



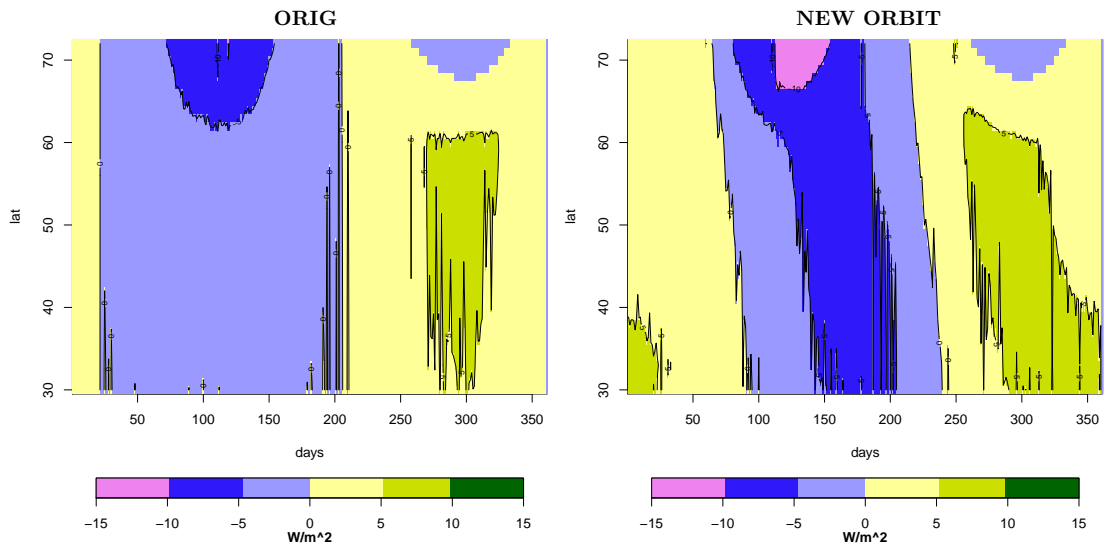
*Supplement of*

## **High-resolution LGM climate of Europe and the Alpine region using the regional climate model WRF**

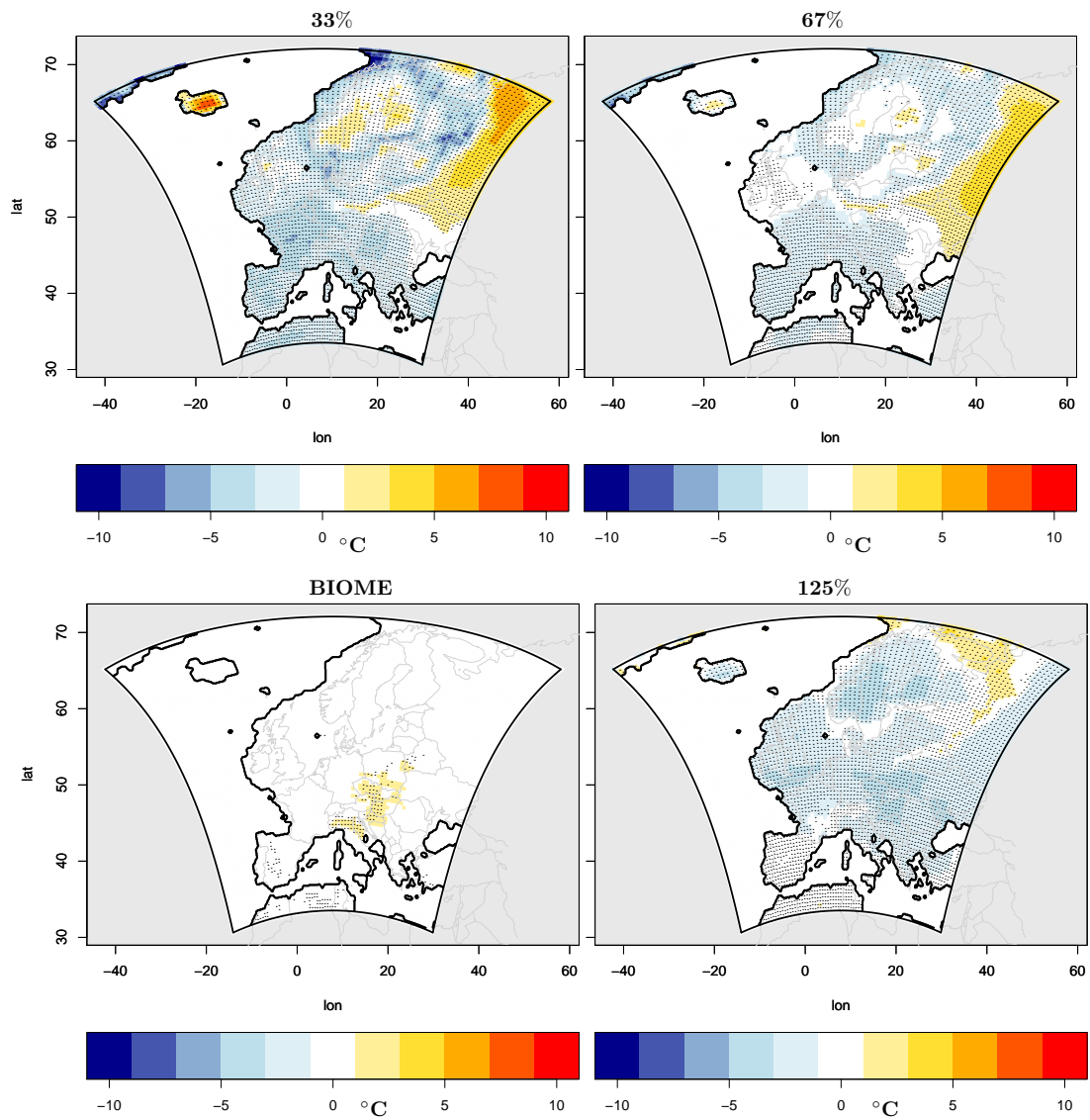
