

NPS Integrated Metadata System Plan for Spatial and Natural Resource Data Sets

On January 4-5, 2001, NPS staff and cooperators from the Information Telecommunications Division (ITC), Natural Resource Inventory and Monitoring (I&M) Program, and North Carolina State University (NCSU) met and discussed the current status of the NPS GIS Metadata Clearinghouse and future plans for an integrated, NPS-wide metadata database and clearinghouse metadata system. The group agreed to a basic plan for integrating existing metadata systems and projects that will be phased in over FY 2001 and FY 2002. The cooperative projects, timeline, and this plan have been revised and updated to reflect progress on the outlined tasks.

The plan leverages current projects being implemented by NPS GIS, I&M, and Library Programs.

- The GIS Program presently operates an FGDC Clearinghouse node that serves geospatial metadata via a Z39.50 Isite server located at NCSU. Metadata is collected via the GIS Regional Technical Support Centers (RTSCs) and parks using a wide variety of software tools (sometimes called the 101 ways) and supplied to NCSU as parsed text, HTML, and SGML formatted files for indexing on the Isite server (see diagram below).
- The I&M Program presently supports a database called the Dataset Catalog that targets capturing abbreviated metadata about all natural resource data sets that exist within the NPS. The present Dataset Catalog exists in MS Access, and I&M staff plan to integrate NPS-wide use with an Internet-based Oracle database system. Metadata in the Dataset Catalog can be mapped directly to the FGDC data structure.
- The Library Program is developing an integrated, NPS-wide metadata system via a Z39.50 Blue Angel Technologies (BAT) Metastar Gateway server that will include FGDC metadata, webpage metatags, bibliographic citations, and other information resources. The BAT server will be the main gateway and search tool for NPS and public users to access NPS information resources.

The integrated metadata system will take advantage of the existing systems and projects as well as commercial off the shelf (COTS) metadata tools. The 101 ways will be reduced to three recommended tools: the Dataset Catalog (recommended for all data cataloging), ArcCatalog (for GIS-integrated geospatial metadata), and SMMS (for FGDC Biologic Profile and other geospatial metadata). The Dataset Catalog will be maintained in MS Access as an abbreviated metadata catalog and modified to export (now complete) and import (in work) FGDC-structured text files. During FY 2002, the I&M Program will fund and develop an FGDC-structured database system in Oracle with a secure web interface and tools to import metadata records from the three desktop tools. Once completed, the Oracle database will become the master database for NPS spatial and natural resource metadata. In addition, the present Isite clearinghouse server is being replaced by the BAT Metastar Gateway, which will be dynamically linked to the Oracle database and provide Z39.50 server search capabilities for the whole system.

