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Hydrology and Earth System Sciences Discussions

Interactive comment on "Precipitation fields interpolated from gauge stations versus a merged radar-gauge precipitation product: influence on modelled soil moisture at local scale and at SMOS scale" *by* J. T. dall'Amico et al.

Anonymous Referee #1

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In this paper, the authors compare the effect of different precipitation products on modeled soil moisture. Overall, the paper is well written, and the results are clearly presented. I recommend a number of minor modifications before the paper can be accepted.

- P 3386 L 12: the novel precipitation product is assimilated ... This is a wrong wording that MUST be changed. The precipitation product is NOT assimilated into the model, it is used by the model as forcing. Data assimilation is updating model results with external data sets (Kostov and Jackson, 1993). This is not what is happening in this

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case, the the term data assimilation MUST be replaced.

- Same thing P 33386 L 16.

- P 3386 L 22: please spell EMIRAD in full the first time it is used.

- P 3389 L 14: what does "AG" mean ?

- P 3392 L 25: short and longwave radiation, not radiation fluxes (remove "fluxes").

- Section 3.1: I would like to see the slope and the intercepts of the regressions as well. A very high correlation coefficient does not mean that the regression is close to the 1:1 line.

- I am missing an explanation on how the model was calibrated. Was it calibrated using soil moisture data, discharge data, or using another data set or a combination of data sets, or was it not calibrated at all? Please provide an explanation. Also, how is the way the model was calibrated going to have an impact on the conclusions from the paper?

- Second sentence in the conclusions: again, the term "assimilated" MUST be replaced by another term. What the authors have done is clearly NOT data assimilation.

- Check the references. Many capitals are missing (danube, agrisar, ...).

If these remarks are taken care of, I think that the paper can be accepted for publication.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 3385, 2012.