

Dear Dr. Hisashi Sato,
Dear Reviewers,

Thank you very much for the positive review and decision to accept the manuscript for publication in GMD! We corrected the two minor comments from Reviewer #2 as requested:

- 1) We corrected the units in Eq. 1. The units now match. We thank the reviewer for noting this mismatch. In the model implementation ET_0 is then divided by the number of time steps per day.

$$L_v ET_0 = \frac{\frac{dq_{sat}}{dT} (R_n - G) + 86400 \cdot \frac{\rho_a C_p (e_s^0 - e_a)}{\tau_{av}}}{\frac{dq_{sat}}{dT} + \gamma (1 + \frac{\tau_s}{\tau_{av}})}, \quad (1)$$

where L_v is the volumetric latent heat of vaporization of 2453 MJ m^{-3} , ET_0 is the evapotranspiration in m day^{-1} , $\frac{dq_{sat}}{dT}$ the slope of the vapor pressure curve in $\text{kPa } ^\circ\text{C}^{-1}$, R_n the net radiation at the surface in $\text{MJ m}^{-2} \text{ day}^{-1}$, G the soil heat-flux density in $\text{MJ m}^{-2} \text{ day}^{-1}$, 86400 the conversion factor from seconds to daily values, ρ_a the air density in kg m^{-3} , C_p the specific heat of dry air ($1.013 \cdot 10^{-3} \text{ MJ kg}^{-1} \text{ } ^\circ\text{C}^{-1}$), e_s^0 the saturated water vapor pressure in kPa, e_a the actual water vapor pressure in kPa, τ_{av} the bulk surface aerodynamic resistance for water vapor in s m^{-1} and τ_s the canopy surface resistance in s m^{-1} . γ is the psychrometric constant in $\text{kPa } ^\circ\text{C}^{-1}$ and is calculated as:

- 2) We added a sentence to 2.3.2 to better explain the use of diurnal average values for the calculation of the photosynthesis:

“While the new potential evapotranspiration is calculated in the subdaily time step, the non-water-stressed canopy conductance is calculated in a daily time step, due to the daily calculation of the photosynthesis in LPJmL5. Since climate data from FMS is available on a subdaily basis, the photosynthesis routine uses a diurnal average of air temperature and photosynthetic active radiation.”

Best regards,
Markus Drüke
on behalf of all the authors