GIS Technologies in the Field of Practical Archaeology

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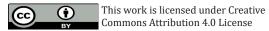
Introduction

With the expansion of the industry referred to as Cultural Resource Management (CRM), there has also been an expansion in the use of Geographic Information Systems (GIS). These systems can be utilized in a variety of ways, however they are commonly used in anthropology as a means of documenting archaeological information, such as shovel test pit results, georeferenced locations of archaeological resources, and to attach descriptions to specific locations and/or resources. GIS is also fundamental in the interpretation of the data collected over the course of field examinations, which can result in both artifact/feature density representations, as well as specific geospatial patterning across the area of investigation. Once the data has been documented and interpreted, GIS can then act as a catalyst to illustrate the results found over the course of the archaeological inquiry. Within the industry of CRM, the illustration of documented archaeological data becomes especially important as a means to convey the presence of anthropological resources to non-anthropologists, such as engineers and other construction personnel. Beyond the more basic functions of GIS within CRM, it can also help with other important tasks including; developing more accurate labor costs, maintaining State Historic Preservation Office (SHPO) standards, and ensuring that cultural resources located by previous examinations are handled accordingly. Due to the increasingly integral nature of GIS within CRM, I believe that more entry-level archaeologists should be familiarized with the use of GIS technologies in a more practical sense.

While it is true that as the number of personnel who interact with a GIS database increase, the likelihood of inconsistencies and errors also rise, I believe that this relationship can be offset by increasing the competency of entry-level users. For field technicians this would involve demonstrating the practical processes used to record archaeological information. This in turn would increase their understanding of both the means and objectives concerning documenting the information that they were directly involved in recovering. Although GIS related articles and instruction manuals can sometimes prove daunting for new and unfamiliar users, I feel that practical experience within a context known to the unfamiliar user would serve to efficiently acclimate them to the specific GIS program a CRM company utilizes. Moreover, GIS related programs are becoming more accessible than ever before. For example, Survey 123 (a program developed through Esri) boasts a simple and intuitive form-based solution to recording archaeological data collected in the field. This program can utilize a cell phone in order to georeference a specific location while also attaching prompted text box descriptions and photos, which can then be stored on the phone and later uploaded to the desired GIS database.

As GIS hardware and software become more heavily relied upon in contemporary CRM, it has become important to expand the entry-level understanding of using these devices and programs in a practical context. Through the understanding of what is ideal information from the recorders' standpoint, field technicians can begin to standardize and prioritize information essential for achieving a project's anthropological objectives. I believe that by building consistency in both the field work and the resulting field data, less time will have to be taken to organize the field data back in the lab or office. In turn, the less time consumed interpreting transmitted field data, the more quickly further fieldwork and CRM reports can be accomplished. I feel that this ultimately results in not only a more accurate interpretation of the archaeological record, but also lays more stable groundwork for future archaeological investigations.

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