

Ground Water Report

Drought Management Advisory Council

Raleigh, NC

April 28, 2016

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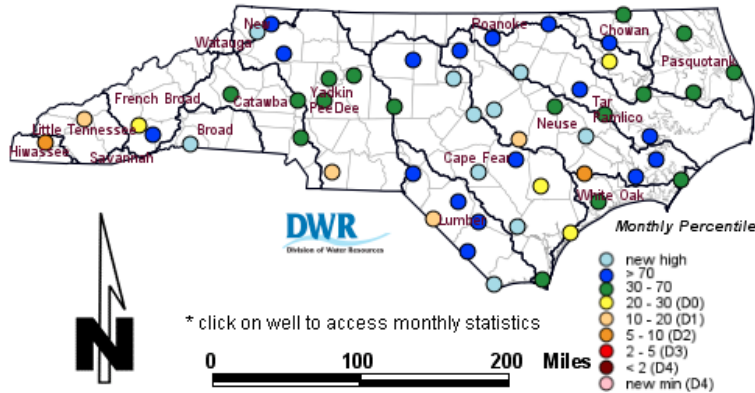
Ground Water Management Branch
Water Planning Section



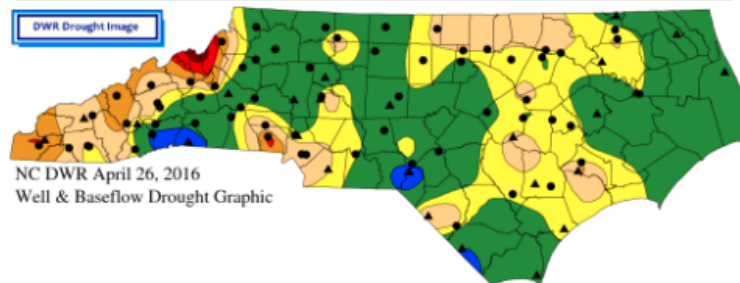
Drought Indicator Wells

- 54 wells with a 36 year average record
- 14 wells monitored by USGS
 - Automatic recorders, hourly data, satellite telemetry
- 40 wells monitored by DWR
 - Automatic recorders, hourly data, downloaded quarterly (Feb, May, Aug & Nov) & cell phone telemetry on 12 wells
 - A couple of wells are in flux due to land owner or well construction issues

Drought Indicator Wells



Water level in status table ranked against historical data for the matching month through 2015.



D4	D3	D2	D1	D0
Exceptional	Extreme	Severe	Moderate	Abnormally Dry
< 2	2 - 5	5 - 10	10 - 20	20 - 30

Normal	Wet
30 - 70	> 70

Contoured baseflow (circles) and well (triangles) percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2015). Graphic is re-drawn each Tuesday.

