

## ***Interactive comment on “Worldwide version-controlled database of glacier thickness observations” by Ethan Welty et al.***

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This paper provides thorough documentation of the GlaThiDa data set and the workflow behind its production. It is well written and organized, and provides links to a number of other key resources. The paper is a valuable contribution to the literature on glacier thickness measurements. I recommend publication after a few minor revisions, as described below.

- Please add a bit of discussion why glacier area being within 1 km of a thickness measurement is important. I understand that this is a good general measure of coverage, and perhaps that is all that is meant. But it seems to be no guarantee that interpolation will be more accurate. For example, there could be a small glacier within 1 km of a

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thickness measure on a different glacier, perhaps of greatly different size.

- Page 5, Lines 28/29: Replace the sentence between [ and ] with: "These unique keys can be stored in other tables, where they are called "foreign keys", to link the tables together."

- Page 5, Line 22: "string, number, or integer". I realize his terminology came from the the Frictionless Data Tabular Data Package specification, but "integer" is a subset of "number", so I think "number (float)" or "decimal number" would be better (more precise).

- The regex for the numbers seems to add friction. Shouldn't "number" refer to the standard ascii representation of floating point values, without reference to a language (regular expressions) that most scientists probably don't use? If someone accidentally deleted a character in the regex and didn't notice, it could mess up code that they're using on the data. Inclusion of the regex for number representation seems needlessly complex, and actually a bit dangerous.

- Also, the Ahmad post you cite describes regular expressions as if there is only one flavor. There are multiple versions of regular expressions, which is why I think including machine code in the JSON file that is particular to one flavor isn't a good idea. Or, this could be fixed by stating which flavor it is. See [https://en.wikipedia.org/wiki/Comparison\\_of\\_regular-expression\\_engines](https://en.wikipedia.org/wiki/Comparison_of_regular-expression_engines) But that would add even more needless complexity.

- Page 8, Line 3: The word "dynamically" makes it sound like an interactive application. Maybe "automatically" would be better.

- I recommend less metaphorical subheadings in section 2.2, as annotated in the manuscript, for readability by non-native readers of English.

- See other annotations in the manuscript.

Respectfully submitted, Bruce H. Raup

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Please also note the supplement to this comment:  
<https://essd.copernicus.org/preprints/essd-2020-87/essd-2020-87-RC2-supplement.pdf>

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Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-87>, 2020.