The NHD on the Web

For the past year, the NHD information web site, http://nhd.usgs.gov, has received an average of 3,886 hits a day with an average of 553 pages downloaded a day. Also on average, 252 NHD subbasin datasets were downloaded a day from the NHD database.

The Chesapeake Bay Project

The Chesapeake Bay Watershed is composed of 57 subbasins, covers portions of six states, and encompasses over 64,000 square miles, an area roughly the size of Wisconsin. The Chesapeake Bay Watershed is the largest estuary system in the U.S. and the analysis of many water related issues is part of the long-standing Place-Based Studies there. It receives high visibility from Congress, and consequently, consistent funding. Many scientific applications await the completion of the 1:24,000-scale NHD for "the Bay", headed by the Chesapeake Bay Program (CBP), a consortium of government, academic, and non-profit organizations. Near term NHD applications include riparian buffer monitoring, connective flow modeling that includes New York State, enhancing the SPARROW regression model, and interstate and inter-Region 305b reporting for the Environmental Protection Agency. The CBP policy on funding is to only fund non-Federal organizations, rather than the USGS directly, so the DOI High Priority Solicitation process has been used to coordinate the geospatial data requirements for the project since 1997. Progress on the project has been stretched out over time as the heavy requirements in western States get much attention due to their ability to acquire more requestors than the eastern areas, yielding lower funding thresholds in the east. Nevertheless, 1:24,000-scale DLG-hydrography was completed for "the Bay" in 1999. High-resolution NHD production, along with other Chesapeake Bay watershed requirements, has been underway in the last three DOI solicitations. The Mid-Continent Mapping Center has been the focal point for NHD production in this project, and has made significant progress as the current NHD Status Graphic illustrates. "Bay" watershed sub-basins in New York State (upper Susquehanna) and West Virginia (Potomac-Shenandoah) are complete. Last June, strong DOI High Priority Land funding came to the rescue of "the Bay" NHD effort, particularly for coverage in Pennsylvania and Virginia. Five subbasins are on hold pending software enhancements to the NHD-Create production software so that centerlines can be connected to large open-water bodies (oceans-Great Lakes). Subbasins in Delaware, the eastern shore of Maryland, the tidewater area of Virginia, and the western shore of "the Bay" in Maryland await completion due to this problem. An additional ten sub-basins remain un-funded due to changes in the FY2003 DOI High Priority Lands program that will shift funds to Homeland Security. However, there is a possibility that Homeland Security work in Baltimore, Norfolk, and Richmond may surface and contribute to the Chesapeake Bay Watershed project.

Symposium on Terrain Analysis for Water Resources Applications

The University of Texas at Austin and the Consortium for GIS in Water Resources sponsored a second gathering of many of the Nation's experts on hydrography for a four-day conference the third week of December. The theme this year was on terrain analysis, which is an integral component of hydrologic analysis and an essential companion to hydrography. Many sessions at the symposium concerned the National Elevation Dataset (NED), Elevation Derivatives for National Applications (EDNA), and terrain collection technology such as LIDAR. Terrain analysis is used to determine basin characteristics where a basin is defined for each individual reach of the stream network. This provides a very fine resolution of basins and makes it possible to create very accurate predictive models of stream flow at any point in the model. Terrain analysis can also be used to derive a linear network. Traditional hydrologic analysis

involves the use of stream cross-sections defined from the terrain, which when assigned the necessary coefficients and compounded in the network, provide well-founded models. Interesting examples were presented where the full three-dimensional characteristics of a terrain model were used to reveal entirely new braided channels to a flooded stream. Additionally, many sessions discussed the data structure of hydrographic data such as the ArcHydro and NHD geodatabase models. The current state of technology makes it possible to greatly increase the power of hydrographic data in GIScience. This is an exciting time for GIS in water science, and this conference was an outstanding opportunity to learn and appreciate the progress of the current work. There is much to do and a lot to look forward to.

New York

In the August 2002 NHD Newsletter it was reported that the New York State Department of Environmental Conservation (DEC) has halted its high resolution NHD production. Roger Barlow, the USGS geography liaison to New York, now reports that the State has given DEC the go-ahead to complete statewide coverage in 2003 as part of the DEC mission.

Recent Completions

(1) Hossier NF, (2) Land Between the Lakes NF, (3) Lolo NF, (4) Nez Perce NF, (5) Caribou-Targhee NF, (6) Salmon-Challis NF, and (7) Kootenai NF.

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