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# *Interactive comment on* "Impacts of management practices on soil organic carbon in degraded alpine meadows on the Tibetan Plateau" *by* X. F. Chang et al.

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Grassland SOC is sensitive to anthropogenic activities. Overgrazing has led to widespread grassland degradation and depletion of SOC on the Tibetan Plateau. The degraded grasslands are considered to have great potential for carbon sequestration when improved managements will be adopt. For this study, Century model was calibrated and validated to simulate the response of soil organic carbon stock to grazing intensity in alpine meadow on the Tibetan Plateau. The manuscript focused on the recovery speed of SOC stock in degraded grasslands, which is of great importance in both the understanding of ecosystem succession and formulation of grassland



management strategies, especially in the fragile alpine ecosystems on the Tibetan Plateau. Overgrazing had resulted in substantial carbon losses but three decades later the SOC had returned to some extent to the modeling equilibrium state. Our modeling work predicted that improve management will contribute to an annual carbon sink of 0.022-0.059 Pg C. The results indicated that restoration of degraded grassland on the Tibetan Plateau could play an important role in combating global climate change.

Please also note the supplement to this comment:
http://www.biogeosciences-discuss.net/11/C685/2014/bgd-11-C685-2014-supplement.pdf

Interactive comment on Biogeosciences Discuss., 11, 417, 2014.