

The Role of States as Key Stakeholders in the National Spatial Data Infrastructure: Where the Rubber Meets the Road

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States as Stakeholders in the National Spatial Data Infrastructure

The National Spatial Data Infrastructure (NSDI) is a considerable endeavor, bringing together, perhaps unknowingly, thousands of individuals and organizations. If the reader uses and spells the word spa(c)ial with the appropriate, yet underused, variant (t), it is likely that he/she, to some degree, participates in building part of the NSDI. The concept behind a national infrastructure of geospatial data is visionary. Its process is complex and non-ordered, requiring the best in technology, standards, human resources, and policies to meet all the logistics surrounding geospatial data. The NSDI is one of those large initiatives that cannot be developed in a vacuum. Therefore, the confluence of disparate groups sharing a strong and common goal must also share in responsibility, commitment, benefits, and ownership (National Academy of Sciences, 1994). This is ever so daring, in a process that, by its own definition, has no end. Aware of the risks involved, many organizations have proudly taken this peculiar pledge to call themselves stakeholders in the NSDI.

The National Approach-National States Geographic Information Council

States as individual political jurisdictions have and continue to be key developers in all facets of the NSDI. Like most stakeholders, individual groups such as counties, other local jurisdictions, academia, and the private sector create representative organizations to advocate and leverage the implementation of common goals. August 1999 marks a ten-year anniversary for state-level involvement in what has become the NSDI. Twenty-nine states were mobilized for a special track of state sessions held at the 1989 URISA Conference and the first "roll call" of states was conducted at that time (A. Robinette *et al.*, unpublished data, 1989). Therein lies the beginning of the national approach to geographic information coordination. In 1991, then Governor Zell Miller of Georgia invited key officials from across the country to join in a three day meeting dedicated to state GIS issues (Warnecke, 1992). At that time a new National States Geographic Information Council (NSGIC) was created. The following year NSGIC was formalized as an organization; its mission, to promote effective change through the coordinated development of geographic information fostering integration at all levels of government. As a strong stakeholder, NSGIC supports activities to advance the NSDI by increasing awareness and understanding through education and outreach, by developing solutions for access and use of geospatial data, and by

building relationships among organizations to foster the development of the NSDI (www.NSGIC.org).

The Role of States in Building the NSDI

States are often seen as that level of government "in the middle," betwixt and between local and federal jurisdictions. This implies something intermediate, central, being at neither one end nor the other, or non-extreme. Connotatively speaking, "in the middle" of most things, seems a benign place to be. However, this can be deceptive. The "middle" position of states as jurisdictional units is not analogous to the way states function, particularly as stakeholders in the NSDI. States function as an interface, and this is not a minor distinction. Something necessary and significant always happens at an interface. For example, the interface between burn-out and reentry during a missile flight is not simply the middle point of the trajectory. It is during this phase where corrective maneuvers are made to ensure a successful mission. Contact of a steel-belted radial tire on an expanse of highway relies on that slice of air midway between the tire and the pavement. A maelstrom of dynamics meet on impact affecting the passenger a safe, smooth ride. States act as that important interface between local and federal stakeholders of the NSDI. States are "where the rubber meets the road."

This GIS special edition examines how diverse systems interact to piece together the NSDI and illustrates its many facets, ranging from database development, to pragmatic applications, to institutionalization. Salient to each scenario is the ability of states to assess the puzzle, gather the pieces, and facilitate a "fit;" in other words, to function as that significant interface. The author has selected two NSGIC initiatives to illustrate and support this premise: The National Framework Data Survey and the NASA* NSGIC Partnership

The National Framework Data Survey

If it can be said that the "Framework" forms the data backbone of the NSDI (Somers, 1997), then states are the circulatory system for Framework coordination. The Framework is a collaborative effort by stakeholders to widely make available a basic set of geospatial data. Presently, the Framework is comprised of seven GIS data themes: geodetic control, elevation and bathymetry, digital orthoimagery, transportation, hydrography, political units, and public cadastre (FGDC, 1995). There can be little doubt that the Framework is growing, and tied to this growth is

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an *a priori* assumption that, as the GIS user community expands, a concomitant development of digital geospatial data will follow. But beyond this assumption, measures of the creation, integration, and distribution of such data have been based solely on anecdote.

