

Drainage Area: TX, VPU: 12 - 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 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.

1/30/2015 – Revised Component

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

4/07/2014 – Replacement components

The VogelExtension was released to include velocity values which previously were missing. The VPUAttributeExtension was released to correct 2 file names.

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.

9/17/2012 – Update to VPUAttributeExtension Component

An error was discovered in the ArcGIS->Spatial Analyst->Zonal-Statistics-as-Table geoprocessing tool. The error created incorrect results in the catchment allocation and accumulation tables in the VPUAttributeExtension folder. After implementing a work-around, the tables were recreated and are posted as NHDPlusV21_TX_12_VPUAttributeExtension_03.7z.

7/3/2012 - Initial Release Notes

Catchment/Burn Settings

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

- 1) During NHDPlusV2 production, an inappropriate connection of a closed HUC12 area (source: WBD) was discovered in BurnLineEvent. To resolve this issue without editing NHD, the BurnLineEvent features were set to “N” (no) for the Burn and Catchment attributes (see ComIDs 5688050, 5688052, 5687554, 5689858). A sink within the closed HUC12 (120800050206) was created in an automated process.
- 2) Similar to the above case, a Burnlineevent feature (ComID 5682769) made an inappropriate connection of a closed HUC12 area. The Burn and Catchment attributes were set to “N” (no) for this feature and the features upstream. A sink within the closed HUC12 (120800040603) was created in an automated process.
- 3) A third closed HUC12 area (120800020302) was connected inappropriately by a BurnLineEvent feature and was handled in a similar manner to previous case. The Burn and Catchment attributes were set to “N” (no) for this feature (ComID 5633491). The Burn and Catchment attributes were set to “N” (no) and “Y” (yes), respectively, for the BurnLineEvent features upstream. A sink representing the closed basin is placed along a flowline within the closed system at a topographic depression.
- 4) A few small isolated networks were set to “N” for both Catchment and Burn attributes. These BurnLineEvent features should be connected to the primary drainage network or removed from NHD in the future.

- 5) Conflicts between BurnLineEvent features and the WBD drainage divides that define the boundary for VPU12 were set to “N” for both Catchment and Burn attributes.

Additonal Notes:

The Wall feature class was edited slightly along the southern portion of the border between VPU12 and VPU13 to avoid breaches of the wall by BurnLineEvent features in Region 13.

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