

Major comments

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 "Mkm²" while all figures and tables use "ha". Readers cannot compare the different units directly and need to convert "ha" to "Mkm²". Thus, I recommend that the authors use "km²" 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.