

**NHDPlus Release Notes for
Mississippi – Region 11
Last Updated 8/2/2010**

Data Release Note – 8/2/2010 – Flowline_Cat_Attr V01_03 Released

Two changes have been made to the FlowlineAttributesFlow Table: (1) All zero slopes have been changed to a nominal slope of 0.00005; and (2) the corresponding MAVELU and MAVELV estimates have been updated using the Jobson “slope” method for all Flowlines where these slopes have been changes. The result of this change is that the Jobson “noslope” method is never used. The reason for this change is that the NHDPlus Team has determined that the “noslope” method is not appropriate for zero slope applications. The Jobson velocity calculations are described in Appendix A- Step 6 of the NHDPlus User Guide.

Data Release Note – 10/17/2008 – NHD Component V01_03 Released

NHDFlowlineVAA.StreamOrde was set to zero to indicate that users are directed to use the new Stream Order/Stream Calculator fields that are available from the Data Extensions tab on the www.horizon-systems.com/NHDPlus web page.

Release Note 04/28/2008 – The problem with prj.adf parameter Zunits has been corrected in the elev_cm grids.

Release Note 06/05/2007 – The problem with IncrFlowU in FlowlineattributesFlow Tables has been corrected.

New data is available in the NHDPlus11V01_02_Cat_Flowline.zip file.

Release Note 12/13/2006 – Re-release of Region 11.

Region 11 was re-released to correct some minor issues in the NHD component (V01_02) and to implement the NHDPlus versioning scheme in all components. The only data content changes occurred in the NHD component. All other components contain the same data as the original release.

Release Note 12/13/2006 – Problem with IncrFlowU in FlowlineattributesFlow Tables

In several of the HydroRegions there are incorrect values for the IncrflowU field. This problem exists when the UROM flow computations attempt to compensate for consumptive use by applying only a proportion of the unit runoff flow on intermittent streams. These incorrect IncrFlowU values can be corrected as follows:

If FCODE <> 46003, then:

In HydroRegion 10, the correct IncrFlowU = IncrFlowU / 0.05

In HydroRegion 11, the correct IncrFlowU = IncrFlowU / 0.75

In HydroRegion 13, the correct IncrFlowU = IncrFlowU / 0.20

In HydroRegion 14, the correct IncrFlowU = IncrFlowU / 0.05

In HydroRegion 15, the correct IncrFlowU = IncrFlowU / 0.05

In HydroRegion 16, the correct IncrFlowU = IncrFlowU / 0.05

In HydroRegion 17, the correct IncrFlowU = IncrFlowU / 0.10

In HydroRegion 18, the correct $\text{IncrFlowU} = \text{IncrFlowU} / 0.10$

This problem does not affect other fields in the FlowlineattributesFlow Table.

Release Note 11/08/2006 – Reaches without Measures – This problem was fixed in release V01_02 of the NHD Component

All reaches now have measures in region 11.

Release Note 11/08/2006 – Drainage Area

NHDPlus and the gage areas tend to agree quite well, with some outliers due to situations as described in the “DA_FLOW_QA_README” worksheet. NHDPlus tends to underestimate drainage areas for the Arkansas River at areas greater than 50,000 sq. km.; the NHDPlus drainage area is approximately 4% less than the Gage drainage area at the most downstream Gage on the Arkansas River. NHDPlus tends to underestimate drainage areas along the Cimmaron River at drainage areas less than 50,000 sq. km. These underestimates are most likely due to differences in NHDPlus contributing drainage based on the NHDPlus connectivity versus gage areas reflecting total drainage area.

Release Note 11/08/2006 – Flow

The UROM attempts to compensate for consumptive use by applying only 75% of the HUC-level mean annual runoff on intermittent streams. The NHDPlus UROM mean annual flow estimates are consistently over-estimated by approximately 7,000 cfs along the mainstem of the Arkansas River. An analysis of water use in Region 11 (Hutson, et. Al., 2004) shows large surface water withdrawals in the Arkansas River headwaters in HUC-4 1102. These large surface water withdrawals can account for this difference between the UROM flow estimates and the Gage flows. The UROM and the Vogel method both base their flow estimates on HCDN Gages, which by definition are Gages where flow is not heavily influenced by man. Therefore, this type of large surface water withdrawal is not accounted for in these flow estimation methods. There are also two other significant outliers in which the UROM underestimates the mean annual flow, one at Gage 07074500 on the White River and one at Gage 07336820 on the Red River. It is possible that the Region-wide application of using only 75% of the HUC-level mean annual runoff on intermittent streams may not be applicable for these rivers. Other than these issues, both the UROM and the Vogel method provide reasonable estimates of mean annual flow.

