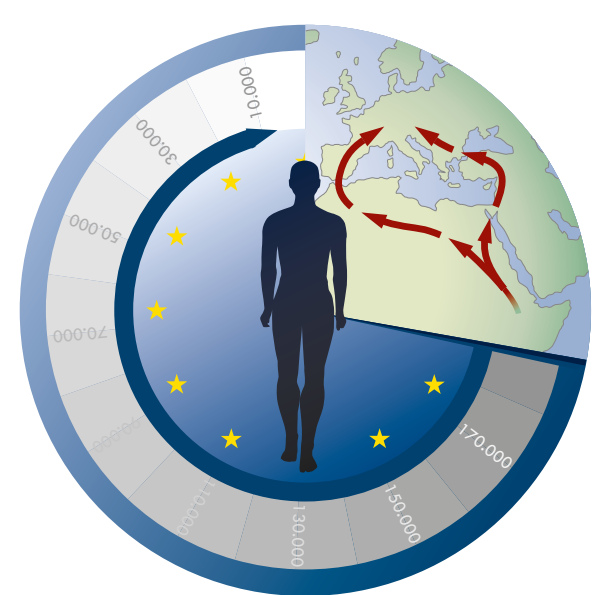


Changes of land-use strategies associated with the arrival of Neolithic settlers in NW-Morocco



