

Streamflow conditions across North Carolina

*Assessment of hydrologic
conditions observed through
April 2019...*

Presented by:

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USGS South Atlantic Water Science Center (Raleigh office)

<https://www2.usgs.gov/water/southatlantic/>



Presented to:

North Carolina Drought Management Advisory Council

Gov. James G. Martin Building, NC State Fairgrounds, Raleigh, NC

April 04, 2019

Access to

Streamflow (2)
[https://waterda](https://waterdata.usgs.gov/nc/nwis/rt)

Groundwater (3)
[https://waterda](https://waterdata.usgs.gov/nc/nwis/rt)

Water quality (4)
[https://waterda](https://waterdata.usgs.gov/nc/nwis/rt)

Precipitation (5)
[https://waterda](https://waterdata.usgs.gov/nc/nwis/rt)

USGS Current Water Data for No x +

https://waterdata.usgs.gov/nc/nwis/rt

USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources (District Access)

Click to hide News Bulletins

- Introducing The Next Generation of USGS Water Data for the Nation
- Full News

USGS Current Water Data for North Carolina

Click to hide state-specific text

*****PLEASE BOOKMARK THIS PAGE FOR EASE OF ACCESS*****

- USGS Water Resources of the South Atlantic Water Science Center: the place to go for all USGS water information in the SAWSC.
- Real-time Data Streamflow || Water-Quality || Groundwater Levels || **Precipitation**
- Statewide Real-time Map
- Live Streaming River Cams
- StreamStats - online tool for basin and flow characteristics
- USGS Flood Event Viewer
- Sign up for custom Water Alerts by text or email

Questions about data? [Click here.](#)

Predefined displays

Introduction go

Daily Streamflow Conditions

Select a site to retrieve data and station information.

Wednesday, April 03, 2019 10:30ET

USGS Explanation

Statewide Streamflow Table

Current data typically are recorded at 15- to 60-minute intervals, stored onsite, and then transmitted to USGS offices every 1 to 4 hours, depending on the data relay technique used. Recording and transmission times may be more frequent during critical events. Data from current sites are relayed to USGS offices via satellite, telephone, and/or radio telemetry and are available for viewing within minutes of arrival.

All real-time data are provisional and subject to revision.

| | |
|---------------------------------------|--|
| Build Current Conditions Table | Show a custom current conditions summary table for one or more stations. |
| | Show custom graphs or tables for a series of |

2018WY records to be finalized by May 31, 2019



This year's streamflow theme... "water water everywhere" (or at least, parts of the past six months...)

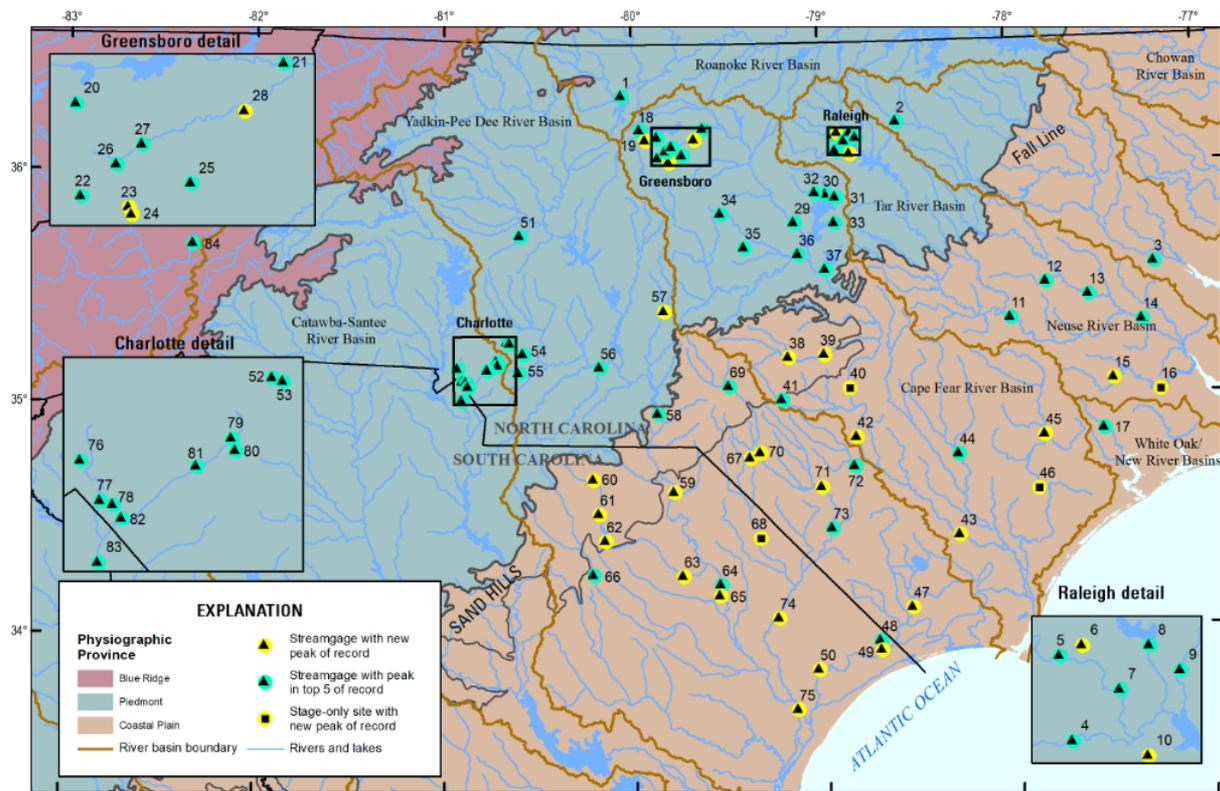
Figure 6. U.S. Geological Survey personnel use an acoustic Doppler current profiler to make a streamflow measurement of flood waters from the Cape Fear River in Kelly, North Carolina, on September 20, 2018.



