



## Corrigendum to “carbon fluxes and environmental controls across different alpine grassland types on the Tibetan Plateau” [Agr. Forest Meteorol. 311 (2021) 108,694]

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### ABSTRACT

The magnitude and spatial patterns of carbon fluxes in alpine grasslands determine the regional terrestrial carbon balance of the Tibetan Plateau. However, the patterns and controlling factors of carbon fluxes on the plateau remain unclear, hampering the understanding of the carbon cycle of these vulnerable ecosystems. In this study, we compared the spatial variations of carbon fluxes of ten alpine ecosystems with diverse grassland types and explored their environmental controls across these different ecosystems. Our results show that the mean annual net ecosystem exchange (NEE) of carbon dioxide (CO<sub>2</sub>) varied from -284 to 31 g C m<sup>-2</sup> across sites. The alpine meadow ecosystems in the northeast and east of the plateau were strong CO<sub>2</sub> sinks (~200 g C m<sup>-2</sup> y<sup>-1</sup>), while the western alpine grasslands were weak CO<sub>2</sub> sinks or even sources. During the growing season, soil temperature generally played the dominant role in regulating the daily variations of the carbon fluxes for the alpine meadow ecosystems in the cold and humid northeastern areas, while soil moisture was the main controlling factor for the alpine grassland ecosystems in the dry western areas. Annual gross primary productivity (GPP), ecosystem respiration (*Re*) and the carbon sink capacity linearly increased with the increasing longitude but linearly decreased with elevation. The spatial pattern of annual NEE was primarily controlled by surface soil moisture, and higher soil water content (SWC) led to greater carbon sink capacity. SWC, vapor pressure deficit (VPD) also had favorable effects on the annual GPP and *Re*. The spatial variations of carbon fluxes resulted primarily from the longitudinal or altitudinal variations of the dominant environmental factors. This study provides guidance for the assessment of carbon fluxes on the Tibetan Plateau.

### Minor corrections

- 1: The above-mentioned article, in Highlights and Abstract: the (~200 g cm<sup>-2</sup> y<sup>-1</sup>) was published wrong, the correct is (~200 g cm<sup>-2</sup> y<sup>-1</sup>).
- 2: The Chinese words in the Fig. 1 should translate into English.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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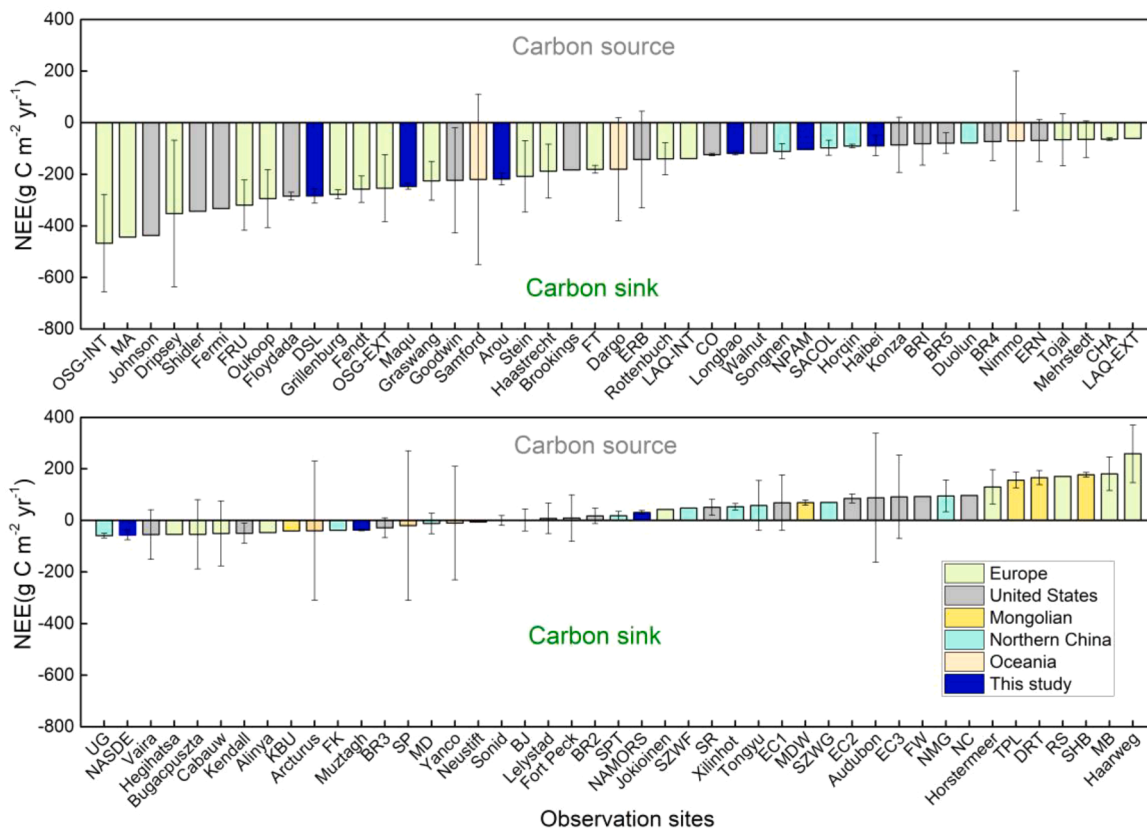


Fig. 1. Comparison of the mean ( $\pm$ SD) annual net ecosystem  $\text{CO}_2$  exchange (*NEE*) with other grassland ecosystems around the typical regions around the world. The negative and positive *NEE* values indicated net uptake and release of  $\text{CO}_2$ .