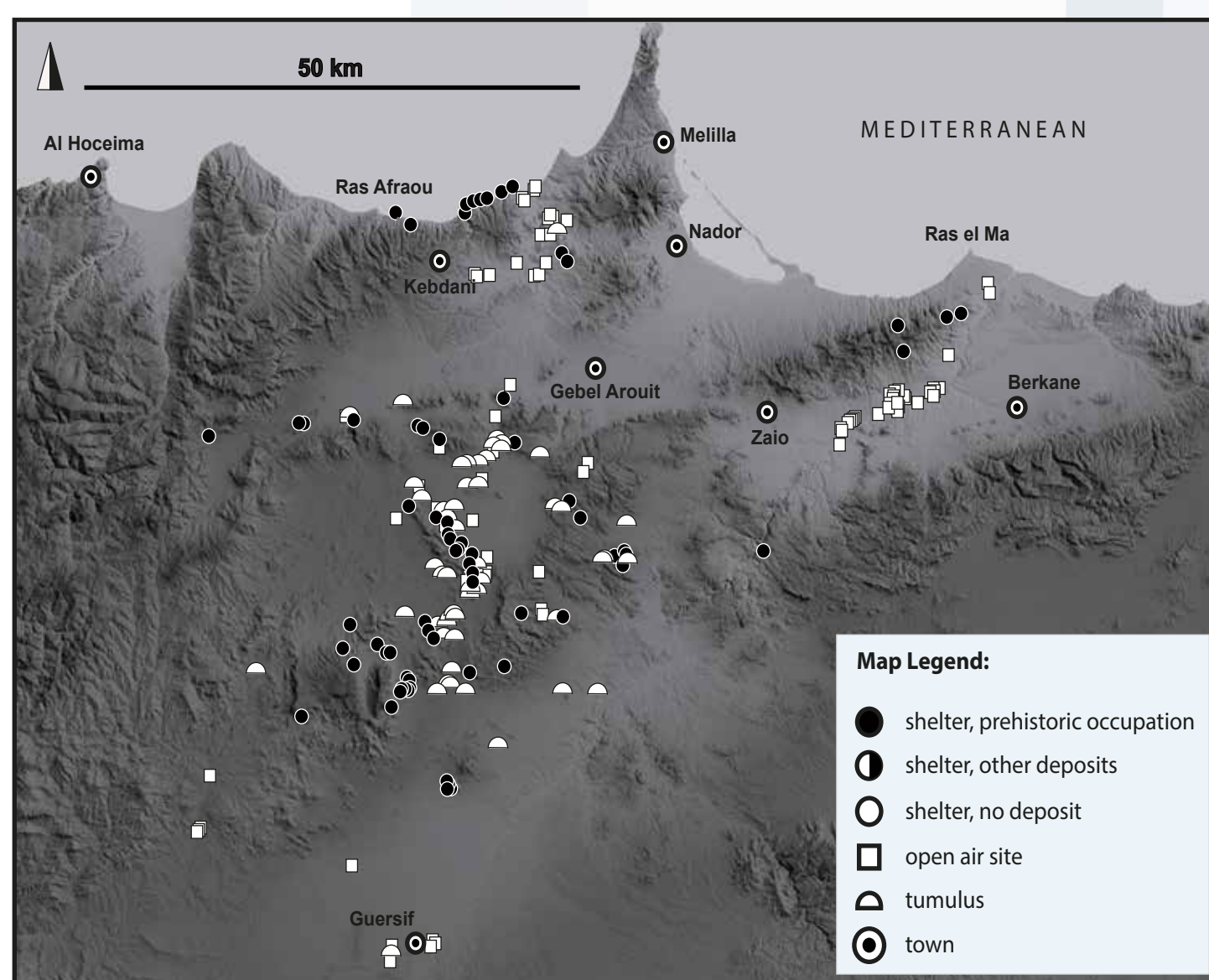
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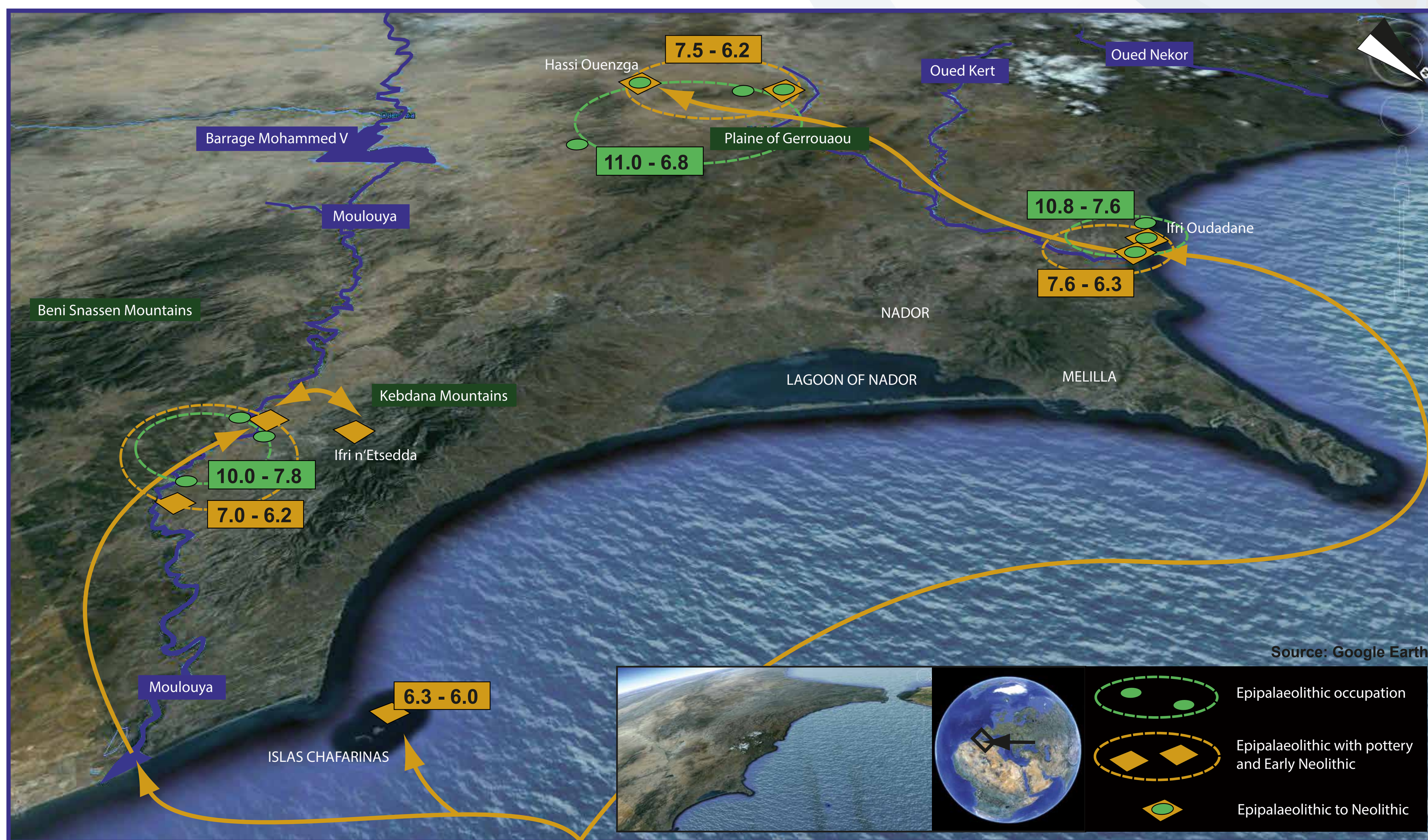
The "Eastern Rif"-Project

