Streamflow conditions across North Carolina

Assessment of hydrologic conditions observed through mid April 2013…

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/

Presented to:
North Carolina Drought Management Advisory Council
Gov. James G. Martin Building, NC State Fairgrounds, Raleigh, NC
April 18, 2013
USGS WY 2012 annual data report
map for NC

2012WY data available at URL:
http://nc.water.usgs.gov/reports/WDR/
Visualizing the components in streamflow

Overland runoff
Base flow (ground-water discharge to streams)

From:
Ground-water-level Monitoring and the Importance of Long-Term Water-Level Data
USGS Circular 1217 by Taylor and Alley, 2002 (Figure A-2, page 4)
Overall 7-day average flows as of April 16

Available at URL http://waterwatch.usgs.gov/
Below-normal 7-day average flows as of April 16

Available at URL http://waterwater.usgs.gov/
Percentage of sites with 7-day average flows below normal (< 25\textsuperscript{th} percentile)

Since April 1, 2012
Percentage of sites with 7-day average flows below normal (< 25\textsuperscript{th} percentile)
Average streamflow index (by Province)

- New max
- 90th percentile
- 75th percentile
- 50th percentile
- 25th percentile
- 10th percentile
- New min

USDM December 18, 2012

USDM April 9, 2013

USGS
“infamous spaghetti plot…”
Percent of median (by region)
Typical ranges in percentage of median flow since March 1…(by region)

- N Blue Ridge: 85 to 140 %
- S Blue Ridge: 85 to 130 %
- E Piedmont: 30 to 110 %
- W Piedmont: 60 to 120 %
- N Coastal Plain: 30 to 95 %
- S Coastal Plain: 30 to 60 %

…as of April 17
New record monthly minimum average during 2012 water year

10 sites…most in eastern half of NC
New record monthly minimum average during 2013 water year

provisional data...3 sites...as of April 17
New period of record minimum daily mean discharge during 2012 water year

no sites
New period of record minimum daily mean discharge during 2013 water year

provisional...no sites...as of April 17
"Take home" message…

• Dry fall season led to concerns of similarly dry winter streamflows…but wetter winter conditions in western half NC due to early year precipitation activity…not as strong in the eastern half of the state…recently 30 to 60 percent of median

• Continuing “roller coaster” pattern with recent rainfall events…quick rise in response to precipitation, then quickly decline following event
In closing…

• Questions
• Concerns

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French Broad River at Asheville
Buncombe County