

Dear Dr. Blume:

Thank you very much for your comments on our manuscript again. We have made correction as you requested.

In addition, another address for the first author Dr. Hu was added because he also worked in the new institute recently.

Please see below our responses in blue to all your comments. The changed place is marked in red in the manuscript.

Sincerely,

Wei Hu

Bing Cheng Si

.....

Comments to the Author:

Dear authors,

a few minor points with respect to the edited sections and figures:

I.31 either "from a coarse-resolution remotely sensed SWC product" or "products".

Response:

We changed to "products" at Line 35.

I.127: header and text need to be separated

Response:

Yes, done.

I.163: please rephrase/correct this sentence (data sets are usually not applied). One possibility would be to state here what the purpose of bringing up these other data sets is. "To further test the applicability of the new method, we compared its performance at two other sites, covering both the hillslope and the large watershed scale." Then continue with "Along a hillslope...". And then at the end of the paragraph delete lines 172-176, which would repeat what he now have already mentioned in above.

Response:

We changed as you suggested. Therefore, this paragraph was changed as: **"To further test the applicability of the new method, we compared its performance at two other sites, covering both the hillslope and the large watershed scale. Along a hillslope of 100 m in length in the Chinese Loess Plateau, SWC of 0–0.06 m was measured 136 times from June 25, 2007 to August 30, 2008 by a Delta-T Devices Theta probe (ML2x) at 51 locations (Hu et al., 2011). The hillslope was covered by *Stipa bungeana* Trin. and *Medicago sativa* L. in sandy loam and silt loam soils. In the GENCAI network (~250 km²) in Italy, SWC of 0–0.15 m was measured by a TDR probe at 46 locations, 34 times from February to December in 2009 (Brocca et al., 2012, 2013). The GENCAI area was dominated by grassland with a flat topography, in silty clay soils."**

I.612: "On the other hand" instead of "On the contrary". Also "...spatial patterns do not..." instead of "does not".

Response:

We changed as you suggested.

I.627: "patterns" or "the SWC pattern"

Response:

We changed it to "patterns".

I.628: do you really mean the performance of the validation method was poor or do you mean that performance was poor? Please clarify.

Response:

We mainly mean the performance of the two models. For avoiding misunderstanding, we changed it to **" This resulted in reduced time stability of SWC patterns and poor performance of both models and validation methods in terms of SWC evaluation"**. (Lines 626-627)

Figure 8: the vertical green lines should extend all the way across the plot up to NSCE =1. Just extending them to the mean soil water content is confusing because these lines are not referring to these mean values but to the not shown negative values for the models.

Response:

Yes, corrected. Please see Fig.8.

Figure 10: the grey line surrounding the white triangles could be a slightly thicker – otherwise the triangles are hardly visible

Response:

Yes, corrected. Please see Fig.10.

Best regards,
Theresa Blume

Finally, thank you very much again for handing our manuscript and giving us so many great comments during the whole process of this manuscript. We hope this manuscript can be published in HESS now. Thank you, Dr. Blume.