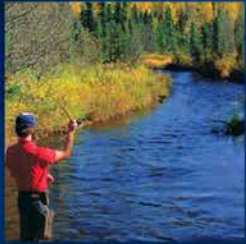


# Hydrography TWG

March 15, 2018



# Hydrography TWG

March 15, 2018

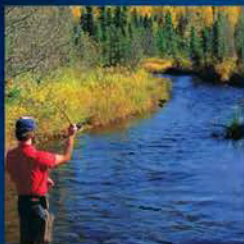
## AGENDA

- **Demonstration of NHD Web Markup Tool**
  - Cynthia Deischer, USGS
- **NHDPlusHR Update**
  - Joel Skalet, USGS
- **Other Updates**
- **Other Business**
- **Upcoming Events**
- **Next TWG**

Sept. 13, 2018



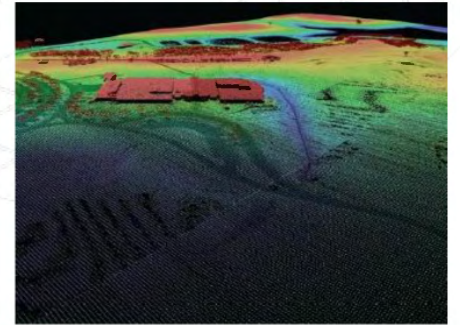
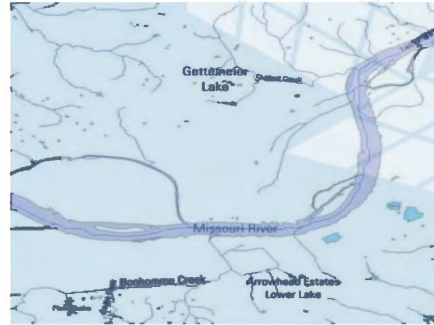
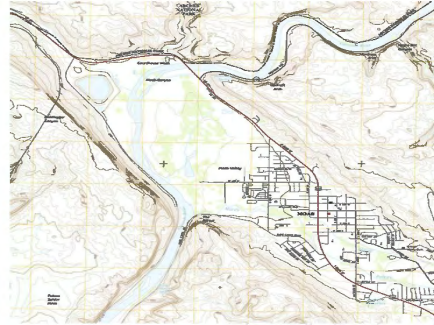
# USGS Hydro. Related Products NHDPlusHR Update



