

Charted Waters

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Florida National Hydrography Dataset Stewardship Team

The Florida NHD Stewardship Team is hard at work updating the database.

With about 180,000 edits to the NHD from April through September 2014, the shift to focusing on updating smaller, targeted priority areas of the state has been beneficial to numerous scientific assessments that rely on the most accurate hydrology information available.

Latest Edits

The NHD Stewardship team has been hopping all around the state editing Florida's National Hydrography Dataset. Edits took place in the following subbasins:

St. Marys
Nassau
Upper St. Johns
Lower St. Johns
Daytona-St. Augustine
Cape Canaveral
Vero Beach
Kissimmee
Big Cypress Swamp
Caloosahatchee
Florida Southeast Coast

Crystal-Pithlachascotee
Econfina-Steinhatchee
Aucilla
Apalachee Bay-St. Marks
Lower Ochlockonee
Apalachicola
New
Apalachicola Bay
St. Andrew-St. Josephs Bays
Choctawhatchee Bay
Yellow
Blackwater
Pensacola Bay
Perdido
Perdido Bay
Lower Choctawhatchee
Escambia

From April through September 2014 alone, the NHD editors made 181, 634 modifications to the database!

These edits are available in the January statewide release of the NHD on the Florida DEP GIS ftp site, on DataMiner, and will be updated in the DEP mapping application, MapDirect, upon completion of an updated NHD interface for the application (expected in January).

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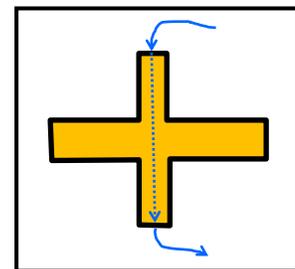
A Better NHD – We Listened

The Artificial Path plays an important role in the NHD database. It represents the continuation of flow through a larger feature.

While, by design, it is not intended to attempt to represent a true path of water through its parent feature, generally speaking the Artificial Path runs more or less down the center of most features it lies within.

In response to requests to provide information on the parent feature that the Artificial Path belongs to, we have populated a new attribute field called "Parent_Feature" to the 24K NHD Flowline feature class provided by FDEP.

When using this information, keep in mind that an irregular shaped NHD Area or NHD Waterbody doesn't include additional Artificial Paths for purposes of capturing an extent or length of each cove, finger or extension of the parent feature.



An Artificial Path Represents flow through a polygon feature

For example, if you had a canal polygon that looks like a plus sign with water entering from the top and exiting the bottom, the artificial path may run straight through from top to bottom. However, the left and right sides of the plus sign may not have artificial paths through them and the lengths of those sides would not be included in a calculation using the artificial path, Parent_Feature field = "CanalDitch".

Featured Feature – Ice Mass

Definition: A field of ice usually formed in regions of perennial frost. Ice Mass primarily consists of glaciers. May be a named feature.

Delineation: The limit of Ice Mass is the extent of the ice or snow.

Capture conditions: See Test Your Knowledge section of this newsletter

Did you know?

The NHD houses the Watershed Boundary Dataset (WBD), the federally recognized watershed boundaries.

The current NHD for Florida contains polygon feature classes for HUC 2 through HUC 12 boundaries.

In addition, there is a feature class with line work for all the HUCs. The new symbology layer has them coded according to the lowest common HUC value.

If you have a recommendation for improving the symbology layer for HUC or NHD symbols, labels or any other settings, we'd like to know!

One way is to drop a note (internally) in the NHD Requests Inbox at \\gisraid\gissub\exchange\NHD_Requests_Inbox

or send an email to

Edwin.Abbey@dep.state.fl.us

Yes, you read that correctly..... Ice Mass. Why is Ice Mass this edition's "Featured Feature"? It's a reminder that the NHD is a database to represent hydrology for the entire nation. There are a number of feature types that we don't use in Florida and a few that maybe we can start considering. But, before we start adding a bunch of "submerged streams" or "areas of complex channels" we would want to get some feedback from you, the user community, to see if they are warranted and to make sure they are included in your modelling and analysis.

