

USGS National Hydrography Dataset Newsletter

Vol. 17, No. 2, February 2018

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NHDPlus High Resolution Beta Production Status Update

Contacts: Becci Anderson (rdanderson@usgs.gov), Al Rea (ahrea@usgs.gov), Sue Buto (sbuto@usgs.gov)

When the decision was made to classify the first NHDPlus HR datasets as “Beta”, it was for a good reason. The tools, processes, and workflows for NHDPlus HR have been created, tweaked, and improved on-the-fly while building the first datasets. This was necessary to allow users access to data as soon as it was built, but this method has consequences for production at times.

Over the last seven months, the NHDPlus HR team has identified several bugs in the proprietary code the NHDPlus HR data production software tools are built upon. The bugs were introduced during a software upgrade necessitated by security requirements.

In order to mitigate these bugs, **NHDPlus HR Beta production was paused to review both the data and tools**. In the review, it was found that data produced since August 2017 contained errors and would need to be recreated with properly functioning tools. Affected datasets already in distribution were pulled back and affected datasets not yet released were held back from dissemination.

After thorough testing, we are confident that all of the known bugs in the tools have been mitigated with the exception of a known problem with the proprietary code supporting production of the flow accumulation raster, fac.tif.

NHDPlus HR Beta data production has resumed and dissemination will begin once the recreated data have been reviewed, but recreated data may not contain the flow accumulation raster, fac.tif, due to the issues with the proprietary code supporting that NHDPlus HR production tool. When the issue is fully resolved, a data update for these processing units will be posted on the [NHDPlus HR webpage](#).

Affected Datasets

The following hydrologic units were impacted and are currently being processed (information organized by Hydrologic Region):

- 0301, 0307, 0308, 0309, 031, 0314, 0317
- 041504*
- 0508, 0509, 0513
- 0714*
- 1102, 1103, 1106, 1109, 1110, 1111, 1112, 1113, 1114
- 19020401, 19020402, 19020501, 19020502, 19020503, 19020504, 19020505

** Released publicly, and later retracted when errors were discovered.*

Please continue to check the newsletter and NHDPlus HR webpage for the status of data, the general processing order, known errors, and any other announcements.

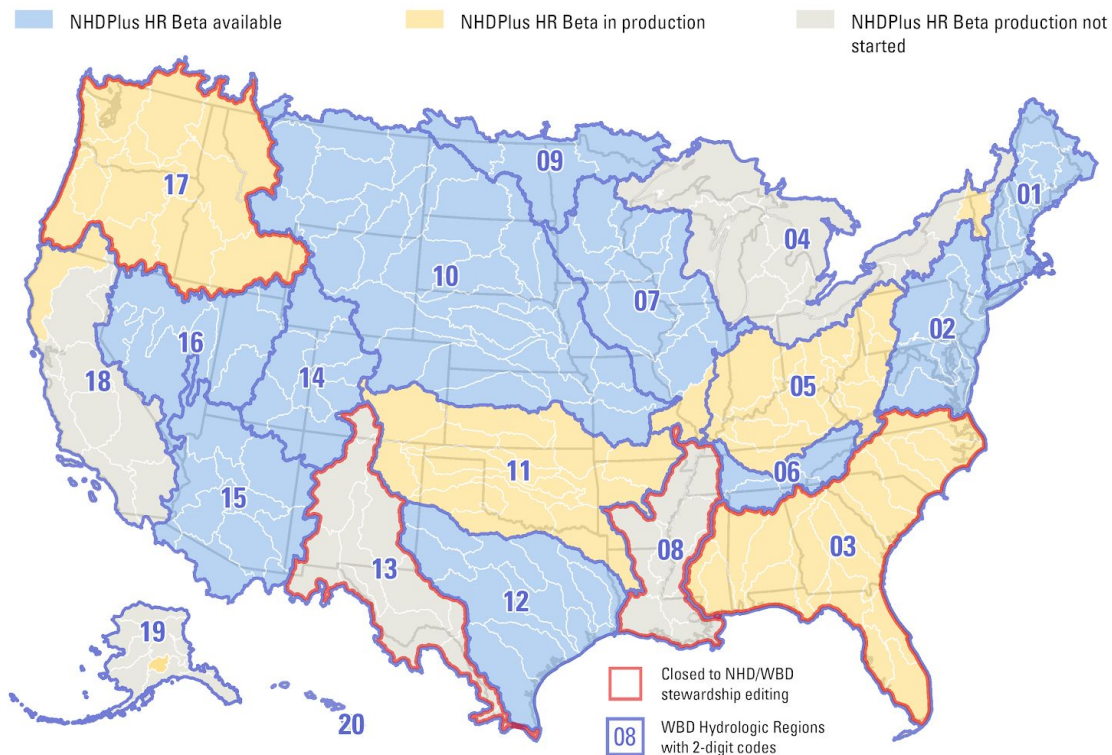
Thanks to the NHDPlus HR team who has spent countless hours tracking down these issues and sticking with the process to find a solution. Thanks also for the community's support and patience while we work through the creation of this dataset!

