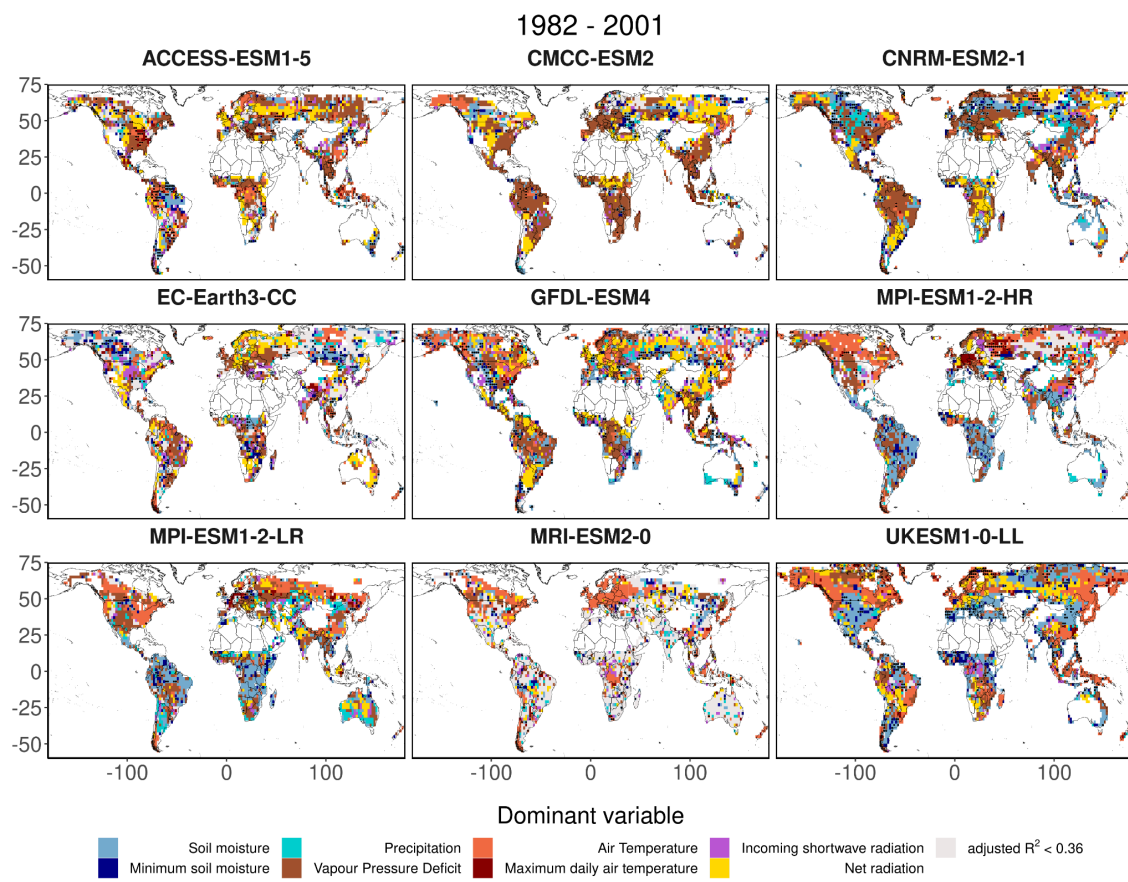


Figure S9: Similar to Figure S8 (left) but for individual models.

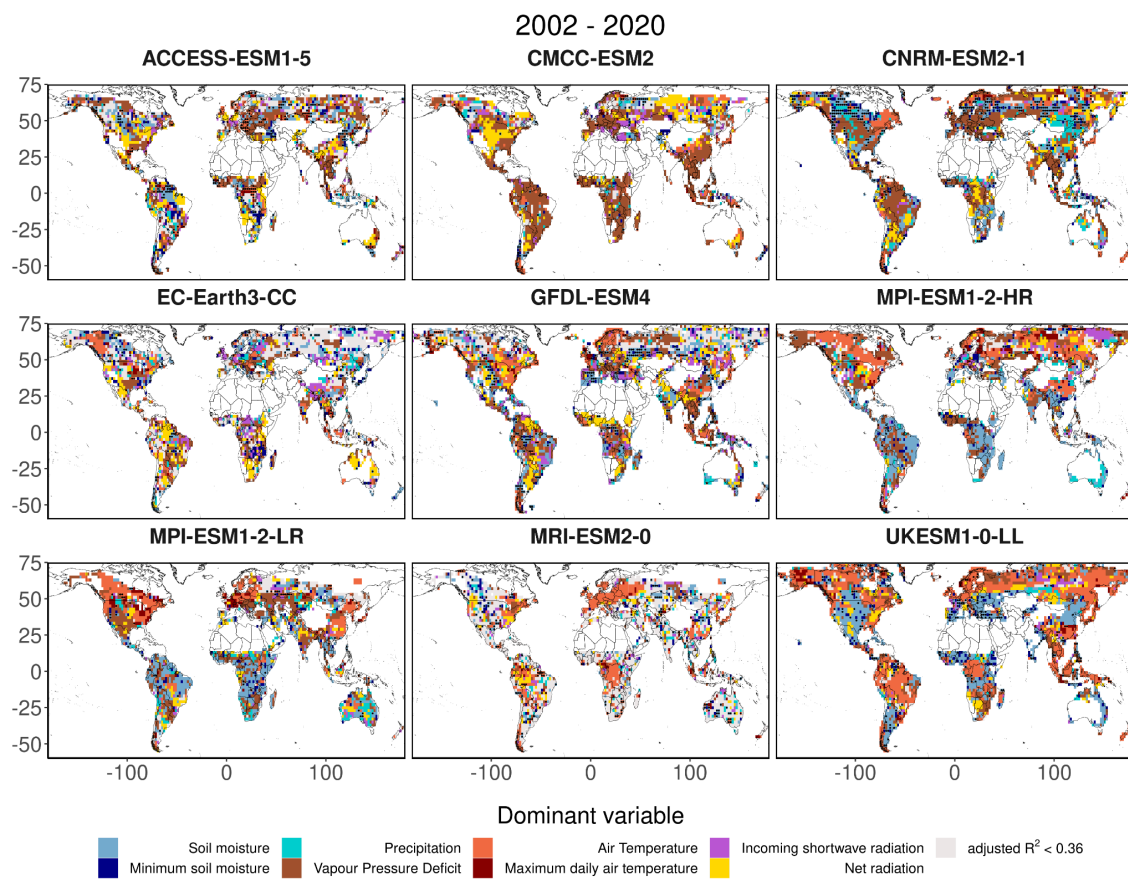


Figure S10: Similar to Figure S8 (right) but for individual models.