

Supplementary materials

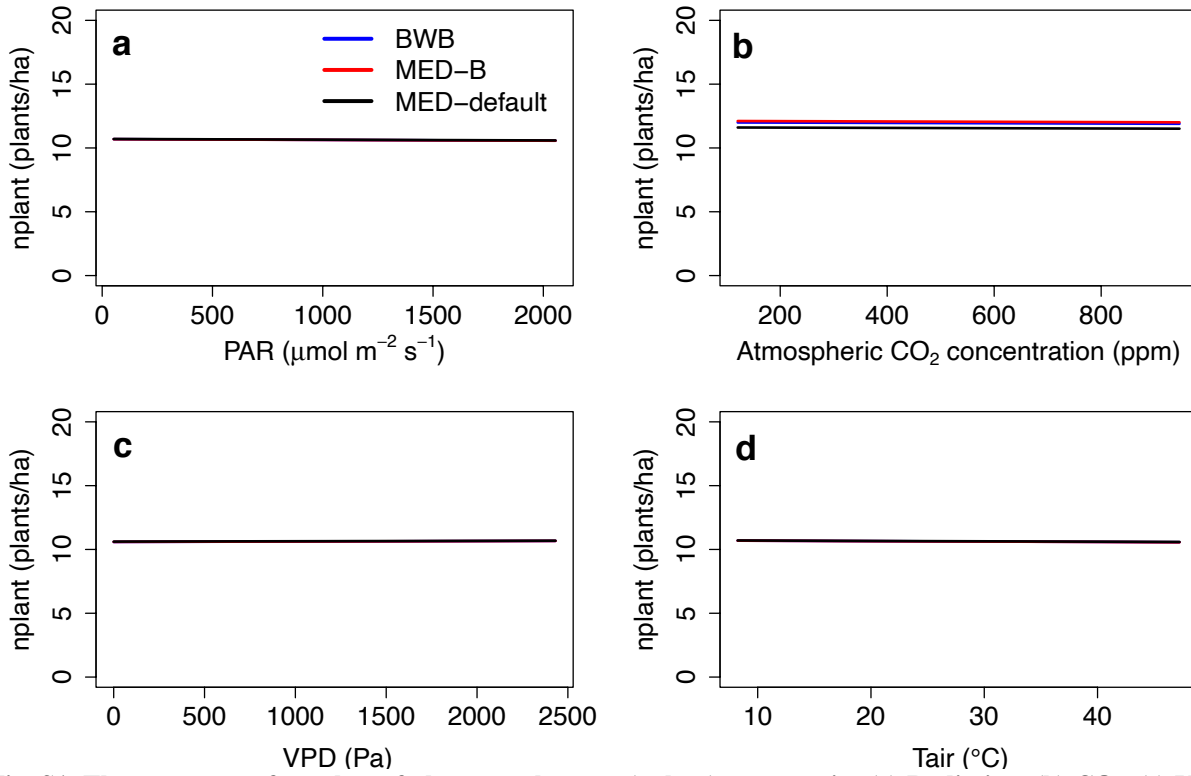


Fig. S1. The responses of number of plants per hectare (nplant) to scenarios (a) Radiation, (b) CO₂, (c) VPD, and (d) T_{air} for the three model setups: BWB (blue), MED-B (red), and MED-default (black).