NHDPlus HR Availability

Contact: Phil Rufe (prufe@usgs.gov)

The map below provides a general overview of NHDPlus HR availability. This status map is updated frequently on the "Where is NHDPlus HR Available?" section of the [NHDPlus HR webpage](#).

- **Blue areas** - NHDPlus HR Beta is currently available and Beta QC is either in process or completed for these areas. Please see the [NHDPlus HR Beta QC](#) section of the [NHDPlus HR webpage](#).
- **Yellow areas** - The NHDPlus HR Beta is in production and the USGS is currently seeking volunteers for the upcoming Beta QC for these areas. Please see the [NHDPlus HR Beta QC](#) section of the [NHDPlus HR webpage](#) for more information. Please contact the [NHD/WBD Point of Contact](#) in your area for more information on the status of NHD and WBD editing in these areas.
- **Gray areas** - NHDPlus HR Beta will be produced at a later date. Please see the general processing schedule on the [NHDPlus HR webpage](#) for more information. These areas are currently open for NHD and WBD editing.
- **Red outline** - These areas are currently closed to NHD and WBD editing. Please contact the [NHD/WBD Point of Contact](#) in your area for more information.



U.S. Department of the Interior
U.S. Geological Survey

Date updated: 2/20/2018

NHDPlus HR Ingredient Dataset Status - Network Improvement Project

Contact: Hannah Boggs (hboggs@usgs.gov)

The Network Improvement Project is identifying and correcting network and data quality issues in the NHD. One of the key drivers for this work is to provide data ready for the production of NHDPlus HR. Coordination with appropriate NHD POCs will begin prior to review. **Please Note: For all areas listed below, all new data will go through the QA/QC process as it becomes available.**

Network Improvement - Work Completed

- Regions - 01, 02, 05, 06, 07, 09, 10, 11, 12, 14, 15, 16, 20, 21, and 22
- Pilot areas - 0903, 041504, 1902

Network Improvement - Currently In Work

- Regions - 03, 08, 13, 17

Network Improvement - Future Work (in priority order)

- Regions - 04, 18, and 19

NHDPlus HR Ingredient Dataset Status - WBD 4-digit Improvement Project

Contacts: Kimberly Jones (kjones@usgs.gov), Lily Niknami (lniknami@usgs.gov)

The WBD 4-digit Improvement Project is identifying and correcting hydrologic boundary issues in the WBD at the 4-digit level in support of the production of NHDPlus HR. Instances where the NHD and WBD intersect are being reviewed and invalid intersections are being addressed when appropriate. All proposed major updates to the WBD will be coordinated with the appropriate WBD state steward prior to implementation.

WBD 4-digit Improvement - Work Completed

- Regions - 01, 02, 03, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16 and 17
- Pilot areas - 0903, 041504, 190204, and 190205

WBD 4-digit Improvement - Currently In Work

- Regions - 04 and 18

WBD 4-digit Improvement - Future Work

- Regions - 19, 20, 21 and 22
 - Mexico contributing hydrologic units in Region 13
-

Hydrography Tool Updates

The USGS is pleased to announce the release of tool updates for ArcGIS 10.5.1 - NHD Update Tool, WBD Update Tool, and HEM Tool. We strongly encourage users to begin upgrading to ArcGIS 10.5.1 to use the new tool version.

Important Reminder! When upgrading your ArcGIS version, you must uninstall all USGS tools prior to uninstalling ArcMap. This prevents a known problem within the Windows registry. Please refer to the tool installation instructions for each tool for additional information.

Release of the NHD Update Tool for ArcGIS 10.5.1

Contacts: Cynthia Ritmiller (critmiller@usgs.gov) or Kristiana Elite (keelite@usgs.gov)

The USGS is pleased to announce the release of the NHD Update Tool version 6.5.0.0 for ArcGIS 10.5.1. This version was a straight upgrade (no code changes) and has gone through our standard testing procedures.

The software can be downloaded using the link below on the Hydrographic Data Community (HDC). If you do not have access to HDC please contact [Lily Niknami](#). The software will no longer be available through the NHD/WBD Stewardship websites.

<https://my.usgs.gov/confluence/display/hdc/NHD+Software+Downloads>

Release of the WBD Update Tool for ArcGIS 10.5.1

Contact: Lily Niknami (lniknami@usgs.gov)

The USGS is pleased to announce the release of the WBD Update Tool version 2.7.0.1 for ArcGIS 10.5.1. This version includes some minor code changes and has gone through our standard testing procedures. For additional information about tool changes, please read the release notes within the software folder.

The software can be downloaded using the link below on the Hydrographic Data Community (HDC). If you do not have access to HDC please contact [Lily Niknami](#). The software will no longer be available through the NHD/WBD Stewardship websites.