Peak stages and streamflow after Florence

The report includes streamgages having at least 10 years of record and for which the September 2018 was in the top 5 for the period of record:

- 18 sites in NC (new POR)
- 10 sites in SC (new POR)
- 49 sites recorded peak streamflows in the top 5 of record (45 in NC and 4 SC)
- 4 stage-only gages had new peaks of record

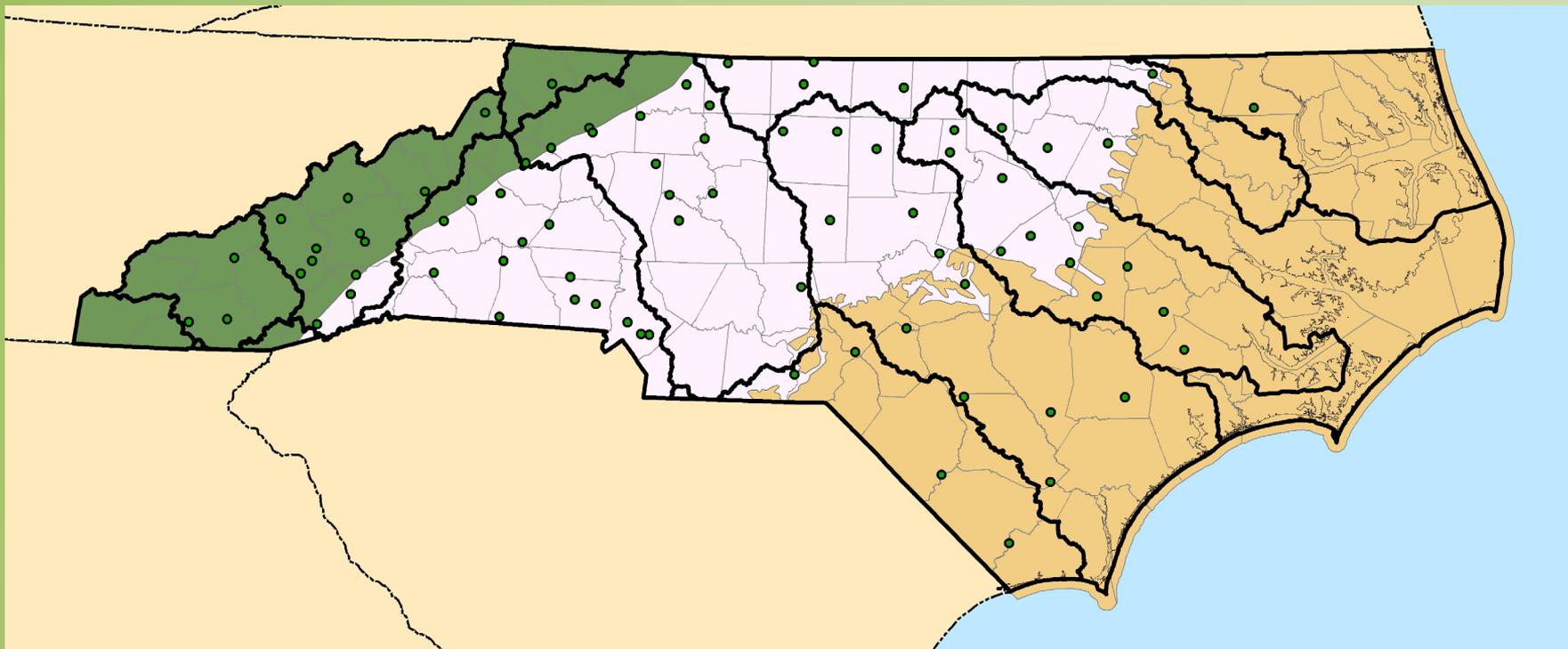


River basins from the 1:100,000-scale NHD Watershed Boundary Dataset
Streams and Lakes from the 1:2,000,000-scale National Hydrography Dataset
State boundaries from the U.S. Census Tiger-Line files
Ecoregions from the U.S. Environmental Protection Agency 1:7,500,000-scale digital data (Omernik, 1987, revised 2002)



