

Interactive comment on “Mid-to-late Holocene Temperature Evolution and Atmospheric Dynamics over Europe in Regional Model Simulations” by Emmanuele Russo and Ulrich Cubasch

G. Strandberg

gustav.strandberg@smhi.se

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I would like to draw the authors' attention to a study (Strandberg et al., 2014) that simulates 6k BP and 0.2k BP climate in Europe with a RCM. Although it only consists of two time slices I think it qualifies as “high resolution simulations for different time slices of mid-to-late Holocene performed over Europe using a Regional Climate Model” (perhaps the first such simulations).

Furthermore, since Strandberg et al. (2014) use boundary data from ECHO-G and compare the results with the reconstructions from Mauri et al. (2014) it should be of

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interest for Russo and Cubash.

I know that it is a characteristic of modellers to exaggerate the uncertainties in the models and downplay the uncertainties in the reconstructions, but I would be careful to “validate” the model against one set of reconstructions alone since they may be of equally good/poor quality as the model simulations.

When considering astronomical forcing alone (see Fig. 2 in Wagner et al., 2007), we would expect 6k to be warmer than 0.2k and the temperature difference to be largest in summer in northern Europe. This is the signature we see in the model simulations of Strandberg et al. (2014). The non-pollen proxy based palaeoclimatic data presented in Strandberg et al. (2014) and the pollen based reconstruction of Peyron et al. (2013) rather support the differences in summer temperatures simulated by Strandberg et al. (2014) than the reconstruction of Mauri et al. (2014), in particular for southern and eastern Europe.

References

Mauri, A., Davis, B., Collins, P., and Kaplan, J.: The influence of atmospheric circulation on the mid-Holocene climate of Europe: a data-model comparison, *Climate of the Past*, 10, 1925–1938, 2014.

Peyron, O., Magny, M., Goring, S., Joannin, S., de Beaulieu, J.-L., Brugiapaglia, E., Sadori, L., Garfi, G., Kouli, K., Ioakim, C., and Combourieu-Nebout, N.: Contrasting patterns of climatic changes during the Holocene across the Italian Peninsula reconstructed from pollen data, *Clim. Past*, 9, 1233–1252, doi:10.5194/cp-9-1233-2013, 2013.

Wagner, S., Widmann, M., Jones, J., Haberzettl, T., Lücke, A., Mayr, C., Ohlendorf, C., Schäbitz, F., and Zolitschka, B.: Transient simulations, empirical reconstructions and forcing mechanism for the Mid-holocene hydrological climate in Southern Patagonia, *Clim. Dynam.*, 29, 333–355, 2007.

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