

## ***Interactive comment on “April–August temperatures in the Czech Lands, 1499–2012, reconstructed from grape-harvest dates” by M. Možný et al.***

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We would like to thank Anonymous Referee 2 for very valuable comments contributing to the improvement of the paper.

Možný and colleagues present a new, continuous record of Grape Harvest Dates for the Czech lands back to 1499. The paper is well structured and merits publication in a peerreviewed journal. The authors should make sure that the data will be available with publications in a archive (e.g. NCDC/NOOA). This accompanying publication highlights strengths and weaknesses in usefull way. RE: Thanks for the positive evaluation of our paper. Data will be made available in the archive (NCDC/NOOA).

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Considering the focus on data compilation and reconstruction methods, more attention should be paid to this part of the study. See remarks in the PDF attached. There is need for better documentation of the newly recovered archival sources, compilation methods, data corrections for Julian calendars etc. RE: Accepted, added to the new version (data type and their contemporaneity; correction for Julian calendar in Area and data) as follows: “The new Czech GHD series is composed from grape harvest dates recorded in contemporary manuscripts (1499–1844) and those observed in institutional phenological network (1845–2012). Documentary data earlier than AD 1584 have been re-dated to the Gregorian calendar by adding 10 days to the previous Julian calendar.”

Defining annual values as the median dates in years with more than one year seems a reasonable choice. However, the composition of the time series would be much more reliable with deeper analyses presented concerning the spatial variability of GHD in one year. See PDF for more comments. RE: Spatial differences between the wine districts is very small (documented in the new version using standard growing degree-days, Huglin Index and average growing season temperature index) as follows: “The entire Czech wine region falls in a Region I according to standard growing degree-days (GDD), representing climate type Cool by Huglin Index (HI) and cool climate maturity by an average growing season temperature index (GST).” Moreover, another sentence was added to explain the spatial variability of GHDs: “While until 1844 the spatial differences in GHD among individual places achieved in average 1–3 days, further increase in the number of sites in phenological network (cf. Fig. 2b) led to differences of 1–8 days.”

The discussion of socio-cultural events (eg war periods) in relation to the moving correlations could be nicely illustrated in Fig. 9. These incidents may partially explain the variability (or drop) in moving correlations. Consider adding the events on the figure. RE: Accepted, the new version of Fig. 9 was presented with identification of four socio-cultural events – see also additional explanations to the figure caption: “Vertical columns A–D identify periods in which GHD’s might have been influenced by social

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and political processes discussed in the text: A – a series of bad grape yields, B – the Thirty Years' War, C – the War of the Austrian Succession and the Seven Years' War, D – a series of bad grape yields.”

All comments included in the file attached were included into revised manuscript.

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