

**Title: Effects of passive storage conceptualization on modelling hydrological function and isotope dynamics in the flow system of cockpit karst landscape**

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**Responses to the Editor Thom Bogaard:**

Thank you for your letter and comments concerning our manuscript entitled “Effects of passive storage conceptualization on modelling hydrological function and isotope dynamics in the flow system of cockpit karst landscape”. We have revised the manuscript according to your comments.

Thank you for your editorial work.

Sincerely,

Xi Chen

On behalf of all co-authors

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**Q: Dear authors, thanks for the revision. Thanks for the corrections. I went through the paper and think it is ready for publication except for 1 technical correction. You are using quite a lot of parameters/variables that you abbreviated with two or more letters (PE, wm, ks, WMM, EX, ke, WU, EXM, etc). This we try to avoid as they are confusing (and also incorrect although done often in our literature): wm is w multiplied with m....etcetera). Also I noticed that sometimes it is not clear if it is ks or k<sub>subscript\_s</sub>). So please replace them with 1 letter symbols and some subscripts. Also do a proper typesetting for the subscripts to prevent misinterpretations). This also holds for some formula's typed in sentences. Please check. Abbreviation like DS, HS, HF, DF etc can remain, they are abbreviation for words, not part of an equation. (Idem KGE)**

**Reply:**

We thank the editor for his valuable comments and suggestions.

We have modified the symbols of all parameters and variables that may cause misunderstanding, as listed in Table S1:

**Table S1.** Summary of changes in the symbols of parameters and variables

Parameters/Variables		Meaning
Original symbol	New symbol	
$w_m$	$W_m$	mean storage capacity
$w_m'$	$W_m'$	areal mean tension water storage at $f$
$WMM$	$W_{mm}$	maximum value of $W_m'$
PE	Delete	net precipitation
$E_p$	$E_p$	potential evapotranspiration
$WU$	$W_U$	moisture storage consisting of active storage $W$ or mobile water (Sprenger et al., 2017; Sprenger et al., 2018) and passive storage $W_p$
$EX$	$E_X$	flux between fast flow and slow flow reservoirs
$EXM$	$E_{XM}$	exchange mass between the slow flow and fast flow reservoirs
$EGM$	$E_{GM}$	mixing of the solute between the active and passive storages for the slow or fast flow reservoirs
$k_c$	$k_c$	coefficient for evapotranspiration
$k_s$	$k_s$	ratio of water yield into slow flow reservoir
$k_e$	$k_e$	exchange coefficient between slow and fast flow reservoirs
$\eta_s$	$\eta_s$	outflow coefficient of slow flow reservoir
$\eta^f$	$\eta_F$	outflow coefficient of fast flow reservoir
$l_s$	$l_s$	coefficient of evaporation fractionation

In addition, we use “ $\times$ ” to represent the "multiply" sign to avoid misunderstanding.

Please refer to pages 19-29 lines 257-449 (**Section 3**), pages 33-34 lines 498-525 (**Section 4.2**) and page 40 lines 633-640.