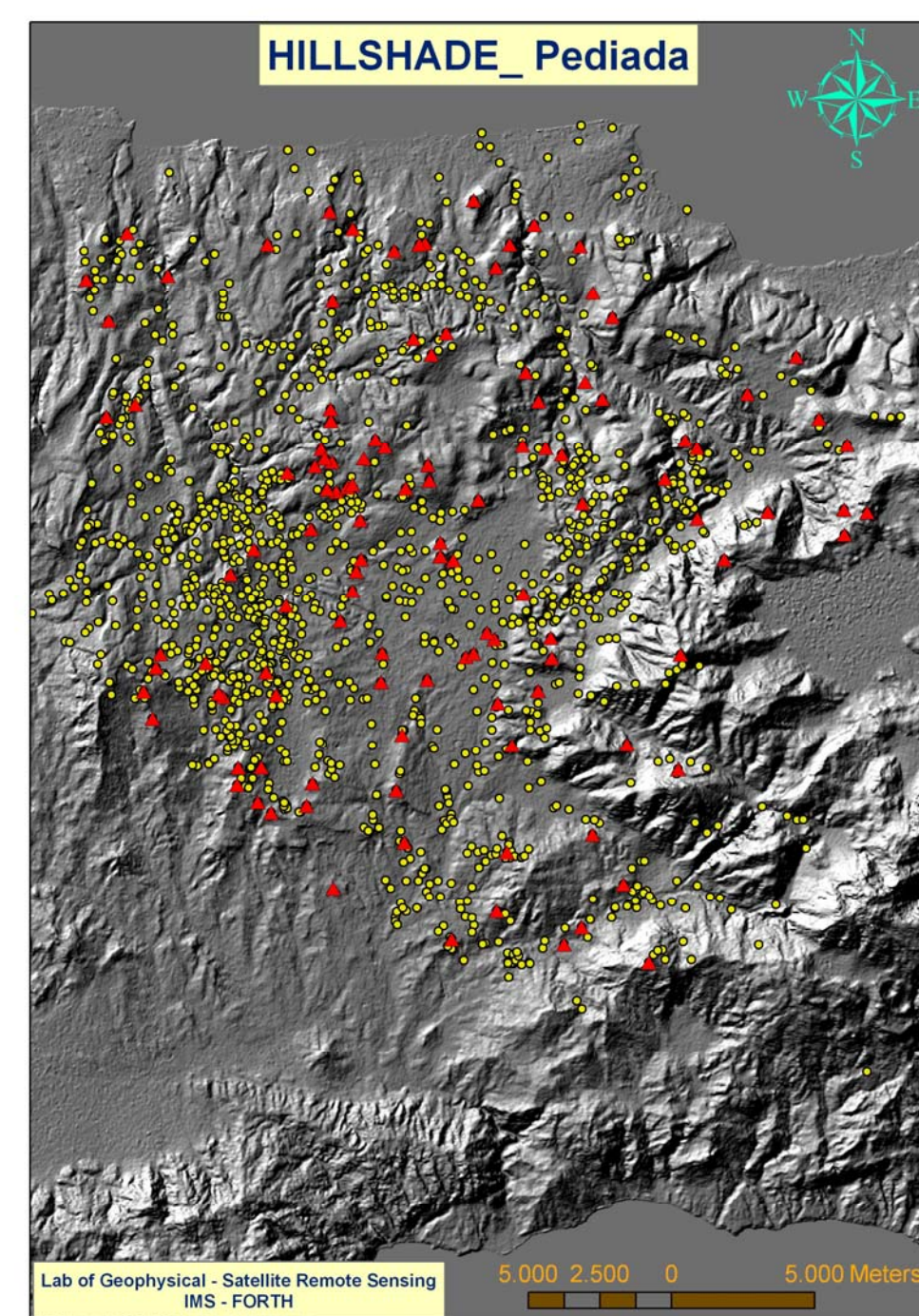
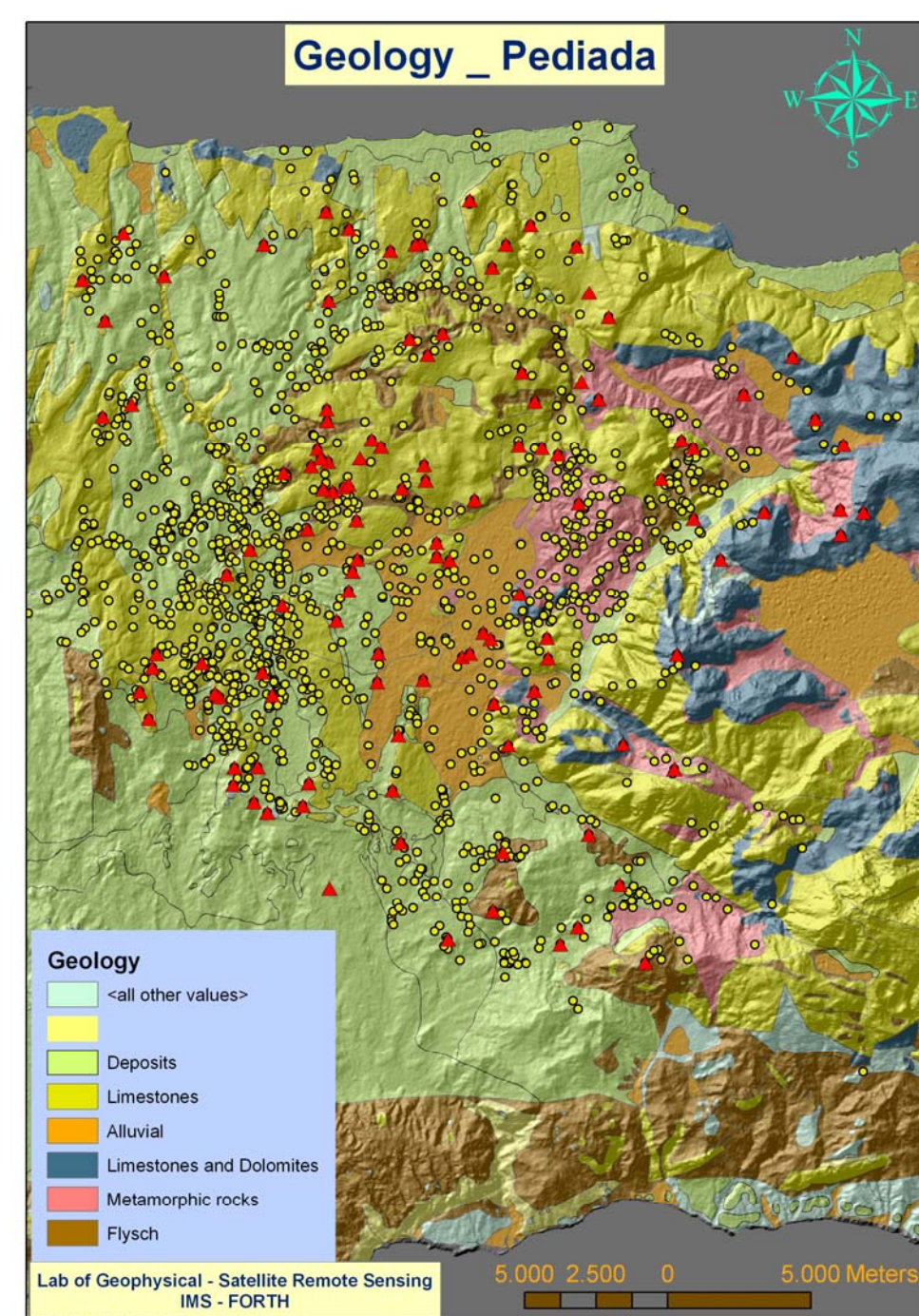
