



# Streamflow conditions across North Carolina

*Assessment of hydrologic conditions observed through early April 2014...*



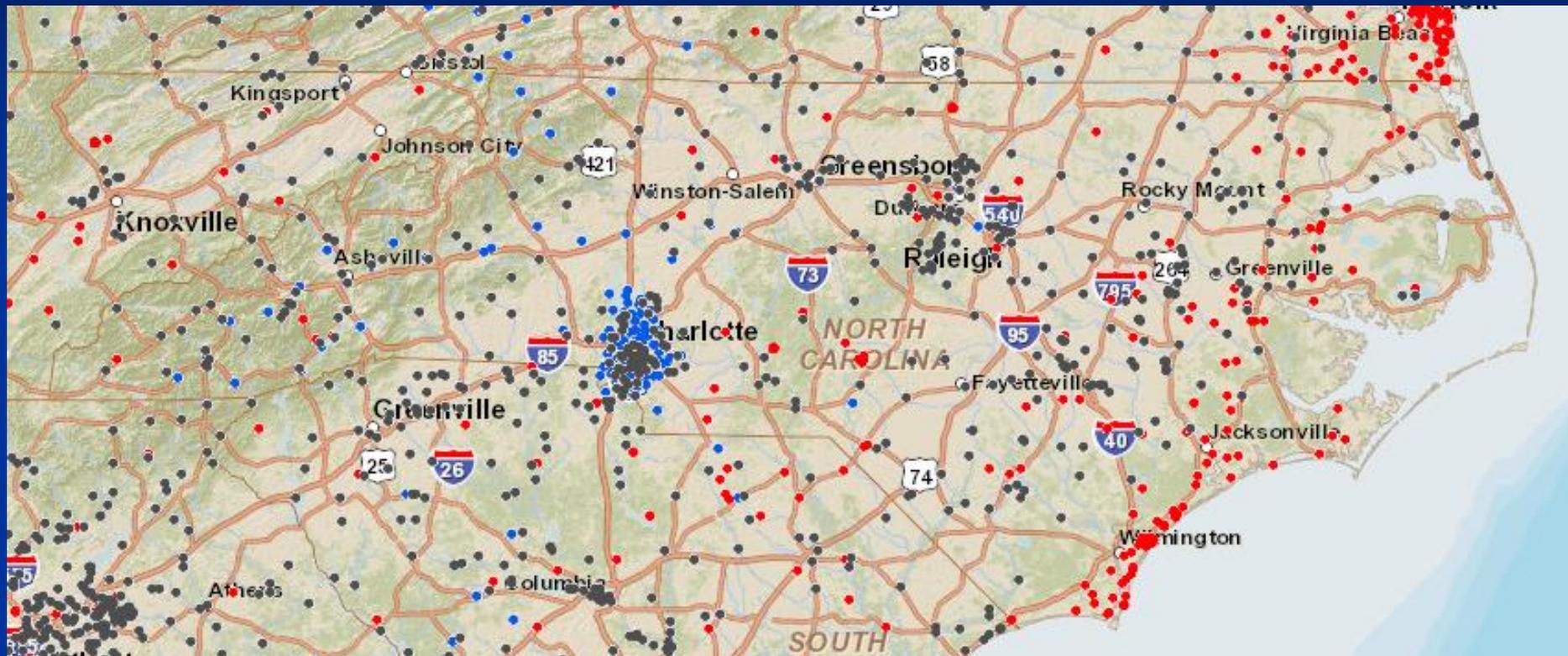
USGS North Carolina Water Science Center  
<http://nc.water.usgs.gov>

Online drought pages for USGS North Carolina WSC  
<http://nc.water.usgs.gov/drought/>

U.S. Department of the Interior  
U.S. Geological Survey

*Presented to:*  
*North Carolina Drought Management Advisory Council*  
*Gov. James G. Martin Building, NC State Fairgrounds, Raleigh, NC*  
*April 10, 2014*

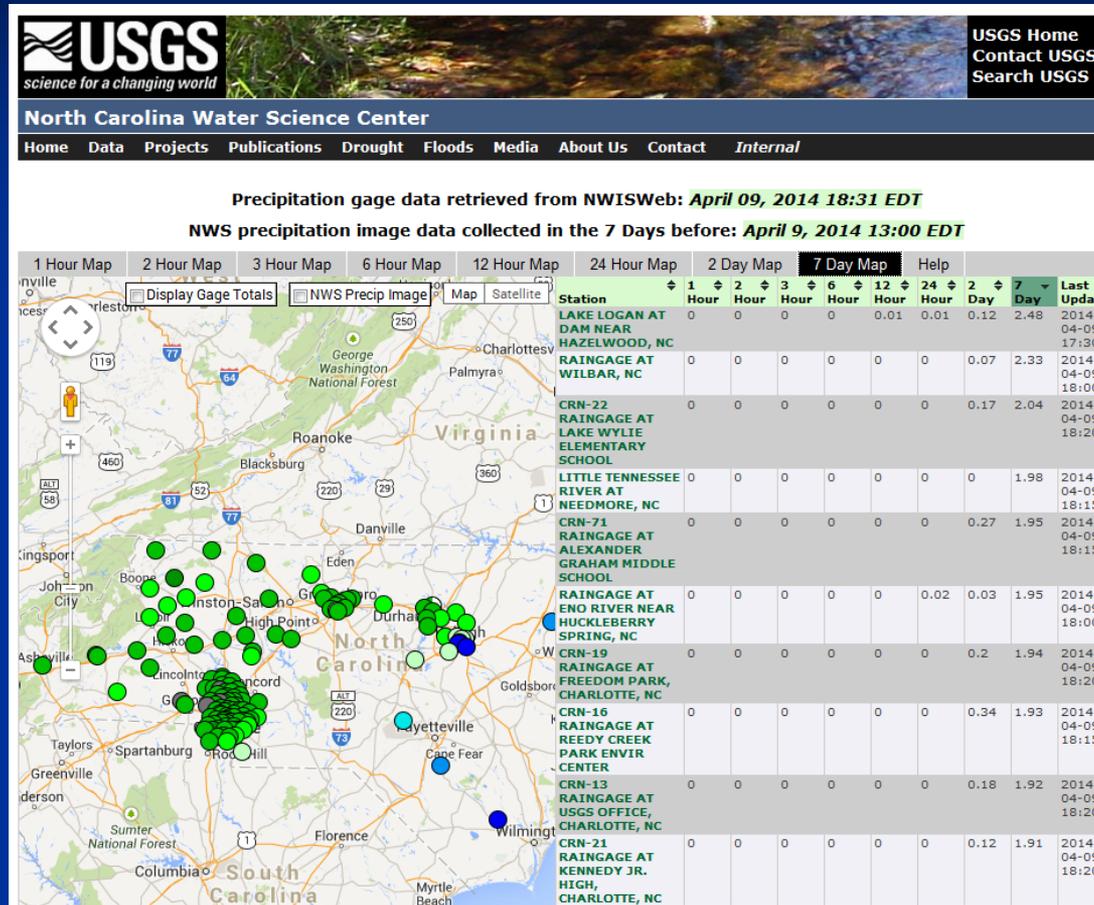
# USGS WY 2013 annual data report map for NC



Real-time: SW (265) GW (47) WQ (23) Precip (143)