Available on

New record minimum monthly average discharges



New record POR minimum daily discharge

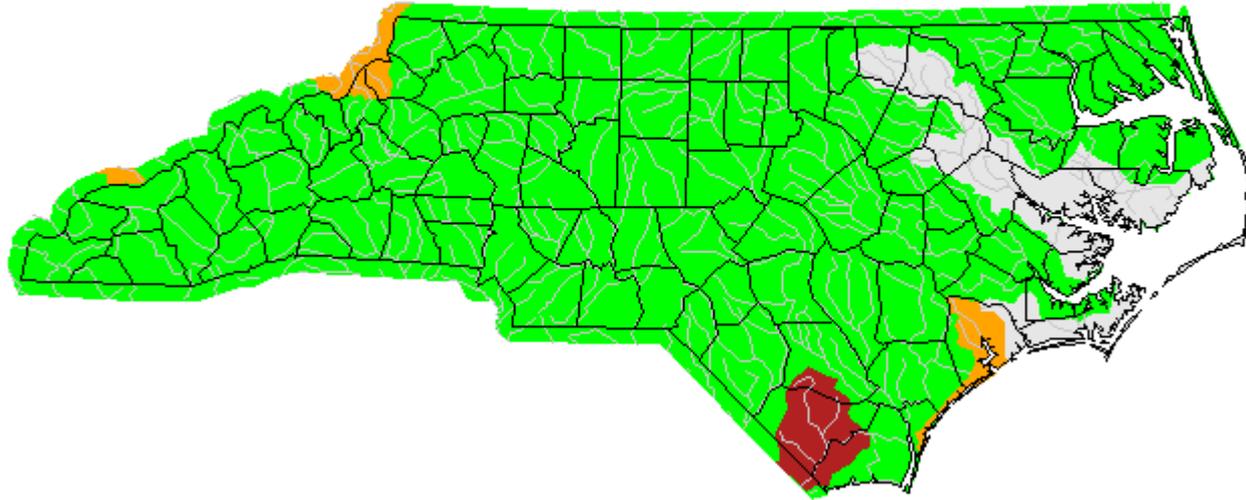
What???!!!!!

Sta. 02087183 Neuse River near Falls, NC
POR since July 1970 (regulated by Falls Lake since December 1983), DA = 771 sqmi
POR min daily Q = 0 cfs on 09/17/2018 (previous at 5.20 cfs, 09/24/1980)

Response to
Florence
flooding...

Sta. 02146600 McAlpine Creek at Sardis Road near Charlotte, NC
POR since April 1962, DA = 38.6 sqmi
POR min daily Q = 0 cfs on 07/04/2018 (previous at 0.01 cfs, 08/14/2002)

