Drainage Area: RG, VPU: 13 - 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

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.

1/21/2014 – New Data Release

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

09/25/2013 – Replacement components

Three NHDPlusV2 components are replaced with new versions: NHDPlusBurnComponents, NHDPlusCatchments, and VPUAttributeExtension. These replacements correct a problem with SinkID/FeatureID where 19 Sink Catchments inadvertently were assigned to only two FeatureIDs. SinkID and FeatureID are now unique as planned.

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_RG_13_NHDSnapshot_02.7z

9/11/2012 – Initial Release Notes

Catchment/Burn Settings

39 NHDFlowline features in conflict with the VPU13 boundary defined by the WBD were set to "N" (no) for both Burn and Catchment attributes. This was done because catchments for these features would have extended into adjacent VPUs.

BurnAddLine Notes

28,003 lines from the harmonized HiRes NHD were places in BurnAddLine. These lines were in Mexico or near the Mexico border. One short line was also added to make a connection between the MedRes NHD and the HiRes NHD for Mexico.

Mexico contributing drainage

Contributing drainage area from Mexico into U.S. waters is accounted for in the NHDPlusV2 data. These areas are represented in the HydroDem where harmonized WBD and high-res NHD stream lines were used as drainage enforcement (see BurnAddLine Notes), along with NED data that extends into Mexico. The added drainage lines from Mexico hydrography are included in the BurnAddLine feature class. HUC-8 boundaries in Mexico were added to the Wall feature class from the WBD. No HUC-10 or HUC-12 boundaries were available in the WBD in Mexico at the time of production.

BurnAddWaterbody notes

Additional closed lake features from high-res NHD were added to BurnAddWaterbody to enforce these lakes and their contributing drainage areas as isolated closed systems.

Arid Area Wall Removal

The usual treatment of HUC-12 boundaries as walls in many cases was not appropriate due to the extremely arid climate in this VPU. Review of the Filled_areas grid after initial runs showed many areas that were filled in order to allow drainage into sinks at the end of isolated streams. These filled areas were downslope from the sinks, but flow could not continue down slope because of walls along the WBD boundaries. The WBD, however, identified downstream HUC-12 units. In more humid climates the streams generally continue and cut through the walls, but since the streams were discontinuous here, many sections of walls were removed to allow the flow direction grid to represent flow downslope through these areas.

Specific Notes/Special Situations

1) Two playa features, ComID's 21352757 and 21352759, are included in the VPU15 NHD, however they actually fall in VPU13 according to the WBD. Careful inspection of the topographic maps confirms that if the playas were to fill up and drain, they would drain into VPU13. However, this was discovered late in the production process, so the playa features and their resulting catchments remain in the VPU15 datasets.

2) Three apparent data errors were discovered in Mexico where the catchment boundary goes to the edge of the underlying DEM. The places this occurs are at the approximate latitude/longitudes of 25.413N, 101.799W (Catchment FeatureID 338055), and 25.491N, 101.773W (also Catchment FeatureID 338055), and 26.332N, 101.853W (Catchment FeatureID 326281). Streams can be seen on imagery crossing into the catchments in these locations, where the boundaries should represent watershed divides. These errors were discovered late in the process, and because adequate base maps for the area were not available, the problems were not corrected. The DEM was extracted using a 15-km buffer around the NHDPlusV1 catchments, therefore similar issues exist in NHDPlusV1 catchments.

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%).