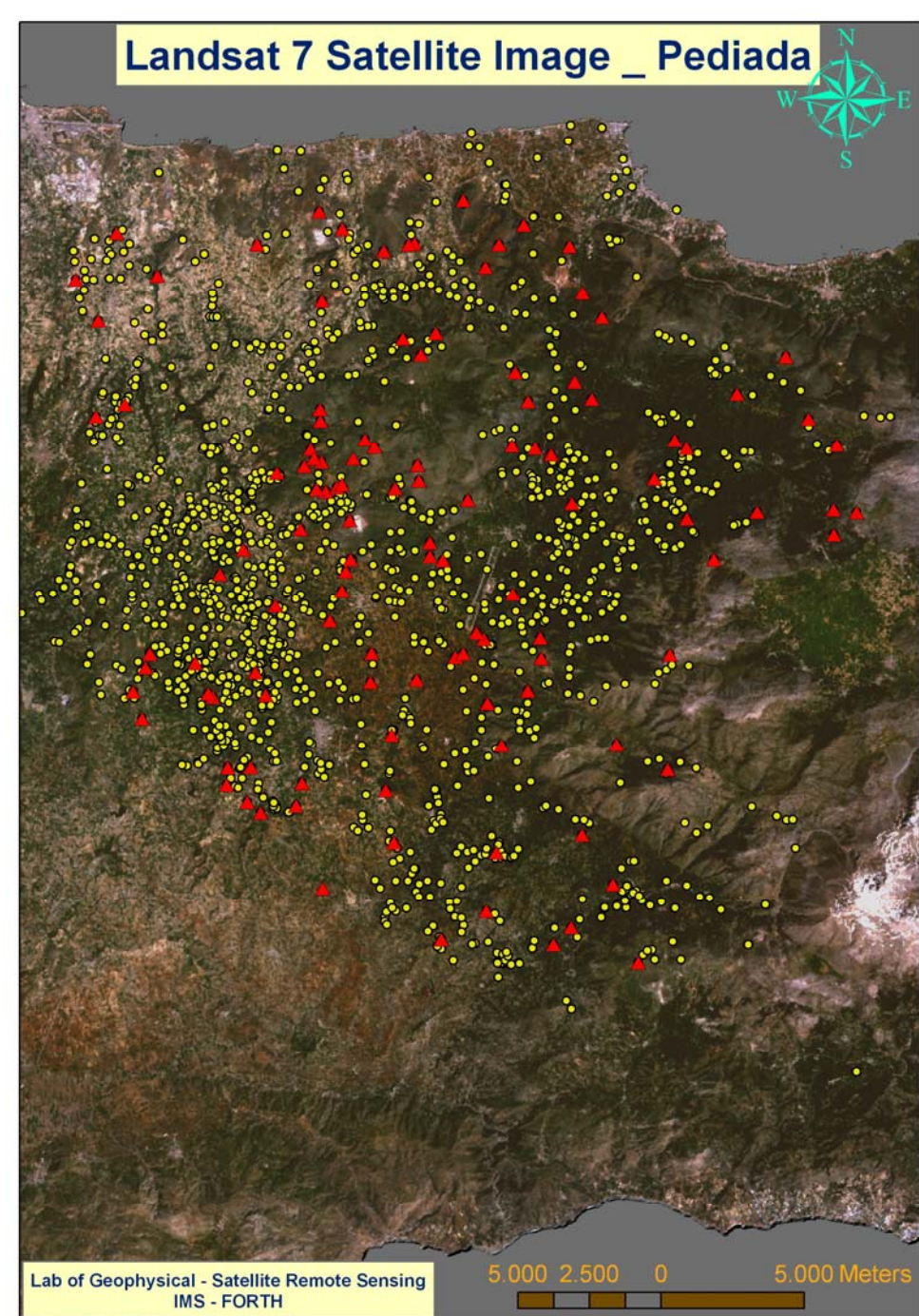