**Emmanuele Russo et al.**

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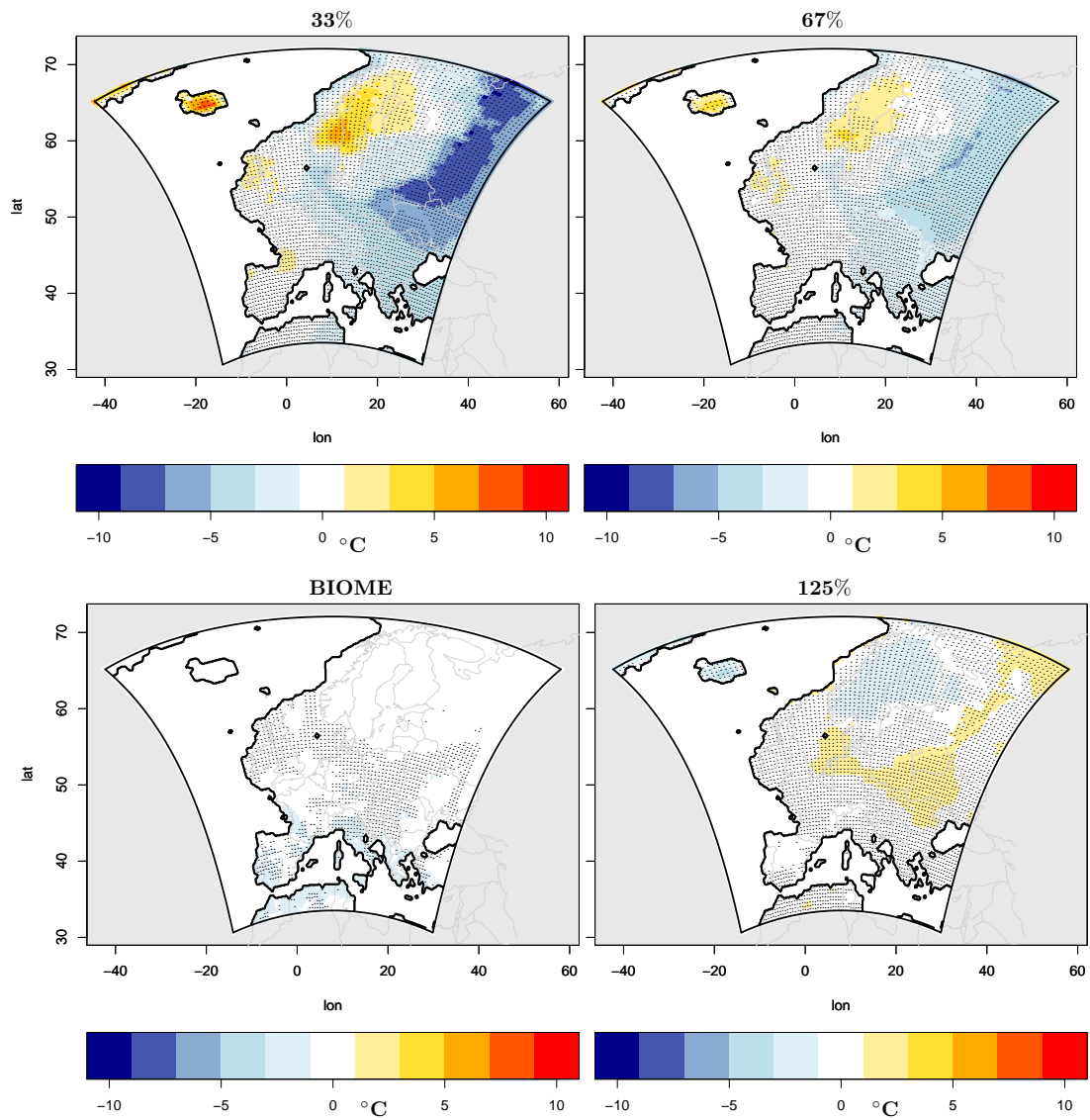
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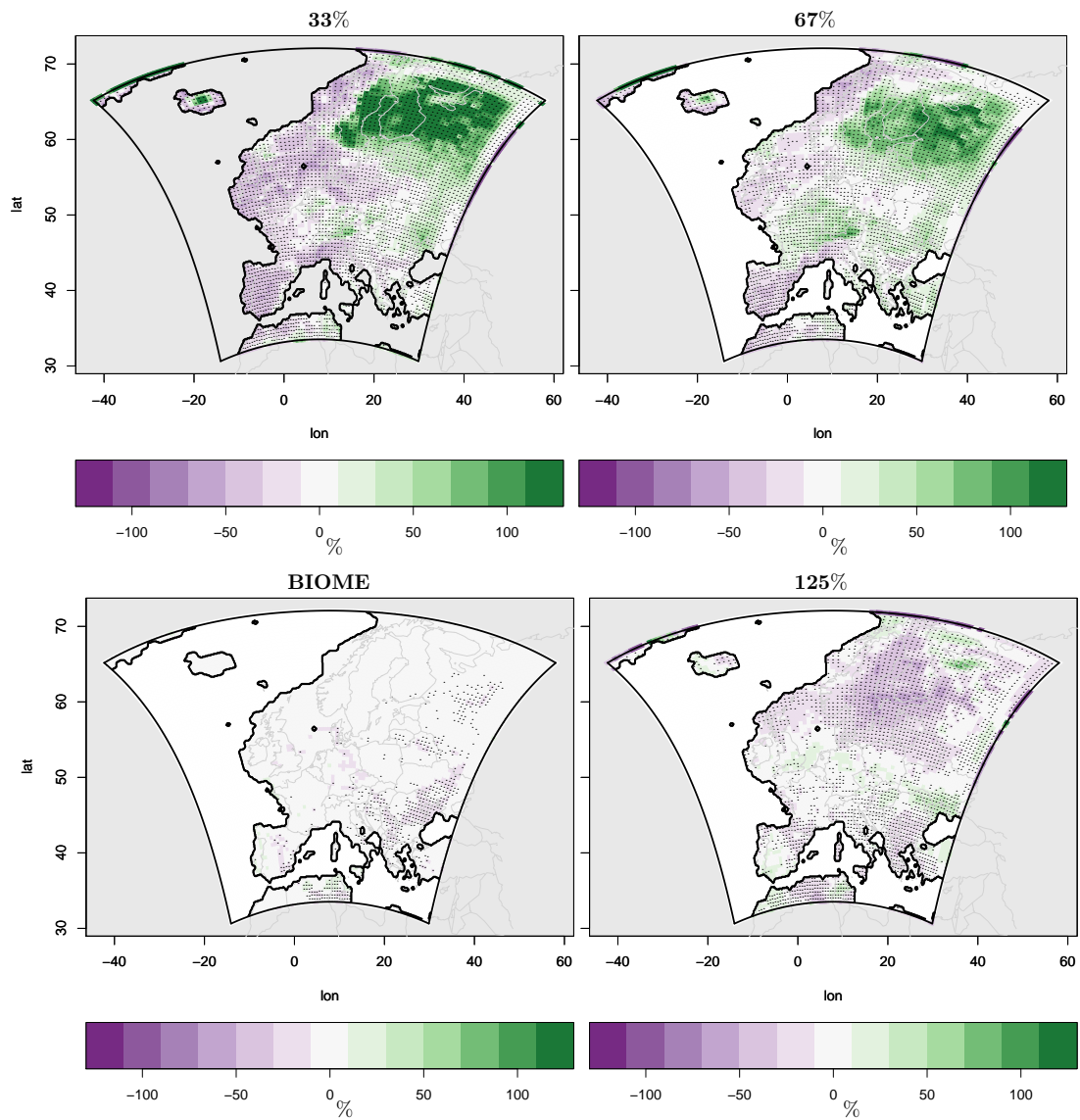
**Figure S1.** Zonal changes in daily solar insolation over the days of a year, calculated between the LGM period ( $\sim 21000$  years BP) and present days, as in the default WRF version (ORIG, *left*) and with the newly introduced orbital routine (NEW ORBIT, *right*).



