

Facilitating the sharing and coordinated use of spatially referenced data in Delaware

**Meeting Summary**  
**Quarterly DGDC/SMAC Meeting**  
**9:00 a.m., November 22, 2004**  
**Senate Hearing Room**  
**Legislative Hall**  
**Dover, DE**

**Attendance List:**

|                           |                       |
|---------------------------|-----------------------|
| Mike Mahaffie .....       | State Planning Coord. |
| Sandy Schenck .....       | DGS                   |
| John Watson .....         | DGS                   |
| Dick Sacher .....         | UD/RDMS               |
| John Callahan .....       | UD/RDMS               |
| Tina Callahan .....       | UD/RDMS               |
| John Laznik .....         | UD/CADSR              |
| David Racca .....         | UD/CADSR              |
| Lu Ann DeCunzo .....      | UD                    |
| Shelly McCoy .....        | UD/Morris Library     |
| Nicole Minni .....        | UD/WRA                |
| Andrew Homsey .....       | UD/WRA                |
| Chad Lauderbaugh .....    | DelDOT                |
| McKelvin Gilbert .....    | DelDOT                |
| Peggy Bacon .....         | DelDOT                |
| Debbie Sullivan .....     | DNREC                 |
| Miriam Pomilio .....      | DNREC                 |
| Michael Krumrine .....    | DNREC                 |
| Barbara Gladders .....    | Div. of Public Health |
| George Yocher .....       | Div. of Public Health |
| Brianne Press .....       | URS                   |
| Sandra Janowski .....     | New Castle Co.        |
| Tom Peralta .....         | New Castle Co.        |
| Rick Sherwood .....       | DEMA                  |
| Peirce Eichelberger ..... | Chester Co.           |
| Janet Lardner .....       | DB&F                  |
| Mary Harper .....         | SHPO                  |
| Matt Laick .....          | Sussex Co.            |
| Debbie Pfeil .....        | Georgetown            |
| Jason Miller .....        | Kent Co.              |
| Jason Berry .....         | Kent Co.              |
| Spencer Aycock .....      | Env. Resources, Inc.  |
| Rick Steffers .....       | Wilmington            |
| Larry Carson .....        | Wilmington            |
| Don Berry .....           | Dept. of Education    |
| Seth Van Aiken .....      | ESRI                  |
| Joy Oliver .....          | DEDO                  |
| Roger Barlow .....        | USGS                  |
| Kim Cloud .....           | DTI                   |

**Welcome and Introductions**

Mike Mahaffie began the meeting at approximately 9:05 a.m. As is customary, the meeting started with attendees introducing themselves.

**Information Updates**

*DataMIL Migration*

Mike Mahaffie and Sandy Schenck gave an update on the project to migrate the DataMIL from UD's Research and Data Management Services to the DGS and DTI. The project continues to move forward, though there have been schedule hiccups. Data has been moved to DTI and DTI is expected to shortly start installing ArcIMS software needed to host DataMIL.

*National Hydrography Dataset*

Mike Mahaffie gave an overview (attached) of the new statewide geodatabase version of the National Hydrography Dataset (NHD) prepared for Delaware by the USGS. The NHD is generally distributed by major watershed (cataloguing unit, or CU). The USGS has created a multi-CU version for Delaware, which covers all of the CU's that include parts of Delaware, except a small portion of a mostly Maryland CU that only creeps across the state line and will be added later. Work on that CU is under way. The geodatabase version has very rich attributes and is designed to provide the ability to create detailed hydrological modeling.

Mike plans to create a simplified, shapefile version of hydro lines and polygons that keep some of the new attribute richness, but is designed for simpler, cartographic use.

### *2005 GIS Conference*

Mike Mahaffie gave a brief update on plans for the 2005 statewide GIS conference. The conference is planned for April 21, 2005, at the Atlantic Sands Hotel, in Rehoboth beach. Preliminary plans suggest a set of workshops to be offered on April 20 and an opportunity for some field experiences on April 22. Planning Committee member John Callahan asked for suggestions of what sorts of workshops would be of most interest. Suggestions should be e-mailed to John at [diodata@udel.edu](mailto:diodata@udel.edu).

### *First Annual Delaware GIS Night*

John Laznik gave an update on the GIS Night that was held on November 18. This event was generally considered a success and John thanked all who were able to help put the event on or attend.

### *Other Items of Interest*

Roger Barlow noted that the updated watershed data for Delaware (now in use in draft form) is expected to be officially approved by USGS in the near future.

Sandy Janowski noted that the New Castle County IMS web site ([www.co.new-castle.de.us/landuse/webdynamic/landUse3.asp](http://www.co.new-castle.de.us/landuse/webdynamic/landUse3.asp)) will soon include a clip-n-ship option for data download.

Tina Callahan announced that the Campus Map project at the University of Delaware is making progress and will provide increasing amounts of data going forward.

### **Updating Delaware's GIS Coordination Approach**

Mike Mahaffie gave a brief presentation (attached) outlining where the Delaware GIS coordination effort has been and suggesting where it might be headed. Mike noted that the group has had some success in creating a growing sense of GIS community, adopting a statewide data framework, publishing metadata, and implementing a growing number of data portals and public applications. He suggested that now might be a good time to take a close look at the coordination structure and seek ways to improve it.

To that end, Mike presented a draft proposal of a new coordination model, based on discussions with several members of the community and using information gathered from other state coordination efforts around the nation. Mike suggested retiring the State Mapping Advisory Committee (SMAC) and the Delaware Spatial Data Implementation team (I-Team). He suggested formalizing the Delaware Geographic Data Committee (DGDC) with by-laws and a set of elected officers.

He further suggested creating a Delaware GIS Coordinating Council, either by legislation or Executive Order, to serve as the guiding authority for the community. The Council would include representatives from all cabinet-level agencies, from all three counties, from the higher education community, from municipal government and from the DGDC itself, in the person of the elected chair. He noted that the Council should be responsible for overseeing the Framework, the Clearinghouse, and the DataMIL, it should recommend and/or promulgate standards, it should represent Delaware to the

Federal Government, and it should manage and fund data creation and maintenance efforts. The Office of State Planning Coordination would continue to staff this effort.

Mike explained that this proposal is really only a starting point and that this is something that the DGDC as a whole should consider and discuss.

John Callahan noted that the formalization should extend to DGDC sub-groups and working groups, which should also have chairs that should make regular reports to the DGDC.

Roger Barlow asked who would be in charge of the Council and would there be a state-level GIS coordinator, as in other states. Sandy Schenck echoed that question and suggested that there should be a state Geographic Information Officer, and that that person should continue to be housed in the Office of State Planning Coordination. He noted that a concern that has arisen in the last few years is the lack of an office that is clearly in charge of statewide GIS efforts.

Dave Racca asked what the difference would be between the proposed Council and the existing I-team. Mike Mahaffie explained that the I-team is limited in scope and is based on a federal coordination model that has fallen somewhat out of favor in the last several years.

Larry Carson suggested that the group will need to think about legislative champions to help enable such a change.

Tina Callahan noted that there is a great deal of creativity in the DGDC and that that creativity has led to some good ideas. She added that the lack of a central authority has sometimes made it harder to carry out those ideas. She suggested that a reorganized community, with support from a recognized authority, would be better able to leverage the creative thought that already exists.

Mike Mahaffie thanked the group for the discussion and offered to draft a brief white paper on the subject and to share it for further discussion.

### **The GIS Certification Institute**

Peirce Eichelberger, GIS Coordinator for Chester County, in Pennsylvania, gave a brief overview of GIS coordination in his county and gave a presentation (attached) on GIS Certification.

Certification has been discussed for several years in the national GIS community. A program to provide certification has recently been developed by members of the Urban and Regional Information Systems Association (URISA) and spun-off into an independent GIS Certification Institute (GISCI).

Supporters see certification as a way to professionalize the GIS workforce and provide support for arguments for better pay and greater recognition. Detractors argue that the

world of GIS is too diverse to lend itself to certification. Peirce, a past president of URISA, went over several of the arguments in favor of certification and gave a detailed presentation on how it works.

The Certification process does not include a test. It is portfolio-based, with applicants gathering information and submitting to a professional review group. Points are awarded in three areas: education, experience, and contributions to the profession. There are minimum point requirements in all areas, with the system designed to try to reflect a broad, balanced professionalism.

Here was some discussion of the issue, with several expressing doubts about certification for such a diverse profession. Others saw some potential benefits. Several members of the DGDC indicated that they are considering applying for certification.

### **Cultural Resources Data**

David Racca and Lu Ann DeCunzo, both of the University of Delaware, gave an overview of growing efforts, among the historical, archeological, and cultural resources communities, to coordinate their data collection and publication methods to take greater advantage of the spatial component of the data they gather.

Lu Ann shared a presentation (attached) on the type of detailed database that is being developed in the historical and cultural resources sector. She also gave a presentation (attached) on the new Delaware Cultural Resources Data Committee. She added that that committee would like to become more closely linked to the DGDC in order to facilitate data development and sharing. She noted that this would begin to add a time-component to some of the Framework data sets.

There was general discussion of the idea and support for working more closely with the members of this new committee. Mike Mahaffie suggested that this might also be an appropriate presentation to give to the Advisory Council on Planning Coordination (also known as the Livable Delaware Advisory Council). He added that the more usable data on what the state is trying to protect that can be shared with the development community, the better the state is able to guide development away from fragile resources. This has begun to show some results in the natural resources area and may also work in protecting cultural resources.

### **Wrap Up**

The meeting adjourned at approximately noon.

