

Interactive comment on “Using Satellite-Based Evapotranspiration Estimates to Improve the Structure of a Simple Conceptual Rainfall-Runoff Model” by Tirthankar Roy et al.

A. Bahremand (Referee)

abdolreza.bahremand@yahoo.com

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Referee comments:

1. General comments:

- Comments for the authors:

I congratulate you on this work. You have nicely shown that with the help of new information we can improve our hydrological models (as you called it the "diagnostic structural improvement") in a physically meaningful manner to be able to apply them for ungauged basins with higher confidence and more certainty. I like your paper (especially for its attempt to get good results by intellectually satisfying modeling [and with

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"limited calibration"]), I only wish you could add one or two sentences into the paper abstract of what you have written in your discussion and overall outlook (I know it may have word number limitation). There are some little corrections which I have mentioned them on the attached pdf file. Please note that the pdf should contain 9 comments, 5 direct corrections written on the text, and 7 highlighted or underlined words or phrases (if not please email me to list them separately for you).

- Comments for the editor:

In my opinion, the paper deserves publication with some minor corrections. It is a good research in line with the recent works. It has novelty and promotes "meaningful modeling". It uses new satellite based information to improve a hydrologic model and to show how new information can reduce uncertainty, and can direct the parameter estimation in a physically meaningful manner, and how we can improve our hydrological model structurally enabling the application of our models for ungauged basins with more confidence. The paper is very well written (in terms of structure and English both). I agree with all results, figures, tables, and the arguments around the results, and the valuable discussion afterwards. I thank you for giving me the opportunity to review this good paper.

2. Specific comments:

If possible adding one concluding sentence into your abstract (similar of what you have written in your discussion, overall outlook and conclusion). some corrections are listed on the attached pdf. Please note that the pdf should contain 9 comments, 5 corrections written directly on the text, and 7 highlighted or underlined words or phrases.

At the end, again, I thank the authors and the editor Prof. Saco, for their work on this paper and letting me review it. (I may further attend in the possable future interactive discussion related to the paper)

Best regards,

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Abdolreza Bahremand

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/hess-2016-413/hess-2016-413-RC1-supplement.pdf>

Interactive comment on *Hydrol. Earth Syst. Sci. Discuss.*, doi:10.5194/hess-2016-413, 2016.

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