

Biogeosciences Discuss., referee comment RC2
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Comment on bg-2021-26

Anonymous Referee #2

Referee comment on "Spatial patterns of aboveground phytogenic Si stocks in a grass-dominated catchment – results from UAS-based high-resolution remote sensing" by Marc Wehrhan et al., Biogeosciences Discuss., <https://doi.org/10.5194/bg-2021-26-RC2>, 2021

This manuscript showed that aboveground Si stocks of *C. epigejos* and *P. australis* to be surprisingly high (maxima of Si stocks reach values up to 98 g Si m⁻²), i.e., comparable to or markedly exceeding reported values for the Si storage in aboveground vegetation of various terrestrial ecosystems. Further, spatial patterns of plant aboveground Si stocks were found to reflect spatial heterogeneities in soil properties. The present data are interesting and novel, and the experiments are well designed to reveal spatial patterns of aboveground phytogenic Si stocks in a grass dominated catchment. I believe the quality of the results obtained are excellent, however I would like to add some comments regarding the way in which the data is present.

Please find some more detailed comments below.

- Line 135, the authors should confirm that both "4.000 rpm" and "10.000 rpm" are corrected. Based on my experience, they should be "4000 rpm" and "10000 rpm" in this context.
- Line 144, "Soil samples were analysed on various physicochemical soil properties". The second "soil" should be deleted.
- Figure 3, the numbered signatures were confused. Why the small numbers (i.e., 01-07) were shown in Figure 3b while the big numbers (i.e., 08-16) present in Figure 3a?
- Table 2. Is it more suitable to show the data as box chart rather than table?
- Table 3. The unit of RMSE should be corrected for *C. epigejos*, *P. australis*, and *P. australis* (litter incl. brown shoot). Specifically, "-2" should be labeled as superscript.
- Figure 6. Why the R² is lost for *C. epigejos* in Figure 6b?
- Figure 9. Are there any statistical differences among West, East, and South for both *C. epigejos* and *P. australis*?