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# The Value of Travelers' Itineraries in Archaeological Research: A GIS Analysis of Pathways through the Mani Peninsula, Greece

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# The Value of Travelers' Itineraries in Archaeological Research: A GIS Analysis of Pathways through the Mani Peninsula, Greece

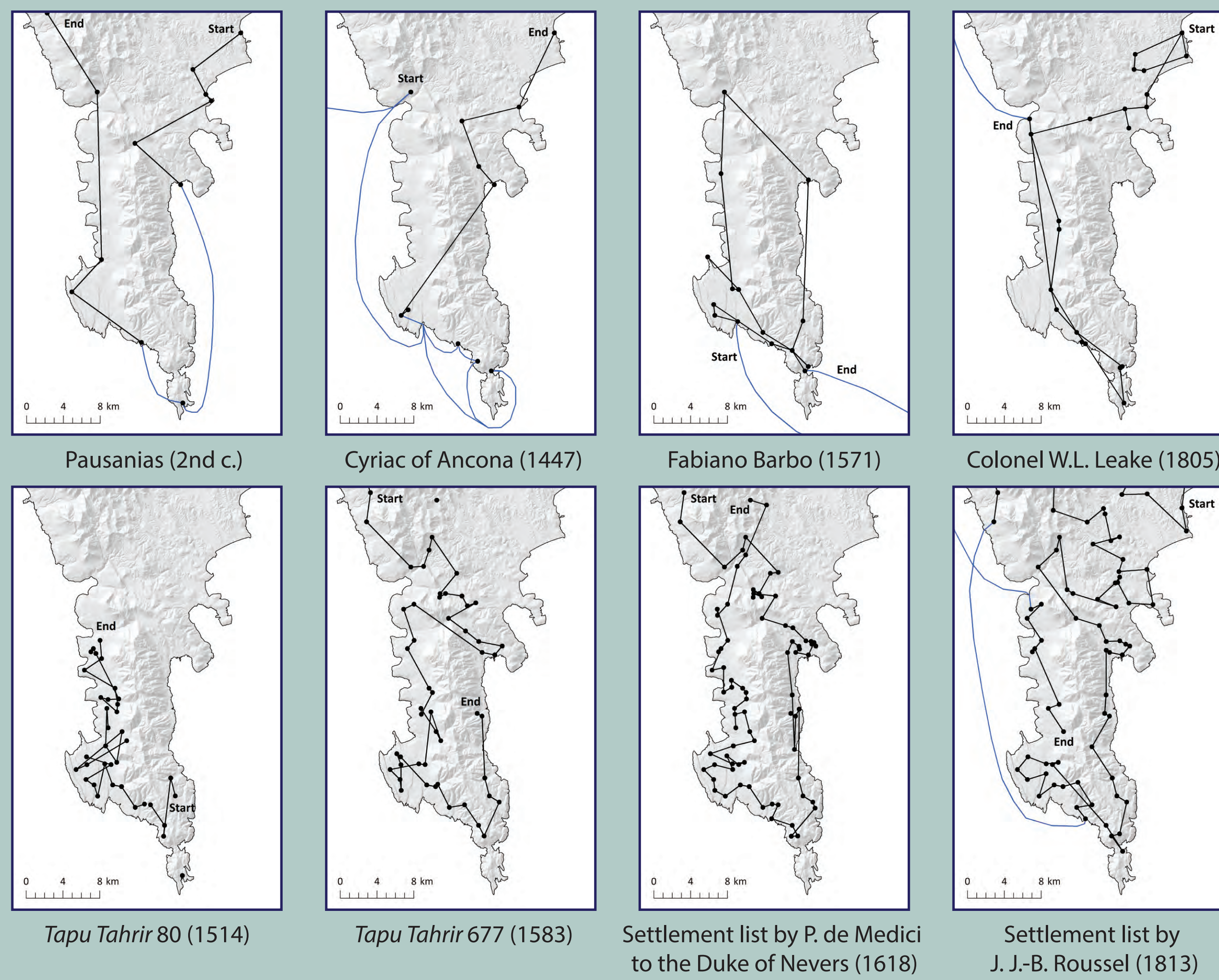
Rebecca M. Seifried and Chelsea A.M. Gardner

## Summary

This poster presents the results of a Geographic Information Systems (GIS) analysis of major itineraries followed by visitors to the Mani Peninsula, Greece, over the past two millennia. The earliest "travel writer" to visit was Pausanias in the 2nd century AD. Beginning in the 15th century, many more cartographers, geographers, and tax officials began exploring the peninsula, leaving us their accounts and observations about the contemporary and ancient sites they encountered. Our analysis demonstrates that geographical considerations and political motivations often influenced the paths taken by travelers. As a result, their coverage of mountainous landscapes was limited, and many important sites were omitted from their written accounts. It is critical for modern scholars to continue investigating the "empty" areas on the map where early adventures did not stray.