2013WY data available at URL:  
<http://nc.water.usgs.gov/reports/WDR/>

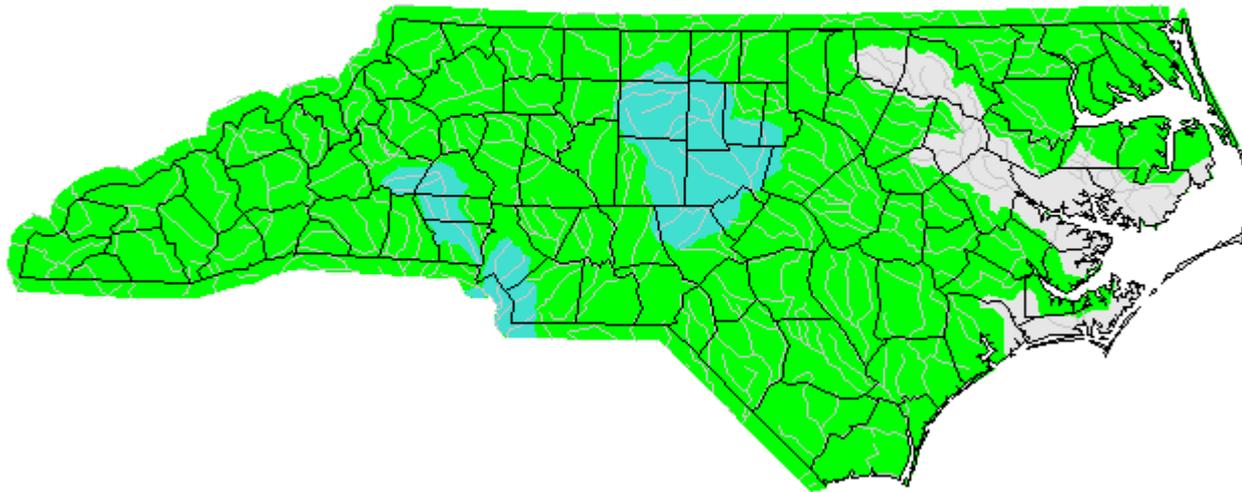
# New online mapper for USGS precipitation sites



Mapper page available at URL:  
<http://nc.water.usgs.gov/realtime/rainfall.php>

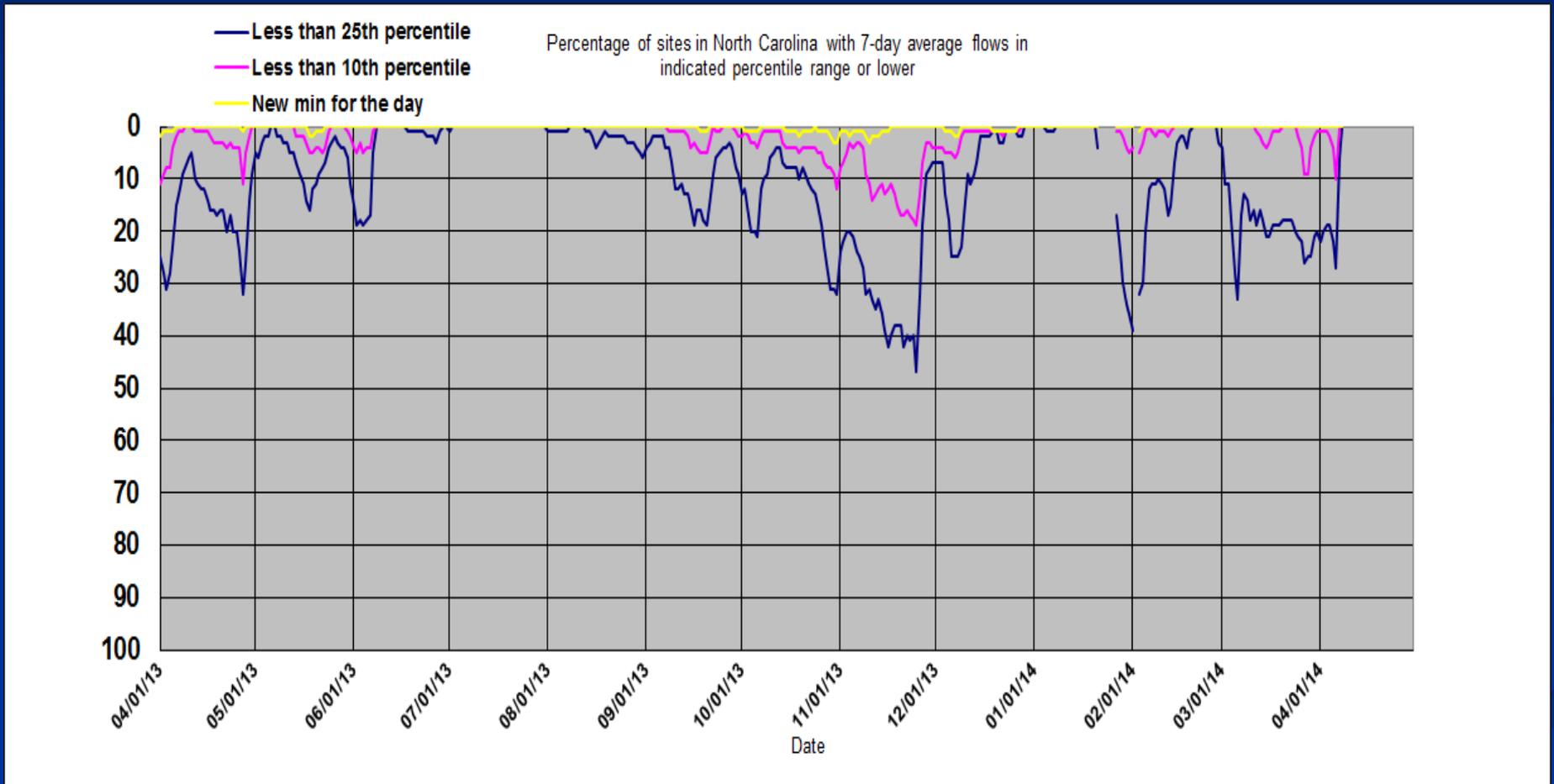
# Overall 7-day average flows as of April 08

