

Watershed



Tags

HUC, Hydrologic Units, Hydrologic Unit Code, Region, Sub-region, Basin, Sub-basin, Watershed, Subwatershed, WBD, Watershed Boundary Dataset, 2-digit, 4-digit, 6-digit, 8-digit, 10-digit, 12-digit, 14-digit, 16-digit

Summary

The intent of defining Hydrologic Units (HU) within the Watershed Boundary Dataset is to establish a base-line drainage boundary framework, accounting for all land and surface areas. Hydrologic units are intended to be used as a tool for water-resource management and planning activities particularly for site-specific and localized studies requiring a level of detail provided by large-scale map information. The WBD complements the National Hydrography Dataset (NHD) and supports numerous programmatic missions and activities including: watershed management, rehabilitation, and enhancement, aquatic species conservation strategies, flood plain management and flood prevention, water-quality initiatives and programs, dam safety programs, fire assessment and management, resource inventory and assessment, water data analysis and water census.

Description

The Watershed Boundary Dataset (WBD) is a comprehensive aggregated collection of hydrologic unit data consistent with the national criteria for delineation and resolution. It defines the areal extent of surface water drainage to a point except in coastal or lake front areas where there could be multiple outlets as stated by the Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD), herein after referred to as the "Standard" (<http://pubs.usgs.gov/tm/11/a3>). Watershed boundaries are determined solely upon science-based hydrologic principles, not favoring any administrative boundaries or special projects, nor particular program or agency. This dataset represents the hydrologic unit boundaries to the 12-digit (6th level) for the entire United States. Some areas may also include additional subdivisions representing the 14- and 16-digit hydrologic unit (HU). At a minimum, the HU's are delineated at 1:24,000-scale in the conterminous United States, 1:25,000-scale in Hawaii and the Caribbean, and 1:63,360-scale in Alaska, meeting the National Map Accuracy Standards (NMAS). Higher resolution boundaries are being developed where partners and data exist and will be incorporated back into the WBD. WBD data are delivered as a dataset of polygons and corresponding lines that define the boundary of the polygon. WBD polygons attributes include hydrologic unit codes (HUC), size (in the form of acres and square kilometers), name, downstream hydrologic unit code, type of watershed, non-contributing areas, and flow modifications. The HUC describes where the unit is in the country and the level of the unit. WBD line attributes contain the highest level of hydrologic unit for each boundary, line source information and flow modifications. WBDHU8 represents the 8-digit hydrologic unit boundaries (previously referred to as Subbasins) and are part of the WBD delivery, but the boundaries are not editable by the WBD In-State Steward. Approximately 2,297 8-digit hydrologic units (Subbasins) are in the WBD.

Credits

Funding for the Watershed Boundary Dataset (WBD) was provided by the USDA-NRCS, USGS and EPA along with other federal, state and local agencies. Representatives from many agencies contributed a substantial amount of time and salary towards quality review and updating of the dataset in order to meet the WBD Standards. See dataset specific metadata for further information.

Use limitations

The distributor shall not be held liable for improper or incorrect use of this data, based on the description of appropriate/inappropriate uses described in this metadata document. It is strongly recommended that this data is directly acquired from the distributor and not indirectly through other sources which may have changed the data in some way. These data should not be used at scales greater than 1:24,000 for the purpose of identifying hydrographic watershed boundary feature locations in the United States. The Watershed Boundary Dataset is public information and may be interpreted by all organizations, agencies, units of government, or others based on needs; however, they are responsible for the appropriate application of the data. Photographic or digital enlargement of these maps to scales greater than that at which they were originally delineated can result in misrepresentation of the data. If enlarged, the maps will not include the fine detail that would be appropriate for mapping at the small scale. Digital data files are periodically updated and users are responsible for obtaining the latest version of the data from the source distributor. Acknowledgment of the origination agencies would be appreciated in products derived from these data.