- Joel Skalet, USGS
- Cynthia Deischer, USGS

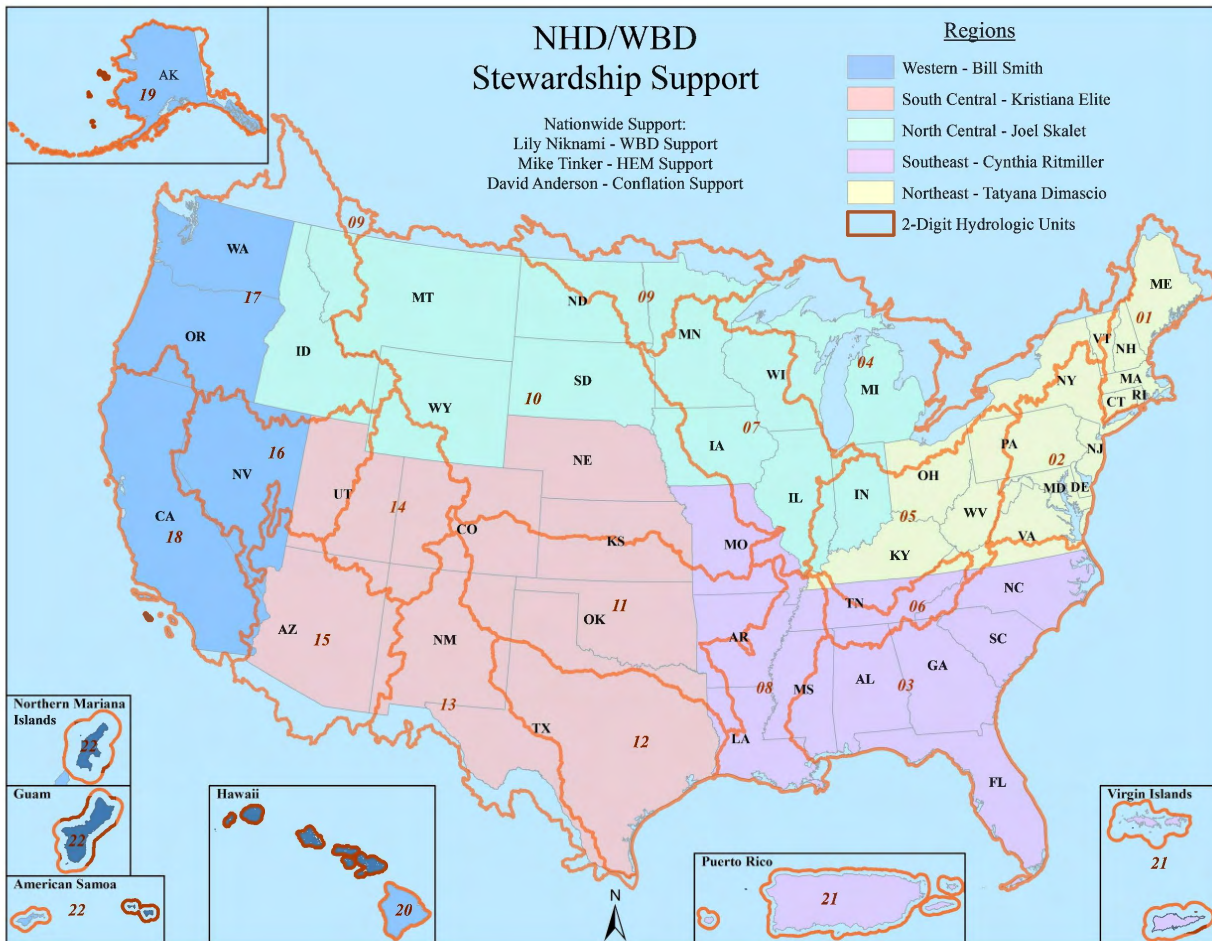


# Idaho Hydro Technical Working Group



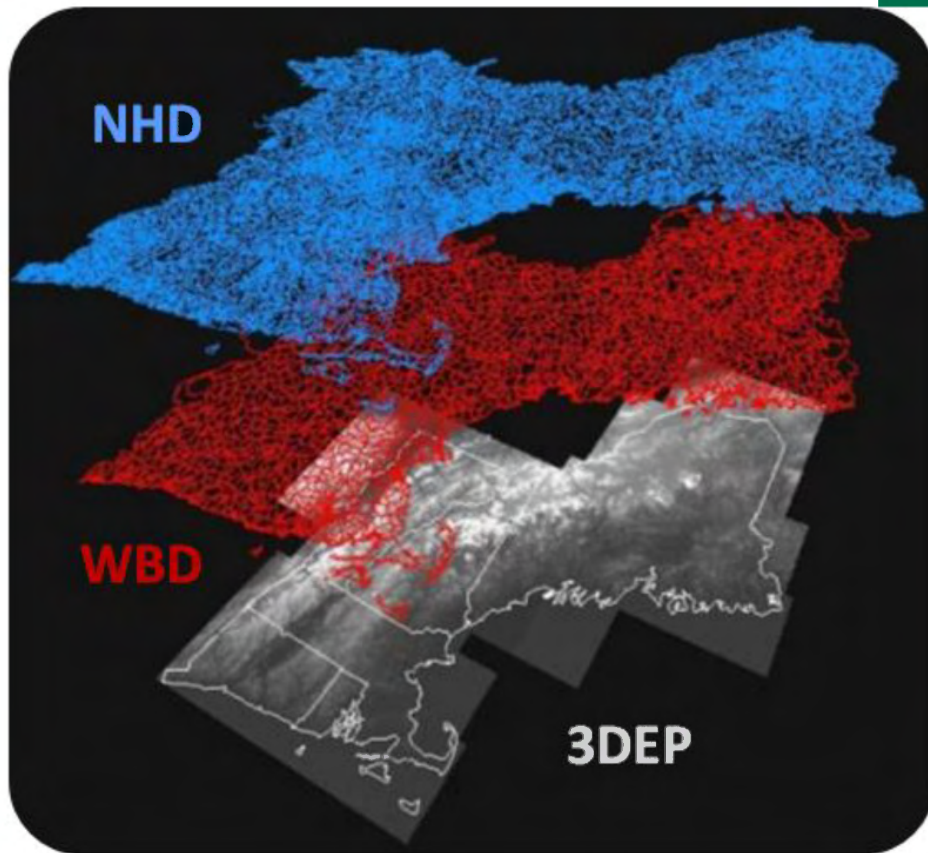
Cynthia Ritmiller & Joel Skalet  
USGS NHD Regional POC's





