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Climate of the Past
Discussions

Interactive comment on "Climate-driven desertification triggered the end of the Ancient Silk Road" *by* Guanghui Dong et al.

Anonymous Referee #2

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In this paper, the authors tried to figure out the fundamental cause of the demise of the Ancient Silk Road trade was climate-triggered desertification. It is not easy to prove it. It seems that there is still room for improvement in this paper. I recommended that this paper can be accepted after a moderate revision. Some comments are as follow:

1) In this paper, two desertification events were founded during 800-600 BC and about 1450 AD, corresponding to sand layers in the XSW profile. But it is not clear that how far can desertification extend when the extreme drought events has been happened. It is more perfect if the author provide more profiles in this area to compare with XSW profile. 2) In XSW profile, the upper sand layer is only 10 cm thick. Only one OSL sample was determined (see Figure 3). How did the author get the top age (1350 a) of this sand layer? 3) There are some inconsistencies in this manuscript. For instance,

tree-ring based precipitation record and stream flow record showed that the drought events happened during 1460 to 1510, recovered after 1510 (Figure 2 f and g). The authors should provide more evidences to explain it.

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