



Geophysical Surveys in Archaeology: Guidance for Surveyors and Sponsors

Project #
00-127

Background:

Military installations frequently need to evaluate the National Register of Historic Places eligibility status of archaeological sites. Traditional archaeological approaches are expensive, highly invasive, and can be unreliable. Effective use of geophysical techniques (e.g., magnetometry, electrical resistance, ground penetrating radar) can dramatically improve reliability and reduce invasiveness, and in many cases, reduce project costs. Unfortunately, most professional archaeologists in the US have little previous experience in using geophysics.

Objective:

This project's objective was to develop a set of guidance documents and decision support tools to help Cultural Resource Managers and field practitioners make effective use of geophysical techniques.

Summary of Approach:

Practical guidance on the effective use of geophysical survey techniques in CRM was developed in two formats: 1) an automated software tool; 2) a series of non-technical guidance documents. Both resources are designed for use by geophysical practitioners who desire assistance in developing a sound survey design, as well as CRM professionals who want to work effectively with a geophysical consultant.

ATAGS (an Automated Tool for Archaeo-Geophysical Survey) is a software tool that allows the user to develop an effective survey design for the geophysical investigation of a particular archaeological site. The tool prompts the user for information about survey goals, soils and other site characteristics, and expectations about the archaeological record. ATAGS provide recommendations on instrument type and configuration, data density, and data processing.

Benefit:

Using ATAGS and its accompanying guidance documents will reduce the risk of wasting resources on a poorly designed survey. ATAGS is an effective tool for learning or teaching others to conduct geophysical surveys. The guidance documents will help survey sponsors prepare effective Statements of Work and review the survey reports provided by their consultants.

Accomplishments:

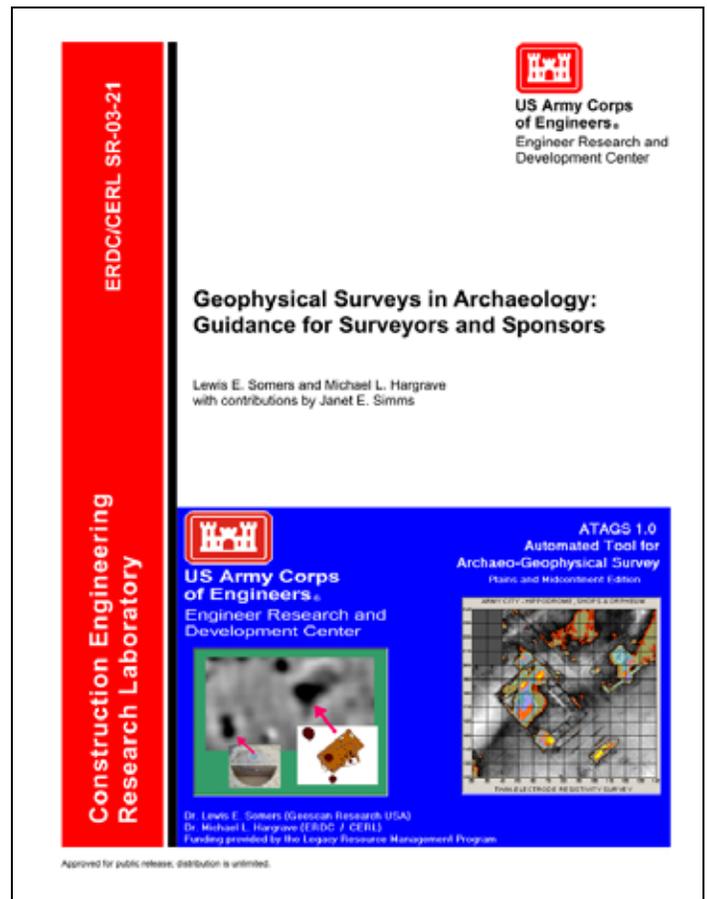
ATAGS (in CD format) is included with each copy of the final report. Copies were provided to instructors and students who attended the 2004 National

Park Service course in Remote Sensing and to professors at several universities that offer formal training in Archaeo-geophysics. The present version of ATAGS is designed for use at archaeological sites in the Midwest and Plains regions. Versions designed for sites in the arid Southwest or other regions may be developed in the future.

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The full report and ATAGS software are available online:
<https://www.denix.osd.mil/denix/Public/Library/NCR/archaeology.html>