

David GARCIA-CASAS (Instituto de Ciencias del Patrimonio – Consejo Superior de Investigaciones Científicas)
David.garcia-casas@incipit.csic.es

INTRODUCTION

Transhumance is type of seasonal pastoralism in which the shepherds and their flocks move from lowlands in winter towards upland zones to feed the animals profiting seasonal variations in grasslands. In this paper we explore possible transhumant routes. First in a large scale, from Provence to Meridional Alps (Ubaye and Stura Valley). Secondly in a regional scale in the Ubaye Valley. A high mountain zone where previous archaeological research was carried out. 101 archaeological sites were recorded (Garcia *et al.*, 2007) (Prospecciones archéologiques dir. F. Mocci, Centre Camille Jullian, CNRS-Aix Marseille *Université*). For our study we selected 55 sites with traces to be used for pastoralism (huts, enclosures and rockshelters).

METHODOLOGY

Focal mobility Network (Güimil – Fariña and Parcerro- Oubiña 2015) creates a network of possible destinations towards a point.

It is possible to explore different paths between two locations. In the regional scale. We performed a focal mobility network between Barcelonnette and Argentièrre in Italian side.

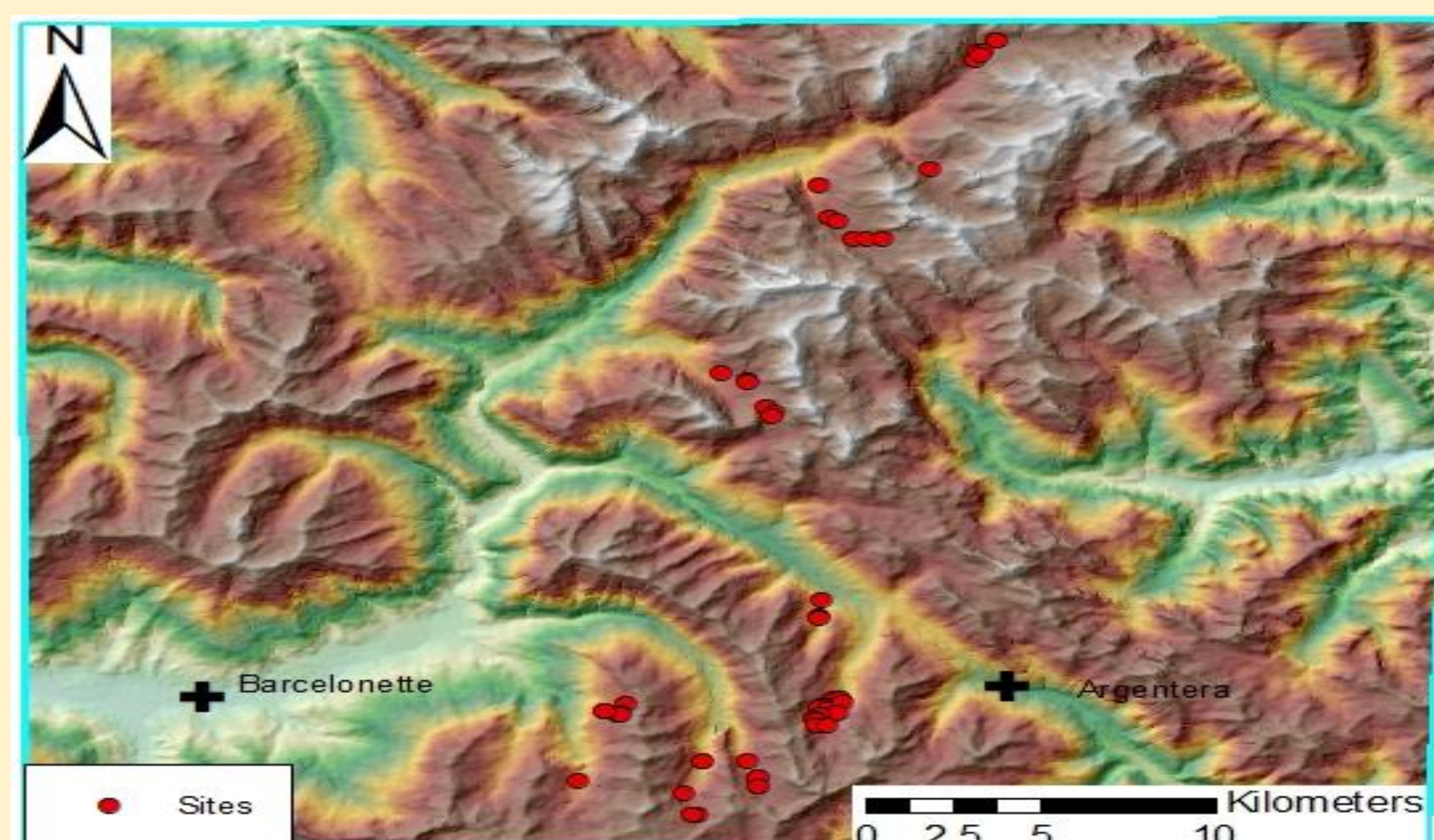
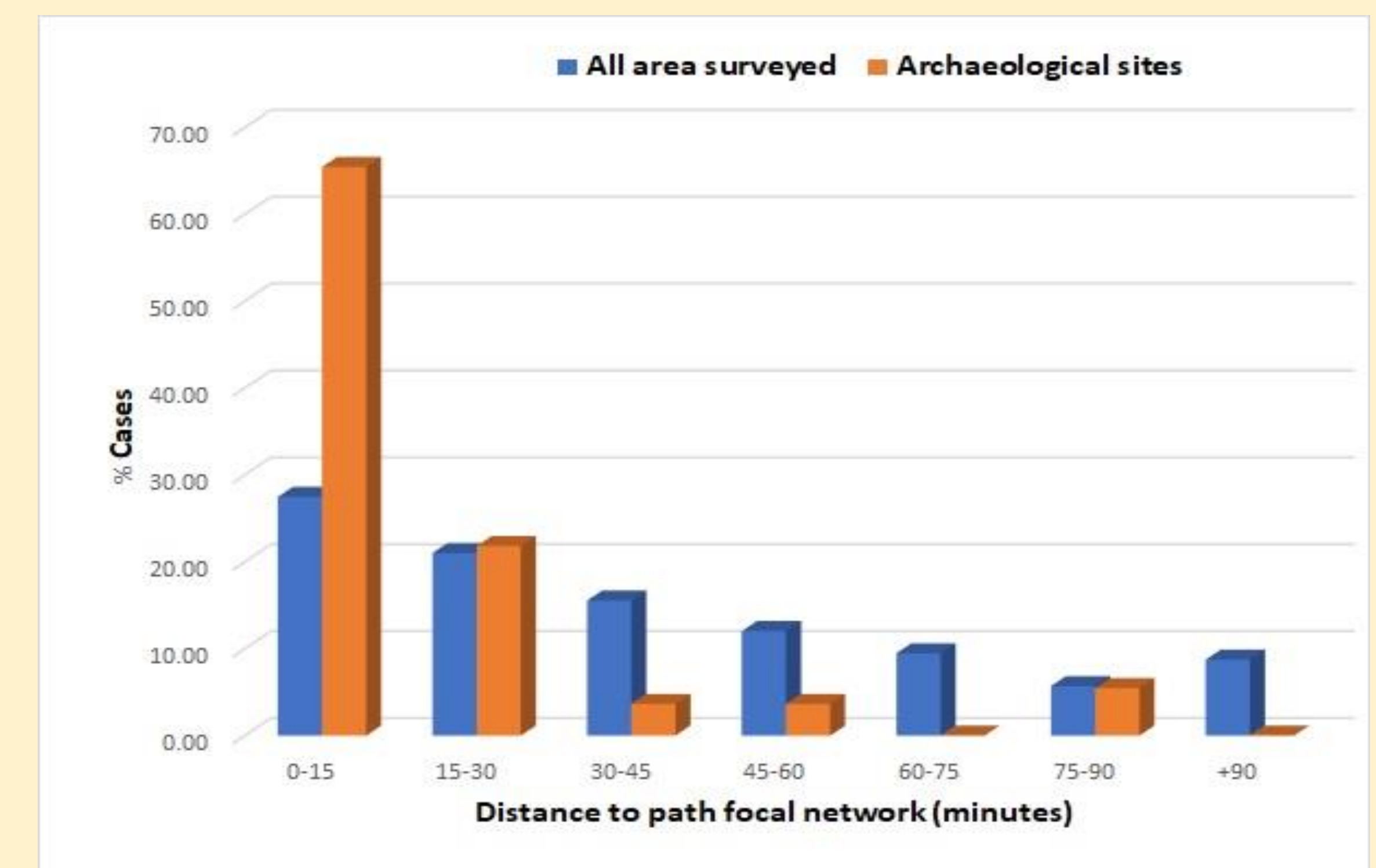
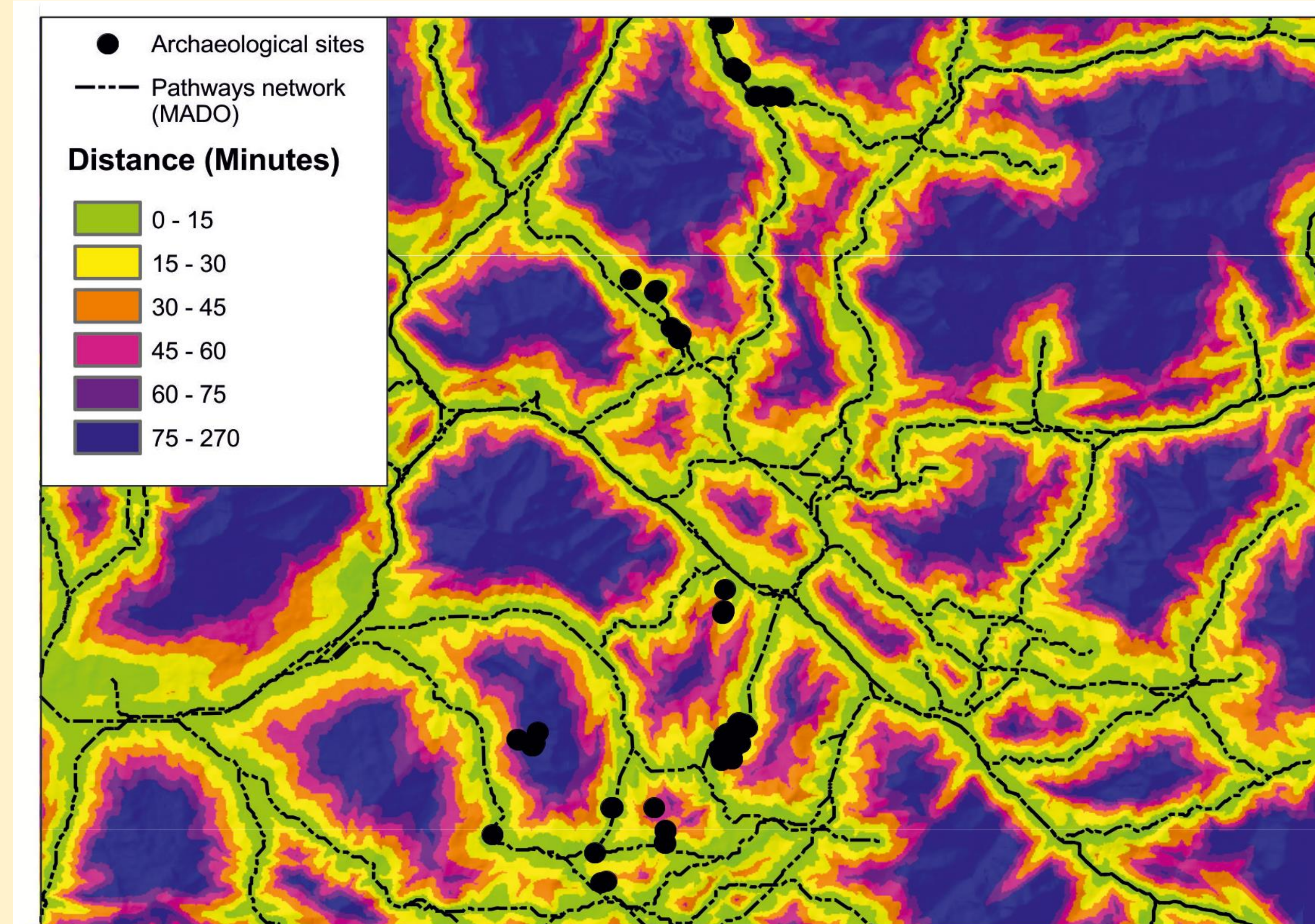
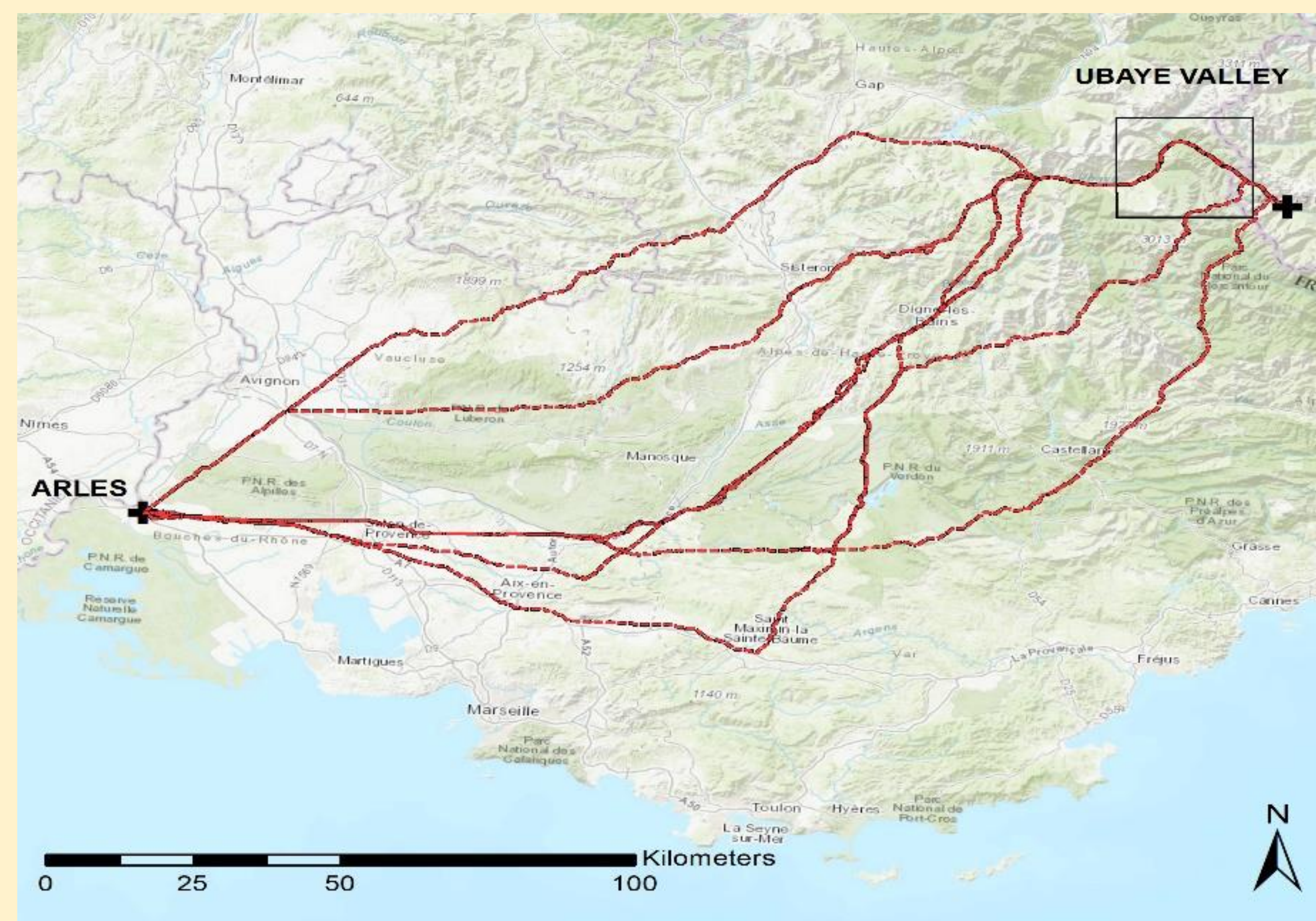
We added a extra cost to cross the surfaces with slope higher than 70% (x3). And a very high cost in the zones of lakes and slopes above 100% of slope to avoid cross. Next, we performed an analysis of cost distance in minutes from the network of mobility