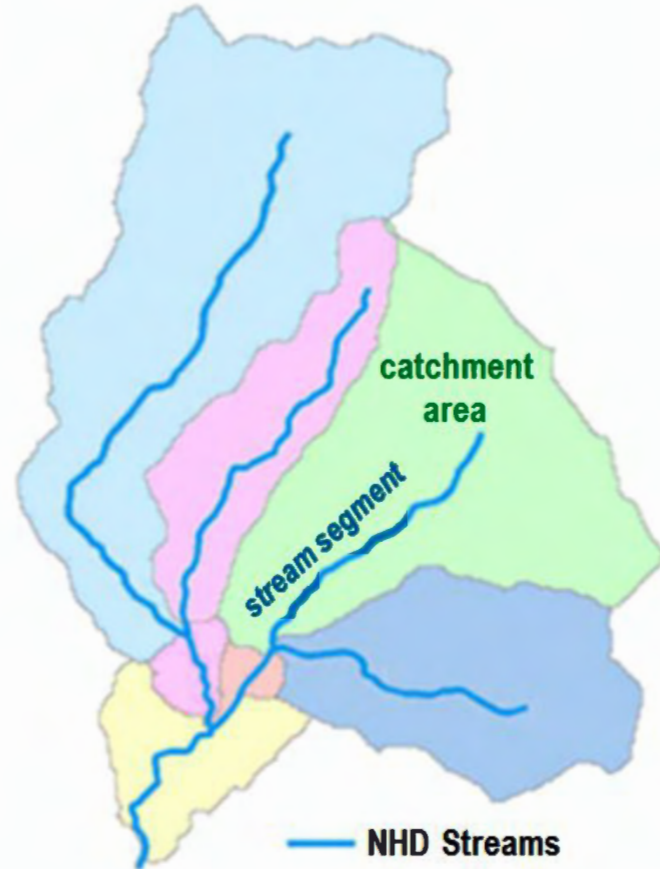
# + NHDPlus

- Incorporates NHD, WBD and elevation(3DEP) data
- NHDPlus v2 (med Res)
  - Build using NHD 1:100K
- NHDPlus High Resolution (NHDPlus HR)
  - Build using NHD 1:24K



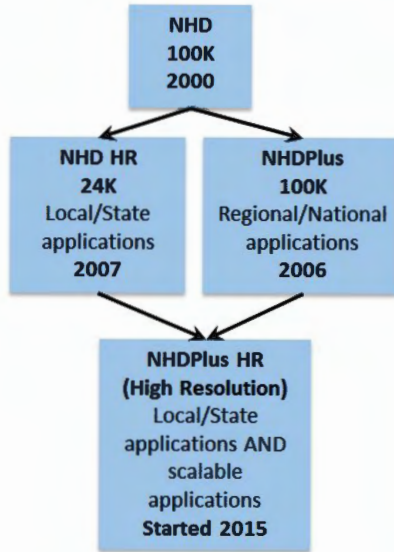
# + NHDPlus includes...

