

Earth Syst. Sci. Data Discuss., referee comment RC2
<https://doi.org/10.5194/essd-2022-87-RC2>, 2022
© Author(s) 2022. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on **essd-2022-87**

Anonymous Referee #2

Referee comment on "AWESOME: Archive for Water Erosion and Sediment Outflow MEasurements" by Jinshi Jian et al., Earth Syst. Sci. Data Discuss.,
<https://doi.org/10.5194/essd-2022-87-RC2>, 2022

This could be an interesting article. The authors restricted the authorship of such an article in few contributors ignoring the soil conservation community. For such an effort, you have to be inclusive and make a call for all scientist who have contributed in such data collection.

On the opposite, you preferred to have few data contributors and it is un clear how you go the data from many many scientists who have made such experiments.

In addition, you miss colleagues from Latin America, Australia, Africa and many European colleagues.

Finally, I found many speculations in the paper which should not be the case for such a high profile article.

Finally, the authors did not address at all the use of sediment data and nutrient losses.

For all those major reasons, I do not consider appropriate the publication of the article.

L79: I do not believe that those data have lead to 30,000 papers. For sure you mean something else or you try to speculate here.

L112: There are other forms of erosion: loss by harvest crops, gully, etc.

L139: Why only English and Chinese and not Spanish or French?

Table 2: why the maximum soil erosion rate is different than the annual one (which should be mean annual soil erosion rate)? It is better to have the same unit for making comparisons.

Figure 3: The results in 3a are really too high. With such mean values in croplands, you will not have harvest not for the next 60 years but only for the next 20 years. I do not think that such assumptions and results are realistic if you do not put them in the right context.! The same applies for lines 340-342. The rates are too far un realistic.

The worst stuff is that you try to extrapolate such results for the whole globe.

L331: It is impossible that the third more correlative parameter on soil erosion is pH. For any geomorphologist or soil conservationist this has no sense.

Another important aspect is the complete absence of management and soil erosion conservation practices.

Also in figure 4, it is impossible to correlate the soil erosion with Bulk density. The annual precipitation is not the most appropriate driver and should be replaced by erosivity indexes.

The relationships in figure 5 are very poor.

The high uncertainty of such data is discussed briefly in 414-415 . however , very briefly.

Therefore, with such low correlations , you cannot produce statistical equations as in Table 6.

Forecasting global soil erosion is not a right term.

If we follow the European example with the publication of Cerdan and your objective to develop something similar at global scale , I am really skeptical of such efforts. It is

known the high problematics of the Cerdan dataset where few plot data were extrapolated to the whole Europe. This had as a result to have Denmark with higher erosion rates than Spain or Italy.

Such data can be used to calibration and validation of data and not for developing spatial data with extrapolations.