In the last 17 years archaeological research has been carried out in the Eastern Rif (Morocco) by a Moroccan-German research team with the participation of the "Institut National des Sciences de l'Archéologie et du Patrimoine du Maroc" (INSAP), the "Kommission für die Archäologie Außereuropäischer Kulturen des Deutschen Archäologischen Instituts" (KAAK) and the "Institute of Prehistoric Archaeology / University of Cologne". This has led to the identification of several hundred sites from the Lower Palaeolithic up to Islamic times, a number of which have been excavated (small figure, right).



The Neolithisation process

The Holocene Epipalaeolithic occupation of the research area is deeply rooted in the late Pleistocene culture of the Iberomaurusian. With the transition to the Holocene, environmental changes triggered a change in land use and subsistence strategies. When Neolithic innovations appeared in the area at about 7.6 calBP it was still inhabited by well adapted hunter-gatherer societies. The unique and complex transitional process to food production can only be described as a combination of diverse models of migration and adaptation. Data suggest neither a displacement nor a fast assimilation of the Epipalaeolithic populations but a phase of co-existence during which local hunter-gatherers gradually adopted Neolithic innovations. In northern Africa, Neolithic sites show an extremely high percentage of wild plants and fauna. It seems that the less favorable environment required broader subsistence strategies with hunting and gathering. As this lifestyle is more appropriate to the natural resources, agriculture and herding took longer to become established.



