

Interactive comment on “Estimate soil moisture using trapezoidal relationship between remotely sensed land surface temperature and vegetation index” by W. Wang et al.

Anonymous Referee #1

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The manuscript is very well prepared, concise and logical. The topic is well within the scope of the journal and covers an interesting attempt to quantify the limits of the surface temperature – vegetation index space.

Regarding the low performance for spatial correlation for each day (Table 2), this is probably attributed to the extremely low range in observed T_s and EVI (Figure 7). The methodology is very interesting, but the location where it is implemented is poorly chosen. It would add huge value to the paper if another application in a more heterogeneous catchment was included. Given that the MODIS data have global coverage, it

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seems possible to combine the data and method with other experimental sites. It is a shame that the real added value or utilizing remote sensing observations (spatial information) is not fully exploited.

Comments:

â€” I miss a paragraph in the introduction about the novelty of this work â€” rsm for the grass-bush rangeland (25 s/m) seems very low, values around 70-100 seem more appropriate. Please add reference for a comparable land cover type. â€” Can you really say that there is low spatial variability in soil moisture for the catchment? How do you justify this? You state elsewhere in the paper that a semi-arid area exhibits high spatial variability in moisture conditions.

Specific comments:

See edits in the attached document

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/7/C3562/2010/hessd-7-C3562-2010-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 8703, 2010.

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