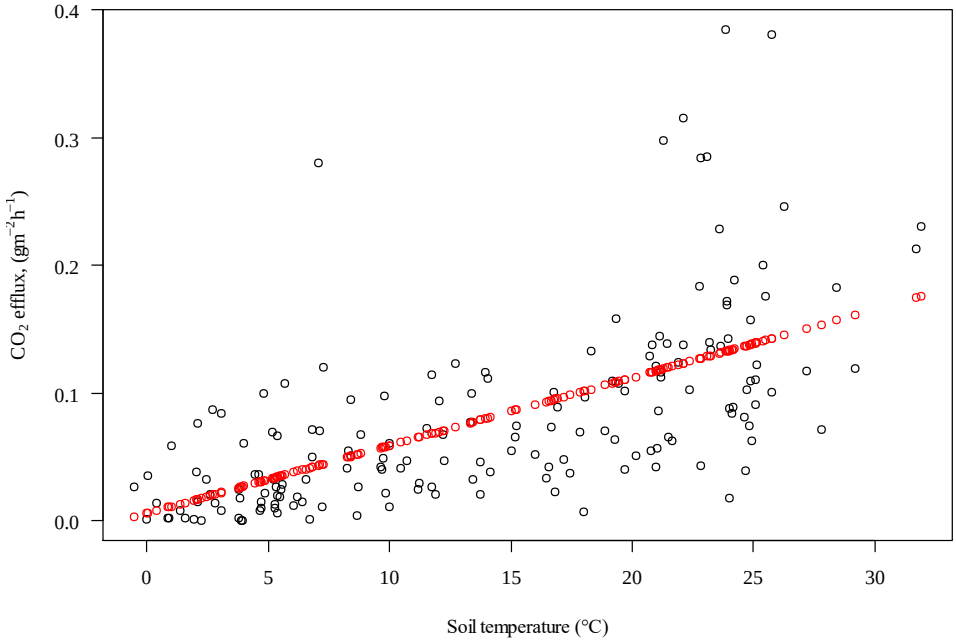

Figure S1. Linear model fitted to the CO_2 efflux (g m^{-2} h^{-1}) from undisturbed bare soil as a function of the soil temperature. Measured and calculated data are represented by black and red circles, respectively.

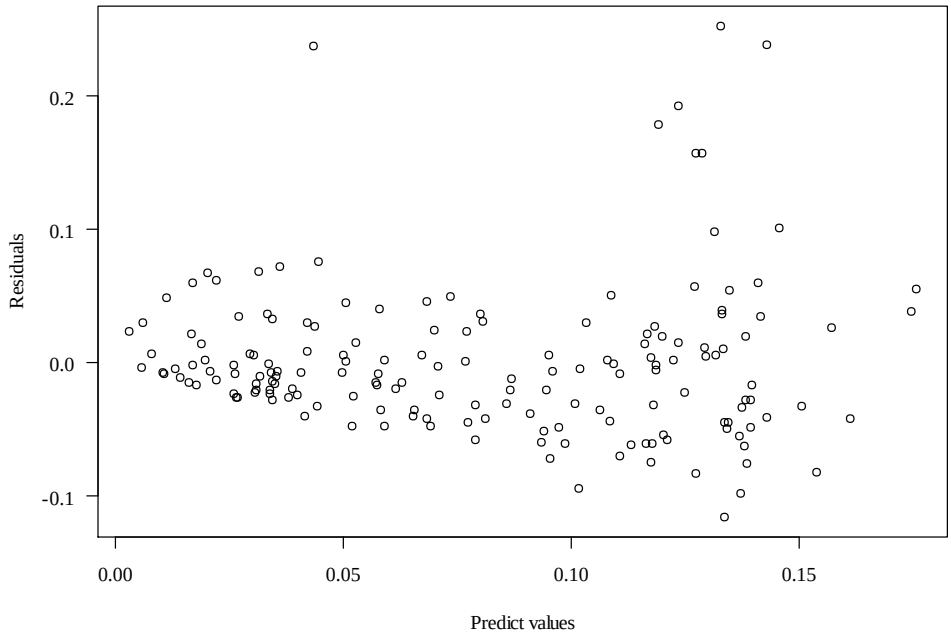

Figure S2. Residues in the linear model describing the CO_2 efflux (g m^{-2} h^{-1}) from undisturbed bare soil as a function of the estimated results.