Extent

West -179.229655 **East** 179.856675
North 71.439573 **South** -14.424695

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata

Topics and Keywords

* CONTENT TYPE Downloadable Data

Citation

TITLE Watershed
PRESENTATION FORMATS * digital map

Resource Details

DATASET LANGUAGES * English (UNITED STATES)
SPATIAL REPRESENTATION TYPE * vector
* PROCESSING ENVIRONMENT Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.3.0.4322

CREDITS

Funding for the Watershed Boundary Dataset (WBD) was provided by the USDA-NRCS, USGS and EPA along with other federal, state and local agencies. Representatives from many agencies contributed a substantial amount of time and salary towards quality review and updating of the dataset in order to meet the WBD Standards. See dataset specific metadata for further information

ARCGIS ITEM PROPERTIES

* NAME hydrologic_units_v3

Extents

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching

* WEST LONGITUDE -179.229655

* EAST LONGITUDE 179.856675

* NORTH LATITUDE 71.439573

* SOUTH LATITUDE -14.424695

* EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE -19951753.983917

- * EAST LONGITUDE 20021553.447315
- * SOUTH LATITUDE -1622986.231844
- * NORTH LATITUDE 11554273.714548
- * EXTENT CONTAINS THE RESOURCE Yes

Resource Constraints

CONSTRAINTS

LIMITATIONS OF USE

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Spatial Reference

ARCGIS COORDINATE SYSTEM

- * TYPE Projected
- * GEOGRAPHIC COORDINATE REFERENCE GCS_WGS_1984
- * PROJECTION WGS_1984_Web_Mercator_Auxiliary_Sphere
- * COORDINATE REFERENCE DETAILS

PROJECTED COORDINATE SYSTEM

WELL-KNOWN IDENTIFIER 102100

X ORIGIN -22041545.367140558

Y ORIGIN -33272760.666300893

XY SCALE 135368852.55357128

Z ORIGIN -100000

Z SCALE 10000

M ORIGIN -100000

M SCALE 10000

XY TOLERANCE 0.001

Z TOLERANCE 0.001

M TOLERANCE 0.001

HIGH PRECISION true

LATEST WELL-KNOWN IDENTIFIER 3857

WELL-KNOWN TEXT PROJCS["WGS_1984_Web_Mercator_Auxiliary_Sphere",GEOGCS

["GCS_WGS_1984",DATUM["D_WGS_1984",SPHEROID

["WGS_1984",6378137.0,298.257223563]],PRIMEM["Greenwich",0.0],UNIT

["Degree",0.0174532925199433]],PROJECTION["Mercator_Auxiliary_Sphere"],PARAMETER

["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER

["Central_Meridian",0.0],PARAMETER["Standard_Parallel_1",0.0],PARAMETER

["Auxiliary_Sphere_Type",0.0],UNIT["Meter",1.0],AUTHORITY["EPSG",3857]]

REFERENCE SYSTEM IDENTIFIER

- * VALUE 3857
- * CODESPACE EPSG
- * VERSION 8.2.6

Spatial Data Properties

VECTOR

- * LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

GEOMETRIC OBJECTS

FEATURE CLASS NAME hydrologic_units_v3

- * OBJECT TYPE composite

* OBJECT COUNT 2300
ARCGIS FEATURE CLASS PROPERTIES
FEATURE CLASS NAME hydrologic_units_v3
* FEATURE TYPE Simple
* GEOMETRY TYPE Polygon
* HAS TOPOLOGY FALSE
* FEATURE COUNT 2300
* SPATIAL INDEX TRUE
* LINEAR REFERENCING FALSE

Distribution

DISTRIBUTION FORMAT
* NAME File Geodatabase Feature Class

Fields

DETAILS FOR OBJECT hydrologic_units_v3

* TYPE Feature Class
* ROW COUNT 2300

DEFINITION

Table containing attribute information associated with the data set.

DEFINITION SOURCE

Producer defined

FIELD OBJECTID

* ALIAS OBJECTID
* DATA TYPE OID
* WIDTH 4
* PRECISION 0
* SCALE 0
* FIELD DESCRIPTION
Internal feature number.
* DESCRIPTION SOURCE
Esri

* DESCRIPTION OF VALUES
Sequential unique whole numbers that are automatically generated.

FIELD SHAPE

* ALIAS Shape
* DATA TYPE Geometry
* WIDTH 0
* PRECISION 0
* SCALE 0
* FIELD DESCRIPTION
Feature geometry.
* DESCRIPTION SOURCE
Esri
* DESCRIPTION OF VALUES
Coordinates defining the features.

FIELD TNMID

* ALIAS TNMID
* DATA TYPE String
* WIDTH 40
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION

TNMID (short for The National Map Identification) is a unique 40-character field that identifies each element in the database exclusively.

