

## **Drainage Area: SA, VPU: 03W - 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.

### **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 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 files.

### **11/19/2014 – Replacement component**

The WBDSnapshot component was replaced in order to correct a WBD error. The HUC12 code 031401010701 (Wetappo Creek) was duplicated incorrectly to another HUC12 polygon. The polygon with this incorrect code is now coded 031401010706 (St. Joseph Bay).

### **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.

### **9/12/2012 – Initial Release Notes**

#### **Estuary enforcement**

Estuary polygons for hydro-enforcement of these coastal surface water features are present in the LandSea feature class. Estuary polygons were created for St. Andrews Bay, Choctawhatchee Bay, Pensacola Bay, Perdido Bay, and Mobile Bay. The bay areas are defined by the med-res NHD shoreline features with arbitrary closure lines added to approximate the extent of the estuary.

In addition, artificial paths within all 5 estuaries were added to BurnAddLine. These features are used in the hydro-enforcement process to direct drainage within these estuaries towards these paths. The combination of estuary enforcement using LandSea and artificial path lines in BurnAddLine, make possible the use of the NHDPlusV2 flow direction and accumulation grids for watershed delineation within these bays and all contributing drainage areas from the Land.

#### **WBD Notes**

The VPU03W does not include data from an adjacent HUC4 subregion (0318 – Pearl River). The Pearl River drainage (HUC 0318) is included with VPU08. The Pearl River is connected with VPU08 with tidal marsh waterways, and The Rigolets; a long strait that connects Lake Pontchartrain to Lake Borgne.

#### **Catchment/Burn Settings**

The NHD makes an inappropriate connection for HUC12 031401010402 (Porter Lake), identified as a closed basin in the WBD. To resolve this difference, the connector flowline (ComID 166758904) is set to “N” (no) for both Catchment and Burn attributes. All upstream flowlines draining to ComID 166758904 were hydro-enforced (Burn = “Y”), but no catchments (Catchment = “N”) are delineated. A sink is created

within Porter Lake, the terminating drainage point for the closed HUC12. A sink catchment for Porter Lake ensures this drainage area is isolated from the network.

A Pipeline NHDFlowline feature (ComID 2413858) has both Catchment and Burn attributes set to “N” (no).

### **BurnAddLine Notes**

Several lines were added to BurnAddLine to represent features from adjacent VPU08 and VPU03S. These BurnAddLine features constrain the catchment delineations at coastal VPU connection points between these VPUs.

Also see “Estuary enforcement” above.

### **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