

## ***Interactive comment on “Impact of different fertilizers on the carbonate weathering in a typical karst area, Southwest China: a field column experiment” by Chao Song et al.***

**G. Govers (Editor)**

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Dear authors,

I have now read the comments of both reviewers and have thoroughly read the manuscript myself. My conclusion is that, while the manuscript has been improved, it still needs considerable work. The main points are:

- The English is not up to standard: you really need to make sure the paper is being read/corrected by a native English speaker (or somebody with substantial experience in publishing in English-speaking journals) who is familiar with your domain. - While there is now a statistical analysis, it is not correct (in my opinion). You need a two way ANOVA

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as you have both a treatment (fertilizer) and a rock type (dolostone or limestone) effect. You cannot evaluate the treatment effect correctly if you do not account for the rock type effect and vice versa. This needs to be corrected. - The analysis and discussion of the results needs further improvement in presentation and in analysis. You did add some additional data but: - you mention that there are several studies that already studied the effect of fertilizers on carbonate weathering. Yet you do not quantitatively compare your results with those of these studies - in the comparison you make you use a weathering rate expressed in  $\text{g m}^{-2} \text{y}^{-2}$ . This raises several questions: - Grams of what?  $\text{CaCO}_3$  or  $\text{Ca}$ ? Or rock? - How do you convert the results of your tablet experiments to a rate per unit of surface area; as far as I can see this is nowhere explained in the text. - The presentation needs also other improvements: Table 3 is a case in point. You should provide all weathering reactions that a reader needs to understand the calculations you make (e.g. about the amount of  $\text{NH}_4$  released per mole of fertilizer). This needs to be done in consistent way: give the chemical formulation of every fertilizer, make sure that numbers are given to the remarks only.

- There are also substantial remarks in the report of reviewer 2 that you need to address. Please read them carefully and respond to all of them.

- You will find more remarks in the manuscript file that is attached. Please read them carefully and respond to all of them.

I invite you to resubmit your manuscript after thorough revision and I will send it out again to reviewers but only if I am convinced that the level of English and the organisation of the manuscript is as can be expected for an E-Surf manuscript. If this is not the case I will return the manuscript to you and you will be free to submit it elsewhere.

With very best wishes, Gerard Govers

Please also note the supplement to this comment:

<http://www.earth-surf-dynam-discuss.net/esurf-2016-50/esurf-2016-50-EC1->

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