

## ***Interactive comment on “The burying and grazing effects of Plateau pika on alpine grassland are small: A pilot study in a semi-arid basin on the Qinghai-Tibetan Plateau” by Shuhua Yi et al.***

**Anonymous Referee #1**

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This article demonstrates the advantage of UAV for monitoring a keystone species “pika” on alpine grassland of Qinghai-Tibetan Plateau. The article is well organized and interesting results are demonstrated, thus this article is suitable for publish in Biogeosciences. However, particularly in data analyses part in UAV captured images, they seem like too subjective and too classical, in a point of view remote sensing data processing technique. Thus the reviewer feels to need additional data analyses for the improvement of interpretation of the behavior of “pika” on alpine grassland. Therefore, the reviewer’s recommendation is major revision for this article.

1. Need more objective analyses on UAV’s image data processing. The authors processed UAV’s fine-spatial resolution’s data as: identify green fraction areas, (based on

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green fraction) AGB, SOC, TN estimate by the empirical relation of laboratory analysis. To estimate green fraction areas are based on try & error threshold method by the data of R, G, B signals. The reviewer suggests to vegetation indices (VIs) estimation by bands data used formula, such as NDVI type. As the author’s know, most of VIs is consist of combination of red and near-infrared (NIR) signal, but GRVI (green – red)/(green + red) is also one of good indicator to monitor vegetated area’s status. For example, if GRVI is higher, target pixel has (maybe) multi-layer structure of grass. By assist of GRVI type VIs, maybe reduce the uncertainty for the conversion from green area fraction (this information only have “one” layer information, i.e., yes or no) to AGB. In addition, supervised and/or unsupervised classifications are also obtained another useful information about the statistical base (e.g., size distribution of patches in which same classified). Maybe two additional data analyses (GRVI type VIs estimation and apply classification for UAV’s images) indicate new-insight.

Another comments P4 L18 Fujifilm (China) → Fujifilm (Japan) P4 L27 experimental protocol was approved by Department of Qinghai Prataculture → If can cited document are available (as written in Chinese), please cite in reference.

4.1. Burying ... It is better to change order paragraph stared from P9L26- (Sun et al. (2018) ..) to easy to read.

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