

USGS National Hydrography Dataset Newsletter
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by Jeff Simley, USGS

Twelfth Year of the NHD Newsletter

This edition marks the start of the twelfth year of the NHD Newsletter. For each of the past 132 months there has been a Newsletter with 3-5 pages of information about what is going on with the NHD and WBD. The goal is to make sure the users of these datasets are kept up-to-date on the progress being made to continuously develop the NHD and WBD programs.

What's in a name? by Cynthia Deischer and Ray Postolovski

Juliet: "What's in a name? That which we call a rose by any other name would smell as sweet." Romeo and Juliet meet in Shakespeare's tale. They are predestined from the start because of their surnames. Juliet tells Romeo that a name is an artificial and meaningless convention. Meaning what matters is what something is, not what it is called. However in the geospatial community, a name is far from meaningless and what something is named is just as important as what something is. Working within the US Topo program, it can be seen how names add meaning and value to the products. Not only do we revere names as cartographers, but our constituents expect and rely on them. So with that, it is the goal of the USGS to help populate NHD features with their respective names so to provide meaning and information.

Beginning with the State of Texas, hydrography feature names were inspected and updated in the NHD using current Geographic Names Information System, Gazetteer (Gaz) data. A total of 1,263 NHD Area, Waterbody, and Flowline features were identified with missing or non-matching Gaz names. From the total, 835 waterbodies and 428 flowlines were identified with missing names. None were found in area features. This affected 20 subregions which were then reviewed and corrected, taking about 5-6 days to complete the necessary edits. Working a subregion at a time, about 800 missing features names were added. Approximately 180 features with a discrepancy between the NHD and Gaz are being researched by the Names group to determine the appropriate name. Once a decision is made, the features may need to be updated at a later date. Approximately 300 Gaz features, mainly bays, guts, channels, and sloughs didn't have an associated NHD feature to attribute. Now that these names have been identified and updated, the community can benefit from this effort. The USGS plans to continue this effort with each subsequent state during the 2013 fiscal year. These include, in order; New York, Kentucky, Tennessee, Indiana, Iowa, North Carolina, Pennsylvania, Virginia, Wisconsin, Minnesota, and Colorado. Coordination with the state partners will occur prior to starting any work. A list of names that may potentially be addressed will be shared with each state.

Board on Geographic Names Decisions by Paul Kimsey

The USGS National Geospatial Program intends to update the NHD to reflect all new Board on Geographic Names decisions. The task will be accomplished by the USGS and will not require the data stewards to participate. However, the stewards will be notified at the time of update (list of GAZ Names affected) and the extent will be checked out through the NHD Stewardship web site. Contact Paul Kimsey, pjkimsey@usgs.gov, or the Regional Technical NHD POC if there are any concerns.

Waterbody Perm_ID Updates by Paul Kimsey

The USGS National Geospatial Program intends to update the NHD NHDFlowline feature class nationwide to populate or correct the WBAreaPerm_ID field values. This field is populated on

NHDFlowline Artificial Paths to identify the polygon that the Artificial Path is inside of. The maintenance operation will be run against the database Subregion-by-Subregion. The data stewards will be notified at the time of update by email and the extent will be checked out through the NHD Stewardship web site. Contact Paul Kimsey, pjkimsey@usgs.gov, or the Regional Technical NHD POC if there are any concerns.

NHD/WBD Diversions Work Group by Kristiana Elite

This past Spring, the USGS NHD/WBD program identified a need to form an advisory group composed of organizations that work with water diversions related to the NHD/WBD. The program recognized a need for increased input from its partners to better understand the various use cases involved. There are two primary goals for this work group. The first is for an increased understanding of the major use cases for diversions and to create best practices for creating/linking these data to the NHD/WBD. The second goal arose from the number of organizations that expressed an interest in learning from others across the nation to share experiences and ideas about this highly complex and involved subject. Therefore the work group has a strong educational component whereby members are encouraged to share their diversions work.

In September of 2012, the NHD/WBD Diversions Work Group held its first meeting. It currently has 53 members with a regular attendance of approximately 30 members. The membership consists of organizations that have a business need that requires information about diversion systems related to the NHD/WBD. Membership includes federal agencies such as BLM, USBOR and the USFS as well as a number of state agencies and USGS Water Science Center representatives. Since September, there have been a number of presentations made on diversions. Three presentations have been given on water rights and one on water-use. The NHD/WBD program presented on how each dataset currently represents diversions. Additionally the USGS presented on the NHD/WBD effort to support the U.S. Water Census.

All meetings are recorded and these recordings are available to anyone who has an interest. To view these recordings, access the meeting minutes, or have any questions about this work group, please contact Kristiana Elite at keelite@usgs.gov.

Project Status Information

To get status information on the (1) NHD Network Improvement, (2) NHD Image Update, or (3) NHD Event Indexing programs go to <http://nhd.usgs.gov> and click on News and then NHD Project Status. Information about the project is presented along with a status map. To learn more about the projects contact Chris Lund at cmlund@usgs.gov.

NHD Update tool status by Paul Kimsey

Windows 7, ArcGIS 10.0 (v5.0.0)

Final testing in progress, anticipate a release by December 7th. Release notes will accompany the software download zip file.

