



NSDI Training Program Requirements Analysis Executive Summary

The National Spatial Data Infrastructure (NSDI) Training Program Requirements Analysis was performed in two parts. Part one focused on the identification of the Federal Geographic Data Committee (FGDC) and the USGS National Geospatial Program Office (FGDC/NGPO) Administration programmatic requirements with regard to scope, schedule, and implementation methods. Part two focused on the identification of the NSDI-related training needs of several key Focus Audience Organizations (FAOs).

FGDC/NGPO Administration Training Program Requirements

The NSDI Training Program Manager met with members of the FGDC/FGDC/NGPO Administration October 24, 2005 at USGS Headquarters in Reston VA to review the NSDI Training Program Workplan (vers. *August 2005*), a draft curriculum outline, and an initial list of Subject Matter Experts (SMEs). FGDC/FGDC/NGPO Administrators discussed specific content, SME assignments, and schedule requirements. The information was then revised via a series of email discussions and document reviews.

Four key Administrative program requirements emerged:

1. The NSDI Curriculum Outline should be reorganized to directly reflect the following components of the FGDC/NGPO mission statement:
 - Geospatial Data Discovery and Access
 - Geospatial Data Integration
 - NSDI Institutional Elements
 - USGS Geospatial Data Products.
2. Training materials are to be optimally developed for online learning but may be initially formatted for classroom delivery if technical skills and tools are not adequate and/or available.
3. Initial training modules should be available from the FGDC website by August 31, 2006.
4. The NSDI Program Project Manager should make every effort to maximize content development and technical implementation support and minimize the amount of time and effort required of Subject Matter Experts.

NSDI Focus Audience Organization NSDI Training Program Requirements:

The Focus Audience Organization (FAO) NSDI Training Program Requirements extended from October 2005 to May 2006.

Focus Audience Organization:

USGS Geospatial Liaisons
Local/Regional Community (URISA)
State Government Community (NSGIC)
Tribal Community

Period of Review:

October-December 2005
January – February 2006
February – March 2006
March – May 2006

The method of analysis varied with each FAO. The USGS Geospatial Liaisons were able to build upon existing efforts to identify a broader set of Liaison training needs. The Program Knowledge component of this broader study identified priority NSDI Training topics and provided a framework for collecting module-specific Learning Objectives and Liaison-specific training requirements. The Local/Regional Community established a Working Group, through the Urban and Regional Information Systems Association (URISA), that participated in a series of FGDC facilitated telecons and exercises that identified training priorities, learning objectives, and methods for distributing training. The State Government Community identified a single National States GIS Council (NSGIC) representative to work with FGDC to draft a set of training requirements for initial review by a small Working Group, then full review by the NSGIC community. The FGDC Tribal Coordinator took the lead with the Tribal Community and presented key members of the tribal community with a set of questions and ranking exercises developed by the Training Program Project Manager. The training requirements of the Academic Community were extracted from the *Geographic Information Science and Technology (GI & ST) Body of Knowledge* developed by the University Consortium for Geographic Information Science (UCGIS) and soon to be published by the American Association of Geographers (AAG).

Four general FAO training requirements emerged as primary:

1. The core module for each NSDI component must emphasize and make clear the benefits of stakeholder participation:
 - How will participation in the NSDI, geodata.gov, standards, etc. benefit my organization?
 - What return on investment will my organization realize by participating in the NSDI?
2. NSDI programs must be presented in logical manner that outlines each program's role in building and maintaining the NSDI and provides a clear picture as to how the programs relate to one another:
 - How is The National Map (TNM) different from Framework Data and the NSDI Data Themes?
 - How is Geospatial One-Stop different from the NSDI Clearinghouse and the TNM Viewer?
3. The NSDI must be presented as a National vs. Federal initiative and provide specific guidance for building collaborative SDIs at the state, local, and tribal levels that support and build upon the National SDI:
 - How can I coordinate with neighboring communities to address local geospatial data issues and contribute to national data collections?
 - How are my data needs recognized in the standards development process?
4. One standard model for Training Distribution is not feasible. Instead, a variable model should be developed to present alternative scenarios of participant (fed, state, local, tribal, other) roles and responsibilities. The Tribal Community expressed special concerns regarding long-distance travel and the importance of presenting information in familiar context and environment.

A unique theme emerged from the priorities and learning objectives expressed by each of the FAOs during the individual Requirement Analyses:

USGS Geospatial Liaisons Theme: **Communications**

Liaisons consistently referred to the need for 'a clear consistent message' to support them in promoting the NSDI and engaging stakeholders. Specific references were made to the need for programmatic information that 1) outlines the purpose, key objectives and methods for stakeholder participation for each NSDI initiatives and 2) provides a clear 'big picture' of how the initiatives relate in support of the NSDI.

Local/Regional Government via URISA Theme: **Implementation**

URISA expressed the need to provide practical methods for NSDI implementation. Special emphasis was placed on 'capacity building' in the areas of: building regional collaborations, making the business case to decision-makers, applying standards to data development and the use of success stories to provide a clear-road map to NSDI implementation at the local level.

State Government via NSGIC Theme: **Policy**

NSGIC emphasized the need for a better understanding of NSDI policies that can support State coordination with local/regional government and, increasingly, the private sector, in the development of NSDI enabled data resources. Many of the NSGIC learning objectives were derived from questions about: governance of the NSDI, the impact of NSDI on local/state policies and resources, and roles and responsibilities with respect to data integration, security, and access.

Tribal Community Theme: **Cultural Values**

The Tribal community highlighted the importance of understanding and respecting cultural values. Training requirements expressed by the tribal respondents included the need to: provide training at tribal facilities preferably using tribal instructors, address issues relating to the protection of culturally sensitive data, and support the tribes in building internal NSDI capacity and a voice as an NSDI stakeholder.

Application of the Training Program Requirement Analysis Findings

The Training Program priorities suggested by the FAOs were used to both update the Curriculum Outline and to prioritize the development of module content. The Learning Objectives suggested by the FAOs were compiled and are provided as a resource to the Subject Matter Experts (SMEs) for use in developing module-specific content. Community-specific training requirements that address the role of the FAO and cultural sensitivities are provided for those providing training to the FAO. Discussions and exercises relative to training delivery were used to develop an NSDI Training Delivery Conceptual Model in which State GIS Coordinators are identified as best able to fill the critical role of logistical support.

Report prepared as part of the **National Spatial Data Infrastructure (NSDI) Training Program Development** effort sponsored by the Federal Geographic Data Committee (FGDC) and the USGS National Geospatial Program Office (NGPO).

I Program Coordination and Requirements Analysis

2. Requirements Analysis

Milestone 1: NSDI Training Program Requirements Analysis Report

The full *NSDI Training Program Requirements Analysis* report, updates and supporting materials available at:

<http://www.fgdc.gov/training/trainingprogram/RequirementsAnalysis>