R1

Revision of the manuscript

"CHILDA − Czech Historical Landslide Database"

by Michal Bíl, Pavel Raška, Lukáš Dolák, Jan Kubeček.

General comments

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

The paper presents a new and unique complete database of historical landslide in Czech Republic. Despite in the past other authors compiled catalogues on historical landslides this work represents the fist effort in organize and systemize the existing information widespread in different catalogues and/or collected for small portions of the nation. Authors also collect new and original information not included in the previously prepared catalogues.

R: Thank you.

The abstract provides a concise, complete summary of the work done and the results obtained, even if I would remove the last sentence. I appreciate the short title that provides immediately the idea on the content of the manuscript. The size, quality and readability of figures are adequate even if I would appreciate a figure showing the amount of landslides collected using the works/catalogue (mainly Špůrek 1972 and Bill 2020) and the new/original data on landslides (not obtained in previous catalogues).

R: We have stated in the paper (Section 4.1, p. 226) the share of records that was included in the original Špůrek's database. Since the collection of the data in Špůrek ceased in 1970, this share will most probably diminish over time (with adding new records). Therefore, we rather wouldn't add further emphasis to this issue, if possible.

The authors give proper credit to previous and/or related work in the introduction and in the discussion section.

The overall structure of the paper is adequate, even if I suggest the to shorten the paragraph 2.1, because the information on geography are useful to understand the location of the OWC or CS or DV but the information on geological formations are not functional to the reader.

R: We agree to shorten this section in order to provide only the most relevant information to the reader.

Also paragraph 2.2.1 should be deleted or summarised in the introduction section.

R: The paragraph was slightly shortened, yet we understand this section as important to provide readers with credits of the most significant previous works dealing with historical landslides. This may also help readers to create a comparative perspective on historical landslide research in Czechia and in their countries.

The section Database structure could be improved also improving some definitions. The table shows the table structure, and not the structure of the records and the first row

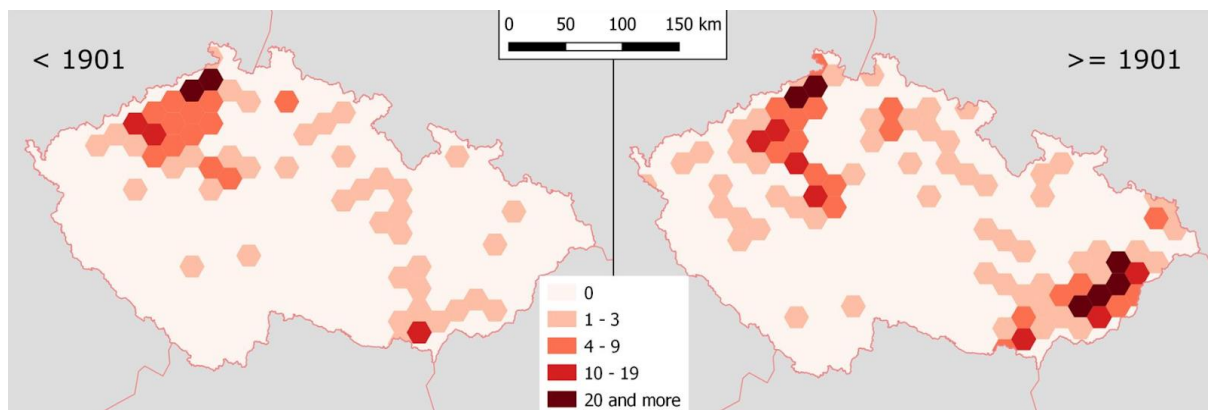
should be "Field Name", "Description", and "Field Type". The List is called Dictionary. Other issues are in the specific comments in the pdf file.

R: Thank you for these suggestions. We changed the field names accordingly.

The web map interface is well described and easy to navigate (I have tried it). I suggest to improve the English version (adding calendar to select the date in English language). I can suggest for the future to add base maps describing landslide susceptibly or population density.

R: Thank you for these suggestions. The English version has been improved (adding the EN calendar and also making some other improvements based on the R2 comments). Also thank you for raising the good point about adding further base maps in the future. We will definitely consider this and if technically feasible, we will implement them.

In the result section I appreciate if you could prepare a map (similar to the one of density) showing also landslide frequency since the database is more complete (1891).

R: We have carefully considered this option in the first drafts already and also prepared the maps for individual time periods (see below). However, the pre-1900 period did not show any significant differences in terms of landslide spatial frequencies (the small available number of events is consistently distributed in the two most landslide prone areas) and therefore we decided to show only the overall frequency map.

I appreciate a lot the limitations described in the discussion section, that are well written and argued, that provide the measure of the reliability of the dataset. Other comments are as comments in the pdf of the preprint. In my opinion the overall quality of the manuscript is good.

R: Thank you. The specific replies to the comments in PDF are shown below.

Please, remove this last sentence from the abstract

The sentence was removed

What do you mean with proxies?

R: We have rephrased the text as "various documentary proxies" to be consistent with conventional terminology.

3 - change displays to shows?

R: Is a matter of choice and we have been advised to use 'displays' by our native language editor.

