

***Interactive comment on “Modeling spatial–temporal dynamics of global wetlands: comprehensive evaluation of a new sub-grid TOPMODEL parameterization and uncertainties” by Z. Zhang et al.***

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I liked this paper: this is a thorough study involving LPJ that addresses a large number of very current issues about global wetland extents, their predictability from land surface models and the legitimacy of standard approximations of surface water transport (e.g. TOPMODEL) in a context such as this.

I share some of the concerns of the other reviewer and she/he made some legitimate points, but on the whole I believe that this is an entirely appropriate paper for publication

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in Biogeosciences. They have presented a well-argued case and address issues of critical current concern in wetland studies. I commend the authors for a very interesting contribution.

Best regards, Toby Marthews

Minor point p.17956: "TOPMODEL ... includes the assumption that lateral soil water transport as being driven by topography follows an exponential decline of saturated hydraulic conductivities within soil profiles in a basin (Sivapalan et al., 1987)". Please rephrase: you're implying that lateral flow driven by topography follows the same exponential decline as the vertical decrease in hydraulic conductivity.

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Interactive comment on Biogeosciences Discuss., 12, 17953, 2015.

**BGD**

12, C8912–C8913, 2016

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