Drainage Area: GB, VPU: 16 - 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.

09/20/2016 – Updated NHDSnapshot

Corrected a handful of incorrect FType/Fcode values and WBAreaCOMID values.

05/10/2016 – Updated Components

The improved HUC12 downstream pointers from the February 2016 WBD Version were updated in 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.

3/18/2015 – Revised Component

The VPUAttributeExtension has been updated to include corrected incremental and accumulated mean precipication files.

1/30/2015 – Revised Component

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

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.

The NHDPlusBurnComponents for VPU 16 mistakenly contained the data for VPU 06. This has been corrected.

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_GB_16_NHDSnapshot_03.7z

8/22/2012 – Initial Release Notes

BurnAddWaterbody Notes

Additional closed lake and playa features were added to BurnAddWaterbody from high-res NHD. Catchments for these were generated using corresponding sink features within each waterbody.

Catchment/Burn Settings

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

1) Some NHDFlowline features were observed to have the incorrect coordinate ordering in isolated networks that should drain into closed lakes. The Catchment attribute was set to "N" (no) and the Burn attribute was set to "Y" (yes). Sinks were manually placed within the lakes. The ComIDs involved are 9984449, 9987545, 9985043, 9984201, 9984341, and 11387425.

2) NHDFlowline features located outside of the VPU 16 boundary (or in conflict with it) defined by the WBD and were set to "N" for both Catchment and Burn attributes. These include some isolated networks that should be in VPU18 which had already been processed for NHDPlusV2.

3) An incorrectly isolated network, with terminal end NHDFlowline feature (ComID 19805973) and all upstream NHDFlowline features were set to "N" for the Catchment attribute. This network's terminal end was within 200 meters of a primary NHDFlowline network. Setting the the Catchment attribute to "N" for the isolated network ensured that drainage area for the isolated network would be included in downslope catchments associated with the primary network.

4) Some NHDFlowline features were in conflict with the VPU boundary and were set to "N" for both the Catchment and Burn attributes.

5) Some NHDFlowline features designated as Pipelines were set to "N" for catchment delineation but set to "Y" for burning to ensure proper connectivity in the HydroDEM. Other pipeline features are set to "N" for both Catchment and Burn properties.

6) A set of flowlines which appear to have the wrong coordinate ordering (based on contours on topographic maps) were set to "N" for both Catchment and Burn settings. The ComIDs are 10743566, 10742208, 10742192, 10743562, 10743544, 10742202, 10742198, 10742204).

7) A Catchment (associated with Sink FeatureID -371006) actually falls outside the boundary of VPU 16, according to WBD and should have been processed in VPU 15. The three NHDFlowines features (COMIDs 14600811, 14600813, and 14600815) were set to "N" for Catchment and Burn. However, the associated sink (-371006), which should have been removed, but was overlooked and therefore received a catchment. VPU 16 was processed first causing this catchment boundary to be enforced when VPU 15 was processed. However, in VPU 15, the flowline (COMID 10022868) which was not in conflict with the VPU boundary was burned, even though it conflicts with the VPU 16 catchment (-371006). The result is the flowdirection and flowaccumulation grids for RPU 15b include a string of cells along the NHDFlowline feature that are also assigned to a VPU 16 catchment.
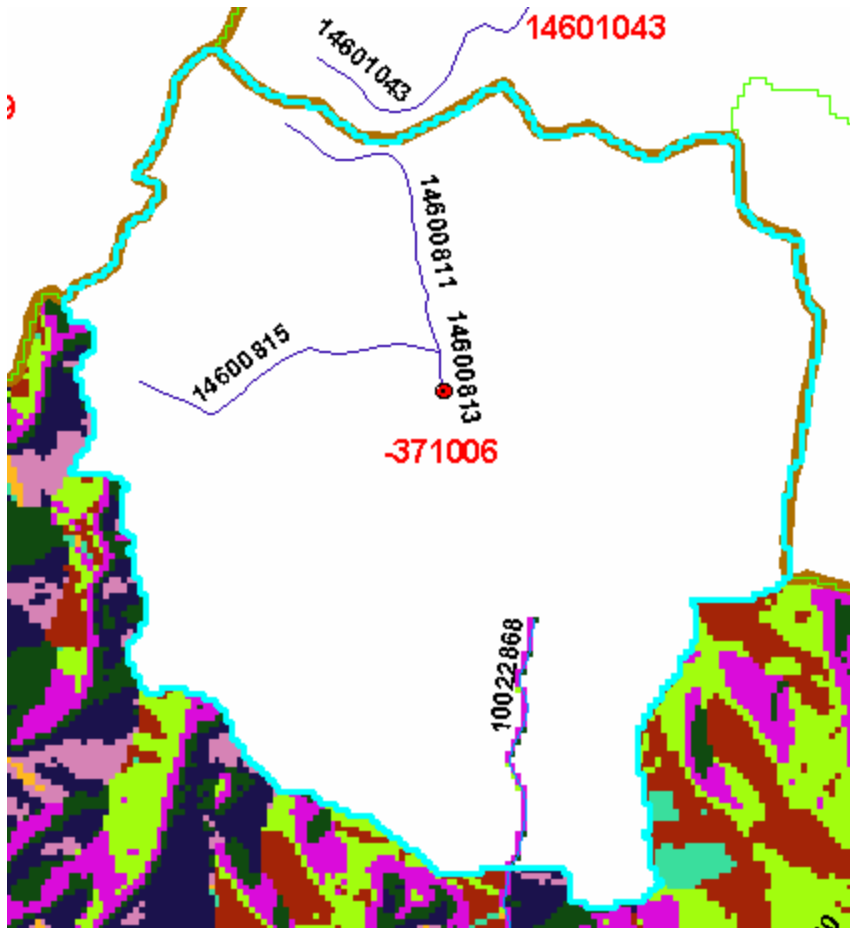
Enhanced Unit Runoff Method (EROM)

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%).

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