# The National Hydrography Dataset

A Statewide Version of the NHD

# The NHD

- An upgrade of the Digital Line Graph (DLG) hydro data
- Adds rich attributes
- Connects stream reaches
- Organized by watersheds, and multiple levels
- Completed by USGS, watershed by watershed

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# The USGS

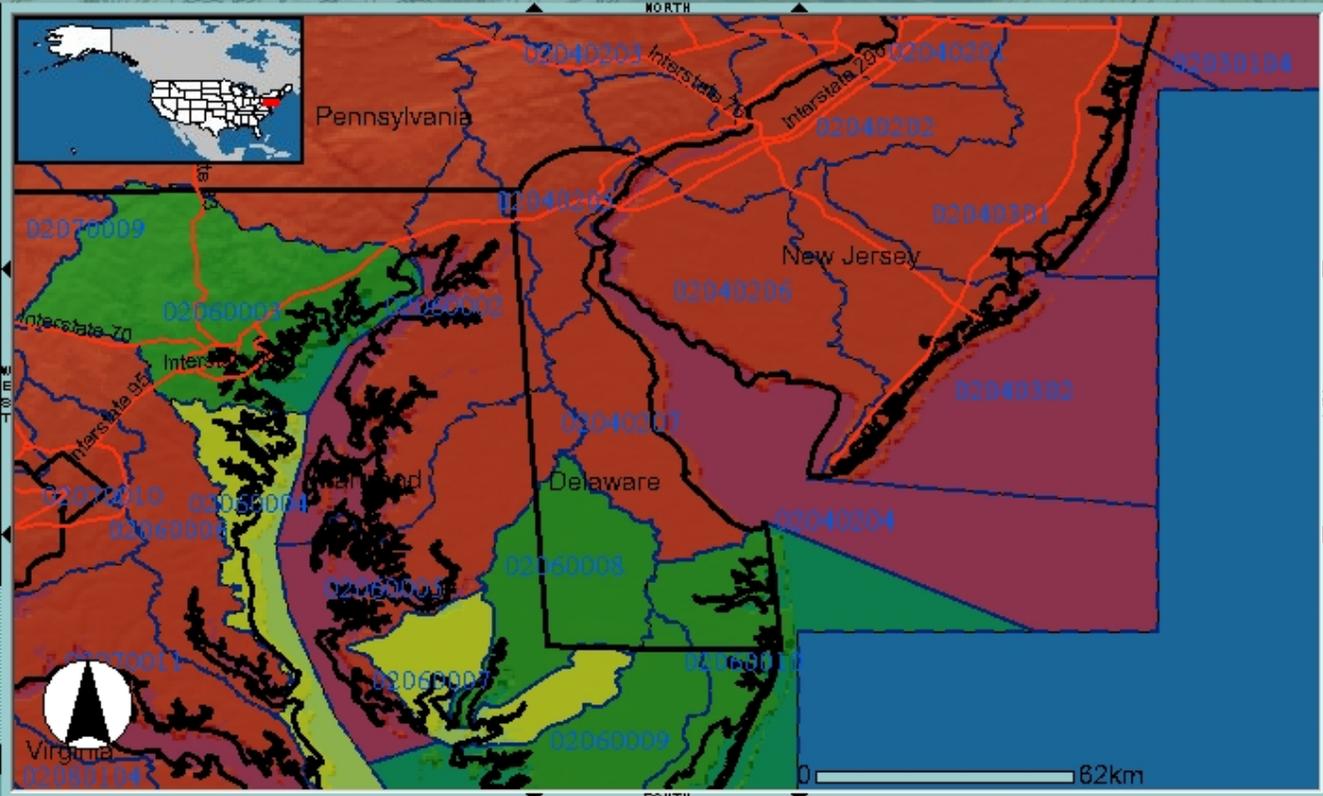
- Completed parts of the state
- Needed funds to complete the rest
- Funding from DNREC

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# NHD GEODATABASE

- Overview
  - Zoom In
  - Zoom Out
  - Zoom State
  - Zoom Subbasin
  - Previous Extent
  - Full Extent
  - Pan
  - Identify
  - Measure
  - Clear
- Extract Functions
- HOW TO EXTRACT



Scale

Layers Legend

- Roads
- States
- Subbasins

**NHD Status**

- Med Resolution Available
- High Resolution Planned
- High Resolution in Work
- High Resolution Available
- Local Resolution Available

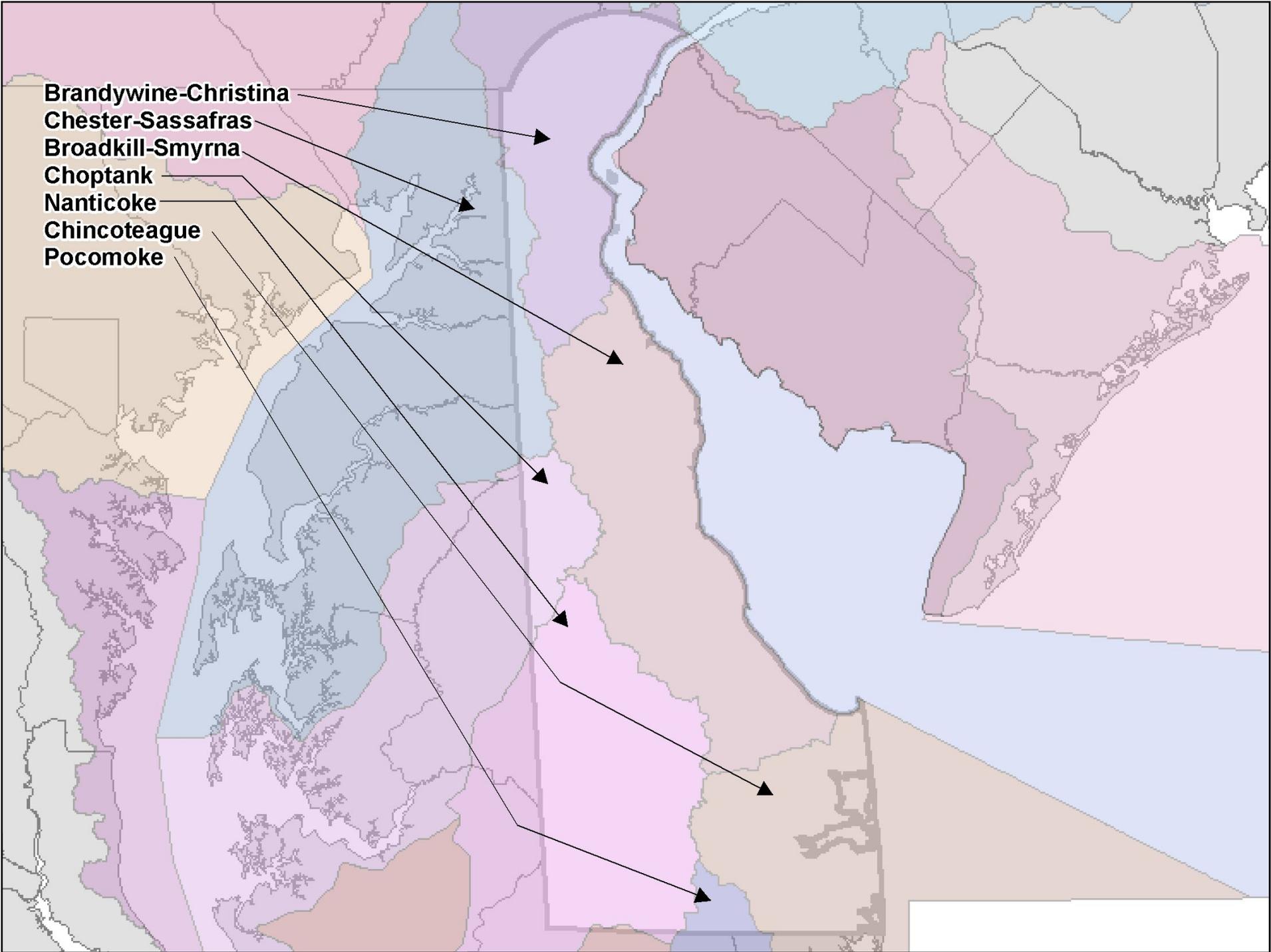
Shaded Relief

USGS NED

Layer Metadata | NHD Home Page | Partners | Map Services | What's New | You may need to disable popup block software. Best viewed with

U.S. Department of the Interior, U.S. Geological Survey, Lakewood, CO, USA  
 URL: <http://nhdgeo.usgs.gov> R32  
 Contact: [NHD@usgs.gov](mailto:NHD@usgs.gov)  
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**Brandywine-Christina**  
**Chester-Sassafras**  
**Broadkill-Smyrna**  
**Choptank**  
**Nanticoke**  
**Chincoteague**  
**Pocomoke**

# NHD Distribution

- Generally by major watershed
- For Delaware, because they love us, USGS has stitched together all of the major watersheds.
- The result, a single, large geodatabase

ArcCatalog - ArcEditor - P:\GIS Data\NHD\DE\_NHD.mdb

File Edit View Go Tools Window Help

Location: P:\GIS Data\NHD\DE\_NHD.mdb Stylesheet: FGDC ESRI

Contents Preview Metadata

## National Hydrography Dataset (NHD) - High-resolution

| Description | Spatial | Attributes |
|-------------|---------|------------|
|-------------|---------|------------|