Tuesday, April 08, 2014

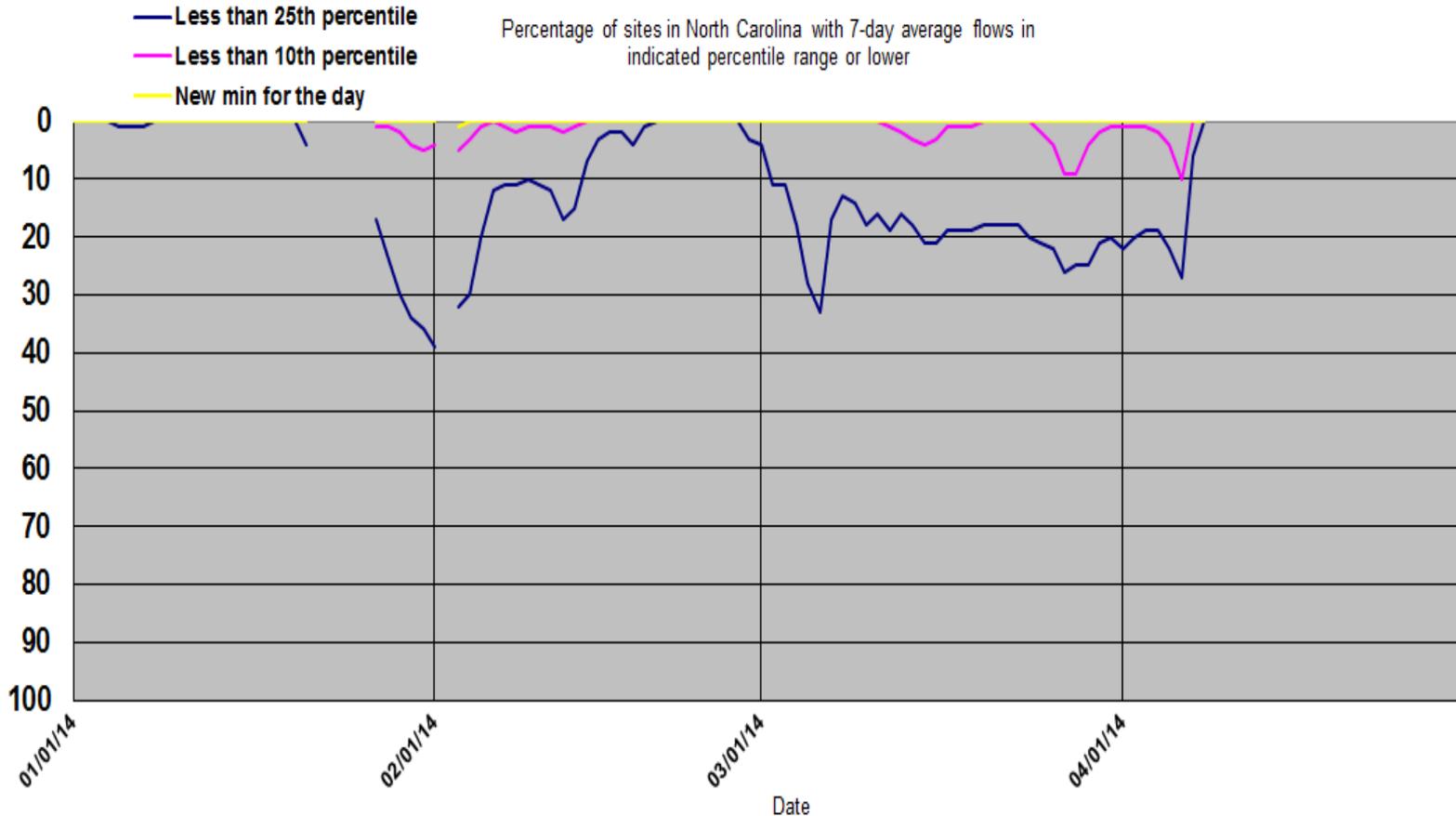


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	
	Much below normal	Below normal	Normal	Above normal	Much above normal		

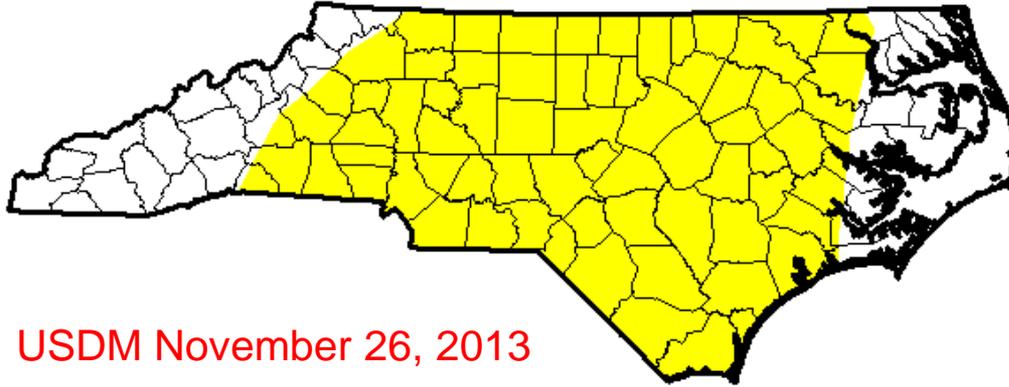
# Percentage of sites with 7-day average flows below normal (< 25<sup>th</sup> percentile)



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

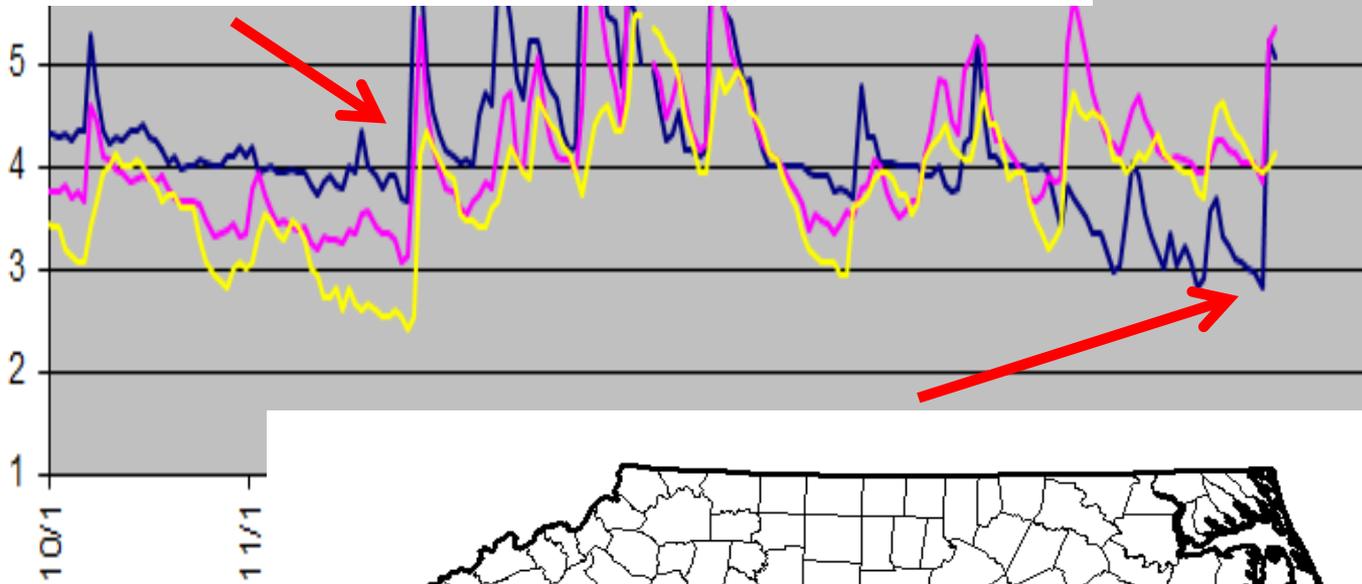


Province)

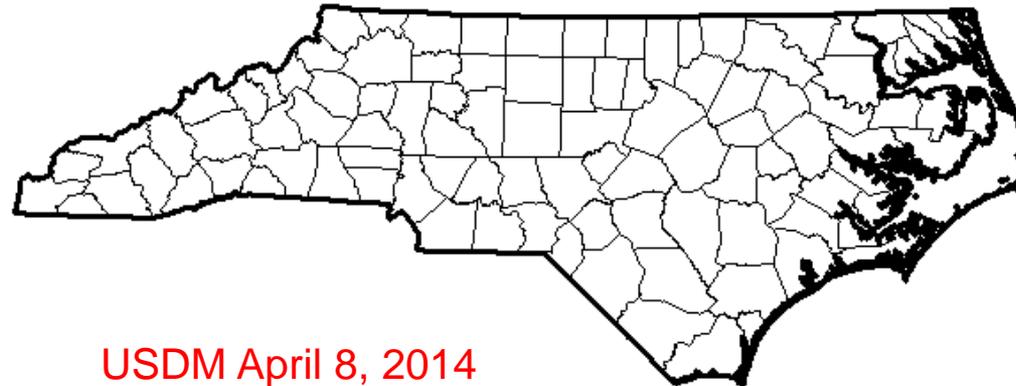


USDM November 26, 2013

Average streamflow Index



- New max
- 90<sup>th</sup> percentile
- 75<sup>th</sup> percentile
- 50<sup>th</sup> percentile
- 25<sup>th</sup> percentile
- 10<sup>th</sup> percentile
- New min



