Domestic Patterns of Neolithic Agricultural Villages in Eastern Thessaly: A Remote Sensing Approach

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Amorium Urban Archaeology Project
Island Cultures in a Diachronic Perspective: The Case of Therasia
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Omphalion Pedion Survey Project

Geographic Information Systems
Satellite Remote Sensing
Geophysical Prospection
Archaeo-environment
Photogrammetry
Chronology of Research in Neolithic Thessaly

1901-1903: Excavations at Sesklo and Dimini
1908: Excavations at Zerelia

1960-1977: Trial Excavations at several Neolithic sites by Theocharis and Milojcic
1977-1979: Excavations at Dimini by Hourmouziades

1984: Halstead’s catalogue of prehistoric sites in Thessaly, based on a survey made by French

1990-present: Field survey in Almiros plain 13th EPCA & the Netherland Institute at Athens
1990-2005: Rescue excavations (national road, Lake Karla)

2005-present: Extensive satellite R.S. & geophysical survey by GeoSat ReSeArch Lab of IMS
Documenting settlements in Thessaly & GIS analyses for

- management of the natural landscape
- Understanding distribution patterns

342 documented magoulas

181 sites (53% of the total) are established on alluvial deposits & 81 sites on fluvial deposit areas.

These formations are of low altitude & are ideal for cultivation.

http://neolithicthessaly.ims.forth.gr/
This paper presents the preliminary results of a multi-year geophysical and remote sensing fieldwork campaign to study the physical landscape and social dynamics of Neolithic settlements within the coastal hinterlands of eastern Thessaly (Greece).

IGEAN (Innovative Geophysical Approaches for the Study of Early Agricultural Villages of Neolithic Thessaly) project, is implemented under the "ARISTEIA" Action of the "Operational Programme Education And Lifelong Learning" and is co-funded by the European Social Fund (ESF) and National Resources (2013-2015).

AIMS: Application of non-destructive, remote sensing techniques to explore multiple settlements & extract new archaeological data on an extensive scale, to analyze the broader characteristics of Neolithic habitation in Thessaly.

The project has been successful in documenting the diachronic development of Neolithic sites from core habitation mounds (≤ 1 hectare) to large, sprawling communities several hectares in size.
Habitation Patterns of the Neolithic Agricultural Villages

http://igean.ims.forth.gr/
<table>
<thead>
<tr>
<th>SITE</th>
<th>COVERAGE (in hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Magnetics</td>
</tr>
<tr>
<td>1. Almyriotiki</td>
<td>8.42</td>
</tr>
<tr>
<td>2. Almiros 2</td>
<td>6.60</td>
</tr>
<tr>
<td>3. Bakalis</td>
<td>0.45</td>
</tr>
<tr>
<td>4. Belitsi</td>
<td>1.32</td>
</tr>
<tr>
<td>5. Eleutherochori</td>
<td>-</td>
</tr>
<tr>
<td>6. Kamara</td>
<td>0.88</td>
</tr>
<tr>
<td>7. Karatsangliou</td>
<td>2.96</td>
</tr>
<tr>
<td>8. Karatsantagli</td>
<td>2.71</td>
</tr>
<tr>
<td>9. Kastro Kokkinas</td>
<td>1.08</td>
</tr>
<tr>
<td>10. Nikonanou</td>
<td>2.91</td>
</tr>
<tr>
<td>11. Mati</td>
<td>3.33</td>
</tr>
<tr>
<td>12. Perdika 1</td>
<td>5.19</td>
</tr>
<tr>
<td>13. Perdika 2</td>
<td>3.90</td>
</tr>
<tr>
<td>14. Rizomilos 2</td>
<td>10.48</td>
</tr>
<tr>
<td>15. Visviki</td>
<td>5.12</td>
</tr>
<tr>
<td>16. Zerelia</td>
<td>4.83</td>
</tr>
<tr>
<td>TOTAL (&lt;5 weeks fieldwork)</td>
<td>60.18</td>
</tr>
</tbody>
</table>
Enclosures

Almyriotiki: EN-MN-LN
Structures

Almyriotiki: EN-MN-LN

Perdika 1: EN-MN
“Special” Buildings

Visviki: EN-MN-LN

GeoSat ReSeArch

IMS-FORTH
“Special” Buildings

Almiriotiki: EN-MN-LN
“Special” Buildings

Perdika 2: EN-MN
"Empty" Spaces

Alymros 2:EN-MN

Low magnetism
Low susceptibility
"Empty" Spaces

Perdika 1: EN-MN
Conclusions

• **Successful Employment of Geophysical and Satellite RS techniques:** Importance of using an arsenal of various approaches (*manifold geophysics*)

  **BUT, MOST IMPORTANTLY:**

• **A landscape of variation**

Similar and divergent characteristics of settlements in planning and structural materials)
- Dimension of settlements and structures
- Internal organization of the structures, clusters of structures
- open/unbuilt spaces, pits, a.o.
- burnt and unburnt structures / mudbrick & stone structures?
- Corridors and entrances
- Existence of enclosures (ditches/fortifications)
Future Research

(A) Built Environments and Settlement Patterns
(B) Neolithic Landscapes and Paleo-environment
(C) Land Use & Farming Dynamics
(D) Territoriality, Interaction, and Connectivity of Settlements