

## Conclusions and Recommendations

The NSDI Community Demonstration Projects demonstrated the utility of geospatial data for community decision-making and highlighted the important Federal role in ensuring coordination and guaranteeing access to data resources. These collaborative efforts showed how cross-government, cross-functional geospatial data and information helps community decisions and supports results-driven management practices. The use of established NSDI standards for sharing geospatial data across agencies, and mechanisms for improving citizen access to that data, enhanced the application of the data to multiple community issues. The use of Geographic Information Systems (GIS) enabled decision-makers and the public to view and to collectively understand the information pertinent to an issue and, explore potential causal relationships among various elements (data layers) thus leading to broadened stakeholder participation in decision-making processes. The Demonstration Sites acknowledged that the most useful and challenging aspects of their efforts were associated with the formation and maintenance of partnerships. These partnerships hold the key to long-term success of their efforts.

Participating communities recognized significant benefits through their participation in the NSDI Community Demonstration Projects: comprehensive growth plans were developed; flood plain management plans were drafted; crime analysis and prevention plans were implemented. The **Lessons Learned and Recommendations** from these projects are transferable to other communities and provide useful feedback to the FGDC and the federal, state and local agencies, related to the acquisition, transfer, and application of geospatial data and information and the integration of this information with locally generated data.

### Lessons Learned

### Recommendations

<b>Lessons Learned</b>	<b>Recommendations</b>
<p><b>NSDI</b></p> <p>§ Compliance with data development standards is critical.</p> <ul style="list-style-type: none"> <li>• Real world applications are the most efficient method to convey the importance of standards to participants.</li> <li>• Training in the use and application of standards is critical to local staff developing data.</li> <li>• Framework layers as presently defined provide a critical foundation for applications but must be supplemented with local datasets to fully support community needs.</li> </ul>	<p><b>NSDI</b></p> <ul style="list-style-type: none"> <li>• Greater effort needs to be placed on the development of standards for critical data themes and framework layers.</li> <li>• Facilitate communication on data development, use and access by continuing local projects addressing relevant and timely concerns. Ensure diverse participation.</li> <li>• Provide greater access to data development standards training using all available partnerships.</li> <li>• Re-evaluate the NSDI Framework as presently defined. Ensure concept embodies flexibility both in content and concept to address a multitude of data users.</li> </ul>
<p><b>Federal Data and Information</b></p> <p>§ Many federal datasets lack sufficient resolution to support local planning needs.</p> <ul style="list-style-type: none"> <li>• Federal datasets often have multiple applications beyond their original intent.</li> <li>• Federal data is difficult to locate and access.</li> </ul>	<p><b>Federal Data and Information</b></p> <ul style="list-style-type: none"> <li>• Federal agencies should continue to enhance the quality of data using the latest technology while adhering to internal critical missions. Where data of greater resolution is available, agencies should be encouraged to refer or provide <b>direct-links</b> to that information.</li> <li>• Federal data producers should fully document model applications, strength and weaknesses of data and distribute with metadata. Federal agencies and the FGDC should be encouraged to document other potential applications and limitations of the data.</li> <li>• Federal agencies should be encouraged and provided incentives to deliver data thematically across agencies via the internet to facilitate customer data access. Agencies should aggressively implement FGDC standards and protocols and establish NSDI compliant clearinghouse capabilities.</li> </ul>

## Lessons Learned

## Recommendations

<b>Lessons Learned</b>	<b>Recommendations</b>
<p><b>Federal Data and Information (Continued)</b></p> <p>§ Federal agencies often lack common procedures and definitions for the collection of common thematic datasets e.g., wetlands, forest fuel loads, vegetation cover, etc.</p> <p>§ The AFederal Champions@provided a valuable communication linkage between project sponsors and collaborators.</p>	<p><b>Federal Data and Information (Continued)</b></p> <ul style="list-style-type: none"><li>• FGDC should be encouraged to facilitate discussions between federal agencies regarding the data collection process, definitions, agency mission needs and attributes collected for similar data inventory and capture efforts. Where inventory and collection efforts can not be integrated due to varying mission requirements, issues should be documented.</li><li>• FGDC and or the federal agencies collectively should identify a point-of-contact to serve as a AFederal Champion@for community-state access to the federal government's data and information.</li></ul>
<p><b>Community Data and Information</b></p> <ul style="list-style-type: none"><li>• Information relevant to the needs of communities exists as Adata islands@within individual Federal, State, and local programs. Building bridges to connect these data islands requires active engagement and trust among data holders to share their information.</li><li>• The establishment and maintenance of a NSDI compliant data clearinghouse(s) is an important early step in supporting data sharing.</li><li>• Partnerships with colleges and universities possessing GIS and technology expertise is advantageous.</li><li>• Consortia and partnerships are an effective means to leverage physical, fiscal, and human resources to acquire, archive, integrate, analyze, and apply geospatial data to address the needs of communities and their partners.</li><li>• The coupling of geospatial analysis tools, human application expertise, quality data and 3D data visualization supports real-time scenario development and human/data interactions required to facilitate public decision making.</li></ul>	<p><b>Community Data and Information</b></p> <ul style="list-style-type: none"><li>• Free and open access policies to all Federal data and information should be developed and implemented. Other mechanisms to enhance communication and information sharing among Federal, State, and local governments should be explored.</li><li>• FGDC and member agencies should expand opportunities and provide Aseed money@to further encourage communities to establish data clearinghouses. Efforts should be accelerated to provide more direct networking links among existing data clearinghouses.</li><li>• States should encourage and provide incentive for State universities and colleges to develop expertise in geospatial sciences and serve as data and information resources to local communities. Existing consortium, university partnerships and local efforts should be used at every opportunity.</li><li>• The FGDC and State GIS Councils should explore various mechanisms to leverage technical and fiscal resources for purposes of meeting data and information development and management needs at the local level. Successful consortia and partnership efforts should be documented and communicated to others.</li><li>• Involvement of private technology vendors should be encouraged to facilitate customer/vendor product enhancement and design. FGDC member agencies and private sector participants should develop a cadre of application scenarios that could be made available through the development of data applications and geospatial data tool libraries that would be accessible to communities via the internet.</li></ul>

