

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC1
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Comment on nhess-2022-176

Anonymous Referee #1

Referee comment on "Earthquake-induced landslides in Haiti: analysis of seismotectonic and possible climatic influences" by Hans-Balder Havenith et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2022-176-RC1>, 2022

Authors report the landslides caused by Aug. 14, 2021 earthquake (M_w 7.2) in Haiti and discuss the distributional and dimensional pattern with the landslides caused by Jan. 12, 2010 earthquake (M_w 7.2) in Haiti. Seismic, tectonic (briefly) and climatic (rainfall) perspectives are also discussed to explain the role of these factors in landslide occurrence. Though such types of base datasets are vital to understand the relative influence of earthquakes and atmospheric-climatic phenomena (hurricanes), there are following issues, which can further simplify the MS;

- The epicentres in both the earthquake events; Aug. 14, 2021 earthquake (M_w 7.2) and Jan. 12, 2010 earthquake (M_w 7.2) are related to Enriquillo-Plantain-Garden Fault (EPGF), which is crucial in the genesis of these earthquakes. Though authors have described the EPGF briefly in line no. 60-70, page no. 3, a thorough tectonic description of the EPGF can be presented as supplementary annexure.
- In Fig. 7, authors have presented climatic, particularly rainfall spatial variability. Fig. 7b-c showing October rainfall variability follow the hypothesis relating Oct. 2016 hurricane with the landslides generated in Oct. 2016 and then reactivated at larger scale in 14, 2021 earthquake (M_w 7.2). However, it would be better if the authors present rainfall spatial variability of each month to justify the relative dominance of Oct. month particularly in 2016.
- Authors have mentioned the landslide volume in absolute numbers in several statements throughout the MS. Please explain how you determined the volume of these landslides?

