

Interactive comment on “Holocene climatic evolution at the Chinese Loess Plateau: testing sensitivity to the global warming-cooling events” by Taslima Anwar et al.

Anonymous Referee #2

Received and published: 8 March 2017

general comments

In this paper the authors intend to reveal the Holocene millennia climatic change in the Chinese Loess Plateau by linking the pedogenic alterations and the variations in temperature and precipitation in the involved regions. Although this is an interesting subject in paleoclimate research, the manuscript is not well constructed to demonstrate the relationship between the geophysical proxies and the sequence of climate change. What the authors ignored are the complex in interpretation of the pedogenic-related proxies, and the difficulty in correlation among different sections in the region and different regions in the world. Thus the conclusions of the manuscript should be treated with caution.

C1

specific comments

1. The ages of the reported sections are assigned based on previous OSL dating data by correlating pedogenic units among different sections, and, based on these assigned ages the different sections as well as their proxies are correlated. I think this is inappropriate, and is hard to avoid circular reasoning. It is noted that the boundaries of pedogenic units are not necessary equaled to chronological labels, especially in millennial to centennial timescales. Thus the correlation between different sections is not adequate.
2. Although the soil formation is certainly related climate change, a simple correlation between petromagnetic parameters and climate indexes (e.g., temperature, precipitation) is seen to be oversimplified.
3. In the last two figures we did not find a good correlation between the reported sections with other sequences in the regions as well as in the world. Thus it is hard to come to the conclusions that the manuscript has achieved.

technical corrections

1. The labels of y-axis in the last two figures are not clear and sometimes lacking.
2. In the abstract, the sentence “the Mu Us Desert of the Chinese Loess Plateau” is uncorrect, as we know that the Loess Plateau has never included the Mu Us Desert.

Interactive comment on Clim. Past Discuss., doi:10.5194/cp-2017-10, 2017.

C2