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**Understanding the use of Neolithic building and activity areas in Jordan through combined ethnographic, phytolith and geochemical investigation**

Authors

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Abstract

The Neolithic in southwest Asia (~11,700-7800 cal BP) is a major period of socio-economic transition, witnessing the shift from hunter-gatherer to sedentary farmer. Despite their importance, archaeological sites of the period and particularly those dating to the Pre-Pottery Neolithic (~11,700-8250 cal BP) are difficult to interpret due to their ephemeral nature and the poor preservation of biological remains. With the aim of establishing an integrated approach that will enable a better understanding of these sites, we have developed a method based on more durable forms of archaeological evidence that frequently result from human activity. This method integrates complimentary, yet distinctive datasets of ethnographic oral histories, phytolith signatures and geochemical variations, obtained from a recently abandoned village, to help address the problems of interpreting Neolithic settlements and ephemeral contexts.

This combined approach uses ethnographic sediment samples from defined activity areas and building materials to determine if certain anthropogenic actions have particular phytolith and elemental signatures that can help recognise these same areas in the archaeological record. We present here the results from the ethnographic settlement of 'Al' Ma'tan'; an abandoned constructed stone and mud village. This modern site in Jordan was chosen because it provided the best available analogy for the more substantial Jordanian Neolithic settlement sites (i.e. Ain Ghazal, Beidha and WF16), which we are also analysing as part of this project. These results are the first to explore how spatial activity patterns recorded from known actions can be applied to samples from Neolithic archaeological sites in Jordan.