



**NSDI Cooperative Agreements Program (CAP)**

**Metadata Implementation Project (CAT I)**

**Agreement Number: 04HQAG0175**

**Final Project Summary**

Prepared by:

\_\_\_\_\_  
Neal J. Barnett

Approved by:

\_\_\_\_\_  
Herbert L. Seligman

The grantee, The Pennsylvania State University, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under USGS Agreement Number: 04HQAG0175 is complete, accurate, and complies with all requirements of the grant.

Date: 27 Sept 2005

\_\_\_\_\_  
Herbert L. Seligman, Head Navigation Center

**NSDI Cooperative Agreements Program (CAP)**

**Metadata Implementation Project (CAT I)**

**Final Project Summary**

**Agreement Number: 04HQAG0175**

**Final Report:** This report documents the successful completion of the Metadata Implementation Project (CAT I) conducted by the Applied Research Laboratory of The Pennsylvania State University under Agreement Number 04HQAG0175. This report is the final required deliverable under the same agreement.

**Organization:** Navigation Research and Development Center (NRDC)  
Applied Research Laboratory  
Penn State University  
995 Newtown Road  
Warminster, PA 18974-2933

**Project Leaders:** Marvin B. May                      Neal J. Barnett  
Phone:    215-682-4003                      215-682-4007  
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**Background:** The Navigation Research and Development Center (NRDC) is located in Warminster, PA. and is part of the Applied Research Laboratory of the Pennsylvania State University. The NRDC facility is unique in the world, and is the only known facility designed especially for research, testing and evaluation of the most precise navigation equipment. The concept behind the construction of the NRDC building and laboratory is to establish extremely low noise test piers by bonding directly to bedrock. A key function of this special laboratory is to collect data relevant to geologic studies, earthquake detection, tectonic plate movement and gravimetric earth tide analysis.

**Project Objective:** The objective of this CAT I Project is to learn the Metadata Standard, apply the standard to our organization's data collection, and develop the internal resources to maintain its practice. We intend to incorporate Metadata as part of our data collection procedures to preserve geospatial data records, and also use it as a means for discovery and sharing with other organizations.

**Measurable Project Results:** As described in our agreement and as reiterated in our Interim Report provided to the NGDC via email in May 2005, success of this Project is assessed by completion of the following:

- (1) Formalized training for a selected individual in metadata development.
- (2) In-house training of selected individuals
- (3) Identification and procurement of software
- (4) Documenting a number of metadata files or datasets.
- (5) Exploring the method by which metadata will be registered and discoverable through the Geospatial One-Stop Portal.
- (6) Establishment of organizational practices and procedures for data documentation.

Accordingly, the following section describes how each of these aspects of the Project has been successfully accomplished.

**Project Accomplishments:**

(1) Formalized Training For A Selected Individual In Metadata Development. - Under this project, NRDC (N. Barnett) attended the Federal Geographic Data Committee (FGDC), National Spatial Data Infrastructure (NSDI), 2004 Cooperative Agreements Program (CAP) Kick-off Meeting held at the Denver Federal Center, Lakewood, Co on 28 - 29 September 2004. This formalized training meeting was held for Project Leaders to gain familiarity with the NSDI concept, components and CAP categories necessary to achieve project objectives. A summary of our trip report for this meeting is provided as follows:

1. *N. Barnett attended the subject CAP Kickoff Meeting representing NRDC under the auspices of an FY 04 Category 1 Grant for a Metadata Implementation Assistance Project. A Project of this type, with a \$9K ceiling, focuses on acquiring the knowledge and experience to create and serve metadata for clearinghouse discovery.*
2. *The meeting convened at 0900 on Tuesday September 28, 2004 with an overview of the Cooperative Agreements Program (CAP) and the National Spatial Data Infrastructure (NSDI). The CAP overview was presented by David Painter, the CAP Coordinator ((703) 648-5162 [dpainter@fgdc.gov](mailto:dpainter@fgdc.gov)). Mr. Painter indicated that the CAP is jointly sponsored by the following three national initiatives: a) the Federal Geographic Data Committee (FGDC); b) Geospatial One-Stop;*