USDM April 8, 2014

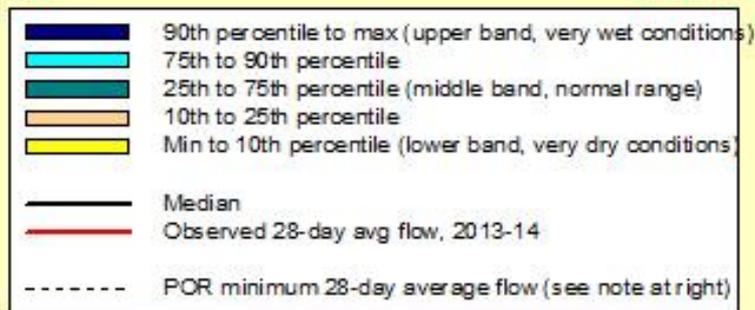
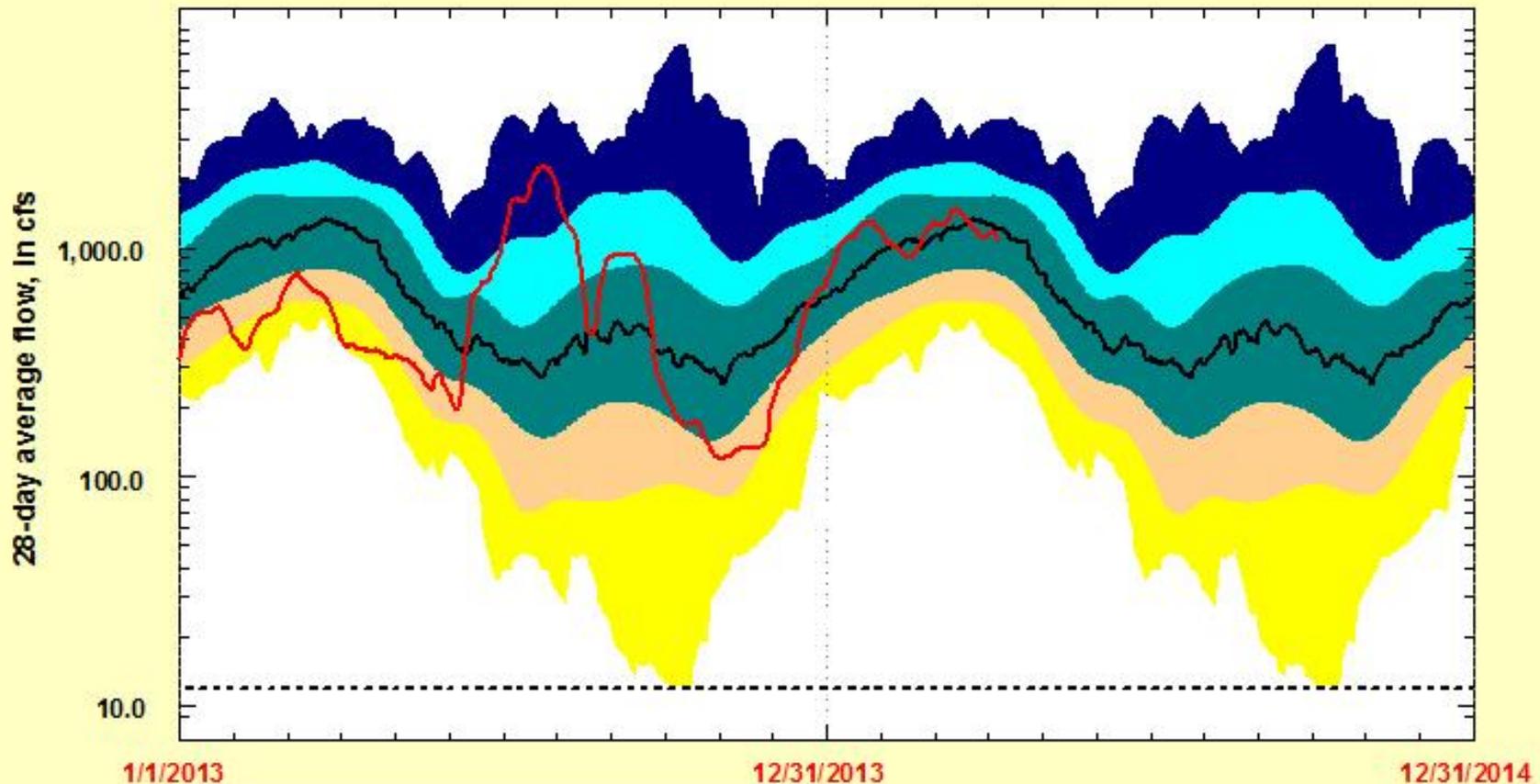
Coastal Plain



Sta. 02106500, BLACK RIVER NEAR TOMAHAWK, NC (Sampson County), DA = 676 sqmi

Period of record (POR): 0/0/ through 0/0/

Approx. 63 total years record available to date (Site info from <http://waterdata.usgs.gov/nwis/inventory>)



POR minimum 28-day average flow:  
11.92 cfs, ending on 10/15/1954

Observed data through 04/07/2014  
Statistics based on 10/01/1951 through 09/30/2012

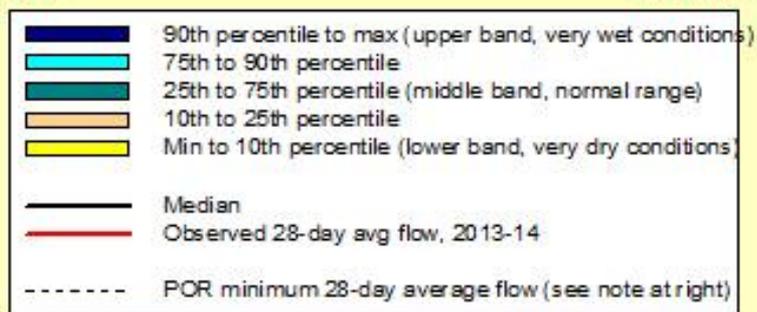
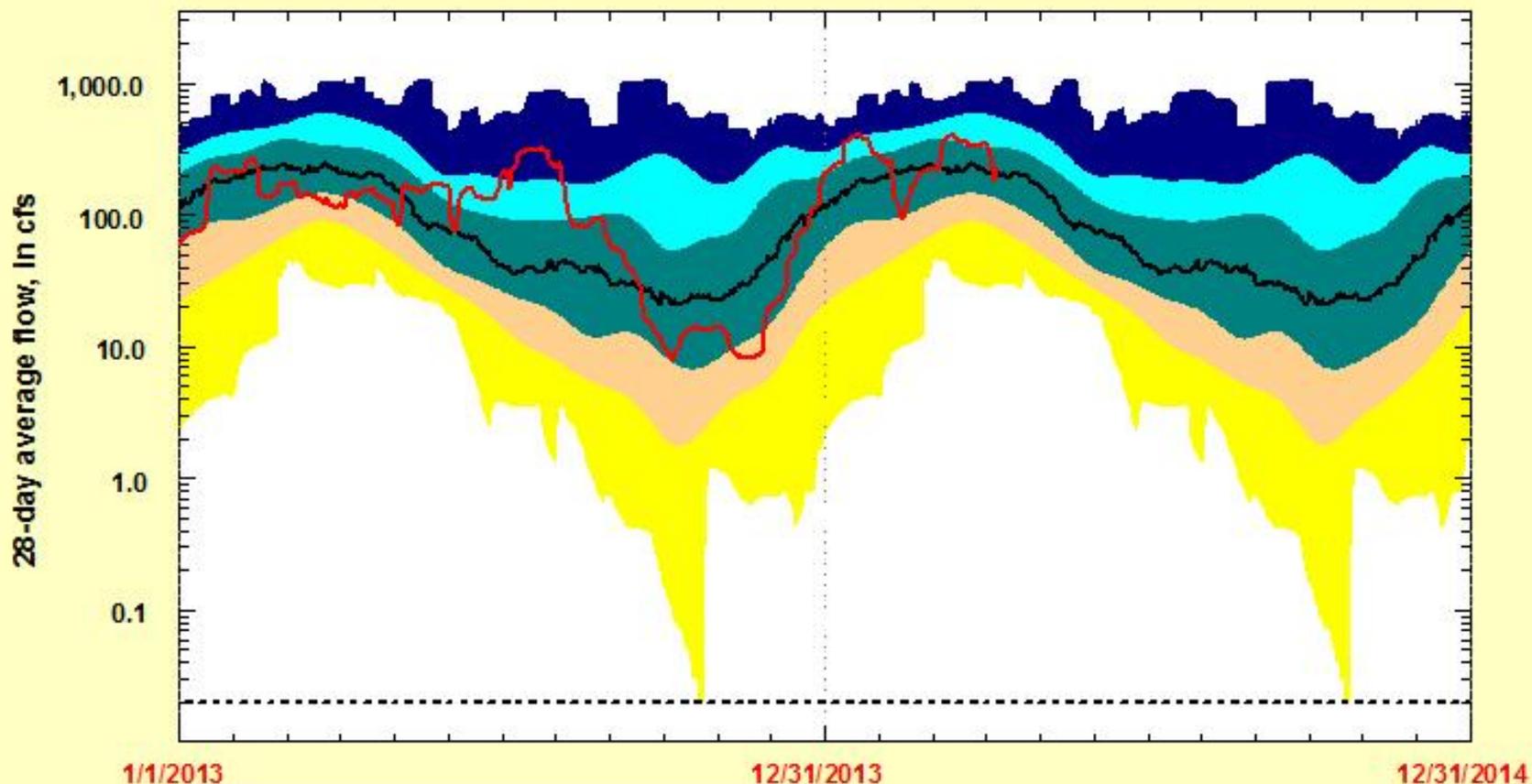
Note: Data and statistics since 09/30/2012  
considered provisional and subject to revision.