The NC Division of Water Resources and the US Geological Survey

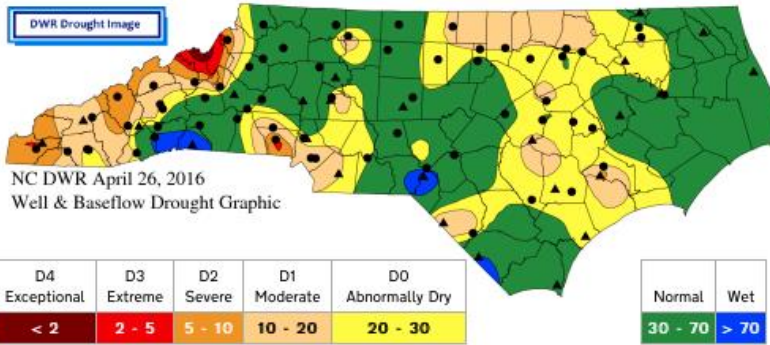
Today: April 26, 2016

#	WELL NAME	STATUS	COUNTY	RIVER BASIN	YEARS	%-DAILY
1	Columbus	Apr 26, 2016	Polk	Broad	41	35
2	Kelly	Mar 9, 2016	Bladen	Cape Fear	35	29
3	Southport (BR-083)	Apr 25, 2016	Brunswick	Cape Fear	46	42
4	Seabrook School	Jan 26, 2016	Cumberland	Cape Fear	34	31
5	Rose Hill (NC-222R)	Apr 25, 2016	Duplin	Cape Fear	34	44
6	Gibsonville	Jan 28, 2016	Guilford	Cape Fear	48	32
7	Camp Lejeune	Feb 1, 2016	Onslow	Cape Fear	29	89
8	UNC Campus	Feb 22, 2016	Orange	Cape Fear	65	26
9	Topsail Beach	Apr 26, 2016	Pender	Cape Fear	32	36
10	NC Zoo	Apr 26, 2016	Randolph	Cape Fear	46	31
11	Halls	Jan 25, 2016	Sampson	Cape Fear	35	30
12	Fuquay Varina	Feb 25, 2016	Wake	Cape Fear	34	36
13	Glen Alpine (BK-126)	Apr 25, 2016	Burke	Catawba	46	34
14	Troutman	Apr 26, 2016	Iredell	Catawba	47	50
15	Hornets Nest Park	Apr 26, 2016	Mecklenburg	Catawba	25	100
16	Roxobel	Mar 15, 2016	Bertie	Chowan	17	100
17	Sunbury **	Jun 18, 2015	Gates	Chowan	48	20
18	Como	Apr 26, 2016	Hertford	Chowan	35	35
19	Champion (HW-047)	Apr 25, 2016	Haywood	French Broad	60	96
20	Blantyre (NC-144)	Apr 25, 2016	Transylvania	French Broad	35	99
21	American Thread (NC-192)	Apr 25, 2016	Cherokee	Hiwassee	27	99
22	Bryson City	Apr 26, 2016	Swain	Little Tennessee	51	35
23	Bladenboro	Mar 9, 2016	Bladen	Lumber	41	30
24	Calabash (BR-123) **	Feb 11, 2016	Brunswick	Lumber	43	29
25	Clarendon	Apr 26, 2016	Columbus	Lumber	40	17
26	Rowland	Apr 26, 2016	Robeson	Lumber	45	9
27	Magnolia School	Feb 4, 2016	Robeson	Lumber	38	29
28	Jordan Creek (NC-194)	Apr 25, 2016	Scotland	Lumber	22	85
29	Cherry Point	Feb 9, 2016	Craven	Neuse	26	43
30	Cleveland	Jan 25, 2016	Johnston	Neuse	11	89
31	Comfort (NC-173)	Apr 25, 2016	Jones	Neuse	30	63
32	Graingers	Feb 2, 2016	Lenoir	Neuse	24	63
33	Caldwell	Feb 9, 2016	Orange	Neuse	47	19
34	Whortonville	Jan 26, 2016	Pamlico	Neuse	38	19
35	Grantham (NC-148)	Apr 25, 2016	Wayne	Neuse	36	51
36	Stantonsburg	Feb 3, 2016	Wilson	Neuse	14	82
37	Laurel Springs	Feb 10, 2016	Alleghany	New	45	34
38	Beaver Creek	Feb 17, 2016	Ashe	New	46	47
39	Manteo Airport	Apr 26, 2016	Dare	Pasquotank	32	42
40	Elizabeth City (NC-195)	Apr 25, 2016	Pasquotank	Pasquotank	25	88
41	Gum Neck	Jan 21, 2016	Tyrrell	Pasquotank	39	32
42	Lewiston	Apr 26, 2016	Bertie	Roanoke	33	40
43	Van Swam (NC-158)	Apr 25, 2016	Washington	Roanoke	22	86

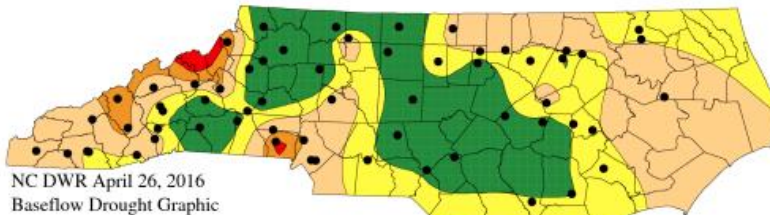
Current conditions tab on www.ncdrought.org



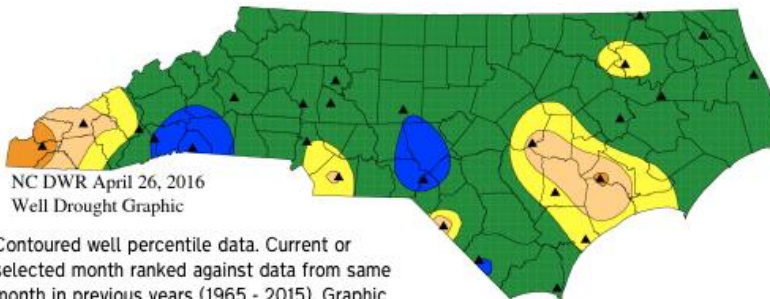
DWR Drought Image



Contoured baseflow (circles) and well (triangles) percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2015). Graphic re-drawn each Tuesday.



