

# Cultural Resource GIS: Data Availability, Quality and Management

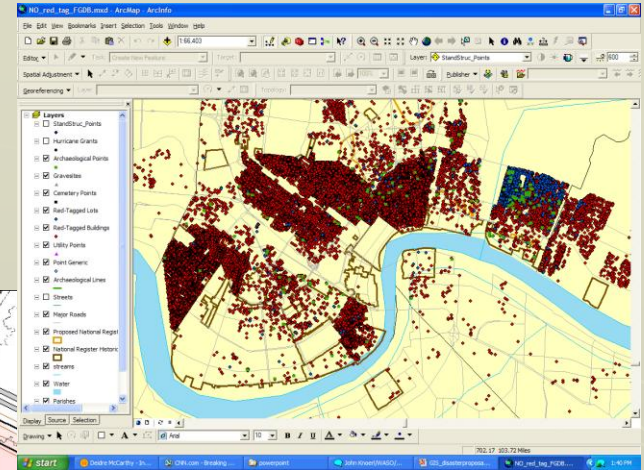
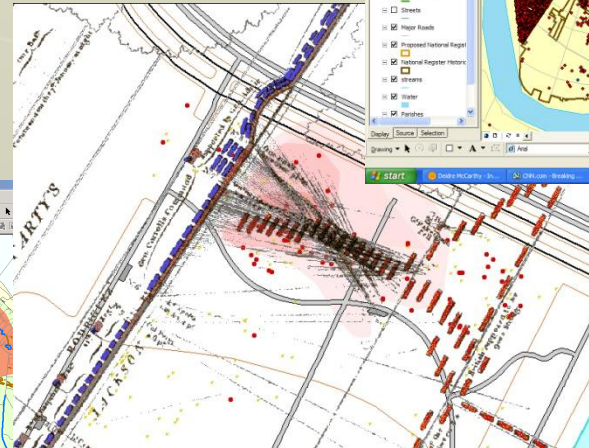
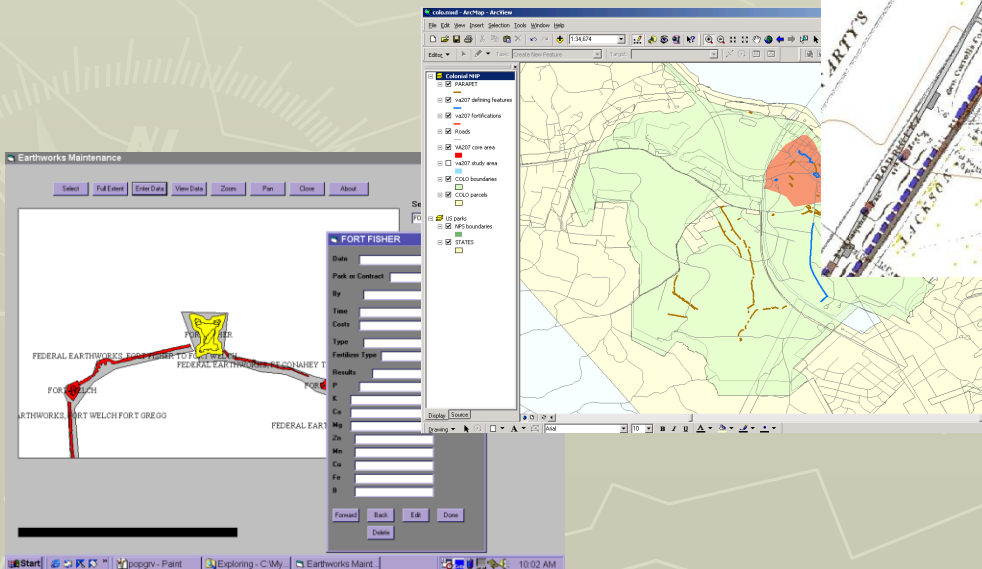
3 September 2014

