Matching Datasets and Palaeoenvironment to Frame Human Palaeoecology in Europe around MIS 11

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The availability of trophic resources is one of the main factors that constraints the distribution and survival of any species, including hominins. Like any other organism, human beings aim always to adopt the most efficient feeding strategy for their given environmental conditions, under the limits of their own physiological constraints. Thus, in order to understand the survival strategies of ancient hunter-gatherer societies, we should look at the availability of trophic resources in their environment. We focus our attention on MIS 11, a key period for human biological and cultural evolution in Europe. In this period, the pre-existing populations progressively acquired the Neandertal anatomical characteristics, complex hunting activities were generalized, and the Prepared Core Technology (PCT) started to be widespread. Here we compiled information on the distribution of archaeological sites across Europe during MIS 11 from several datasets (NQMDB, ROAD and other sources), and analyzed the pattern of distributions of hominins in Western Europe with two proxies of resource availability. Net Primary Production (NPP) and Ungulate Carrying Capacity (CC_U) for MIS 11 were obtained from interpolated paleoclimate maps as proxies for the abundance of plant and animal resources.

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REFERENCES

- Lieth, H. F. H. (1973). Primary production: Terrestrial ecosystems. *Human Ecology, 1*, 303–332. https://doi.org/10.1007/BF01536729
- Gamisch, A. (2019). Oscillayers: A dataset for the study of climatic oscillations over Plio-Pleistocene time-scales at high spatial-temporal resolution. *Global Ecology and Biogeography, 28,* 1552–1156. https://doi.org/10.1111/geb.12979
- Gamisch, A. (2019). Data from: Oscillayers: a dataset for the study of climatic oscillations over Plio-Pleistocene time scales at high spatial-temporal resolution, Dryad Dataset. https://doi.org/10.5061/dryad.27f8s90
- Rodríguez, J., Blain, H. A., Mateos, A., Martín-González, J. A., Cuenca-Bescós, G., & Rodríguez-Gómez, G. (2014). Ungulate carrying capacity in Pleistocene Mediterranean ecosystems: Evidence from the Atapuerca sites. *Palaeogeography, Palaeoclimatology, Palaeoecology, 393*, 122–134. https://dx.doi.org/10.1016/j.palaeo.2013.11.011
- Rodríguez, J., & Mateos, A. (2018). Carrying capacity, carnivoran richness and hominin survival in Europe. *Journal of Human Evolution, 118,* 72–88. https://doi.org/10.1016/j.jhevol.2018.01.004