

National Spatial Data Infrastructure Training Program Work Plan

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Program Objective:

Design and implement a training program in support of the National Geospatial Programs Office (NGPO) mission to further the development of the National Spatial Data Structure Infrastructure (NSDI) and in accordance with the NGPO Statement of Work entitled, *Development of a National Spatial Data Infrastructure Training Program*.

Program Requirements:

1. Include training modules for all NGPO program initiatives
2. Address the training needs of NGPO staff and partner organizations with initial focus upon the following audience organizations:
 - USGS liaisons
 - FGDC member federal agencies
 - State GIS coordinators via NSGIC
 - local/regional GIS coordinators via URISA
 - tribal GIS coordinators via the Indigenous Mapping Network
3. Maximize the use of online instruction to deliver NSDI training.

Plan of Action:

The Plan of Action for the development of the NSDI Training Program is organized into three components:

- I. Program Coordination and Requirements Analysis
- II. Core Content Development and Distribution of Effort
- III. Online Instruction Research and Development

The components are outlined in greater detail below and are intended to be addressed concurrently (see Schedule, pgs. 8-9).

I. Program Coordination and Requirements Analysis

Host a series of focus sessions to determine the status of existing NSDI-related training and to garner scope and direction from NGPO Program Leads, Program Lead designated Subject Matter Experts (including external teams), and Focus Audience Organizations. Participant input will be used to update the proposed Plan of Action. Program and community specific training requirements will be compiled into an NSDI Training Program Requirements Analysis document.

1. Program Coordination

General coordination of the NSDI Training Program with NGPO Program Leads and external teams under contract or cooperative agreement to develop NSDI-related training materials and/or training.

A. Meet with NGPO Program Leads jointly to:

- communicate overall project plan and objective,
- facilitate agreement on common goals, methods and approach,
- identify Focus Audience Organizations (FAOs)
- identify Subject Matter Experts (SMEs).

Outcomes:

- changes to Plan of Action, if required
- list and contact information for FAOs
- list and contact information for SMEs

B. Meet with external teams under cooperative agreement or contract to develop materials in support of NSDI Framework Data Standards (Univ. of Wyoming) and other NSDI-related training efforts to:

- communicate overall project plan and objective,
- facilitate agreement on common goals, methods and approach,
- solicit their participation as Subject Matter Experts (SMEs).

Outcomes:

- changes to Plan of Action, if required
- list and contact information for external teams participating as SMEs

2. Requirements Analysis

Determination of Program specific and community specific training requirements and compilation of results into an NSDI Training Program Requirements Analysis

A. Meet with individual NGPO Program Leads and Program Lead designated SMEs (including external teams) to

1) determine and prioritize Program-specific training needs:

- scope - primary instructional topics
- depth - introductory, technical, operational
- audience - administrators, managers, analysts/technicians
- application - online (instructor led and self-paced) and classroom
- resources: - amendments to existing training courses, materials, and instructors.

- 2) determine SME commitment to
 - timeframe for content development
 - regular maintenance of materials

Outcome:

- Compiled results of training program requirements analysis and SME commitments as outlined above

B. Meet with individual FAOs to present draft training needs and identify:

- FAO training requirements
- program extensions for consideration by NGPO Program Leads
- program extensions for implementation by FAOs
- existing training materials, resources, and training technologies
- potential trainers to serve their organization
- representative(s) to serve as liaisons to the NSDI Training Program Development effort

Outcomes:

- list of suggested program extensions for NGPO consideration
- list of suggested FAO sponsored program extensions
- list of existing training materials, resources, and technologies
- list of potential trainers
- list of FAO Program liaisons and role

Milestone:

- Submittal of *NSDI Training Program Requirements Analysis Summary Report* that includes finalized program requirements and agreements with FAOs to support and implement the NSDI Training Program.

II. Core Content Development and Distribution of Effort

Work with SMEs and trainers to develop core NSDI training content and work with FAOs to distribute the training effort. Training content includes module-specific learning objectives and supporting materials in the form of presentations, exercises, and reference documents. The core content will be developed in traditional formats (Powerpoint presentations and text documents) so that 1) the SMEs can focus on building content without the added obligation to learn new, online formatting (*SMEs skilled in the production of html/xml will be strongly encouraged to develop materials in those formats*) and 2) trainers can utilize the content immediately. Content prioritized for web-delivery will later be converted for the appropriate online venue such as usalearning.gov (formerly golearn.gov) and/or public access internet.

