

Interactive comment on “Some practical notes on the land surface modeling in the Tibetan Plateau” by K. Yang et al.

Anonymous Referee #3

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Review of

Some practical notes on the land surface modeling in the Tibetan Plateau
by Yang et al..

General comments:

This is an interesting and useful paper about how land surface models could be improved in the case of Tibetan sites, in terms of heat and latent heat fluxes (H and LE). The section on soil evaporation from dry soils is particularly interesting. The section on the impact of thermal roughness length should be detailed a little more. The soil stratification issue is less convincing. Difference in absolute values of soil water content are extensively discussed in this paper (e.g. P. 1299, L. 12-15, Fig. 3-5, Fig. 7, Fig. 9).

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They are attributed to the misrepresentation of soil stratification, particularly acute at the Eastern sites of the Tibetan plateau. However, this problem is quite general. Profile soil characteristics (texture, field capacity, etc.) are not easily mapped and their impact on the modelling of fluxes are not always (never?) represented well, on the Tibetan plateau or elsewhere. In particular, biases in soil moisture values are very commonly observed. Nevertheless, such biases may have little or no impact on the quality of the H and LE flux simulations provided the relative soil water content available to the plant is simulated well. What is the added value of representing accurately the soil stratification? Recommendation: Minor revisions.

Particular comments:

P. 1295, L. 10: “with the surface emissivity given by the observers”, please explain.

Fig. 9: soil water content, at what depth?

P. 1303: how does the “excess resistance” translates in terms of thermal vs aerodynamic roughness length?

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