

Charted Waters

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Florida National Hydrography Dataset Stewardship Team

The Florida NHD Stewardship Team continues their hard work updating the database.

With about 120,000 edits to the NHD from October 2014 through March 2015, the team focused on reviewing and updating feature names and then comprehensive revision based on aerial imagery.

Latest Edits

The NHD Stewardship team has been busy updating feature names to match the Geographic Names Information System (GNIS) and comprehensive editing using aerial imagery. Edits took place in the following subbasins:

GNIS

Alapaha
Caloosahatchee
Chipola
Hillsborough
Little Manatee
Lower Chattahoochee
Lower St. Johns
Lower Suwannee
Manatee

Myakka
Nassau
Santa Fe
Sarasota Bay
St. Andrew-St. Joseph Bays
Upper Suwannee
Waccasassa
Withlacoochee
Pea
St. Marys

AERIAL IMAGERY

Alafia
Aucilla
Big Cypress Swamp
Blackwater
Everglades

Florida Bay-Florida Keys
Florida Southeast Coast
Lake Okeechobee
Lower Suwannee
Pensacola Bay
Perdido
Upper St. Johns
Western Okeechobee Inflow

These edits (120,000!) are available in the May statewide release of the NHD on the Florida DEP GIS ftp site, on DataMiner, and in the DEP mapping application, MapDirect.

Bays Update

Over the last year or so, the Florida NHD stewardship team embarked on a journey around the state's coast in an attempt to add missing bays to the database. Much to the chagrin of the editors, no travel authorizations were needed to be signed for this journey. This digital road-trip was made from behind our computer monitors in the comfort of our offices in Tallahassee.

When we started the project, there were fewer than 100 bays in the Florida NHD database. We had identified a federal dataset that had about 375 bays that could be added. But because the boundaries need to align with existing NHD features, adding the bays wasn't a matter of simply copying and pasting the information from one database into another. Each bay had to be added manually and fol-



Bays now in the Florida NHD

low the topology rules of the NHD.

Along the way, the editors picked up some hitchhikers.... about 300 of them! Additional missing bays were found during the effort to update GNIS names. The most recent release of the Florida NHD now has close to 800 bays in it. However, not all of the bays occur in salt water; several named coves found in lakes and rivers were also added as bays.

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Did you know?

The National Map horizontal accuracy standard for the NHD 24K database (1:24,000 scale) states that not more than 10 percent of the points tested can be in error of greater than 40 feet.

The original feature geometries of the NHD were inherited from the US topological maps. Subsequent editing or adding of new features must also follow the accuracy standard.

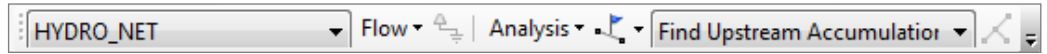
To help ensure the standard is kept, the Florida NHD stewardship team edits features at a much larger scale, typically around 1:3,500. This level of detail could qualify the Florida 24K NHD to be reclassified as a Local resolution database, however, because not every feature has been scrutinized to this extent yet, we continue to consider it a 24K database.

Find more information about NHD features at:

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

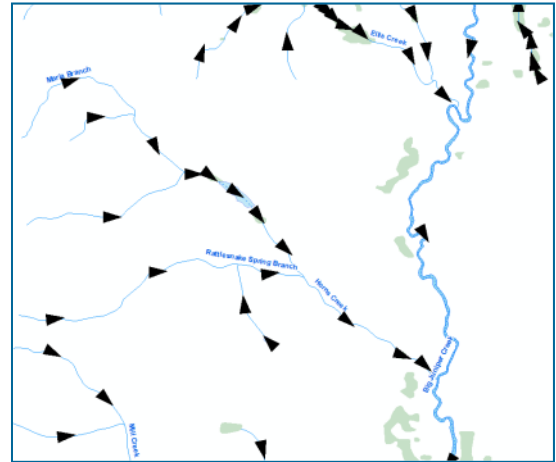
Featured Feature — The NHD Hydro Network

Behind the scenes in the NHD database is a geometric network that contains the assigned flow direction for NHDFlowline features within the database. When you use Utility Network Analyst in ArcMap on the NHD, this is the network that appears in the drop-down box. Turning



on arrows from the Utility Network Analyst toolbar will display the direction of flow.