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

DESCRIPTION OF VALUES

TNMID is an automatically assigned code that stays with each element. When an element is updated or changed, TNMID links the element to the metadata record and documents the change. TNMID is also used to maintain relationship classes in the

normalized data model. When an element is deleted or split, TNMID stays with the original element and is not used again. When an element is split, new permanent identifiers are assigned to the resultant parts.

Example

{5DD21DC6-3692-4197-889B-49E652AA43D0}

FIELD **METASOURCEID**

- * **ALIAS** METASOURCEID
- * **DATA TYPE** String
- * **WIDTH** 40
- * **PRECISION** 0
- * **SCALE** 0

FIELD **DESCRIPTION**

MetaSourceID is an unique identifier that links the element to the metadata tables.

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

DESCRIPTION OF VALUES

MetaSourceID is an unique identifier that links the element to the metadata tables. This ID is generated and assigned automatically by the database and remains with the object permanently.

For Example: 5DD21DC6-3692-4197-889B-49E652AA43D0

FIELD **SOURCEDATADESC**

- * **ALIAS** SOURCEDATADESC
- * **DATA TYPE** String
- * **WIDTH** 100
- * **PRECISION** 0
- * **SCALE** 0

FIELD **DESCRIPTION**

SourceDataDesc is a space provided for a brief description of the type of base data used to update or change the current WBD.

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

DESCRIPTION OF VALUES

The WBD In-State Steward completes this field as part of the metadata form.

Example: Montgomery County 1-meter LiDAR

FIELD **SOURCEORIGINATOR**

- * **ALIAS** SOURCEORIGINATOR
- * **DATA TYPE** String
- * **WIDTH** 130
- * **PRECISION** 0
- * **SCALE** 0

FIELD **DESCRIPTION**

SourceOriginator is the description of the agency that created the base data used to improve the WBD.

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

DESCRIPTION OF VALUES

The WBD In-State Steward completes this field as part of the metadata form

For Example: USDA-FS LiDAR

FIELD **SOURCEFEATUREID**

- * **ALIAS** SOURCEFEATUREID
- * **DATA TYPE** String
- * **WIDTH** 40
- * **PRECISION** 0
- * **SCALE** 0

FIELD **DESCRIPTION**

SourceFeatureID is a long, unique code.

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

DESCRIPTION OF VALUES

This code identifies the parent of the feature if the feature is the result of a split or merge, and it is automatically generated and assigned.

For Example: 5DD21DC6-3692-4197-889B-49E652AA43D0

FIELD LOADDATE

- * ALIAS LOADDATE
- * DATA TYPE Date
- * WIDTH 8
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

LoadDate represents the date when the data were loaded into the official USGS WBD ArcSDE database. The field is the effective date for all feature edits, and it is automatically generated.

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

RANGE OF VALUES

MINIMUM VALUE 6/11/2012 7:54:56 AM

MAXIMUM VALUE 3/12/2014 4:13:03 PM

FIELD GNIS_ID

- * ALIAS GNIS_ID
- * DATA TYPE Integer
- * WIDTH 4
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

GNIS_ID is a preassigned numeric field that uses a unique number to relate the name of the hydrologic unit to the GNIS names database.

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

CODED VALUES

NAME OF CODELIST Geographic Names Information System (GNIS)

SOURCE GNIS (<http://gnis.usgs.gov/>)

FIELD AREAACRES

- * ALIAS AREAACRES
- * DATA TYPE Double
- * WIDTH 8
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

The area of each hydrologic unit including non-contributing areas stored in acres AreaAcres is common to all polygon feature classes and is calculated at the 12-digit hydrologic unit from the intrinsic area value maintained by the GIS software; therefore, acreage values may vary from user calculations, depending on the projection of the data. North American Albers Equal Area Conic, North American Datum 1983 is the required projection to use for calculation. If the units of the area field are stored in square meters, then use the conversion factor 0.0002471. For example, 40,469,446 square meters multiplied by 0.0002471 = 10,000 acres

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

RANGE OF VALUES

MINIMUM VALUE 10000

MAXIMUM VALUE 100000000

UNITS OF MEASURE acres

FIELD AREASQKM

- * ALIAS AREASQKM
- * DATA TYPE Double
- * WIDTH 8
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

The area of each hydrologic unit including non-contributing areas stored in square kilometers.

AreaSqKm is calculated at the 12-digit hydrologic unit from the intrinsic area value maintained by the GIS software; therefore, the square kilometer values may vary from user calculations, depending on the projection of the data. North American Albers Equal Area Conic, North American Datum 1983 is the default projection.