Deidre McCarthy, GISP  
Cultural Resource GIS Facility  
National Park Service



# The Cultural Resource GIS Facility National Park Service

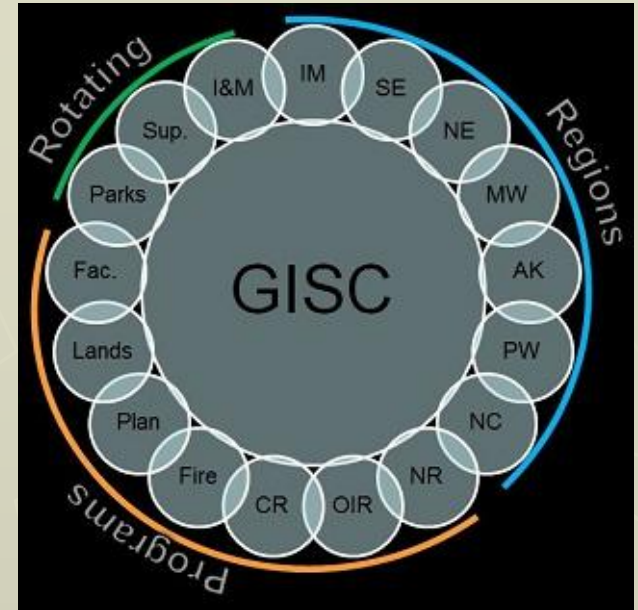
- ▶ Geographic Information Systems (GIS)
- ▶ Global Positioning Systems (GPS) Survey
- ▶ GIS Analysis
- ▶ Cartography and Output
- ▶ GIS Programming
- ▶ GIS and GPS Training



Our primary mission is to assist State/Tribal Historic Preservation Offices, National Park Units, CLGs and others in automating data, collecting data, and exploring the use of technology with cultural resource management.

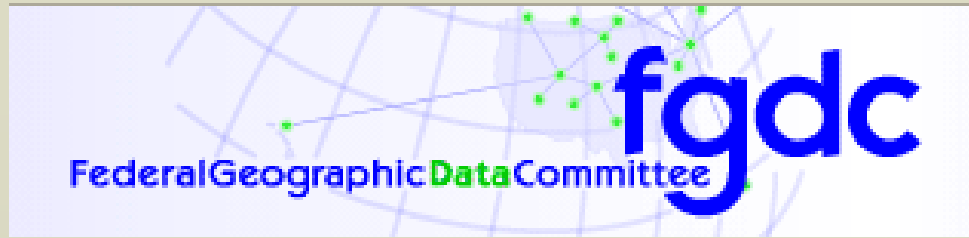
# GIS in the National Park Service

- ▶ The use of GIS for cultural resource management is highly decentralized in the NPS
- ▶ Individual parks manage their own inventories of cultural resources, and contribute to the national NPS resource inventories, to plan and manage at the local level; only some use GIS to accomplish this
- ▶ Regional NPS offices all have designated GIS coordinators
- ▶ Some regions have archaeological centers or technology centers who may use GIS for specific cultural resource applications
- ▶ CRGIS is the only dedicated cultural resource GIS program at the national level
- ▶ The decentralized nature of cultural resource GIS in the NPS reflects the state of cultural resource GIS throughout the United States. Each state and federal agency maintains its own cultural resource inventory or inventories independently.
- ▶ There are regulatory needs to maintain these inventories





# The Federal Geographic Data Committee



- ▶ The FGDC is an interagency committee that promotes the coordinated development, use, sharing, and dissemination of geospatial data on a national basis
- ▶ This nationwide data publishing effort is known as the National Spatial Data Infrastructure
- ▶ FGDC activities are administered through the FGDC Secretariat, hosted by the National Geospatial Programs Office (NGPO) of the U.S. Geological Survey
  
- ▶ OMB Circular A-16 creates the Federal Geographic Data Committee and defines 16 nationally important spatial data themes, of which cultural resources is one
- ▶ A-16 designates the NPS as the lead agency responsible for the cultural resource data theme for all federal agencies
- ▶ CRGIS serves as the theme lead and the chair of the FGDC Cultural Resource Subcommittee that consists of 20 federal agencies, 10 state historic preservation offices, 10 tribal historic preservation offices and representatives from several other national preservation organizations

