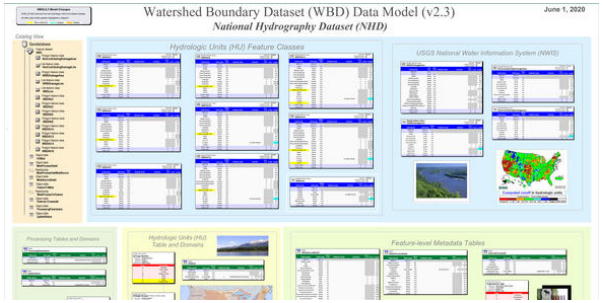
National Hydrography

Watershed Boundary Dataset

The Watershed Boundary Dataset is used broadly in applications from scientific research to regulatory work. It is a companion dataset to the National Hydrography Dataset (NHD) and a component of the NHDPlus High Resolution (NHDPlus HR).

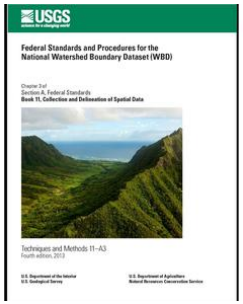
Watershed Boundary Dataset Data Model (v2.3)



Explore WBD Hydrologic Units (HU), USGS national Water Information System (NWIS), ArcCatalog View, Attribute Tables, and Domains for the Watershed Boundary Dataset (After opening the document, zoom in for greater detail.)

See the Model

Federal Standards and Procedures for the National WBD (4th ed, 2013)



This document establishes Federal standards and procedures for creating the WBD as seamless and hierarchical hydrologic unit data, based on topographic and hydrologic features at a 1:24,000 scale (Alaska at 1:63,360 and Caribbean at 1:25,000)

Read More

More Information

NRCS list of WBD Stewards

WBD Data downloads and services

US-Canada transboundary data harmonization information and data access

WBD FGDC Historical State Metadata archive

The Watershed Boundary Dataset (WBD) is a seamless, national hydrologic unit dataset. Simply put, hydrologic units represent the area of the landscape that drains to a portion of the stream network. More specifically, a hydrologic unit defines the areal extent of surface water drainage to an outlet point on a dendritic stream network or to multiple outlet points where the stream network is not dendritic. A hydrologic unit may represent all or only part of the total drainage area to an outlet point so that multiple hydrologic units may be required to define the entire drainage area at a given outlet. Hydrologic unit boundaries in the WBD are determined based on topographic, hydrologic, and other relevant landscape characteristics without regard for administrative, political, or jurisdictional boundaries. The WBD seamlessly represents hydrologic units at six required and two optional hierarchical levels.

The hydrologic units (HU) in the WBD form a standardized system for organizing, collecting, managing, and reporting hydrologic information for the nation. The HU in the WBD are

arranged in a nested, hierarchical system with each HU in the system identified using a unique code. Hydrologic unit codes (HUC) are developed using a progressive two-digit system where each successively smaller areal unit is identified by adding two digits to the identifying code the smaller unit is nested within. WBD contains eight levels of progressive hydrologic units identified by unique 2- to 16-digit codes. The dataset is complete for the United States to the 12-digit hydrologic unit. The 14- and 16-digit hydrologic units are optional and are not complete for the nation. Efforts are ongoing to complete 10- and 12-digit unit delineations within 8-digit hydrologic units extending across the U.S. – Canada border. Additional information about this effort and access to data is linked on the “resources” section on this page. A similar effort is complete for the 10- and 12-digit units extending across the U.S. – Mexico border.

Watershed Boundary Dataset Map

(Public domain.)

Watershed Boundary Dataset structure

(Public domain.)

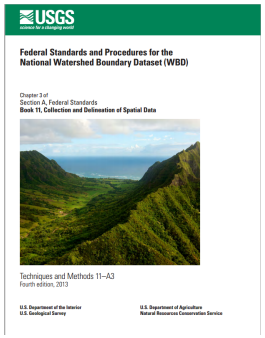
Editing and Tools

Approved stewards and editors who have completed required training can edit the WBD dataset. Two tool options are available to approved editors - a desktop tool and a web application. The desktop tool works in the ArcGIS desktop environment and offers advanced editing functionality and support for hydrologic unit naming and attribution rules. The WBD Web Edit Application is currently being developed but is open to approved editors. The WBD Web Edit Application offers limited editing functionality compared to the desktop tool but does not require the editor to hold an ArcGIS desktop license. In addition, the hydrography Markup Application can be used to suggest edits or “markups” to the WBD. Markups are submitted through the application to WBD state stewards and the WBD technical coordination team for review and implementation, if approved.

Changes to existing WBD hydrologic unit delineations or new delineations must meet guidelines included in the most recent edition of USGS Techniques and Methods report 11-A3 - Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD).

Access to tools and tool information is available from the USGS NGP Partner Support WBD point of contact (POC). Contact information for the WBD POC is available from the USGS Hydro Maintenance Portal. Contact information for the WBD technical coordination team is available from the list of stewards maintained by Natural Resources Conservation Service (NRCS).

Related Content



Year Published: 2013

Federal standards and procedures for the National Watershed Boundary Dataset (WBD)

The Watershed Boundary Dataset (WBD) is a comprehensive aggregated collection of hydrologic unit data consistent with the national criteria for delineation and resolution. This document establishes Federal standards and procedures for creating the WBD as seamless and hierarchical hydrologic unit data, based on topographic and hydrologic features...

Attribution: Utah Water Science Center, Water Resources, Region 7: Upper Colorado Basin, United States of America, NGP Standards and Specifications

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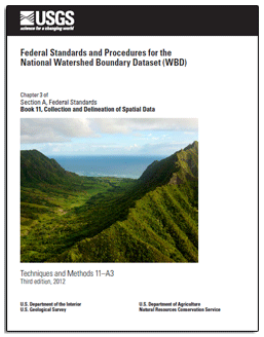

Year Published: 2012

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U.S. Geological Survey and U.S. Department of Agriculture, Natural Resources Conservation Service
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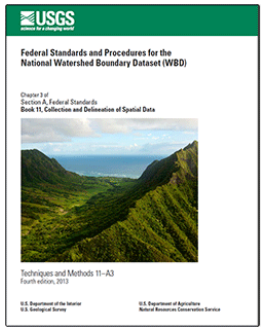

Year Published: 2011

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