

Interactive comment on “How could phenological records from the Chinese poems of the Tang and Song Dynasties (618–1260 AD) be reliable evidence of past climate changes?” by Yachen Liu et al.

Yachen Liu et al.

liuyc@xawl.edu.cn

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Dear editors and reviewers, Thank you very much for taking your time to review this manuscript. We are grateful for the detailed suggestions, and we believe that these suggestions will considerably improve our paper. Please find our point-by-point responses below.

Comment 1: Chu (1973) laid the foundation for climate reconstructions based on documents. In his study, 17 pieces of evidence were from poems and 11 of them were

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phenological information of the Tang and Song Dynasties. In section 2, when the certainties and uncertainties of phenological information from poems are discussed, Chu's work would be a classic example. Specifically, which phenological information he extracted from poems was proved exact, and which was not, why?

Response 1: Thank you for the suggestion. It's a great idea to introduce examples from world-renowned research to people who are not familiar with the field. We have added a few sentences (Line 92-103 of the revised manuscript, similarly hereinafter) to explain the certainties and uncertainties of phenological information from poems by introducing Chu's work in section 2.

Comment 2: In section 3.2, an important step should be added, which was the distinction between cultivated plant and wild plant. For example, some poems of late Tang dynasty referred that there were oranges planted in Xi'an, however, some researchers point out that these oranges were transplanted from southern China and couldn't overwinter normally in Guanzhong Plain.

Response 2: We are grateful for the suggestion. We have added a new subsection in 3.2.1 named "Filtering the records according to the human influence" (Line 268-274). And we have also redrawn Figure 1.

Comment 3: Quan-Song-Shi (the Poetry of the Song Dynasty) is the main literature resource to reconstruct climate change during 960-1260 AD. However, in most period of 1127-1260 AD (Southern Song), North China was dominated by the Jin dynasty, so most of poems written by the poets living in North China during 1127-1260 AD are not contained in the Quan-Song-Shi. Are there some more literature sources?

Response 3: Thanks for the comment. We agree with the point of view. Although some poets or scholars were active in the borderland China and ethnic minorities such as Yuan Haowen, most of the phenological records from poems of the Southern Song Dynasty we have at hand are located in southern China, especially around the city Hangzhou (the capital city of the Southern Song Dynasty). We will try to extract more

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records from the Quan-Jin-shi (the poetry of the Jin Dynasty) to solve this problem in future work. We have added a few sentences to discuss this in Line 395-399.

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