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Climate of the Past Discussions

Interactive comment on "Climate records in ancient Chinese diaries and their application in historical climate reconstruction – A case study of *Yunshan Diary*" *by* Siying Chen et al.

Anonymous Referee #2

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The paper focused on how to apply historical documents properly in the reconstruction of climate. The author selected Yunshan Diary, including species distribution records, phenological records, evaluated the advantage for climate reconstruction, meanwhile, they noted the shortcomings of personal diaries, e.g., limitations of strong subjectivity, short recording periods, missing records, and location inconsistencies. Those analyses are valuable for the other paleo-scholars when they use the historical archives to study the climate change. After that, they reconstructed the severe cold winter of 1308–1309 and drought of 1309. The result is meaningful for understanding the transition from the Medieval Warm Period to the Little Ice Age in the Yangtze River Basin in China. Actually, the dairy was written in 1290-1320, which is important period when climate was

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Discussion paper

changing from warm to cold. Thus, finding more valuable related climate information from Yunshan diary is expected in the future. Before the acceptance for publication, minor revisions should be done: Major comments: 1. L 63, more descriptions on Guo Bi are necessary to added in this part, for example, his official position, life track etc, which will convince the readers in the reconstructions and records. 2. L93 Four types of related information "weather records, meteorological disaster records, phenological records, and records relating to the characteristics of regional climate", please provide some example to tell readers what they were. And your full extraction method (including recognizing the missing or wrong records) needs to be given. 3. L230-L235: Figure2 about precipitation and total number of rain days, in order to understanding the characteristics of precipitation in modern period, I would suggest to plot February, July and December information, and combine upper and bottom figure together, which is helpful to see the relationship between rain days and precipitation clearly. And how about other years, is there any month with plenty of rain from 1290 to 1320? Could you provide a case? 4. L363, "1308 and 1309 may have been years that marked climate change". This infer is arbitrary decision, it needs more evidences to support.

Minor comments: (1) L73, The annual average precipitation here is 1,000–1,400 mm, the annual average temperature is 15–16 °C, and the average temperature in January 1.5–4 °C. Please add the reference period, it is important to judge the cold/warm or dry/wet condition comparing a certain period (2) L75 All the dates in this article are Gregorian dates. Here please show an example to readers how the date was converted. (3)In Section 4.1.1, the authors mentioned “the modern average” precipitation for several times. To be specific, which time period does it refer to? (4) In Table 2, there is a column named “Other”. What is the meaning? Does it represent some specific types of weather? (5)Table 3, the number of sample size and stated period are need to be provided.

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