

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2
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Comment on nhess-2021-32

Anonymous Referee #2

Referee comment on "GNSS and RPAS integration techniques for studying landslide dynamics: Application to the areas of Victoria and Colinas Lojanas, (Loja, Ecuador)" by Belizario A. Zárate Torres et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-32-RC2>, 2021

This study describes the use of GNSS and RPAS for studying two landslides and their dynamics. It is a well written and structured manuscript. Even if the level of innovation is limited, it is a nice application of existing technologies which – in my opinion – is fine for a paper. However, there are a few things I recommend to adapt. First, the descriptions of the displacements, etc., with all the numbers that are provided both in the tables and text, are a bit lengthy. As a reader, I tend to go through these sections very quickly. However, I understand that a detailed description of the results is worth it, but maybe it could be a bit condensed and some redundancies could be checked. Second, while technical details and results are described in detail, I am missing any descriptions of the practical implications of this study. Providing more information on that would add much more value to the manuscript. For example, how do the landslides affect the infrastructure, in particular the buildings in the Victoria study site and the large road in the Colinas Lojanas study site, what can be expected in future in terms of displacement, are there intentions to implement measures to counteract the movement, etc. Currently, the discussion focuses mainly on technological aspects, but I think a separate section should focus on the practical aspects and impacts of the.

Please find a few detailed comments in the following:

Line 24-25: I doubt that the given year (1994) for the reference "Malet et al., 1994" is correct. Please check.

Line 79: How was the landslide area identified/delineated? I am wondering if it is possible to provide the area with up to a single m² accuracy and to delineate the boundary that

accurately?

Line 89: See the previous comment. I doubt that it is possible to give such an accurate number. When looking at the rather coarse delineation in Figure 3 it becomes obvious that this is hardly possible to exactly delineate the landslide (assuming that the area matches with the dashed black line shown there). I suggest using a rounded number.

Line 124: Is there any reason why the flights were made independently of the GNSS measurements and does this have any influence on the further analysis?

Figure 5: The green GNSS network dots are hardly visible. Better use another colour and increase the size.

Figure 6: See the previous comment. Also, the currently used tone of green for the GNSS network is different from Figure 5.

Figure 7 and 8: Also here the visibility of the symbols could be increased.

Line 346 ff: Please check for redundancies in this section in comparison to the previous sections. Some descriptions might be shortened in this section.

Line 437-438: Only here a very short note on the affected road is given. More details on the practical implications of the findings and potential risks for the infrastructure should be provided.