Certain geographic pockets across the country have been showcased in large measure due to smart promotion, creative GIS programs, and liberal distribution policies. However, for those pockets where data, including Framework, are present, integrated, and coordinated, there are many more areas we know nothing about. In order to fully operationalize a truly effective development of Framework, an inventory of the distribution of who has what data, and where it can be found, is crucial (Oliver, 1998).

The National Framework Data Survey, sponsored by NSGIC and the Federal Geographic Data Committee (FGDC), provides the first quantitative picture of the distribution of Framework data, the source of those data, and data characterization (Garie and Siderelis, unpublished data, 1997). But how could a national survey of this magnitude be accomplished? How could a critical mass of potential local, state, regional, tribal, academic, and even private sector survey respondents be amassed? Enter NSGIC. Through a coordinated educational and promotional strategy, states, one by one, agreed to participate. Each state understood the natural coordination role they would play. But the culmination of this challenge was each state's recognition that the whole is greater than the sum of its parts. To this end, every state in the union, plus the Intertribal GIS Council, conducted surveys as part of this national effort. Over 5,500 surveys across the country were completed, QA'd/QC'd, and the results made accessible, online (http://www.fgdc.gov/framework/survey_results/readme.html). Again, it's all in the interface. "It's where the rubber meets the road."

NASA* NSGIC Grant Partnership

NASA launched its first satellite to monitor the Earth in 1972, forever changing our view of the world. Now with widened perspectives imagine, less than 30 years later, a world without space imagery. Today, there is an entire complex that supports the many facets surrounding remotely sensed imagery. The community of geospatial data users and producers view the acquisition and use of remotely sensed imagery as fundamental to maximizing data applications and ensuring sound results. Although NASA has been assisting states in using satellite data products since the late 1970s, most outreach and research efforts have been focused on global research, federal agency needs, and the academic sector. The middle 1990s marked the beginning of a new effort by NASA to understand the needs of states, and to work more effectively to build bridges.

NASA increased their state outreach effort with the advent of NASA's Mission to Planet Earth program and the recognition that state and local government agencies are responsible for a large number of prominent applications requiring satellite and other remotely sensed imagery.

NASA accepted an NSGIC proposal that outlines goals and activities that will support and enhance NASA's outreach strategy (W. Burgess *et al.*, unpublished data, 1998). NSGIC has agreed to facilitate the use of satellite remote sensing solutions

for state and local government applications, and to act as liaison to facilitate research that solves management problems. To maximize the return on NASA's outreach activities, NSGIC will channel the content, substance, and proven processes that work best with state and local governments. Moreover, NSGIC will develop the institutional capabilities of their members to deal with satellite remote sensing issues and policies.

The Partnership between NASA and NSGIC is a perfect match, providing a dual platform for exchange and an interface with the widest possible audience. Central to this mutually beneficial effort is NASA's State and Local Initiative Program. Under this program, which is specifically directed to state and local governments, NSGIC and NASA have some significant plans underway. Initial plans include a "data buy" of remotely sensed product(s) for the nation, which support a wide range of state and local level applications. Another plan would create a fellowship program placing interns and recent graduates with remote sensing expertise into state and local government agencies. Additional plans consider the continued development of the Regional Applications Program that recognizes region-specific state and local issues; and pilot projects and informational workshops. NSGIC will use information gathered from the Framework Survey to identify potential participants. The NSGIC web page will be upgraded to include linkages to NASA activities, funded projects, updates on state summaries, and the *NASA as a Catalyst* report (Warnecke, 1997).

Where the Rubber Meets the Road

The agility with which states coordinate, facilitate, liaison, and communicate are part and parcel of the NSGIC package. These cornerstones are sometimes difficult to embrace, sometimes amorphous; but they are immeasurable and critical stepping stones in shaping the NSDI. As we move simultaneously to build the NSDI from the bottom up, and the top down, NSGIC states are busy working at the interface. "It's where the rubber meets the road."

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