Drainage Area: PN, VPU: 17 - 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.

12/19/2016 – Updated Components

The NHDSnapshot has been updated to correct a duplicate ComID problem in NHDFlowline.

09/06/2016 – EROM Component Updated

A "data bust" occurred in the mean monthly flow and drainage area estimates in VPU 17. This data bust resulted in significant over-estimation of the flow and drainage area computations on 3,014 flowlines. 17 streams are affected, with the most significant effects being on the Snake and Columbia Rivers. Also, these two rivers make up approximately half of the affected flowlines.

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.

02/18/2016 – Updated Components

Several NHDFlowline features in the NHDSnapshot component were edited to eliminate errors when building a geometric network.

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 files.

12/30/2014 – Replacement Components

The NHDPlusAttributes was released to correct PlusFlowlineVAA fields AreaSqKm, CumTotDA and CumDivDA for 323 coastline catchments.

4/07/2014 – Replacement Components

The VogelExtension was released to add velocity values which previously were missing.

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.

9/21/2012 – 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_PN_17_NHDPlusBurnComponents_03.7z
NHDPlusV21_PN_17_WBDSnapshot_02.7z
NHDPlusV21_PN_17_NHDPlusCatchments_02.7z

7/18/2012 – VPUAttributeExtension Update

The NHDPlusV21_PN_17_VPUAttributeExtension_04.7z has been released to replace NHDPlusV21_PN_17_VPUAttributeExtension_03.7z. An error was discovered in the ArcGIS Spatial Analyst Extension which created errors in the tables contained in the VPUAttributeExtension. The tables have been corrected and released in the new .7z file.

7/17/2012 - Initial Release Notes

Harmonized NHD and WBD data in Canada

High-resolution NHD data for the 8-digit HUCs along the border including harmonized Canadian NHN data, were used in BurnAddLine for hydrography in, or connecting to, Canada. The WBD included harmonized boundaries for those 8-digit HUCs, as well, and these were used as walls.

International catchments (beyond harmonized WBD data)

For Canadian rivers draining into the HUC08s along the international border, catchments were extended to the headwaters of these rivers. The Fundamental Drainage Areas (FDA) dataset, from the Atlas of Canada 1:1,000,000 National Framework Hydrology - Drainage Areas (V6.0), were used for this extension.

Catchment/Burn Attribute Settings

The following describes unique settings of Burn and Catchment attributes in BurnLineEvent .

1) BurnLineEvent canal/ditch features (ComIDs of 24417480 and 24417482) were set to "N" (no) for Burn and Catchment attributes.
2) BurnLineEvent stream features (ComIds 2287999s 24311087, 24311131, 22919122, 22939616, 24322846, 23106142, 24433369, 23233853, 23254847, 23254851, 23254013, 23254787, 23302242, 23303898, 24202307, 23514084, 24506472) were set to "N" (no) for Burn and Catchment attributes because of conflicts with a WBD divide and contours on the USGS topo maps.
3) Burnlineevent feature (ComID 947020106) made an inappropriate connection of a closed HUC12 area. Burn and Catchment attributes were set to "N" (no) for this feature. A sink within the closed HUC12 (170200060103) was created in an automated process.

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%).

Because of poor QAQC statistics in the Excess Evapotranspiration step, this step is not run in the following VPUs: 09, 10U, 17, 12. The reasons for the poor QAQC statistics is are under investigation. Reference gages (those gages determined to have minimal impact from human activities) are generally found on smaller streams with lower mean annual flow. Currently, the Reference Gage Regression step adjusts all flows in a VPU regardless of mean annual stream flow. In several VPUs, the Reference Gage Regression step (step 3) will "over-adjust" larger mean annual flows. In these cases, the resulting Reference Gage Regression flow estimates will be worse than the Runoff/Excesses ET flow estimates (step 2). Note that this issue exists on the larger rivers, which are most likely to have flow gages on them. Consequently, Gage Adjustment step (step 5) will "re-adjust" the flow estimates to better match the expected mean annual flow conditions. Below is a list of the VPUs that appear to be affected by an over adjustment during the Reference Gage Regression and an approximate flow value above which this issue applies:

03N: > 2,000 cfs
03S: > 4,000 cfs
03W: > 15,000 cfs
07: > 3,000 cfs
10L: > 10,000 cfs
11: > 5,000 cfs
12: > 3,000 cfs
16: > 1,000 cfs
17: > 10,000 cfs