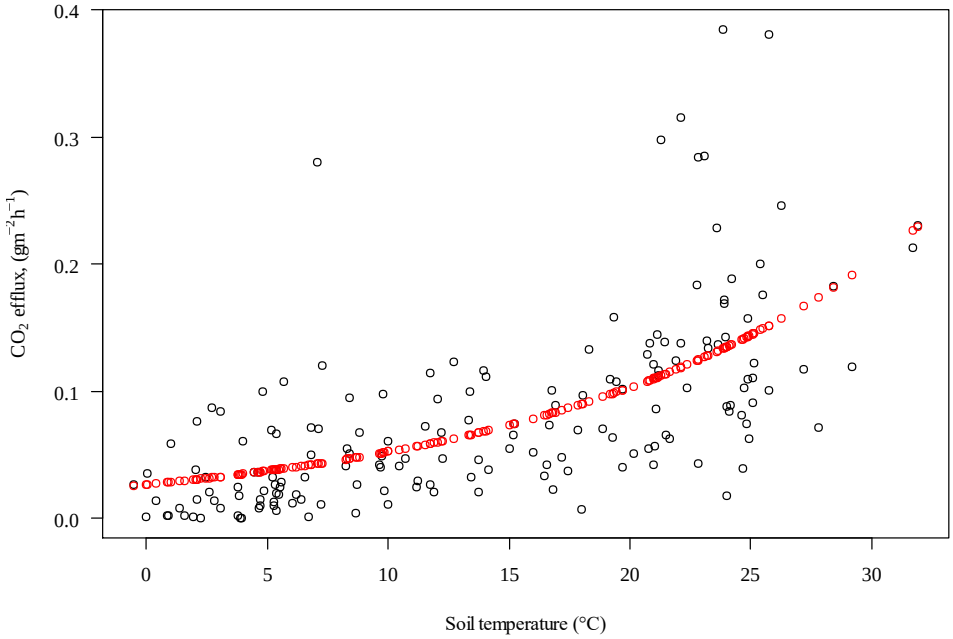

Figure S3. Exponential model fitted to the CO_2 efflux (g m^{-2} h^{-1}) from undisturbed bare soil as a function of the soil temperature. Measured and calculated data are represented by black and red circles, respectively.

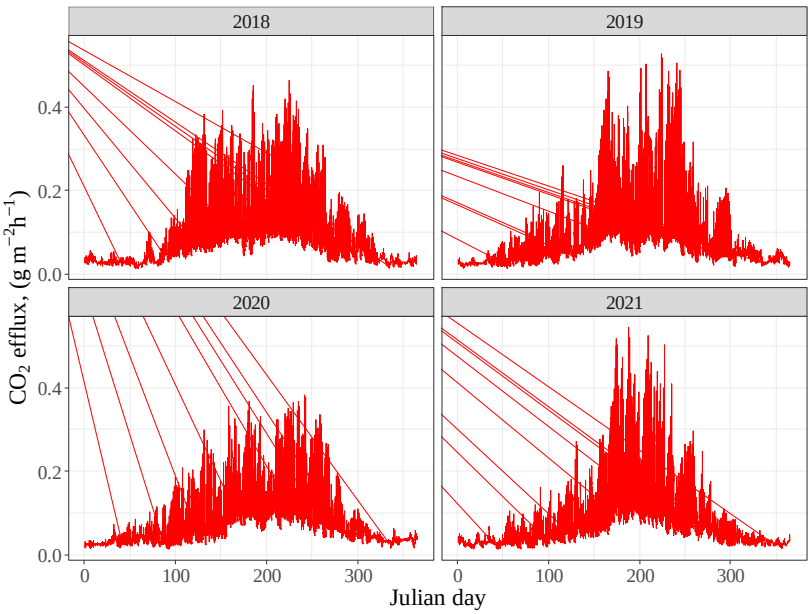

Figure S4. Hourly CO_2 efflux (g m^{-2} h^{-1}) of undisturbed bare soil, calculated with the exponential model with the consideration of soil temperature, for the years of 2018—2021.

Table S1. Mean and standard deviation of measured soil temperature, soil moisture content, and CO_2 efflux data by years used as inputs for model calculations.

Parameter	2019	2020	2021
Soil temperature, ◦C	12.58±10.72	11.96±10.24	11.31±11.07
Soil moisture content, %	12.79±4.94	9.15±4.85	12.96±2.99
CO_2 efflux, g m^{-2} h^{-1}	0.0845±0.0678	0.0774±0.0807	0.0716±0.0551