

## ***Interactive comment on “A critical assessment of the JULES land surface model hydrology for humid tropical environments” by Z. Zulkafli et al.***

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p.12526 line 26: "most are not field based". I'm not disagreeing, but this is a sweeping statement and in any case many pedotransfer functions are based on a lot of field-work (e.g. Cosby's across I think 23 US states). I presume you're meaning that in the absence of tropical field data there is a tendency to apply temperate pedotransfer functions in environments arguably outside their domain of validity. Also, it would be nice if you could mention Beto Quesada's work: he has done a lot of soil sampling in the upper Amazon (see <http://www.rainfor.org/en/project/field-campaigns/2010-peru-soils>).

p12535 line 6: "This may highlight that the underestimation of precipitation by global precipitation products is most problematic at small scale and over mountainous re-

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gions". (i) I'd prefer "uncertainty in" rather than "underestimation of" because we can't be sure it's always off in the same direction. (ii) This is also a bit of a loose statement: there have been many studies into the uncertainties of GCM predictions. Most of these talk about high uncertainties because of scale issues, mountainous terrain and/or proximity to oceanic gridcells. These are not unrelated, however: uncertain predictions in the Andes could be because the topography changes over smaller spatial scales than the resolution of the prediction (i.e. its a scale issue and could perhaps be solved by moving over to an RCM) but may also be because of barrier effects (i.e. an RCM wouldn't help). I think you need to fill out this sentence a little and be specific as to what aspect you believe is causing the uncertainty in precipitation here. (iii) You used version 6 TRMM data, which some believe has much reduced uncertainty (e.g. <http://shadow.eas.gatech.edu/~vvt/Shige2006-TRMM-validation.pdf> ). Are you contending that the uncertainty is still too high in general or that they are generally good enough but don't work in particular areas? These points are also relevant to the interesting discussion about TRMM and NCEP that follows p.12535.

p.12529 line 11: Perhaps you mean "spin up" not "warming up"?

p.12531 line 10: "are considered the best available pedotransfer function for tropical soil". Firstly, I think neither Hodnett nor Tomasella would claim this: they would claim at most that it was suitable for South American tropical soils. Secondly, I think H&T have updated their opinion since 1998: see Tomasella & Hodnett (2004). Tomasella J & Hodnett M (2004). Pedotransfer functions for tropical soils. *Developments in Soil Science* 30:415-429.

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