

Highlights of [GAO-03-874T](#), a testimony before the Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census, Committee on Government Reform, House of Representatives

**Why GAO Did This Study**

Geographic information systems (GIS) manipulate, analyze, and graphically present an array of information associated with geographic locations, have been invaluable to all levels of government. Their usefulness in disaster response was recently demonstrated during the Space Shuttle Columbia recovery effort. GIS provided precise maps and search grids to guide crews to the debris that was strewn across 41 counties in Texas and Louisiana.

The federal government has long been attempting to develop an integrated nationwide GIS network. The information available through such a network could significantly enhance decision-making in myriad public-service areas, including emergency response, national security, law enforcement, health care, and the environment.

Among GAO's objectives were to describe the federal government's efforts to coordinate GIS activities, the long-standing challenges of adopting and implementing federal GIS standards, and the role of Geospatial One-Stop.

[www.gao.gov/cgi-bin/getrpt?GAO-03-874T](http://www.gao.gov/cgi-bin/getrpt?GAO-03-874T).

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**GEOGRAPHIC INFORMATION SYSTEMS**  
**Challenges to Effective Data Sharing**

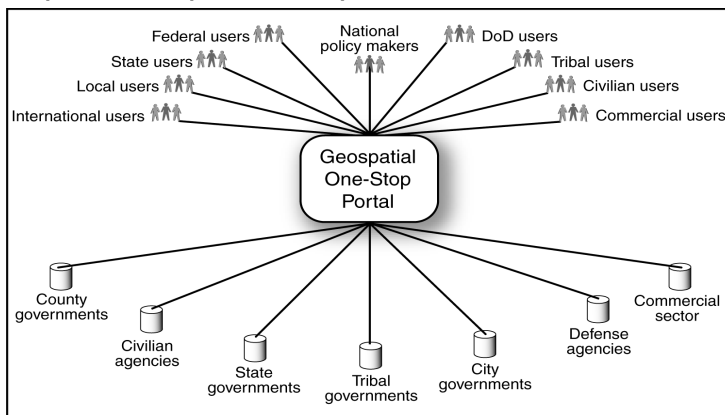
**What GAO Found**

For decades, the federal government has tried to reduce duplicative geospatial data collection by coordinating GIS activities within and outside the federal government. For example, in 1990, the Office of Management and Budget established the Federal Geographic Data Committee to promote the coordinated use, sharing, and dissemination of geospatial data nationwide. In 1994, the National Spatial Data Infrastructure (NSDI) program was established by executive order to address the problem of the redundancy and incompatibility of geospatial information on a national basis. More recently, Geospatial One-Stop, a component of NSDI, was initiated (see below).

Although efforts to build the NSDI are progressing, achieving the vision of a nationwide GIS network remains a formidable challenge. Developing standards that meet stakeholders' needs remains a challenging and time-consuming task, and achieving full participation across governments in their development has also been difficult.

Geospatial One-Stop is aimed at promoting coordinated geospatial data collection and maintenance across all levels of government. Among its objectives are (1) deploying an Internet portal for one-stop access to geospatial data; (2) developing data standards; and (3) encouraging greater coordination among federal, state, and local agencies. While these objectives are important, Geospatial One-Stop has focused on limited, near-term tasks and was not intended to fully address the longer-term challenges of implementing the NSDI. A much more substantial effort will be required to attain the broader vision of seamless integration of GIS data nationwide. Existing draft standards may need further revision, and more extensive coordination efforts may be required to ensure broad adoption at all levels of government. Further, the effort is likely to require a continuing effort over an extended period of time, due to the fact that significant investments have already been made in existing non-standard systems.

**Geospatial One-Stop Portal Concept**



Source: GAO based on FGDC information.