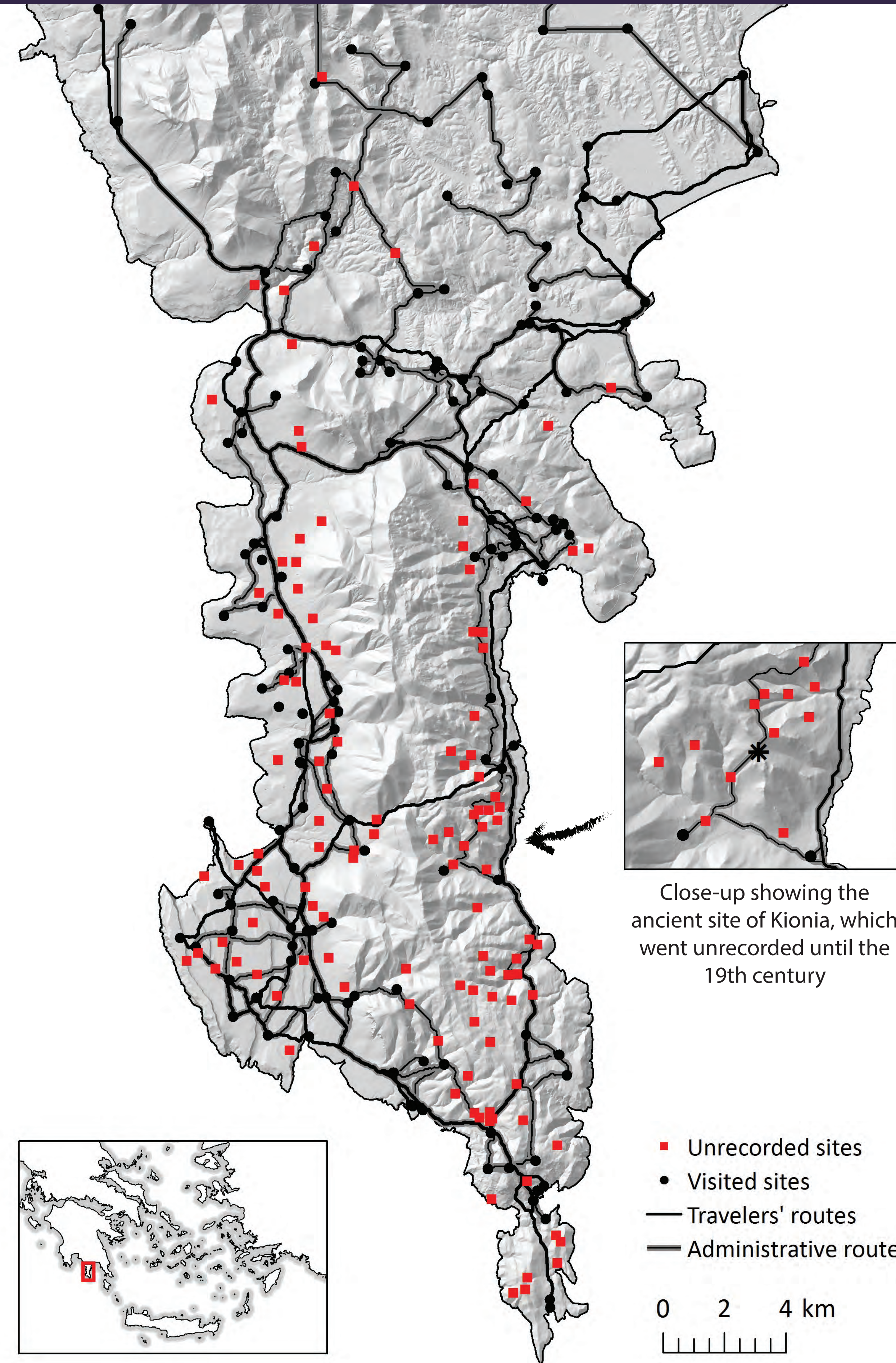
## The Travelers' Itineraries

Two types of itineraries were digitized for this project. (1) Travelers' accounts usually contain rich descriptions of the customs and local people of Mani, and a select few also describe the itineraries the travelers followed. (2) Administrative records like tax registers and censuses contain detailed lists of the settlements in Mani. Some of them were recorded by tax officials who made physical journeys through the region, which is indicated by the order in which the settlements were written down.



## References

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## The Path Network

In 2014-2016, the pre-modern path network in Mani was mapped through field-work and analysis of remotely-sensed imagery [9]. The network is made up of (1) *kalderimia*, stone-built roads built for foot and animal traffic, (2) walled footpaths made of dirt or gravel, and (3) goat paths used by shepherds to move livestock into the mountain pastures. This path network was the primary means of overland movement by at least the 15th century, when the Ottoman period began.



## Why This Study Matters

Our research underscores the value of ancient and pre-modern travelers' itineraries in archaeological landscape studies. We found that:

- \* Digitizing and analyzing travelers' itineraries provides insight into actual pathways of movement across a landscape.
- \* Geographical considerations and political motivations often diverted travelers' paths away from more mountainous areas of a landscape, causing them to bypass contemporaneous settlements and/or traces of earlier human activity.
- \* The supposedly "empty" places in a landscape must still be investigated through tools like remote sensing analysis or field reconnaissance.

