Drainage Area: NE, VPU: 01 Release Notes

12/01/2018 – Updated and New Data

Time of Travel and Related Attributes: The new and updated data is included in new versions of the NHDPlusAttributes and EROMExtension components. Specifically,

EROM mean annual and mean monthly statistics have been re-computed with the following changes:

Removal of upper and lower limits for reference gage regression adjustment,
Correction of reference gage regression equation, and
Reference gage regression included in all flow statistics.

PlusFlowlineLakeMorphology and PlusWaterbodyLakeMorphology tables have been updated based on the new EROM mean annual flows.

PlusFlowlineVAA mean annual time of travel (TOTMA) has been updated based on the new EROM mean annual flows. Path time (PathTime) attribute has been added and populated based on the updated TOTMA values.

09/21/2017 – Updated Components

The NHDPlusAttributes has been updated. Various VAAs in PlusFlowlineVAA for Coastline features have been standardized.

05/10/2016 – Updated Components

The improved HUC12 downstream pointers from the February 2016 WBD Version into the NHDPlus WBDSnapshot, When a correspondence between the two versions could be determined for both the HUC12 and the downstream HUC12, the downstream pointer was updated.

01/05/2016 – Updated Components

EROM Mean Annual and Mean Monthly flow estimates have been re-run to correct incremental flows to be the sum of the incremental flows upstream and on the flowline. EROM velocities were updated to provide velocity estimate only for flowing waters. EROM velocities are now set to -9998 (missing value) in all water bodies except swamp/marsh.

07/08/2015 – Updated Components

The WBDSnapshot was revised to correct the values in the Acres field. The NHDSnapshot and NHDPlusAttributes were revised to correct values in FType/FCode in a handful of features.

1/30/2015 – Revised Component

The VPUAttributeExtension has been updated to include accumulated mean annual and mean monthly runoff file.

1/21/2014 – New Data Release

The EROMExtension was enhanced to include mean monthly flow estimates. See NHDPlusV2 User Guide for additional information.

12/07/2012 – Replacement components

Three NHDPlusV2 components are replaced with new versions: NHDSnapshot, NHDPlusBurnComponents, and NHDPlusAttributes. These replacements represent some changes in NHDFlowline ReachCode values and the inclusion of an NHDReachCrossReference table that tracks ReachCode changes from NHDPlusV1 to NHDPlusV2.

9/26/2012 – Temporary Attribute Cleanup

During NHDPlusV2 processing and subsequent QAQC, some temporary attributes were added. Some of these attributes were not deleted and were inadvertently included in the public release. These extraneous attributes do not affect the usability of the data, but they do violate the official data model and may cause issues with future NHDPlusV2 tools. Users are encouraged to download the new components. In this VPU, the replacement zip files are:

NHDPlusV21_NE_01_NHDPlusAttributes_02.7z

08/08/2012 – Initial Release Notes

Canadian data

Vector hydrography for Canadian drainage included in the NHDPlus BurnComponent data, BurnAddLine.shp was used for hydro-enforcement of these features for the NHDPlus HydroDEM. The Canadian data comes from a variety of sources.

For the Upper St. John Basin in Canada, the Canadian Hydrographic Network (NHN) (1:50,000-scale) was incorporated in BurnAddLine for the contributing drainage from Canada into the US shared waterway of the St. John River. The upper stretch of the St. John River flows along the US-Canadian border and exits entirely into Canada where it ultimately drains to the Bay of Fundy at St. John, New Brunswick. Canadian NHN streams that drain into the St.John River along the Northern border with Maine are included in BurnAddLine. Connector features are added to connect the NHN with the NHD. Large waterbodies in Canada from the NHN data are also included in the BurnAddWaterbody feature class to enhance the hydro-enforcement detail for these areas.

In addition, Canadian hydrography was added to BurnAddLine to complete drainage connectivity for NHD stream networks in the Upper St John Basin that exit the US along the Eastern border of Maine. These streams eventually flow into the St. John River in Canada. Along the Eastern Maine border, NHN data in Canada was not fully available for the Upper St. John Basin. Therefore, NHN data is included in BurnAddLine where available. For areas lacking NHN coverage, streams were digitized on-screen into BurnAddLine, from hydrography depicted on Canadian 1:50,000-scale topographic maps (available from Natural Resources Canada, Toporama web map service).

NHN data was utilized in the St. Francois Basin to ensure proper drainage in the hydro-enforcement of the NHD exiting Vermont into Canada.

