Dear Editor, dear Authors

The manuscript by Peruccacci et al. highlights how essential reliable landslide datasets are in the elaboration of landslide thresholds, to be used in the development of landslide early warning systems. The authors also emphasize how landslide inventories are important tools in the hazard characterization and assessment and, they provide a very useful and quite up-to-date overview of existing landslide inventories around the world.

Despite some few examples, most of the landslide inventories have been prepared after the year 2000 and were created with the purpose to show where historical landslide events have occurred and the damages they have caused. In the compilation of these inventories, the main concern was mainly the quantity of data rather than the quality, or information about triggering mechanisms. Most of these inventories were prepared as part of specific projects and created during the duration of the project, not always updated, with new entries or improved in their quality, in later years.

The authors highlight quite well the difficulties in the compilation of landslide inventories and the fact that this is a time-consuming task. And this is, in my opinion, the reason why the compilation of landslide inventories is often a forgotten task in the national framework for landslide risk assessment, with very limited resources and personnel assigned, well indicated by Reviewer 1.

We must also remember that in the past many previous authors have prepared landslide thresholds by using separated landslide dataset. It is with the most recent need of operational landslide early warning systems that we demand reliable landslide data to use in thresholds analyses.

The authors described well the existence of other databases in Italy, their limitations and the need for a "separate" dataset for rainfall-induced landslides. This may seem a good solution at the beginning, but in a long run it will create problems for those who manage landslide prevention at national level. Therefore I have some general comments for the authors that I would like to be adressed in the document.

- It is not clear if and how ITALICA communicate with the other existing inventories. If a new rainfall-induced landslide should be registered in ITALICA, will this be send automatically in the other databases and viceversa? How to deal with future updates? Who is responsible for these updates?
- Have you considered the possibility to improve one of the existing databases instead of making a new one? Adding for example a "quality level code" or create a separate module with specific parameters for those landslides that should be used for thresholds?
- Some operational early warning systems send alert messages also for landslide triggered by snow melt or only for high soil water saturation, what do you suggest based on your experience? do we need to create a separate database for each triggering?
- Many countries have one database, managed by one national institution, with limited resources and personal, and efforts are being made to improve the quality of the registered events, by assigning a quality level to each entry and to provide information

about triggering. Based on your experience and take into account the problems with future updates, what do you recommend? To create separate databases or improve the existing inventories?

- At the end you have created a database with both low and high quality data. Could you explain better if you could use the low quality data in your threshold analyses (maybe for threshold at regional scale requiring low accuracy)? or do you need always high quality data?

I also agree that the article is quite well structured and written, with adequate length and, with explanations and statements well illustrated.

It can be an important contribution and of interest to the landslide research community working in particular with landslide early warning systems. I would recommend this paper to be accepted for publication, with very minor edits (see supplied comments).

I have just few comments/edits on the text

- Page 2 line 46, "shallow landslides" maybe useful to add what kind of types are in this category
- Background: In the list of inventories, I have not seen this reference. *Herrera, G., Mateos, R.M., García-Davalillo, J.C. et al. Landslide databases in the Geological Surveys of Europe. Landslides* **15**, *359–379 (2018).* https://doi.org/10.1007/s10346-017-0902-z . Please check if they have mentioned other inventories that are not in your review.
- Another reference that is missing is the one that describe the inventory for Norway: Jaedicke, C., Lied, K., and Kronholm, K.: Integrated database for rapid mass movements in Norway, Nat. Hazards Earth Syst. Sci., 9, 469–479, https://doi.org/10.5194/nhess-9-469-2009, 2009.