# Cultural Resource GIS Data Sources

- ▶ Because of the decentralized nature of cultural resource management in the United States GIS data may come from many sources
  - ▶ National organizations
  - ▶ Federal agencies
  - ▶ State/Tribal historic preservation offices
  - ▶ State GIS data clearinghouses
  - ▶ Certified local governments
- ▶ Multiple sources of data means that data accuracy and quality may vary greatly, in addition to data parameters, such as coordinate systems
- ▶ Cultural resource information has been collected since 1966 because of the NHPA, but other programs started as early as the 1930s. Data sets may not be complete, up to date or consistent in quality, even within the same data set
- ▶ Like natural resource and endangered species GIS data, many cultural resource data sets are sensitive and can not be shared with the public, such as archaeological resources
- ▶ Creating data standards at the NPS and through the FGDC will help to make the data more consistent and uniform, improve the quality and document the data itself for use in planning and modeling management alternatives

# NPS Cultural Resource GIS Data

- ▶ The NPS maintains and provides access to several critical data sets important for landscape scale conservation and planning efforts
- ▶ National Heritage Area and National Park boundaries
- ▶ National Register of Historic Places locations, which includes historic buildings, structures, objects, sites and districts
- ▶ The NPS also maintains its own inventories, including a cultural landscape inventory, list of classified structures and archaeological sites database
- ▶ Each data set has its own data accuracy, quality and completion concerns

The screenshot displays two web interfaces side-by-side. The left interface is the National Register of Historic Places GIS application, showing a map of Pennsylvania with numerous orange dots representing historic places. A pop-up window provides details for a specific location: Jefferson, John P., House, located at 119 Market St., Warren, Pennsylvania. The right interface is the IRMA Portal (Integrated Resource Management Applications), which features a navigation menu with categories like Air Resources, Biological Resources, and Cultural Resources. It also includes a search bar and various content sections such as NPS Data Store, Featured Content, and Park Visitor Use Statistics.

**National Register of Historic Places**  
Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. Data last updated in April, 2014.

OBJECTID	32904
Shape	Point
NRIS_Refnum	85000996
Resource Name	Jefferson, John P., House
Resource Type	Building
Address	119 Market St.
City	Warren
County	Warren
State	PENNSYLVANIA
Vicinity	
Certification Date	19850509

**IRMA Portal**  
Integrated Resource Management Applications

Home Search Topics News About Help Contact Us

Welcome to the IRMA Portal

Search the NPS Data Store

Filter by NPS

Quick Links

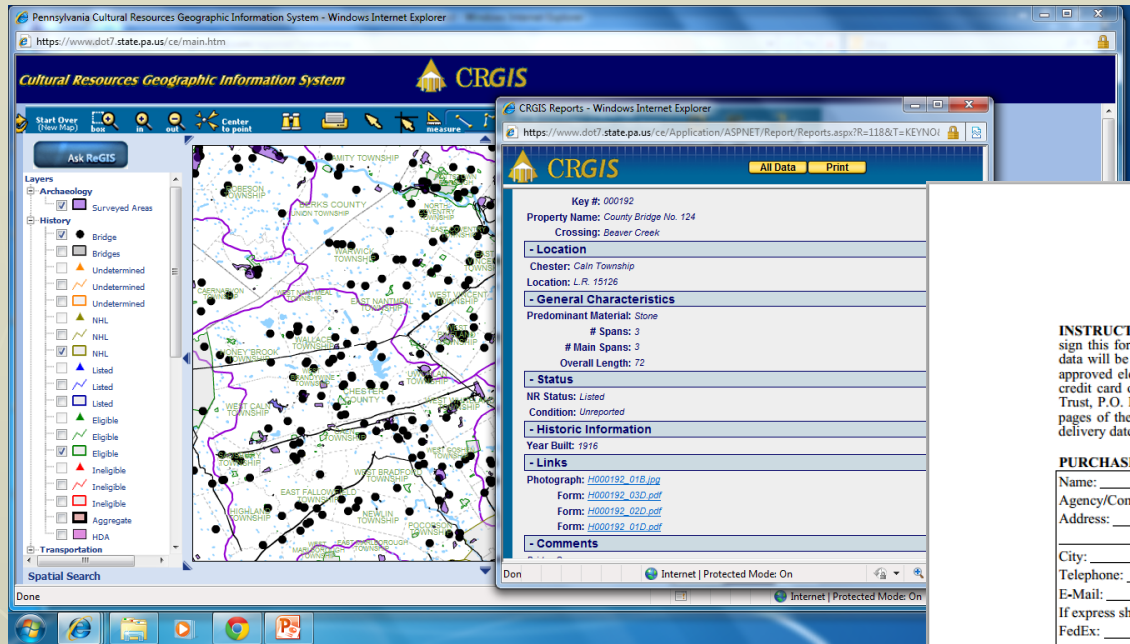
- NPS Data Store
- Featured Content
- NPSpecies

