

Interactive comment on “Generating a global gridded tillage dataset” by Vera Porwollik et al.

Anonymous Referee #4

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I have read the manuscript with much interest to understand the importance of the work and if it really fills a gap in our knowledge. Reading the manuscript has not been much easy because it is too complex because of both the way of presenting the topic and the proposed methods. Soil tillage is an important research issue for its effects on soil conservation and carbon sequestration but the described approach at global scale is not much suitable to help in quantitative assessment of biophysical and biogeochemical impacts of land use and soil management as claimed by Authors. They have pointed out clearly the many factors and properties, which can determine the type of soil tillage. Among these are included soil type and depth, climate, crops, rainfed and irrigated crops, socio-economic factors determining the mechanization level of agriculture, etc. Consequently, it results extremely complex and difficult to model all factors and properties. Particularly, the Authors have used data much different that have required to be resampled and aggregated (Line 220) but no detail has been provided on

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how that has been made. Many rules have been used for mapping and downscaling but it is not much clear how the Authors have statistically validate them.

The manuscript should be organized better to allow readers to follow the development of the objectives in materials, methods, and results. The quality of writing should be checked and improved. There is an excessive use of first person: we The title should be made more effective and to reflect better the objectives. The abstract should summarize better the whole manuscript. The Introduction section should be made more fluent and readable. The novelty should be explained better and the objectives made clearer. Methods should be organized better to allow readers understanding how methods have been used. Too short subsections should be merged. Results and Discussion sections would require to be supported by improved Methods and data section.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2018-152>, 2018.

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