



# US Geological Survey Data, Research, & Resources in North Carolina

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USGS SAWSC

WRII: Freshwater in the North Carolina Coastal Plain  
February 16, 2016

## South Atlantic Water Science Center: North Carolina – South Carolina – Georgia



[nc.water.usgs.gov](http://nc.water.usgs.gov)

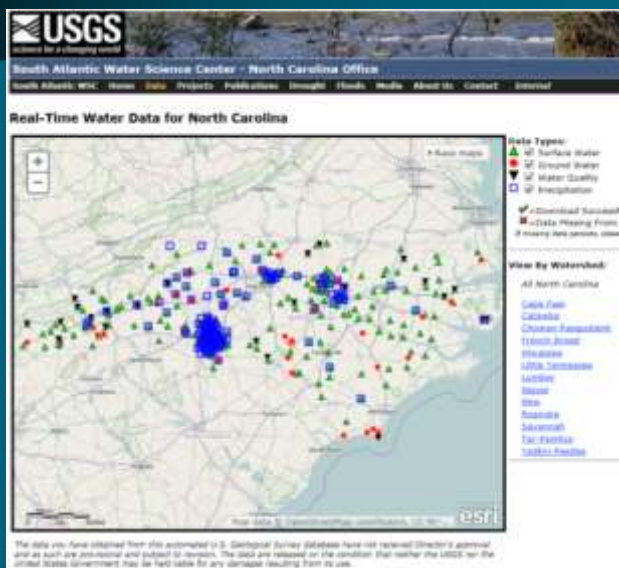


## USGS - Who Are We?

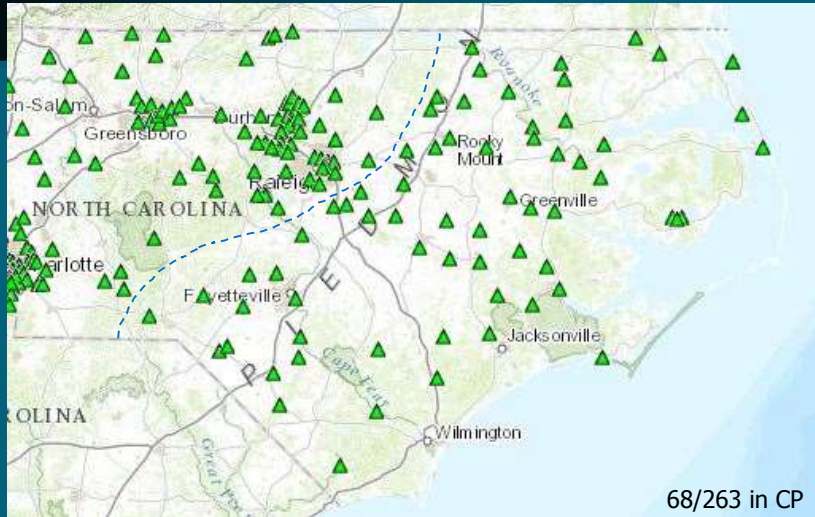
- Water Program: hydrologists, biologists, engineers, geologists, chemists, technicians, geographers, and statisticians
- Monitor river stage, streamflow, groundwater, precipitation, and water quality
- Unbiased scientific interpretation
- Modeling and technical support



## USGS SAWSC NC Data Networks



# Real-Time Streamgaging Network



<http://waterdata.usgs.gov/nc/nwis/current/?type=flow>

## Map of real-time streamflow compared to historical streamflow for the day of the year (North Carolina)

North Carolina | of | Water-Resources Regions

Friday, February 19, 2016 10:30ET



Choose a data retrieval option and select a location on the map  
 List of all stations  Single station  Nearest stations  Peak flow

| Explanation - Percentile classes   |                                    |                                       |                                      |                                     |                                     |                                      |  |
|------------------------------------|------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|--|
| <span style="color: red;">●</span> | <span style="color: red;">●</span> | <span style="color: orange;">●</span> | <span style="color: green;">●</span> | <span style="color: cyan;">●</span> | <span style="color: blue;">●</span> | <span style="color: black;">●</span> | <span style="border: 1px solid black; border-radius: 50%; width: 10px; height: 10px; display: inline-block;"></span> |
| Low                                | <10                                | 10-24                                 | 25-75                                | 76-90                               | >90                                 | High                                 | Not ranked   |
|                                    | Much below normal                  | Below normal                          | Normal                               | Above normal                        | Much above normal                   |                                      |  |