Plot created: Apr. 9, 2014 1:50:28 AM

Sta. 02085500, FLAT RIVER AT BAHAMA, NC (Durham County), DA = 149 sqmi

Period of record (POR): 0/0/ through 0/0/

Approx. 89 total years record available to date (Site info from <http://waterdata.usgs.gov/nwis/inventory>)



POR minimum 28-day average flow:  
0.02 cfs, ending on 10/24/2007

Observed data through 04/07/2014  
Statistics based on 08/01/1925 through 09/30/2012

Note: Data and statistics since 09/30/2012  
considered provisional and subject to revision.

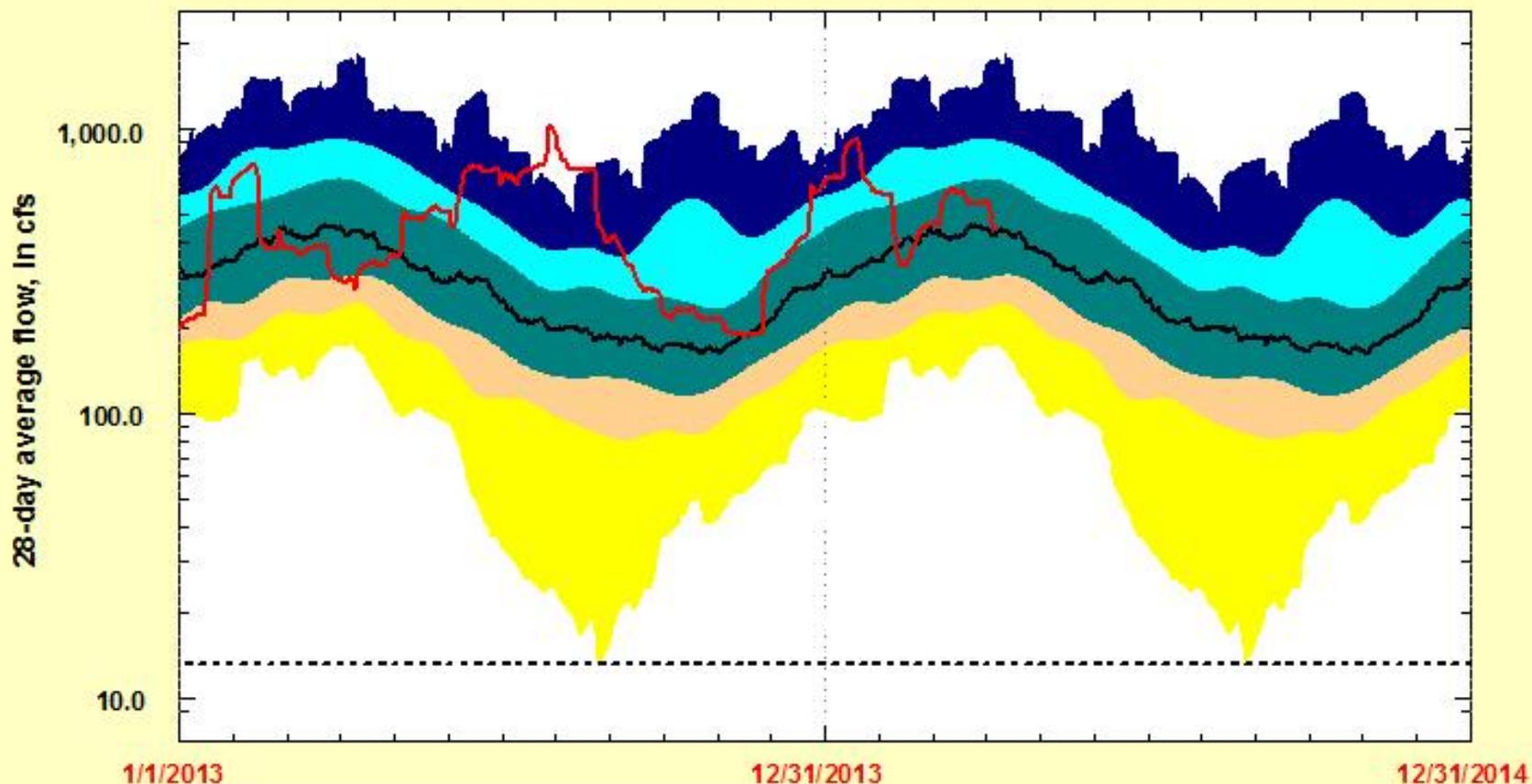
Plot created: Apr. 9, 2014 0:53:11 AM



Sta. 02118000, SOUTH YADKIN RIVER NEAR MOCKSVILLE, NC (Rowan County), DA = 306 sqmi

Period of record (POR): 0/0/ through 0/0/

Approx. 76 total years record available to date (Site info from <http://waterdata.usgs.gov/nwis/inventory>)



POR minimum 28-day average flow:  
13.24 cfs, ending on 08/26/2002

Observed data through 04/07/2014  
Statistics based on 10/01/1938 through 09/30/2012