Monday, April 01, 2019



Overall
7-day
average
flows

*...as of
April 01*

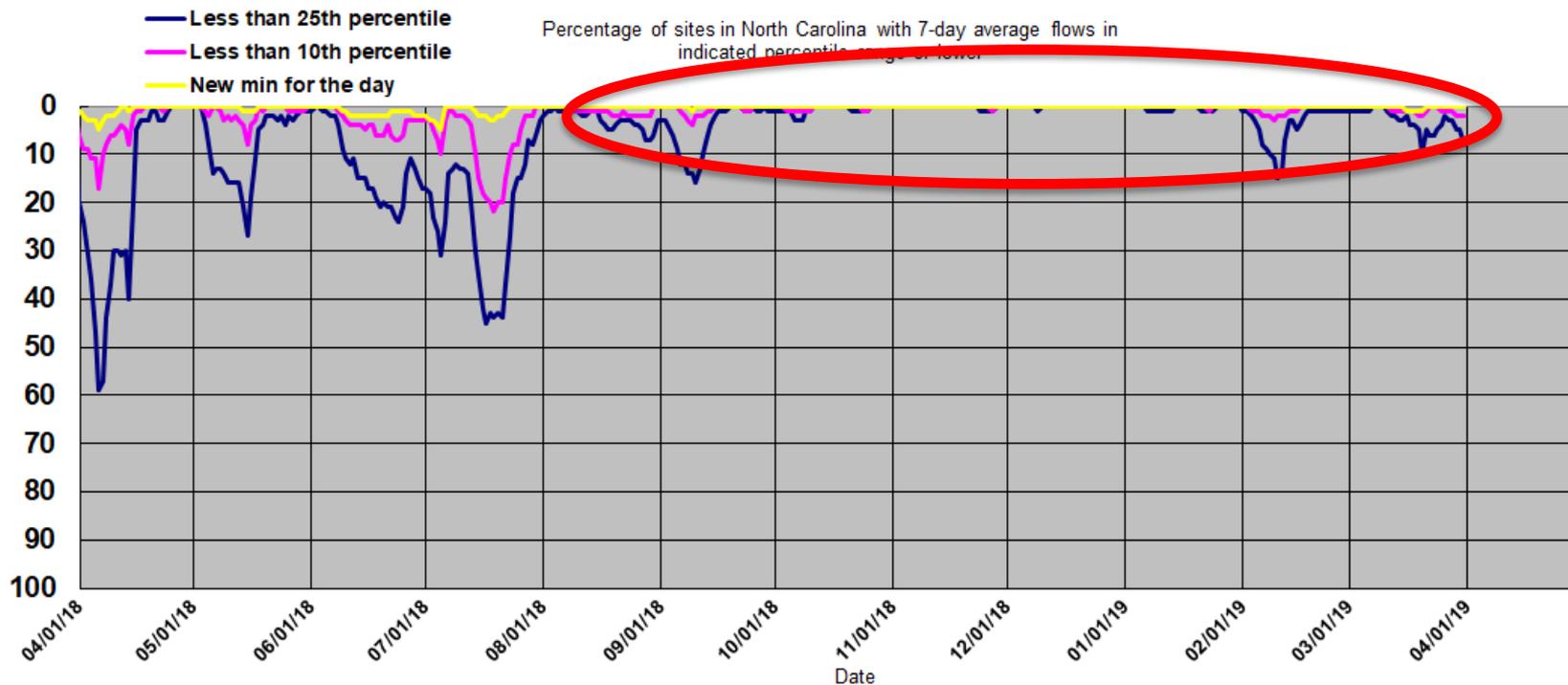


| Explanation - Percentile classes | | | | | | |
|----------------------------------|-------------------|--------------|--------|--------------|-------------------|------|
| | | | | | | |
| Low | <10 | 10-24 | 25-75 | 76-90 | >90 | High |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | |

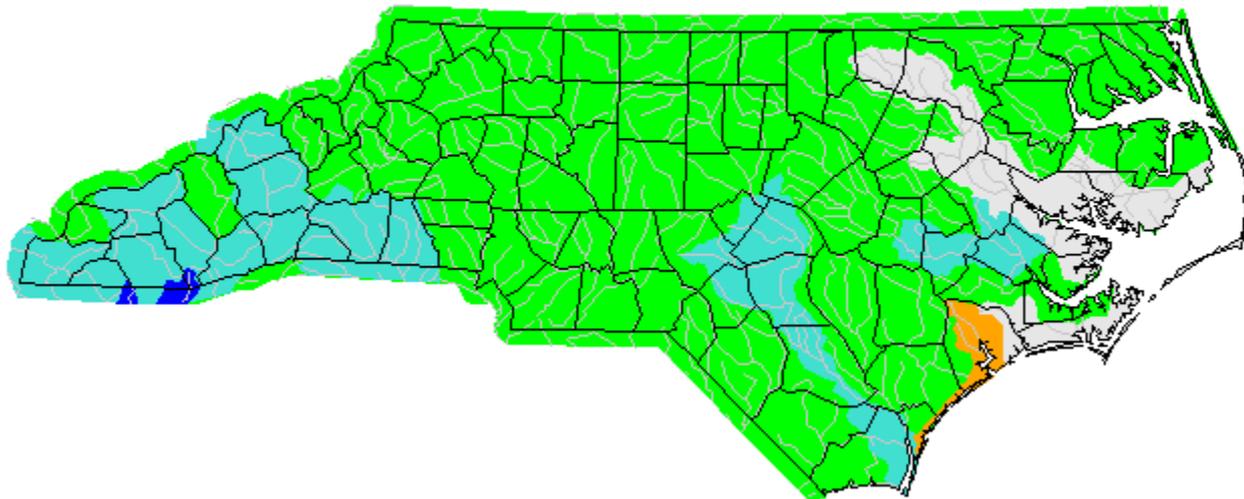


Available at URL <http://waterwatch.usgs.gov/index.php>

Percentage of sites with 7-day average flows below normal (< 25th percentile)