- A nationally seamless network of stream reaches
- Value-added attributes for stream network navigation and analysis
- Flow surfaces in raster format
- Elevation-based catchment areas for each stream segment that
- Create a seamless, scalable hydrologic framework
- Enable modeling of water flow across the landscape, linking terrestrial characteristics to the stream network



# + Evolution of NHDPlus HR

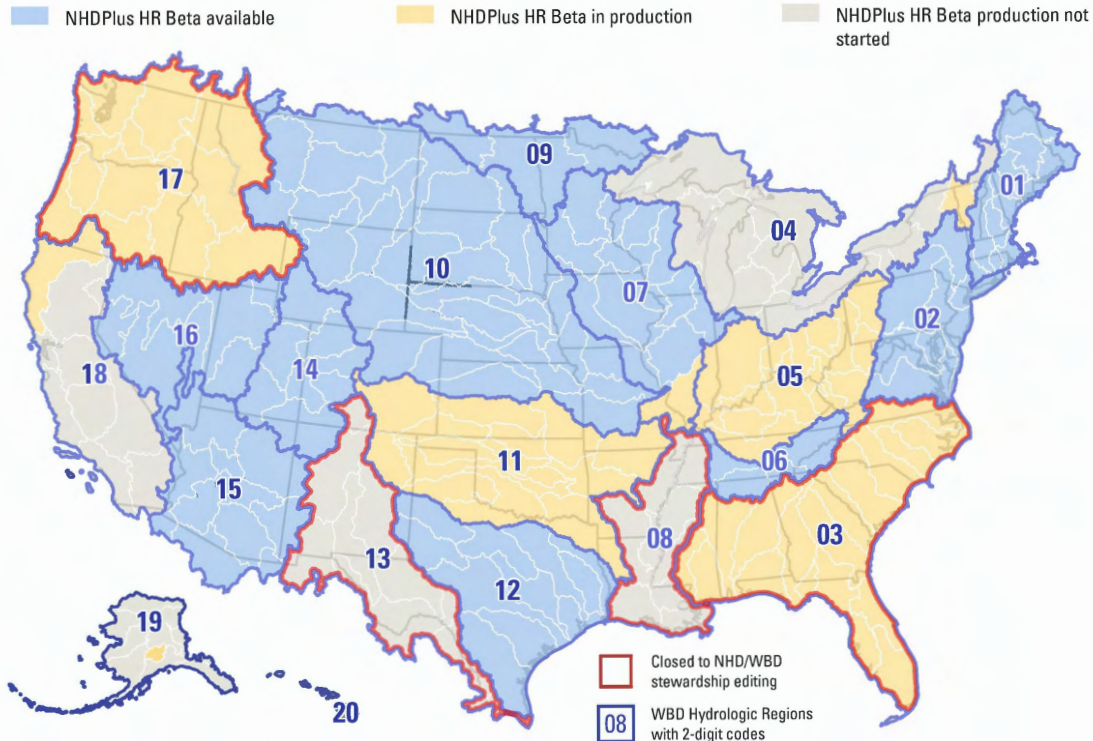
Taking NHDPlus v2 (Med Res) to a new level



- The best of NHDPlus and NHD HR (24K or better) data
- Addresses the need for a single hydrographic frame of reference
- Link data to one network and generalize to many different scales



# NHDPlus HR status



- NHDPlus HR Beta
  - Processing some of region 17 now
  - Release date approximately Oct 2018
  
- NHDPlus HR Refresh
  - Processing schedule has not been determined

# + NHDPlus HR Workflow - Build/Refresh

## Prep Components

USGS preps and QCs ingredient datasets (NHD & WBD) and delivers them to the contractor.

## Build and Deliver NHDPlus HR Beta

Contractor builds NHDPlus HR Beta using NHD, WBD and elevation data(3DEP), contractor then delivers NHDPlus HR Beta to USGS

## NHDPlus HR Beta Distribution and QC

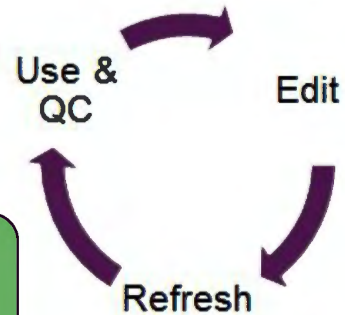
USGS distributes NHDPlus HR Beta to the public while concurrently coordinating a QC of the data

## Implement Revisions

USGS incorporates the NHDPlus HR QC results into the ingredient datasets. Beta data remains available to the public throughout this process

## Refresh and Distribute – Repeat Over Time

USGS refreshes the data by rerunning NHDPlus tools with corrected ingredient datasets, creating a “Refresh” version. The data are refreshed as needed in the future.



# NHDPlus HR Beta Schedule



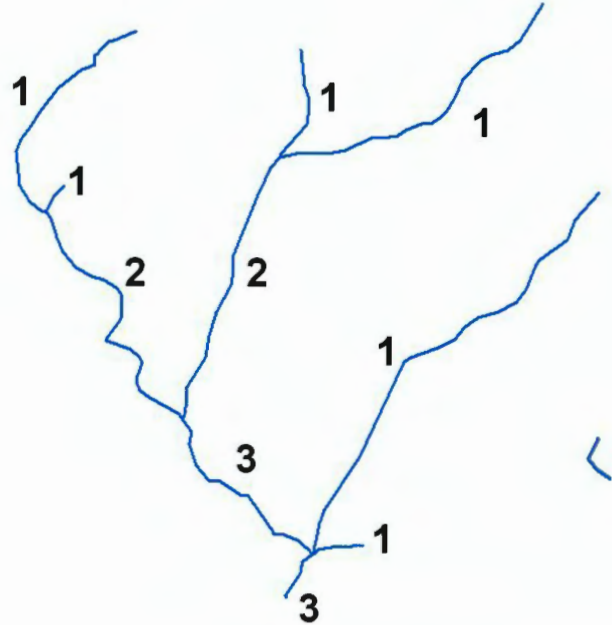
Region	Hydrologic Region	Hydrologic Network	# of HU4s
06	Tennessee	Mississippi 1 of 6	4
01	Northeast	Complete Drainage Area	10
12	Texas	Complete Drainage Area	11
14	Upper Colorado	Colorado 1 of 2	8
15	Lower Colorado	Colorado 2 of 2	8
02	Mid-Atlantic	Complete Drainage Area	6
09	<i>Canadian Pilot (0903)</i>	Pilot (Rainy River Lake of the Woods)	1
10	Missouri	Mississippi 2 of 6	29
07	Upper Mississippi	Mississippi 3 of 6	14
16	Great Basin	Complete Drainage Area	6
04	<i>Canadian Pilot (041504)</i>	Pilot (Lake Champlain)	1
09	Souris, Red, Rainy	Complete Drainage Area (less pilot)	3
05	Ohio	Mississippi 4 of 6	14
1902	<i>Alaska Pilot (1902)</i>	Pilot (MatSu)	1
11	Arkansas, Red, White	Mississippi 5 of 6	14
03	South Atlantic	Complete Drainage Area	18
17	Pacific Northwest	Complete Drainage Area	12
08	Mississippi	Mississippi 6 of 6	9
13	Rio Grande	Complete Drainage Area	9
04	Great Lakes	Complete Drainage Area	15
18	California	Complete Drainage Area	10
19	Alaska	Alaska	TBD



# + NHDPlus Value Added Attributes (VAAs)

## Strahler Stream Order

- A surrogate for stream size
- A popular analysis attribute



# + NHDPlus Demo

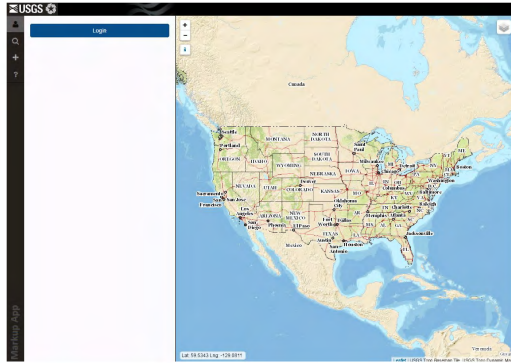
1. Download NHDPlus HR from <https://nhd.usgs.gov/data.html>

2017-04-28T10:18:43.000Z	386.6 kB	NHDPlus_H_1601.jpg
2017-04-28T10:18:43.000Z	18.4 kB	NHDPlus_H_1601.xml
2017-04-28T10:18:43.000Z	91.7 MB	NHDPlus_H_1601_GDB.zip
2017-04-28T10:18:57.000Z	1.7 GB	NHDPlus_H_1601_RASTER.7z

2. Unzip data and open in ArcMap session
3. Join NHDPlusFlowlineVAA to NHDFlowline tables using NHDPlusID
  - a. Create a dendritic network (StreamOrder = Stream Calc)
    - i. By trimming/removing minor paths
  - b. Path Length
    - i. Suggestion to symbolize by Stream Level
    - ii. Largest value PathLength the total length
    - iii. Difference in PathLen (must be upstream and downstream)