1. Training Content Development

Direct SMEs (including external teams) toward the development of instructional content that addresses the specific requirements of the Requirements Analysis and includes learning objectives and supporting materials.

- A. Lead SMEs in an inventory, assessment, and documentation of existing training materials and resources
- establish materials inventory guidelines and documentation standard
 - guide the SMEs in the identification and documentation of existing materials and resources
 - compile a materials inventory database that can be served via USGS servers and/or usalearning.gov.

Outcomes

- *NSDI Training Materials Inventory Guidelines*
- NSDI Training Materials Inventory Database

- B. Develop and lead an Instructional Design Workshop for SMEs that addresses:
- learning goals and objectives
 - selection of workshop content and scaling of content to time
 - design and development of presentations and reference materials that can be presented both in the classroom and online.

Outcomes

- *Instructional Design Workshop, workbook and materials*

- C. Guide the SMEs in the development of a subject-specific training curriculum that includes:
- required topics
 - learning goals and objectives for each topic
 - topic content outline scaled to variable training/workshop durations
 - presentation and reference materials
 - a subject-specific module to supplement the Train the Trainer (TtT) Workshop program (based upon the current 'Targeting Metadata' TtT module)

Outcomes

- subject-specific curriculum modules
- subject-specific TtT Workshop modules

Milestone:

Posting of training modules to the FGDC/NGPO general website or NSDI Training Program website if the materials are formatted for online delivery and the training website is operational.

2. NSDI Training Distribution

Establish an NSDI Training Distribution program that establishes responsibilities and methods for distributing the NSDI training effort.

- A. Determine responsibilities of participating trainers and organizations:
- trainer requirements, responsibilities, and benefits
 - NGPO responsibilities and benefits
 - FAO responsibilities and benefits

- FGDC Training and Education Coordinator role in handling training requests and dispatching and supporting trainers
- organization-specific agreements for use of partner facilities and instructors

Outcomes

- *Summary of NSDI Training Roles, Responsibilities and Methods* report

- B. Work with NGPO technical staff to convert the NSDI trainer database to a Web Mapping Service (WMS) application that allows the discovery of available trainers by geography, discipline, courses offered, and other parameters.

Outcomes

- NSDI Trainer WMS application

- C. Develop and lead TtT workshops for partner trainers

- update TtT workshop content and materials
- lead workshops with training assistance from SMEs to deliver subject matter specific modules, i.e. equivalents to 'Targeting Metadata' module

Outcomes

- *TtT Workshops*, workbooks and materials

Milestone:

Implementation of training with participating FAOs.

III. Online Instruction Research and Development

Research and implement online training technologies, including instructor-led and self-paced online instruction, to deliver the NSDI Training Program Core Content.

1. Research online instruction methods, technologies, and applications

Research basic methods and concepts of online instruction, supporting technologies, and available applications including usalearning.gov, and make recommendations as to how they can be applied to the NSDI Training Program.

- A. Work with the Future Directions Training and Education Team to identify and apply criteria for selecting content types (e.g. concepts, technical specifications, implementation) best suited to online instruction.

- identify criteria and considerations for distinguishing best modes of training delivery (online and classroom)
- review NSDI training modules developed in prior task and prioritize those best suited to online delivery

Outcomes

- draft recommendations for NSDI online instruction content

- B. Work with NGPO Web Architects to evaluate the federal training portal, usalearning.gov and make recommendations for implementation:
- determine federal agency obligations to utilize usalearning.gov
 - assess the benefits of usalearning.gov to serve the NSDI Federal Partners
 - assess the potential of usalearning.gov to serve the non-Federal Partners via direct access or portability of online files to a public access site
 - assess the costs of developing and maintaining training at usalearning.gov
 - draft recommendations for the development of an NSDI training site at usalearning.gov
 - present findings to the NGPO Program Leads

Outcomes

- decision by NGPO Program Leads to develop an NSDI Training Program site at usalearning.gov, a separate public-access Internet site, or both.