Monday, April 01, 2019



Overall
28-day
average
flows

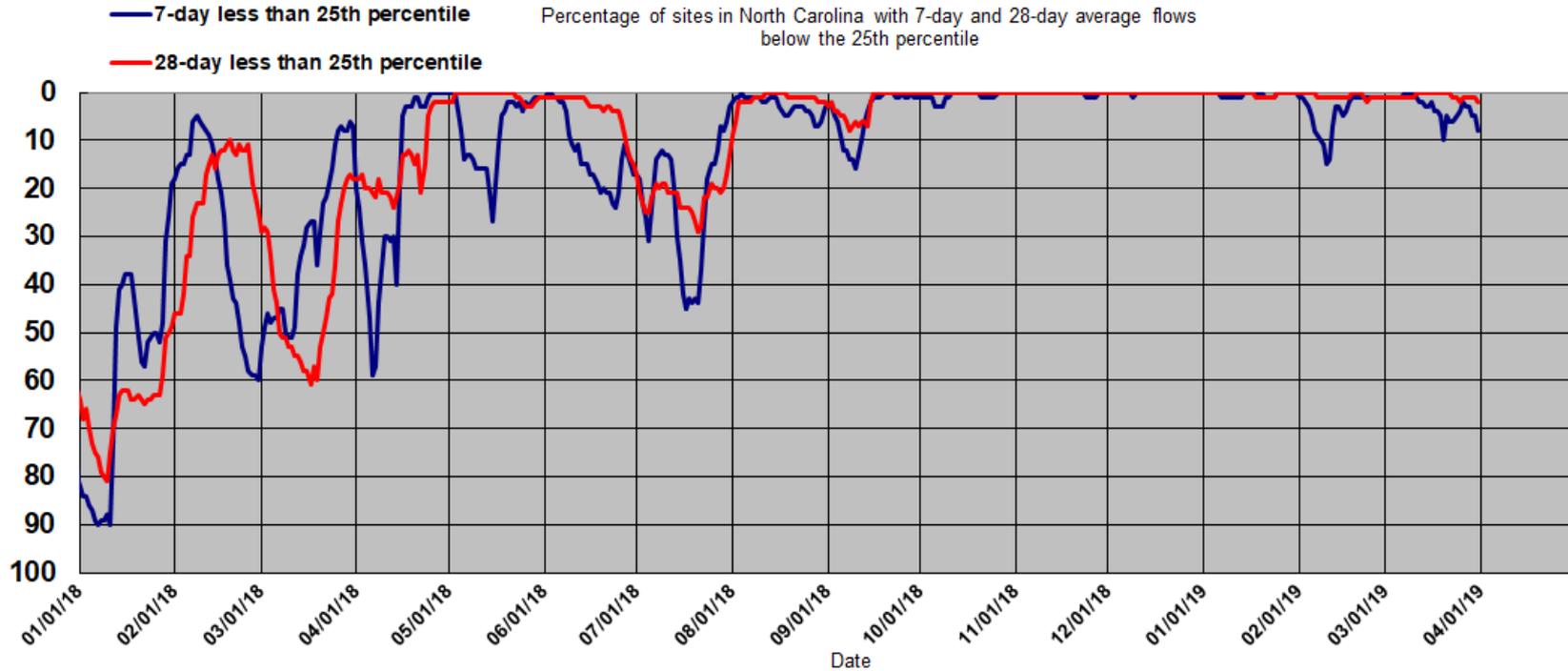
*...as of
April 01*

| Explanation - Percentile classes | | | | | | |
|----------------------------------|---|---|---|--|---|---|
| |  |  |  |  |  |  |
| Low | <10 | 10-24 | 25-75 | 76-90 | >90 | High |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | |

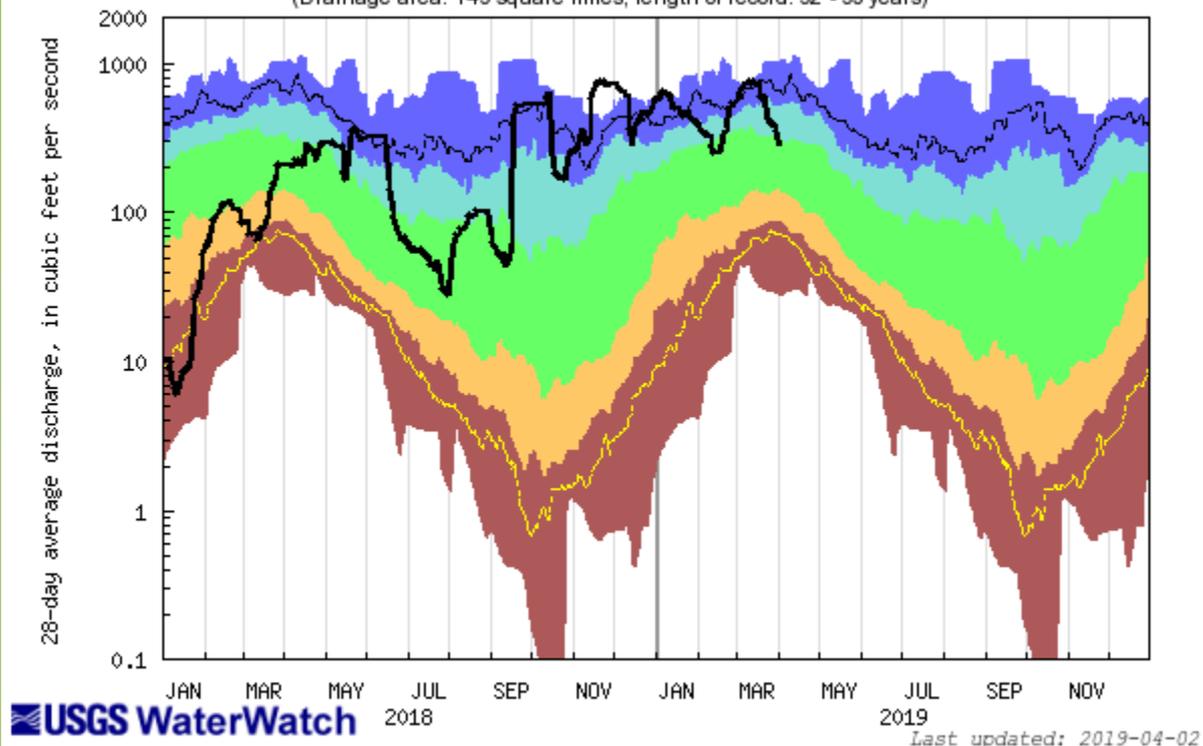


Available at URL <http://waterwatch.usgs.gov/index.php>

Percentage of sites with 7- and 28-day average flows below normal (< 25th percentile)



USGS 02085500 FLAT RIVER AT BAHAMA, NC
 (Drainage area: 149 square miles, length of record: 92 - 93 years)

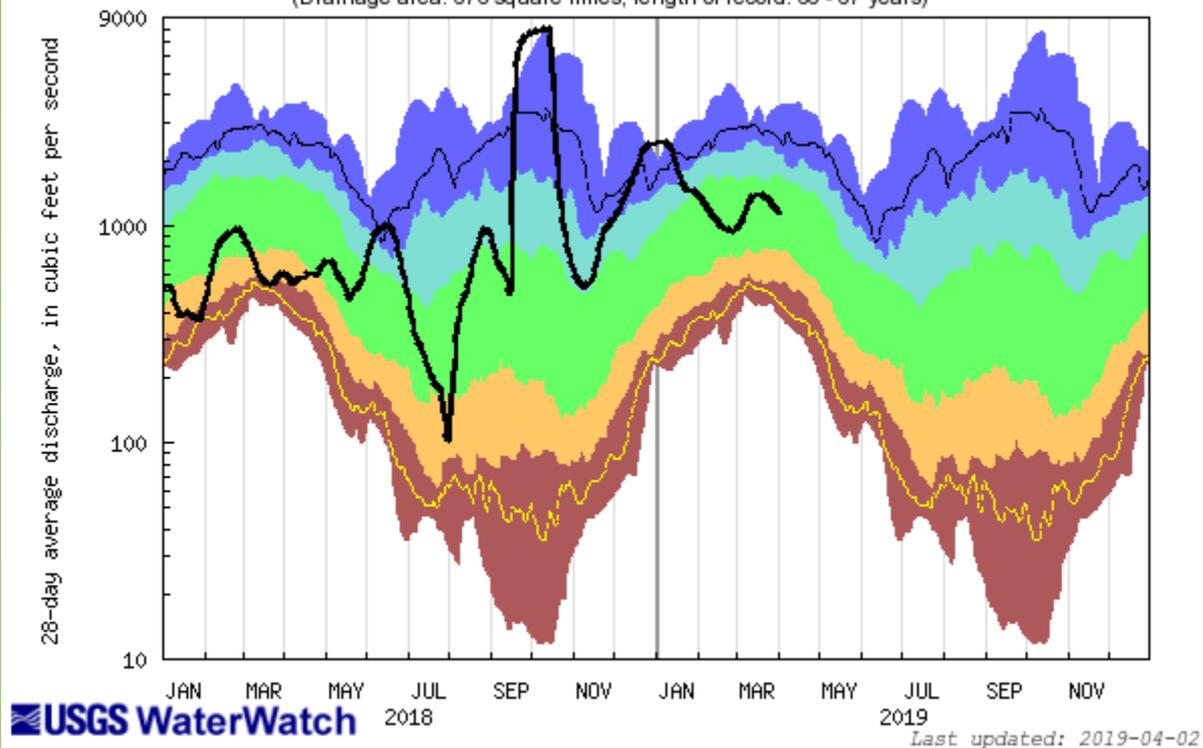


Explanation - Percentile classes

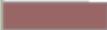
| | | | | | | |
|------------------------|---|--------------|--------|--------------|-------------------|-------------------------|
| | | | | | | |
| lowest-10th percentile | 5 | 10-24 | 25-75 | 76-90 | 95 | 90th percentile-highest |
| Much below Normal | | Below normal | Normal | Above normal | Much above normal | Flow |