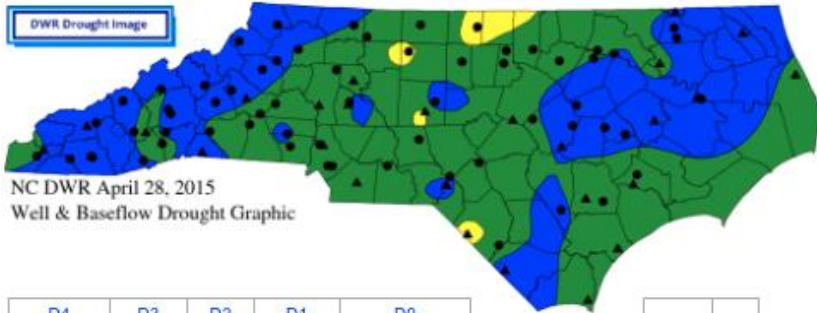
Contoured baseflow percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2015). Graphic re-drawn each Tuesday.



Contoured well percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2015). Graphic re-drawn each Tuesday.

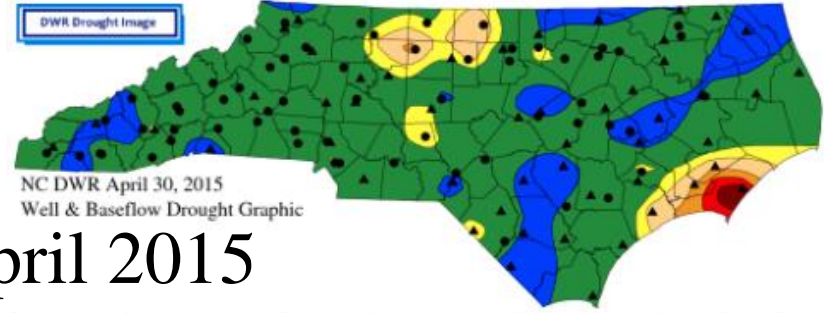
- Surface water gage data is filtered using the Lyne and Hollick algorithm to create daily baseflow data
- Latest values are ranked against historical baseflow data
- The resulting percentiles are contoured
- Similarly, latest levels are ranked against historical ground water level data and the resulting percentiles are contoured
- The combined set of percentiles are contoured in the DWR Drought Image (top map)

DWR Drought Image



D4 Exceptional	D3 Extreme	D2 Severe	D1 Moderate	D0 Abnormally Dry
< 2	2 - 5	5 - 10	10 - 20	20 - 30

Normal	Wet
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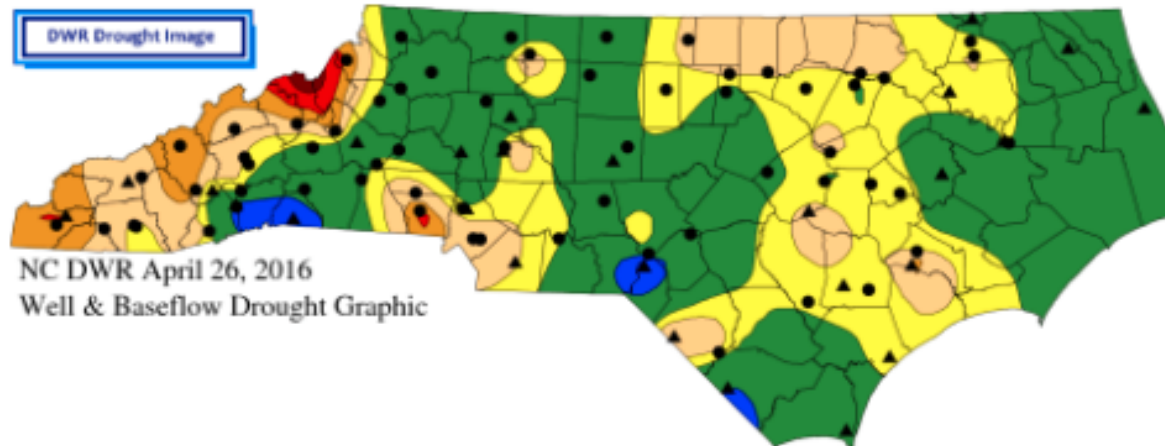