Reference: Hutson, S.S., Barber, N.L., Kenny, J.K., Linsey, K.S., Lumia, D.S., and Maupin, M.A., 2004, Estimated use of water in the United States in 2000: U.S. Geological Survey Circular 1268, 46 p., accessed July 11, 2006 at <http://pubs.usgs.gov/circ/2004/circ1268/>

Release Note 1/25/2006 – Source Elevation Data

Elevation Data (grid format), for all Hydro Regions except for Hydro Region 5 (the Ohio River Basin), were retrieved, July 2004, from the National Elevation Dataset (NED) maintained by the U.S. Geological Survey.

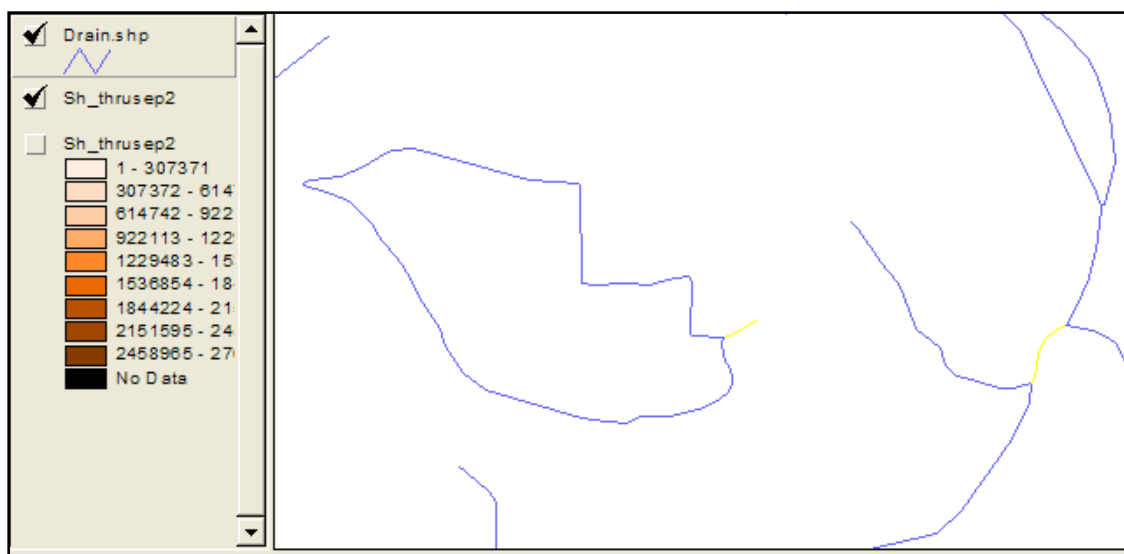
Release Note 1/25/2006 – International Catchments

International catchments for Region 10 were developed using the Atlas of Canada National Frameworks Hydrology, at the 1:1,000,000 scale. These data are available from <http://www.geogratis.cgdi.gc.ca>. The Drainage Network Skeleton (canadskel_1.shp) was used to create a geometric network and this was traced upstream, selecting the applicable lines. A relationship was established via attribute values to the corresponding catchments, and the catchment areas were merged together to define the drainage areas.

Additionally, the Prairie Farm Rehabilitation Administration (PFRA) Watershed Dataset was used. This dataset was mostly developed at 1:50,000 scale, and is available at http://www.agr.gc.ca/pfra/gis/gwshed_e.htm. This data set was used to define the noncontributing drainage areas, which were subsequently removed from the catchment areas.

Release Note 1/25/2006 – Catchment errors

Flowline with a comid of 22847207 (yellow center – 163 meters long) shouldn't be in the flow table. The blue flowlines connected to it are not in the flow table. The flowtable says that it flows into the highlighted yellow flowline to the right which is in error. As it stands now this flowline and adjacent isolated flowlines are all part of the catchment for the headwater flowline just to the right of it.



Release Note 1/25/2006 – Headwater Node Catchment errors

Headwater node catchment areas were not calculated for some (typically very short) headwater flowlines. This is expected for very short headwater flowlines, however, it was discovered that a small percentage of headwater flowlines (about 0.1 percent) that should have received headwater catchments did not. The problem was corrected and fixed prior to the determination of the production of the headwater-node-areas files, but not before stream slopes and other flow characteristics were determined. In these cases a slope of zero was assigned and the flow characteristics were determined based on regression equations that assumed that the slope of the reach is unknown.