and c) the National Map. This year, fifty local, state, federal, academic, and regional organizations were awarded grants totaling \$1.5M. It is noted that our CAT 1 grant was one of thirteen that were awarded in FY 04. The morning session also included an overview of the NSDI presented by Doug Nebert, the FGDC Clearinghouse Coordinator ([ddnebert@fgdc.gov](mailto:ddnebert@fgdc.gov)) and an overview of the National Map presented by Mike Domaratz of the USGS out of Reston, Va.

3. N. Barnett attended three Metadata Training Sessions. These were held on the afternoon of 28 September and in the morning and afternoon of 29 September. Instructor's for these sessions were Sharon Shin, Metadata Coordinator for the FGDC ([sharon\\_shin@fgdc.gov](mailto:sharon_shin@fgdc.gov)) and Linda Wayne, a contractor for the FGDC ([lwayne@fgdc.gov](mailto:lwayne@fgdc.gov)).
4. The first session was an "Introduction to Metadata". Metadata is a standardized data format that is required to be produced for all geospatial data developed under government contract. Essentially Metadata is a data field that is provided to describe the actual data. It includes information such as: who created the data? What is the content of the data? When was it created? Where is it geographically? How was the data developed? And why was the data developed? It was noted that any data that will be used for the National Map must have Metadata. The coordination including the development of policies and standards for the Metadata is the responsibility of the FGDC. In order to access Metadata, Geospatial One-Stop was organized to implement various data portals including [geodata.gov](http://geodata.gov). Specifics of Metadata creation were reviewed including an overview of the FGDC content Standard for Digital Geospatial Metadata and the seven sections of the standard. Mandatory and optional fields of Metadata were described and useful reference material was distributed to attendees. Two Metadata software collection tools were described including the "ESRI Arc Catalog" and the "Intergraph SMMS for Geomedia". Discussions with the majority of attendees confirmed that ESRI product is the most widely used. It was also determined that Metadata must be compliant and pass a software validation. A free and downloadable validation tool is available on the FGDC website and is called Metadata Parser (MP). The site for various information including this validation tool is <http://fgdc.gov/metadata/links/metalinks>. An example of the development of metadata on the computer using the ESRI Arc Catalog software was also provided.
5. The sessions on Wednesday included more detailed information on the Metadata standards and the status of the future international ISO Metadata standard. A description of how Metadata is

*published on Geospatial One-stop through the Geodata.gov portal was also provided. The afternoon session also included an exercise in special topics on Metadata including the value of the development of templates.*

6. *The administration of the CAP grants was also described by David Painter on the second day. A document on the administration of the grant was distributed. The USGS uses the Department of Health and Human Services (DHHS) Payment Management System (PMS) to provide electronic invoicing and payment for CAP recipients therefore requiring the recipient of have an account with the PMS. **There are only two required deliverables for the CAP Grant. These are an interim and final report. The interim report is due about halfway through the period of performance on 30 March 2005 and the final on or about 30 September 2005.** Budget reallocations of up to 10% of the award and or no cost extensions in period of performance only require an email to David Painter. These should be provided before the end of the period of performance. Changes to the Principle Investigator (PI) also only require an email to David Painter.*

(2) In-House Training of Selected Individual - NRDC (N. Barnett) was assisted in the successful conduct of this Project by Dr. D. Brown of North Carolina Agricultural and Technical State University (NC A&T). Dr. Brown is an Associate Professor at NC A&T, an Historically Black College and University. He has been resident at NRDC over the past few summers via an established working relationship between NC A&T and NRDC. During these periods, our organizations have teamed on several navigation research projects. To expedite completion of this NSDI CAT 1 Project, N. Barnett worked with Dr. Brown reviewing all information obtained during the formal training session in Denver. In addition, we reviewed ARC GIS software tutorials and the FGDC web based material at <http://fgdc.gov/metadata/links/metalinks>. This included the "Content Standard for Digital Geospatial Metadata Workbook" Version 2.0 dated May 1, 2000, that we downloaded from the fgdc.gov website.

