Land, rain and sweat: Building a database of what we need for building a temporally dynamic and a spatially-explicit agent-based model of Neolithic occupation in Languedoc-Roussillon, France
Mehdi Saqalli, Marie-Alexandrine Sicre, Odile Peyron, Pierre Sabatier, Nathalie Combourieu-Nebout, Laurent Dezileau, Matthieu Ghilardi, Catherine Kuzucuoglu, Maria-Angela Bassetti, Boris Vannière, et al.

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Land, rain and sweat: Building a database of what we need for building a temporally dynamic and a spatially-explicit agent-based model of Neolithic occupation in Languedoc-Roussillon, France.

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Objectives and challenges

Building a dynamic and spatially-explicit model is an interesting way for combining altogether:

Â At the operational scale, meaning the Neolithic family level, i.e. one hectare and one season
Â All the biophysical and socio-economic constraints and assets this family face
Â Along the period and the site we considered, meaning the Languedoc Roussillon during the Neolithic era

⇒ for such a model, we need to collect accurate data, meaning:
⇒ Precise enough, exhaustive both temporally and spatially
⇒ relevant, meaning having a defined impact on simulated dynamics

Reconstruct the 1-ha territory during the Neolithic era

Reconstruct the season-level climate along Neolithic Europe

Formalize the Neolithic livestock-keeping system

Formalize the Neolithic manpower conditioned cropping system

Simulate the social systems and dynamics

Simulate the farming system

A long-term project to build within the PALEOMEX research group

Among all data and groups of data needed for building a socially-defined multi-agent model, few are available or not-so-hard to prepare:

ÂThe white numbers (from 1 to 13) are the data or metadata available in the PALEOMEX team or that can be constructed by one PALEOMEX member;
ÂThe black numbers (from ‭14 to 26) are the ones not available for now. Their constructions need the building of a consensual agreement of several working hypotheses on their values and organizations

References: