

USGS National Hydrography Dataset Newsletter
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by Jeff Simley, USGS

Hydrography Stewardship Conference

A highly successful NHD/WBD Stewardship Conference was held in Denver, Colorado, April 14 – 16. Over 150 attendees representing local, state, federal, and private organizations from 46 states, plus representatives from Canada and Mexico participated. There were 70-plus presentations made covering a wide variety of issues and perspectives on the stewardship of the NHD and WBD. The USGS National Geospatial Programs Office chief, Mark DeMulder, kicked off the conference with an overview of the direction of mapping programs in the USGS. Many found the three separate panel discussions presenting state views on the NHD, plus a panel discussion on WBD stewardship, to be enlightening. These were preceded by three different state reports commissioned by the USGS on NHD issues. The panels illustrated a large number of similar and disparate situations faced by the states and gave an important appreciation for the wide variety of factors that must be addressed in hydrography stewardship. A series of reports also covered problems and progress made in standing up the stewardship program by the USGS. Workshops held before and after the conference provided detailed training on a number of NHD and WBD topics. The combination of NHD and WBD stewardship was well-received by the attendees and reinforced the future role of stewardship for the WBD program. A particularly powerful benefit of the conference was the extensive networking that took place between conference participants. The ability of the stewardship community to work together is an important element in the success of stewardship since many states encounter issues and ideas that have already been addressed by other states. You can access over 70 powerpoint presentations from the conference by going to the NHD ftp site at: ftp://nhdftp.usgs.gov/Stewardship/Stewardship_09/Conference_Presentations/

Stewardship Conference Caucus

An important part of the NHD/WBD Stewardship Conference was a caucus of the stewardship community that assembled issues and recommendations in stewardship for consideration by the USGS. Two caucuses were held, one for the NHD and one for the WBD. You can access the caucus notes at: ftp://nhdftp.usgs.gov/Stewardship/Stewardship_09/Conference_Presentations/06_Thursday_Afternoon/ The NHD caucus was moderated by Katy Hattenhauer from the state of Arkansas. Her notes are in the file CaucusNHD2009_notes.doc. Karen Hanson of the USGS moderated the WBD caucus and her notes are in the file CaucusWBD2009_notes-updated.doc. If you would like to add to the caucus notes, contact Katy at HATTENHAUER@adeq.state.ar.us or Karen at khanson@usgs.gov.

State Stewardship Reports Available for Review

The Colorado, Indiana, and Missouri investigative reports on NHD stewardship referenced at the Stewardship Conference can be obtained at:

Colorado report:

ftp://nhdftp.usgs.gov/Workshops/State_Reports/CO_NHD_Stewardship_Recommendations.pdf. The

Indiana report:

ftp://nhdftp.usgs.gov/Workshops/State_Reports/IN_IGIC_NHD-FINAL_REPORT_081228.pdf. The

Missouri report:

ftp://nhdftp.usgs.gov/Workshops/State_Reports/MO_NHD_Report_final.pdf.

NHD Video

A video on the NHD produced by the USGS that premiered at the NHD/WBD Stewardship Conference can be downloaded from the URL below. The first file is for Quicktime and the second for Media Player. ftp://nhdftp.usgs.gov/Stewardship/Stewardship_09/Conference_Presentations/USGS_Video/

Version 2.0 of the Hydrography Event Management (HEM) Tool

Version 2.0 of the Hydrography Event Management (HEM) Tools has been completed. The updated version of the tool and supporting documentation are available for download from the PNW Hydrography Framework (PNWHF) website at: <http://hydro.reo.gov/redesign.html>. *Note – this release is for ArcGIS 9.2, Service Pack 4 and higher. The tools are also compatible with ArcGIS 9.3.* There has to be a service pack loaded on any computer before this will work. The documentation will tell about it.

This version includes a number of enhancements. Highlights include:

- A new tool for repairing gaps and overlaps in continuous line event datasets.
- New edit tasks for editing area events.
- New edit tasks for merging and splitting line and area events.
- New tools for importing lines and areas.
- The ability to automatically create line events from selected flowlines.
- A robust batch event synchronization tool.
- Support for geometric networks built with simple or complex edges.
- A number of bug fixes!

For more information about these new tools, be sure to download an updated copy of the HEM user guide (http://hydro.reo.gov/documentation/HEM_Version2_User_Guide.pdf).

Map Symbolology for the NHD

ESRI has a link for obtaining a symbology layer (.lyr) files for the NHD. See: <http://blogs.esri.com/Support/blogs/mappingcenter/archive/2009/01/08/layer-symbology-for-nhd-data.aspx>

Pembina Pilot – U.S.-Canada Border Harmonization

Yves Belzile of Natural Resources Canada has announced a significant event in the development of transboundary hydrography between Canada and the United States by providing the International Joint Commission with the Canadian National Hydro Network (NHN) version of the Pembina Pilot Transboundary Watershed. Yves noted: “The journey has been most enlightening in designing/implementing the course for hydro data harmonization all along our border. Thanks for the expertise, imagination and sustained efforts of the many people involved Pete Steeves (USGS), Conrad Wyrzykowski (AAFC) and the NHN Team at CTIS (Denis Boutin, Danielle Sabourin, Norman Jacques, and David Belanger).”

