

USGS National Hydrography Dataset Newsletter
Vol. 1, No. 8, June, 2002
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High Resolution NHD in Kansas

Discussions on building high resolution National Hydrography Dataset for the state of Kansas began in 1997. The Kansas Water Office (KWO), the Natural Resources Conservation Service (NRCS), and the USGS began meeting to discuss partnership opportunities for collecting statewide hydrography. The NRCS had been contracted by the KWO to digitize the riparian vegetation along the streams. To accurately collect the riparian vegetation, a complete and accurate hydrography layer was needed. A partnership agreement was developed between USGS and NRCS to collect statewide hydrography. The USGS provided funding to NRCS to digitize and revise all the hydrography from existing Digital Orthophoto Quadrangles to a level compatible with USGS standards that would support building 1:24,000-scale NHD. Following in the footsteps as the next logical step to collecting the hydrography was building the NHD. In March 2000, a Joint Funding Agreement was signed with the Kansas Water Office to begin building 24K NHD in Kansas. Designed as a multi-year agreement, funds were obligated the first year to support the creation of ten sub-basins. Additional funding was obligated in FY2001 to build NHD in nine more sub-basins. No NHD funding was committed by Kansas in fiscal years 2002 or 2003. The Technical Advisory Committee (TAC) in Kansas is preparing to evaluate and determine the suitability for funding in FY2004 for several proposals they have received for various GIS projects and activities. Based on approval by the TAC, the Mid-Continent Mapping Center will continue to build 24K NHD for all of the 109 Cataloging Units comprising Kansas.

High Resolution NHD in Nebraska

The Nebraska Department of Natural Resources (DNR) has entered into a work-share agreement with the USGS to produce updated high-resolution NHD. The Nebraska GIS Steering Committee had identified high-resolution NHD as a priority dataset in their 2001 strategic planning report. The Steering Committee report states that “numerous state, local and federal agencies collect, analyze, and use data related to surface water features... It was noted in the 2000 Strategic plan that there was no statewide, digital, surface water feature geospatial database available...” The DNR first entered into a pilot project for one sub-basin (Logan) after receiving training and software/hardware from the Mid-Continent Mapping Center.

The DNR collected tagged vector hydro (TVH) data, a simplified version of the Digital Line Graph, using Digital Raster Graphics and Digital Orthophoto Quads as the base. They updated the TVH data, merged it into a continuous seamless dataset for the sub-basin (partial preconflation), and completed a data review, which included edge matching. An assessment of the Logan data by the MCMC found only a few problems, which have since been resolved, in part by having DNR personnel attend additional training at the MCMC in Rolla, Missouri. The MCMC will complete the NHD process and submit the data to the archive database after validation.

Based on the success of the Logan project, the DNR and MCMC signed an agreement for eight additional sub-basins on June 12, 2002. These include Salt Creek, Lower Elkhorn, Lower Platte, Lower Platte-Shell, Big Papillion-Mosquito, and Blackbird Soldier plus two more. Steve Gaul, DNR Project Manager, plans on continuing with additional agreements with a goal of statewide coverage. To date, DNR has exceeded their production expectations and the prospect is very good for the new workshare agreement.

High Resolution NHD in North Carolina

The USGS has awarded an Innovative Partnership (IP) with the North Carolina Center for Geographic Information and Analysis (CGIA) to produce the 1:24,000-scale National Hydrography Dataset throughout the state. The NHD data is being produced over full sub-basins in and around NC, which makes the overall project area extend across the NC state borders. The NHD data is being produced by NC CGIA, which is also utilizing USGS Water Resource Discipline personnel located in Raleigh to aid in the production. The point of contact for the CGIA production work is John Derry and the point of contact for the WRD production work is Lloyd Edwards. In addition, the U.S. Forest Service has contributed funding to the IP for production of USFS sub-basins. As a result of this contribution, NC CGIA is focusing on the 17 sub-basins involving the USFS funding. The Georgia Information Technology Outreach Services has agreed to produce NHD data for three of the sub-basins (06020002, 06020003 & 03060102). Also, students from North Carolina Central University are being trained and are working on NHD data production in NC. The students are being trained and supervised by USGS Water and Geography personnel. The training and production are taking place in both, Raleigh, NC and Rolla, MO. This was accomplished by utilizing Human Resource Initiative (HRI) funding. As of June 1, two sub-basins in NC, 03020201 & 03040102, have been completed and are available for download. A status graphic of North Carolina 24K NHD can be found at <http://cgia.cgia.state.nc.us/cgia/ndrsw/status.html>. In addition to the production of NHD, a work team has been formed to develop applications utilizing the newly produced 24K NHD in NC. The team consist of members from; NC CGIA, USGS Geography and Water Disciplines, the NC Department of Transportation, and the NC Division of Water Quality.

The NC CGIA is in the process of submitting a new proposal for NHD production as a follow-on to the current Innovative Partnership, which will expire September 30, 2002. This new IP will define the production strategy more clearly and identify specific sub-basins to be completed. One problem facing the program is the conclusion of the WRD funding from NC CGIA. Some options for the future include: (1) possibility that CGIA can find funds in the near future to continue co-op with WRD, (2) USGS Water and Geography work together to continue to fund the Lloyd Edwards team to complete what has been started, and (3) Develop another student agreement using HRI or other funding to help produce the NHD.

In addition, discussions are underway to develop a pilot project with NC CGIA for utilizing local vector data (1:4,800-scale) for NHD production in Tennessee. More details will be available as the project evolves.

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Thanks to Mark Coppersmith, Ray Fox, and Chris Kannan.

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