Park Visitor Use Statistics

PEPC (Planning, Environment & Public Comment)

RPRS (Research Permit and Reporting System)

# State and Tribal Cultural Resource GIS Data Sources



PA online cultural resource GIS

MD cultural resource GIS data license agreement

## MARYLAND DEPARTMENT OF PLANNING MARYLAND HISTORICAL TRUST Spatial Data Products Order Form and License Agreement

**INSTRUCTIONS:** Please fill in the appropriate information, read the License Agreement on page 2, and sign this form to signify your agreement with all terms and conditions. All fees must be prepaid before data will be shipped. Checks must be made out to "GIS/Maryland Historical Trust", R-STARS, or other approved electronic transfers, are an acceptable means of transferring funds between agencies. Cash or credit card orders are not accepted. This order form and fees should be mailed to: Maryland Historical Trust, P.O. Box 43, Crownsville, MD 21032. To insure prompt delivery, please also fax a copy of both pages of the order form to Maureen Kavanagh at (410) 987-4071. You will be contacted regarding the delivery date for your order and confirm the data format.

### PURCHASER (LICENSEE) INFORMATION:

Name: _____		
Agency/Company Name: _____		
Address: _____		
City: _____ State: _____ Zip Code: _____		
Telephone: _____ Fax: _____		
E-Mail: _____ FTP: _____		
If express shipping is desired, supply FedEx or UPS account number and service desired.		
FedEx: _____ UPS: _____		

### REQUESTED DATA:

(Note: unless otherwise specified, all GIS data will be shapefiles in Maryland State Plane NAD83, meters)