Yves further described the process: “On the Canadian side, NHN data was generated from Manitoba provincial data at the 1:20,000. The latter was prepared and provided by Manitoba Conservation/AAFC in the CTIS NHN-Hybrid model, which is a simplified version of the full NHN model, used as an intermediate model to facilitate the creation of NHN data from provincial data... Hydro data harmonization was carried-out using Manitoba NHN-Hybrid data and NHD data, both in their respective data models in order to preserve their content, and without the use of any imagery (aerial photography or satellite imagery) to update the existing information which is left for a later phase. Prior to proceeding with the data harmonization, a series of guidelines worked-out with USGS and NRCan/CTIS were established... Harmonization then consisted of joining disconnected bordering water bodies, watercourses or virtual water flow paths (within water bodies) to ensure hydro network continuity. Hydro network continuity is ensured by extending/modifying water bodies, watercourses or virtual water flow paths to the Can-USA International Boundary or by adding linear network links in situations where common hydro features are beyond the established displacement tolerances (base data accuracy).”

“Following hydro harmonization, the NHD dataset was converted by CTIS to the NHN-Hybrid model. The Canadian and USA portions were then merged into a single dataset from which the final NHN dataset was generated. Both the harmonized Canadian portion, in the NHN-Hybrid model, and the USA portion, in the NHD model, were also provided to USGS for the generation of the same cross-border dataset in the NHD model. In addition to data harmonization, CTIS also ensured on the Canadian side the continuity of river names...”

The NHN dataset for the cross-border Pembina watershed pilot is available in Shape format in the following NRCan ftp directory:

ftp://ftp.ctis.nrcan.gc.ca/pub/partnership/mb/wtp_515/Complete_Can_US_Pembina/NHN/Complete_NHN_Pembina.zip file.

NHN Product Documentation can be found on the GeoBase Portal, under the National Hydro Network section, sub-section Description/Documentation (see Feature catalogue, Distribution Profile).

<http://www.geobase.ca/geobase/en/data/nhn/description.html>

Technical questions can be directed to either Denis Boutin; dboutin@nrcan.gc.ca or Danielle Sabourin; dsabouri@nrcan.gc.ca. USGS project manager is Pete Steeves at psteeves@usgs.gov.

AWRA Conference – Call for Abstracts

The American Water Resources Association’s popular series of conferences on GIS & Water Resources continues with its sixth GIS & Water Resources conference, this time in Orlando, FL in March of 2010. The Call for Abstracts will be online in May 2009. Planning is underway for this important GIS event coming to the southeastern United States. Presentations will cover a broad range of subjects on integrative geospatial hydrologic technologies. Plan to submit an abstract and join us to network and experience what your colleagues are doing with GIS and Water Resources. Meet the leaders of geospatial and hydrologic technologies using and applying their skills in the sessions, exhibit hall, Opening Reception, luncheon, workshops, field trip, and networking events. AWRA's Spring Conference will be packed with opportunities for you to learn more, network, and be entertained. Visit <http://www.AWRA.org> for the latest information!

March Hydrography Quiz / New April Quiz

Steve Shivers, USGS Geospatial Liaison to North Dakota and South Dakota, was the first to correctly guess the hydrography quiz <ftp://nhdftp.usgs.gov/Quiz/Hydrography45.pdf> as Lake Martin located in Alabama.

Calvin Meyer, who also guessed correctly sent this: “From http://wapedia.mobi/en/Lake_Martin:

Lake Martin is located in Tallapoosa County, Elmore County, and Coosa County in Alabama. It is a 44,000 acre (178 km²) lake with over 750 miles (1,200 km) of wooded shoreline. An artificial reservoir, Lake Martin was formed by the construction of Martin Dam on the Tallapoosa River. The Martin Dam powerhouse is used to generate hydroelectric power for the Alabama Power Company. Construction was begun in 1923 and completed in 1926, creating what was then the largest man-made body of water in the world. Originally known as Cherokee Bluffs for the geological formation upon which it was built, the dam was renamed in 1936 in honor of Thomas Martin, the then president of Alabama Power Company.” Thomas Denslinger noted: “The lake at normal pool contains 1.625 million acre-feet of water or 529.5 billion gallons. The lake is at the headwaters of the Tallapoosa River. According to the NHD Waterbody layer the lake is 157.429 square kilometer = 38 901.553 099 acre.”

Others who identified the area were (in order received): Thomas Denslinger, Jim Sherwood, Calvin Meyer, Richard Patton, John Lynam, Katy Hattenhauer, Jennifer Campbell-Allison, David Straub, Keith McFadden, Anji Redmond, Ken Koch, Joel Skalet, David Asbury, Bruce Nielsen, Joanna Wood, Tommy Dewald, Alan Rea, and Elaine Blok.

This month’s hydrography quiz can be found at <ftp://nhdftp.usgs.gov/Quiz/Hydrography46.pdf>. It’s the confluence of what two rivers? It’s pretty famous. Send your guess to jdsimley@usgs.gov.

Upcoming NHD Geo Edit Tool Training

May 5-7, San Diego, CA. Contact Hank Nelson at hpnelson@usgs.gov or Drew Decker at ddecker@usgs.gov

Upcoming NHD Applications Training

May 19, Harrisburg, PA- Pennsylvania GIS Conference (Presentation), Contact David Terrell at dterrell@usgs.gov or David Anderson (danderson@usgs.gov).

June 22, Trenton, NJ- New Jersey Department of Environmental Protection, Contact Roger Barlow at rbarlow@usgs.gov, David Anderson (danderson@usgs.gov) or Seth Hackman (Seth.Hackman@dep.state.nj.us)

June 24, Harrisburg, PA- Pennsylvania State University, contact David Terrell at dterrell@usgs.gov or David Anderson (danderson@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 Dan Wickwire, Steve Char, and Yves Belzile.

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.