

Interactive comment on “Technical Note: Erosion processes in black-marls at the millimetre scale, the input of an analogical model” by J. Bechet et al.

J. Bechet et al.

michel.jaboyedoff@unil.ch

Received and published: 8 July 2014

It is true that in general Laser scanning data needs still a lot of efforts to be fully exploited. We did a mistake by using the term “technical note”, it is more a short paper than and a preliminary note, we have to change that. The title will be also changed to something like: “Preliminary results about micro scale slope mass movement in black marls”, which will avoid the remarks. When the referee #3 indicates “below the standard”, it is true if we were developing methods, but in that case we use standard methods (See Abellan et al., 2009). What we want to underline is the possibility to track phenomenon that have a great impact on erosion and infiltration.

C2273

We think that natural rains are better than artificial one, and in addition Lausanne is also close to Alpine areas. We do not see what will be the contribution of the roughness in the understanding of processes; this is only a descriptor with no physical meaning. For the language, one of us is native English but it turns out that he was not able to reach the standards of scientific writing. We will improve of the language. Figure 1 will be modified as a sketch, but the fig. 2 will be kept and adapted. The figure 4 will be split and improved (see other answers).

The manual cleaning includes removing rain drops, outliers, and clipping the area of interest.

We will not discuss the Lidar techniques efficiency. The paper focuses on the observation about process we can get from such data. The photogrammetry is also possible, but it is not sure it works well with dark wet surfaces.

The creeping is demonstrated by the time series showing slow downslope movement, which can illustrate the soil creep (Carson and Kirkby, 1972).

Fig 3 is a downhill profile. The width is a half centimetre and the altitude values are provided by the DEM interpolated by IDW with 1.5 mm search radius. The parameters were obtained to best represent the observations.

We will reanalyse part of the data as requested by referee #3.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 2263, 2014.

C2274