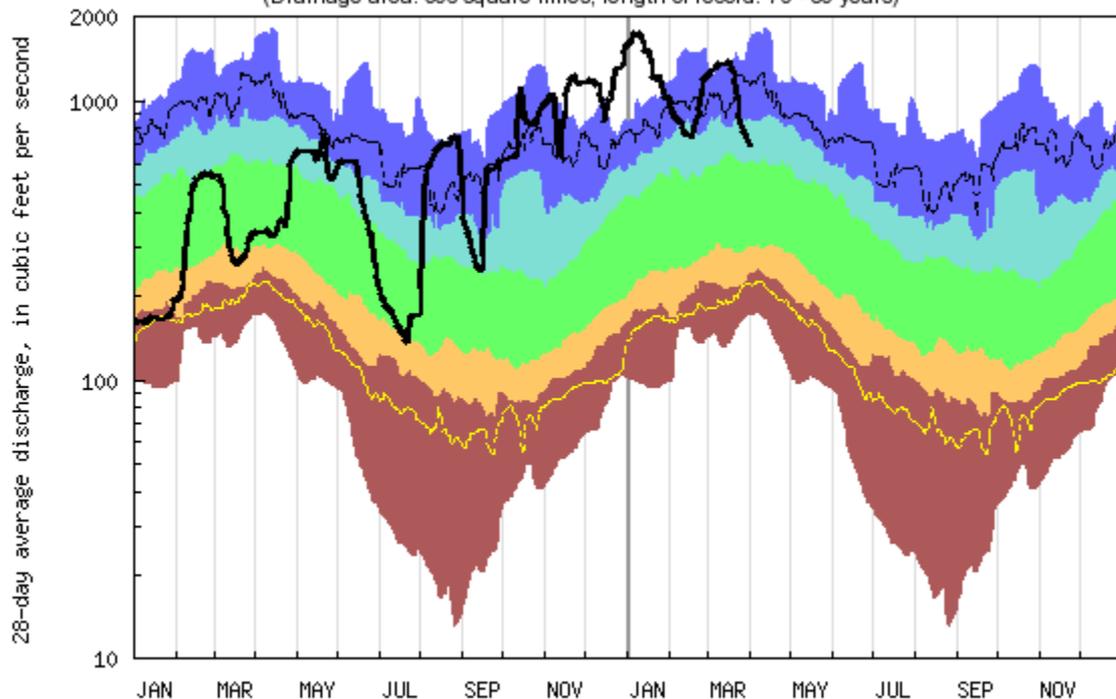
USGS 02106500 BLACK RIVER NEAR TOMAHAWK, NC
 (Drainage area: 676 square miles, length of record: 66 - 67 years)



Explanation - Percentile classes

| | | | | | | |
|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |
| lowest-10th percentile | 5 | 10-24 | 25-75 | 76-90 | 95 | 90th percentile - highest |
| Much below Normal | | Below normal | Normal | Above normal | Much above normal | Flow |

USGS 02118000 SOUTH YADKIN RIVER NEAR MOCKSVILLE, NC
 (Drainage area: 306 square miles, length of record: 79 - 80 years)