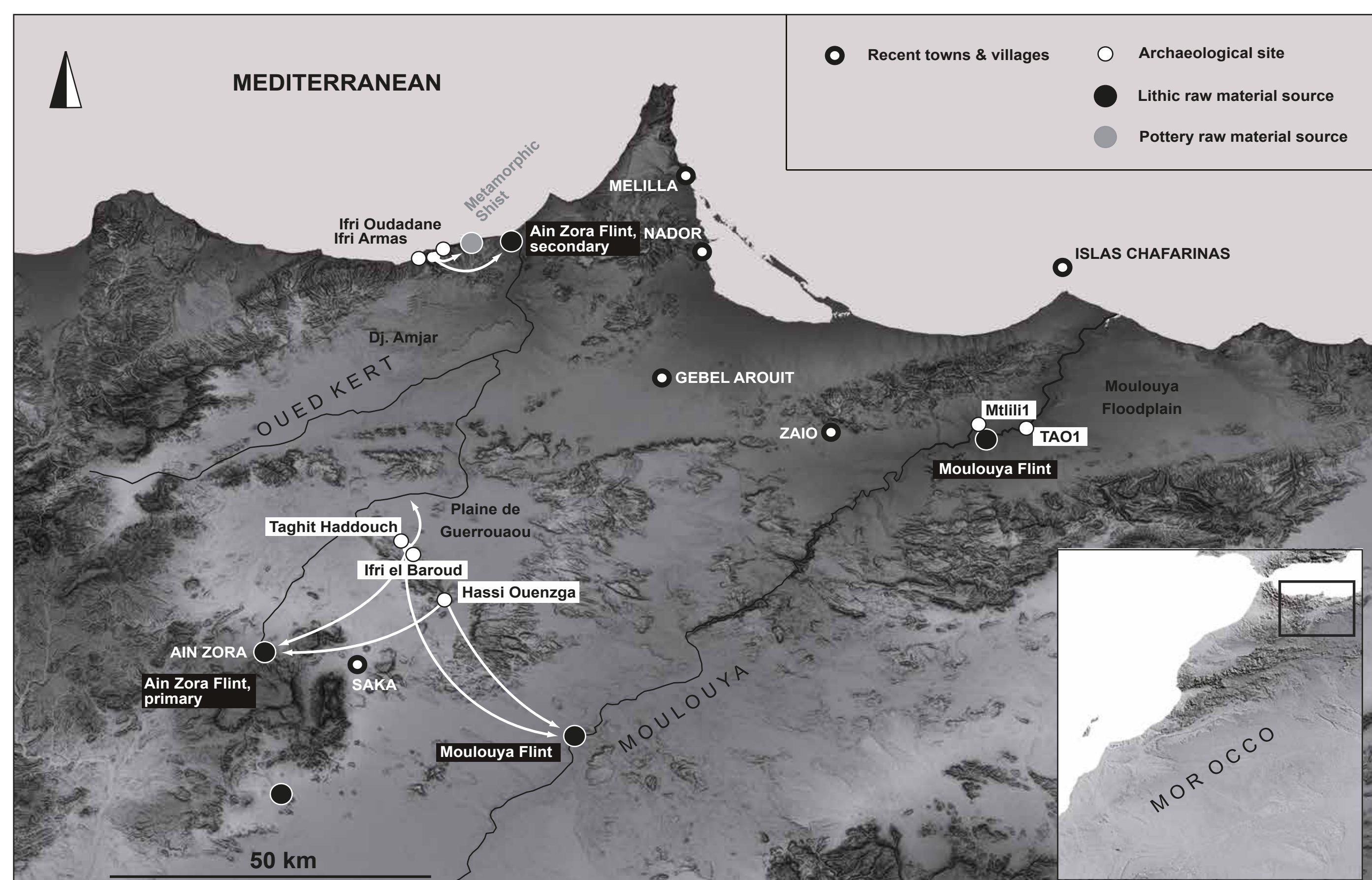
Changing land use patterns

With the arrival of Neolithic innovations, land use patterns change significantly. Domesticated plants and animals were part of these innovations. However, their contribution to subsistence remained limited during the Early Neolithic. Hunting and gathering, primarily the use of marine resources, still played an important role. On the other hand, consideration of abiotic materials shows remarkable differences with the appearance of new (Neolithic) technologies. First of all pottery production required the identification of necessary