[waterwatch.usgs.gov](http://waterwatch.usgs.gov)

# Real-Time Groundwater Monitoring Network



19/45 in CP



<http://waterdata.usgs.gov/nc/nwis/current/?type=gw>



<http://groundwaterwatch.usgs.gov/>

# Real-Time Water-Quality Monitoring Network



<http://waterdata.usgs.gov/nc/nwis/current/?type=quality>

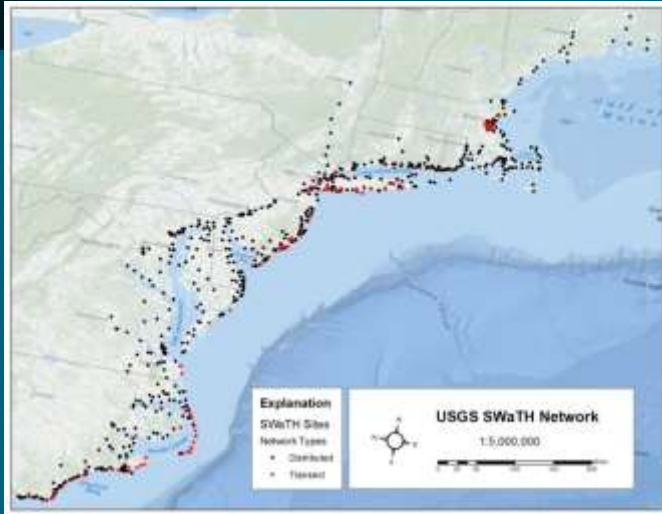
# Water Quality Monitoring Network



<http://waterwatch.usgs.gov/wqwatch/>



# USGS SWATH Network Storm Wave and Tide Hydrodynamic Sites

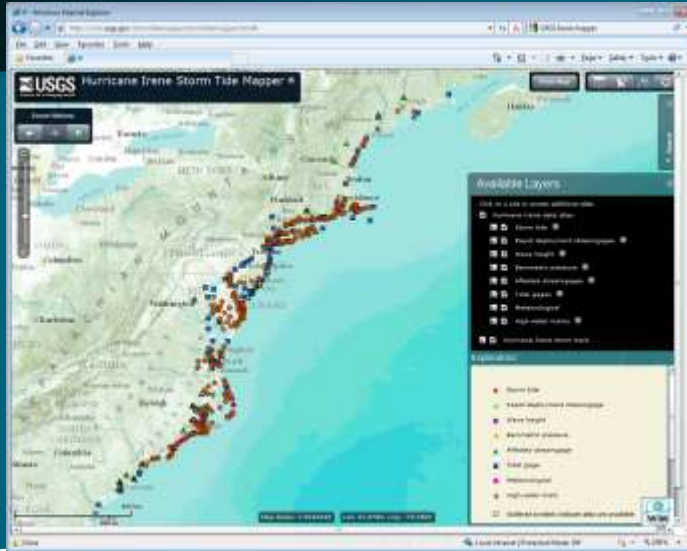


<https://water.usgs.gov/floods/swath/>

## NC SWATH Sites



# SWATH Data



<https://water.usgs.gov/floods/swath/>

# Historical/Episodic Data



[nc.water.usgs.gov](http://nc.water.usgs.gov)



## USGS Groundwater Data for North Carolina

Click for state-specific text

**Current Conditions** (50 sites)

Current conditions at selected sites based on the most recent data from on-site automated recording equipment. Measurements are commonly recorded at a fixed interval of 15- to 30-minutes and transmitted to the USGS every hour. Values may include "Approved" (quality-assured data that may be published) and/or more recent "Provisional" data (of unverified accuracy and subject to revision). Most current data are provisional.

**Historical Data** (55 sites)

The same data accessed by the Current Conditions link above but including both active and discontinued sites with data for any part of the period October 1, 2007, through the present. Values may include "Approved" (quality-assured data that may be published) and/or more recent "Provisional" data (of unverified accuracy and subject to revision).

**Daily Data** (98 sites)

Summary of all data for each day for the period of record and may represent the daily mean, median, maximum, minimum, and/or other derived value. Values may include "Approved" (quality-assured data that may be published) and/or more recent "Provisional" data (of unverified accuracy and subject to revision). [Example](#)

**Statistics** (88 sites)


Statistics are computed from approved daily mean data at each site. These links provide summaries of approved historical daily values for daily, monthly, and annual (water year or calendar year) time periods.

