ESSDD

Interactive
comment

Interactive comment on "Generating a global gridded tillage dataset" *by* Vera Porwollik et al.

Anonymous Referee #6

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The paper titled "Generating a global gridded tillage dataset" by Vera Porwollik et al. reports on the generation of a global classification of tillage practices and the spatial mapping of crop specific tillage systems for the year 2005. This paper provides a new dataset that could potentially be useful in evaluating soil erosion and carbon balance in climate change studies. Furthermore, this paper provides a first global tillage dataset but also R script to estimate the dataset. This dataset is unique and can be applied to a future climate model in order to evaluate climate change and artificial warming effect in the present climate. Overall, I recommend that it should be published after a few minor revisions. My main concerns are as follows:

(1) This paper does not adhere to a single unit to describe area. The abstract and discussion use "Mkmˆ2" while all figures and tables use "ha". Readers cannot compare the different units directly and need to convert "ha" to "Mkmˆ2". Thus, I recommend that the authors use "kmˆ2" instead of "ha" in all the figures and tables. The main document

should be also modified accordingly.

(2) I tried to run R script on my PC; however it did not run because it required some data to run in my environment. Thus, I recommend that sample R script should be provided with sample input dataset and output dataset. Then reader can run R script with the data provided and verify their output against a sample output dataset that can be involved. Otherwise, the reader cannot check whether their results were correctly reproduced or not.

(3) In terms of figure 1, I suppose that each box in the figure should correspond to the R script. Thus, it is better to add information (ex. line number) that indicates which part of the R script corresponds to the boxes, and also to show the location in the R script, where different crop-specific tillage systems are evaluated. According to these, readers can easily understand the R script, which is also the authors' objective.

Please also note the supplement to this comment:
https://www.earth-syst-sci-data-discuss.net/essd-2018-152/essd-2018-152-RC7-supplement.pdf

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