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April 2015

April
2016



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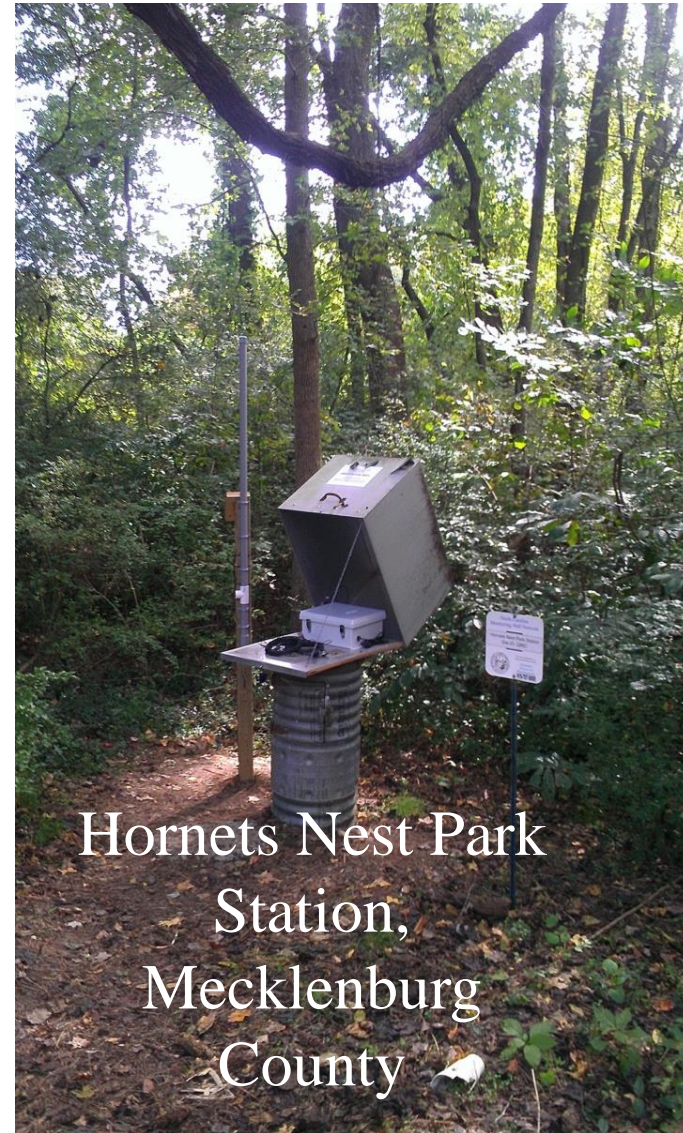
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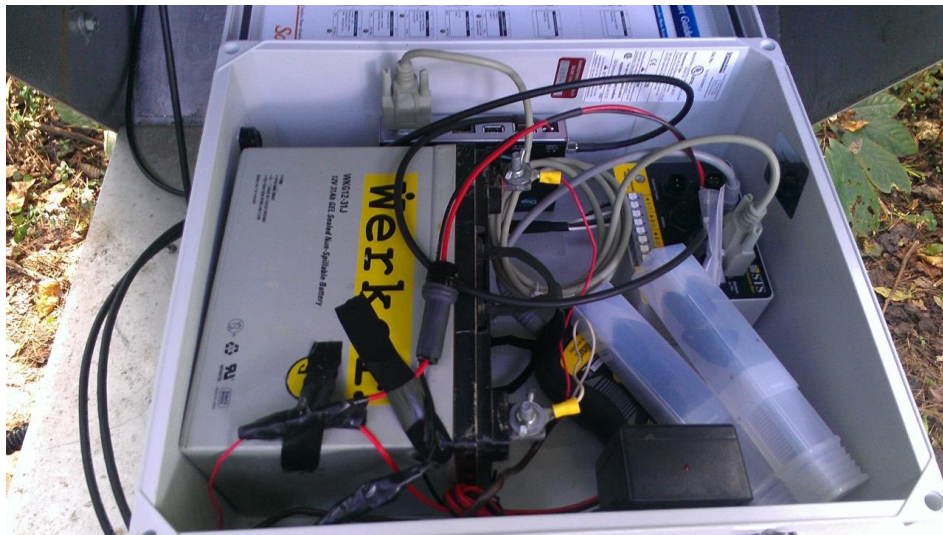
Network News & Guidance

We've installed cell phone telemetry on 12 wells. All are working steadily now. Four additional wells will be equipped with telemetry this summer and fall.

