

R2

R: Dear Editor and reviewer, thank you for your valuable comments and suggestions and the opportunity to respond to them.

The paper gives a good overview over the set up, data sources and content of the new Czech landslide database. The work is thorough, the presentation clear and the language appropriate. There are a few points that need to be discussed:

1. in the introduction and overview of landslide registers in the area, you name many studies and the number of slides that they encompass. In total, there are over 2000 slides mentioned. Why do you end up with only 667? You could add a table setting up all possible sources named in the introduction and then tell us if you use the data and if not, why

R: All sources of information are provided in the figure 2 (which is now revised upon the suggestions of the 2nd reviewer). We are afraid that providing the table will create unnecessary duplicity in the information content.

Regarding the number of records, we only refer to the records related to events which took place up to 1989 and were based on the documentary proxies, which are the main source for the database.

2. I recognise that you use no references to international classifications and definitions in your choices of parameters and drop lists. Most of these have definitions. I am quite sure, that there is an iso standard for spatial and temporal uncertainty. For the landslides we have the modified Varnes classification

Hungr, O., Leroueil, S., Picarelli, L., 2014. The Varnes classification of landslide types, an update. *Landslides* 11, 167–194. <https://doi.org/10.1007/s10346-013-0436-y>

Varnes, D.J., 1978. Slope movement types and processes [Tipos y procesos de movimiento de pendientes]. *Landslides Anal. Control. Transp. Res. board Spec. Rep.* 176 1, 11–33.

International compatibility is only achieved when international terms and definitions are used.

R: Actually, we used Hungr et al. (2014) classification to differentiate among various types of mass movements (Section 1, p. 2, l. 44-51). Unfortunately, more detailed classification cannot be used in terms of landslide types, volumes or velocities because documentary proxies mostly do not contain such specific information (or the information is not reliable enough). For the temporal dimension and for impacts we considered other classifications (Flageollet 1996, <https://www.sciencedirect.com/science/article/pii/0169555X9500069H> and Alimohammadlou et al. 2013 <https://www.sciencedirect.com/science/article/pii/S0341816212002500>). These also provide some insights, but again on a detail much higher than that enabled by documentary proxies.

Anyway, we newly made a proper credit to these classifications in our argumentation for structure of records and we also modified the classes for Extent (formerly Magnitude) as also suggested by 2nd reviewer.

You discuss the temporal distribution of the slides during the last centuries. There is no chance that there is other reason than missing sources and documentation. Even today, manual registration is not very reliable and only remote sensing can give you the right answer on all landslides

R: Thank you for this comment. There are more reasons for uneven distribution of events (or records) during the last centuries. We tried to summarize them in Discussion (Section 5.2), but we forgot to mention the problem of missing records due to absence or errors in manual registration. We added this to the section.

Please elaborate more on the decision of stopping data acquisition in 1989. I am sure there is a lot of valuable data available for the period after.

R: We refined the explanation for clarity. Our reply to this comment is, however, a compromise since the R1 suggested to delete the issue of stopping the data acquisition in 1989.

As explained in the beginning of the paper, we present the database for timespan ending in 1989. Although the database allows adding younger records (post-1989), the very recent period is also covered by other specialized geological databases (see also Section 2.1). These databases include records which are not based on documentary proxies, but on remote sensing and other techniques and could have been verified by field work. Therefore, such databases will always include more records. To the contrary, the primary aim of CHILDA is to provide a database for older events that are often known only from documentary proxies since their geomorphological markers could have been obscured by human alterations. Regarding the number of records, we only refer to the records included in the database up to 1989 and based on the documentary proxies, which are the main source for the database.

Are you sure, you have designed the database for future data in the form of polygons or even 3D data?

R: The database was not designed for the data types you mentioned. The PostGIS database we use is capable of working with polygons, however. As our historical records are of rather poor spatial accuracy, the points seem to be an appropriate representation.

We have had many of these discussions when we set up our database in 2004 and many are still not well answered. I wish you good luck and hope that you manage to find many more slides and that you will be able to share them with your european colleagues.

Thank you

Comments in PDF

Page 2

- "Do you consider avalanches as "other" or are they not included at all?"

R: Yes, we consider all possible kinds of slope movements, but we only explicitly mention landslides and rockfall as these two types can be identified from the historical records.

- "The question is if the database is setup to receive modern data from lidar scanings and other remote sensing techniques. A database should be able to grow in both directions, by newly revealed historic events and by adding recent events continually"

R: Our main focus was on old events. Currently, there is a large landslide database of the Czech Geological Survey which reliably covers all landslides which took places as of 1997

- please a North arrow to the map

According to international cartographic rules the north arrow is not a part of maps when there is a known area visualized with northward projection (see please the part of Europe in the upper right corner.). But we may add the north arrow if you think that will help readers to understand the map.

Page 5: "I am not sure if you should use avalanche for other processes as snow. Please use debris flow."

R: We agree, and we changed the term.

Table 1

- This is a crucial point. Why not use an international agreed classification with commonly accepted definitions for the processes?

R: Actually, we used Hungr et al. (2014) classification to differentiate among various types of mass movements (Section 1, p. 2, l. 44-51). Due to the nature of documentary data (mainly its inaccuracy in terms of description of geomorphological phenomena), we finally distinguish only three types of mass movements: landslides, rockfalls, others (that include a limited number of cases, where a combination of processes occurred, e.g. ).

- Position: We have made the same mistake... Do not limit yourself to points. Plan the database with points and polygons from the start.
- *Thank you for this suggestion. We are only able to locate some of the landslide records with rather poor accuracy. Therefore, the point seems like an appropriate representation of an unclear landslide position. Moreover, we know that older landslide records have rather poor spatial accuracy. Therefore, we plan, in the future, to conduct any spatial analyses to municipality level only.*
- Start: Here you assume that a "rapid" mass movement can last several days or that the event (just some minutes our hours) takes place between certain dates? If we know that the slide was in that part of the 17th century you would say start 1650 and end 1700?
- *The field does not indicate landslide velocity. It is to delimit possible uncertainties in old data sources. Sometimes, it was not possible to decide when exactly the event took place. Therefore Period / Date of Origin in CHILDA shows either exact data or an interval when landslide was active.*
- Causes: Here we also have international classifications...
- *We simplified the categories to only show landslide triggers, see please the app*
- Magnitude: "Here you mix volume with consequence. That is not good. Splitt that strictly. Volume can occur far away from any places where the landslide can interfere with infrastructure"
- *You are right. Our aim was to show the extent. Therefore, we change the Field name to "Extent" (see the database) and removed all mentions related to damages in all three categories which are available*

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