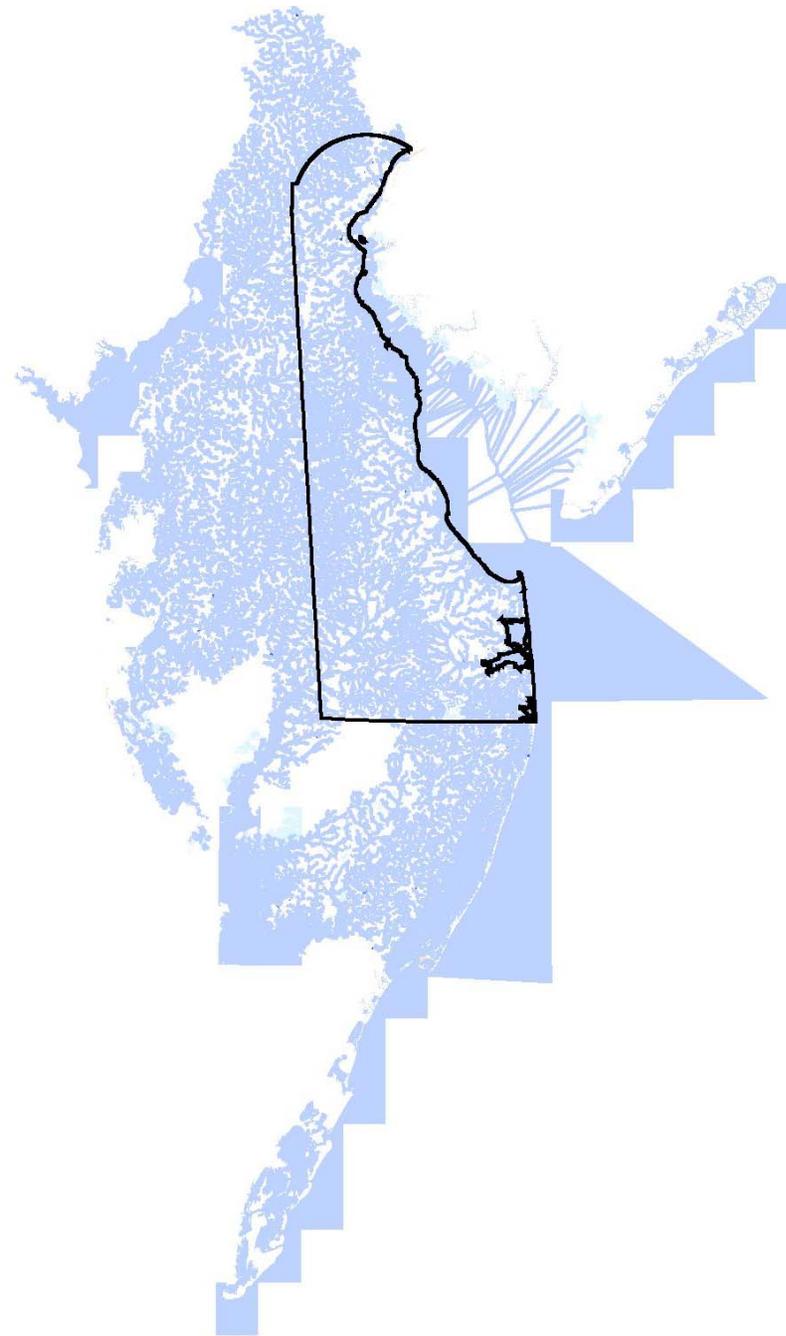
**Keywords**  
**Theme:** FWHYDROGRAPHY, Hydrography, Stream / River, Lake / Pond, Canal / Ditch, Reservoir, Spring / Seep, Swamp / Marsh, Artificial Path, Reach Code  
**Place:** US

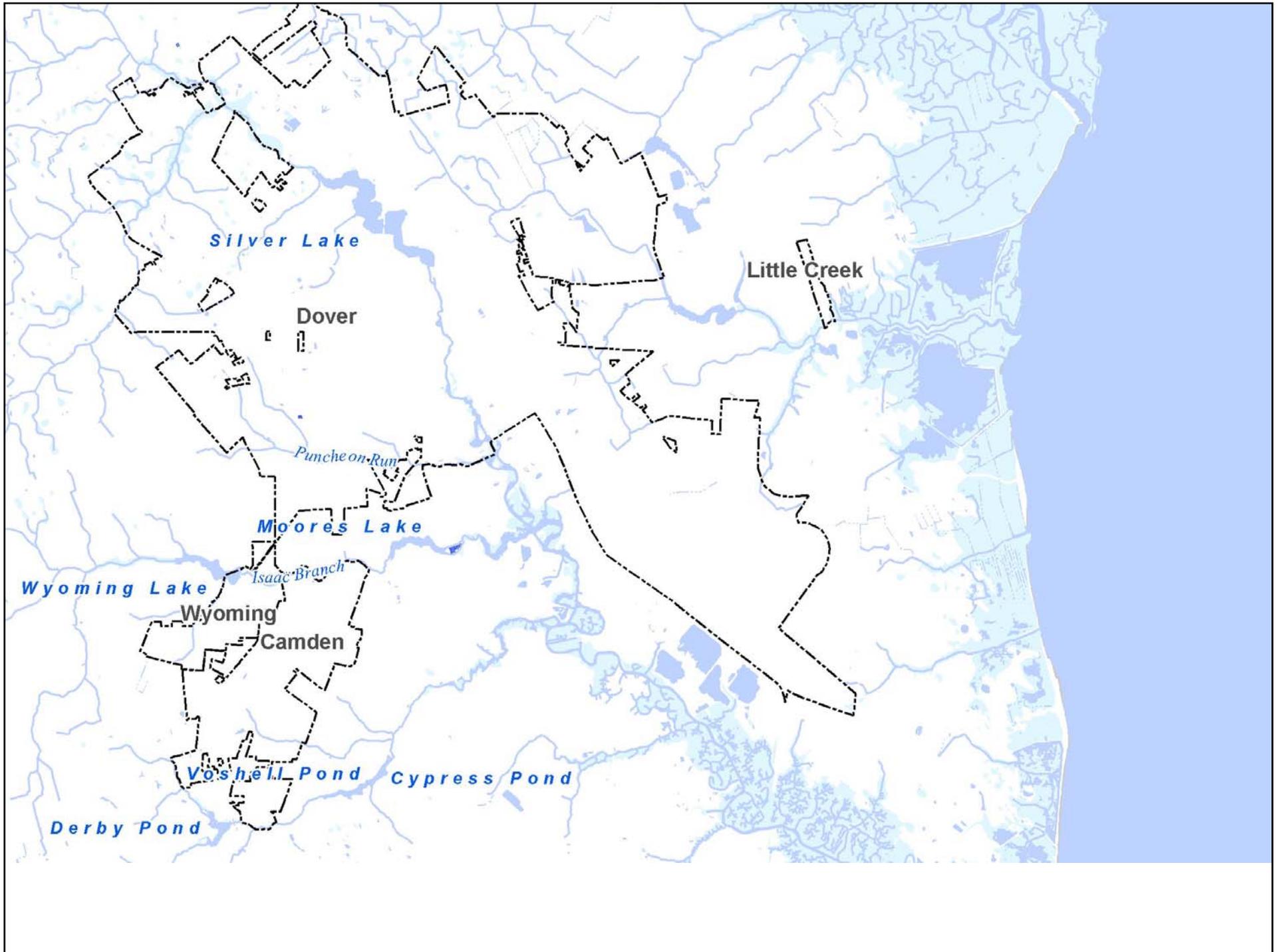
**Description**  
**Abstract**  
The National Hydrography Dataset (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that make up the nation's surface water drainage system. NHD data was originally developed at 1:100,000-scale and exists at that scale for the whole country. This high-resolution NHD, generally developed at 1:24,000/1:12,000 scale, adds detail to the original 1:100,000-scale NHD. (Data for Alaska, Puerto Rico and the Virgin Islands was developed at high-resolution, not 1:100,000 scale.) Local resolution NHD is being developed where partners and data exist. The NHD contains reach codes for networked features, flow direction, names, and centerline representations for areal water bodies. Reaches are also defined on waterbodies and the approximate shorelines of the Great Lakes, the Atlantic and Pacific Oceans and the Gulf of Mexico. The NHD also incorporates the National Spatial Data Infrastructure framework criteria established by the Federal Geographic Data Committee.

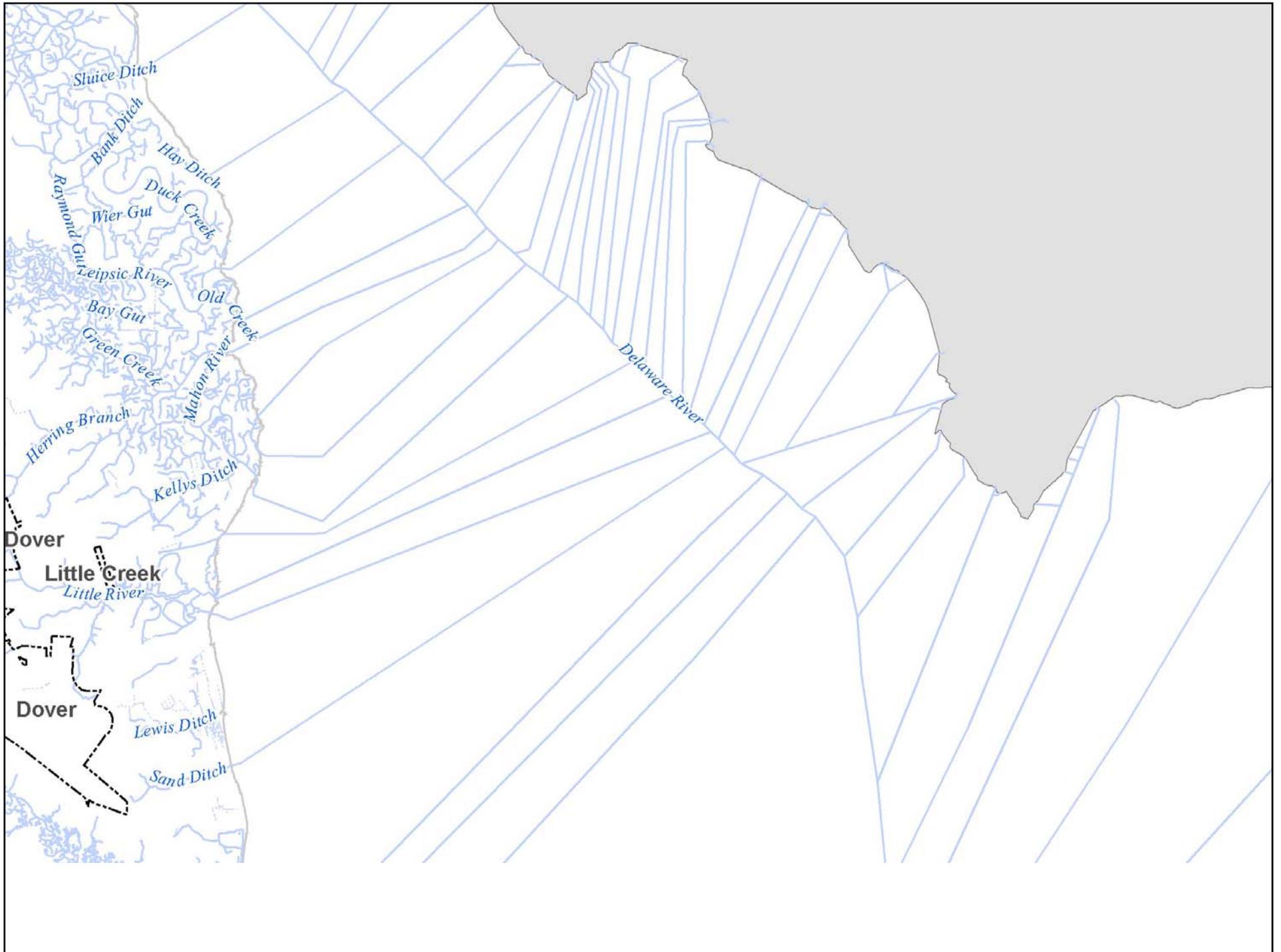
**Purpose**  
The NHD is a national framework for assigning reach addresses to water-related entities, such as industrial discharges, drinking water supplies, fish habitat areas, wild and scenic rivers. Reach addresses establish the locations of these entities relative to one another within the NHD surface water drainage network, much like addresses on streets. Once linked to the NHD by their reach addresses, the upstream/downstream relationships of these water-related entities--and any associated information about them--can be analyzed using software tools ranging from spreadsheets to geographic information

