

Interactive comment on "Multi-proxy reconstructions of May–September precipitation field in China over the past 500 years"

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- In blue: referees' comments
- In black: our answers
- In black italic: what we will propose to add in the text

General comments:

The two reviewers are both satisfied with the revised version of your manuscript. However, there is still some clarification needed regarding the data availability. Please pay close attention to the following requirements when revising the manuscript:

Major comments:

Item 1: 1) Expand the data availability section to explain that: Citations to the persistent identifiers for the original data used in this study are listed in Table S1.

Response: Following the team's suggestion, we have expanded the data availability section to explain the identifiers, as following 'A link (URL) to the original record is included in Table S1, which corresponds to the location where the original record is stored in a public repository.'

Item 2: 2) Submit the primary outcome of the data analyses to a public repository and include the Data Citation. This includes (a) the detrended and infilled version of all tree-ring

chronologies, (b) the resulting precipitation time series reconstruction with and without 9-year smoothing, (c) the IMFs of the reconstruction time series at multiple temporal scales (Figs 5 and S1), and (d) the reconstructed precipitation value for each grid point at a reasonable time resolution, possibly decadal.

Response: Following the team's suggestion, we have submitted the metadata with the data citation in Table S1 and will submit the outcome of the data analyses to the NOAA website. Specifically, (a) We will submit the detrended and infilled version of the 362 tree-ring chronologies obtained to the NOAA website. The other 10 tree-ring width chronologies have already been detrended, and can be obtained from the website of the Chinese Meteorological Data Service Center (CMDC). The script of the Regularized Expectation Maximization (RegEM) method is available at <http://climate-dynamics.org/software/#regem> and can be easily used to extend these chronologies to AD 2000. (b) We will submit the resulting precipitation time series of reconstruction and climate model simulations with and without 9-year smoothing in Fig.7 to the NOAA website. (c) We will submit the IMFs of the reconstruction time series at multiple temporal scales (Figs 5 and S1) to the NOAA website. (d) The gridded precipitation data will be submitted at an annual time resolution in the NOAA website to allow analyzing extreme events, and it can be filtered to any time resolution according to the motivation, e.g. decadal time scale.

Item 3: 3) Submit Table S1 as part of the data archive for this study

Response: Following the team's suggestion, we will submit Table S1 as part of the data archive for this study.

Item 4: 4) Double check that all of the "original data URLs" are correct. Note: <https://www.ncdc.noaa.gov/paleo/study/471012693> is returns an error.

Response: Following the team's suggestion, we have double checked all of the "original data URLs". The URL (<https://www.ncdc.noaa.gov/paleo/study/471012693>) is corrected with <https://www.ncdc.noaa.gov/paleo/study/12693>.

Item 5: 5) All of the URL links to the CMDC seem to land on the sample page. I suspect that it's because I'm not a registered user. Please add an explanation to the data availability section to alert users that registration is required or whatever is needed to lower the barrier to finding the data.

Response: Yes, you are right. The registration is necessary to these records. Follow the team's suggestion, we have added an explanation in data availability section, as following '*The registration is required to obtain these records from CMDC.*'

Item 6: Finally, the language needs some improvement to make it more readable. I suggest having a native English speaker looking over the manuscript.

Response: We will do our best to improve the language.