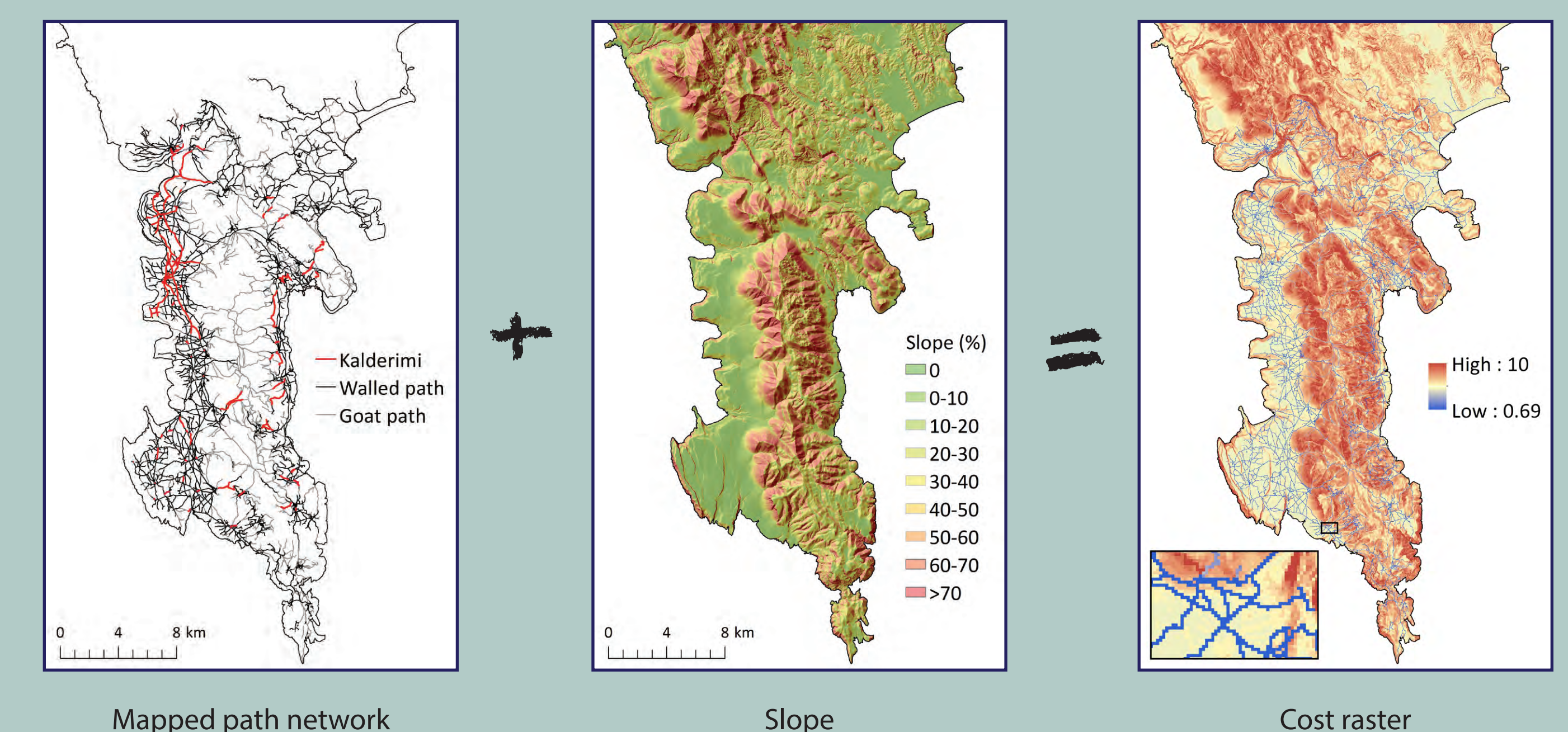
## Results of the LCP Analysis

The resulting LCPs represent our best guess about the specific routes taken by the travelers to Mani. Many travelers provide only the names of the places they visited, and while the exact route between any two given points is uncertain, the mountainous terrain of Mani allows us to calculate the most probable paths with a high degree of certainty. The map (at center) shows the LCPs concentrated along the coastal areas of the peninsula and traversing the narrow valleys in the north, which are the main entry points into the region. The map also shows the locations of all the settlements dated to the period of the travelers' journeys (roughly 1200-1830 AD), highlighting those that were bypassed or overlooked.

## The Cost Raster

A 20-m resolution cost raster was created using a combination of slope and the path network, using the equation:  $\text{cost} = [\text{slope}] * 0.33 + [\text{path type}] * 0.66$ . Slope was calculated from a 5-m DEM [10], downsampled, reclassified according to one-way energy costs [11], and doubled to model movement in both directions [12].

Least-cost paths (LCPs) were calculated for each of the itineraries. The resulting LCPs preferred the known routes and rarely deviated to stray across fields, which is behavior that closely follows real patterns of movement across the landscape.



## Acknowledgements

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