HISTORIC SITES GIS DATA LAYERS

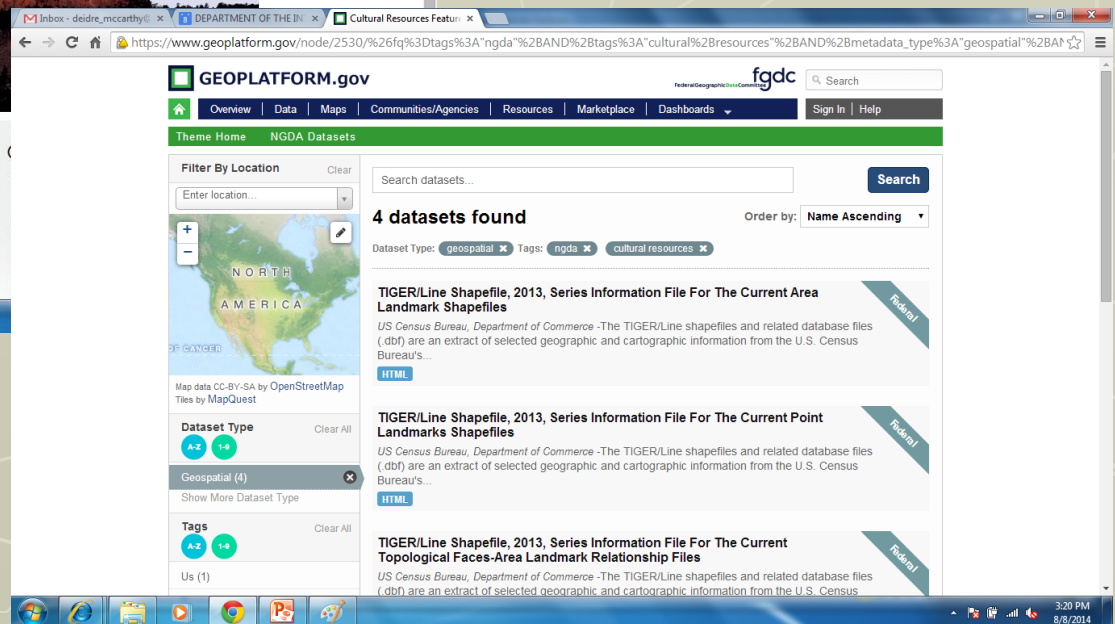
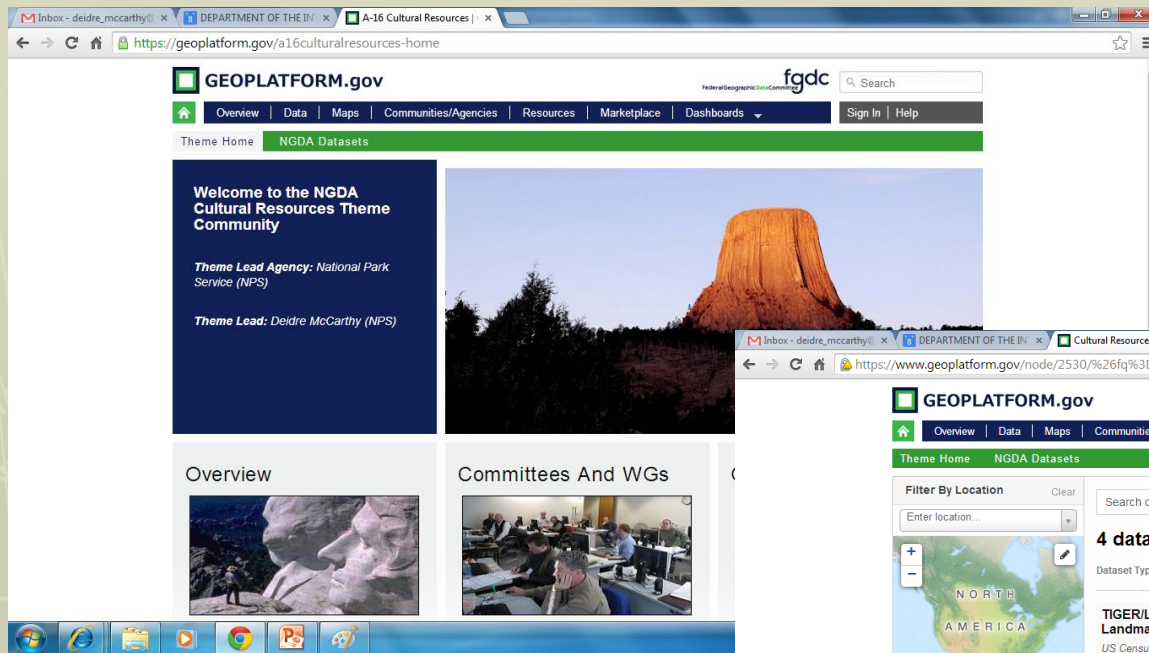
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- ▶ Each state has a state historic preservation office and all but a few have functional GIS programs, with available inventory data
- ▶ Many tribes have tribal historic preservation offices which also maintain GIS data
- ▶ Each may have different levels of quality and data access requirements
- ▶ Many have on-line GIS to view and access unrestricted cultural resources
- ▶ Most will have data use and sharing agreements, or charge for data use



