Introduction:

The authors present a well written and informative introduction showing that they know the subject very well.

Methods:

P4L22 and many other places: May be explained variance should be substituted by variance accounted for, as regression analysis does not “explain” anything.

P5L11: I suggest that the formulas for RE and CE should be written also in this article, although there is a reference in the text.

Arena and data:

P2L32: The annual mean temperatures and precipitation in the wine growing district are given, but why not the mean temperature for the period in question: April-August. (It is also necessary to give the period for the temperatures).

P3L24: What is meant with target climatology should have been explained. I think this article will be read by researcher crossing professional borders, in particular historians, so it might be important to explain nomenclature for people outside our profession.

Results:

P5L21: .. earlier harvest dates .. Earlier that what ?

P6L4-5: Durbin-Watson test (DW). The abbreviation should be defined. Used in line 9.

P6L5-9: It seems strange that autocorrelation is no problem within each of the sub period, whereas it is a problem within the whole period. How can this be? This should be explained.

P6L14: Insignificant – in what context. I think the last sentence in this passage should be deleted.

P6L18-19: LR …confirm the general assumption …. This is not only an assumption: it follows from the theory of LR (as also the authors present). Reformulation is needed.

P6L32-33 - P7L1: ..to capture negative extremes, dry and hot conditions … The whole sentence is not clear to this reviewer. Please reformulate.

P7L15: .. increasing trend.. ? Probably the authors mean positive trend. If they really mean increasing trend, this has to be better explained.

P8L10-14: A shift to lower correlation when the PHENODATA was introduced. Why? Is the quality of the PHENODATA lower than for the preceding data. Should be discussed in Ch 5.

Discussion:

P9L2: Should be Fig.9 (not Fig. 6).

P9L8-9: .. Fail to reflect the critical period …. starting 1580… But in Fig. 8 we see low temperatures in this period, so why has the reconstruction failed for this period. Do you think that the temperatures should have been still lower than those reconstructed?

P10L6: I cannot see any inconsistency around year 1600 from Fig. 9, but the other years listed seems OK (again not Fig. 6).