# GIS analysis of Archaeological Data from Pediada Survey, Herakleion, Crete, Greece



## Research Team

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The Pediada survey is an interdisciplinary project, based on fieldwork carried out between 1982 and 1989 by the archaeologist Dr. Niko Panagiotaki.

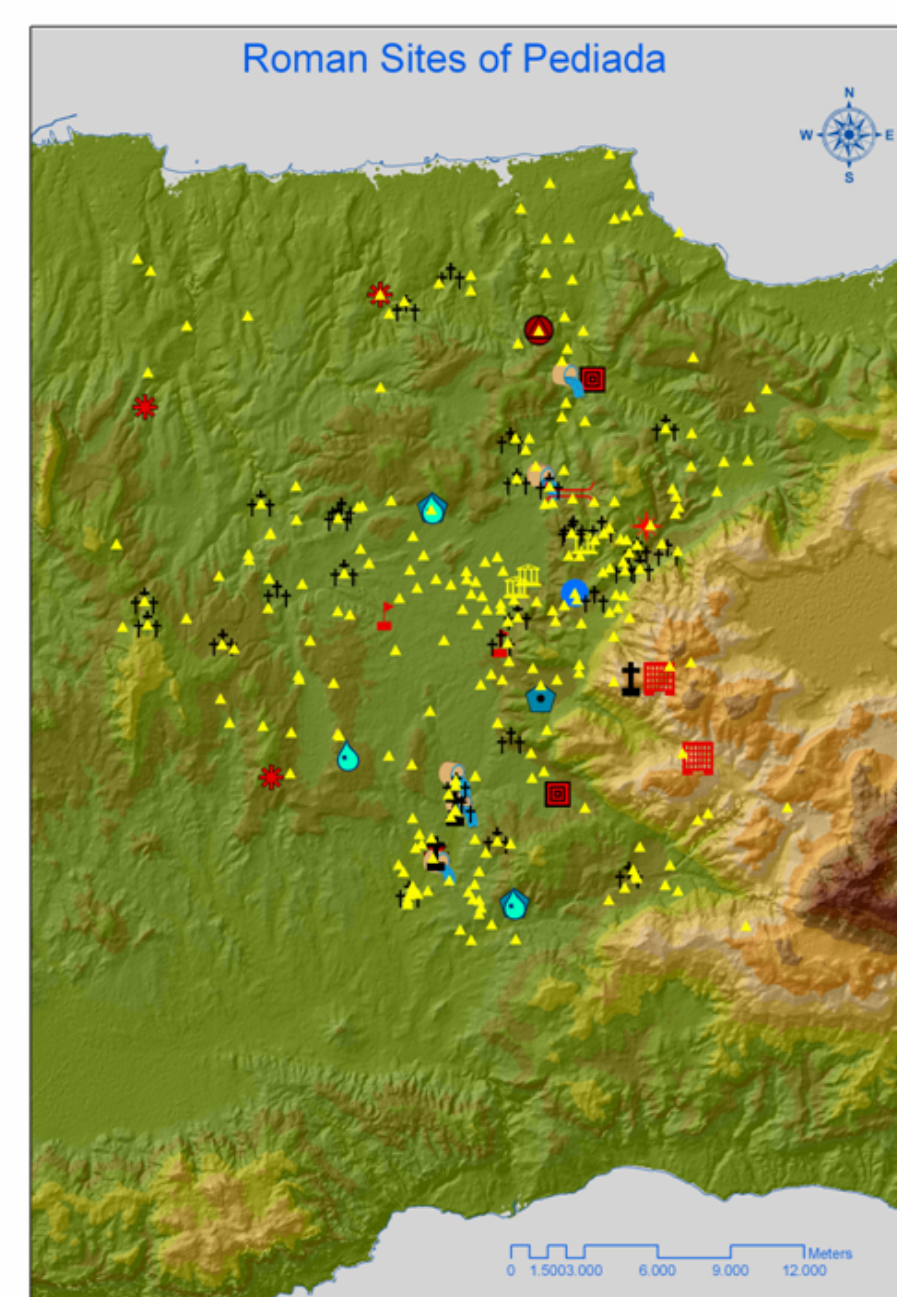
The project covered a total area of 800 sq. km. in the Omphalion Pedion. More than one thousand new archaeological sites have come to light through the Project. The Pediada region was settled from the Neolithic Period; the highest peaks of site density are during the Bronze Age (especially the Old and New Palace Periods), the Archaic, the Roman and the Venetian periods.

