Geographic Information Systems Applied in Archaeological Sites

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Summary

During the last years we developed a few applications of GIS in archaeological sites. We believe that GIS environments allow to visualize data from excavations and all the related information in a perspective way which is unknown and unusual to archaeologists. Nevertheless they seem to understand now the help that they can achieve from such systems.
Today we will present an application in the archaeological site of Messene in Greece.

Why using GIS in Archaeological sites

What do archaeologists need?

Position determination, coordination

What found in a certain place

Topology determination

Phenomena determination

Where found a characteristic

Time determination

What are the changes in a characteristic

Why using GIS in Archaeological sites

Serving the special needs of many different users

Considerable reduction of multiple storing data

Unified specifications for gathering/storing data

Continuous observing and updating of phenomena

Providing safety for managing/storing data

Easier and better decision making

+ + +

Position of the site

The ancient city of Messene was founded by Epaminondas in 369 BC.

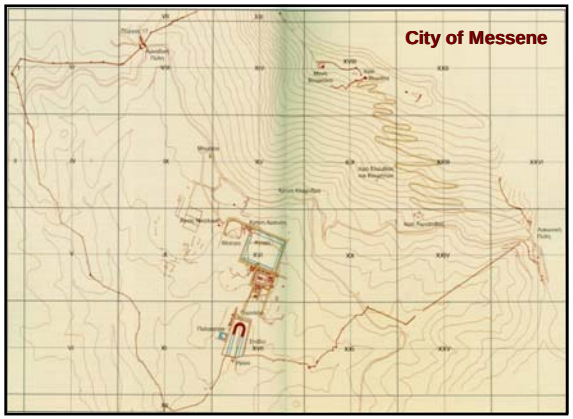
Homers mentions the site as “makar pedion” which means “fruitful valley”.

Located at the southwest part of Peloponnesos.

Urban Planning system: Hippodamian

Information for the city:

- Pafsanias (155-160) AD
- 1st Excavation: French Mission 1828
- 2nd Excavation: Archaeological school, Th. Sofoulis, 1859
- 3rd Excavation: From 1909 up to 1925, G. Oikonomou
- Excavations from 1957 up to 1979.
- Excavations during the last years, G. Themelis



