Topical editor comments to manuscript essd-2020-149 by Gupta et al. (Version of 14th/15th January 2021)

Comments are referring to the manuscript version containing the tracked changes

We thank the editor for the positive assessment of our manuscript and for the constructive feedback. We have provided answers to your questions as listed below.

P5L14-P6L1: Thank you for explaining the location accuracy now. However, please put the method with which accuracy classes were assigned to the data. If the classes always translate directly to the method, like 100-500 m from jpg-digitised maps, you could simply have a table with the seven classes. If not, then it should be attached to the data somewhere.

Answer: We provide this information now in the modified database and added a column "location_accuracy_methods" in the file "sol_ksat.pnts_metadata_cl_pedo.csv". The modification was time-consuming, as we had to go through each publication again to check for the corresponding method. This also helped us to check our database again and we decided to remove nine Ksat values (for one data source, we were not sure whether the values were measured or predicted as no proper information was provided; to maintain the quality of the database, we removed these points).

P6L13: Number of outliers is still "about 700". Can you please be precise here?

Answer: Thank you for noticing this. We have now provided the exact number (716 points, see P6L13).

Tables 2a and 2b. Please make clear which data table you are referring to with list of column headers. For example you can't find the Ksat method in this table (because it belongs to a different one that's only on Zenodo) which is confusing. You could also add the Zenodo Readme to the paper as an appendix as well to be complete.

Answer: We now specified in the captions of Table 2a and 2b that we refer to Table 'sol_ksat.pnts_horizons' on Zenodo. In addition, we list in captions of Table 4 that the information on measurement method is provided in the file with meta data 'sol_ksat.pnts_metadata_ cl_pedo.csv'. We heavily revised the readme file but prefer to keep it on Zenodo.

P9 Table 4: Surely the Ksat methods that go beyond the classification by Rahmati et al. can be grouped somehow, by extending the classification with the appropriate overarching measurement principles and sort the additional methods accordingly? Please revise Table 4.

Answer: Thank you for your suggestion. We understood your question now. Yes, we have modified table 4 as you suggested.

P11L24: Please spell the methods correctly.

Answer: We have now removed the typos (P11L23).

ANOVA post-hoc test: please correct the spelling of Tukey's HSD in all occurrences in the manuscript.

Answer: Thank you for noticing this. We have now made the changes.

Remarks to the database on Zenodo:

Please revise the presentation of the database on Zenodo. It is still not very intuitive and it would be a shame if that hinders wide use of the data.

Data files: We noticed quite some redundancy in the data files, especially regarding site_key, coordinates, source_db. It's not really clear why the redundancy is there when you would have the common ID to link the tables. Some tables could even be combined.

Answer: We agree with you and combined the two files providing metadata and information on pedologic and climatic unit.

Readme:

Please make the readme as intuitive as possible. For example if I would want to find information about the various data files it is best if I find the list of the files on Zenodo at the beginning, explaining what I can expect to find in them.

Answer: Thank you for your advice. We rewrote the readme file (and the Zenodo file). We arranged the files in two packages, one related to this paper and one including information on additional soil properties (we will expand on this in the future). We describe the database and the files at the beginning of the readme file. We highlight which two files are used in the paper.

b. Please also make the headers of the individual tables more descriptive of the content, not only the "Description and units of the variables listed in the database" and then the file name that the user needs to look up below first.

Answer: We expanded the captions of the figure tables in the readme file.

c. Table 4: Remove the confidence degree from the database if it is not used anymore.

Answer: Yes, we removed it now.

d. References: Why are the references to the dataset not on the Zenodo References list?

Answer: We already provide the complete list of references in the readme and the manuscript file and don't think it is needed to list them on Zenodo as well.

e. 3.2 files "mentioned" in Zenodo? You should have a list with descriptions of all the files that you put on Zenodo as part of the data base. Also please move the complete list further up (see a)).

Answer: Thank you for this suggestion. The revised description includes all files and we moved the description further up.

f. 3.2: what are associated list of files?? Please rephrase to be more descriptive.

Answer: We rephrased the entire readme file.

There are at least two data files on Zenodo that are neither mentioned in the Readme nor the paper. Please remove them or explain what they contain and why they are there.

Answer: We have now explained the two files it in the readme file. We prefer not to remove them because some users already downloaded these datasets and started using them.

In general, please spend some more time making the Zenodo data publication as clear and understandable as possible. This will most likely influence how much the data base will be used later on and it would be a shame if it couldn't reach its potential because the presentation is confusing.

Answer: We changed the structure of the Zenodo page and the readme file to make clear which files and data were used in the paper.