## Lessons Learned

## Recommendations

### Community Data and Information (Continued)

- \$ The use of information technologies may be initially suspect by the public. Interactive software that allows real-time visualization of citizen input, tends to facilitate engagement of the public and focus discussion on issues versus technologies.
- \$ Digital Orthophoto Quarter Quads (DOQQs) are valuable to planning efforts and increase citizen understanding and trust in the data and information.

### Community Data and Information (Continued)

- Software vendors and data producers need to place more emphasis on the development of tools to manipulate, interact with (scenario development), and visualize issues/information (change over time).
- DOQQ coverage for all areas needs to be accelerated and the costs, borne by communities, for acquiring such coverage should be reduced.

### Process

- The process of engaging decision-makers and the public is the most important and challenging aspect of community planning.
- Leverage resources where appropriate and clearly define deliverables from all partnership members.
- Reiteration of a selection process can be an effective means to identify publicly trusted and recognized community leaders that need to be consulted in the process.
- Develop and prioritize benchmark goals within achievable timeframes and funding levels.
- Communicate with decision-makers and the public frequently. Meet them on their turf.
- Data acquired for one purpose is frequently found to be relevant to other community issues e.g., emergency response, elections, taxation.
- Partnerships between local, state, university, regional and national entities are critical to ensure the success of projects.
- The inclusion of a private sector partner (ESRI) proved valuable to communities in obtaining needed software and training. However private sector partners were frequently asked to play a more extensive role (workshops, technical assistance) as projects evolved.
- People committed to a process and project can accomplish a great deal. Project success is dependent upon individuals whose leadership, energy, and enthusiasm yield group success.

### Process

- Engage decision-makers and all potential partners during the initial project-planning phase. Seek their help to define goals, objectives, implementation steps, and required funding. Consult with them frequently.
- Communities should draft a business plan for the project. Be aware of team strengths and weaknesses when working proposals for funding and technical efforts. Focus talents for greatest success.
- Active community leaders are asked to identify 5-10 leaders within the community. Those identified are asked the same question. The sequence is repeated three times, resulting is a short list of publicly recognized community leaders that routinely appear on all lists. These are the individuals that should be engaged.
- Focus on a clear issue and bound your geographical focus e.g., watershed, county, etc. Mark and measure intermediate successes.
- Communicate the issue using local newspapers (include mapped information). Meet to discuss the issue utilizing existing club and community organization meetings.
- Ensure all data is NSDI standard compliant and interoperable.
- Document and provide examples of the benefits to communities and federal agencies of community-federal partnerships B disseminate, educate.
- Clearly define the role of private sector participants in future community-federal partnerships.
- Empower individuals and you empower the process.

Based on the results of the NSDI Community Demonstration Projects it is recommended that: the 'NSDI Community' (i.e. those organizations or entities engaged in geospatial data activities) should initiate and expand community projects to implement a national infrastructure that supports community planning, and reduces or eliminates the barriers communities encounter in building and maintaining the ability to use geospatial data resources. Specifically, organizations should:

- Maintain and advance data and metadata standards use and application;
- Establish and link data libraries (data clearinghouses);
- Evaluate, refine, build, and test data applications libraries and geodata tool libraries;
- Establish, test, and evaluate approaches to data consortia and partnerships;
- Explore opportunities to leverage broader investment partnerships and innovative financing approach and,
- Continue to educate, train, and collaborate with others to develop and advance the NSDI.