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www.hydrol-earth-syst-sci-discuss.net/8/C327/2011/

Hydrology and Earth System Sciences Discussions

Interactive comment on "An application of GLEAM to estimating global evaporation" *by* D. G. Miralles et al.

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Dear authors

You have very well contributed to and made use of the constructive HESSD discussions regarding your manuscript. The open review discussions have changed the presentation and focus of the paper into its currently very informative and valuable piece of work, and there is no doubt that this manuscript should be published in HESS.

Apart from a few technical corrections (see below) there is one result that is inconsistent with my own knowledge of hydrological budgets of different continents. Your estimates of precipitation over Africa and the evaporative fraction are very different from textbook estimates from e.g. Peixoto and Oort (1992; Physics of Climate; AIP New

York; page 172 added as pdf), who report only 696 mm/yr of precipitation of which 84% is evaporated. It may be worth discussing this large discrepancy with your results.

Some small corrections:

* P.5: I don't exactly understand what you mean with "the number of common estimates has to be sufficient"

* P.12: "11% of global evaporation": surely you don't mean to include evaporation from the ocean in this number. So it is again "continental evaporation".

* Same page: a large part of the Amazon land mass happens to lie within the ITCZ, which explains the large amount of precip per unit land area. This is very different from the geometry of Africa

* in 4.2.3: replace "winter" by DJF (or "boreal winter") and "summer" by "JJA"

* Fig 1: explain that "soil moisture" is a remotely sensed top soil moisture (to distinguish it from the soil moisture profile), and be consistent in the use of "Interception" or "Interception Loss" (in the PT box)

Please also note the supplement to this comment:
http://www.hydrol-earth-syst-sci-discuss.net/8/C327/2011/hessd-8-C327-2011-supplement.pdf

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 1, 2011.