Standard 161.03 - Hydrography Data Standard

Purpose

Hydrography data is critical base data used to support Washington State’s mission of protecting the environmental quality of the air, land, and water resources of Washington State. The objective of this standard is to designate a single, common hydrography data model for agency geospatial data, geographic information systems, and data exchanges. Geospatial data that is built on common technical standards:

* Facilitates data exchanges for key datasets,
* Reduces staff time spent converting between differing alignments, route systems and measures,
* Minimizes error introduction brought on by the need to convert between differing alignments, route systems and measures, and
* Enables on the fly integration of distributed and separately maintained geo-datasets.

The standard is designed to improve data quality and accuracy, and simplify the exchange of hydrography data among state agencies, local, tribal, state, and federal users and producers.

Statutory Authority

The provisions of RCW 43.105.041 detail the powers and duties of the Technology Services Board (TSB), including the authority to develop statewide or interagency information services and technical policies, standards, and procedures.

Scope and Exemptions

These standards apply to state of Washington executive branch agencies, agencies headed by separately elected officials, and institutions of higher education referred to as “agencies” throughout this document. Academic and research applications at institutions of higher education are exempt.

Standard

The U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) shall be the data standard for all surface water (hydrography) geospatial datasets in Washington state.

The current published version of the National Hydrography Dataset (NHD) stewarded by the Washington Dept. of Ecology (ECY) will be the official state version for line work, points, areas, stream routing, and NHD defined attributes representing surface water hydrography.

Agencies shall use the NHD for all existing and/or any newly designed or significantly redesigned agency geographic information systems.

Agencies shall use NHD Data Dictionary that provides common structure to promote data sharing <https://nhd.usgs.gov/NHDv2.2.1_poster_081216.pdf>. The update frequency of the statewide published version of NHD will be determined by Ecology and other state users as appropriate.

Each published version will be identified by a unique version date. ECY will make retired versions available for use by stakeholders for no less than 2 years from the date of retirement.

## Under this standard, agencies may use alternative surface water conventions and structures provided:

* The agency maintains a version of hydrographic features which preserve spatial consistency with NHD geometry currently published by ECY.
* Any hydrographic variations introduced by the agency are posted to the USGS managed National NHD repository and made available in the next publication cycle.
* The agency maintains a version of hydrography related attributes for defined significant geo-datasets which can be accurately mapped to the Reach Code routing system contained in the currently published ECY version of the NHD.

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| **Geospatial Layers** | **State Standard** | **Owner/Primary Steward** |
| Hydrography – all surface water features | National Hydrography Dataset (NHD) | USGS |

USGS National Hydrography Dataset (NHD)

The NHD is a comprehensive set of digital spatial data representing the surface waters of the United States using common features such as lakes, ponds, streams, rivers, canals, and oceans. These data are designed to be used in general mapping and in the analysis of surface-water systems using geographic information systems (GIS). The NHD is a set of digital geospatial data that encodes information about naturally occurring and constructed bodies of water, paths through which water flows, and related entities.

The U.S. Geological Survey (USGS) is the owner and primary data steward of the NHD. USGS roles and responsibilities for maintaining the NHD are included in a Memorandum of Understanding between the Pacific Northwest Hydrography Framework (PNWHF) and the USGS. To review the MOU, go to <https://nhd.usgs.gov/stewardship.html> click on WA State, and the select the link to view the MOU document.

The NHD data model was designed to allow local stewards to improve upon the existing NHD and keep it continuously updated. Input from local stewards, knowledgeable about the hydrography in their local area, assures that the NHD is accurate, current, and meets the objectives of the user community.

Maintenance of the NHD as Washington State’s Common Hydrography Dataset

Since the NHD is a national dataset used and maintained by many state, federal and local organizations, changes to the data can be made at many locations. Agreement by the appropriate local agency stewards is required before edits are made in areas where agencies may have land management or regulatory responsibilities. These agreements or Memorandums of Understanding are necessary to assure that stewardship responsibilities are recognized and respected prior to performing edits on the NHD.

NHD Datasets, Tools, and Support

The National Hydrography Dataset (NHD) is stored in a versioned geodatabase implementation of the NHD model. NHD data, tools, and technical support are available through NHD.

https://nhd.usgs.gov/index.html

NHD Data

# Current NHD hydrography data for any location within Washington State is always available at <https://nhd.usgs.gov/data.html> . The Washington Stateplane South version can be found by searching for NHD at <https://geo.wa.gov> .

Revision History

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| **Date** | **Version**  | **Editor** | **Action taken** |
| July 26, 2019 | 1.1 | Joanne Markert, OCIO | Sunset review, minor updates. Adopted by state CIO |
| January 13, 2011 | 1.0 | Joy Paulus, OCIO | Assigned policy number and adopted by the Information Services Board |

CONTACT INFORMATION

Contact the OCIO Policy & Waiver Mailbox for questions on policy and standards.

SUNSET REVIEW DATE: July 26, 2022

ADOPTION DATE: July 26, 2019

APPROVAL DATE: TBD – September TSB Meeting

APPROVING AUTHORITY: Jim Weaver, State CIO & Chair TSB