

# USGS National Hydrography Dataset Newsletter

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## Congratulations, Thank You, and Goodbye to Ellen Finelli!

Congratulations, goodbye, and thank you to Ellen Finelli, USGS National Geospatial Technical Operations Center (NGTOC) Senior Hydrography Project Lead, who retired on October 28th. We would like to express our gratitude to Ellen for all she has done for USGS Hydrography. Ellen spent her career dedicated to mapping at the USGS. Most recently, we have her to thank for helping to bring the NHDPlus High Resolution to fruition, but she leaves a lengthy and deep legacy.

After a brief stint with the Department of Agriculture as a cartography student and completing her Bachelor degree in Cartography from George Washington University, Ellen joined the USGS, and we were lucky that she liked it enough to stick around for 37 years! There are few people more knowledgeable about the history and background of the National Hydrography Dataset (NHD) because Ellen helped to create it. Ellen started out producing Digital Line Graphs (DLG), and a few years later moved to a research position to work with the DLG-Enhanced product and the DLG-Feature, both of which were precursors to the NHD. Working with the Environmental Protection Agency to combine the best of the USGS DLGs and the EPA reach files, she was a part of the team that collaboratively defined the NHD feature templates with feature types, attributes, and values, as well as the modeling constructs such as Artificial Paths supporting the need to model flow. In a nod to Ellen's flexibility and ability to take on virtually any project, she also worked with the USGS Central Region Geospatial Information Office as the Science Information and Library Services Chief, where she managed the Denver Library and the Science Information teams in Denver, CO and Rolla, MO. Throughout her career, Ellen has played a leadership role within USGS Production Operations & Research. In her latest and final role at USGS, Ellen worked closely with NGTOC Operations and Research, reporting directly to the Center Chief and coordinating all hydrography work at NGTOC and across to the National Hydrography Co-Leads, national WBD Team Lead, and USGS User Engagement Water Resources Community of Use Lead. Although this was a challenging position it was also her most rewarding.

Those of us who worked with Ellen will miss her leadership, determination, passion, perspective, and most of all, her fantastic sense of humor and tireless pursuit of excellence. No one could make mapping water more fun. We will miss you, Ellen!

- *Becci, Al, Sue, Steve, and the USGS Hydrography Team*

## A Thank you and Goodbye from Ellen...

It has been an honor and privilege to work as a USGS Cartographer over the last 37 years of my federal career. I have been very fortunate to have had the opportunity to work primarily within the hydrography program in support of the National Hydrography Dataset. I am looking forward to my new adventures as I enter into retirement on October 28th. Again, I am very grateful and appreciate the support, guidance, assistance and friendships provided over the years.

I wish you all and this organization a bright future and thank each one of you once again.

- *With gratitude and respect, Ellen*

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## Migration of NHD and WBD Web-Based Map Services to the Cloud

Contact: Ariel Doumbouya ([atdoumbouya@usgs.gov](mailto:atdoumbouya@usgs.gov))

***As part of an ongoing effort to improve performance and reliability for the suite of USGS Hydrography web-based map services, the USGS is migrating the National Hydrography Dataset and Watershed Boundary Dataset services to a Cloud location.***

National Hydrography Dataset (NHD) and Watershed Boundary Dataset (WBD) dynamic web-based map services currently served directly from USGS endpoints are migrating to [new Cloud endpoints](#). The migration will improve performance and reliability while keeping separate and independently consumable NHD and WBD services. These new Cloud endpoints also provide a more logical hierarchy for accessing [USGS Hydrography web-based map services](#). This change will impact applications presently consuming the NHD and WBD layers from the previous service addresses.

USGS will provide a transition period until December 31st, 2017. The previous endpoints from USGS servers will continue to be publicly accessible during this transition period. Users will need to use the new Cloud service endpoints to access the NHD or WBD dynamic services after the transition period ends. In addition, users consuming the services from the previous endpoints will need to update application configurations for display of the desired layers.

An announcement will be posted in the “What’s New” section on the [The National Map website](#) and information related to services on the [“Links to Data Products and Map Services”](#) page of the USGS Hydrography website will document these changes.

### **Summary of changes to National Map Hydrography service endpoints**

New USGS Hydrography web-based map service Cloud endpoints:

<https://hydro.nationalmap.gov/arcgis/rest/services>

### **National Hydrography Dataset**

- Function: Provides national hydrography data at 1:288,000 scale and below.
- Previous Endpoint: <https://services.nationalmap.gov/arcgis/rest/services/nhd/MapServer>
- New Cloud Endpoint: <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer>
  - This new NHD endpoint no longer contains a (0) National Hydrography Dataset layer.
  - All other layers options remain unchanged, other than layer ordering/numbering.
  - Reference above endpoint for full descriptions of layer ordering.

