Interactive
Comment

Interactive comment on "Evaluating topographic wetness indices across central New York agricultural landscapes" *by* B. P. Buchanan et al.

B. P. Buchanan et al.

bb386@cornell.edu

Although artificial surfaces simulating various terrain conditions have been proposed to evaluate algorithms for some important regional topographic attributes (such as specific catchment area and topographic wetness index (TWI)) (e.g., Zhou and Liu 2002, Qin et al. 2013), the evaluation of these topographic attributes based on field observations is essential. The study presented in this paper impresses me with an exhaustive analysis on the different aspects (i.e., data source, resolution, slope algorithm, flowdirection algorithm, TWI form, and post-processing) effecting TWI results based on field observations.

As the designer of the MFD-md algorithm, an MFD algorithm adaptive to local terrain

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

conditions (Qin et al. 2007), I'm very curious about the performance of MFD-md in this experiment. It will be appreciated if the MFD-md algorithm could also be included in the evaluation in the following study.

RESPONSE: Our objective was to evaluate pre-packaged flow accumulation and slope algorithms as it is unlikely that the average water resource manager/engineer has the capacity or time to code their own versions of published algorithms. To our knowledge, the MFD-md algorithm is not available as a script which could be readily executed through in a commonly used GIS platform (ArcGIS, SAGA, etc.) or software package with spatial analysis capabilities (R, MATLAB). We have acknowledged the MFD-md algorithm (line 802) and have included your 2007 paper as a reference. We plan to make our soil moisture data publically available which would facilitate analysis by other researchers who wish to test particular algorithms in the future.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 14041, 2013.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper