

## ***Interactive comment on “Baseflow simulation of SWAT model in an inland river basin in Tianshan Mountains, Northwest China” by Y. Luo et al.***

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A comment on section 2.2 (Page 10403, line 6 - 8):

Please note that the authors you mention (Nathan and McMahon (1990), Arnold and Allen (1999), Szilagyi et al. (2003), Szilagyi (2004), and Eckhardt (2005, 2008)) do not all use the same filter algorithm. Nathan and McMahon (1990) and Arnold and Allen (1999) - and you - use the algorithm of Lyne and Hollick (1979). As shown by Chapman (1991)\*, this algorithm is indeed hydrologically implausible. Therefore, Eckhardt (2005) developed another algorithm, which is based on the commonly accepted model of a linear storage, whose outflow is proportional to its content. This is also the model used by SWAT. Thus the algorithm of Lyne and Hollick (1979) is not the best choice.

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\*Chapman T. G. 1991: Comment on 'Evaluation of automated techniques for base flow and recession analyses' by R. J. Nathan and T. A. McMahon. Water Resources Research 27, 1783–1784.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 10397, 2011.

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