Some features to consider are:

- Pipeline
- Flume
- Gate
- Levee
- Tunnel
- Area of Complex Channels
- Area to be Submerged
- Spillway
- Submerged Stream
- Wash
- Water Intake/Outflow
- Flow Alteration



An NHD Ice Mass caps Mount Saint Helens

Find more information at

http://nhd.usgs.gov/userguide.html?url=NHD_User_Guide/Feature_Catalog/NHD_Feature_Catalog.htm

So, if you see an Ice Mass in Florida and it is big enough to be added to the database (Don't forget to check out the Test Your Knowledge section!), please forward the coordinates to the stewardship team..... and send in a picture!

Improved NHD and Improved Symbology Layer



The NHD and the new symbology layer provides an incredible amount of information about Florida's surface waters.

If you are able to access the NHD through DEP DataMiner, MapDirect (anticipated to be updated in January) or download the NHD from the FDEP GIS site (<http://www.dep.state.fl.us/gis/datadir.htm>), you'll see the new symbology layer we created for the NHD.

Use the HTML tool or Hyperlink tool in ArcMap to learn more about named features or stream gages.

The display field has been updated so when you identify a feature, the identify window is more informative.

Alternate GNIS names are available and show up (with a small effort on your part) in the identify window.

Simply open the 24K NHD Flowline table, then click 'show related tables' and choose the Variant Name table once per open ArcMap session (it's an ESRI thing - if you have a workaround, please let us know!)

Check out the new options for stream gages in the 24K NHDPointEventFC. Use the hyperlink tool to look up stream gage data directly from ArcMap.

Take a look at the new Parent_Field in the 24K NHD Flowlines, the additional HUC layers and the relationships between the featureclasses and underlying tables.

And finally, the geometric network in the latest release has been improved. Try a combination of tracing upstream using Utility Network analyst, then show the related NHDAreas or NHDWaterbodies to see potential upstream sources of pollution.

Test Your Knowledge

The phrase, 'capture conditions', in the NHD Standards comes from including features that are going to be big enough to be meaningful when placed on a 1:24,000 scale map (i.e. the 24K NHD).

In a 1:24,000 scale map, 1" equals 24,000 ground inches or 2000 feet.

The NHD minimum standards for a Lake/Pond to be captured is 0.025" along the shortest axis; that means skipping a stone 50 feet across the surface to reach the other side.

So what's the test?

Remember the Featured Feature, Ice Mass? The capture conditions for Ice Mass say:

If ICE MASS is ≥ 0.0625 square inches, then capture.

Hmm, all the other conditions were based on linear measurements.

The question becomes: What is the ground measurement conversion from 0.0625 square inches at 1:24,000 scale? (In other words, how many square feet is 0.0625 square map inches?)

The answer is at the bottom of this page. Give it a try, no peeking!

Special Capture Conditions for Lake/Pond:

As a general rule, if a water body has a geometric shape or other information indicates it is contained by a constructed basin, capture it as RESERVOIR.

If it does not appear to be contained by a constructed basin, capture it as LAKE/POND.

The minimum size for islands within LAKE/POND is 0.03" along the shortest axis.

Looking Forward

The Florida NHD Stewardship team has long been recognized as one of the most active in the nation.

Few stewardship programs have staff and resources dedicated full time to maintaining and updating the NHD. We dedicated these resources because we use the NHD as an essential information resource for the state's surface water modeling, mapping and water quality assessments.

In the last several months, the stewardship team focused on finishing up the priority WBIDs, updating GNIS names and general cleanup of the database.

The next phase is to move back to full sub basin editing. With much of the sub basins already reviewed during the priority WBID reviews, we anticipate this to move along fairly quick.

GNIS names issues collected during the last several months will be processed and submitted as applicable to the USGS Board on Geographic Names.



The Florida NHD Stewardship Team

The Florida NHD Stewardship team consists of 5 talented GIS professionals working collectively to update the 24K High Resolution National Hydrography Dataset. Using aerial imagery, elevation and other digital resources, the team reviews portions of the database and updates it based on the information resources we have available. Development, natural

and manmade changes have greatly altered the original documented hydrography of the state. Maintaining the database serves a multitude of users; whether it be for having accurate cartographic representation or having proper delineation and network connections for environmental analysis and decision making.



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Answer: $x^2 = 0.0625$; $x = 0.25$; $0.25 \times 500 \text{ feet} = 125 \text{ feet}$; $125 \text{ feet} \times 12 = 1500 \text{ square feet}$