U.S. Department of the Interior
National Park Service
Natural Resource Information Division

Updated
Fact Sheet

GIS in the National Park Service

June 1997 **97-21**

Since 1995, the focus of GIS (Geographic Information System) in the National Park Service has been on cartographic data acquisition for parks, GIS training, and technical and administrative support for the growing number of GIS and GPS (Global Positioning System) operations in parks. A transition to easy-to-use desktop equipment is underway in about 200 offices and is expected to be made in altogether more than 500 offices within the next 5 years. New GIS applications range from studies of effects on parks by visitors to assistance with the re-creation of historic battlefield landscapes.

Background

Some large national parks have used GIS since the early 1980s. In fact, from about 1984 until 1994, the National Park Service maintained a separate GIS division. The division recommended and supported UNIX based systems such as SAGIS and GRASS, and staff set up systems in parks and trained park personnel in the use of GIS. When by 1991, 53 national parks used GRASS and the demand for services became too large for its staff of 20, the division requested the appointment of GIS coordinators in field offices. Over time, several field offices of the National Park Service added GIS coordinators to their staffs and developed GIS field technical support centers. Some field offices entered cooperative agreements for the implementation of GIS and for technical support with universities such as the Pennsylvania State University, North Carolina State University, University of Wisconsin, and the University of New Mexico.

In 1993, the GIS division of the National Park Service was one of the many entities that were transferred from various agencies under the Department of the Interior to the new National Biological Service. At that time, the standard GRASS software had already become outdated and most field offices had started using ARC/INFO products.

Current Status

Organization

Since the comprehensive reorganization of the National Park Service in 1995, when the Natural Resource Information Division was created and given the responsibility of GIS, the staff of the division has included a GIS coordinator. Also since 1995, eight field technical support centers were funded and improved and the National Park Service entered into a cooperative agreement for national GIS support with the North Carolina State University.

Functions

The GIS Coordinator of the Natural Resource Information Division provides leadership on GIS and spatial data issues in the National Park Service and assists with implementation of GIS in national parks; represents the National Park Service to the Interior Geographic Data Committee; and coordinates data requirements, satellite imagery, and other spatial data for base cartography by the service.

The North Carolina State University assists parks and the field technical support centers with applications of GIS, provides training of park personnel in GIS, and serves as a clearinghouse for data that are posted on the Internet.

The field technical support centers -

- assist parks and programs with planning, developing, and implementing GIS technology
- coordinate GIS activities and issues with NPS GIS staff, especially with staff in their respective field areas
- coordinate GIS partnerships with other agencies and organizations
- construct thematic data layers for parks
- organize spatial data archives for parks
- assist parks with data documentation and management

- provide national parks with technical support for GIS operations and training of personnel
- and provide parks and other entities of the National Park Service with services for the development of GIS applications and with products, including full services for parks without on-site GIS capabilities.

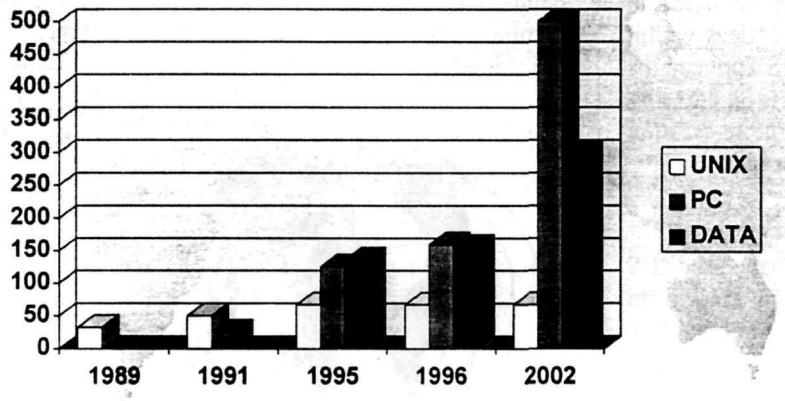
GIS Implementation

The implementation of GIS requires the acquisition of data, computer hardware, software, and staff. The Natural Resource Inventory and Monitoring program of the Natural Resource Information Division provides national parks with standard 1:24,000 elevation, hydrography, boundary, and other base cartographic data. Parks purchase the hardware and software for GIS operation and the maintenance agreements for the UNIX work stations. The most commonly used GIS software in the National Park Service is the ARC/INFO family of GIS software products. ARC/INFO, produced by the Environmental Systems Research Institute, provides several levels of GIS software products that range from CAD (Computer Aided Drafting) and desktop to complex work stations and servers.

GIS implementation in the National Park Service tends to be with desktop personal computers. Several staff members can access the system over a local area network (LAN) or from one or more desktop computers. Only the larger parks have GIS UNIX work stations, and even some of them are beginning to exchange UNIX for high-powered NT PCs.

The levels of operation and application of GIS widely vary in the National Park Service. At present, 67 GIS UNIX work stations and about 160 desktop GISs are in operation.

Growth of GIS in the National Park Service



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For information about GIS, metadata and clearinghouse, vegetation mapping, and GPS and GIS applications, consult the world wide webpage at: http://www.cgc.ncsu.edu/npsgis/index.html

To participate in the GIS data clearinghouse of the National Park Service, contact Bill Slocumb at the North Carolina State University, Telephone (919) 515-3432.

For a subscription to the GIS Bulletin Board on the internal cc:Mail of the National Park Service, employees can contact their cc:Mail coordinators.