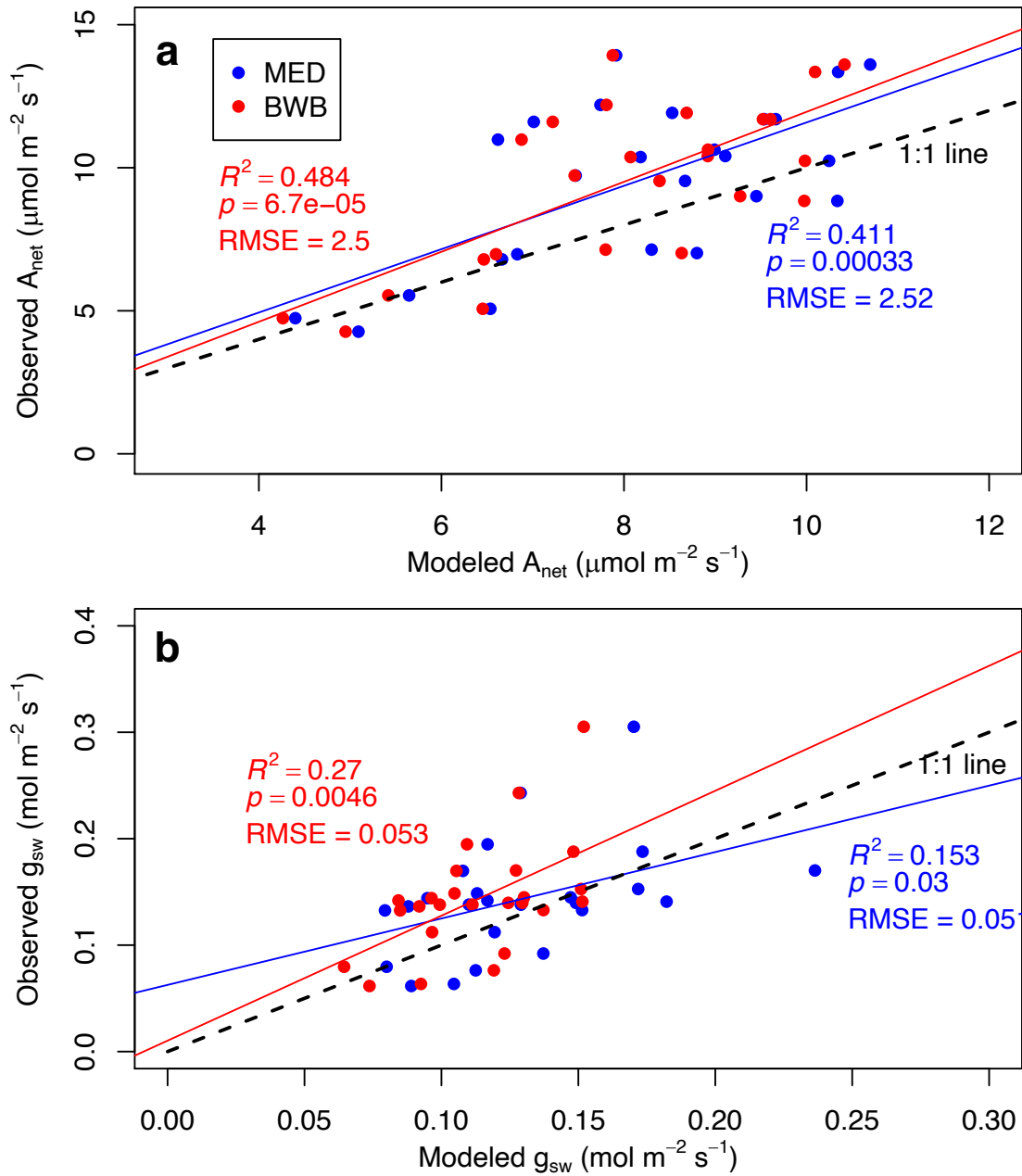


Fig. S2. Overall model evaluation results from February to May for (a) net photosynthesis (A_{net}) and (b) stomatal conductance (g_{sw}), with linear fitting against field measurements for the MED model (blue) and the BWB model (red). Modeled results are the means across the ensemble runs. Observations are means across different species.

