Interactive comment on “A regional climate palaeosimulation for Europe in the period 1501–1990 – Part II: Comparison with gridded reconstructions” by J. J. Gómez-Navarro et al.

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We thank Dr. B. P. Onac for the interests he has put on our manuscript. Clearly there are many other reconstructions available for the period and area covered in our study, from tree rings to lake sediments, documentary evidence or even early instrumental series, among many others. However, all these different sources of information are based in different variables, are sensible to different temporal scales and generally contain different levels of certainty. Hence, comparisons with climate simulations, although in principle feasible, has to be carried out carefully according to the nature of each reconstruction. We believe it is not feasible to take all reconstructions available nowadays and include them into this study, because it would be a potentially endless task impossible to fit into a research paper fulfilling the stands of the journal. For this reason, we decided to limit ourselves, and compare solely with a dataset that is in principle equivalent to the gridded outputs of the mode, i.e. gridded climate reconstructions. In the gridding process, these reconstructions implicitly contain various sources of certainty, and the information is in principle homogeneous, which strongly facilitates the comparison with simulations.

Although neglecting local reconstructions in favour of gridded products sounds like a rude decision that leaves out many valuable sources of information, the comparison between simulations and reconstructions is already a very challenging topic, as pointed out by Dr. Brohan in his comment below, and hence we believe that this simplification is fully justified by the nature of the task we aim in this manuscript. We agree that this more comprehensive comparison exercise is a very interesting and useful exercise, but we think that it should be relegated to subsequent studies.

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