Diagram of Existing NPS Geospatial Metadata System

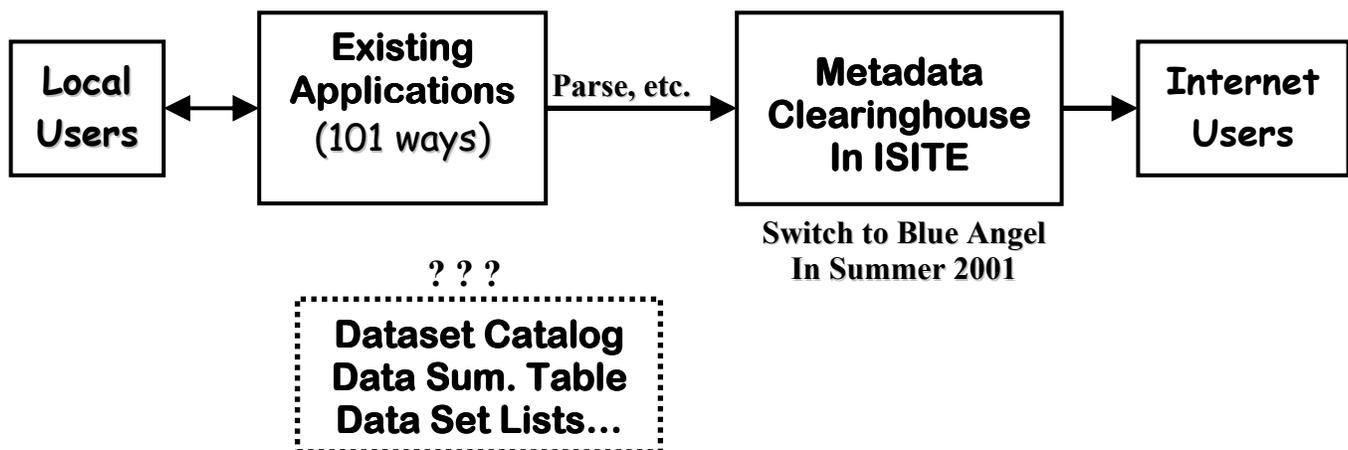
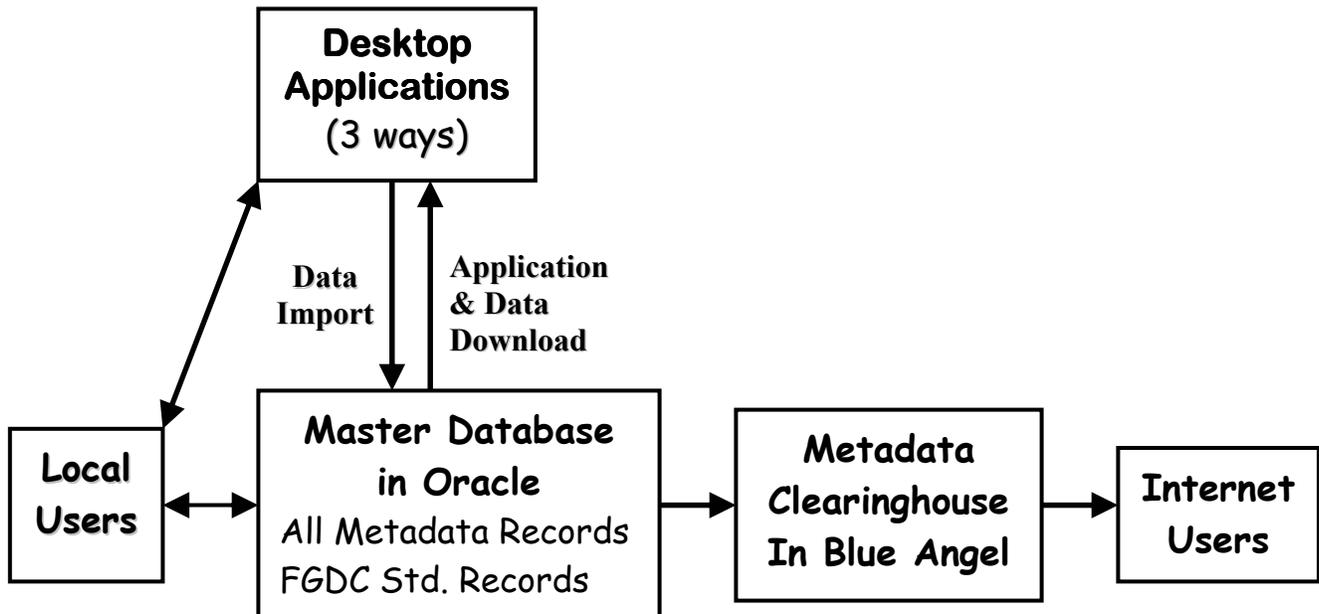


Diagram of NPS Integrated Metadata System Plan



Although the Oracle database will be recommended for metadata maintenance and general use, the system will still support other desktop metadata tools that some users may prefer and will provide a “one stop shop” for documenting all NPS data sets. The NPS Metadata System will be implemented in phases as outlined below:

Timeline

January 2001

- Draft NPS Integrated Metadata System Plan (done, revised August 2001)
- Distribute Dataset Catalog in MS Access (abbreviated metadata tool - done)

Spring 2001

- Evaluate SMMS as Dataset Catalog replacement (done, but unworkable)
Or revise Dataset Catalog in MS Access to export (done) and import (in work) FGDC text files
- Develop database structure for master Oracle database (done)

Summer 2001

- Convert Isite Server to Blue Angel Technologies Metastar Gateway (almost complete)
- Communicate recommendation of Dataset Catalog, ArcCatalog, and SMMS to NPS user community
- Begin development and testing of web interface for Oracle database with MS Access prototype
- Develop error-checking procedures for database equivalent to Metadata Parser (MP) program

FY 2002

- Develop master Oracle database and complete secure web interface (funded by I&M)
- Develop and implement FGDC metadata import program for Oracle database
- Link Oracle database to BAT Metastar Gateway server
- Switch or implement all metadata process flow and roll-up to Oracle database
- Develop dynamic links from metadata system to online data resources (pilot in work at I&M)
- Develop new graphical links interface (clickable maps and bounding polygon display)