

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC1
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Comment on nhess-2020-420

Anonymous Referee #1

Referee comment on "Main Ethiopian Rift landslides formed in contrasting geological settings and climatic conditions" by Karel Martínek et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2020-420-RC1>, 2021

This paper is focused on the study of landslides in the Main Ethiopian Rift. In particular, this study evaluates the influence of several predisposing factors (tectonics, lithology, geomorphology, and climate) on landslide formation. A very interesting statistical analysis has been performed in two test areas (Arba Minch and Mejo).

I found this paper well-written and clear. The manuscript is well organized and interesting.

I have only few question/suggestions listed below:

In section 2.2 There are several toponyms. It could be helpful to report them in a map.

Figure 1: please report from where the digital elevation model has been obtained and its resolution.

Why did you chosen to remove all the boundaries between lithologies? Sometimes landslide slip surfaces can occur along boundaries between different lithologies.

Figure 3 in not so easy to read. There are similar colours in among passes, ridges and channels. Please try a better way to shoe your results.

Figure 8 is a niche way to show the statistic results but considering the whole area it seems that all the considered factors have the same importance. Please clarify this point.

Please add the Gambelto and Genale rivers in figure 9.

In the discussion section, please, try to justify why precipitation is not an important factor for rockfall formation.