Full or near full ground water storage now translates to fewer drought related water supply impacts later this year. But, we're showing signs of drying already...

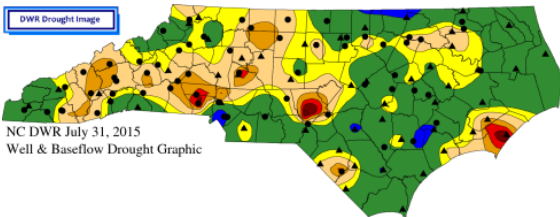
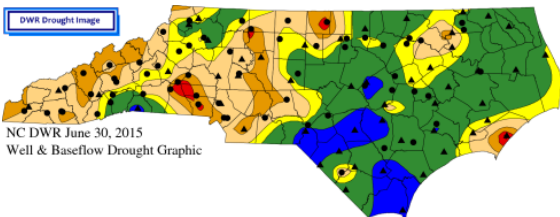
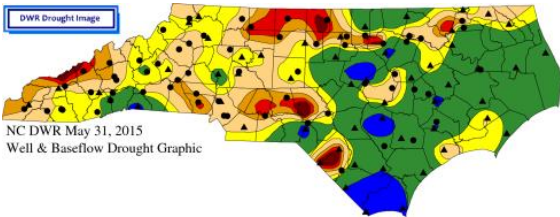
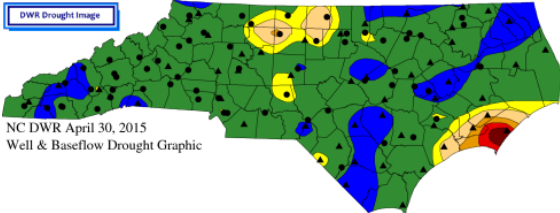


Hornets Nest Park
Station,
Mecklenburg
County



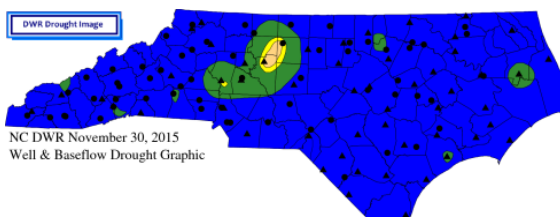
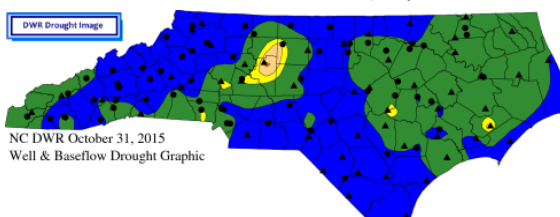
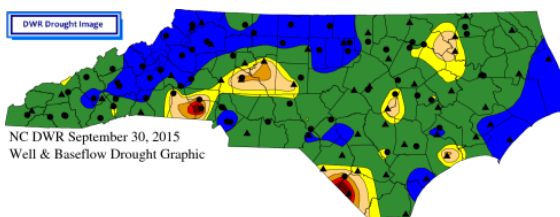
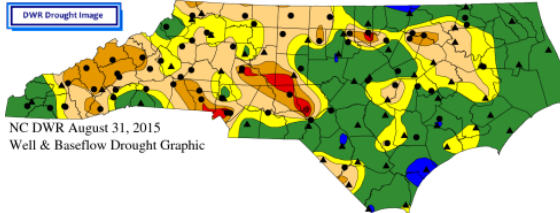
Year in Review