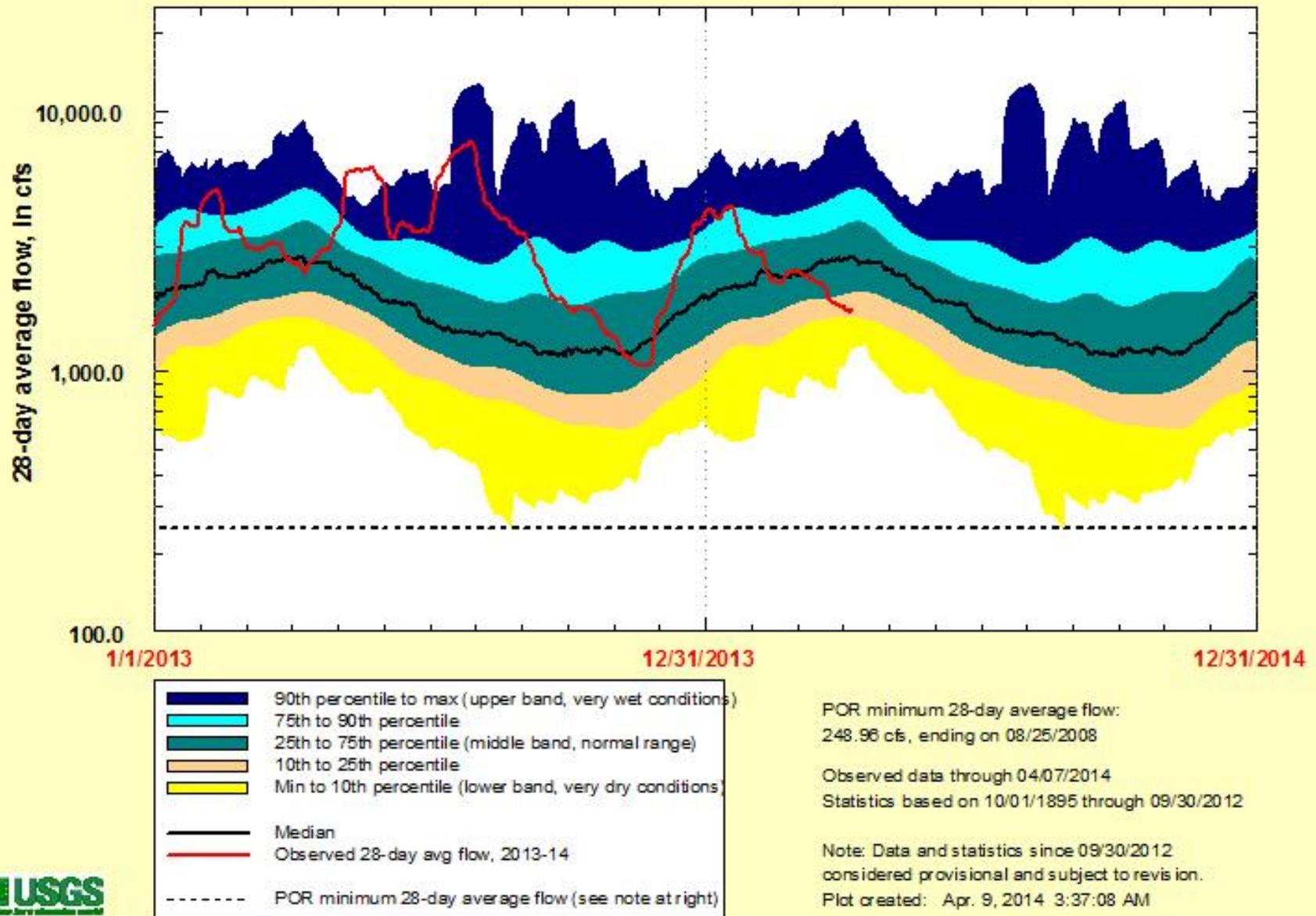
Note: Data and statistics since 09/30/2012  
considered provisional and subject to revision.

Plot created: Apr. 9, 2014 2:26:37 AM

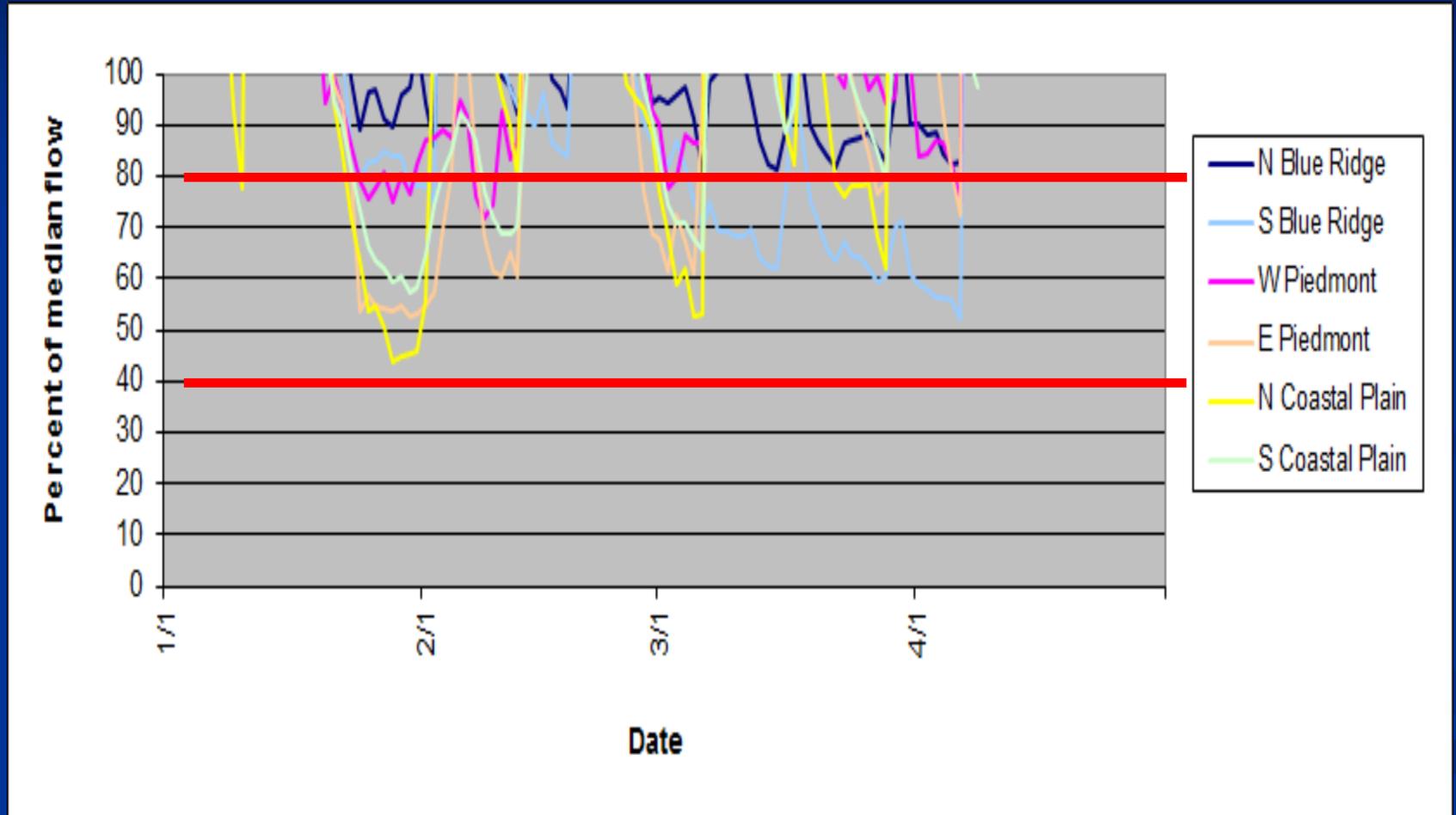
Sta. 03451500, FRENCH BROAD RIVER AT ASHEVILLE, NC (Buncombe County), DA = 945 sqmi

Period of record (POR): 0/0/ through 0/0/

Approx. 119 total years record available to date (Site info from <http://waterdata.usgs.gov/nwis/inventory>)