DE\_NHD.mdb

- Hydrography
  - HYDRO\_NET
  - HYDRO\_NET\_Junctions
  - NHDArea
  - NHDFlowline
  - NHDLine
  - NHDPoint
  - NHDWaterbody
- HydrologicUnits
  - Basin
  - Region
  - Subbasin
  - Subregion
  - Subwatershed
  - Watershed
- HYDRO\_NET\_BUILDERR
- NHDAreaToMeta
- NHDFCode
- NHDFeatureToMetadata
- NHDFlow
- NHDFlowlineToMeta
- NHDFlowlineVAA
- NHDHydroLineEvent
- NHDHydroPointEvent
- NHDLineToMeta
- NHDMetadata
- NHDMetadataHasSourceCitati
- NHDMetaToFeature
- NHDPointToMeta
- NHDProcessingParameters
- NHDReachCode\_ComID
- NHDReachCrossReference
- NHDSourceCitation
- NHDStatus
- NHDVerticalRelationshin







The screenshot displays a GIS application interface. The main map area shows a river system with labels for "Moore's Lake", "Isaac Branch", "Camden", and "Dover". A blue-shaded area represents the river's flowline. The "Identify Results" window is open, showing a tree view of the "NHDFlowline" layer and a table of attribute values for a selected feature.

**Identify Results Window**

Layers: NHDFlowline

Location: (192292.205637 125710.391506)

| Field        | Value             |
|--------------|-------------------|
| OBJECTID     | 18704             |
| Shape        | Polyline          |
| ComID        | 88069456          |
| FDate        | 6/24/2003         |
| Resolution   | High              |
| GNIS_ID      | 00217883          |
| GNIS_Name    | Saint Jones River |
| LengthKM     | 1.448             |
| ReachCode    | 02040207002136    |
| FlowDir      | WithDigitized     |
| WBAreaComID  | 88097844          |
| FType        | ArtificialPath    |
| FCode        | Artificial Path   |
| Shape_Length | 0.014788          |
| Enabled      | True              |

The map interface includes a toolbar with various navigation and editing tools, a status bar at the bottom showing coordinates (189882.29 125755.96 Meters), and a drawing toolbar with text and line tools.

NHD Training Materials - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Refresh

Address <http://nhd.usgs.gov/tutorials.html> Links Google S

Google nhd Search Web PageRank 1546 blocked Options nhd

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  National Hydrography Dataset

[NHD Home](#) [Technical References](#) [Data](#) [Tools](#) [Applications](#) [Tutorial Series](#) [Technical Support](#) [Maintenance](#)

## NHD Tutorial Series

### The NHD Tutorial Series

[Introduction to the NHD Tutorials:](#)

Welcome to the National Hydrography Dataset Tutorial Series. Each tutorial provides students with the opportunity to actively learn about and use NHD data. The tutorials come with sample NHD datasets and ArcView project files.

The purpose of the NHD Tutorials is to acquaint users with the NHD data model, learn how to use NHD data in simple query-and-display applications, and to access and query NHD metadata.

The NHD Tutorials are meant to be a companion to the NHD Technical References documentation. There is a great deal of conceptual information, background information, and detailed data-specific information on the [NHD Technical References](#) web site. Students are encouraged to consult digital or hard copies of the documents posted on the [NHD Technical References](#) site while going through each Tutorial.

Each Tutorial should take you about 30 to 45 minutes to complete.

**[Non-endorsement of Commercial and Other Non-USGS Products and Services](#)**

Internet

**Tutorial #1 Introduction - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Refresh

Address <http://nhd.usgs.gov/tutorial1/tut1s0.html> Links Google S >>

Google nhd Search Web PageRank 1546 blocked e Options nhd

## *Tutorial 1: Viewing NHD Feature Classes*

### **Overview:**

This Tutorial will show you how to display and symbolize each of the feature classes available in NHD datasets.

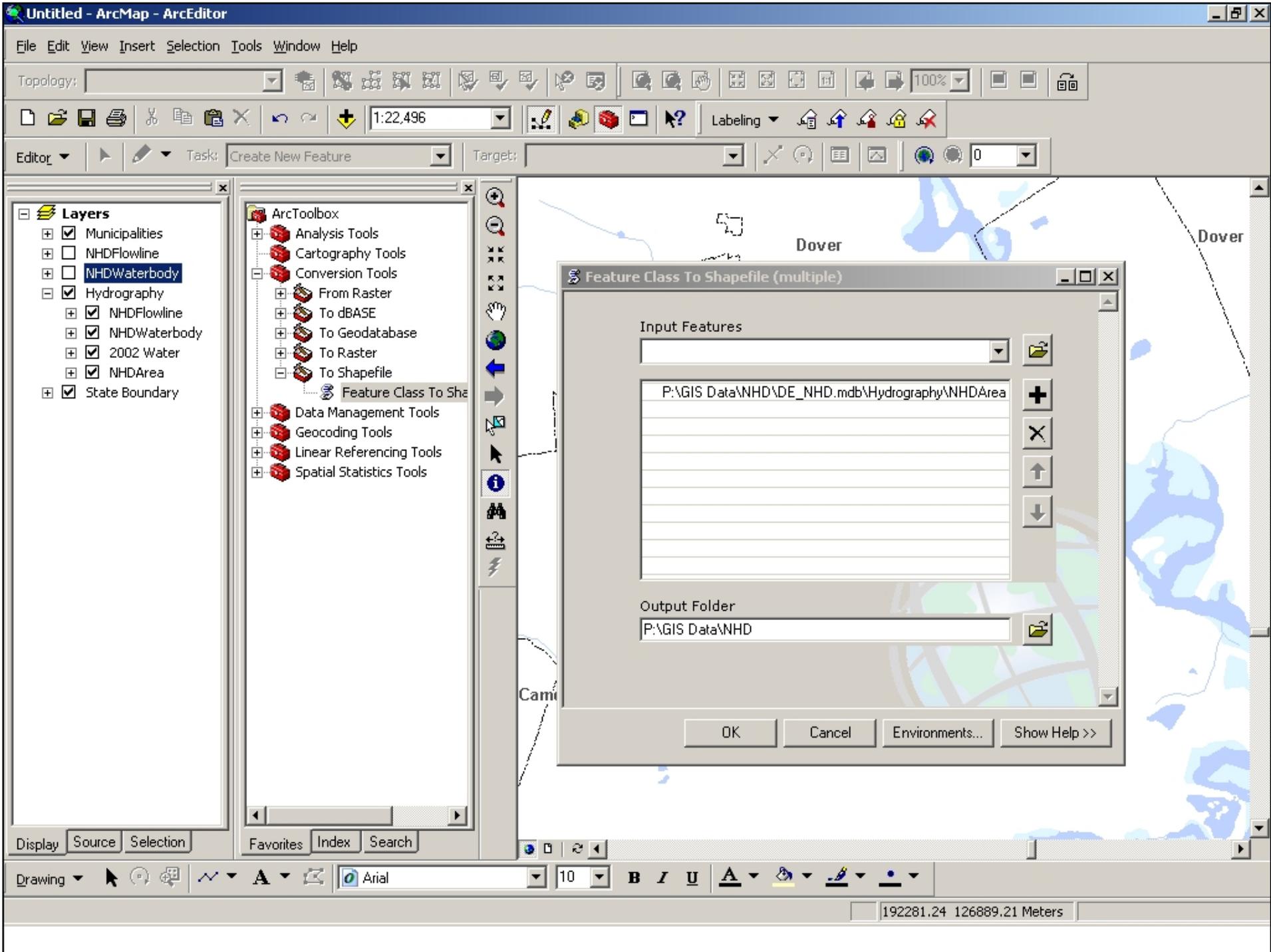
### **Learning Objectives:**

At the end of this tutorial, you will be able to:

- [Step 1: Download the Sample Data](#)
- [Step 2: Display features and their feature types from the waterbody feature class](#)
- [Step 3: Display features and their feature types from the drain feature class](#)
- [Step 4: Display features from the transport reach feature class](#)
- [Step 5: Display features from the waterbody reach feature class](#)
- [Step 6: Display features and their feature types from the point landmark feature class](#)
- [Step 7: Display features and their feature types from the line landmark feature class](#)
- [Step 8: Display features and their feature types from the area landmark feature class](#)

Tutorial 1 uses NHD data for subbasin 10190003 which is located in northern Colorado.

