Climate of the Past Discussions

Clim. Past Discuss., referee comment RC1
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Comment on cp-2021-185

Anonymous Referee #1

Referee comment on "The use of paleoclimatic simulations to refine the environmental and chronological context of archaeological/paleontological sites" by Léa Terray et al., Clim. Past Discuss., https://doi.org/10.5194/cp-2021-185-RC1, 2022

This study attempts to clarify the question of the chronology of a geological-archaeological sequence located in the Atlantic coast of Morocco, based on a comparison of the climate from a climate model and from the succession in different periods (approximately between the mid-Holocene and 100ka).

My overall comment is that the approach and conclusions are not convincing because (1) as stated by the authors, the grid resolution of the climate model used is 157 km, which is a very coarse regional climate for comparison with a sequence, (2) there seems to be a serious problem with the dating (or chronology) of the geologic sequence, which may lead to incorrect comparisons with each time slice from the model, (3) there is no quantitative climate reconstruction from the geologic sequence that could make the data-model comparison accurate, (4) there is a serious problem with the temporal resolution of the geologic sequence, since there are only 7 (or 8?) samples over a period of about 100,000 years. In addition, the ages seem dubious when comparing the different dating methods, and (5) overall, it is difficult to see how the use of a climate model has helped "refine the paleoenvironmental and chronological context of archaeological and paleontological sites," as the authors explain. The authors discussed more problems with their data-model comparison than benefits their approach brought.

Please also note the supplement to this comment:
https://cp.copernicus.org/preprints/cp-2021-185/cp-2021-185-RC1-supplement.pdf