

	Symbol	Process	Description	Units	Calibrated
Hydrological model	$H_{\max}$	WTD-moisture relation	Peat depth	mm	no
	$\Theta_{\min}$	WTD-moisture relation	Porosity at maximum depth	$\text{m}^3 \text{m}^{-3}$	no
	$\Theta_{\max}$	WTD-moisture relation	Porosity at the surface	$\text{m}^3 \text{m}^{-3}$	no
	$Kc_d$	Evapotranspiration (ET)	Crop coefficient for dormant season	–	yes (BCI)
	$Kc_g$	Evapotranspiration (ET)	Crop coefficient for growing season	–	yes (BCI)
	$I_{\max}$	Infiltration $S_m$ to $S_e$ (ISe)	Maximum infiltration rates in $S_e$	$\text{mm day}^{-1}$	yes (BCI)
	$\alpha_p$	Percolation rate from $S_e$ ( $D$ )	Discharge coefficient of $S_e$	$\text{day}^{-1}$	yes
	$\alpha_r$	Runoff rate from $S_m$ ( $R$ )	Discharge coefficient of $S_r$	$\text{day}^{-1}$	yes
	$\alpha_o$	Overland flow from $S_r$ ( $O$ )	Discharge coefficient of $S_o$	$\text{day}^{-1}$	yes
DOC model	SOC	DOC module	Mass of TOC in peat profile	$\text{mgC mm}^{-1}$	no
	$\text{DOC}_{\text{rain}}$	DOC module	DOC concentration in rain water	$\text{mg L}^{-1}$	no
	$k_{\text{prod}}$	DOC module	DOC production coefficient	$\text{day}^{-1}$	yes
	$k_{\text{loss}}$	DOC module	DOC loss coefficient	$\text{day}^{-1}$	yes