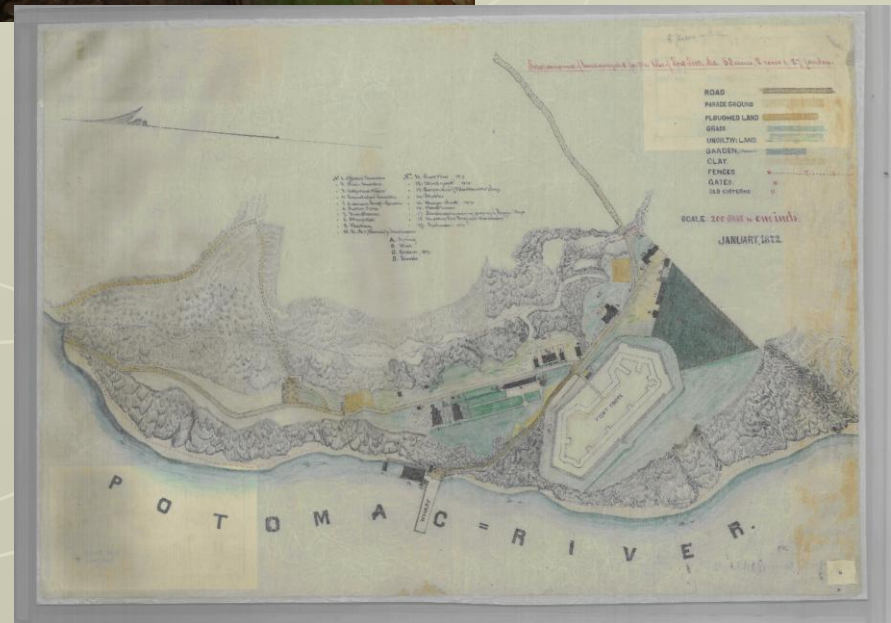
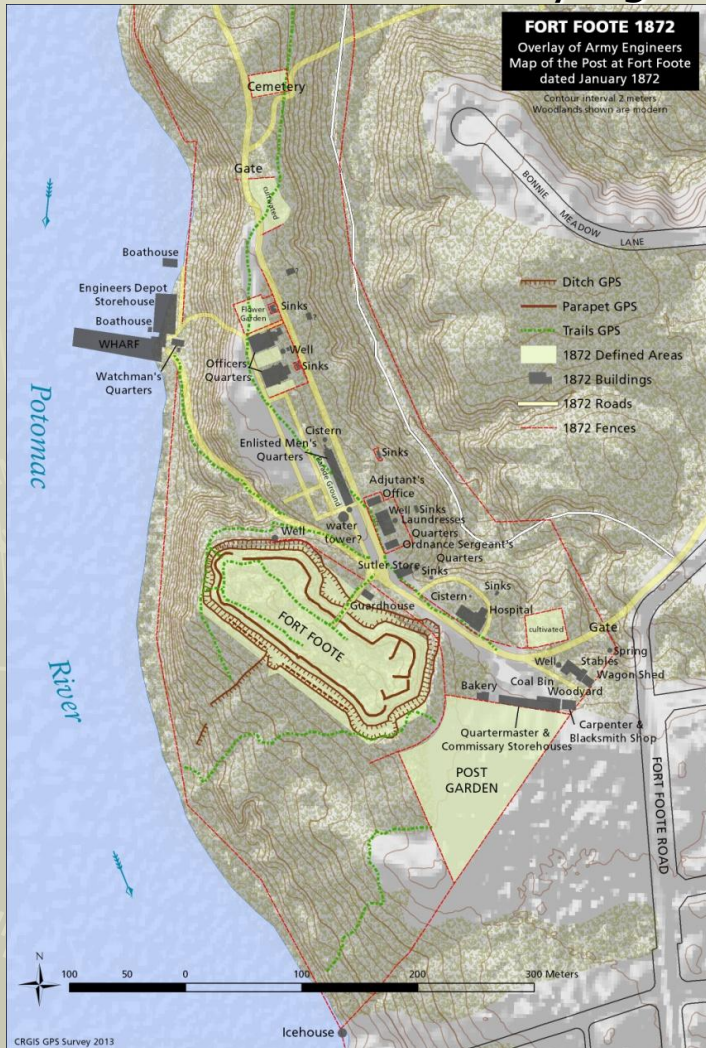
# National Cultural Resource GIS Data Sources