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

RANGE OF VALUES

MINIMUM VALUE 100

MAXIMUM VALUE 100000

UNITS OF MEASURE square kilometers

FIELD STATES

- * ALIAS STATES
- * DATA TYPE String
- * WIDTH 50
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

The States or outlying area attribute identifies the State(s) or outlying areas that the hydrologic unit falls within or touches. Will be populated with the 2 character state abbreviation or outlying area attribute for each area that the unit falls within in alphabetical order. For Example: CO,UT,WY

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

CODED VALUES

NAME OF CODELIST Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

SOURCE Section 6: Geospatial Data Structure and Attributes
<http://pubs.usgs.gov/tm/11/a3/>)

FIELD HUC8

- * ALIAS HUC8
- * DATA TYPE String
- * WIDTH 8
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

The HUC8 field is a unique 8-digit hydrologic unit code.
HUC8 represents the 8-digit hydrologic unit boundaries (previously referred to as Subbasins) and are part of the WBD delivery, but the boundaries are not editable by the WBD In-State Steward. For Example: 10130203

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

CODED VALUES

NAME OF CODELIST Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

SOURCE Section 6: Geospatial Data Structure and Attributes
<http://pubs.usgs.gov/tm/11/a3/>)

FIELD NAME

- * ALIAS NAME
- * DATA TYPE String
- * WIDTH 120
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

Name refers to the GNIS name for the geographic area in which the hydrologic unit is located.
Populated using GNIS names and guidelines as outlined in the WBD Standards. For Example: Upper Blue River

DESCRIPTION SOURCE

Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

CODED VALUES

NAME OF CODELIST Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD)

SOURCE Section 6: Geospatial Data Structure and Attributes
(<http://pubs.usgs.gov/tm/11/a3/>)

FIELD SHAPE_Length

- * ALIAS SHAPE_Length
- * DATA TYPE Double

- * WIDTH 8
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

Length of feature in internal units.

DESCRIPTION SOURCE

Esri

RANGE OF VALUES

MINIMUM VALUE 0.647659943610949

MAXIMUM VALUE 51.5821038579702

* DESCRIPTION OF VALUES

Positive real numbers that are automatically generated.

FIELD SHAPE_Area

- * ALIAS SHAPE_Area
- * DATA TYPE Double
- * WIDTH 8
- * PRECISION 0
- * SCALE 0

FIELD DESCRIPTION

Area of feature in internal units squared.

DESCRIPTION SOURCE

Esri

RANGE OF VALUES

MINIMUM VALUE 0.0100004660613777

MAXIMUM VALUE 10.5612326865669

* DESCRIPTION OF VALUES

Positive real numbers that are automatically generated.

OVERVIEW DESCRIPTION

ENTITY AND ATTRIBUTE OVERVIEW

The Watershed Boundary Dataset is a comprehensive set of digital spatial data that represents the surface drainages areas of the united states. The information included with the features includes a feature date, a unique common identifier, name, the feature length or area, and other characteristics. Names and their identifiers are assigned from the Geographic Names Information System. The data also contains relations that encode metadata. The names and definitions of all these feature attributes are in the Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD). The document is available online at <http://pubs.usgs.gov/tm/11/a3/>.

ENTITY AND ATTRIBUTE DETAIL CITATION

The names and definitions of all fields within the WBD attribution are in the U.S. Geological Survey, Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD). The document is available online at <http://pubs.usgs.gov/tm/11/a3/>. Information about the attribute tables and fields are in Section 6: Geospatial Data Structure and Attributes

Metadata Details

- * METADATA LANGUAGE English (UNITED STATES)

SCOPE OF THE DATA DESCRIBED BY THE METADATA * dataset

SCOPE NAME * dataset

- * LAST UPDATE 2016-08-31

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0

METADATA STYLE FGDC CSDGM Metadata

STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2016-08-05 13:59:23

LAST MODIFIED IN ARCGIS FOR THE ITEM 2016-08-31 12:39:39

AUTOMATIC UPDATES

HAVE BEEN PERFORMED Yes

LAST UPDATE 2016-08-31 12:38:20

ITEM LOCATION HISTORY

ITEM COPIED OR MOVED 2015-09-21 02:14:57

FROM D:\WBD\Metadata\WBDHU8_FGDC

TO \\IGSKNJWWW\WS070\D\WBD\NationalVersion_Check\17Sept2015
\ForNRCS\WBDHU8_FGDC