RESULTS

The first caption shows a network of possible pathways towards the Stura Valley from Arles in the Provence. As we can see there are 7 different routes between the selected points. There are variations in terms of length and cumulative elevation gain. Only 4 of these paths cross Ubaye Valley. In the second part of the analysis (Ubaye Valley) we compared the distance in minutes from the MADO pathways network towards each archaeological site and towards the rest of surveyed zones. 65% of the sites are located less than 15 minutes walking. In contrast only 27% of surveyed terrain is located within this interval. From 30 minutes it is possible to see a decrease of the sites higher than the percentage of terrain.

FINAL REMARKS

We can show that the proximity to possible paths to cross the valleys was a factor to choose the location of livestock settlements of seasonal pastoralist settlements together with other criteria like altitude or slope. The use of spatial GIS analysis in ancient mobility can help us to better understand the evolution of seasonal pastoralism in diachronically scales of time or *longue durée*.



References

Garcia, D., Mocci, F., Tzortzis, S., & Walsh, K. (2007). Archéologie de la vallée de l'Ubaye (*Preistoria Alpina*, 42, 23–48).

Güimil-Fariña, A. and Parcerro-Oubiña, C. (2015). "Dotting the joins": a non reconstructive use of Least Cost Paths to approach ancient roads. *Peninsula. Journal of Archaeological Science*, 54, 31–44.