### Watershed Boundary Dataset

- Function: Provides watershed boundary data at 1:74,000,000 scale and below.
- Previous Endpoint: <https://services.nationalmap.gov/arcgis/rest/services/wbd/MapServer>
- New Cloud Endpoint: <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer>
  - This new WBD endpoint no longer contains a (0) Watershed Boundary Dataset layer.
  - All other layers options remain unchanged, other than layer ordering/numbering. Please see links above for full descriptions of layer ordering.
  - Reference above endpoint for full descriptions of layer ordering.

### Hydrography (cached)

- Function: Provides a fast USGS Topo styled hydrography overlay at 1:74,000,000 to 1:9,000 scale.
- Endpoint: <https://basemap.nationalmap.gov/arcgis/rest/services/USGSHydroCached/MapServer>
- This service was announced and made public March 2017 and is also available as a WMTS service.
- No changes to endpoint.

For ArcGIS Online web maps using the service endpoints, the [ArcGIS Online Assistant](#) can be used to update to the new Cloud service endpoints. Please note, however, that any layer customizations, such as pop up configurations, will need to be redone because of the changes to layer numbering. To ease the transition, it may be useful to create a copy of the web map with the previous service endpoint layer customizations for comparison when redoing customizations for the new Cloud endpoints. This step must take place prior to the retirement of the service endpoints. Once the service endpoints are retired on December 31, all applications using them will cease to function and customizations will no longer be viewable in the web map.

For any questions, comments, or concerns regarding this update, please contact Ariel Doumbouya ([atdoubouya@usgs.gov](mailto:atdoubouya@usgs.gov)).

## Opportunity to Test the New NHD/WBD Hydro Maintenance Portal

Contact: *Kristiana Elite* ([keelite@usgs.gov](mailto:keelite@usgs.gov))

The USGS is preparing to release the new and improved NHD/WBD Stewardship website, which we are rebranding as the “Hydrography Maintenance Portal”. If you are an NHD or WBD partner, you are probably familiar with the existing NHD/WBD Stewardship website as your portal for accessing NHD/WBD data for editing and maintenance. Prior to the formal release of the new Hydro Maintenance Portal, we would like to invite a small group of NHD and WBD partners to test website functionality and provide feedback. For testing, partners will use the Hydro Maintenance Portal as they would normally use the existing Stewardship website,

such as checking out data, generating reports etc. If you would like to volunteer to test the new Hydro Maintenance Portal, we would love your help! Please contact Kristiana Elite ([keelite@usgs.gov](mailto:keelite@usgs.gov)) to express your interest. The group will be formed from the first ten users to respond.

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## Updated Naming Conventions for Hydrography Datasets

Contact: Andy Stauffer ([astauffer@usgs.gov](mailto:astauffer@usgs.gov))

As announced in the [February 2017 NHD Newsletter](#), the USGS will be making minor filename changes to the NHD, WBD, NHDPlus High Resolution products in support of standardizing file naming conventions for all National Map vector products. While the changes may be small, we anticipate impacts to users who have dependencies on the current naming conventions running within programs and scripts, and as automated downloads.

For a period of less than one week during the transition, we anticipate data products will be duplicated on data repositories including The National Map, Cloud repositories, and FTP servers, with files appearing with both the old and new file names. Data dissemination endpoints such as The National Map Download Client and ScienceBase will be unaffected by this change.

We plan to implement these name changes in early- to mid- December. The table below provides examples of the current and new naming conventions. In the hydrologic unit (HU) extracts, an HU2, HU4, or HU8 suffix will be added to the file name. For state extracts, a “State” suffix will be added.

Product	Current Naming Convention (ex.)	Proposed Naming Convention (ex.)
NHD HU8	NHD_H_10190002_GDB	NHD_H_10190002_HU8_GDB
NHD HU4	NHD_H_1019_Shape	NHD_H_1019_HU4_Shape
NHD State	NHD_H_Colorado_GDB	NHD_H_Colorado_State_GDB
WBD HU2	WBD_10_GDB	WBD_10_HU2_GDB
NHDPlus HR HU4	NHDPlus_H_1019_GDB	NHDPlus_H_1019_HU4_GDB

For more information, please contact Andy Stauffer at [astauffer@usgs.gov](mailto:astauffer@usgs.gov).