(3) Identification and Procurement of Software - Based on the recommendation received during the meeting in Denver, we determined that we would use ESRI ARC Info V 9 containing ARC Catalog for our Metadata creation software. Accordingly, the ESRI ARC Info V 9.1 software was procured.

In addition, to assure full compliance of our Metadata to the applicable standards, we downloaded the free and FGDC recommended Metadata Parser (MP) Validation software from the <http://fgdc.gov/metadata/links/metalinks> website.

(4) Documenting a Metadata File for a Selected Dataset. - We selected an available NRDC laboratory dataset to develop metadata to establish our metadata capability. Laboratory environmental data (i.e., Temperature, Pressure and Humidity), collected in our NRDC Quiet Test Laboratory during the period 24 June and 7 July 2005 was used. An extract from this electronic environmental dataset file (**lab\_data.txt**) is provided in Appendix A.

As indicated, we acquired ESRI ARC Info V 9.1 software containing ARC Catalog for the creation of valid Metadata to the USGS standard. This software was subsequently installed on one of our Facility Desktop Computers running under the Windows XP Service Pack 2 environment. In addition, the Metadata Parser Validation software (**mp.exe**) was also loaded into the **C:\USGS\tools\bin** directory of the same computer.

We developed Metadata for the sample "**lab\_data.txt**" file using the ARC Catalog software. During this process, we were careful to include all required information as highlighted in red by the ESRI software. It is noted that we referred to the aforementioned "Content Standard for Digital Geospatial Metadata Workbook" regarding: required information; and correct metadata entry format. This XML format Metadata file "**lab\_data.txt.xml**" is contained herein in Appendix B. A text file of the ARL developed Metadata "**lab\_metadata.txt**" is contained herein in Appendix C. This text file was created by using the ARC catalog software export metadata function exporting the metadata in FGDC CSDGM (txt) format.

We then ran the "**lab\_metadata.txt**" text file through the Metadata Parser software (**mp.exe**) to validate our metadata. A copy of our **lab\_metadata.txt** file was placed in the **C:\USGS\tools\bin** directory that also contained the Metadata Parser (**mp.exe**) validation software. We changed to the **C:\USGS\tools\bin** directory in the DOS command prompt and ran the Metadata parser using the DOS command: **mp lab\_metadata.txt -e lab\_metadata.err -f lab\_metadata.faq.html**. This DOS Command creates two new files.

The first is an error report "**lab\_metadata.err**" which is a text file where an indication of "No errors" validates the metadata. As seen in appendix D, a report of "No errors" was obtained for this metadata text file.

In addition, the second file "**lab\_metadata.faq.html**" is an html format file that uses the validated metadata to provide a description of the associated Metadata. This file is provided in Appendix E. Using the required metadata inputs, this file provides answers to questions including:

- [What does this data set describe?](#)
- [Who produced the data set?](#)
- [Why was the data set created?](#)
- [How can someone get a copy of the data set?](#)
- [Who wrote the metadata?](#)

(5) Exploring the Method by Which Metadata Will Be Registered and Discoverable - As determined during this Project, the website **<http://gos2.geodata.gov>** is part of the Geospatial One-Stop E-Gov initiative providing access to geospatial data and information. Geodata.gov is a community of geographic data providers committed to making information about geographic resources available to others. Accordingly, we used this website to register our metadata for discovery by the community.

