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Comment on nhess-2022-50

Stefan Hergarten (Referee)

Referee comment on "Spatio-temporal analysis of the role of climate cycles on landslide activity: the case of Majorca (Spain)" by Juan Antonio Luque-Espinar et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2022-50-RC1>, 2022

This paper addresses the occurrence of various climate cycles in precipitation data on the island of Mallorca. As a major finding, the effect of these cycles shows a strong spatial variation. From this finding, conclusions about the importance of the climate cycles on landslide frequency are drawn.

First, I have to state that I am not an expert in climate analysis. While I found the part about the climate cycles interesting, the relation to the landslides does not make much sense to me. Landslide occurrence depends on topography as well as on precipitation. So it is not very surprising that a large amount of the documented landslides took place in a few very wet years. The five biggest landslides happened in regions where relief is -- to my knowledge -- very high. However, I did not find any serious analysis of the spatial distribution of the smaller landslides.

So what can we conclude if we find that one of the considered climate cycles has a quite strong effect on precipitation in the region with the highest number of large landslides, which is rather wet and steep anyway? I think we cannot draw any conclusions about the relation between landslides and climate going beyond what we already know. So the paper does not keep the promise made in the title.

Based on the vague relation to landslides, I cannot recommend publication of the present paper. I might have missed the key point, in which case I would have to apologize.

Best regards,
Stefan Hergarten