

***Interactive comment on “Comment on “Biotic pump of atmospheric moisture as driver of the hydrological cycle on land” by A. M. Makarieva and V. G. Gorshkov, Hydrol. Earth Syst. Sci., 11, 1013–1033, 2007” by A. G. C. A. Meesters et al.***

**Anonymous Referee #3**

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Comments on the manuscript entitled: ‘‘Commentary on ‘‘Biotic pump of atmospheric moisture as driver of the hydrological cycle on land’’ by Makarieva and Gorshkov (2007)’’; by A.G.C.A. Meesters<sup>1</sup>, A.J. Dolman<sup>1</sup>, and L.A. Bruijnzeel (hereafter denoted as MD&B)

This commentary is very suitable for publication in Hydrol. Earth Syst. Sci. It is written very well and the arguments used to show that the physical foundations of the biotic pump theory is inappropriate are very sound. Among other things, MD&B point out clearly the difference between component- and bulk-equilibrium, that molecular mixing

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is a very slow process, whereas non-molecular mixing dominates mostly in the troposphere, that land-atmosphere interaction processes are much more important than the biotic pumping mechanism (if the latter exists).

I strongly recommend publication of this commentary without revisions.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 401, 2009.

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