The first step in this process is the establishment of a regular gos2 geodata.gov account. This involved providing a username and password for the account as well as providing some basic information on NRDC. Upon validating our account, we were prompted to accept the geodata.gov agreement that is provided as follows:

### **Statement of Agreement**

*By selecting "I Accept" below, I represent my organization to be a responsible publisher and affirm my responsibilities to:*

- 1. keep my content current,*
- 2. accept responsibility for and take protection against the publishing of unauthorized, sensitive, or inappropriate content entered or maintained on my behalf,*
- 3. authorize harvesting and search of metadata content on a frequent basis,*
- 4. grant general public access to my registered map, data, and related services by the geodata.gov portal and its users where the data are public and -- in the case where access data or maps is restricted -- to grant general public access to the metadata that include contact information to seek access to restricted data, and*
- 5. keep my web-based metadata, map, and data services available for access by the geodata.gov portal.*

*Participation in the geodata.gov portal may be terminated by my organization or the geodata.gov Operations Team at any time for breach of the above responsibilities or other concerns raised by either party, with notification promptly due to the other party.*

After accepting this agreement, we provided additional information about NRDC including our full organization name, a short organizational profile and contact name, phone number and email address. At this point, we were notified that our geodata.gov account was successfully established.

Using information obtained on this website, we determined that our metadata can be published for discovery by the community using one of the following three methods:

1. **Harvesting:** Register your metadata repository so that geodata.gov will collect and publish updated metadata from your repository at a frequency of your choice. Geodata.gov can harvest metadata you store from any of four types of sources: a Z39.50 server, Open Archive Initiative for Harvesting Protocol (OAI-PMH) data provider or services, ArcIMS metadata server, or a Web-accessible folder.
2. **Online Metadata Creation Form:** Complete an online metadata creation form for your web service or geographic content. Geodata.gov will use this information to automatically create the metadata and publish it for you.
3. **Online Upload Metadata File Utility:** You may create metadata for your web service or geographic content using your favorite third-party metadata tools. The online upload utility allows you to publish your metadata (in FGDC or ISO metadata standard) files in text, Extensible Markup Language (XML), or Standard Generalized Markup Language (SGML) format to geodata.gov.

Since, we developed our first metadata under this project; we considered the third method as most suitable and selected it for publication. This was accomplished by logging into our account on the gos2.geodata.gov website and uploading the xml format metadata file as provided in Appendix B.

This successful upload was confirmed using the Manage My Metadata function on the <http://gos2.geodata.gov> website. As shown in figure 1 as follows, our metadata status is shown as "Posted".

#	Name	Last Updated	Status	Action
1	lab_data.txt	2005-09-27 08:45:12.0	Posted	<a href="#">Update</a> <a href="#">Delete</a> <a href="#">Download</a>

Pages: 1

Figure 1. Screen Shot of Manage My Metadata Function on http://gos2.geodata.gov website

(6) Establishment of Organizational Practices and Procedures For Data Documentation. - As the development of metadata will be a standard for all data collected in our laboratory, we have carefully documented this metadata process and developed a Metadata Instruction Manual for use by our employees. (See Appendix F). We have also provided a presentation to our employees regarding the Metadata program.

**Conclusion:** As described in this Final Report, the ARL NSDI Cooperative Agreements Program (CAP), Metadata Implementation Project (CAT I) under Agreement Number: 04HQAG0175 has been successfully completed.