The aim of the project is to understand and reconstruct human activity in the Pediada from the Neolithic Period to the present and to clarify the relationship between people and their environment.

The involvement of the Laboratory is focusing on the development of an electronic database for archiving the archaeological information and the creation of a Geographical Information System for the geographical and spatial processing of the sites.

## Archaeological Thematic Mapping

- Roman Sites
- Roman Settlements
- Roman Cemeteries
- Roman Tomb Clusters
- Roman Isolated Tombs
- Roman Inscription
- Roman Temples
- Roman Wall
- Roman Roads
- roman\_aqueduct
- Roman Bath
- Roman Metallurgic Installation
- Roman Wine Press
- Roman Oil Mills



## Clustering of Sites & Spatial Cohesion of Settlement patterns

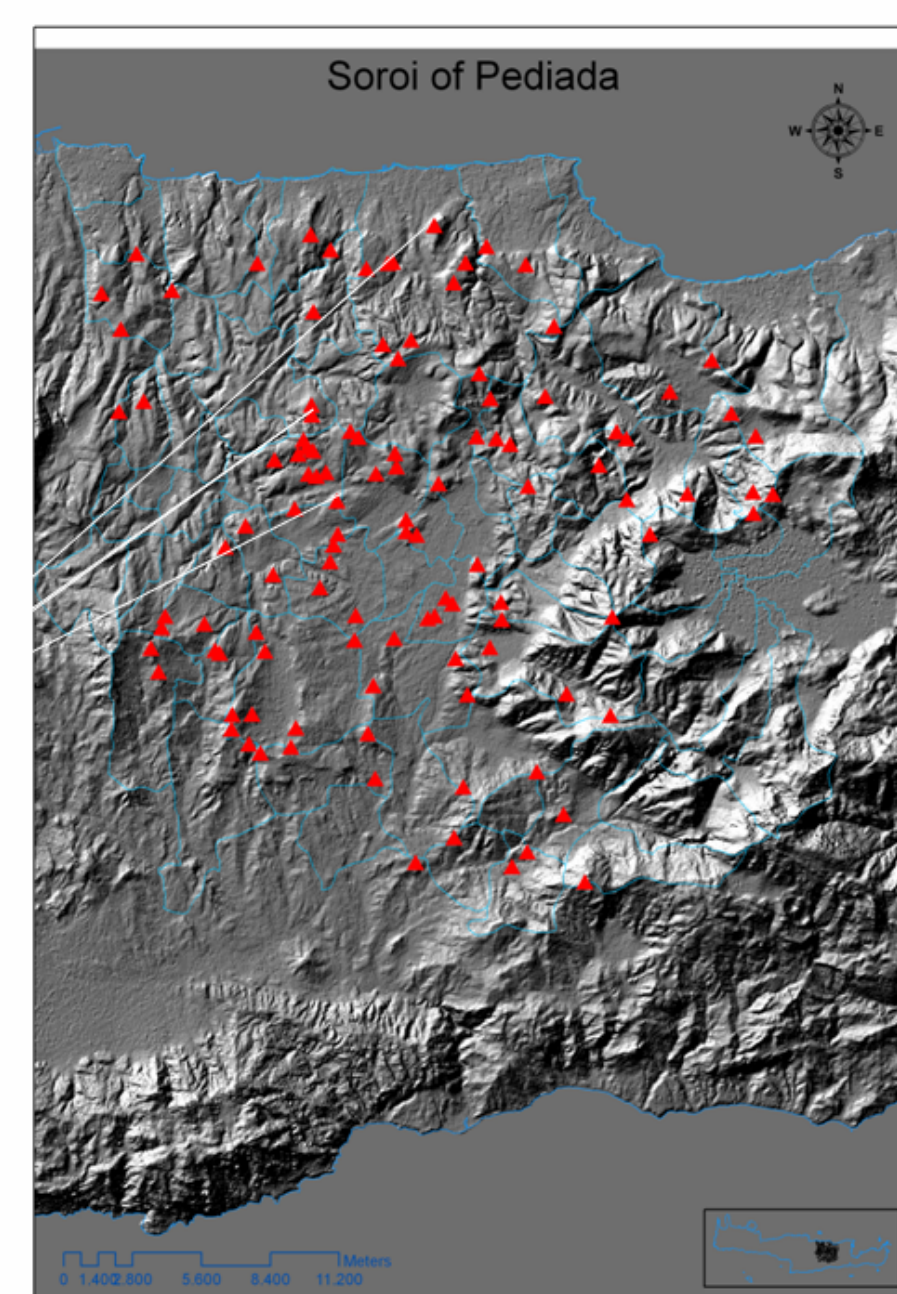
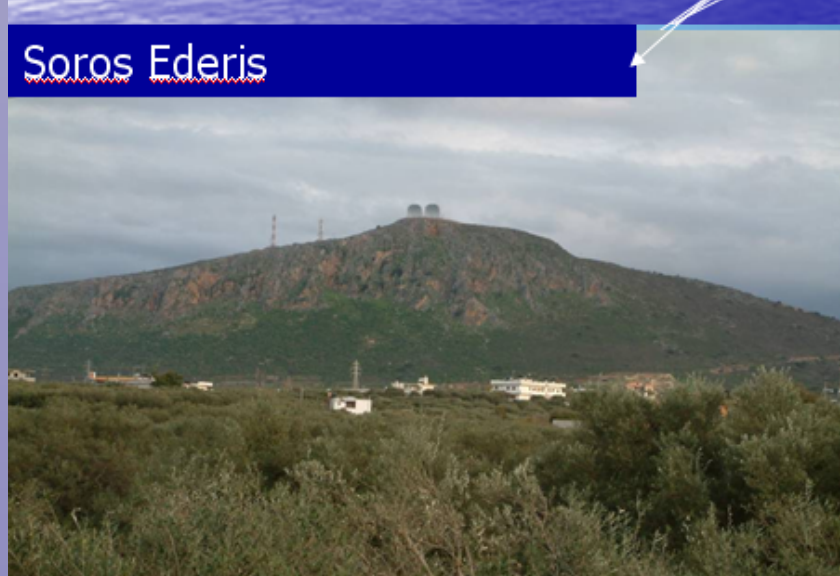
Nearest neighbour index (NNI):  
{observed distance / expected distance (hypothetical random distribution)}.

NNI < 1 → clustering  
NNI > 1 dispersion/competition.

Type & chronology of settlements	NNI	Type of distribution
Early Minoan	1.07	random
MMI-II	0.65	clustered
MMIII-III	0.65	clustered
MMIII-LMI	0.63	clustered
PG-G	0.85	Semi-clustered
Orient-Archaic	0.61	clustered
Hellenistic-Classical	0.68	clustered
Roman	0.62	clustered
Byzantine	0.56	clustered
Venetian	0.42	clustered
Soroi	0.01	Highly clustered
Modern villages	1.06	random