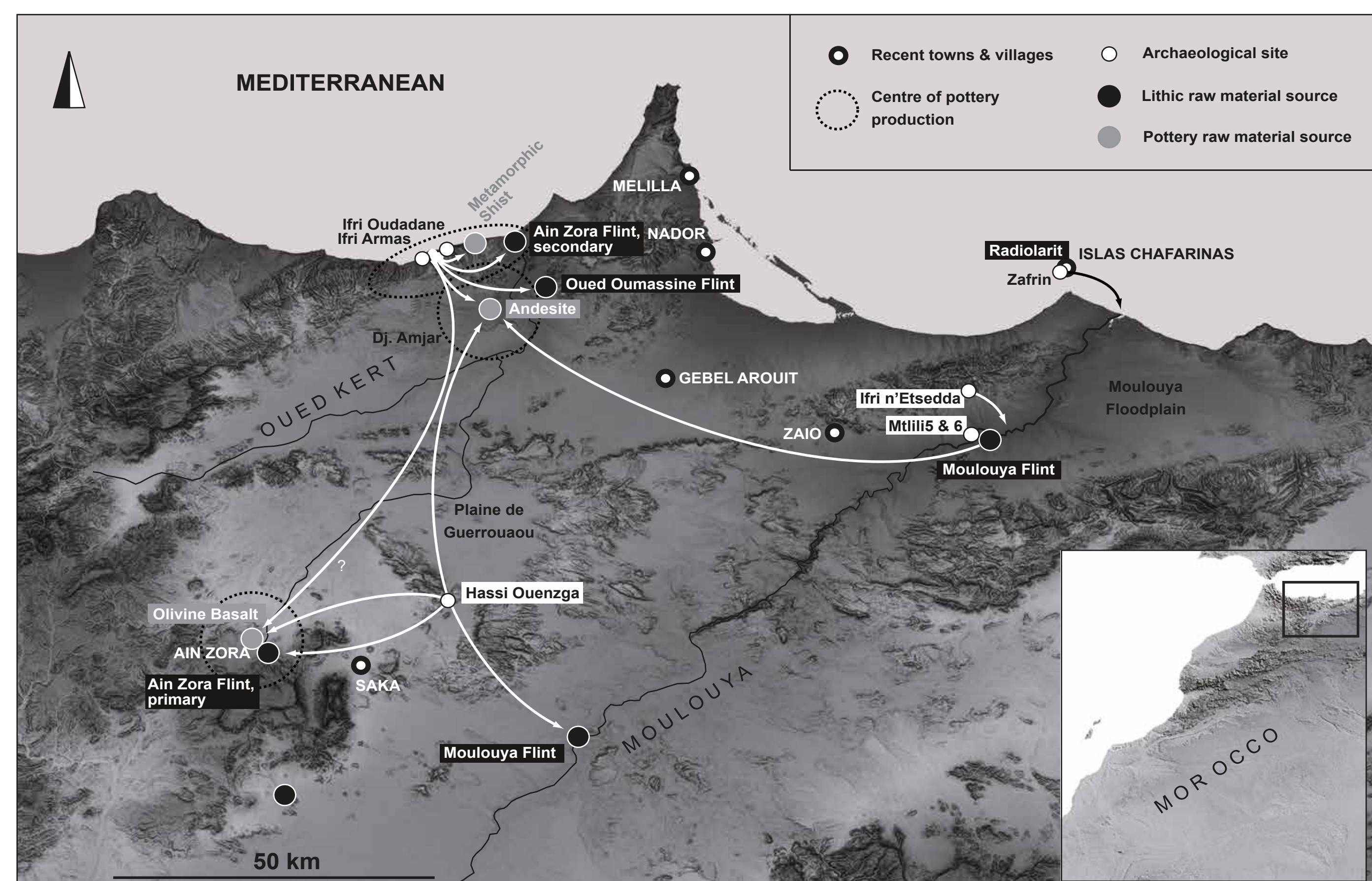
sources (clay). To track the origin of clay and temper today, beside adequate analytical methods comprehensive and detailed knowledge of the natural resources are required. As these preconditions are rather disparate from area to area the progress of this archaeological branch shows ample regional differences. In north-eastern Morocco this study is still in its infancy and therefore we present here some preliminary results.

Raw material from local, regional and area wide sources were

used. In addition, the import of artefacts from distances in excess of 60 km is confirmed. According to present knowledge two independent centres for pottery production existed in the area of Ain Zora and the Djebel Amjar area which includes the coastal sites of Ifri Oudadane and Ifri Armas. The appearance of Djebel Amjar pottery at the Lower Moulouya and in Hassi Ouenzga, as well as that of Ain Zora pottery in Hassi Ouenzga and at the littoral, documents contacts via mobility or exchange between all three areas.



Epipalaeolithic (11.0 - 6.8 calBP) mainly local raw material procurement.



Epipalaeolithic with pottery & Early Neolithic (7.6 - 6.0 calBP) pottery transport shows interregional mobility

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