**Appendix A**

**NRDC Laboratory Environmental (Temperature, Pressure & Humidity) Dataset Extract**

**(lab-data.txt)**

**June 24, 2005 - July 7, 2005**

<u>Time,</u>	<u>Temperature,</u>	<u>Pressure,</u>	<u>Humidity</u>
9.16879000E+02	1.896500000000E+01	1.459052400000E+01	5.802074000000E+01
9.19402000E+02	1.896940000000E+01	1.459017900000E+01	5.796915000000E+01
9.21926000E+02	1.897050000000E+01	1.459030900000E+01	5.792148000000E+01
9.24450000E+02	1.897370000000E+01	1.459036100000E+01	5.788752000000E+01
9.26973000E+02	1.897590000000E+01	1.459004800000E+01	5.789939000000E+01
9.29497000E+02	1.897590000000E+01	1.459047900000E+01	5.789591000000E+01
9.32020000E+02	1.897920000000E+01	1.459036100000E+01	5.783539000000E+01
9.34534000E+02	1.898570000000E+01	1.459028300000E+01	5.911795000000E+01
9.37058000E+02	1.898240000000E+01	1.459019100000E+01	5.893967000000E+01
9.39581000E+02	1.898680000000E+01	1.459012600000E+01	5.830013000000E+01
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## Appendix B

### Metadata XML Format File

"lab\_data.txt.xml" File created 23 September 2005

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## Appendix C

### Metadata Text File

**"lab\_metadata.txt" File created 23 September 2005**

#### Identification\_Information:

##### Citation:

##### Citation\_Information:

Originator: Applied Research Laboratory The Pennsylvania State University

Publication\_Date: 2005, September, 9

Title: lab\_data.txt

##### Description:

Abstract: Applied Research Laboratory Penn State University Navigation Research and Development Center (NRDC) Quiet Test laboratory Environmental (Temperature, Pressure, Humidity) Data

Purpose: Selected NRDC Laboratory Environmental Data and Metadata for Establishing Compliance with Metadata Standards

##### Time\_Period\_of\_Content:

##### Time\_Period\_Information:

##### Range\_of\_Dates/Times:

Beginning\_Date: 2005, June, 24

Beginning\_Time: 0800

Ending\_Date: 2005, July, 7

Ending\_Time: 1600

Currentness\_Reference: publication date

##### Status:

Progress: Complete

Maintenance\_and\_Update\_Frequency: None planned

##### Spatial\_Domain:

##### Bounding\_Coordinates:

West\_Bounding\_Coordinate: -75.0599

East\_Bounding\_Coordinate: -75.0598

North\_Bounding\_Coordinate: 40.1963

South\_Bounding\_Coordinate: 40.1962

##### Keywords:

##### Theme:

Theme\_Keyword\_Thesaurus: Dictionary

Theme\_Keyword: Environmental

Theme\_Keyword: Pressure

Theme\_Keyword: Temperature

Theme\_Keyword: Humidity

Access\_Constraints: No restrictions

Use\_Constraints: No constraints

Native\_Data\_Set\_Environment: Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 2;  
ESRI ArcCatalog 9.1.0.722

##### Distribution\_Information:

Distributor:

Contact\_Information:

Contact\_Person\_Primary:

Contact\_Person: Neal Barnett

Contact\_Organization: Applied Research Laboratory the Pennsylvania State University

Contact\_Position: Navigation Systems Department Head

Contact\_Address:

Address\_Type: mailing and physical address

Address: 995 Newtown Rd

City: Warminster

State\_or\_Province: PA

Postal\_Code: 18974

Contact\_Voice\_Telephone: 215 682-4007

Resource\_Description: Downloadable Data

Distribution\_Liability: The data contained herein is based upon work supported and collaboration of the U.S Department of the Interior, USGS and The Pennsylvania State University. The U.S Department of the Interior, USGS and The Pennsylvania State University provides no warranty, expressed or implied as to the accuracy, reliability or completeness of furnished data.

Metadata\_Reference\_Information:

Metadata\_Date: 20050923

Metadata\_Contact:

Contact\_Information:

Contact\_Person\_Primary:

Contact\_Person: Neal Barnett

Contact\_Organization: Applied Research Laboratory

Contact\_Position: Navigation Systems Department Head

Contact\_Address:

Address\_Type: mailing and physical address

Address: 995 Newtown Rd

City: Warminster

State\_or\_Province: Pa

Postal\_Code: 18974

Contact\_Voice\_Telephone: 215 682-4007

Metadata\_Standard\_Name: FGDC Content Standards for Digital Geospatial Metadata

Metadata\_Standard\_Version: FGDC-STD-001-1998

Metadata\_Time\_Convention: local time

Metadata\_Extensions:

Online\_Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile\_Name: ESRI Metadata Profile

## **Appendix D**

### **Metadata Error File Created by MP Parser (mp.exe) Software**

**"lab\_metadata.err" File created 23 September 2005**

mp 2.8.22 - Peter N. Schweitzer (U.S. Geological Survey)  
No errors

## Appendix E

Metadata FAQ HTML File Created by MP Parser (mp.exe) Software

"lab\_metadata.faq.html" File created 23 September 2005

### lab\_data.txt

Metadata also available as

#### Frequently-anticipated questions:

- [What does this data set describe?](#)
    1. [How should this data set be cited?](#)
    2. [What geographic area does the data set cover?](#)
    3. [What does it look like?](#)
    4. [Does the data set describe conditions during a particular time period?](#)
    5. [What is the general form of this data set?](#)
    6. [How does the data set represent geographic features?](#)
    7. [How does the data set describe geographic features?](#)
  - [Who produced the data set?](#)
    1. [Who are the originators of the data set?](#)
    2. [Who also contributed to the data set?](#)
    3. [To whom should users address questions about the data?](#)
  - [Why was the data set created?](#)
  - [How was the data set created?](#)
    1. [From what previous works were the data drawn?](#)
    2. [How were the data generated, processed, and modified?](#)
    3. [What similar or related data should the user be aware of?](#)
  - [How reliable are the data; what problems remain in the data set?](#)
    1. [How well have the observations been checked?](#)
    2. [How accurate are the geographic locations?](#)
    3. [How accurate are the heights or depths?](#)
    4. [Where are the gaps in the data? What is missing?](#)
    5. [How consistent are the relationships among the data, including topology?](#)
  - [How can someone get a copy of the data set?](#)
    1. [Are there legal restrictions on access or use of the data?](#)
    2. [Who distributes the data?](#)
    3. [What's the catalog number I need to order this data set?](#)
    4. [What legal disclaimers am I supposed to read?](#)
    5. [How can I download or order the data?](#)
  - [Who wrote the metadata?](#)
-

## What does this data set describe?

*Title:* lab\_data.txt

*Abstract:*

Applied Research Laboratory Penn State University Navigation Research and Development Center (NRDC) Quiet Test laboratory Environmental (Temperature, Pressure, Humidity) Data

### 1. How should this data set be cited?

Applied Research Laboratory The Pennsylvania State University, 2005, September, 9, lab\_data.txt.

### 2. What geographic area does the data set cover?

*West\_Bounding\_Coordinate:* -75.0599

*East\_Bounding\_Coordinate:* -75.0598

*North\_Bounding\_Coordinate:* 40.1963

*South\_Bounding\_Coordinate:* 40.1962

### 3. What does it look like?

### 4. Does the data set describe conditions during a particular time period?

*Beginning\_Date:* 2005

*Beginning\_Time:* 0800

*Ending\_Date:* 2005

*Ending\_Time:* 1600

*Currentness\_Reference:* publication date

### 5. What is the general form of this data set?

### 6. How does the data set represent geographic features?

a. How are geographic features stored in the data set?

b. What coordinate system is used to represent geographic features?

### 7. How does the data set describe geographic features?

---

## Who produced the data set?

### 1. Who are the originators of the data set? (may include formal authors, digital compilers, and editors)

o Applied Research Laboratory The Pennsylvania State University

### 2. Who also contributed to the data set?

### 3. To whom should users address questions about the data?

---

## Why was the data set created?

Selected NRDC Laboratory Environmental Data and Metadata for Establishing Compliance with Metadata Standards

---

## How was the data set created?

1. **From what previous works were the data drawn?**
  2. **How were the data generated, processed, and modified?**
  3. **What similar or related data should the user be aware of?**
- 