- ▶ Because of the FGDC efforts to create national, authoritative data sets that meet specific standards, several portals exist to help in finding and accessing cultural resource GIS data
- ▶ These same portals provide access to other nationwide authoritative data sets



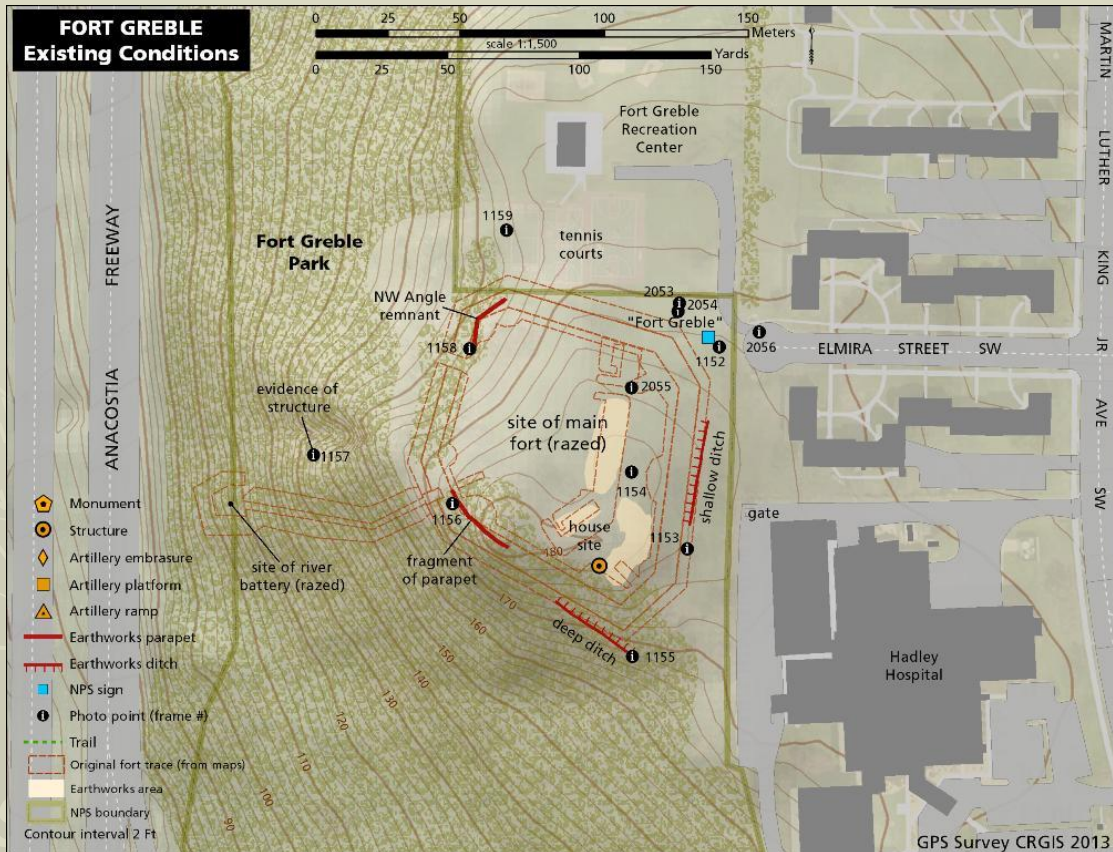
# Integrating Cultural Resource GIS into Landscape Management

- ▶ CRGIS uses GPS to locate and document contributing elements of landscapes and overlay historic maps with current conditions to help produce management alternatives and identify significant resources