Monuments

The wall with the towers

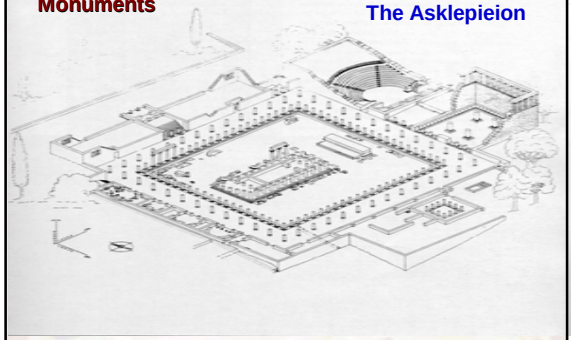
Build from Epaminondas

Monuments

The Arcadian gate

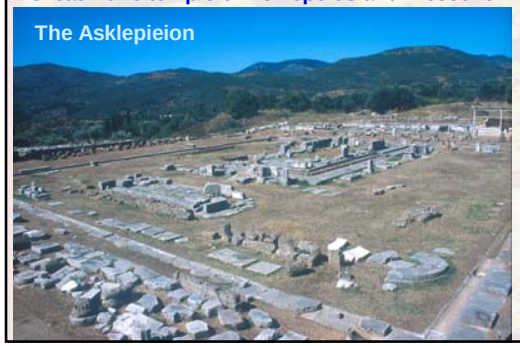
Monuments

The Asklepieion



Monuments

Great Doric temple of Asklepeios and Messene



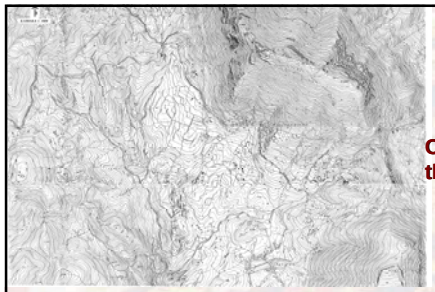
Monuments

The Eclessiasterion

The Sevasteion

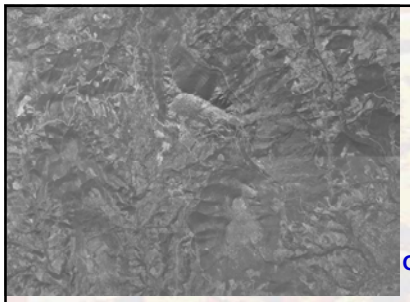
Monuments

The Stadium and the Gymnasium



Creation of the base map

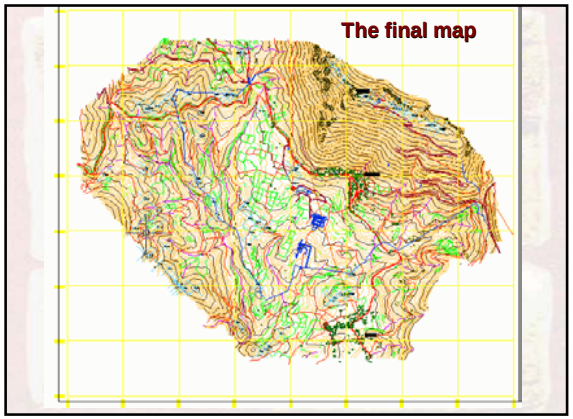
Map of HGMS Scale 1:5000 → scanning → Digitizing in Autocad Map



Creation of the base map

Orthophotomap

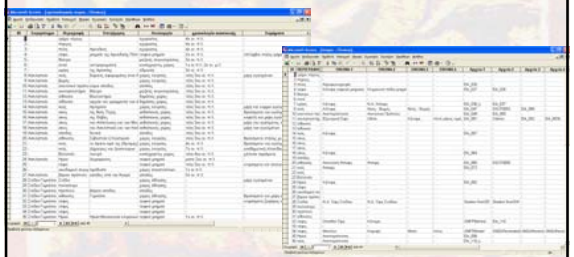
Transformations: Hatt → ISTOS 2000 (Afine bilinear) → EGSA '87



The final map

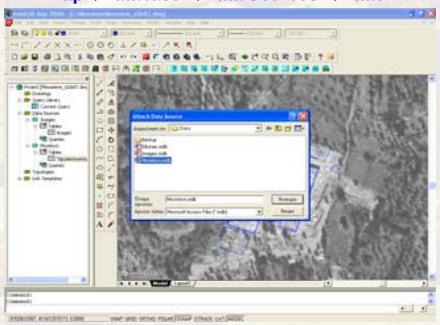
Formation of the data base

Two data bases were used

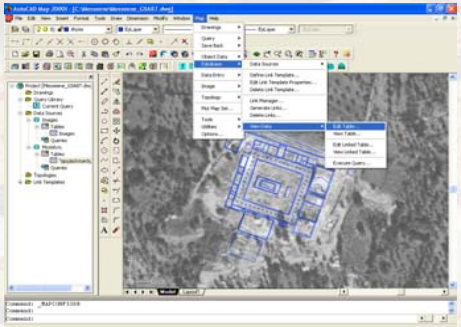


Linking the data base with the map

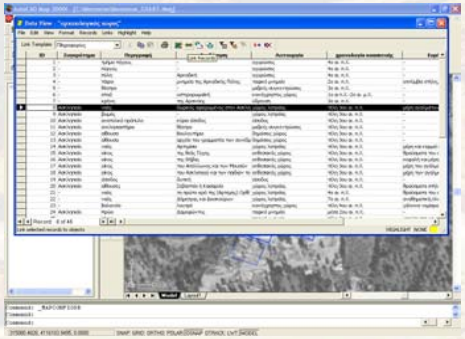
Map→Database →Data Sources →Attach



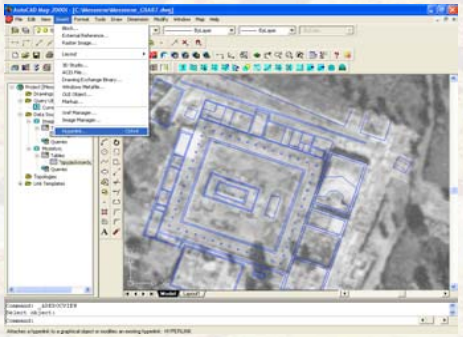
Linking the data base with the monuments

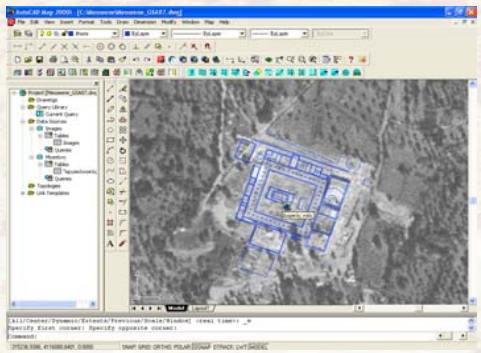


Viewing the data base from the map



Inserting hyperlinks to the map





Conclusions

Welcomed from the archaeologists

Easy to use and update

Flexible and supervising for presentations

Easier conclusions for the findings and the sites

Now they are learning to use the queries

And under consideration if it will be available on the internet

Thank you for your attention