

Interactive comment on “The longest homogeneous series of grape harvest dates, Beaune 1354–2018, and its significance for the understanding of past and present climate” by Thomas Labbé et al.

Anonymous Referee #2

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The manuscript ‘The longest homogeneous series of grape harvest dates, Beaune 1354–2018, and its significance for the understanding of past and present climate’ by Thomas Labbé and co-authors is well-written, logically structured and highly relevant, as it provides a critically thorough and greatly advanced perspective on the paleoclimatic potential and limitations of grape harvest dates (GHD).

The new GHD record from Beaune is a true improvement of previous GHD-based warm-season reconstructions from both, France and Switzerland, because of the data used and methods applied.

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It is particularly interesting that the new reconstruction does not corroborate the putative heatwave in 1540 CE, which is broadly in line with European-wide tree-ring evidence (Büntgen et al. 2015); an aspect that should be discussed in a more balanced and nuanced way than currently done.

Before seeing the paper published (to which I am very much looking forward), I kindly ask the authors to consider the spatially explicit European summer temperature reconstruction by Luterbacher et al. (2016) for comparison (or provide reasonable arguments for why not using this state-of-the-art high-res product). Moreover, the article would benefit from an assessment of the persistence (i.e. autocorrelation structure) in Beaune's new GHD-based April–July temperature reconstruction compared to the possibly inflated long-term persistence in tree ring width records – a research frontier at least some of the authors are very familiar with (e.g. Franke et al. 2013).

In summary, this study will make a significant contribution to the field of high-resolution paleoclimatology, and I applaud the authors for what they have accomplished in terms of data, methods and interpretation.

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