

## ***Interactive comment on “Short-term grazing exclusion has no impact on soil properties and nutrients of degraded alpine grassland in Tibet, China” by X. Lu et al.***

**Anonymous Referee #2**

Received and published: 22 September 2015

Dear authors,

Generally, I think you did a good job in examining the effects of short-term grazing exclusion on soil properties and nutrients in the Tibetan Plateau. However, I encountered with many small linguistic errors in articles (“a”, “an” and “the”), prepositions (“in” and “of”) as well as some adverbs when going throughout it. I think, you should also pay attention to the agreement of the subject and the predicate. For example, in the first sentence in the “Introduction” section, the word “contribute” should be replaced by “contributes” because the subject “soil” is uncountable.

There are too many small errors of English to correct here and I think the best option

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would be to run this manuscript past a fluent/native speaker or to have it edited by a language editor for phrasing, grammar, tense, voice and punctuation once the technical issues detailed below have been dealt with before your resubmission.

Specific comments:

Introduction- The introduction is poor organized in its current version. First, it is too short to provide enough background information on the questions you aimed to answer. In addition, you have referenced some studies outside the Qinghai-Tibetan Plateau, which might be not well related with your research region. What I suggest is that first the references should be updated and limited within the Tibetan Plateau and other alpine biomes on the earth. Then you should better focus on the topic of your paper when revise the introduction and other sections with clear logical loops. For example, the sentences about sampling sites in the last paragraph, I think, can be moved to the M & M section. Then you can rewrite this part with clear hypotheses to test or questions to answer.

Page 2414 Line23: In academic writing, “unreasonable management” is preferable to the word “mismanagement”. Page 2414 Line 25: How soil loses its structure? Please explain it. Page 2415 Line 10: Pastoralists? I think you mean “herdsmen” here. Page 2415 Line 15: “retain” can be taken placed by “recover” or “sustain” here. Page 2416 Line 19: Wetting and drying cycles are not biological activities. Page 2417 Line 19: Add “to” before “prevent”.

M&M- I think the texts in this section should be revised for clarity. It should be clearly stated how many sites were surveyed in total in the nine counties you chose. Only nine sites, right? You just said that three quadrats at GE or FG plots were laid out and five soil samples were taken from each quadrat. But we do not know how many GE sites and FG sites have been surveyed in this work.

Page 2418 Line 11: total land surface of China. Page 2419 Line 09: Please give the reference of the data you cited in this sentence. Page 2419 Lines 20-21: Here you

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referenced Wu et al. (2014a) for the averaged stocking rate for your study region. I searched his group's articles and found that Wu et al. (2013) first reported average stocking rates across the Northern Tibetan Plateau in another work, which was published in Rangeland Ecology and Management. Please update this reference here. Wu, J. S., et al. (2013). "Grazing-Exclusion Effects on Aboveground Biomass and Water-Use Efficiency of Alpine Grasslands on the Northern Tibetan Plateau." Rangeland Ecology & Management 66(4): 454-461.

Section 2.4 Climate data- The spatial resolution for meteorological datasets,  $0.5^{\circ} \times 0.5^{\circ}$  (approximately 50 km<sup>2</sup> \* 50 km<sup>2</sup>), might be too coarse for analysis. In addition, were these gridded climate surfaces downloaded from SMDSSS or produced by yourselves using ANUSPLIN software? Please clarify in this section. If you produced them, I think, you had better to reset up the grid resolution in ANUSPLIN.

Results- It is ok.

Discussion-This section should be revised throughout. In the text, authors repeated their results too often. In addition to comparisons with previous investigations in other biomes, authors should provide more mechanical explanations for their findings, why short-term grazing exclusion on Tibetan Plateau did not significantly change soil properties and nutrients in the three zonal alpine grassland communities.

Conclusions-In the conclusion section, you should briefly summarize your scientific findings in this work to answer those questions you raised. If necessary, implications for practices sometimes can also be expressed in this section.

Table 2. You should clarify what G, D and G\*D stand for. Figure 3 should be reproduced with a higher DPI. How did you compare the differences among alpine meadows? The analysis procedure should be clarified in its legend.

I look forwards to your resubission.

Best regards,

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Interactive comment on Solid Earth Discuss., 7, 2413, 2015.

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