Interactive comment on "Extreme drought event in AD 1637–1643 in North China: New insight from pollen records in Kaifeng City" *by* Dexin Liu et al.

C. Chunjie

zzfccj@163.com

In this paper, the authors reported a new insight from pollen records to identify the extreme drought event in AD 1637–1643 in North China. This is very interesting research since the studies during the past few decades were mainly based on lacustrine sediments, however, the relationship between alluvial pollen and drought events have not been explored yet. The results provide a wide view to identify the "Chong Zhen drought" event during the Late Ming Dynasty (AD 1637–1643) in a region with alluvial sediment, and I therefore suggest the acceptance of this paper for publication in "Climate of the Past" after minor revisions.Wavelet analysis is an effective tool to analyze the periodical change of time series data. In this paper, the wavelet analysis of sediment grain size in the depth scale was carried out. In my opinion, the conclusion obtained from wavelet analysis in the time scale instead of in the depth scale

is more reliable, also can clarify visually the periodic change of drought-flood evolution. Furthermore, I would suggest that the author add the wavelet variance analysis to determine accurately the periodicities and their intensity.