Networks are described by the patterns seen within the network. Most hydrological networks are Dendritic (from *déndron*, the Greek word for 'tree'.) However, some portions of Florida's hydrology do not follow this branching pattern. Below is a chart of the different network types.



Arrows depict flow direction in the NHD

Network Types

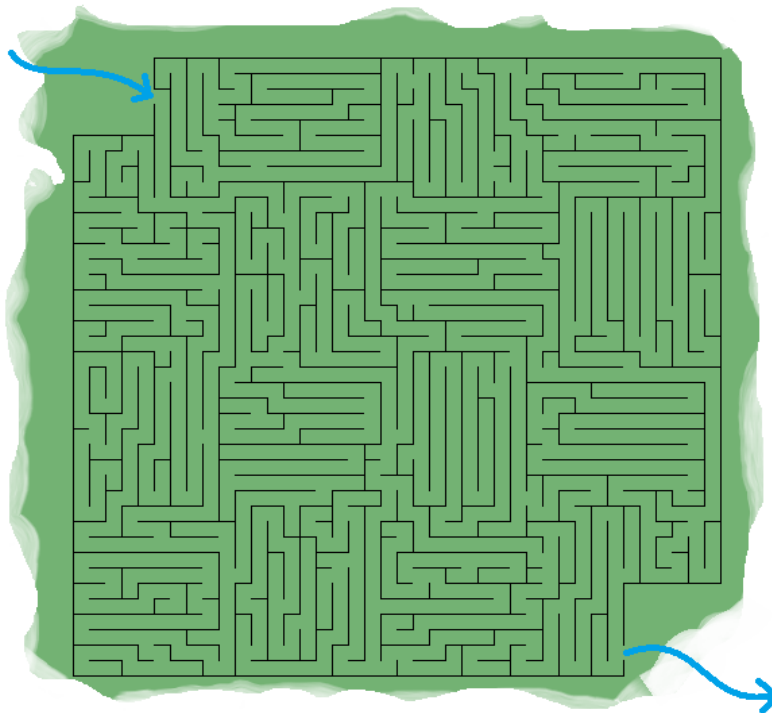
Pattern	Description	Controlling Influences
Dendritic	Random, tree-like branches	Flat-lying sedimentary or homogeneous rock
Trellis	Long subsequent streams with short tributaries	Developed in folded rocks of varying strengths
Multibasinal, Centripetal	Stream flow toward one or more central region	Interior drainage (sinks), Karst
Deranged	Interrupted by swamps and lakes	Glaciated regions
Annular	Accurate subsequent stream with short tributaries	Eroded dome or basin containing rocks of varying resistances
Radial	Tributaries radiate away from a central region	Central highland
Rectangular	Tributaries make right angle bends	Jointed or faulted bedrock
Barbed	One or more tributaries enter at an angle >90%	Captured drainage
Braided	Multiple interconnected channels separated by braid bars	Sediment load

Find The Flow Of Water Through The Swamp

You have probably seen this in the NHD: a river flows into a swamp, disappears, and then appears again as it leaves out of the swamp. An Artificial Path forms the connection between the two river segments. The Artificial Path represents the flow going through the swamp without actually identifying a true path of the water.

An NHD editor reviewing the sub basin might be able to determine the path, though, using a combination of current and historical aerial imagery, and possibly even LiDAR if it's available. The Artificial Path could then be converted to a feature with known geometry like a StreamRiver or CanalDitch.

See if you can help the editor and find the path of water through the swamp here.



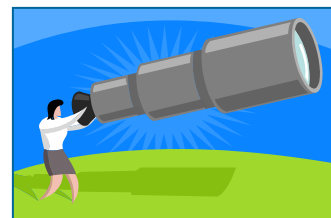
Looking Forward

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 transitioned 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 quickly.

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



The Florida NHD Stewardship Team

The Florida NHD Stewardship team currently consists of 4 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 best information 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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