

Interactive comment on “Carbon isotope discrimination of C₃ vegetation in Central Asian Grassland as related to long-term and short-term precipitation patterns” by M. Wittmer et al.

Anonymous Referee #1

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The manuscript mainly reports the relationship between carbon isotope discrimination (13C) of C₃ vegetation and long-term and short-term precipitation, especially put forwards and tests that 13C was more influenced by the mean daily growing period precipitation in Central Asian Grassland, which is an interesting topic and fell into the scope of BGD. Considering the methods and assumptions are feasible, and the results and discussions are reasonable, so I suggest this manuscript could be accepted to publish on BGD after a better revision.

The manuscript has the following major problems: [1] Some descriptions in the manuscript are wrong or ambiguous, and should be described precisely and

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Interactive Discussion

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scientifically, for example: P904, line 25: most of the rain falling in the summer, the specific months are ? P905, line 19: varies from several hundred millimeters per year, the specific number is? P905, line 19: Is forest steppe right or should be meadow steppe? P907, line 27: six samples of six C3 species? P908, line 18: What's mean of the vegetation samples? P909, line 22: The numbers of constants should be presented in the scientific forms, for example, 11707.12×10^{-9} should be 1.11707×10^{-5} ? [2]The section of Material and methods should be further described concisely, some descriptions are redundant. [3]Data of 13 values for other C3 species and the biomass for the calculation of community-mean 13 determined in the study should be presented in the text or in the supplementary material. [4]Data of altitude from other published paper should be presented in Table 1. [5]In Fig 4, the P value for statistical significant level should be presented. [6]In Fig.3-7, the regression equation should be presented in the form of $y = ax + b$. [7]Results 3.1: What does the sentence there was no relationship between 13 and the C/N ratio account for in this text? [8]The important problem in this manuscript is the language description, some descriptions are redundant, so the overall presentation should be concise and precise, and the English writing must be further improved.

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