Internet





# Updating Delaware's Approach

Now What?

# Where We Came From

- Disorganized
- Each in our own silos
- Unconnected
- And there were only a few of us

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# Where We Are

- Somewhat more organized
  - DGDC/SMAC
  - I-Team
- In our own silos, but breaking holes in the walls
- Getting connected
- Growing

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# What We've Done

- Created a community
- Approved a Framework
- Teamed up to create new data
- Populated our clearinghouse
- Created successful portals
  - DataMIL
  - Env. Navigator
  - New Castle Co.

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# Now What?

- Have we reached the extent of what we can accomplish “under the radar”?
- Should we look at our structure and consider changes?

# Our Current Structure

- Started with SMAC
- Added DGDC and revitalized SMAC
- DGDC and SMAC have merged
- Eventually, added I-Team

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# A Possible New Structure?

- Retire SMAC
- Organize, formalize, DGDC
  - By-Laws
  - Officers
- Retire I-Team
- Create a Delaware GIS Council
  - Legislation? Executive Order?
  - Appointed? Defined in Code?

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# GIS Council

- All cabinet-level agencies
- All three counties
- Higher Education
- DGDC Chair
- Appointee of DLLG
- Others?

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# Council Responsibilities?

- Oversee Framework
- Oversee Clearinghouse
- Oversee DataMIL
- Recommend/promulgate standards
- Represent Delaware to Federal Government
- Fund and manage data creation and maintainance

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# Discuss....

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# **GIS Professional Certification and GISCI**



# Presenter

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- Peirce Eichelberger
- GIS Manager for Chester County, PA
- GIS Project Coordinator Orlando/Orange County, FL
- Past URISA President
- URISA Board member 2000-2003 and 1982-1984



# Why Certify?

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- Although GIS has many uses, GISCI believes there is a GIS profession.
- GIS *professionals* understand and apply the *full range* of GIS capabilities, most commonly as their primary professional role.



# Who Qualifies?

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- Other professionals (surveyors, cartographers, landscape ecologists, etc.) are typically not GIS professionals
- These professionals assess both the range of their GIS applications and the significance of their GIS skill set to their professional role.



# What can Certification Provide?

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- 1) Classify bad and good practice
- 2) Implement a professional code of ethics that identifies bad practice and upholds good practice
- 3) Outline the education and work experiences necessary to establish good GIS practice



# No Test!

- **Point-based** and **self-documented**
- Based on **achievement in three categories:**
  - **Educational** attainment
  - Professional **experience**
  - **Contributions** to the profession



# A Point-based System

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- GISCI Professional Certification created a system that adds objectivity (points) to the subjective (one's career)
- The Certification Committee spent 4 years attributing points to various activities
- The result of their effort is the GISCI Certification Program



# Benchmark

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- **EDUCATION** – Bachelor's degree with some GIS courses (or equivalent)
- **EXPERIENCE** – Four years in GIS application or data development (or equivalent)
- **CONTRIBUTIONS** – Annual membership and modest participation in a GIS professional association (or equivalent)



# Minimum Category Points

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- Educational Attainment: 30 points
- Professional Experience: 60 points
- Professional Contributions: 8 points
- Additional Points in any of the 3 Categories: 52 points



# Minimum Total Points

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To allow flexibility in the distribution of points, a minimum total points was established at:

**150 points**

This allows one to make up for a lack in one category with an excess in another (eg., long on GIS experience, short on education)



# The Educational Achievement Section

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There are 3 components to the Educational Achievement Section:

1. Credential Points (degrees in any field)
2. Course Points (geospatial technology courses)
3. Conference Attendance Points (days spent at relevant meetings and conferences)



# Educational Attainment

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## Credential Points:

|                           |        |
|---------------------------|--------|
| Master's Degree or Higher | 25 pts |
| Bachelor's                | 20 pts |
| Associate's               | 10 pts |
| GIS Certificate*          | 5 pts  |

\* 400 or more student activity hrs

**Select the highest earned**



# Educational Attainment

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## Student Activity Hours:

Hours spent in a classroom, seminar, or conference, plus hours spent completing assignments, reading, studying, or other preparations for the course.

Geospatial technology courses and related courses taken are worth:

**1 point for every 40 student activity hours**



# Course Point Examples

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## Examples:

1. The applicant completed an 8 hour workshop:

$$8 \text{ hours} / 40 \text{ (set value)} = 0.2 \text{ EDU points}$$

2. The applicant completed a 15 week, 3 credit course:

$$3 \text{ credits} \times 15 \text{ weeks} \times 3 \text{ (set value)} = 135 \text{ hours}$$

$$135 \text{ hours} / 40 \text{ (set value)} = 3.38 \text{ EDU points}$$



# Educational Attainment

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## Conference Attendance Points

- Conference attendance points are a result of the number of total days that the applicant has spent at meetings and conferences sponsored by professional societies and regional and local user groups.



# Conference Attendance Point Examples

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- Conference Attendance Points are determined by the number of days and not hours spent at each event. The number of days attended should always result in a whole number multiplied by 0.1.

The applicant attended the 2004 ESRI  
International User Conference:

August 9-13 = 5 days x 0.1 (set value) = .5 EDU points



# Professional Experience

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Job experience is the most important factor in GIS qualifications because:

- Performing in a job provides learning experiences that allow **growth and expansion of skill sets**
- Work environment with other professionals allows **transfer of knowledge**



# 3 Tiers of Professional Experience

- **Analyst, System Design, Programming: (Tier 1)**  
Typical tasks include database design or management, documentation or analysis of functional requirements, application design and evaluation, implementation management, and system administration. = **25 Points Per Year**
- **Data Compilation, Data Maintenance, Teaching: (Tier 2)**  
Typical tasks include editing data, map composition, report generation, database maintenance, data validation, instructional training, and teaching. = **15 Points Per Year**
- **GIS User: (Tier 3)**  
Typical tasks include utilization of applications involving geospatial technologies. Candidates may be involved in managing or coordinating GIS, but not involved in the technical implementation of GIS. = **10 Points Per Year**



# 4-year Minimum

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- Applicants must have a combination of at least 4 years (48 months) of professional GIS experience to apply for GIS Certification.
- If the applicant has met the minimum requirement with less than 4 years of experience then the applicant must wait until 4 years of professional GIS experience is accrued.



# The Grandfathering Provision

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- Designed to assist professionals who have working with spatial data for many years
- Successful candidates will only have their professional experience reviewed.



# The Grandfathering Provision

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- Grandfathering applicants do not need to submit contribution or education points for initial certification.
- Grandfathering will only be available until December 31, 2008. There is no grandfathering provision for recertification. Recertification applicants will need to submit points in all three areas.



# The Grandfathering Provision

You are eligible for Grandfathering if you have earned a minimum of 200 professional experience points (see forms EXP-1 and EXP-2).

Candidates who qualify for grandfathering then, have worked for:

- **8 years** in a GIS position of **data analysis, system design, programming, or similar position.**

*OR*

- **13 1/3 years** in a GIS position of **data compilation, teaching, or similar position.**

*OR*

- **20 years** in a GIS User Position

*OR*

- **A combination** of the above positions that results in a total of **at least 200 points** as computed in forms EXP-1 and EXP-2.



# Contributions to the Profession

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Documents and activities that add to the professional body of knowledge for the **benefit of the profession** as a whole – not just the employer and client.



# The 7 Categories of Contribution Points

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- GIS Publications
- GIS Professional Association Involvement
- GIS Conference Participation
- GIS Workshop Instruction
- GIS Conference Presentation
- GIS Awards Received
- Other GIS Contributions



| <b>Publication Type:</b>  | <b>Points Earned per Publication</b> |
|---|--------------------------------------|
| A. Book Author/Editor   | 15                                   |
| B. Published Atlas (as author)  | 15                                   |
| C. Refereed Paper   | 5                                    |
| D. Book Chapter Author  | 5                                    |
| E. Published Map (as author)  | 3                                    |
| <i>Note: For an atlas or map to be considered as published, for purposes of earning contribution points, it must not have been produced as a result of a work or academic assignment.</i> |                                      |
| F. Editorial Board  | 3                                    |
| G. Magazine/Journal Article   | 3                                    |
| H. Magazine/Journal Column  | 3                                    |
| I. Paper in Conference Proceedings  | 2                                    |
| J. Magazine/Journal/Newsletter Column Editor  | 1                                    |
| K. Newsletter Article   | 1                                    |
| <i>Note: Professional writing is credited as Experience. Publication of theses and dissertations is credited as Education.</i>  |                                      |



## GIS-Related Professional Association Involvement

| Level of Involvement                   | Points Earned per Year of Office or Affiliation |
|--|---|
| L. President or Board Chair            | 5   |
| M. Board Membership                    | 4   |
| N. Committee Chairperson               | 3   |
| O. Committee Member                    | 2   |
| P. Association/Organization Membership | 1   |



## GIS Conference Participation

| Level of Involvement           | Points Earned per Conference |
|--------------------------------|------------------------------|
| Q. Conference Chairperson      | 4                            |
| R. Conference Committee Member | 2                            |

## Workshop Instruction

|                         | Points Earned per Workshop |
|-------------------------|----------------------------|
| S. Workshop Instruction | 3                          |

## GIS Conference Presentations

| Presentation Type            | Points Earned per Event |
|------------------------------|-------------------------|
| T. Conference Presentation   | 1                       |
| U. Conference Poster Display | 1                       |

*Note: Credit is accrued for both a conference presentation and publication of same in the conference proceedings (see item 1. GIS Publication).*



## GIS Awards Received

| Recognition Type              | Points Earned per Award |
|-------------------------------|-------------------------|
| V. National Award             | 3                       |
| W. Local/Regional/State Award | 2                       |
|                               |                         |

*Note: Awards issued by the applicant's employer do not count as a contribution to the profession. These awards will not be considered.*

## Other GIS Contributions

| Participation Type:                | Points Earned per Activity |
|------------------------------------|----------------------------|
| X. Event Organizer                 | 2                          |
| Y. Event Participation/Moderation  | 1                          |
| Z. Related Community Contributions | 1-3                        |



# Additional Requirements

---

- **Code of Ethics**
- **Renewal**
  - Every five years
  - Minimum points in each category and total since initial certification



# Signing the Code of Ethics

- All accepted candidates must sign the GISCI Code of Ethics.