## How reliable are the data; what problems remain in the data set?

---

## How can someone get a copy of the data set?

### Are there legal restrictions on access or use of the data?

*Access\_Constraints:* No restrictions

*Use\_Constraints:* No constraints

1. **Who distributes the data set?** (Distributor 1 of 1)

Neal Barnett  
Applied Research Laboratory the Pennsylvania State University  
Navigation Systems Department Head  
995 Newtown Rd  
Warminster, PA 18974

215 682-4007 (voice)

2. **What's the catalog number I need to order this data set?**

Downloadable Data

3. **What legal disclaimers am I supposed to read?**

The data contained herein is based upon work supported and collaboration of the U.S Department of the Interior, USGS and The Pennsylvania State University. The U.S Department of the Interior, USGS and The Pennsylvania State University provides no warranty, expressed or implied as to the accuracy, reliability or completeness of furnished data.

4. **How can I download or order the data?**

---

## Who wrote the metadata?

### Dates:

Last modified: 23-Sep-2005

### Metadata author:

Neal Barnett  
Applied Research Laboratory  
Navigation Systems Department Head  
995 Newtown Rd  
Warminster, Pa 18974

215 682-4007 (voice)

### Metadata standard:

FGDC Content Standards for Digital Geospatial Metadata (FGDC-STD-001-1998)

### Metadata extensions used:

- <http://www.esri.com/metadata/esriprof80.html>

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Generated by [mp](#) version 2.8.22 on Fri Sep 23 11:01:22 2005

## **Appendix F**

### **METADATA MANUAL FOR USE BY NRDC**

#### **PROCEDURE FOR CREATING AND THEN EXPORTING METADATA FROM ARCCATALOG**

##### **CONNECTING RAW DATA FILE TO ARC-CATALOG**

1. Click the Start button located on the lower left side of the computer.
2. Click the program icon.
3. Click the ArcGIS icon.
4. Click the ArcCatalog icon.
5. Click the Connect to Folder button on the location bar.
6. Click the Contents button in the right column of ArcCatalog.
7. Click the directory in which the raw data file is stored on the left column of ArcCatalog. This side is called the catalog tree.

##### **VIEWING THE CONTENTS OF A RAW DATA FILE**

1. Select the raw data file on the left side of ArcCatalog. On the right hand side, view the name of the file and the file type.
2. Click the preview button to see the data file.

##### **CREATING AND SAVING METADATA**

1. Click the metadata button in the right column of ArcCatalog.
2. Under the style sheet dropdown list, choose the FGDC ESRI option.
3. Click the edit metadata button located on the Metadata menu.
4. Build metadata file by filling in the required fields.
  - A). Identification
    - 1) General
      - i) Abstract
      - ii) Purpose
      - iii) Access Constraints
      - iv) Use Constraints
    - 2) Citation **Note: Click the details button.**
      - General
        - i) Title
        - ii) Originator
        - iii) Publication Date
      - 3) Time Period
        - i) Currentness Reference
        - ii) Single Date/Time or Multiple dates/ Times or Range of dates/Times

- 4) Status
  - i) Progress
  - ii) Update frequency
- 5) Spatial Domain Bounding Coordinates and G-Polygon
  - i) North
  - ii) South
  - iii) East
  - iv) West
- 6) Keywords
  - i) Theme
  - ii) Thesaurus
- 7) Metadata Reference
  - General
    - Note: Click the details button.
    - Note: Click the Person radio button under Primary Contact
  - Contact Information
    - i) Person
    - ii) Organization
    - iii) Position
  - General
    - iv) Contact Voice Telephone
    - v) Contact Fax Number
    - vi) Contact Email Address
  - Address
    - vii) Address Type
    - viii) Address
    - ix) City
    - x) State or Province
    - xi) Postal Code
    - xii) Country
- 8) Distribution
  - General
    - i) Resource Description
    - ii) Distribution Liability
  - Distributor
    - Note: Click the details button.
    - Note: Click the Person radio button under Primary Contact
  - Contact Information
    - iii) Person
    - iv) Organization
    - v) Position
  - General
    - vi) Contact Voice Telephone
    - vii) Contact Fax Number
    - viii) Contact Email Address