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## NHDPlus High Resolution Update

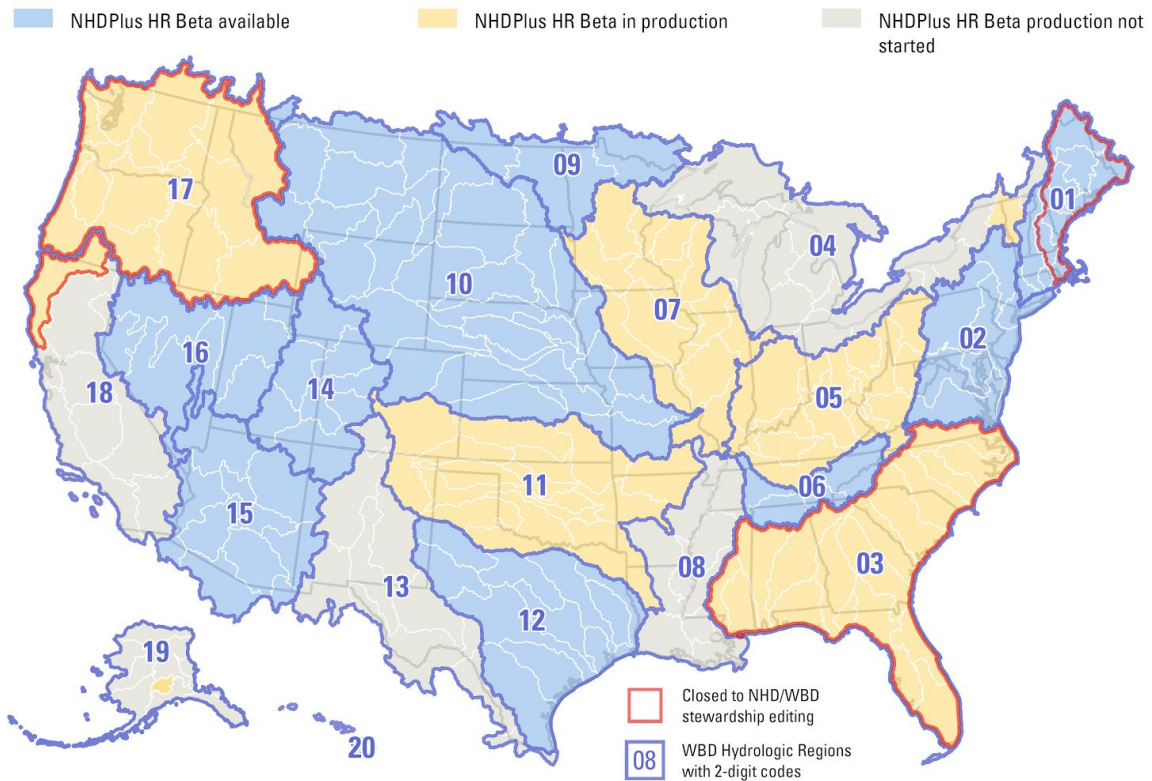
### NHDPlus HR Availability

Contact: Phil Rufe ([prufe@usgs.gov](mailto:prufe@usgs.gov))

The map below provides a general overview of the 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.

## NHDPlus High Resolution Availability



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

Date updated: 9/26/2017

## NHDPlus HR Ingredient Dataset Status - Network Improvement Project

Contact: Hannah Boggs ([hboggs@usgs.gov](mailto:hboggs@usgs.gov))

The Network Improvement Project is identifying and correcting network and data quality issues in the NHD High Resolution. 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
- Subregions - 0903, 041504, 1902

