

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

Anonymous Referee #3

Received and published: 10 January 2019

GENERAL COMMENTS:

Interesting paper, well written and structured, easy to follow, innovative dataset and relevant for many applications.

My main concern is that the authors have used a series of assumptions and simplified rules to produce their deterministic dataset. However, they haven't acknowledged the uncertainties derived from this process. How confident the user can be in the categories assigned to each cell?

I understand that a partial or full verification is not feasible due to the lack of verification data. As the authors mention, the figures/table in S11 can't be considered as a verification as there is a mismatch in the dates. However, the results do suggest that there can be large errors locally.

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Also, there is no mention of uncertainties in the input dataset used (point 2.2.). How reliable are the input datasets used and how is this going to influence the output dataset?

All this should be more explicitly acknowledged in your discussion, so that users are fully aware of the limitations of the dataset. This is my main criticism which I would like to see addressed.

However, other than that, I found the paper very interesting, pleasant to read and pertinent, and I only have a few additional minor corrections to suggest.

SPECIFIC COMMENTS:

Figure 2: In general, the figures/maps are nice and the choice of colour palette is adequate, except for figure 2, which uses the “rainbow” colour scheme. The ‘rainbow’ palette is the default one in many mapping software, and has been widely used in the past. However, it not only poses problem for colour-blind readers (approx. 10% of male population), but also gives misleading perceptions of thresholds in data (e.g. Light and Bartlein, 2004; Hawkins et al., 2015). There is growing support within the scientific community to abandon the use of rainbow colour scheme. It is of course ultimately a personal choice from the authors, but I would suggest you redo the map choosing a different colour scheme.

Reference:

Light, A. and Bartlein, P. J.: The end of the rainbow? Color schemes for improved data graphics, *Eos Trans. Am. Geophys. Union*, 85(40), 385–391, doi:10.1029/2004EO400002, 2004.

Hawkins, E., McNeall, D., Williams, J., Stephenson, D. and Carlson, D. (2015) Graphics: scrap rainbow colour scales. *Nature*, 519 (7543). p. 291. ISSN 0028-0836 doi: https://doi.org/10.1038/519291d

Paragraph page 18, line 497-502: Any hypothesis or explanation as to why your results are different from the findings of Erb et al. (2016)? You provide short interpretations to

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the other comparisons you have made. Please add something here too.

TECHNICAL CORRECTIONS:

Page 6, line 222: remove “have been”

Page 13, line 410: remove “of”

Page 18, line 508: remove “in” in “may persist low in”

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