For the St. Croix River Basin that borders between Maine and New Brunswick, Canada, harmonized high-res-NHD was obtained. Only the Canadian harmonized data (source: NHN) was used from this NHD dataset to complete hydro-enforcement on the Canada side of the basin. Stream lines were added to BurnAddLine, while large waterbodies are included in BurnAddWaterbody.

For all shared Canadian drainage areas in Region 1, the Watershed Boundary Dataset extended into Canada to provide full coverage of walling features included in the NHDPlus BurnComponent /Wall.shp feature class.

WBD Notes

In addition to what is now defined as Hydro Region 1, the NHD snapshot compiled for Region 1 includes drainage now allocated to Hydro Region 4 as defined by the Watershed Boundary Dataset (WBD). This reassigned drainage represents the St. Francois basin, formerly part of Region 1 (HUC 0111), now reassigned to Region 4 (0415).

In addition, a direct drainage coastal HUC12 (HUC 011000060405) from Hydro Region 1 was excluded from the Region 1 NHDPlus Vector Production Unit (VPU); as the NHD compiled for production is included with the Hydro Region 2 V2 NHDPlus data.

Catchment/Burn Settings

Flowlines in conflict with the Region 2 boundary defined by the WBD were set to "N" (no) for both Burn and Catchment properties in BurnLineEvent.dbf in the NHDPlus BurnComponents folders. These features were not used in the hydro-enforcement process as burn features, nor were catchments delineated for these flowlines. This was done to avoid catchments for these features extending into adjacent Regions.

A series of networked flowlines coded as pipeline features are in BurnLineEvent that represent part of a piped water diversion from the Quabbin Reservoir in Western Massachusetts. The reservoir is the primary water supply for Boston. Since these features are not appropriate for neither catchment delineation nor natural drainage enforcement, their Catchment and Burn settings have been set to "N".

During the early stages of NHDPlus production, when the NHD was being enhanced, an effort was made to add existing detail to the networked flowlines by incorporating existing non-networked flowlines (FlowDir = "Uninitialized") that are spatially connected to the primary network. In Hydro Region 1, this process inadvertently created new isolated networks when the added lines were not connected to the main network. These isolated networks were previously uninitialized features and are not closed systems (ie. they are headwater features that should be connected to the main network that drain to the coast). Until resources permit the connection of these features, these isolated networks should have remained uninitialized; however the data condition was not discovered until late in the production process, therefore an interim solution was to not generate catchment for these features or use them for hydro-enforcement.

BurnAddLine\BurnAddWaterbody Notes

BurnAddLine and BurnAddWaterbody contain features to represent Canadian features. Refer to the "Canada Data" section of these release notes for more details. Below describes additional features added into these BurnComponent datasets within the US.

There are several lines in the BurnAddLine shapefile that represent flowlines from adjacent NHDPlus Vector Production Units (VPUs 1 and 3N). These flowlines were added to BurnAddLine to constrain the catchment delineations at coastal VPU connection points between these VPUs.

Centerlines were added within the Cape Cod Canal, Massachusetts for drainage enforcement and constrain the catchment delineation for an NHDFlowline that flows into the canal. The canal, represented in the NHDSnapshot/Hydrography/NHDArea.shp, was added to the NHDPlus BurnComponents/BurnAddWaterbody shapefile for additional hydro-enforcement of this feature.

Centerlines were added within the Sakonet River, a tidal straight in Rhode Island, to ensure proper hydro-enforcement and catchment delineation.

The Great Bay tidal estuary represented in NHDArea was added to BurnAddWaterbody for hydro-enforcement of this area. Similarly, Sea/Ocean (ftype) polygons in NHDArea were added to BurnAddWaterbody to complete full representation of tidal river areas for hydro-enforcement in the Kennebec River Basin, Maine.

Enhanced Unit Runoff Method (EROM)

See Appendix A of the "NHDPlus V2 User Guide" for a detailed explanation of the EROM parameters.

EROM Flow and Velocity estimates are for Mean Annual values.

The time period for these estimates is 1971 to 2000; the runoff, temperature and precipitation grids are for this time period.

For gage adjustment and Reference Gage Regression, gages must meet the following criteria:

1. A minimum of 20 of the 30 years (1971 to 2000) of complete flow records.
2. NWIS reported drainage area versus NHDPlus drainage area, for the gage, must be within 0.2 (+/- 20%).

Upstream gage drainage area proportion is 0.5 (50%).

Excess Evapotranspiration default coefficients are 0.3 and 0.5.

Gage sequestration proportion is 0.2 (20%).