REVIEWER # 4:

1) I miss any information about sampling design used to select sites with the fields and design used to select fields within the landscape. This would help to assess the representativeness of your study.

   RESPONSE: All field sites were chosen on the basis of their proximity to CU (to keep driving times logistically feasible), land use characteristics, similar mid-slope positions, sites access, and minimal influence from subsurface drainage. The specific sampling points were chosen to cover the widest range of TWI-values at each site while also allowing for a reasonable sampling time, i.e., we tried to cluster sampling points along one or two loops. Text to this effect has been added to the manuscript. Please refer to lines 169-172.

2) Did authors use any form of DEM pre-processing (e.g. sink filling)? This can substantially affect the performance of flow accumulation algorithms. According to my experience, this is especially important when working with LIDAR DEMs, which have usually many closed depressions (i.e. sinks).

   RESPONSE: DEMs were preprocessed to fill sinks using the depression filling algorithms of Planchon and Darboux (2001). Text to that effect has been added to the manuscript (lines 194-196).

3) I do not understand why authors did not evaluate also other flow accumulation algorithms available in SAGA GIS. Especially interesting would be the Mass flux method recently developed and advocated by Gruber & Peckham (2008) Land-surface parameters and objects in hydrology. In: Hengl & Reuter (eds.) Geomorphometry: concepts, software, applications. pp. 171–194. This method should be (theoretically) improvement over previous ones and its comparison with other algorithms will be very interesting.

   RESPONSE: We certainly agree that it would be interesting to compare the Mass-Flux method of Gruber and Peckham to the other flow accumulation approaches. We would have done so, however, in our version of SAGA (2.0.8) it explicitly states that this algorithm is “Under Development”.

4) Problem with Table 3

   RESPONSE: Corrected.

5) Several papers cited in the conclusion aren’t in the references (Ludwig and Mauser, 2000; Xiande et al., 2002; Gomez-Plaze et al., 2001; Kim and lee, 2004).

   RESPONSE: Citations were added to the reference list. Thank you for catching that.