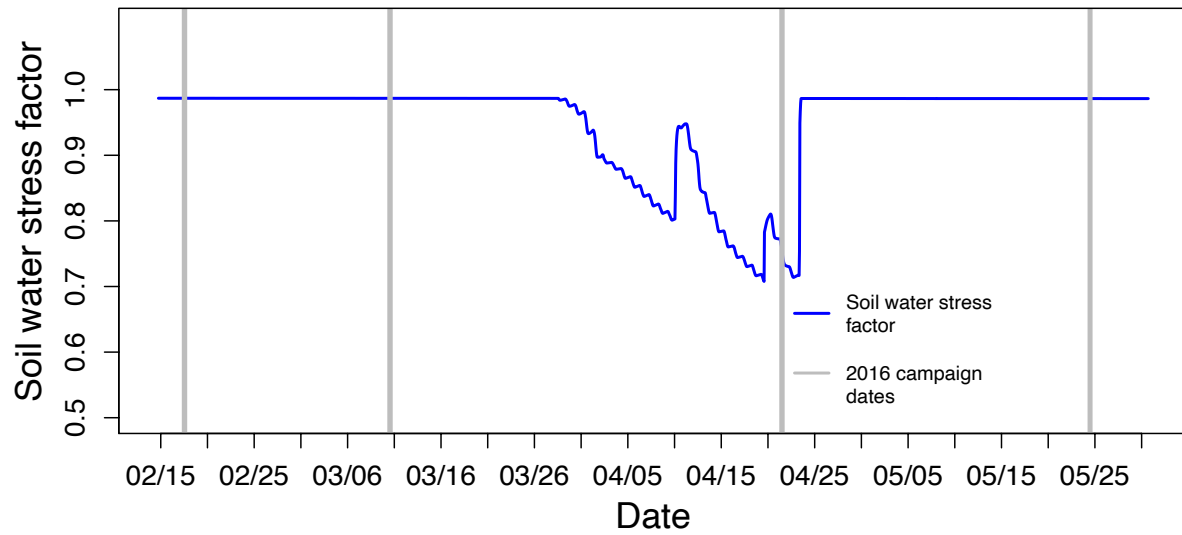


Fig. S3. Daily change of soil water stress factor in months of 2016 encompassing the four field campaigns. “1” represents full saturated soil, while “0” represents very dry soil.

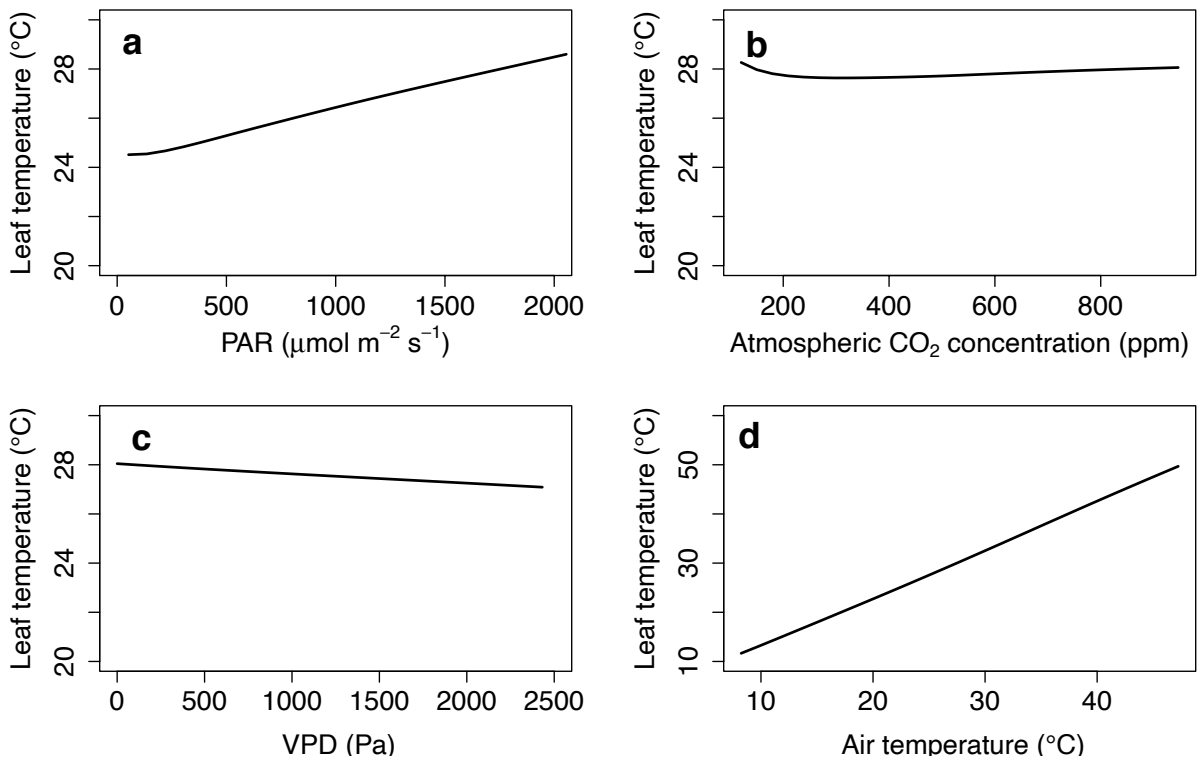


Fig. S4. Change of leaf temperature to scenarios (a) Radiation, (b) CO₂, (c) VPD, and (d) T_{air} for the "MED-B" model setup. Results for "BWB" and "MED-default" were not shown because they were similar to those for "MED-B".