

## ***Interactive comment on “The sharp decline of East Asian summer monsoon at mid-Holocene indicated by the lake-wetland transition in the Sanjiang Plain, northeastern China” by Z. Q. Zhang et al.***

**Z. Q. Zhang et al.**

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Dear Li,

Thank you for your kind and objective evaluation of our paper. Your the comments and suggestions are very constructive and helpful to improve the MS, and all of them will be adopted in revised version of our MS. In the following we provide a detailed point-to-point response to you comments.

Specific comments:

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1. The authors have linked the monsoon impacts to northeast China with the ocean–atmosphere interacting processes in low-latitudes. Actually, the monsoon processes in northern China are closely controlled by the movements of the sub-tropical high according to modern climatology. Please add some discussion about it.

Response: We agreed with you that the movements of the sub-tropical high may also have played an important role in driving the variation of the summer monsoon strength. Additional discussions will be added in revised MS.

2. I suggested the authors to make a small review regarding previous Holocene records in northeast China. Although previous research has been mentioned in this paper, they are not shown in the systematic manner. I hope they can add a small paragraph in the discussion part to have a comprehensive comparison.

Response: We will revised the MS as you suggested.

3. Grain-size and LOI are two major methods in this research. They are definitely reasonable. But it is a little bit weak in showing the whole perspective of the past environment. I hope the authors could go on this work and other explicit proxies could be acquired in the future.

Response: Good suggestions. In following days, we will perform more proxies' analysis to describe the whole perspective of the past environment.

4. Recent days, digital photos are very popular in Quaternary paper, especially in showing the lithology. I hope to see some lithology pictures, because they can provide some detailed information about the sedimentary processes to people who are not familiar with this region.

Response: We do have taken the digital photos in field, while the photo of the lowest part of the core can not be open with uncertain error. Anyhow, the photos for the upper part of the core should be added in the revised MS.

5. I am really interested in figure 9. For it shows the paleo-environment directly in the

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study area. Although I like it, I still strongly suggest the authors to delete it. Vegetation and environment are completely different from the two pictures from figure 9. I don't think the proxies used in this paper could provide such detailed information about paleo-vegetation and environment.

Response: Revise as suggested, we will delete the Fig. 9 in revising MS.

Thank you and best regards. Guoping Wang and co-authors.

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Interactive comment on Clim. Past Discuss., 10, 4595, 2014.