# Renewal of Certification

- Applicants must earn the following points in the five years following initial certification:

|                                 |           |
|---------------------------------|-----------|
| Educational Achievement         | 4 points  |
| Professional Experience         | 50 points |
| Contributions to the Profession | 10 points |
| Additional Points               | 11 points |
|                                 |           |
| Total:                          | 75 points |



# Renewal of Certification

---

- All points claimed for recertification will need to be documented.
- There is no “Grandfathering Provision” for recertification.



# The GISCI Organization

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# Establishing GISCI

---

- Why not URISA and why GISCI?
  - Legal and financial protection for URISA and its members and officers.
  - Ability to expand the Institute to make it more multilateral when the time comes.
  - Wanted to enforce the principle that certification has no membership requirement.



# What is GISCI?

---

- GISCI is the GIS Certification Institute
- It is a 501(c)(6) organization – Similar to a trade association
- Will provide the GIS industry with a complete mechanism for certification
- At its inception, will not offer any other programs or champion other initiatives.
- In the eyes of the law and the IRS it is a completely separate organization from URISA.



# The Mission of GISCI

---

*To maintain the high standards  
and integrity  
of the GIS profession and promote  
ethical conduct within it.*



# The Application Review Process

---



# The Application Review Process

---

- The GISCI Staff performs a QUANTITATIVE review.
- The GISCI Review Board performs a QUALITATIVE review.



# GISCI Staff Review

---

- Will determine if the points have been added and documented correctly.
- Will make a recommendation of the applicant's status to the Review Committee.
  - Accepted Outright
  - Rejected Outright
  - Pending Further Review



# GISCI Review Committee

---

- Volunteers with GIS backgrounds and credentials.
- Chosen by the GISCI Board of Directors
- Will make the final determination on ALL manners of points, documentation, and status.
- Their decisions are final and settled by simple majority.



# GISCI Review Committee

---

- The committee will see and approve the scores for every GISCI applicant.
- They will perform independent reviews and return their decisions to GISCI staff.
- They will make periodic recommendations on how to improve the program to the BOD and Oversight Committee.



# Notifying the Applicants

---

- All accepted/rejected candidates will be notified of their status hopefully within 2-3 months of submittal.
- Accepted candidates will receive a congratulatory letter and a certificate.
- Rejected candidates will be encouraged to resubmit.



# GISCI in Operation

---

- Currently there are 475 certified GIS Professionals (GISPs)  
(as of October 25<sup>th</sup>)
- 93.2% said that the application process was “Very Clear” to “Clear”
- 90.4% said it took 1-3 weeks to complete. (the majority of their time is spent waiting for transcripts).



# GISCI in Operation

---

- 56% are from the Public Sector  
38% are from the Private Sector  
6% are from Academia
- They have backgrounds in the following disciplines:

**Planning**  
**Public Works**  
**MIS/IS**  
**Emergency Services**  
**Utility Planning Operations**  
**Transportation**

**GIS**  
**Engineering**  
**Assessment**  
**Natural Resources**  
**Community Development**  
**Finance and Administration**



# Flow of Applications

---

- GISCI is processing applications monthly.
- This means that 12 cohorts of professionals will be certified each year. GISCI estimates that each cohort will contain about 40 successful applicants
- GISCI hopes to have between 500 - 600 Certified GIS Professionals by the end of 2004.



# Certification Fee

---

- The cost of GISCI certification is \$250.
- Covers five years of certification with no annual fee assessed.
- There will be a yet to be determined recertification fee.
- Rejected applicants receive \$150 back, less a \$100 processing fee.





# www.gisci.org



## GIS Certification Institute

[Home](#)[Feedback](#)[Contents](#)[Search](#)[Home](#)[GISCI News](#)[About the Program](#)[Getting Certified](#)[Certification FAQ's](#)[Code of Ethics](#)[Links to GIS Organizations](#)[About GISCI](#)

### Important Note:

**Applications for the GISCI Certification Program are now available.** GISCI is now ready to accept complete applications accompanied by full payment and a signed code of ethics.

[View or download the application materials for GISCI professional certification.](#)

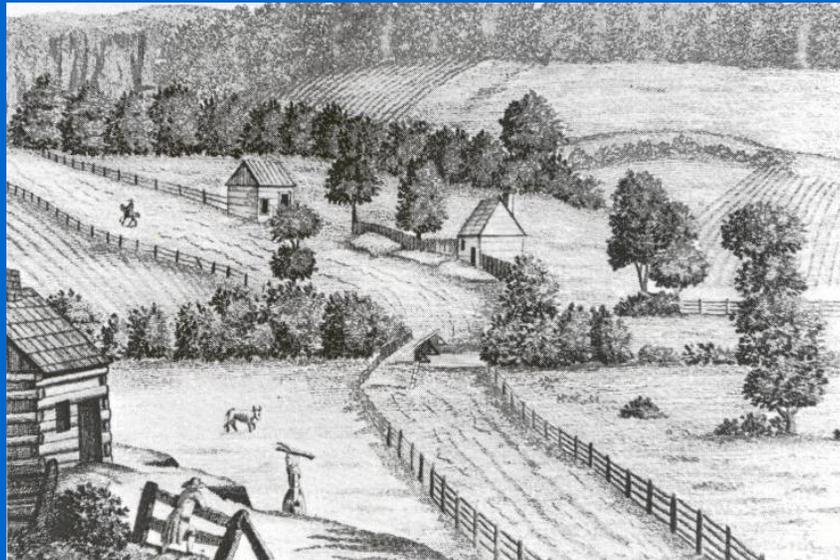
GISCI



# Thank You...Any Questions?



# BG-Map

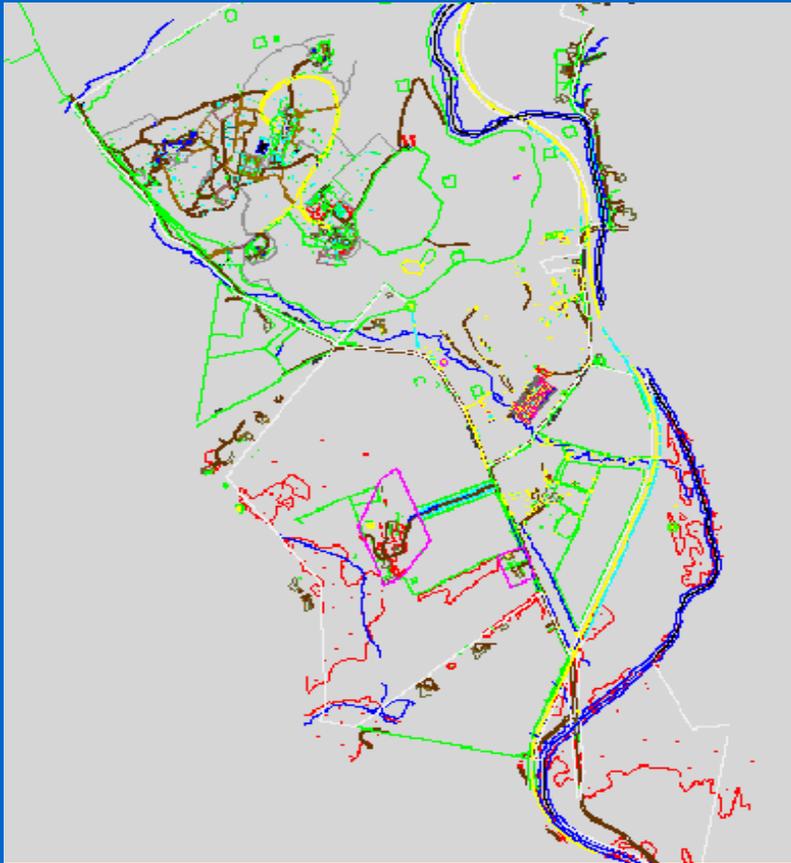


Cultural Resources Module  
and  
Mount Cuba

# What is BG-Map Cultural Resources Module?

- Integrated sub-modules
  - PERSONS
  - DOCUMENTS
  - PROPERTIES
  - CULTURAL RESOURCES
  - ARCHAEOLOGICAL SITES
  - ARTIFACTS
- Developed by Mark Glicksman and UD Anthropology with support of Mrs. Lammot du Pont Copeland and Mt. Cuba Center, Inc.

# The Mt. Cuba Base Map



- Based on aerial photography ground-truthed by surveyors
- Grid: Delaware state plane coordinates
- ArcGIS compatible

# PERSONS Submodule

## Thomas S. Vandever, 1822-1905

### Farmer-Carpenter and Property Owner

Cultural Resources - Persons

General | Life History | Marriage/Children | Occupation/Employment | Residence/Wealth | Service | Education/Literacy | Media

First Name\* Middle Name Last Name\*  Male  Female Find Households >  
**Thomas** **S.** **Vandever** Find Parents >

| Eth. Grp* | (Name) | Fath's Birthpl | (Description) | Moth's Birthpl | (Name) | Source* | (Description) | Pages |
|-----------|--------|----------------|---------------|----------------|--------|---------|---------------|-------|
|           |        |                |               |                |        |         |               |       |
|           |        |                |               |                |        |         |               |       |
|           |        |                |               |                |        |         |               |       |

| Title* | (Description) | Source* | (Description) | Pages |
|--------|---------------|---------|---------------|-------|
|        |               |         |               |       |
|        |               |         |               |       |
|        |               |         |               |       |

| Other Surname* | Source* | (Description) | Pages |
|----------------|---------|---------------|-------|
|                |         |               |       |
|                |         |               |       |
|                |         |               |       |

| General Source* | (Description)                         | Pages |
|-----------------|---------------------------------------|-------|
| HSDCHURCHFIL    | Historical Society of Delaware, Ch... |       |
| AGCENSUS1860    | New Castle County, DE, Agricultur...  |       |
|                 |                                       |       |
|                 |                                       |       |

General Comments on This Person

Thomas was baptized by the Rev. David Moore at Lower Brandywine Presbyterian Church, Jan. 7, 1866

In the 1900 Census, Thomas is living with his son.