- C. ***IF the decision is made to develop an NSDI Training Program public-access website in addition to or instead of usalearning.gov...*** Work with NGPO Web Architects to evaluate public-access online instruction technologies and applications and make recommendations for implementation
- develop a set of criteria upon which to judge the requirements, capabilities, costs, limitations, and benefits of each technology/application
 - inventory each technology/application by the criteria established
 - assess the relative benefits of each

Outcomes

- draft recommendations for NSDI online instruction technologies and applications

- D. Review recommendations for online instruction content and technologies with NGPO Program Leads and SMEs:
- circulate recommendations reports for comment via email
 - meet with Program Leads and SMEs to discuss recommendations and email responses
 - determine if a single site will be developed to server all partners or if separate sites are needed for federal and non-federal partners
 - determine content to be served by onine instruction
 - determine the technology/application(s) best suited to support the site(s)

Outcomes

- consensus recommendations for NSDI online instruction content, technologies and application

Milestone:

Submittal of *Recommendations for the Utility of Online Instruction Training Tools within the NSDI Training Program* report

2. NSDI Online Training Website(s) Development

Assist the NGPO Web Architects in the development of the NSDI Training Program Site(s)

- A. Establish the NSDI Training Program website(s) and infrastructure:
- outline key components of the website(s)
 - develop the site in accord with NGPO and usalearning.gov (if utilized) requirements and protocols
 - secure the URL(s)

Outcomes

- NSDI Training Program URL and infrastructure

- B. Populate the NSDI Training Program website
- develop a method for reformatting NSDI Training Module materials developed under *Plan of Action item II.1 Training Content Development* from Powerpoint and text formats to html/xml formats for online delivery.
 - convert prioritized NSDI Training Modules to online training modules

Outcomes

- NSDI Training Program online resources

Milestone:

Establishment of one or more online NSDI Online Training website.

Deliverables

Products:

- NSDI Training Materials Inventory Database
- Instructional Design Workshop workbook and materials
- subject-specific curriculum modules
- subject-specific TtT Workshop modules
- NSDI Training Program Participant Template
- NSDI Trainer Web Mapping Service (WMS)
- Train the Trainer Workshop workbook and materials
- NSDI Online Training website(s)

Internal Reports:

- *NSDI Training Program Plan of Action, updates as needed*
- *NSDI Training Program Requirements Analysis Summary Report*
- *Materials Inventory Guidelines*
- *Summary of NSDI Training Roles, Responsibilities and Methods*
- *Recommendations for the Utility of Online Instruction Training Tools within the NSDI Training Program report*
- *Training Program Development Activity Bimonthly Report*

Services:

- Facilitate Training Requirements Analysis focus sessions with NGPO Program Leads, SMEs, and FAOs
- Instructional Design Workshop for SMEs
- Train the Trainer Workshops for trainers
- email and phone assistance to SMEs, FAOs, Web Architects, and Trainers members during all phases of program development

TASKS	2005					2006								2007				
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
I Program Coordination and Requirements Analysis																		
<u>1. Program Coordination</u>																		
1A. Meet with NGPO Program Leads jointly																		
1B. Meet with External Teams (contract/CAP)																		
<u>2. Requirements Analysis</u>																		
2A. Meet with individual Program Leads																		
2B. Meet with individual FAOs																		
II Core Content Development and Distribution																		
<u>1. Training Content Development</u>																		
1A. Training Materials Assessment																		
1B. Instructional Design Workshop																		
1C. Training Curriculum																		
<u>2. NSDI Training Distribution</u>																		
2A. Program Participant Agreements																		
2B. NSDI Trainer WMS																		
2C. TtT Workshops																		

Milestones: **1** NSDI Training Program Needs Assessment Report **2** Training Materials Posted to FGDC/NGPO Website (initial posting)
3 Implementation of Training with Participating FAOs.

TASKS	2005			2006									2007					
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
III Online Instruction R&D																		
<u>1. Online Instruction Research</u>											4							
1A. Content Recommendations																		
1B. <i>usalearning.gov</i> Assessment																		
1C. Public Access Technology Assessment (if required)																		
1D. Consensus recommendations																		
<u>2. Training Website(s) Development</u>																		5
2A. Website Infrastructure(s)																		
2B. Website(s) Population																		

Milestones: 4 Recommendations for the Utility of Online Instruction Training Tools Report

5 Establishment of online NSDI Training Website(s)