# +Markup Application (2 parts)

## Web Application



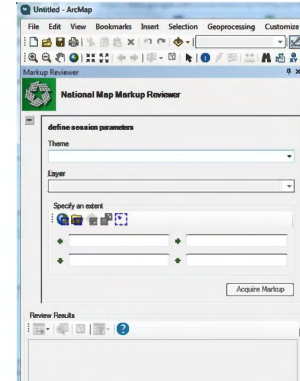
<https://edits.nationalmap.gov/markup-app>

**Users:** public, NHD and WBD editors, academia, etc.

**Purpose:**

- viewing NHD and WBD layers, and submitting markups
- creating new markups

## Desktop Application - ArcGIS Add-on



**Users:** Internal NGTOC editors, trained NHD and WBD partners only

**Purpose:**

- view markups submitted through web application
- update markup status: resolved, won't fix, in progress





# Markup Application(web) Demo

Markup App link:

<https://edits.nationalmap.gov/markup-app>



# + Markup Reviewer

- Will be for trained NHD or WBD editors.
- Add-on within ArcGIS 10.5.1

Markup Reviewer:

<https://usgs-mrs.cr.usgs.gov/MarkupReviewer/WebHelp/MarkupReviewer.htm>

# + Questions?

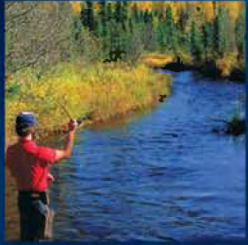
Joel Skalet [jaskalet@usgs.gov](mailto:jaskalet@usgs.gov)

Cynthia Ritmiller [critmiller@usgs.gov](mailto:critmiller@usgs.gov)



For Markup questions/feedback,  
please contact Tatyana DiMascio [tdimascio@usgs.gov](mailto:tdimascio@usgs.gov)





## Other Updates

- The National Map
  - Will be down 03/19 – 03/21. Upgrading all Dbases to ArcGIS 10.5.
  - This will affect check in/check out of NHD and WBD jobs.
- WBD Production Jobs on Hold
  - Web Application development



- Danielle Favreau, IDWR



# Other Updates

## NHD/WBD Tools Status

Editor Tools: All require ArcGIS 10.5.1

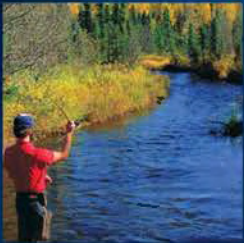
- NHD: version 6.5.0.0
- WBD: version 2.7.0.1
- GeoConflation: 3.2.0.4

Tools available from  
NHD.usgs.gov

- HEM: version 2.10.0.1
- Utilities: version 3.2.1.1
  - Network Builder Requires ArcGIS Standard or Advanced License
- Metadata Viewer: version 1.0.0.4 still at ArcGIS 10.3.1

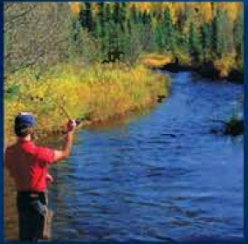


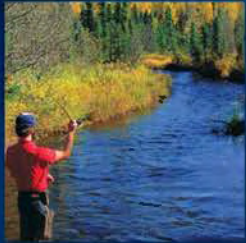
- Danielle Favreau, IDWR





# Other Business?





# Upcoming Events

- **Big Sky GeoCon**
  - April 16-20, 2018 Helena, MT
- **Maris Water Conference**
  - April 17 - 18, 2018 Tucson, AZ
- **AWRA Spring Specialty Conference – GIS and Water Resources X**
  - April 22-25, 2018 Orlando, FL
- **Geoint Symposium**
  - April 22-25, 2018 Tampa, FL
- **Northwest GIS Conference**
  - October 15-19, 2018 Bremerton, WA





Contact Information:

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[NHD.WBD@idwr.Idaho.gov](mailto:NHD.WBD@idwr.Idaho.gov)

Website Information: <http://idwr.idaho.gov/GIS/NHD/>

**NEXT TWG MEETING: Sept. 13, 2018**

