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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.

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Generally comments: The manuscript “The sharp decline of East Asian summer monsoon at mid-Holocene indicated by the lake-wetland transition in the Sanjiang Plain, northeastern China” presents a very precious Holocene record in the Sanjiang Plain, northeast China, focusing on the decline of the East Asian summer monsoon during the mid-Holocene. Generally, the paper was well written; the structure and key points were shown clearly in the finally edited version from CP. Holocene climatic and environmental records were widely recovered from northern China and the Qinghai-Tibet

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Interactive Discussion

Discussion Paper



Interactive
Comment

Plateau, showing decreasing summer monsoon intensity from the mid-Holocene. However, in mid-to-high latitude China, it is still unclear about the mid-Holocene monsoon impacts. Since the study area is both affected by the summer monsoon and the westerly winds. We cannot distinguish the long-term monsoon effects to the region. This study provides insights into the mid-Holocene monsoon process and further promotes the monsoon study in northeast China. Regional responses to monsoon impacts are really important to evaluate the monsoon mechanisms. Especially, the study area of northeast China lacks of high-resolution and well-dated monsoon records. This research also provides new evidence for long-term monsoon history. I really support the final publication of this paper in CP. After a comprehensive technical correction from CP, this paper looks good in English writing and organizing. But there are still some small faults. Please see specific comments below.

Specific comments: 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.

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.

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.

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

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Discussion Paper



Interactive
Comment

detailed information about the sedimentary processes to people who are not familiar with this region.

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

Yu Li

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

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