April 2015



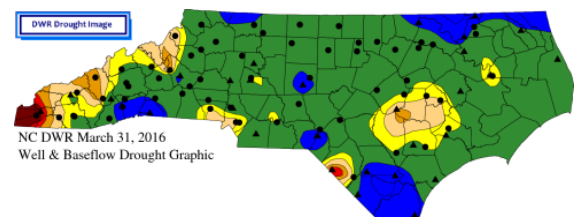
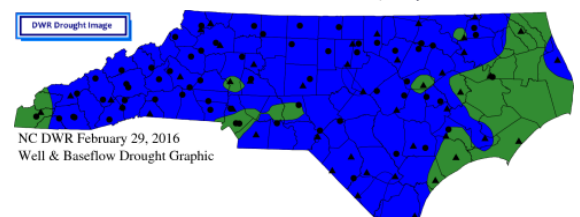
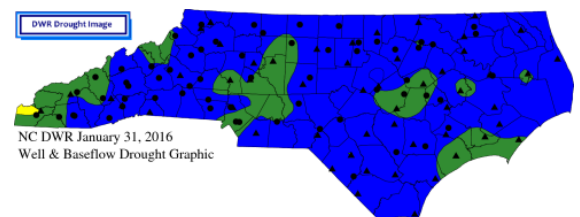
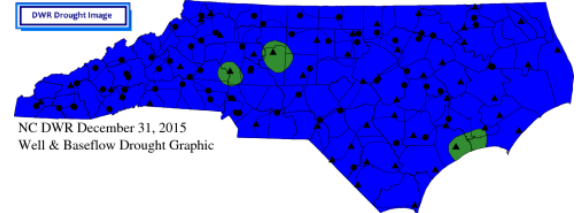
July 2015

August 2015



November 2015

December 2015

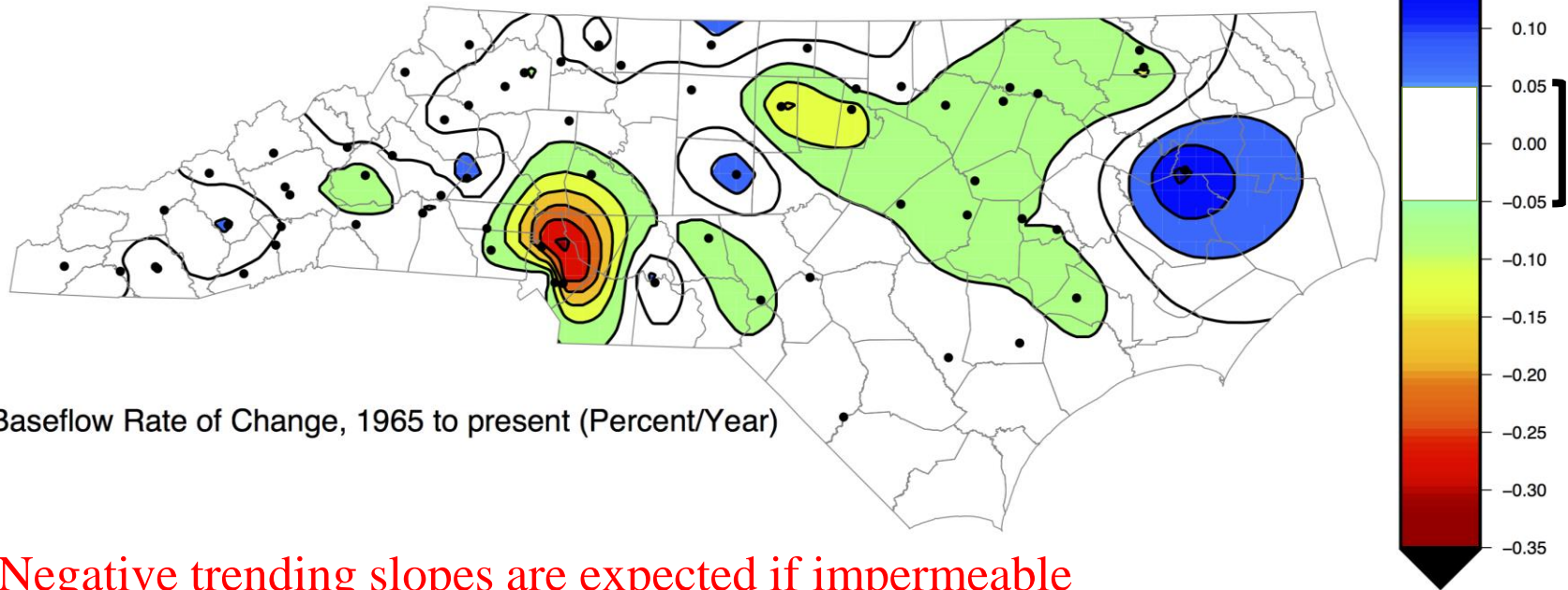


March 2016



Baseflow Rate of Change

Annual baseflow percentage averages were calculated (1965 to present) for each gage. Linear regressions yielded increasing, decreasing, or no change in the baseflow percentage.



- Negative trending slopes are expected if impermeable surfaces increase or number of rainfall events decrease.
- Positive trending slopes are expected if impermeable surfaces decrease or number of rainfall events increase.