**Field Measurements** (5,407 sites)

Manual measurements of depth to water in wells.

Map of North Carolina showing groundwater monitoring sites. A legend indicates 'All Sites' and 'Selected Sites'. A search bar and navigation controls are visible.

Data



## USGS Groundwater Quality Data for North Carolina

Click for state-specific text

**Current Conditions** (23 sites)

Current conditions at selected sites based on the most recent data from on-site automated recording equipment. Measurements are commonly recorded at a fixed interval of 15- to 30-minutes and transmitted to the USGS every hour. Values may include "Approved" (quality-assured data that may be published) and/or more recent "Provisional" data (of unverified accuracy and subject to revision). Most current data are provisional.

**Historical Data** (23 sites)

The same data accessed by the Current Conditions link above but including both active and discontinued sites with data for any part of the period October 1, 2007, through the present. Values may include "Approved" (quality-assured data that may be published) and/or more recent "Provisional" data (of unverified accuracy and subject to revision).

**Daily Data** (178 sites)

Summary of all data for each day for the period of record and may represent the daily mean, median, maximum, minimum, and/or other derived value. Values may include "Approved" (quality-assured data that may be published) and/or more recent "Provisional" data (of unverified accuracy and subject to revision). [Example](#)

**Statistics** (166 sites)


Statistics are computed from approved daily mean data at each site. These links provide summaries of approved historical daily values for daily, monthly, and annual (water year or calendar year) time periods.

**Field Measurements** (5,431 sites)

Data from field and/or laboratory analyses of water samples, biological tissue, sediments, or other environmental samples. Data include approved, quality-assured data that may be published, and more recent provisional data, whose accuracy has not been verified.

Map of North Carolina showing groundwater quality monitoring sites. A legend indicates 'All Sites' and 'Selected Sites'. A search bar and navigation controls are visible.

Data





## Recently Completed Studies



Surface-Water Quality in Agricultural Watersheds of the North Carolina Coastal Plain Associated with Concentrated Animal Feeding Operations (<http://pubs.usgs.gov/sir/2015/5080/>)



Low-Flow Characteristics and Flow Duration Statistics for Selected USGS Continuous-Record Streamgaging Stations in North Carolina Through 2012 (<http://dx.doi.org/10.3133/sir20155001>)



## Recently Completed Studies



Characterization of water-quality and bed-sediment conditions in Currituck Sound prior to the Mid-Currituck Bridge construction 2011-15 (<http://dx.doi.org/10.3133/ofr20151208>)



Estuarine Monitoring Programs in the Albemarle Sound Study Area, North Carolina (<http://pubs.usgs.gov/of/2014/1110/>)



Water-quality in the Northern Atlantic Coastal Plain Surficial Aquifer System, Delaware, Maryland, New Jersey, New York, North Carolina, and Virginia, 1988-2009 (<http://pubs.usgs.gov/circ/1353/>)



## Recently Completed Studies



Hydrogeology, Hydraulic Characteristics, and Water-Quality Conditions in the Surficial, Castle Hayne, and Peedee Aquifers of the Greater New Hanover County Area, NC 2012-13  
[\(<http://dx.doi.org/10.3133/sir20145169>\)](http://dx.doi.org/10.3133/sir20145169)



Simulation of Groundwater Flow and Saltwater Movement in the Onslow County Area, NC: Predevelopment-2010  
[\(<http://dx.doi.org/10.3133/sir20135236>\)](http://dx.doi.org/10.3133/sir20135236)



Water-quality in principal aquifers of the Piedmont, Blue Ridge and Valley and Ridge regions, Eastern United States, 1993-2009  
[\(<http://pubs.usgs.gov/circ/1354/>\)](http://pubs.usgs.gov/circ/1354/)



## Helpful USGS Resources



# StreamStats



[http://water.usgs.gov/osw/streamstats/north\\_carolina.html](http://water.usgs.gov/osw/streamstats/north_carolina.html)

# WaterAlert Have Your River Text "U"



<http://water.usgs.gov/wateralert/>

# The National Map



<http://nationalmap.gov/>



# National Geologic Map Database



[http://ngmdb.usgs.gov/ngmdb/ngmdb\\_home.html](http://ngmdb.usgs.gov/ngmdb/ngmdb_home.html)

## For More Information

USGS North Carolina Water Science Center

<http://nc.water.usgs.gov>

USGS North Carolina - Information Requests

<http://nc.water.usgs.gov/about/inforequests.html>

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