Geoscientific
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Discussions

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Interactive comment on "RRAWFLOW: Rainfall-Response Aquifer and Watershed Flow Model (v1.11)" *by* A. J. Long

Anonymous Referee #1

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In the submitted manuscript Dr Long presents the functioning and application of the RRAWFLOW model. The model consists of two main routines, one of them to calculate effective precipitation and recharge by a soil moisture index method. The other is meant to calculate groundwater dynamics by a variety of Impulse-response functions (IRFs). The model is highly adaptive to the user's tasks (1) by allowing for turning off the recharge routine (or replacing it), (2) by the wide range of IRFs that are capable of reflecting a wide range of hydrological behavior (including interplay of diffuse and concentrated subsurface flow), and (3) by being able to provide solute transport simulations simply by replacing the hydrological time series with hydrochemical time series and adapting the IRFs.

The universal applicability as well as the detailed elaborations of the model functioning

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and its application (including two examples) make me believe that this manuscript is an adequate contribution for GMD. However some corrections, mainly to its structure, are necessary to make it better understandable. The author tends to provide a lot of detail on special cases of the model application within the model description some of which may be better located within the discussion. Also some more elaborations about the use of alternative performance measures (other than Nash Sutcliffe) and alternative calibration routines (other than PEST) would be desirable.

For more details please see the commented pdf of the manuscript.

Please also note the supplement to this comment:
http://www.geosci-model-dev-discuss.net/7/C1945/2014/gmdd-7-C1945-2014-supplement.pdf

Interactive comment on Geosci. Model Dev. Discuss., 7, 5919, 2014.