# “infamous spaghetti plot...” Percent of median (by region)



# Typical ranges in **percentage of median flow** since **March 1**...(by region)

N Blue Ridge  
80 to 100 %

E Piedmont  
60 to 230 %

N Coastal Plain  
50 to 160 %

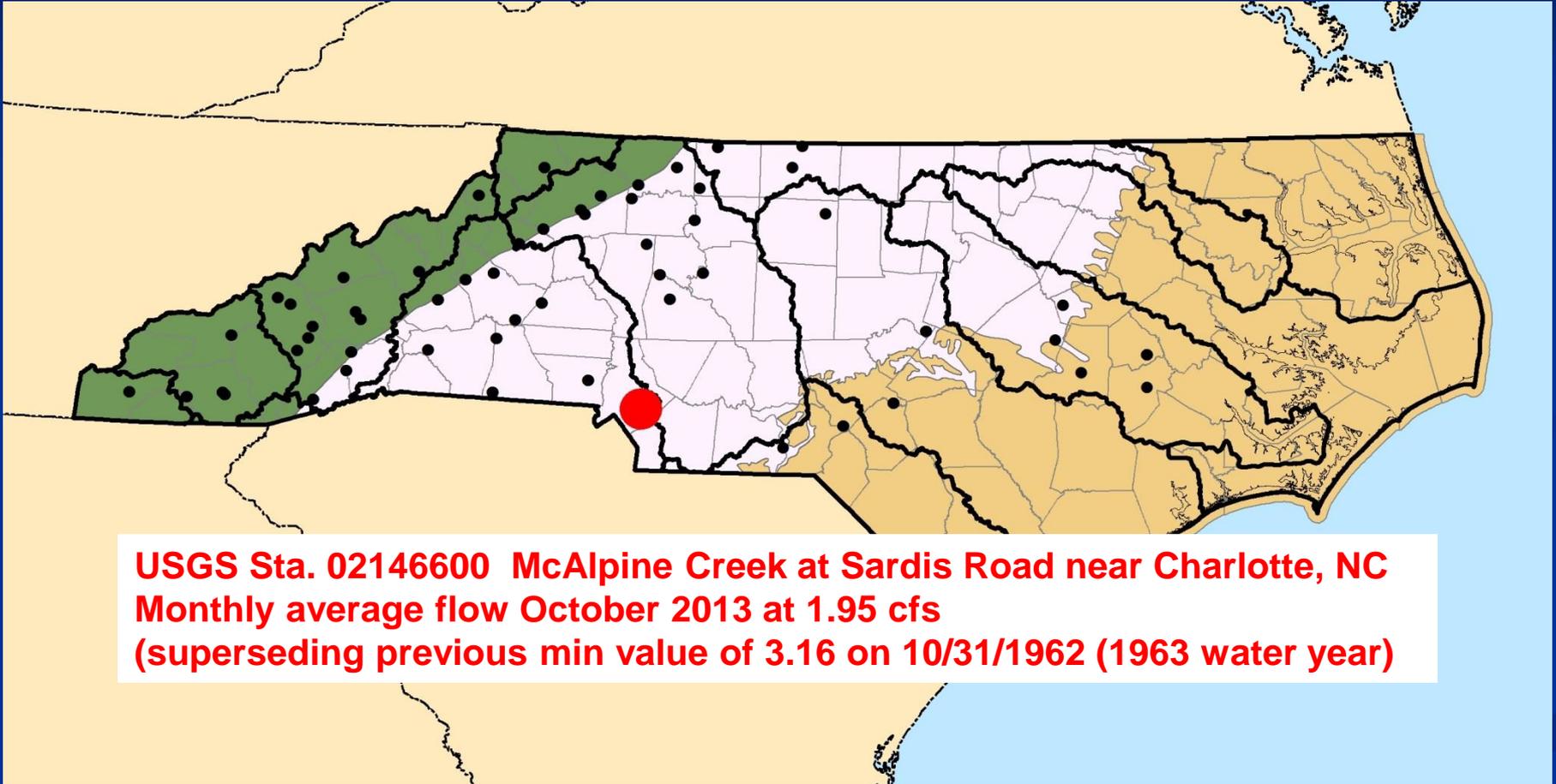
W Piedmont  
60 to 190 %

S Blue Ridge  
50 to 75 %

S Coastal Plain  
65 to 145 %

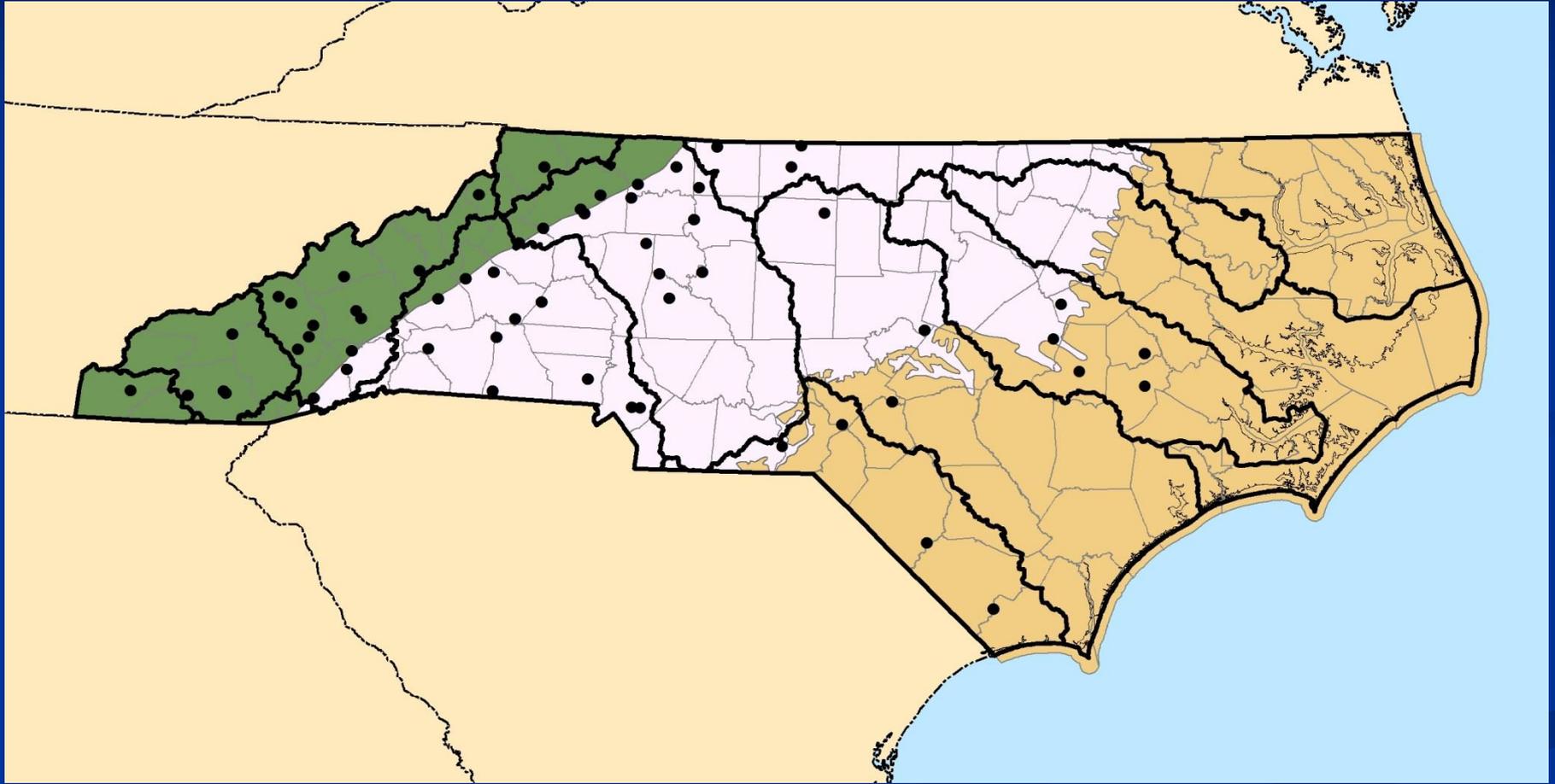
*...as of April 09*

# *New record monthly minimum average during 2014 water year*

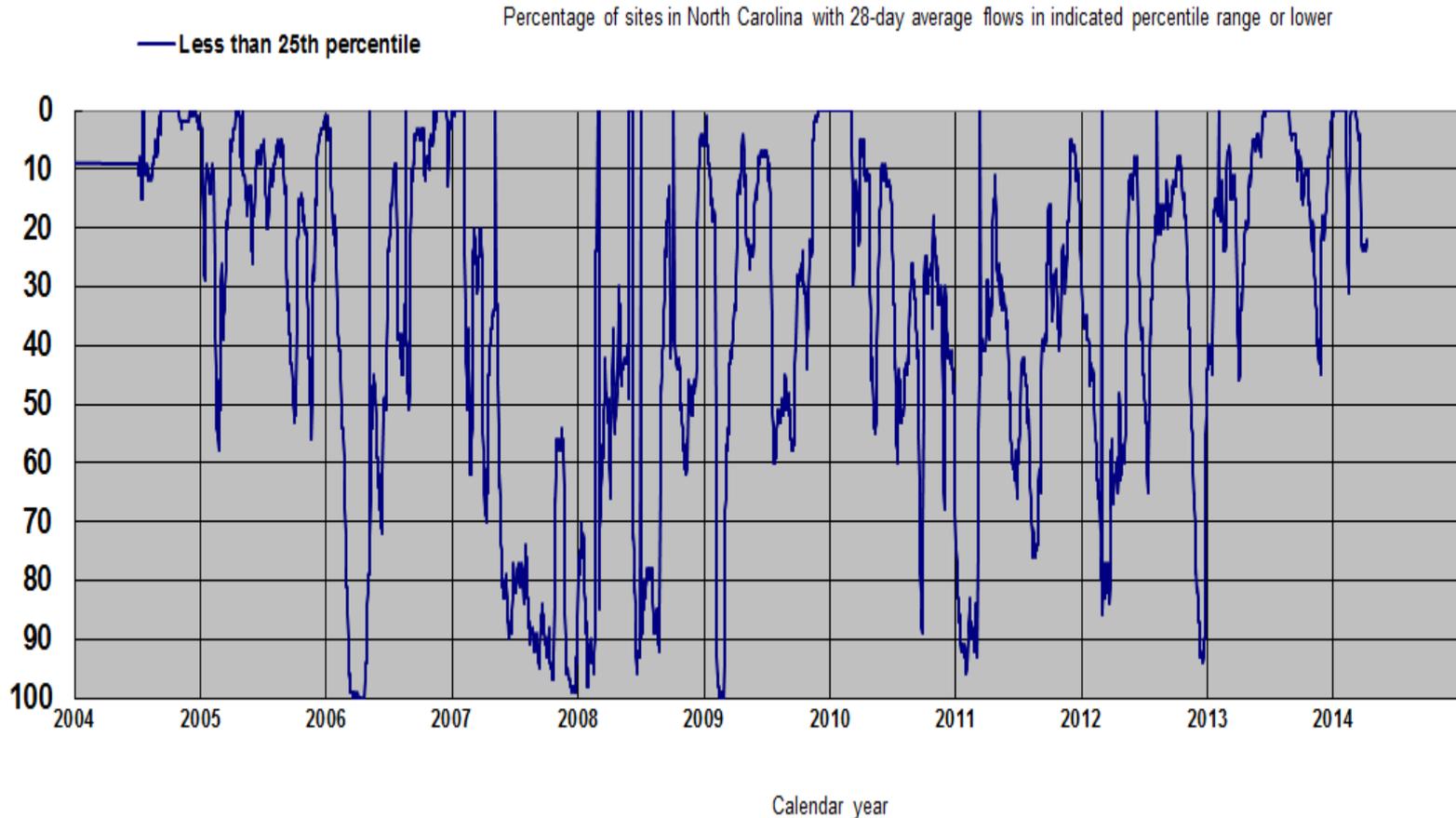


**USGS Sta. 02146600 McAlpine Creek at Sardis Road near Charlotte, NC**  
**Monthly average flow October 2013 at 1.95 cfs**  
**(superseding previous min value of 3.16 on 10/31/1962 (1963 water year))**

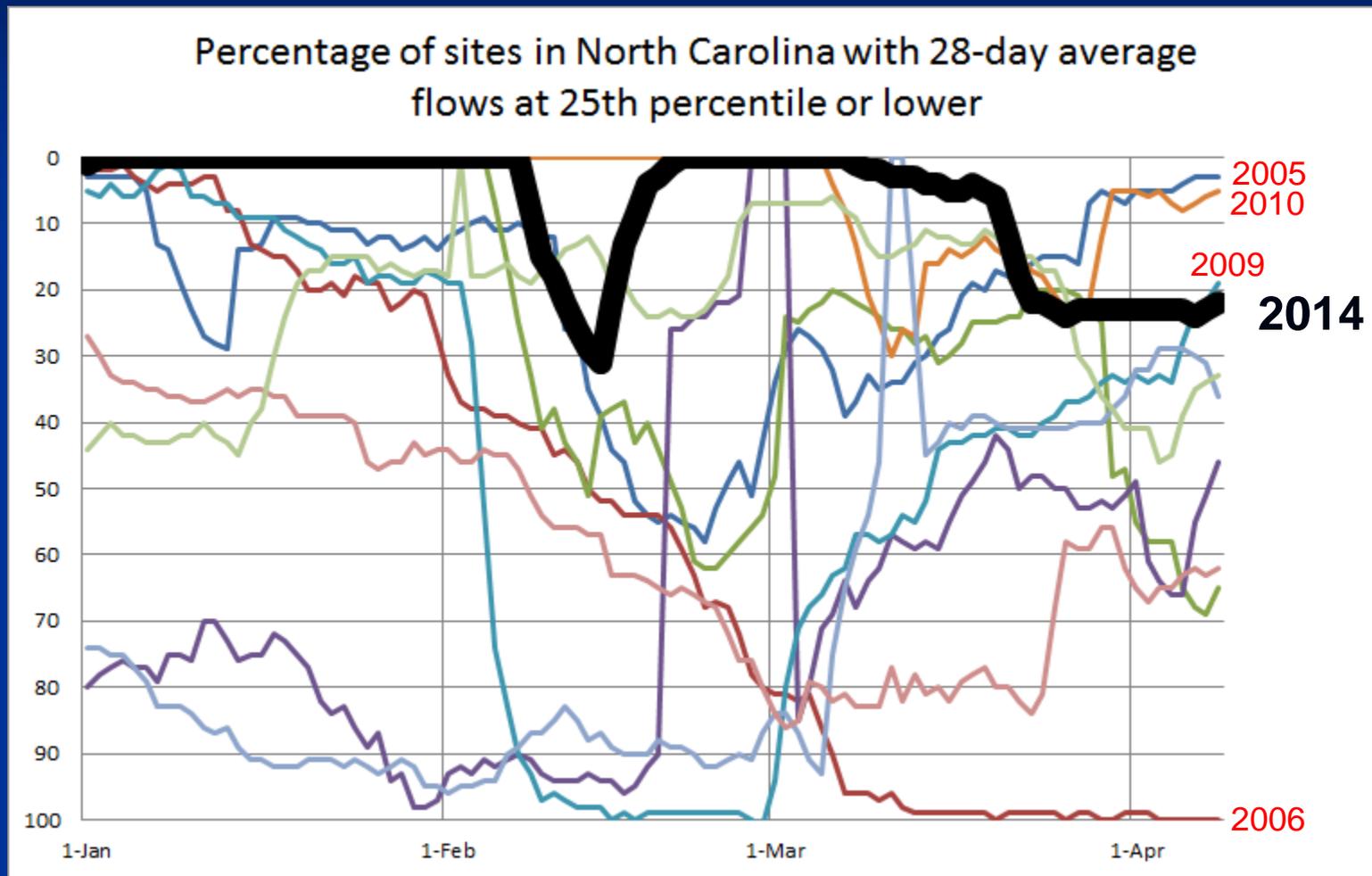
# *New period of record minimum daily mean discharge during 2014 water year*



# Below-normal 28-day average flows *July 2004 to current*



# Below-normal 28-day average flows *January through April 08 for years 2004 to 2014*



# *“Take home” message...*

- Summer 2013 first period of sustained normal or above-normal 7-day average flows since late 2009/early 2010
- Only 1 site with record minimum monthly average flow (site in Charlotte, October 2013)
- No POR minimum daily discharges to date for 2014 water year
- As of early 2014, 28-day average flows favorable relative to 6 of 10 most recent years for first 4 months of calendar year
- Continue to monitor conditions in Blue Ridge

## *In closing...*

- Questions
- Concerns

*J. Curtis Weaver, Hydrologist  
USGS North Carolina  
Water Science Center  
[jcweaver@usgs.gov](mailto:jcweaver@usgs.gov)  
(919) 571-4043*



Flat River at Bahama  
Durham County