## Archaeological Thematic Mapping

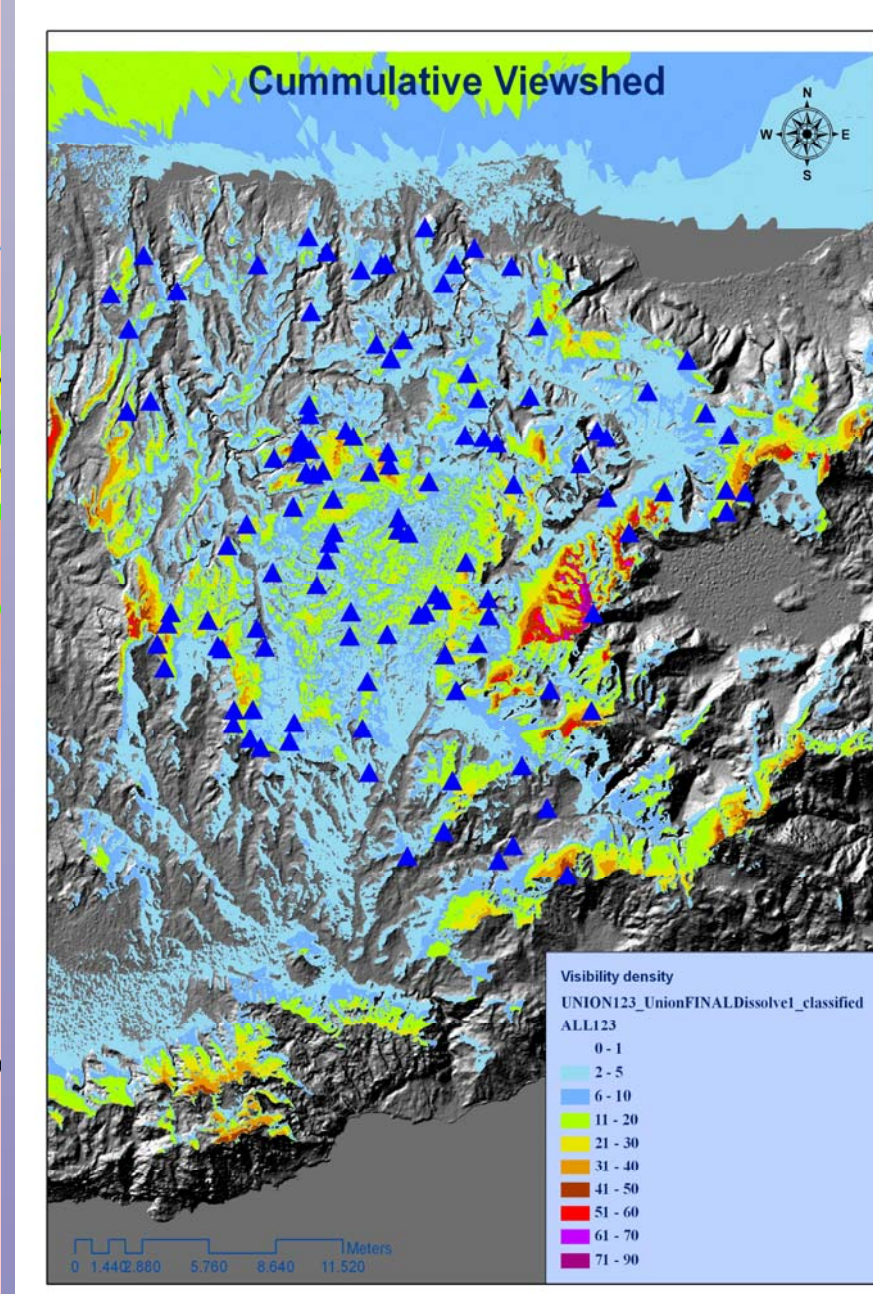
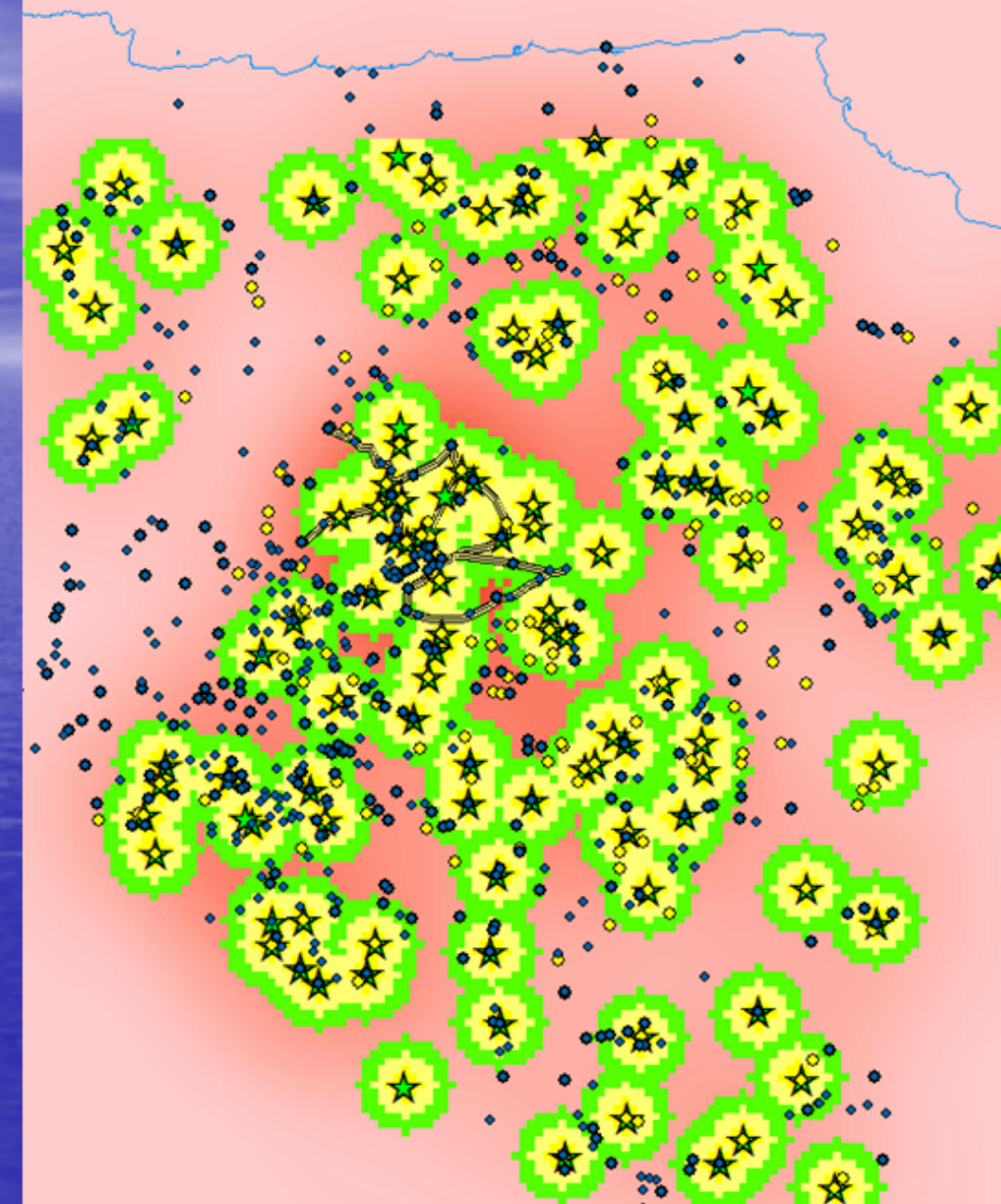
Among the most important finds of the Pediada Survey project was that of the earliest communication system in the Aegean world, functioning with fire signalling: a series of man made beacons in the shape of rounded pyramidal structures with a flat top.