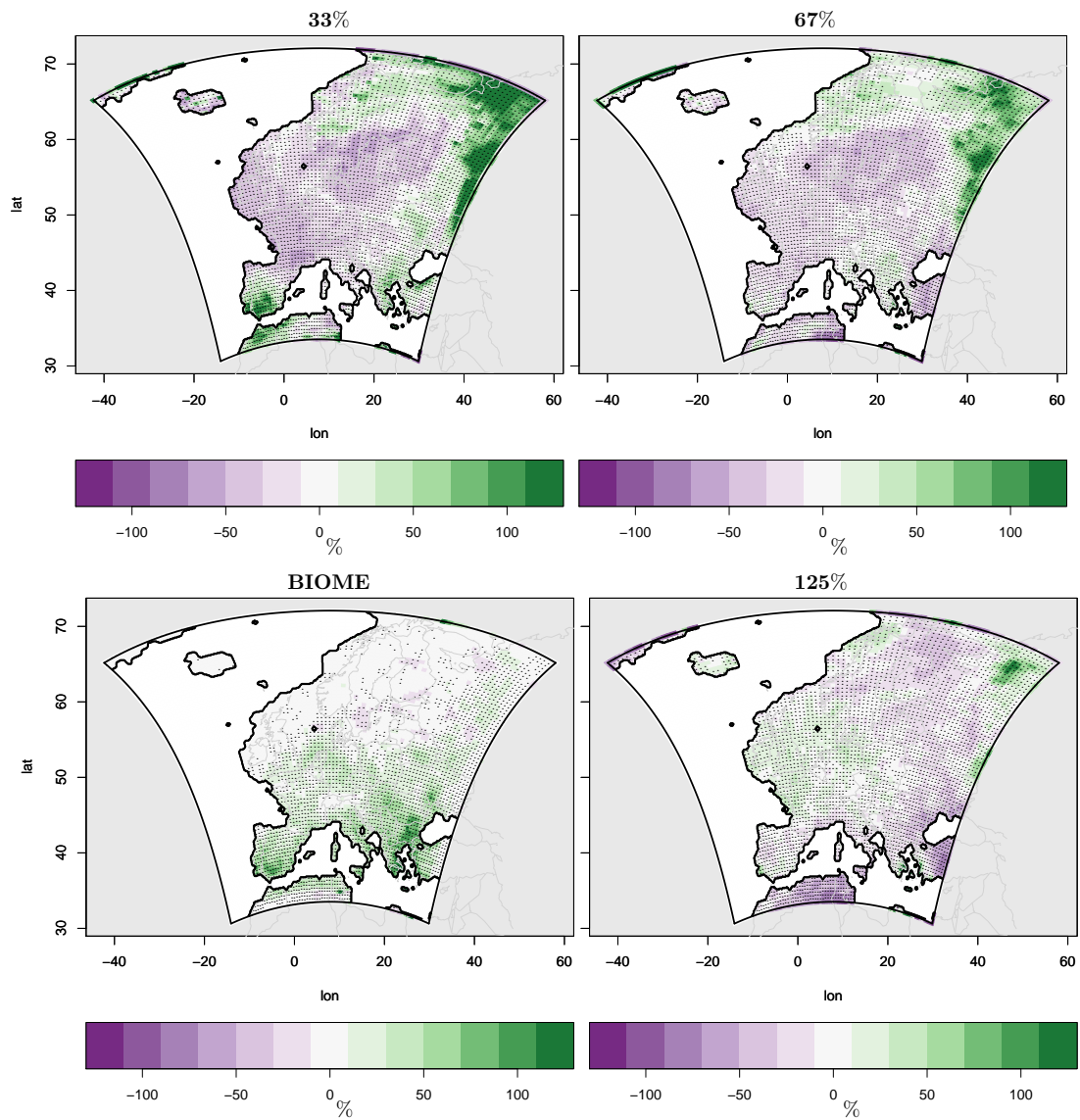
**Figure S2.** Bias in winter temperatures calculated for the coarser resolution domain d01, between the reference simulation and the other members of the ensemble. The dots in each of the figures represent the points for which the values differ significantly, at a significance level of 0.05, according to the results of a KS significance test.



