



Can we constrain future climate predictions with European paleoclimate data of the last millennium?

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Using an ensemble of FAMOUS atmosphere-ocean coupled general circulation model with perturbed internal parameters, we have performed climate simulations for the last millennium towards near future. The computationally intensive ensemble has been produced by volunteers over the internet who are united by a distribute computing network of climatePrediction.net using BOINC open software platform.

We will first discuss diverse climate simulations by the FAMOUS model with perturbed parameters for both constant and transient forcings. We will then illustrate the constraints of instrumental climate records that are available for the last century. We will furher introduce a newly constructed multiple-proxy European paleoclimate reconstructions over the last millennium, which are synthesised by EU MILLENIUM project, as the extra constraint to evaluate the performance of each model run.

The juxtaposition of these ensembles explicitly illustrates the significance of the proxy data in the context of climate reconstructions as well as for the climate projections of the coming centuries.