Person Code:  Find Recall

Vandever, Thomas S. 1822-1905  
 Record Created 10 NCV 2000 by Jason  
 Last Update 13 OCT 2003 by Heather

Help Census Data > Cancel Save

# The DATA Today

- Mt. Cuba area residents, ca. 1700-1930
- Mill Creek Hundred
  - 1798, 1861 Tax Assessments
  - 1803-4 Tax Assessments (partial)
  - 1800-1810, 1850 Population Census
  - 1860 Population Census (partial)
  - 1850, 1860 Agriculture Census
  - 1850, 1860, 1870 Industrial Census

# DOCUMENTS Submodule

- Property and Probate Records
  - Persons involved
  - Real Estate
    - Conveyed properties
    - Improvements
    - Quantity and Values
  - Personal Estate
    - Items classified by function
    - Quantity and Values

# Deed

## Purchase of Mt. Cuba area farm by Thomas S. Vandever, 1857

Cultural Resources - Documents

General Parties Properties Other Items Conveyance Properties Improvements Media

Description\* Land Deed to Vandever, Thomas from Hendrickson, Joseph and Adaline

Document Date\* 04 MAR 1857 | D Transaction Date\* 04 MAR 1857 | D Jurisdiction\* MUN\*MCKHD Tenure  
 Fee Simple  
 Rent  
 Lease  
 Mortgage  
 Widows Dower  
 Other (See Comments)

Currency USD Decedent\* Document Source\* HENVANDEED

| Ref. Document* | (Description)              | (Jurisdiction)     |
|----------------|----------------------------|--------------------|
| DEE*MORHEN     | Mortgage of Vandever, Thor | Mill Creek Hundred |
|                |                            |                    |
|                |                            |                    |
|                |                            |                    |
|                |                            |                    |

Comments  
Mortgage: B-11-73 - see Ref Documents.

Existing Record - Conveyance  
Type Code Find Deed Land Deed to Vandever, Thomas from Hendrickson, Joseph and Adaline  
DEE \* HENVANDE Recall Record Created 16 AUG 2001 by Jason  
Last Update 16 JAN 2002 by Jason United States Dollars

Help Cancel Save

# PROPERTIES Submodule

- Location and Acreage
- Metes and Bounds Descriptions
- Map
- Deed and Other Source References
- Adjoining Properties
- Property History

# Farm of Thomas S. Vandever, 1853-1877

## Mt. Cuba and Barley Mill Roads

**Cultural Resources - Properties**

General Location Adjacent/Lineage Media

Description\* Hendrickson, Vandever Farm, 91.25 acres Jurisdiction\* MUN\*MCKHD

Start Date\* End Date  
22 NOV 1853 | D 1877 | U

Acres Historic Acres Calculated  
91.25 89.03

Perimeter  
9583.72

**Other Names**

| Name* | Date   Acc* | Source* | (Description) | Pages |
|-------|-------------|---------|---------------|-------|
|       |             |         |               |       |
|       |             |         |               |       |
|       |             |         |               |       |
|       |             |         |               |       |

**General Sources**

| Source*      | (Description)                    | Pages |
|--------------|----------------------------------|-------|
| JESBISHPDEED | Land Deed to Hendrickson, Joseph | ▲     |
| HENVANDEED   | Land Deed to Vandever Thomas fr  |       |
| MORHENVA     | Mortgage to Hendrickson, Joseph  | ▼     |
|              |                                  |       |

**Comments**

Predecessor land of Jesse Bishop is listed as 85.5/88.5 (LND\*JESSE3). How it went from those numbers to 91.25 is unknown.

Existing Record  
Type Code Find  
LND \* HEVANON Recall

Chain of Title Successors Improvements

Land Hendrickson, Vandever Farm, 91.25 acres  
Boundary Mapped - Center in E38N18  
Record Created 16 AUG 2001 by Jason  
Last Update 25 FEB 2003 by Jason

Help Print Snapshot > Zoom to it > Remap it > Cancel Save

# The DATA Today

## 100 Mt. Cuba Properties Mapped

Thomas  
Vandever's  
Farm,  
1853-1877



# CULTURAL RESOURCES

## Submodule

*Records information about:*

- Cultural Landscape
- Architecture
  - Above and Below Ground

*Data includes:*

- Description
- Form
- Function
- Location and Map
- Condition

# Thomas Vandever Family House

Recorded during Cultural Resources Survey

Condition: in ruins

**Cultural Resources - Resources**

General Construction Context Condition/Priority Associated Resources Occupants Other Documentation Media

Description\* Main House - Residence of Thomas Vandever

Property LND\*HEVANON FM Object

Rec. Date (Type In)\* 01 FEB 2001 Recorded By\* NEM State Registration Number

Orientation\* N-S, parallel to Barley Mill Rd and Hickory Run in the woods near the corner

Area 376.47 Perimeter 90.69

**General Sources**

| Source* | (Description) | Page |
|---------|---------------|------|
|         |               |      |
|         |               |      |
|         |               |      |
|         |               |      |

Abandoned Date Abandoned

Abandonment Comments

General Comments  
Residence of Thomas Vandever  
Appears to include an addition, possibly a shop or shed? (stone wall extending from SW corner and

Map As  Point  Line  Area

Existing Record

| Class | Type | Item | Number | Find   |
|-------|------|------|--------|--------|
| BU    | *RES | *MHO | *4     | Recall |

Primary Associated Paste Values

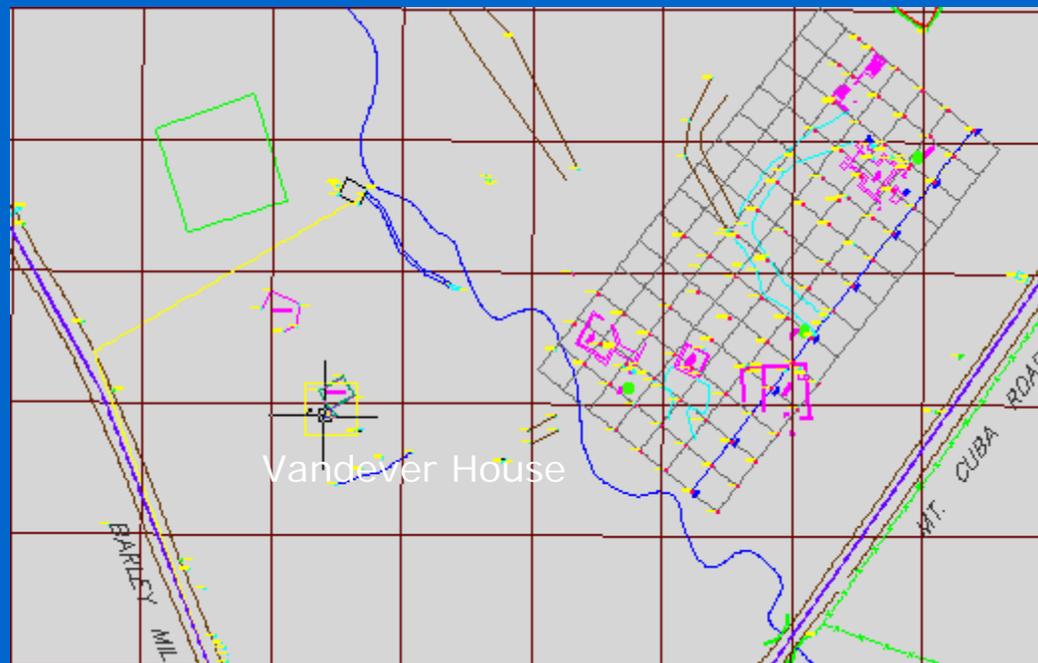
Buildings|Residences|Main House Main House - Residence of Thomas

Record Created 13 FEB 2003 by Jason  
Last Update 14 JUL 2004 by decunzo

Area: Center mapped in E34N11

Help Print Snapshot > Zoom to it > Remap it > Cancel Save

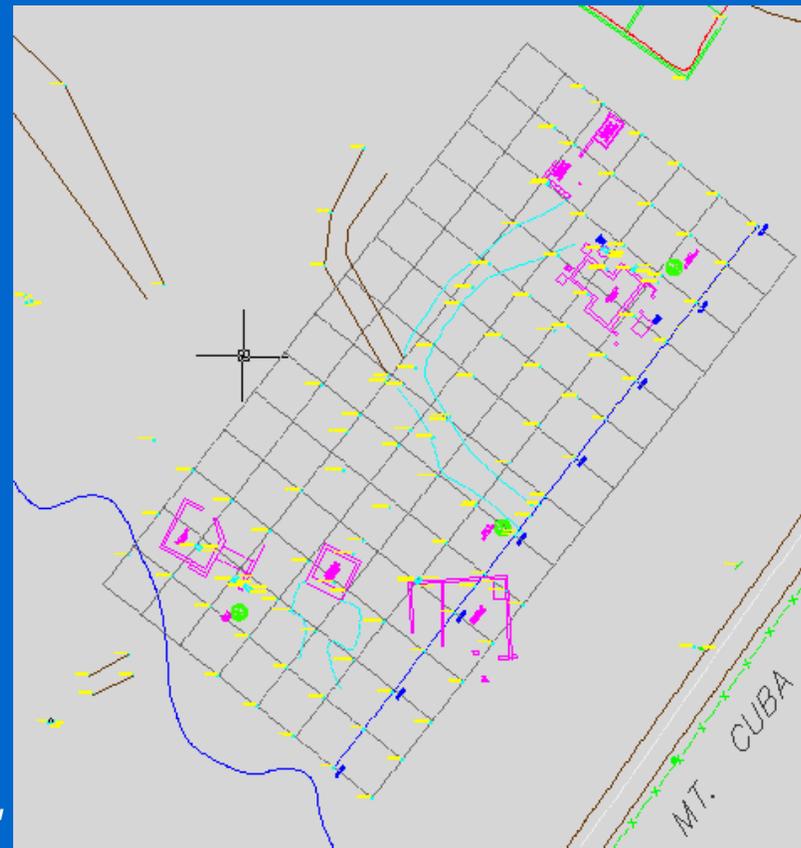
# MAPPING CULTURAL RESOURCES Vandever Family House