Windows 7, ArcGIS 10.1 (v6.0.0)

Testing in progress, anticipate release by end of December. This version will have the same functionality as v5.0.0

2013 NSDI Cooperative Agreements Program

The National Spatial Data Infrastructure program is preparing to announce geospatial grants for the following tentative categories:

Category 1: Metadata Trainer and Outreach Assistance

Category 2: Geospatial Digital Data Archiving Business Plan Development

Category 3: Development of Geospatial Strategic Plans for Federally Recognized Indian Tribes

Category 4: Fifty States Initiative: Business Plan Development and Implementation

Category 5: FGDC-endorsed Standards Implementation Training and Outreach

Category 6: Geospatial Platform Collaborative Group Development

Category 7: Geospatial Platform Cloud Service Testbed

Category 8: Arctic Spatial Data Infrastructure, Alaska-Yukon Project

More information is available at <http://www.fgdc.gov/grants/2013CAP/2013CAPDescriptions>

The schedule is:

Soon Announcement posted on Grants.gov.

February Closing date for the solicitation - The absolute last day to submit proposals. All submittals
2013 must go through Grants.gov.

Spring 2013 Announcement of the awards

Spring 2013 Orientation workshops for the award recipients

Manual of Airborne Topographic LiDAR

The American Society for Photogrammetry and Remote Sensing has published a new book on LiDAR technology entitled the Manual of Airborne Topographic LiDAR. Of particular interest to those who work in hydrography is chapter 10 on Applications. Section 10.1.2 reviews Bare-Earth Digital Elevation Models with section 10.1.2.2 addressing Topographic DEM's versus Hydrologic DEM's. Section 10.1.2.8 discusses Hydro-Flattened Lidar DEM's, 10.1.2.9 discusses Fully-Breaklined Lidar DEM, and 10.1.2.10 discusses Hydrologic DEM's. Then section 10.1.3 goes into detail about the important subject of Breaklines, which are primarily hydrographic features that inform the terrain about hydrologic conditions such as where the shoreline of a lake or river begins or where a stream indents the terrain.

Also of interest is Hydrological Applications of Airborne Laser Scanning covered in section 10.8. This covers a range of topics such as 10.8.2 on Glacier Surfaces, 10.8.3 on Snowpack Depth, 10.8.4 on Terrain Morphology, 10.8.5 on Ground Surface Elevation, 10.8.6 on Vegetation Height, 10.8.7 on Canopy Structure, 10.8.8 on Wetland Environments, 10.8.9 on Fluvial and Coastal Geomorphology, and 10.8.10 on Flood and Runoff Modeling. Unfortunately the book does not address the development of hydrography datasets in either vector or raster form, or the development of stream networks. It also does not develop ideas on three-dimensional hydrography possible from LiDAR analysis, and only briefly mentions concepts on stream morphology.

General Accountability Office Report on Hydrography

The General Accountability Office produced the report "GEOSPATIAL INFORMATION - OMB and Agencies Need to Make Coordination a Priority to Reduce Duplication." See <http://www.gao.gov/products/GAO-13-94> and <http://www.gao.gov/assets/660/650293.pdf> for the full report.

NHD Photo of the Month

This month's photo is a stumper. What is this feature? Is it a Weir, a Flume, a Gate, a Canal? You can learn about NHD feature classes, FTypes, FCodes, and more in the NHD Feature Catalog http://nhd.usgs.gov/userguide.html?url=NHD_User_Guide/Feature_Catalog/NHD_Feature_Catalog.htm. This photo was submitted by Michael Tinker of the USGS and was taken in Telluride Colorado and features Coronet Creek.

To see the photo of the month go to ftp://nhdftp.usgs.gov/Hydro_Images/Coronet_Creek_Telluride.jpg. Submit your photo for the NHD Photo of the Month by sending it to krisham@usgs.gov. This will allow the program to build a library of real-world photos linked to the NHD.

October Hydrography Quiz / New November Quiz

Linda Davis was the first to guess the October NHD Quiz as the New Jersey shoreline on the Atlantic Ocean at Atlantic City where Hurricane Sandy came ashore. See <ftp://nhdftp.usgs.gov/Quiz/Hydrography87.pdf>. Linda is the Water Resource Information Section Manager at the Idaho Department of Water Resources (IDWR), which really means that she is the GIS Manager. Linda has been involved in Pacific Northwest Hydrography since the early 1990's and has also worked with the Watershed Boundary Dataset. IDWR signed a hydrography MOU with USGS in 2007, and has led the state technical working group on hydro and watershed issues.

Others with the correct answer (in order received) were: Florence Thompson, Matt Rehwald, Jim Mitchell, Jim Sherwood, Bill Samuels, Jim McDonald, Ellen D'Amico, Claire DeVaughan, Jim Breck, Roger Barlow, Evan Hammer, Ken Koch, John Kosovich, Jeffrey Hoffman, Kim Jones, Kitty Kolb, Dave Straub, David Asbury, and Tom Denslinger.

This month's hydrography quiz can be found at <ftp://nhdftp.usgs.gov/Quiz/Hydrography88.pdf>. We are again looking at the Atlantic Ocean. Where is this? Send your guess to jdsimley@usgs.gov.

Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Thanks to Cynthia Deischer, Ray Postolovski, Paul Kimsey, Kristiana Elite, Linda Davis, and Kathy Isham.

The NHD Newsletter is published monthly. Get on the mailing list by contacting jdsimley@usgs.gov.

You can view past NHD Newsletters at http://nhd.usgs.gov/newsletter_list.html

Jeff Simley, USGS, assumes full responsibility for the content of this newsletter.