Address

- ix) Address Type
- x) Address
- xi) City
- xii) State or Province
- xiii) Postal Code
- xiv) Country

5. Export the metadata file as a **text file** into the same directory that the Metadata Parser (MP.exe) exists in. This directory should be C:\USGS\tools\bin\
  - a. Do this by clicking on the Export Metadata button located on the Metadata menu.
  - b. Select **FGDC CSDGM (TXT)** under the drop down column for format.
  - c. Use the browse button to navigate to the desired directory.
  - d. Type the name of the file in the file name dialog box.
  - e. Click OK to save the new or edited Metadata.

## VALIDATING THE METADATA

1. Run the Metadata parser (**mp.exe**) from the command prompt. From the Start Menu, choose Programs, then Accessories, then Command Prompt.
2. Change your directory to the same directory that has your metadata and mp. Both should be in the same directory.
  - cd           to change your current working directory
  - dir           to list files in the current working directory
  - path           to tell Windows where to look for programs like mp
3. At the command prompt, type the following command:  
**mp filename.txt -e filename.err -f filename.faq.html**

Replace "filename" with the actual name of the metadata file.

For example, if metadata file is sally.txt, then command line will be

**mp sally.txt -e sally.err -f sally.faq.html**

Note: The **-e** command will force mp to generate an error file and place it in the same directory as **mp.exe** and your metadata file.

Note: The **-f** command will force mp to generate a FAQ-style HTML and place it in the same directory as **mp.exe** and your metadata file.

4. If any errors are generated as shown in the **filename.err** file output, edit the metadata as appropriate and repeat the validation process.

## REGISTERING/PUBLISHING THE METADATA ON HTTP://GOS2.GEODATA.GOV

Note: this website is part of the Geospatial One-Stop E-Gov initiative providing access to geospatial data and information. Geodata.gov is a community of geographic data providers committed to making information about geographic resources available to others.

### Establish gos2.geodata.gov Account

1. Establish a regular geodata.gov account on the website **http://gos2.geodata.gov** following the provided directions. You will need to establish a username and a password as well as providing basic information on NRDC as part of this process.
2. Upon validating the account, you will be prompted to accept the geodata.gov agreement that is provided as follows:

#### . *Statement of Agreement*

*By selecting "I Accept" below, I represent my organization to be a responsible publisher and affirm my responsibilities to:*

1. *keep my content current,*
2. *accept responsibility for and take protection against the publishing of unauthorized, sensitive, or inappropriate content entered or maintained on my behalf,*
3. *authorize harvesting and search of metadata content on a frequent basis,*
4. *grant general public access to my registered map, data, and related services by the geodata.gov portal and its users where the data are public and -- in the case where access data or maps is restricted -- to grant general public access to the metadata that include contact information to seek access to restricted data, and*
5. *keep my web-based metadata, map, and data services available for access by the geodata.gov portal.*

*Participation in the geodata.gov portal may be terminated by my organization or the geodata.gov Operations Team at any time for breach of the above responsibilities or other concerns raised by either party, with notification promptly due to the other party.*

3. After accepting the agreement, you will be asked to provide additional information about NRDC including our full organization name, a short organizational profile and contact name, phone number and email address. After providing this information, the geodata.gov account should be successfully established.

#### Publishing The Metadata

4. Log onto your gos2.geodata.gov account.
5. Use the **Online Upload Metadata File Utility** to upload the validated XML format metadata file.

Note: The online upload utility allows you to publish the metadata (in FGDC or ISO metadata standard) files in text, Extensible Markup Language (XML), or Standard Generalized Markup Language (SGML) format to <http://gos2.geodata.gov>.