

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Geographic Information Systems, Remote Sensing, Global Positioning Systems, and Mobile Mapping Research and Development for the NPS GIS Program

Discipline: Natural

Type of Project: Technical Assistance

Funding Agency: National Park Service

Other Partners/Cooperators: Colorado State University

Effective Dates: 9/1/2005 - 9/30/2009

Funding Amount: \$584,268

Investigators and Agency Representative:

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Project Abstract:

This task will provide support for the NPS GIS Program and focus on the Mobile Spatial Data Initiative to investigate and research various wireless approaches to transmit textural data between field radio/GPS units and another field or base units. Data can be in the form of a simple latitude / longitude location of the field unit, tabular data, or text messages. Textural data to and from the field unit will be interfaced either on a handheld, laptop, workstation, or tablet device in conjunction with spatial data. The wireless data sources to be investigated include one or more of the following:

- Project 25 (P 25), narrow-band, digital park radios
- Digital cell phone (CDMA, Code Division Multiple Access and GPRS, General Packet Radio Services)
- Other wireless broadband technologies yet to be determined

This effort will investigate, research, and develop software extensions and applications for wireless data systems as needs are identified. Software development and testing will be a significant part of this work. Data that are transmitted via these wireless systems will be ported to various geographical Information systems and other data base applications.

A separate project of this task agreement is to compile, integrate, test, and provide training support for a digital image metadata standard for managing digital photographs. Assistance with this project will include broad stakeholder and workflow requirements analyses, workflow identification and documentation, and metadata standard research, development, and review utilizing XML and existing standards and applications. Close working relationships with and substantial involvement of Federal staff will be required to successfully complete this task.

This task is in direct support of the NPS GIS Program, Incident Management, Analysis and Reporting System (IMARS), and the Facilities Management Software System (FMSS) initiatives. It will provide additional benefits and support to other evolving initiatives and programs throughout the NPS.

Additional tasks were added in FY07:

1. research support for the NPS GIS Program and focus on the field data collection of vegetation, facility asset, and other resource data for use in enterprise systems and geospatial applications.
2. compile, integrate, test, and provide training support for an asset inventory and geospatial database of building footprints, maintained landscapes and other Facilities Management and Fire Program initiatives.
3. provide R&D and implementation support for web mapping services required by other project components, such as Civil War sites of interest, building locations, and interactive digitizing applications for delineating maintained

landscapes, fire perimeters, trails and other data themes as identified by the project teams.

Outcomes with Completion Dates:

Research report and recommendations, application extension(s), computer program code, and detailed technical documentation Due by September 30, 2009.

Keywords: GIS, geographic information system, remote sensing, global positioning system, GPS, mobile mapping, web mapping, asset inventory, fire program, Civil War sites, wild and scenic rivers, NPS GIS Division, Colorado State University

For Administrative Use Only:

Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: