

# *Ground Water Report*

Drought Management  
Advisory Council

Raleigh, NC

April 4, 2019

Nat Wilson

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Ground Water Management Branch

Water Planning Section

## **Drought Indicator Wells**

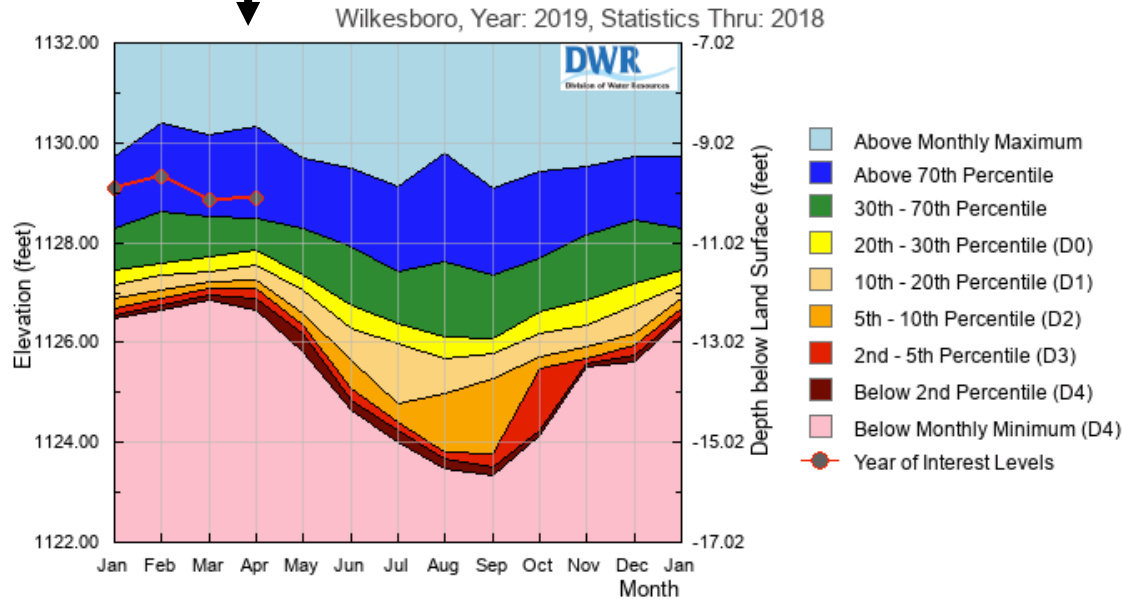
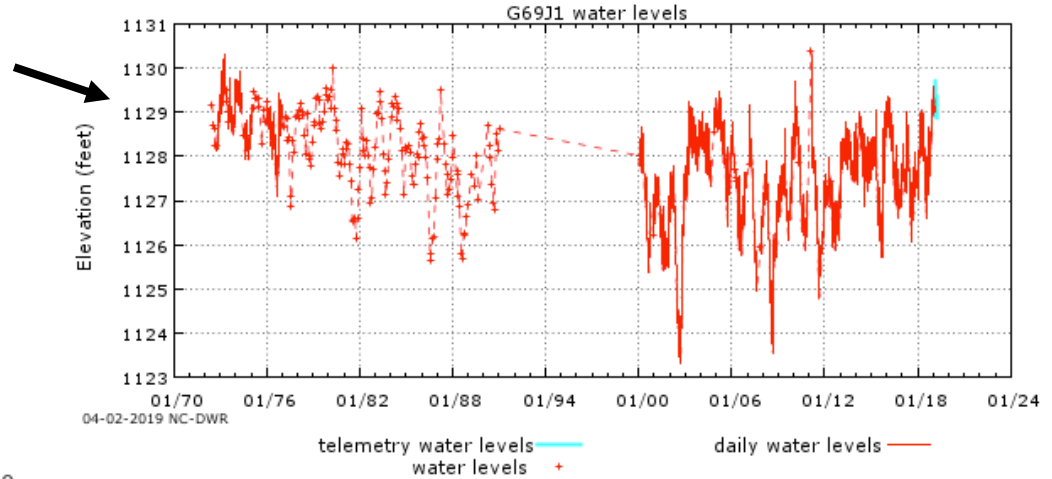
- 60 wells with a 35 year average record
- 33 have telemetry (satellite or cell phone)
- 43 DWR wells
- 17 USGS wells



# Example DIW (Wilkesboro)

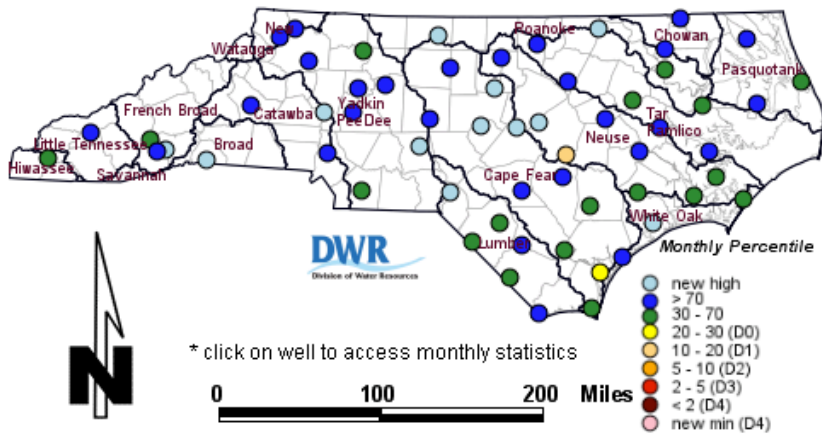
Water levels collected over time at various times of year can be seen in the time-series plot.

Collapse that plot into a year's time and represent the distribution of historical data as colored, monthly percentile ranges.

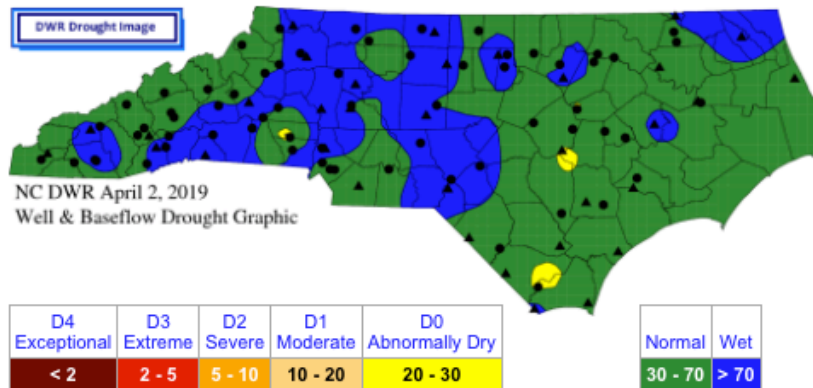


Now it's much easier to see how this year's water levels compare to that well's history of water levels.





Water level in status table ranked against historical data for the matching month through 2018.



Contoured baseflow (circles) and well (triangles) percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2018). Graphic is re-drawn each Tuesday.

Today: April 2, 2019

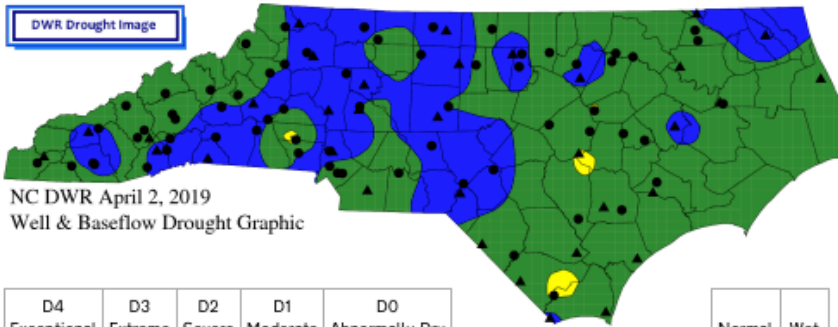
#	WELL NAME	CUR%ILE	STATUS	COUNTY	RIVER BASIN	YEARS	%-DAILY
1	<a href="#">Columbus</a>	100	Apr 1, 2019	Polk	Broad	44	40
2	<a href="#">Kelly</a>	38	Mar 7, 2019	Bladen	Cape Fear	38	34
3	<a href="#">Southport (BR-083)</a>	34	Apr 1, 2019	Brunswick	Cape Fear	49	45
4	<a href="#">General Timber</a>	100	Feb 21, 2019	Chatham	Cape Fear	6	92
5	<a href="#">Seabrook School</a>	96	Jan 28, 2019	Cumberland	Cape Fear	37	37
6	<a href="#">Rose Hill (NC-222R)</a>	42	Apr 1, 2019	Duplin	Cape Fear	37	49
7	<a href="#">Gibsonville</a>	97	Apr 1, 2019	Guilford	Cape Fear	51	36
8	<a href="#">NH Correctional Institute **</a>	23	Feb 26, 2019	New Hanover	Cape Fear	6	91
9	<a href="#">Camp Lejeune</a>	100	Feb 19, 2019	Onslow	Cape Fear	32	89
10	<a href="#">UNC Campus</a>	100	Feb 7, 2019	Orange	Cape Fear	65	30
11	<a href="#">Topsail Beach</a>	70	Apr 1, 2019	Pender	Cape Fear	35	42
12	<a href="#">NC Zoo</a>	94	Apr 1, 2019	Randolph	Cape Fear	47	36
13	<a href="#">Halls</a>	88	Jan 30, 2019	Sampson	Cape Fear	38	35
14	<a href="#">Fuquay Varina</a>	100	Jan 28, 2019	Wake	Cape Fear	37	41
15	<a href="#">Glen Alpine (BK-126)</a>	90	Apr 1, 2019	Burke	Catawba	49	38
16	<a href="#">Troutman</a>	100	Apr 1, 2019	Iredell	Catawba	50	53
17	<a href="#">Hornets Nest Park</a>	87	Apr 1, 2019	Mecklenburg	Catawba	25	100
18	<a href="#">Roxobel</a>	86	Jan 29, 2019	Bertie	Chowan	20	100
19	<a href="#">Como</a>	70	Apr 1, 2019	Hertford	Chowan	38	40
20	<a href="#">Champion (HW-047)</a>	42	Apr 1, 2019	Haywood	French Broad	63	97
21	<a href="#">Pisgah Forest (NC-147)</a>	91	Apr 1, 2019	Transylvania	French Broad	34	98
22	<a href="#">Blantyre (NC-144)</a>	100	Apr 1, 2019	Transylvania	French Broad	38	99
23	<a href="#">American Thread (NC-192)</a>	45	Apr 1, 2019	Cherokee	Hiwassee	30	100
24	<a href="#">Bryson City</a>	93	Apr 1, 2019	Swain	Little Tennessee	54	39
25	<a href="#">Bladenboro</a>	82	Feb 21, 2019	Bladen	Lumber	44	35
26	<a href="#">Calabash (BR-381) **</a>	87	Apr 1, 2019	Brunswick	Lumber	5	100
27	<a href="#">Clarendon</a>	66	Apr 1, 2019	Columbus	Lumber	43	23
28	<a href="#">Magnolia School</a>	64	Feb 20, 2019	Robeson	Lumber	41	34
29	<a href="#">Rowland</a>	49	Apr 1, 2019	Robeson	Lumber	48	15
30	<a href="#">Jordan Creek (NC-194)</a>	100	Apr 1, 2019	Scotland	Lumber	25	87
31	<a href="#">Cherry Point</a>	48	Feb 11, 2019	Craven	Neuse	29	48
32	<a href="#">Cleveland</a>	100	Jan 28, 2019	Johnston	Neuse	14	92
33	<a href="#">Comfort (NC-173)</a>	56	Apr 1, 2019	Jones	Neuse	33	67
34	<a href="#">Graingers</a>	95	Feb 6, 2019	Lenoir	Neuse	24	75
35	<a href="#">Caldwell</a>	98	Mar 4, 2019	Orange	Neuse	50	24
36	<a href="#">Whortonsville</a>	60	Feb 21, 2019	Pamlico	Neuse	41	25
37	<a href="#">Grantham (NC-148)</a>	19	Apr 1, 2019	Wayne	Neuse	39	55
38	<a href="#">Stantonsburg</a>	95	Jan 28, 2019	Wilson	Neuse	17	82
39	<a href="#">Laurel Springs</a>	71	Apr 1, 2019	Alleghany	New	48	38
40	<a href="#">Beaver Creek</a>	98	Feb 5, 2019	Ashe	New	49	50