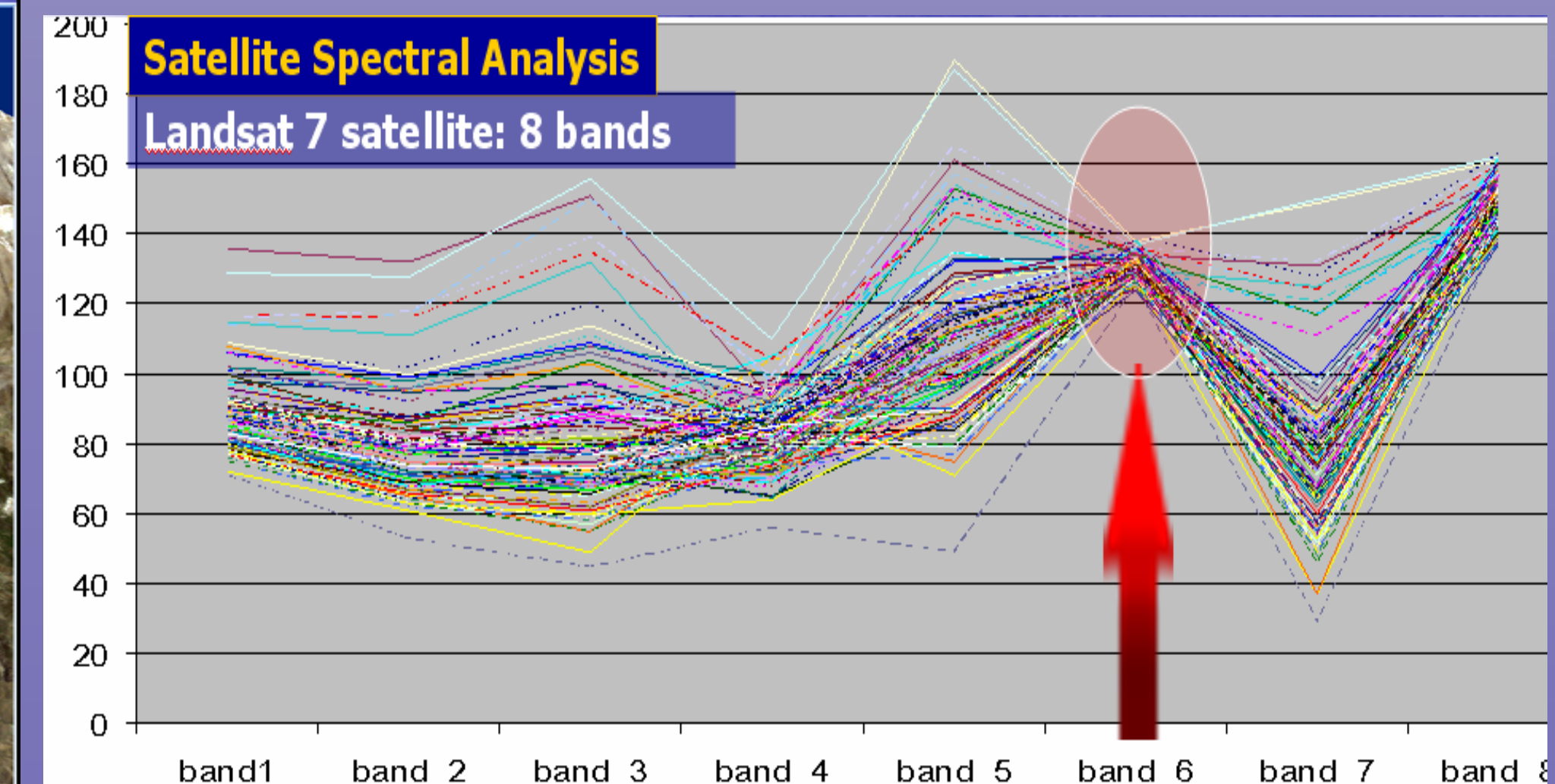
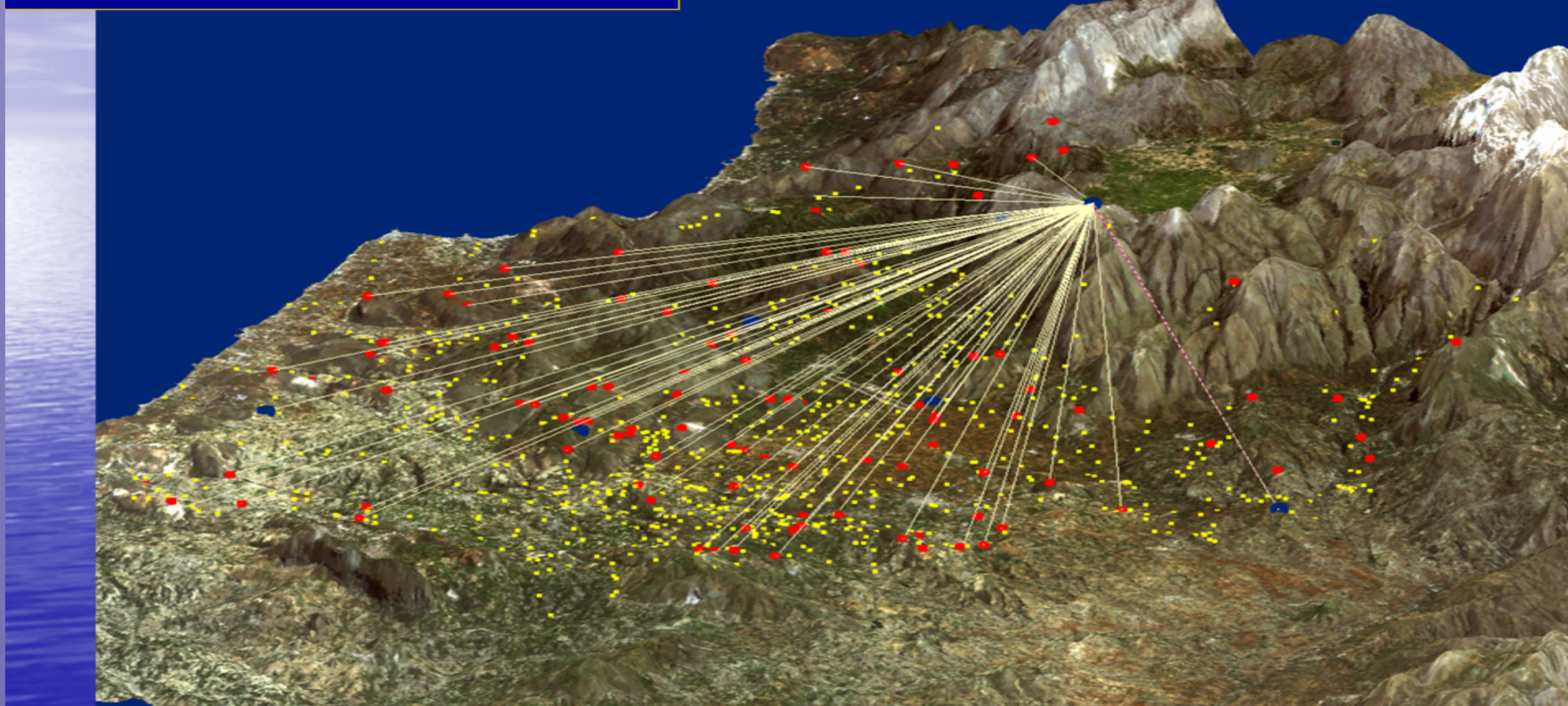
## Densities & Proximity

Studying the densities during the MM I-II & MMIII-LMI in correlation to the density of the Soroi

Proximity distances among Soroi have been estimated to be below 1000m for the majority of them.



## Soroi - Communication Network Macro-scale 3D reconstruction



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