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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Multi temporal LiDAR-DTMs as a tool for modelling a complex landslide: a case study in the Rotolon catchment (Eastern Italian Alps)" *by* G. Bossi et al.

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The authors present an important opportunity to use timely airborne LIDAR surveys before and after a large complex landslide. They quantified the event nicely with proper use of the multi-date DTMs and tested the DAN3D model. The article is presented correctly with a sound structure and interesting discussion. It is a very appropriate document for a discussion article in NHESS and I suggest only minor revisions.

Minor corrections, suggestions, and comments are found below.

P6456 L6-7: I assume this is elevation. . .

P6456 L10-11: "Rarely igneous rocks appear. . ." change to "Igneous rocks rarely appear, mostly rhyolite and sometimes breccia and tuff."

P6456 L12-14: The paragraph is hard to follow. I would suggest: "Thick alluvial deposits cover the upper part of the basin. Some of the deposits originate from rock falls detached from the dolomitic and calcareous formation and others from the underlying altered strata of clayey marls."

P6456 L19: ". . .some million m3. . ." if there is an estimate of million, "some" could be better defined. . .several?

P6456 L23: "located more downstream" change to "located further downstream"

P6457 L6-7: I suggest to reverse the sentence structure to "An automatic monitoring network (Frigerio et al., 2014) and an early-warning system (Bossi et al., 2015) have been implemented to mitigate the hazard and protect the exposed population."

P6457 L8: "At the same time" is not necessary change to "It was also crucial.."

P6457 L17: Comment- It would also be nice to have average point to point distance if available. As people use different DTM resolutions, point spacing can be more useful than pts m-2.

P6458: Comment- Were there any indications of features being cut from point filtering? Anything significant? If so, how was this managed?

P6458 L15: Comment- Are there permanent features (such as roads, buildings, bridges. . .) that could be used to estimate the DoD error? Depending on the amount of permanent features, it could also be used to correct the mean elevation error.

Tables and Figures:

Suggestion: It would be nice to see a long profile of volume change (with error), the cumulative volume, and the DAN3D results. I think it could visualize the data in Table 2 and Figure 3 better. The profile could be cross-referenced with Figure 2,4,and 5

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 6453, 2014.