<https://my.usgs.gov/confluence/display/hdc/WBD+Software+Downloads>

Release of the HEM Tool for ArcGIS 10.5.1

Contact: Michael Tinker (mdtinker@usgs.gov)

Hydrography Event Management (HEM) 2.10.0.1 for ArcGIS 10.5.1 is officially released! This release is a straight upgrade from version 2.9 for Arc 10.5.1. For this release there were no enhancements or other bug fixes to the tool.

The HEM Tool provides full functionality for adding, editing, and tracking events indexed to the NHD. Events are external scientific data linked to the NHD by the ReachCode and measure of the NHDFlowlines. The ability to link external scientific information to the NHD is central to the NHD model. HEM tool can index point and line events to NHD flowlines, and index polygonal area events to NHD waterbodies. HEM events utilize the NHD schema and follow the NHD metadata model, so event history and edits can be tracked. The tool also provides network measuring capabilities to determine distances through the NHDFlowline network.

We also have stable versions of HEM for Arc 10.3.1 and 10.5.0. As always, the latest version of HEM is always available at the NHD core website @ <https://nhd.usgs.gov/tools.html>

To learn more about HEM, or to get versions of HEM for earlier version of ArcGIS, please contact Michael Tinker, mdtinker@usgs.gov.

Identifying Collection of Lidar/IfSAR Derived or Determined Data

Contact: David Anderson (danderson@usgs.gov)

The USGS and NHD users are interested in having the ability to identify hydrography collected via derived or determined methods using lidar or IfSAR (Interferometric Synthetic Aperture Radar) data. Data derived from lidar or IfSAR are created directly from the elevation data using an algorithm. Breaklines derived from lidar or IfSAR and modified using orthoimagery or some other remotely sensed data is an example of determined hydrography data.

Most of the areas in the NHD with streams created via derived or determined methods have been ingested using NHD GeoConflation tools within small areas because of the density of derived hydrography. Many stewards are interested in performing maintenance and updates to the NHD using lidar determined data as the quantity and quality of lidar information increases over the next several years.

To help USGS and users identify these areas, please note the use of lidar and IfSAR in hydrographic collection of your metadata. For the NHD, users should include dates flown, elevation projection data, and level of use (i.e. derived or determined) as part of the feature level metadata (Process Description and Horizontal Accuracy Report) and included as source citation information used by editors.

Hydrography Photo of the Month

This month's photo, by Roger Barlow, is of Palouse Falls in Washington state, not far from the Palouse River-Snake River confluence.

We'd love to see photos of the hydrology near you or from your travels! Please send submissions to Becci Anderson (rdanderson@usgs.gov). Check out current and past photos on the [Photo of the Month webpage](#).



Hydrography Quiz

Congratulations to **David Straub** as the first to respond to November's quiz with the correct answer - the **Duck River**! David is the Science Chief for the Environmental Health Section of the USGS Ohio-Kentucky-Indiana Water Science Center. Congrats, Dave!

Thanks to our other respondents for playing along: Jim Sherwood, Evan Hammer, Wesley Turner, Jon Becker, Stephanie Kula, Larry Stanislawski, Baron Howe, Marc Weber, Becca Conklin, Laurie Morgan, Hilaire Bojonell, and Sterling Overturf.

This Month's Quiz, by Alex Kaufman (akaufman@usgs.gov): This river was renamed for royalty and flows near a historical location related to the Civil War. Which river is it?



Send your answers with an email subject including the phrase “Hydro Quiz” to Becci Anderson (rdanderson@usgs.gov). Happy hydro hunting!

Upcoming USGS Hydrography Calls, Trainings, and Meetings

Date	Time	Event
3/21	12:00 pm ET	Intro to MyUSGS Confluence Collaboration Toolset
3/22	10:30 am ET	NHD Update Tools Training (QC) Part 2
3/27	1:00 pm ET	NHD/WBD Advisory Call
3/29	12:00 pm ET	WBD Tool Training

To be added to the NHD/WBD Advisory Call email list, please contact Becci Anderson (rdanderson@usgs.gov). For more information on technical exchange meetings and trainings, please see the [Hydrographic Data Community \(HDC\)](#) site. For access to the HDC site, please contact Lily Niknami (lniknami@usgs.gov).

Thank you to this month's USGS National Hydrography Dataset Newsletter contributors:

Cynthia Ritmiller, Mike Tinker, Phil Rufe, Hannah Boggs, Kimberly Jones, Lily Niknami, David Anderson, Roger Barlow, Alex Kaufman, Al Rea, Susan Buto, and Becci Anderson.

Join Our Community!

For more information, to sign up for the newsletter, or to contribute, please contact Becci Anderson, USGS National Hydrography Co-Lead, at rdanderson@usgs.gov.

Visit us anytime at nhd.usgs.gov and follow us on Twitter [@USGSNHD](https://twitter.com/USGSNHD)

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