

## ***Interactive comment on “No significant changes in topsoil carbon in the grasslands of northern China between the 1980s and 2000s” by Shangshi Liu et al.***

**Anonymous Referee #2**

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This study used two periods of field collected soil carbon data and analyzed the soil carbon change for grasslands in northern China. Also two advanced statistical algorithms were used in linking soil carbon with environmental factors. These two methods should be able to incorporate more environmental information than previous commonly used regression methods. So in terms of data and methods, this study represents a big improvement over previous related studies. Overall the manuscript was written and organized well. The method is appropriate and results support the conclusions. One thing the readers might feel confused is that temperature has increased significantly on the Tibetan Plateau over the past decades. As a result, ecosystem productivity and vegetation cover have both increased on the Tibetan Plateau. Considering the

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close relationship between aboveground and belowground processes, the increased aboveground productivity is supposed to cause enhanced soil carbon too. I suggest that authors should discuss this conflicting result and the causes behind. Based on the above performance, I recommend minor revision of this manuscript.

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