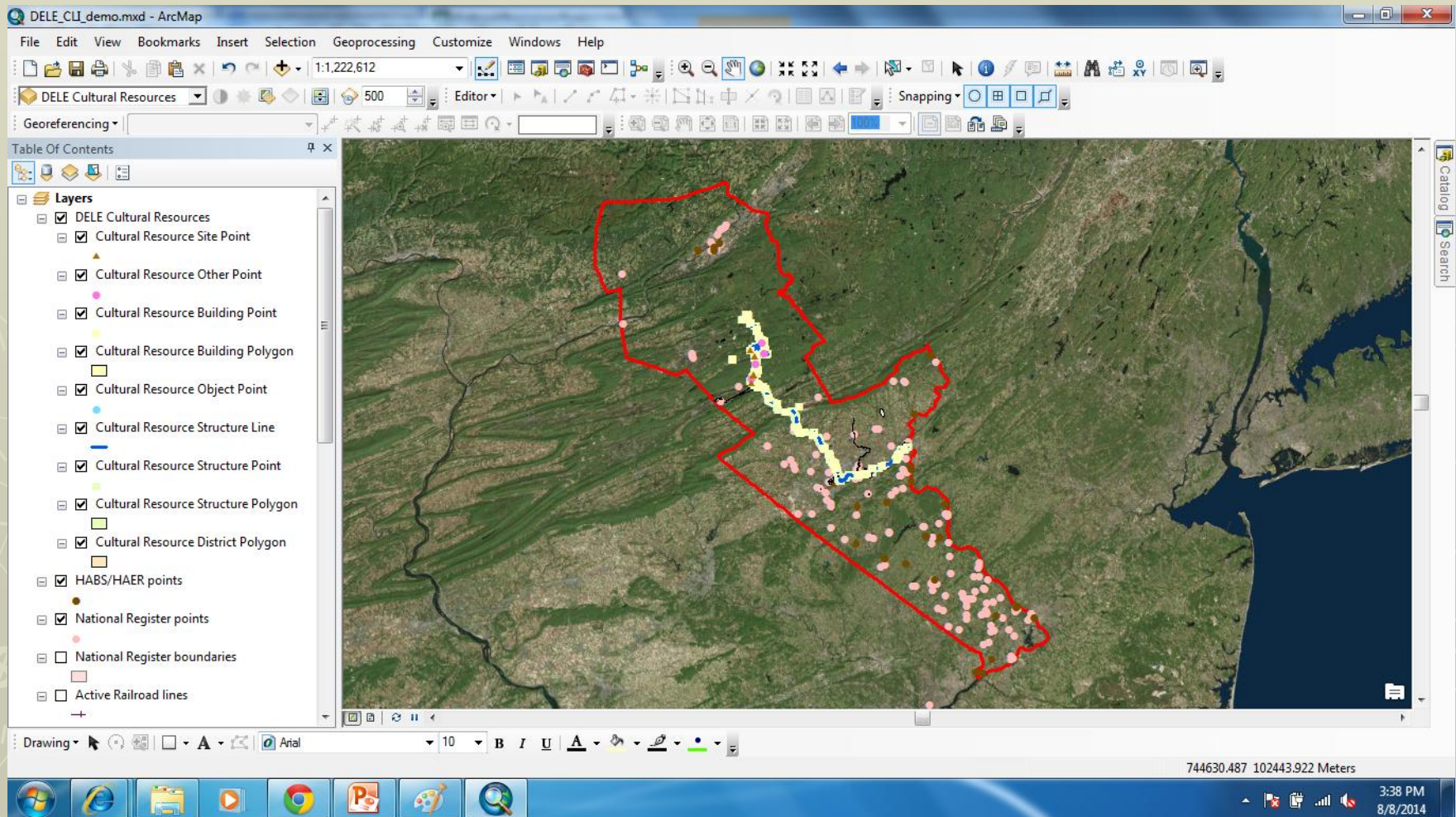
# Generating Tangible Outcomes

- ▶ By using the GIS to analyze the landscapes, we can determine what historic features remain intact, and how best to protect the resources. Leading to better management of sites for the long term and integration of cultural and natural conservation techniques



# Using Cultural GIS in Landscape Conservation

- ▶ The same techniques can be applied at large or small scales and for a variety of landscape conservation needs, such as disaster response or climate change
- ▶ The already available cultural resource GIS data is easily incorporated into existing GIS models in use to enhance landscape management and better incorporate all the elements that contribute to the importance of a region





# Contact Information



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**<http://www.nps.gov/history/hdp/crgis/>**