

Interactive comment on “Internal and external variability in regional simulations of the Iberian Peninsula climate over the last millennium” by J. J. Gómez-Navarro et al.

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Received and published: 18 October 2011

The authors appreciate the general positive view of the the paper.

The first major concern of the reviewer will be taken into account in the revised version, in particular a deeper discussion on the precedents of this study. However, we believe that most important findings in the present paper are neither built on nor are a continuation of the former paper. The former paper was devoted to assess the added value of a regional simulation in a paleoclimate context. To do so, we compared the model results with observations and climate reconstructions. However, the present paper focuses on model-model comparisons, and the results are not related to the skill of the

C1618

model itself, which was the main point in the first paper. Anyway, the present paper uses the same simulation as the former , plus a new one over the same period, so we will emphasise this point in the revised version.

Regarding the comment about methodology, perhaps we did not make our point clear enough. We will check the description of the methodology trying to take the reviewer's point into account. However, we think that even if the running mean introduces an artificial autocorrelation, it is safely taken into account in the methodology used to detect significance. This is because the bootstrap method employed to calculate confidence intervals preserves the autocorrelation of the original series. On the other hand, we have indeed tried Fourier filters with different cut-offs, and we found essentially the same results. The amount of artificial autocorrelation introduced does not critically depend on the kind of filter, but on the bandwidth and the frequency band it acts on. Using Fourier filters of similar windows as the corresponding running mean, we got very similar results, with support the same physical argument. We will discuss these technical aspects of methodology to enrich the paper.

We are thankful for the detailed reading of the manuscript and we will heed the rest of minor comments, including the interesting suggestions on how to improve the figures, in which we generally agree. They will be taken into account to make the newer version of the paper more readable.

Interactive comment on Clim. Past Discuss., 7, 2579, 2011.

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