

Interactive
Comment

Interactive comment on “Field investigation of preferential fissure flow paths with hydrochemical analysis of small-scale sprinkling experiments” by D. M. Krzeminska et al.

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This paper by Krzeminska and co-authors presents an interesting study of hydrological processes in an active landslide. Sprinkler experiments are used to identify and quantify preferential flow. Overall, the paper is well written. Tables and figures are clear, and the figures nicely illustrate the main findings of the paper.

Two reviewers have commented on this paper. While the first reviewer is more critical about the use of sprinkler experiments for landslide studies, the second reviewer acknowledges the insights that could be gained from such an experimental design. A number of shortcomings have been listed by reviewer 2, and it is recommended to

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address the following three issues more profoundly prior to publication.

First, the paper would benefit from a discussion on the potential and limitations of using small-scale sprinkling experiments to draw conclusions on hydrological processes within active landslides. This can include a short discussion on the selection of nozzles and their application rates.

Second, it would be interesting to have a broader interpretation of the hydrological processes that are occurring in the landslide. What is the representativity of the three hydrological regimes in the broader geographical region? Is there any link between the hydrological regime and changes in landslide susceptibility?

Third, reviewer2 suggests to clarify the conceptualization of the water balance, including the possibility of having deep percolation in the landslide-affected area.

The figures are of high quality. Some improvement is necessary for Figure 4 that would benefit from a full description of the parameters in the caption.

Interactive comment on Earth Surf. Dynam. Discuss., 1, 637, 2013.

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