Page 5 notice about resources

R: All sources of information are provided in the figure 2 (which is now revised upon the suggestions of the 2nd reviewer). The main sources were chronicles, official reports, archival evidence and secondary sources (protoscientific and regional works). We are afraid that providing the table will create unnecessary duplicity in the information content.

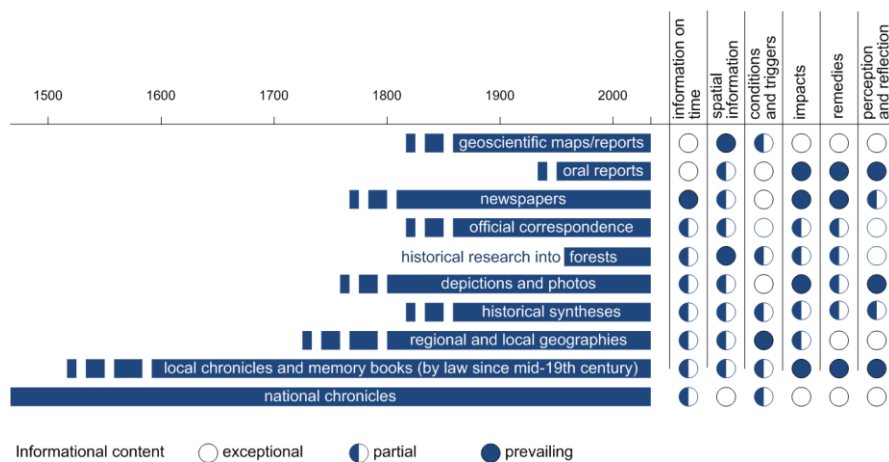
Page 5 notice about resources

R: All sources listed in section 2.2.2 are shown only as a credit to the summary of previous research (please see our reply above), but did not consist of the source for our historical database, even though they may include some events similar to CHILDA.

Page. 6 suggestion to delete the sentence

R: Since the second reviewer asked to extend this explanation (on ceasing the database in 1989), we finally decided on a compromise solution and kept the sentence with some minor modifications.

Changes in figure

R: The figure was revised according to the suggestions.

Comment to Table 1

- Do you mean rotational and translational slide?

R: We meant all types of landslides (as indicated in the terminological information in the Introduction). Unfortunately, documentary data do not allow for more detailed (reliable) classification of landslide types. This is only possible, where documented events can also be studied in situ (which can only be done for the youngest records that are not obscured by human terrain alterations). In such cases, detailed landslide type can be described in Note for each record.

- how do you manage the type data when the date is approximate (week, month year)? it is a field type data or a text?

R: Start - The earliest date when a landslide originated according to the records. If exact date cannot be determined, users are advised to insert the first day of a week, a month, a season, or a year. End stands for the latest start date of landsliding. Example: for a landslide recorded in 1870 without any further specification, Start would be 1. 1. 1870, while End will be 31. 12. 1870.

(see https://childa.cz/?lang=en&action=manual)

- here you mix to concept: magnitude (i.e., landslide area or volume) and damage. Please modify.

R: Thank you for this comment. We changed the Magnitude to Extent in order to emphasise the original meaning of this field. We also removed all mentions related to damage in the description of this field. Damages are therefore only mentioned in the next "Impact" field.

The description of all three categories changed slightly to: small: less than 100 m2, volume up to 100 m3; medium: up to 1 ha, volume up to 1000 m3; large: more than 1 ha, volumes larger than 1000 m3

- list of elements at risk hit by the landslide …

  R: Yes, this field shows all known damages related to infrastructure as well as casualties. We can add the suggested phrase to Description.

Page 9 … do you mean I can select records added by a particular user or added in a particular time period? or do you mean I can select landslides for start time?

R: Thank you for pointing to this ambiguity. The instructions were refined for sake of clarity. Now it reads: "Four filters are available: (i) movement type, (ii) extent, (iii) time period." We finally decided to delete the option to filter the data according to the user due to GDPR limitations. This option is only available for administrators of the database.

Page 10: How do you measure this accuracy? What kind of reference do authors use?

R: The accuracy classes are selected by users and approved by database authors based on available documentary proxies. The accuracy class is thus selected based on the accuracy of the description of the location of each event in the original source. This refers to Table 1, where accuracy is explained.

Page 11: Do you mean in the future research? from 1970 up to 1989?

R: We meant our "future research" of the older records and the phrasing was refined accordingly.

Page 13: Do you mean the most remote year with large number of landslides is the 1770?

R: Yes, the earliest recorded year was meant and the phrasing was refined accordingly: "The earliest important landslide year …"

Page 16: don't understand. Do you mean lithology?

R: Yes, the lithology was meant and the phrasing was refined accordingly: "...be understood as an apparent relation to lithology, …"

Comment, page 16: 2054   landslide   Nové Hrady   hundreds of
    meters   512   10.4.2021   precipitation, lithology … I navigate the database and
    There are some records also recording landslide after 1989. Could you set the calendar
    in English in the English version?

R: Yes. 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.

I suggest some works written made Paola Salvati (she compiled a very complete database
    on casualties and fatality due to landslide) and an interesting work made by Rossi et al
    2019 on social risk of landslides.

R: Thank you for the suggestions. We will incorporate these works in the final version of our
    paper.

I'm not a native English and so I don't feel qualified to evaluate English style and language.

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