GIS IN THE NATIONAL PARK SERVICE (UPDATED)

by Leslie Armstrong, National GIS Manager

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. More than 250 NPS units use GIS today. GIS applications range from studies of effects on parks by visitors to assistance with the re-creation of historic battlefield landscapes.

Current Status

Organization

The Information Telecommunications Division was recently given national level management of GIS by moving the national GIS coordinator position from natural resources and adding technical GIS staff. This was done to align Internet and library programs with GIS technology and to broaden the GIS support and outreach to other programs such as cultural resources, land resources, and national rivers and trails. Like these programs natural resources also maintains a GIS coordinator position.

Also since 1995, eight regional 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 regional 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 Regional 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

- create 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

- 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 Internet map 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 net-

work (LAN) or from one or more desktop computers. Only the larger parks have GIS UNIX work stations.

The levels of operation and application of GIS widely vary in the National Park Service. At present, 95 ArcInfo sites and about 250 desktop ArcView GISs are in operation. There are also 2 Internet mapping servers in use and other sophisticated GIS application software and Oracle databases in development for helping parks, educators, and managers access important data and GIS tools on-line.

For further information contact:

Servicewide

Leslie Armstrong
GIS Coordinator
National Park Service
P. O. Box 25287
Denver, Colorado 25287
Telephone: (303) 969-2964
e-mail: leslie_armstrong@nps.gov

Alaska Region

George Dickiso
National Park Service
Alaska Support Office
2525 Gambell Street, Room 107
Anchorage, Alaska 99503
Telephone: (907) 257-2489
e-mail: george_dickison@nps.gov

Intermountain Region

Theresa Ely
National Park Service
P. O. Box 25287
Denver , Colorado 80225-0287
Telephone: (303) 969-2653
e-mail: theresa_ely@nps.gov

Midwest Region

Peter Budde
National Park Service
Great Lakes/Great Plains
  Support Office
University of Wisconsin
B102 Steenbock
550 Babcock Drive
Madison, Wisconsin 53706
Telephone (608) 265-3515
e-mail:peter_budde@nps.gov

National Capitol Region

Patrick Gregerson
National Park Sevice
1100 Ohio Drive, SW
Washington, D. C. 20242
Telephone: (202) 619-7277
    or (202) 342-1443
e-mail: patrick_gregerson@nps.gov

Northeast Region

Bill Slocumb
CGC, NCSU
Allegheny/Chesapeake
  Support Office
Box 7106, 5112 Jordan Hall
Raleigh, North Carolina 27695
Telephone: (919) 515-3432
e-mail:bill_slocumb@nps.gov

Nigel Shaw
National New England
  Support Office
15 State Street
Boston, Massachusetts 02109
Telephone: (617) 223-5065
e-mail: nigel_shaw@nps.gov

Pacific West Region

Craig Dalby
National Park Service
Columbia Cascades
  Support Office
909 First Avenue
Seattle, Washington 98104
Telephone: (206) 220-4261
e-mail: craig_dalby@nps.gov

Melia Lane-Kamahele
National Park Service
Pacific Island Support Office
300 Ala Moana Boulevard,
  Room 6305
P. O. Box 50165
Honolulu, Hawaii 96850
Telephone: (808) 541-2693
e-mail: melia_lane-mahele@nps.gov

Southeast Region

Crista Carroll
National Park Service
Atlanta Federal Center
100 Alabama Street, S.W.
1924 Building
Atlanta, Georgia 30303
Telephone: (404) 562-3132

For information on GPS (Global Positioning Systems), contact:

Tim Smith
Delaware Water Gap National
  Recreation Area
H. C. 38
Milford, Pennsylvania
Telephone: (570) 296-6952
e-mail:tim_smith@nps.gov

For information about GIS, metadata and clearinghouse, vegetation mapping, and GPS and GIS applications, consult the world wide webpage at: http://www.nps.gov/gis

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 information on remote sensing and vegetation mapping, contact Mike Story at (303) 969-2746 or mike_story @nps. gov