# ARCHAEOLOGICAL SITES

## Submodule

- Manage
  - Excavation Records
  - Archaeological Data



Vandever Farm Complex,  
Mt. Cuba

# ARCHAEOLOGICAL STRATA

- Record Data on each Archaeological Stratum in each Excavation Unit
  - Elevations
  - Soils
  - Inclusions
  - Samples
  - Documentation
  - Artifacts

**Cultural Resources - Excavation Levels**

General | Soil Type | Soil Samples | Associated Levels | Other Documentation | Media

Description\* Level 2

**Stratification**

Phase Unit

**Excavation**

Start Date (type in)\* 05.AUG.1999  
End Date (type in)\* 05.AUG.1999  
By\* NEM

**Measurement Points**

| No.* | Coordinates*        | Open Depth* (Elevation) | Close Depth* (Elevation) |
|------|---------------------|-------------------------|--------------------------|
| 1    | 436779.61,649355.56 | .04 177.46              | .30 177.20               |
|      |                     |                         |                          |
|      |                     |                         |                          |
|      |                     |                         |                          |
|      |                     |                         |                          |
|      |                     |                         |                          |
|      |                     |                         |                          |
|      |                     |                         |                          |
|      |                     |                         |                          |
|      |                     |                         |                          |

**Comments**

Measurement points:  
1=Center  
2=North  
3=West  
4=South  
5=East

**Existing Record**

Site Code Unit Code Level No. Find  
B058 \* S0W75 \* 2 Recall

Site: Beeson Site|Unit: S0W75  
Record Created 18 JUN 2001 by Jason  
Last Update 26 JUN 2001 by Jason

Artifacts Resources

# ARTIFACTS

- Record Data about each excavated artifact

- Provenience
- Type
- Appearance
- Function
- History
- Production
- Collections Management

**Cultural Resources - Artifacts**

General | Origin | Attributes | Decoration | Faunal | Other Documentation | Media

Item\* | Status\*  
PORRINGER | MENDED

Completeness  
0-10PERCENT

**Right-Click "Item" to Change**

Functional Class\* | Functional Type\*  
DINING | CERMCON

Sub-Category  
EW\_DELFTWARE

Inventory Tracking No.\*  
CV 3

Count\*  
1  Count as Object

**Parts**

| Part Code | (Description) |
|-----------|---------------|
| BODY      | Body          |
| BOTTOM    | Bottom        |
| BOWL      | Bowl          |
| HANDLE    | Handle        |
| OVERALL   | Overall       |

**Sub-Artifacts**

| Artifact Code | (Description) |
|---------------|---------------|
|               |               |
|               |               |
|               |               |
|               |               |

**Existing Record**

| Site Code | Unit Code | Level No. | Cat. | Number | Find   |
|-----------|-----------|-----------|------|--------|--------|
| E105      | N31W80'5  | 13        | CE   | 1      | Recall |

Paste Values

Porringer

Record Created 17 OCT 2003 by nedda  
Last Update 07 MAY 2004 by decunzo

Help | Cancel | Save

# QUERYING BG-MAP

## Mill Creek Farming, 1850-1870

### Thomas S. Vandever

Thomas S. Vandever

Agricultural Production, 1850-1870

Source: Agricultural Census

| Census | Land      | Land Unimproved/ | Farm    | Farm Equipment | Horses | Milking | Swine | Livestock | Animals     |  |  |
|--------|-----------|------------------|---------|----------------|--------|---------|-------|-----------|-------------|--|--|
| Year   | Improved  | Woodland         | Value   | Value          |        | Cows    |       | Value     | Slaughtered |  |  |
| 1850   | 190 acres | 18 acres         | \$5,000 | \$50           | 2      | 8       | 5     | \$376     | \$77        |  |  |
| 1860   | 70 acres  | 30 acres         | \$5,000 | \$250          | 3      | 5       | 5     |           | \$200       |  |  |
| 1870   | 75 acres  | 24 acres         | \$7,620 | \$500          | 3      | 8       | 4     | \$900     | \$100       |  |  |

|      | Wheat       | Rye        | Corn,<br>Indian | Oats        | Peas/<br>Beans | Potatoes    | Market<br>Garden | Butter   | Hay     | Clover    | Hops       |
|------|-------------|------------|-----------------|-------------|----------------|-------------|------------------|----------|---------|-----------|------------|
| 1850 | 78 bushels  |            | 445 bushels     | 300 bushels |                | 60 bushels  |                  | 70 lbs.  | 10 tons |           |            |
| 1860 | 150 bushels | 20 bushels | 400 bushels     | 240 bushels | 7 bushels      | 200 bushels | \$20             | 800 lbs. | 9 tons  | 4 bushels | 10 bushels |
| 1870 | 125 bushels |            | 300 bushels     | 50 bushels  |                | 200 bushels |                  | 400 lbs. | 15 tons |           |            |

# Mill Creek Dairy Farming 1850-1860

| <b>Dairy Farming in Mill Creek Hundred, 1850-1860</b> (Sources: 1850, 1860 Agriculture Census) |                   |                   |                |                  |                |                |  |
|--|-------------------|-------------------|----------------|------------------|----------------|----------------|--|
| <b>Dairy Cow Ownership</b>   |                   |                   |                |                  |                |                |  |
|  | <u>1850</u>       |                   |                | <u>1860</u>      |                |                |  |
|  | <i># Farmers</i>  | <i># Cows</i>     | <i>Maximum</i> | <i># Farmers</i> | <i># Cows</i>  | <i>Maximum</i> |  |
| At least 1 dairy cow   | 246               | 1070              | 15             | 278              | 1486           | 22             |  |
| More than 4 dairy cows   | 95                | 629               |                |                  |                |                |  |
| More than 8 dairy cows   | 14                | 148               |                | 35               | 419            |                |  |
| More than 4 dairy cows in 1850 and 1860  |                   |                   |                | 38               |                | 14             |  |
| <b>Butter Making</b>   |                   |                   |                |                  |                |                |  |
|  | <i># Families</i> | <i>Lb. Butter</i> | <i>Minimum</i> | <i>Maximum</i>   | <i>Average</i> |                |  |
| Butter Makers, 1850  | 245               | 107,967           | 30             | 2,100            | 440            |                |  |
| Butter Makers, 1860  | 274               | 154,561           | 25             | 3,330            | 564            |                |  |
| Butter Makers, 1850, more than 800 lbs. Of butter = 18   |                   |                   |                |                  |                |                |  |
| Butter Makers, 1860, more than 800 lbs. Of butter = 51   |                   |                   |                |                  |                |                |  |
| Butter Makers, 1860, more than 1,200 lbs. Of butter = 20                                       |                   |                   |                |                  |                |                |  |

**THE END**  
*Thank You!*



**Armstrong Family at Home,  
Barley Mill Road, Mt. Cuba  
Collections of Red Clay  
Reservation**

# Locating Our Past

Delaware Cultural Resources  
Data Committee

# Delaware Cultural Resources Data Committee

- State Historic Preservation Office
  - Robin Bodo, Alice Guerrant, Mary Harper, Craig Lukezic
- Center for Historic Architecture and Design, UD
  - David Ames, Rebecca Sheppard
- Department of Anthropology, UD
  - Lu Ann De Cunzo, Nedda Moqtaderi
- The 3 Counties
  - Brian Page, Christine Quinn, Michael Ward
- Private Firms
  - Wade Catts, Mark Glicksman
- Delaware State Museums
  - Chuck Fithian
- DNREC
  - Cara Blume

# The Need For Cultural Resource and Historical Data

- Necessary for comprehensive planning
- Supports preservation efforts
- Enables examination of change through time

# Delaware Cultural Resource Data and Sources

- National Register of Historic Places
  - 8400 buildings, 285 structures, 190 sites, 49 objects
- Cultural Resource Surveys
  - 37,000 historical properties, 3,000 archaeological sites
  - 2,200 projects reviewed, 2000-2004
  - 686 reports on file
- Historic Aerial Photos and Maps
- Historic Land Use and Cadastral Sources
- Architectural and Archaeological Databases
  - University of Delaware, Private Firms and Researchers

# Goals of the Committee

- *Develop a work program to*
  - Identify initiatives to create a unified state approach to preserve information about cultural and historic resources
  - Capture products of past, present, future historic preservation efforts
  - Make data available to preservation groups
  - Design standards and guidelines for the collection, management, and dissemination of historical and cultural resource data
  - Generate broad based support and funding for projects that preserve and make cultural resource data available
  - Train in historical and cultural applications of GIS

# Initiatives Under Consideration

- Secure funding for Work Program – for the organization of the effort, needs assessments, examination of alternatives to managing cultural and historical resource data
- Revise guidelines for collecting georeferencable data from Cultural Resource Surveys and other contracted work
- Develop web viewers to access cultural resource data
- Inventory existing historical and cultural databases, develop plan to translate into GIS-readable format. Identify priorities for digitizing historical data relating to existing DGS Framework Layers
- Specify the content and responsibilities for information to ensure archiving/ preservation, maintaining access in light of technological change

# Benefits

- Historical context enhances planning for future
- Preserves Delaware's historic character and protects resources as part of "Livable Delaware" initiatives
- Provides up-to-date planning data on NRHP-eligible properties for municipalities and counties
- Facilitates development project review and background research conducted by federal, state, local agencies, historical consultants
- Builds knowledge to support more sophisticated, comparative research
- Reduces duplication of effort in building databases
- Provides public access to NRHP data online