NC DMAC, Current Conditions Tab  
<http://www.ncdrought.org/current.php>

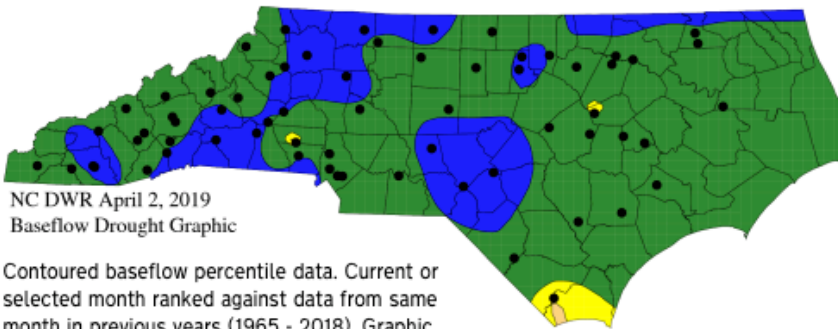


# DWR Drought Image

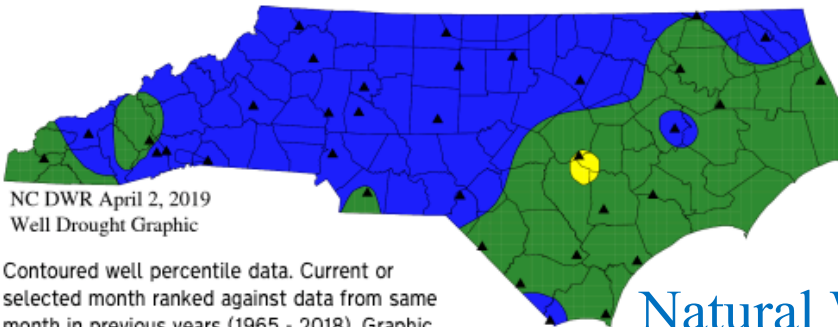
- Surface water gage data is filtered to create daily baseflow data – baseflow separation
- Latest baseflow values are ranked against historical baseflow data
- The resulting percentiles are contoured
- Similarly, latest ground water levels are ranked against historical ground water level data and the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



Contoured baseflow (circles) and well (triangles) percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2018). Graphic re-drawn each Tuesday.



Contoured baseflow percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2018). Graphic re-drawn each Tuesday.



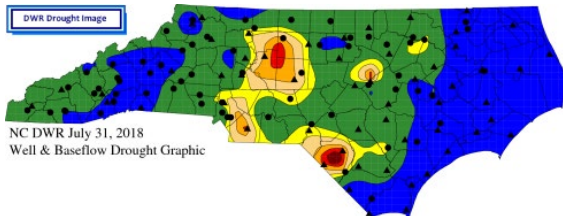
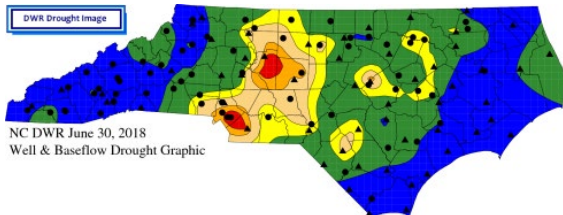
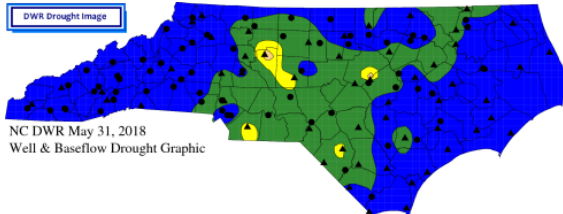
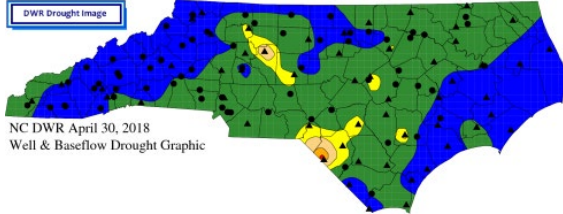
Contoured well percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2018). Graphic re-drawn each Tuesday.