### Network Improvement - Currently In Work

- Regions - 03, 17
- Subregions - 1801

### Network Improvement - Future Work

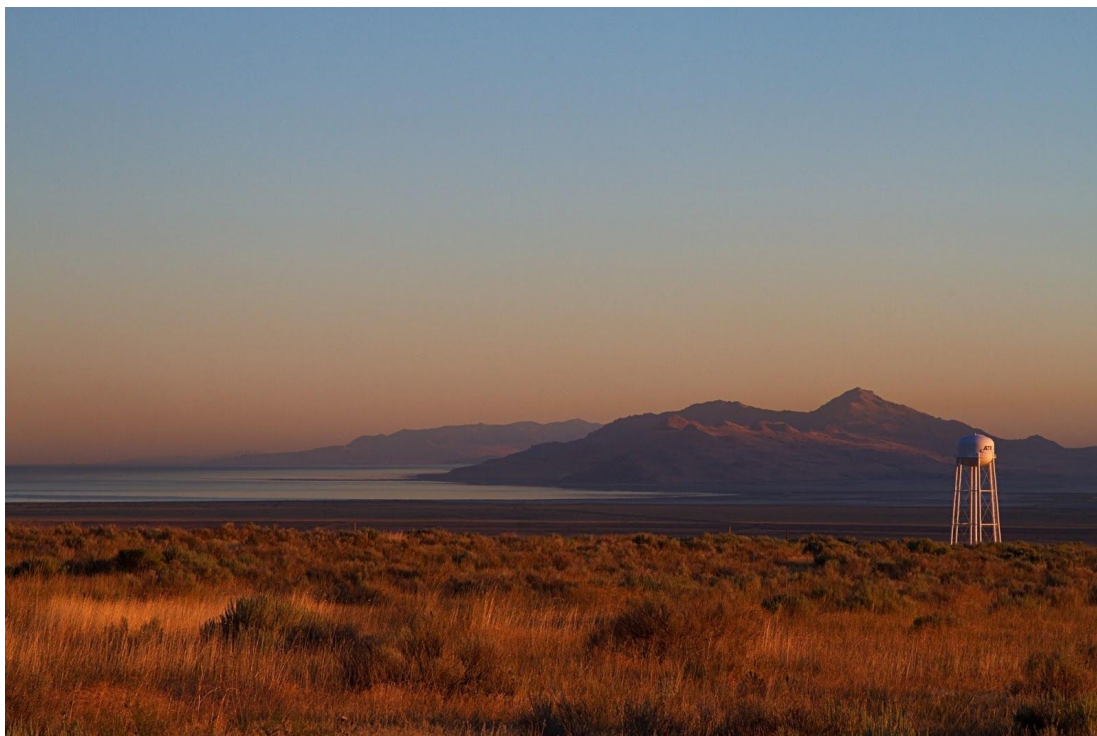
- Regions - 13, 08, 04, 18, and 19

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## Hydrography Photo of the Month

This month's photo, taken by Sue Buto, was taken south of Magna, UT looking northwest toward the Great Salt Lake (HU 1602031002).

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



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## Hydrography Quiz

Congratulations to **Dan Button** as the first to respond to last month's quiz with the correct answer - the **Kennebec River** in Maine! Dan is a Physical Scientist at the USGS Ohio Water Science Center and has been with the NAWQA (National Water-Quality Assessment) program at some capacity for over 20 years. Dan's career started with a heavy emphasis on GIS due to his interest in both landscape features, maps, water quality and computer science. Dan currently manages extensive amounts of data for the NAWQA Regional Stream-Quality Assessment team from the Midwest, Southeast, Pacific-Northwest, Northeast, and recent sampling this past year in California. Dan is interested in the impacts of toxics and nutrients on lake and stream ecosystems, serves on the Lake Erie Lakewide Management workgroup, and is a member of the USGS Water-Quality Users Group. Dan relies on the NHD Newsletter to keep informed of digital hydrology activities influencing the interpretation of water-quality data collected for NAWQA, and also the progress of identifying an NHD steward in Ohio. But, he jumps to the quiz first and foremost... to beat his current and former co-workers to the punch. Nice job, Dan!

**Thanks for playing along also go out to our other respondents:** Becca Conklin, Kim Jones, Laurie Morgan, Anji Auger, Mary Maciejowski, Stephanie Kula, Joanna Wood, Rich Moore, and Roger Barlow.

### **This Month's Quiz** *(By Lily Niknami):*

This tributary of the Missouri River winds through over 150 scenic miles of wilderness. Anglers and outdoor enthusiasts appreciate this hydrographic feature, as well as the geysers, hot springs and unique ecosystems that surround it. (photo credit: Mike Tinker)

Send your answers with an email subject including the phrase "Hydro Quiz" to Becci Anderson ([rdanderson@usgs.gov](mailto:rdanderson@usgs.gov)).

Happy hydro hunting!



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## Upcoming USGS Hydrography Calls, Trainings, and Meetings

Date	Time	Event
11/1	12:00 pm ET	NHD Technical Exchange Meeting (TEM)
11/2	10:30 am ET	NHD Basics Training
11/8	12:00 pm ET	WBD Technical Exchange Meeting (TEM)
11/16	10:30 am ET	NHD Update Tools Training (editing) Part 1
11/28	1:00 pm ET	NHD/WBD Advisory Call
11/30	10:30 am ET	NHD Update Tools Training (QC) Part 2

To be added to the NHD/WBD Advisory Call email list, please contact Becci Anderson ([rdanderson@usgs.gov](mailto: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](mailto:lniknami@usgs.gov)).

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

Al Rea, Susan Buto, Ellen Finelli, Ariel Doumbouya, Kristiana Elite, Phil Rufe, Hannah Boggs, Lily Niknami, 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](mailto:rdanderson@usgs.gov).

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

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