

USGS National Hydrography Dataset Newsletter
Vol. 2, No. 6, April 2003
By Jeff Simley, USGS

The Environmental Protection Agency NHD Contractor Team

The U.S. Geological Survey (USGS) progress on National Hydrography Dataset (NHD) would not be possible without the Environmental Protection Agency (EPA). The partnership between the USGS and the EPA created the NHD concept, produced the medium resolution program, and provided many of the tools that have made the NHD a reality. The EPA continues to play an active role in NHD production, enhancement and applications primarily through a multi-contractor team composed of Horizon Systems Corporation (HSC), INDUS Corporation, and Research Triangle Institute (RTI).

Horizon Systems Corporation of Herndon, VA is a data management and information systems development firm serving both government and industry. HSC has been involved in the design, development, and application of all reach files, including the NHD, starting in the early 1980's and, as a result, offers invaluable institutional knowledge. They continue to play an instrumental role with the NHD including design, quality control (medium and high resolution NHD), enhancements, tools -- the NHD Toolkit (except the NHD-RIT), technical support, training, NHD in geodatabase, standards development, reach catchments and flow volume-velocity estimation. HSC is a sub-contractor to both INDUS and RTI on separate contracts with EPA. For more information on HSC, contact Cindy McKay at 703-471-0480.

INDUS Corporation of Vienna, VA is a leading provider of information technology and web solutions specializing in web-enabling client information resources. INDUS managed EPA's participation in the initial NHD production effort during the late 1990's and currently plays a central role in its application, including EPA's central repository for water information linked to the NHD -- the Reach Address Database (RAD), web-based geographic interface -- EnviroMapper for Water, web-based query environment -- AskWATERS, Water Quality Standards Database, Nutrient Criteria Database, and National Assessment Database. INDUS is the prime contractor for the NHD-related work accomplished for EPA through the Department of Commerce's Government Wide Acquisition Contract. For more information on INDUS Corporation, contact Tracey Szajgin at 703-506-6700 x-5017 or visit www.induscorp.com.

Research Triangle Institute of Research Triangle Park, NC is an independent, nonprofit organization with a distinguished history in scientific research and technology development. RTI played a leadership role during initial NHD production delivering QA tools and technical support for the national, multi-year effort. Currently, RTI plays the primary role in linking information to the NHD ("reach indexing") by providing tools -- desktop NHD-RIT and web-based Web-RIT -- and technical support. They support quality control checks for the high resolution NHD-Create software, the Forest Service web-based high resolution mapping application, NHD reach catchments, NHD flow volume-velocity, and a variety of EPA water programs including the Assessment Database and Fish Consumption Advisories Database. RTI is the prime contractor for NHD-related work performed under the EPA/OW Monitoring Branch contract. For more information on RTI, contact Tim Bondelid at 919-316-3726 or visit www.rti.org.

Also noteworthy is the contribution of Robert C. Horn, who's vision, while at EPA and later at Computer Data Packet, Incorporated, defined the original EPA reach files and contributed significantly to the NHD design. For more information on the role of the EPA NHD contractor team, contact Tommy Dewald - EPA, Office of Water at 202-566-1178.

The NHD in Texas

The high resolution National Hydrography Dataset in Texas is the result of both State and Federal programs that recognize the power of geospatial data designed specifically for geographic information science. This began in 1998 with the formation of an Innovative Partnership between the USGS and the Texas Water Development Board (TWDB) with input from the Texas State Cartographer. This partnership process allows the USGS to provide a grant that combined with State funding creates mapping programs that might not otherwise get off the ground. The State of Texas is using their Texas Strategic Mapping Program (StratMap) to help fund the partnership in order to revise Digital Line Graph (DLG) - Hydrography and create the NHD in a multi-year program.

The first phase of this program is the digital revision of the 4,442 7.5-minute series DLG - Hydrography quadrangles at 1:24,000-scale which cover the State. The revised DLG's also include value added information consisting of artificial flow paths and direction of flow. The State of Texas provides the data production through a State issued contract. The USGS Rocky Mountain Mapping Center (RMMC) in Denver provides quality assurance advice. Most of this revision work is now complete. The second phase of the program involves the integration of the NHD by conflating the revised 1:24,000-scale DLG data with the existing medium resolution NHD for the 210 subbasins covering Texas. This phase started in 2001 with a pilot project in the Brownsville area, and will expand on a region-by-region basis to cover more of the State. The first expansion covers the integration of 47 subbasins in the border region with Mexico plus 15 subbasins suggested by various Department of Interior agencies. This work is also being done using a State issued contract. The USGS is also integrating the NHD for 16 subbasins under a Fiscal Year-2002 Joint Funding Agreement. The NHD is an important component of *The National Map* and homeland security. Under these initiatives, an additional 12 subbasins in the San Antonio and Houston areas will be integrated using the State's contract program. Additionally, 19 subbasins are to be integrated by the State as a contribution to the program independent of existing agreements. To date, about 77 percent of the high-resolution NHD in Texas is funded for completion with 17 percent currently in work and 6 percent completed.

As the high resolution NHD is completed, a concurrent program will see the conversion of the NHD from the Feature Operational Database to the NHD in Geodatabase. Then, the final phase of the NHD in Texas will be the continuous maintenance of the data through a stewardship program supported by TNRIS and the USGS.

Summary of the USGS-USFS Joint Program to Complete the NHD over the Nation's Forests

There are 118 Forests in the U.S. to be covered by the NHD. Of these, 27 are complete, 50 are in work, 29 have not been specifically addressed, but have portions in work as a result of work in adjacent Forests, and 12 have no work started. Of the 2,255 subbasins in the U.S., 912 have Forest Service land. Of these, 413 are done (although they may require additional inter-subbasin connections), 71 are in work, 150 are planned, and 278 are not addressed at this time.

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 Tommy Dewald and Ed Kelty.

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