Natural Water  Storage Status



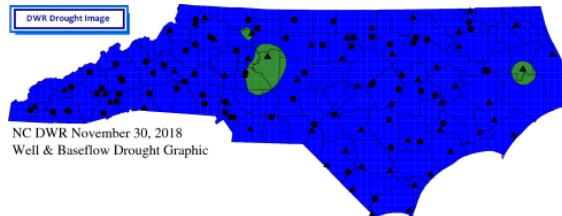
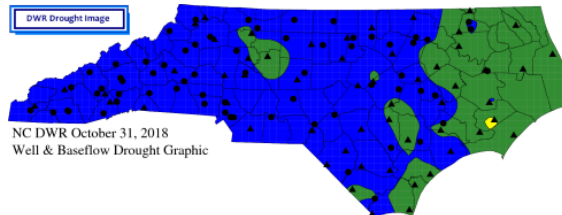
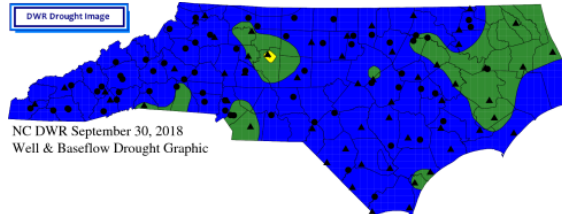
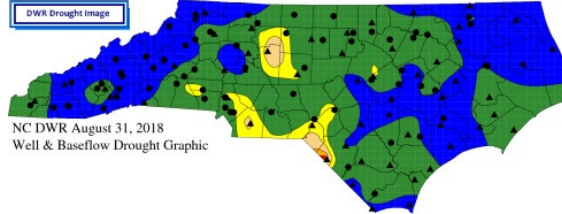
# Year in Review

## April 2018



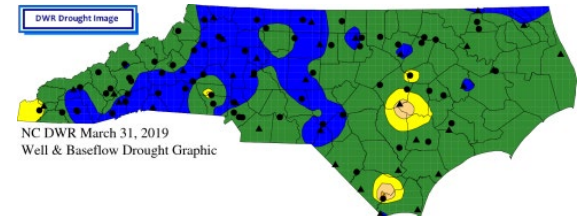
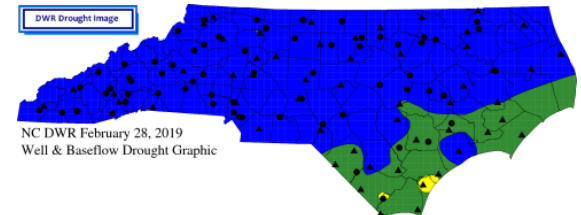
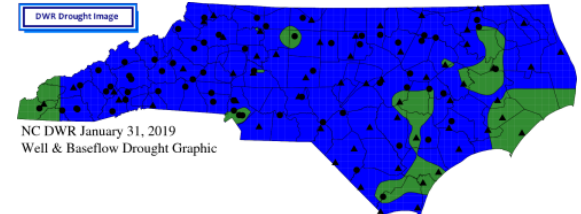
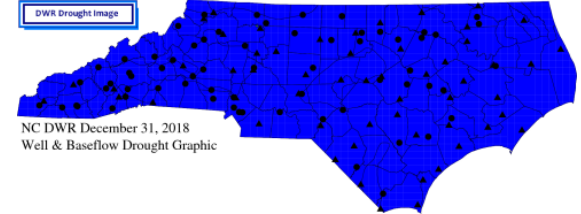
## July 2018

## August 2018



## November 2018

## December 2018



## March 2019



# What's Next?

## Adding wells

- A crop of USGS and DWR wells have collected enough data to be added to the DIW network – three added recently
- DWR plans on adding other telemetry wells, but must consider cost & complexity of installation

## Local networks

- Orange and Guilford counties each have a group of wells which might be added to the Drought Indicator Well webpage and be used for drought analysis
- Wake County is planning their own network with the help of the USGS



Densons Creek Park Station  
Montgomery County