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ABBRIVIATIONS AND SYMBOLS

a, b, c, d, f	Regression coefficients	
b_0, b_1, b_2	Regression coefficients	
c, C	CO_2 concentration	ppm, mmol m^{-3}
C_p	Specific heat of air	J kg^{-1} K^{-1}
CO_2	Carbon dioxide	
D	Molecular diffusion	
D_a	CO_2 diffusion coefficient in free air	m^2 s^{-1}
D_{a0}	Reference value of the CO_2 diffusion coefficient in free air at 20 °C or 293.15 K	m^2 s^{-1}
D_s	CO_2 diffusion coefficient in soil	m^2 s^{-1}
D_{sk}	Soil gas diffusion coefficient for the discrete layer *k*	m^2 s^{-1}
DOY	Day of year	
E	Ecosystem evapotranspiration	mmol H_2O m^{-2} s^{-1}
EC	Eddy-covariance	
EWUE	Ecosystem water use efficiency	µmol CO_2 mmol H_2O^{-1}
F	Vertical flux density	
F_c	vertical flux densities of CO_2	
F_s	Soil CO_2 efflux or soil respiration	µmol m^{-2} s^{-1}

$F_{s,E}$	The temperature-normalized efflux	
F_z	Soil CO_2 efflux at depth z	µmol m^{-2} s^{-1}
g_a	Air conductance	m s-1
g_s	Surface conductance	m s^{-1}
GPP	Gross primary production	µmol m^{-2} s^{-1}
H	Sensible heat flux	W m^{-2}
H_2O	Water	
i	Index variable	
I	Regression intercept	
IPCC	Intergovernmental Panel on Climate Change	
k	Soil layer	
LAI	Leaf area index	m^2 m^{-2}
m	Constant values	
n	Number of layers within the entire soil profile	
N, N_i	Number of values	
NEE	Net ecosystem carbon exchange or CO_2 flux	µmol m^{-2} s^{-1}
NEE_{sat}	Saturation value of *NEE* at an infinite light level not significant	µmol CO_2 m^{-2} s^{-1}
NEP	Net ecosystem productivity	µmol m^{-2} s^{-1}
P	Air pressure	Pa
P_0	Reference value of air pressure	Pa
PAR	Photosynthetically active radiation	µmol photons m^{-2} s^{-1}

POM	Polyoxymethylene	
PTFE	Polytetrafluoroethylene	
PTT	Precipitation	mm
q	Water vapor density	kg m^{-3}
Q_{10}	Temperature sensitivity of soil CO_2 efflux or magnitude of change in respiration rate for a 10 K change in temperature	
R_e	Ecosystem respiration	µmol m^{-2} s^{-1}
Rn	Net radiation	W m^{-2}
Rg	Solar radiation	W m^{-2}
S	Percentage of mineral soil with particle size > 2 µm	
S	Regression slope	
S	Source or sink	
SWC	Soil water content	m^3 m^{-3}
SWC_k	Soil water content at soil layer k	m^3 m^{-3}
t	time	s
Δt	Time period	s
T	Temperature	°C, K
T_0	Reference value of temperature	°C, K
T_a	Air temperature	°C
T_s	Soil temperature	°C
u	Longitudinal wind component	m s^{-1}

u	Mean wind speed	$m\ s^{-1}$
u_*	Friction velocity	$m\ s^{-1}$
UNFCCC	United Nations Framework Convention on Climate Change	
v	Lateral wind component	$m\ s^{-1}$
VPD	Vapor pressure deficit	hPa
w	Vertical wind component	$m\ s^{-1}$
x	Any property of interest	
x	Distance in longitudinal wind direction	m
X_t	Instantaneous mean	
y	Any property of interest	
y	Distance in lateral wind direction	m
z	Height above ground or depth	m
z_m	Measurement height	m
Δ	The rate of change of saturation vapor pressure with temperature	$kPa\ K^{-1}$
Ω	decoupling coefficient	
α	The apparent quantum yield or the initial slope of the light response curve	$\mu mol\ CO_2\ \mu mol^{-1}$ photons
α	Rotation angle for planar fit	°
β	Bowen ratio	
β	Roll angle for planar fit	°
γ	Pyschrometric constant	

γ	Yaw angle for planar fit	°
ε	Soil air-filled porosity	$m^3\ m^{-3}$
λ	Latent heat of vaporization	$J\ kg^{-1}$
λE	Latent heat flux	$W\ m^{-2}$
μ	The ratio of molecular weights of dry air and water vapor	
ξ	Gas tortuosity factor or the relative gas diffusion coefficient	
ρ	Density of moist air	$kg\ m^{-3}$
ρ_a	Density of dry air	$kg\ m^{-3}$
ρ_b	Soil bulk density	$g\ cm^{-3}$
ρ_c	Density of CO_2	$kg\ m^{-3}$
ρ_m	Particle density of mineral soil	$g\ cm^{-3}$
ρ_s	Scalar density	
ρ_v	Density of water vapor	$kg\ m^{-3}$
σ	The ratio of water vapor and dry air densities	
φ	Soil total porosity	$m^3\ m^{-3}$