

**GIS AND ARCHAEOLOGY: A HISTORICAL, ECOLOGICAL, AND  
CULTURAL JOURNEY  
NWACC Progress Report  
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The goal of this project is to use advanced GIS technology to address four interlocking objectives: 1) to train students to use GIS technology in order to examine and interpret historical, ecological, and cultural questions related to archaeological work in the Mediterranean basin; 2) to present archaeological data in a widely available, interactive, and usable format; 3) to continue the establishment of a collaboration with the NITLE sponsored GIS and Archaeology Educational program at DePauw University, Millsaps College, Rhodes College, and the College of Wooster, and 4) to continue work with three archaeology archival projects, ETANA at Vanderbilt University, MAGIS at DePauw University, and the GaiaLab project at Arizona State University.

**Work Done to Date:**

- A lab exercise to train students in the use of GIS as it applies to archaeological collection and presentation of spatial data has been created for my class Religion 112, Archaeology and Religion, which is being taught this semester. Students will use GIS to address data associated with at least four archaeological sites or surveyed areas. Projects of excellent quality will be placed on our website.
- One student, working with Jeff Tepper, a professor of Geology at University of Puget Sound, and me, has begun to prepare for ICP-OES analysis basalt and ceramic samples taken from sites in Israel. The goal is to discern distribution patterns for basalt and ceramic ware in Galilee by examining their "chemical fingerprints" to determine their place of origin. Two students are now being trained to use GIS and will enter the data on our web-based GIS map of the area.
- Patrick Moore of IntegralGIS, inc. and Mark Young, Director of Network and Server Systems at UPS have configured the server at UPS (purchased and dedicated solely to this project) and placed on it the ArcGIS Server software donated by ESRI for the project. I should note that Patrick Moore, the owner and chief executive of IntegralGIS donated his time to do this.

- I have joined NITLE's GIS and Archaeology Education program as an observer and will continue to monitor it throughout the semester. If it seems appropriate, I plan to ask our administration (and my department) to allow our students to participate beginning in either 2008 or 2009.
- A website has been set up that will serve as the vehicle through which information associated with this project is linked (<http://gis2.ups.edu/nwacc/frontpage.htm>). It will continue to be updated through the year.
- A prototype of a web based GIS project associated with my excavations at Khirbet Qana has also been set up (<http://gis2.ups.edu/qana2007/default.aspx>). Further refinement will continue throughout the year. In addition, we will begin to put on line data associated with a survey of Lower Galilee and excavation material associated with archaeological work that I did in the Ukraine between 1994-1998.
- We have begun to place data obtained in our survey of Lower Galilee on the MAGIS database.

### **Expenditures thus Far**

\$3000 has been spent to purchase software and a dedicated server for the project. The remainder will be spent on consultants who will help make the website increasingly user friendly and on the purchase of additional metadata (notably aerial photos for the region of Galilee) to place on the server.

### **Timeline for completion of Project**

Sept. 15-Dec. 30

- Continued OES-ICP analysis of basalt and ceramic specimens from Galilee survey by students under guidance of Jeff Tepper
- ArcGIS server software refined (a few bugs still exist)
- Edwards continues to participate as an observer in NITLE's GIS and ARCHAEOLOGY education program
- Edwards (and students) continue to add archaeological data to ETANA, GAIA, and MAGIS archival projects
- Qualified Student independent and collaborative projects from the Religion 112 class are placed on web

January 15-April 14, 2008

- Prototype of lab exercises for Connections 305, The Idea of Archaeology, completed.
- OES-ICP analysis of basalt and ceramic specimens from Galilee survey completed by students under guidance of Jeff Tepper
- Students trained to put basalt and ceramic specimens into a GIS format under guidance of Edwards; data is placed on the web
- ArcGIS server monitored and software refined as necessary in conversation with Patrick Moore and Mark Young
- Edwards continues an on-going collaboration with ETANA, GAIA, and MAGIS archival project
- All new database sets purchased and available for use by students taking Connections 305, The Idea of Archaeology, as a summer course
- Website displaying GIS based archaeological data associated with the excavations at Khirbet Qana (Israel), the survey of lower Galilee, and the excavations at ancient Chersonesos (Ukraine) available for wider use

April 14, 2008

Final progress report submitted to NWACC