

# Characterization of soil deposits associated to human occupations in the Middle Tagus during the Holocene Climatic Optimum

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## Introduction: Middle Tagus

Previous studies on the dawn of the Neolithic in the region allowed to identify a two-parallel sequencing of occupations, one more closely related to the limestone massif of Serra de Aire and to the western Atlantic shore, and another which finds stronger connections further inland, across the Alentejo plains and the Guadiana valley. Several sites have key stratigraphic profiles in this context, including caves (*Gruta do Cadaval and Gruta dos Ossos*), megalithic passage graves (*Anta 1 de Vale da Laje, Anta da Lajinha and Cabeço da Anta*), and habitat sites (*Salvador and Amoreira*). New approaches to these sites, namely conducted as part of a FCT funded project (*MTAS*) and other projects, provided new and unexpected evidence concerning changes in diet (through isotope analysis, including on organic residues preserved in ceramics), early evidence of dwelling in burial contexts or exchange of raw materials in the region. However, the layers corresponding to the earliest Neolithic do not correspond to thick deposits, and this, combined with important erosive factors, raise doubts on the actual stratigraphic sequence

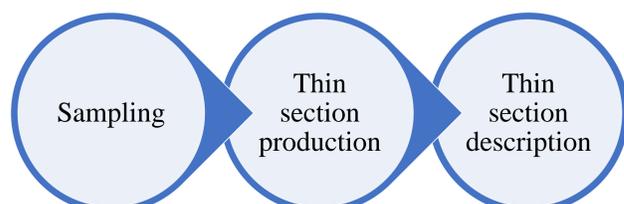
## Research Questions ?

- Identification of sedimentary hiatus
- Development of major palaeosol associated to farming practices
- Stratigraphic disturbance corresponding to earthquakes
- Characterization of the anthropic interference in the sedimentation, erosion, and soil formation processes

## Objectives: Micromorphology in Stratigraphic Sequences

The main objective of this study aims to answer the research questions mentioned above, using as a tool the micromorphological method. This method will allow to identify sedimentary hiatus in the early Holocene (if there is or not), the development of palaeosol associated to the increase in animal domestication and farming practices, indications of stratigraphic disturbance, and the characterization of the anthropic interference in the sedimentation, erosion, and soil formation processes.

## Materials and Method



## Expected Results

The study will provide a thorough assessment of a series of selected key-sites, and will address the initial transversal questions raised above, which relates also to environmental (sedimentation and erosion processes), economic (deforestation, farming, etc.) and the climatic (Holocene climatic optimum and related oscillations) variables, which will eventually enrich the knowledge and studies on the dawn of food production in the Middle Tagus.

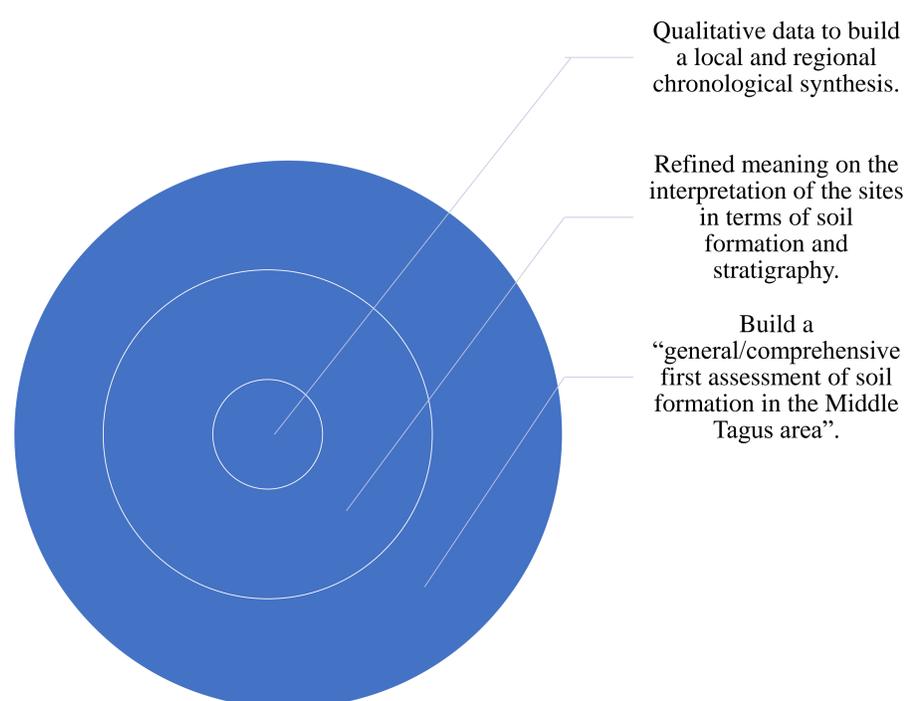
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## Research Prospects



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