USGS WaterWatch

2018

2019

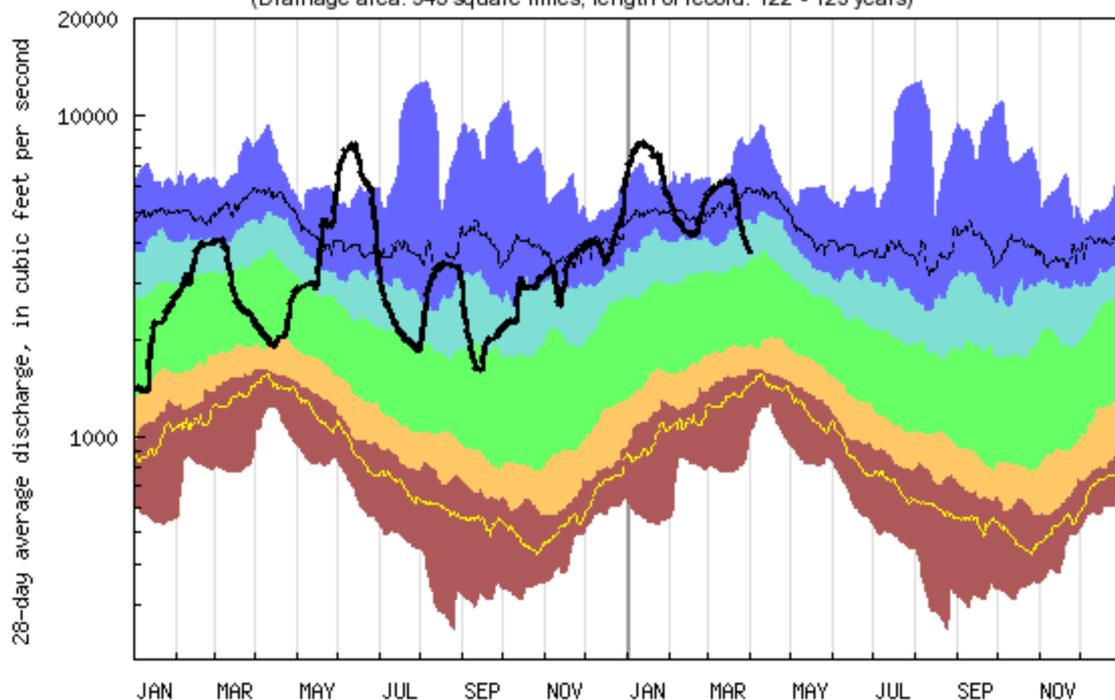
Last updated: 2019-04-02

Explanation - Percentile classes

| | | | | | | |
|------------------------|---|--------------|--------|--------------|-------------------|-------------------------|
| | | | | | | |
| lowest-10th percentile | 5 | 10-24 | 25-75 | 76-90 | 95 | 90th percentile-highest |
| Much below Normal | | Below normal | Normal | Above normal | Much above normal | Flow |



USGS 03451500 FRENCH BROAD RIVER AT ASHEVILLE, NC
 (Drainage area: 945 square miles, length of record: 122 - 123 years)



USGS WaterWatch

2018

2019

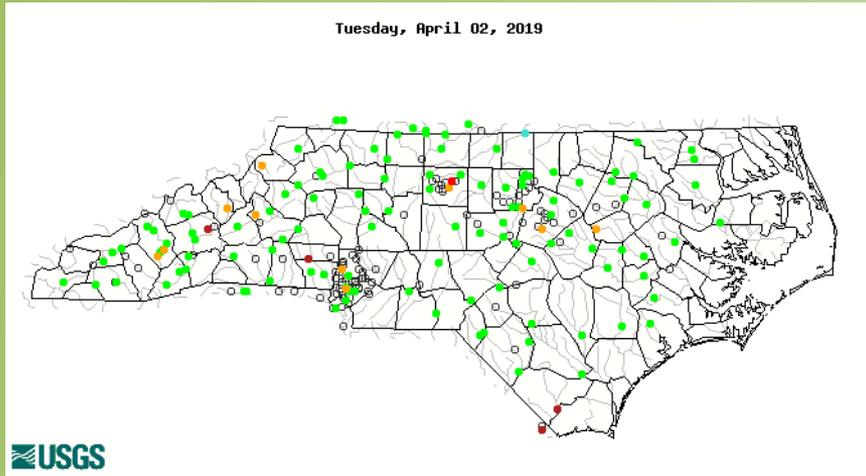
Last updated: 2019-04-02

Explanation - Percentile classes

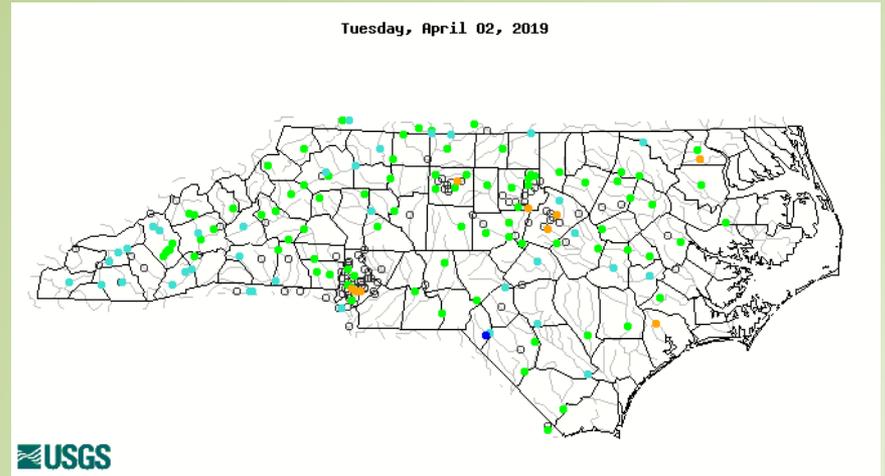
| | | | | | | |
|------------------------|---|--------------|--------|--------------|-------------------|--------------------------|
| | | | | | | |
| lowest-10th percentile | 5 | 10-24 | 25-75 | 76-90 | 95 | 90th percentile -highest |
| Much below Normal | | Below normal | Normal | Above normal | Much above normal | Flow |



Waiting to see what conditions will evolve going forward...



7-day average streamflows



28-day average streamflows

| Explanation - Percentile classes | | | | | | | |
|----------------------------------|-------------------|--------------|--------|--------------|-------------------|------|------------|
| | | | | | | | |
| Low | <10 | 10-24 | 25-75 | 76-90 | >90 | High | Not-ranked |
| | Much below normal | Below normal | Normal | Above normal | Much above normal | | |

In closing...

- Questions
- Concerns

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Flat River at Bahama
Durham County