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August 31, 2012

WATER MISSION AREA MEMORANDUM NO. 12.04

Subject: Announcing the Watershed Boundary Dataset as the Authoritative Data for Hydrologic Unit Boundaries

This memorandum is to announce that Watershed Boundary Dataset (WBD) is to be considered as the authoritative dataset for hydrologic unit boundaries for the nation. The WBD is an extension of the Hydrologic Unit Code dataset to a finer level of detail. Specifically, the WBD is more precisely delineated using larger scale source material, has a greater number of basin area designation categories based on six nested levels of hierarchy (2-, 4-, 6-, 8-, 10, and 12-digit hydrologic units), and was developed through standards-based delineation procedures. Standardization of definitions and methodology provided consistency in the application of hydrologic unit boundaries across the nation minimizing interpretive variability. Researchers in USGS are strongly encouraged to use the WBD, or its derivatives, when modeling or describing a basin.

The WBD has undergone a certification process in accordance with the Federal standard <http://pubs.usgs.gov/tm/tm11a3/> and has been mandated by several Federal Agencies as the official hydrologic unit dataset for Federal environmental compliance and reporting. The WBD, along with the National Hydrography Dataset (NHD), is now being harmonized with both Canada and Mexico data through cooperative projects. When completed, the result will be continuous hydrographic data spanning the three nations' international borders and providing an international framework for hydrographic applications and analysis.

The Federal Geographic Data Committee in its annual report describes the WBD as follows:

The seamless, national Watershed Boundary Dataset (WBD) is a hydrologic unit framework of uniform size for the United States. It is used for programmatic planning, implementation, and reporting at the national, regional, and local levels. This includes use in multiple analytical and statistical applications.

The WBD is certified to national certification standards for the conterminous U.S. and Hawaii at 1:24,000 scales, the Caribbean at 1:25,000 scale, and Alaska at 1:63,360 scale. Its development and strategic direction is guided under the leadership of the interagency Subcommittee on Spatial Water Data. The USDA Natural Resources Conservation Service (NRCS) and USGS have joint management responsibilities under OMB Circular A-16.

Current efforts are focused on stewardship and integration of the WBD with the National Hydrography Dataset and other data sets such as the Geographic Names Information System (GNIS) and harmonization of hydrologic units with Canada and Mexico. Additional data enhancements, for example improved interpretations along coastal areas,

and value added attribution to facilitate WBD and NHD applications are in progress. WBD planning allows for (but does not require) the incorporation of local partner data at high resolution, plus two additional next down nested tiers at the 14- and 16-digits.

Additionally, the WBD has been incorporated into the NHD as a merged dataset to improve the cross-functionality of the two with an established stewardship process to ensure that updates to one dataset are carried through to the other. Considerable effort was made to ensure that WBD feature names were consistent with those of the Geographic Names Information System.

Many U. S. Geological Survey (USGS) Water Science Centers are indexing site locations from the National Water Information System (NWIS) to the NHD and including the derived drainage area boundaries which will be hosted in the NHD, thus improving the cross-functionality of NWIS, NHD and WBD through identifiers that link the data. Over time, other data linked to the NHD, such as dams, water diversions, and water use will then be also linked to the NHD and the WBD.

Both the NHD and the WBD are available from the USGS as part of *The National Map* located at: <http://viewer.nationalmap.gov/viewer/>.

The WBD continues to be available through the U.S. Department of Agriculture Data Gateway (with a 6 month refresh cycle),, located at: <http://datagateway.nrcs.usda.gov/>. A snapshot of the NHD will also be offered from this site.

For more information, contact Jeff Simley jdsimley@usgs.gov or Karen Hanson khanson@usgs.gov.

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References:

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