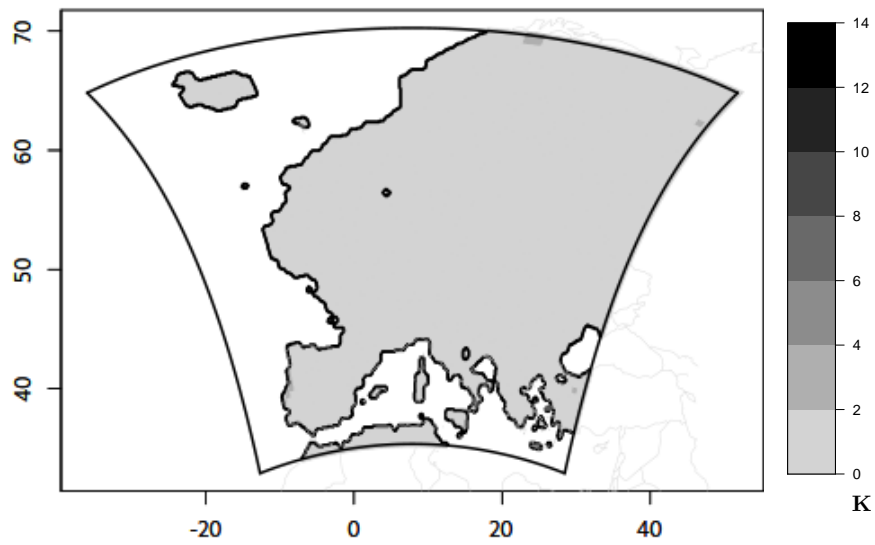
**Figure S3.** Bias in summer temperatures calculated for the coarser resolution domain d01, between the reference simulation and the other members of the ensemble. The dots in each of the figures represent the points for which the values differ significantly, at a significance level of 0.05, according to the results of a KS significance test.



**Figure S4.** Bias in winter precipitation calculated for the coarser resolution domain d01, between the reference simulation and the other members of the ensemble. The dots in each of the figures represent the points for which the values differ significantly, at a significance level of 0.05, according to the results of a KS significance test.



**Figure S5.** Bias in summer precipitation calculated for the coarser resolution domain d01, between the reference simulation and the other members of the ensemble. The dots in each of the figures represent the points for which the values differ significantly, at a significance level of 0.05, according to the results of a KS significance test.



**Figure S6.** Maximum range of differences between the climatological values of JJA 2-meter temperature derived from 20 10-year long periods from the 31-year long simulation of Velasquez et al. 2021.