

NPS Holds First GIS Conference

The National Park Service held its first national GIS conference in Luray, Va., Oct. 12-14, 1988. Participants included current and potential users of GIS and related technology from around the country. About 100 attended – nearly double the number anticipated.

The objectives were to bring together GIS users from throughout the Service to discuss their applications and concerns and to provide direction for the GIS Division in Denver. Parks making presentations included Shenandoah, Yosemite, Gulf Islands, Capitol Reef, Indiana Dunes, Everglades, Santa Monica Mountains, Mount Rainier, Great Smokies, Grand Teton, Glacier, Wind Cave, Lake Mead, Death Valley, Natchez Trace, and George Washington Memorial Parkway.

Other units making presentations were the National Capital and Alaska Regional Offices, the Denver Service Center, the Interagency Resources Division in Washington, D.C., and North Carolina State University. One evening was devoted to hardware and software demonstrations and discussion groups on such topics as GIS data sources, GIS plans, new remote sensing technologies, and global positioning systems.

Users presented papers on actual and intended applications of GIS and CADD technology. GIS applications were almost exclusively devoted to natural resource issues – management of exotics (aliens), fire, pests, fisheries, wildlife, and water; management of rare, threatened, and endangered species; analysis of island geomorphology; distribution and habitat mapping; and habitat modeling.

Other GIS applications included site restoration, impact analyses, land use planning, boundary assessments, analysis of disturbance history, and location of archeological resources. CADD applications included cave mapping, minerals leasing, buildings and grounds management, development siting, highway planning and maintenance, and impact assessment.

One year ago four sites were up and running with the technology. Today, the number is about three dozen and growing. Roles, requirements, and responsibilities are changing rapidly, and an important segment of the conference was a free-wheeling discussion of the exploding use of GIS technology in the Service.

1. *GIS institutionalization.* This involves Regional support roles and communication. In most Regions, the Regional GIS Coordinators' roles need to be strengthened and given greater priority. GIS responsibilities should be recognized as *primary* duties, rather than as duties *as assigned*. Reporting responsibilities, for communication and understanding among the coordinators, their parks and other units, and the Denver GIS Division, need to be formalized. Respon-

sibilities for A16 (USGS annual request for mapping support) and Regional annual GIS workplan priorities need to be strengthened and better documented.

The relation of the GIS coordinator to the various Regional divisions should be more clearly articulated. Using the GIS coordinators as Regional technical GIS specialists also should be considered.

2. *Continuing support from the GIS Division.* There is rising apprehension that with the rapid growth in NPS use of GIS technology the Denver GIS Division will not be able to provide and maintain an adequate level of support for users. The Division's staffing and funding levels are stagnant, or even slightly declining, in the face of a roughly order-of-magnitude increase in demand for such support. It was recommended that the GISD seek additional staff and funds to continue its centralized park and Region support. It also was suggested that regional centers (Regional Offices, DSC, CPSUs) could be expanded to provide support under the GISD umbrella of Servicewide standards and improved communications.

3. *Training.* The GISD should continue to provide training for developing GIS plans, data base construction, image processing, and GIS use. The growth in users is accompanied by a growth in training requirements. Greater GISD support for operational park GISs means less training support available for new park GISs. A standing program in a standing facility should be established to provide ongoing training.

4. *Software.* The consensus over directions for future software development requested improvements in usability of existing capabilities and continuation of central technical support rather than relying on commercial software and accompanying support. Work already is in progress on a menu-driven SAGIS interface, online help, and up-to-date documentation.

Other suggested SAGIS improvements were an integrated interface for SAGIS and GRASS, hardware independence, online tutorials, simplified vector data editing, improved handling of graphics text, easier transitions to and from relational data base systems, dBASE link and support, and facilitated data base exchanges (between GIS and CADD systems.)

5. *Data security.* The creation and potential availability of digital data bases on park resources have raised the issue of data security. Parks and the GIS Division must give attention to preventing indiscriminate access to sensitive data, such as archeological sites and endangered species. Adequate archiving and backing up also must be done. Satellite-derived data present their own special case, because commercial copyright and licensing agreements control certain aspects of their distribution.

6. *Role of the GIS Division.* Users reaffirmed the role of the Division: (a) technical assistance in acquiring and analyzing remote sensing data, in constructing GIS data bases, and in operating GISs; (b) establishment of GIS policy, standards, and guidelines; (c) providing technical consultation in selecting hardware and software for remote sensing and GIS; (d) providing training; (e) developing, enhancing, and supporting software; and (f) acting as liaison with other agencies.

7. *Alternatives to GIS.* Several parks are using mapping and CADD systems as alternatives to GIS. The simplicity of use, flexibility of display, and low cost of these systems were pointed out as their attractive features. Parks with limited staff and budget for GIS activities were urged to look into these alternatives.

Harvey Fleet, Chief, Digital Cartography Branch