



Workshop on Integrating Predictive Models into the CRM Process

09-457

Background:

Since 2001, several studies were funded via the Department of Defense's (DoD's) Legacy Resource Management Program that investigated the integration of modeling into DoD cultural resource management (CRM) compliance. The Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers have been consulted regarding this integration. To date, these studies have demonstrated that predictive models can provide a strong scientific foundation for decision-making about archaeological resources. These studies have also demonstrated that for predictive models to be sufficiently strong to be used in compliance, they must address issues of data quality and statistical modeling and fully utilize the capabilities of geographic information systems (GIS) technology. The models used in these studies on DoD lands have consistently shown weaknesses that could be easily overcome with a better understanding of how past use of landscapes could be conceptualized in GIS. The key to improving models, which was identified as part of an earlier Legacy project (#01-167), is training. The purpose of the current project was to rectify this deficiency by developing and delivering a workshop dedicated to improving technical aspects of predictive modeling and identifying key processes in integrating modeling in CRM compliance.

Objective:

The objective of this project was to develop and deliver a pilot workshop on how to build and use GIS-based predictive models to meet the compliance requirements of Section 106 and NEPA. The project was conducted in three steps. The first step involved developing the workshop materials, which included a student training workbook, PowerPoint presentation, and instructor's guide. The second step was to deliver the pilot workshop on August 10, 2009, at the 2009 Sustaining Military Readiness Conference in Phoenix, Arizona. A total of 48 individuals participated in the workshop. The following is a breakdown by service: US Army, 18; US Air Force, 17; US Navy, 5; US Marine Corps, 3; US Army National Guard, 3; and Other, 2. The final project step involved gathering comments from the workshop participants and revising the workshop materials based on these comments and on instructor observations made during the delivery of the pilot workshop.

Summary of Approach:

This workshop provided practical, hands-on development of predictive models, as well as problem-solving applications using both real world DoD examples and hypothetical scenarios. The first part of the workshop involved a hands-on session, using laptop computers and GIS programs, on how to build archaeological predictive models, validate models, and update models with new information. The second workshop component focused on incorporating predictive models into the Section 106 and NEPA compliance process.

Benefit:

The predictive modeling workshop is a valuable platform for assisting DoD in constructing and updating archaeological predictive models, and using these GIS-based predictive models to streamline compliance with Section 106 and NEPA. Savings of time and money in the compliance process will allow for more rapid advancement of the military mission. Primary stakeholders including, DoD, the National Conference of State Historic Preservation Officers and the Advisory Council on Historic Preservation, have been consulted and have supported the predictive modeling studies conducted. If predictive modeling is to be integrated into DoD CRM compliance programs, it is of great importance that DoD installation CRM and GIS specialists create the best models possible, which requires training. This pilot workshop is an important tool in achieving this goal.

Accomplishments:

The workshop on integrating predictive models in the CRM process provides critically needed instruction on building archaeological predictive models and using them to meet the historic preservation and environmental regulatory requirements. Feedback from the workshop participants confirmed the interest in and need for this type of training.

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