

Groundwater Report

Drought Management

Advisory Council

Raleigh, NC

September 14, 2021

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Groundwater Management Branch

Groundwater Resources Section

Drought Indicator Wells

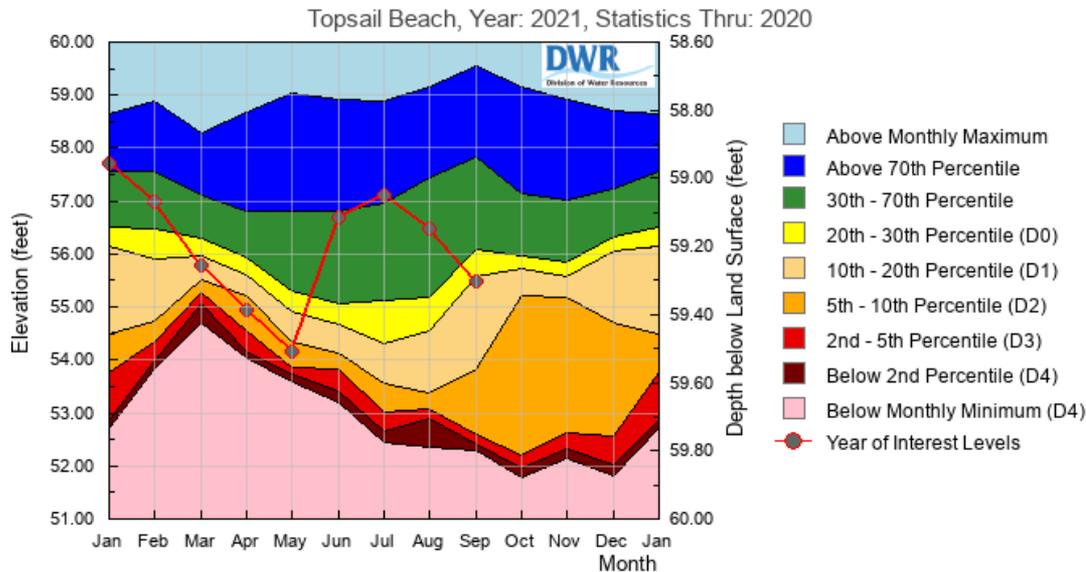
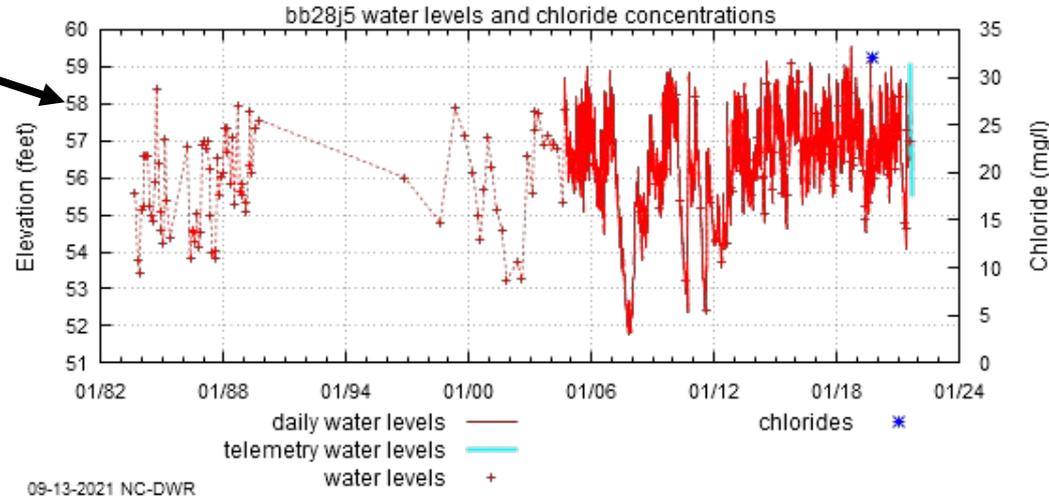
- 81 wells with a 32 year average record
- 33 have telemetry (satellite or cell phone)
- 49 DWR wells
- 17 USGS wells
- 15 Local wells



Example DIW (Topsail Beach, Pender County)

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

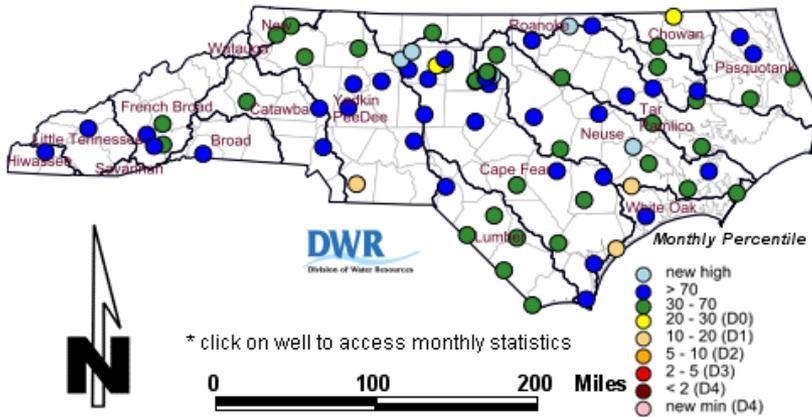
Collapse that plot into a year's time and represent the distribution of historical data as colored, monthly percentile ranges.



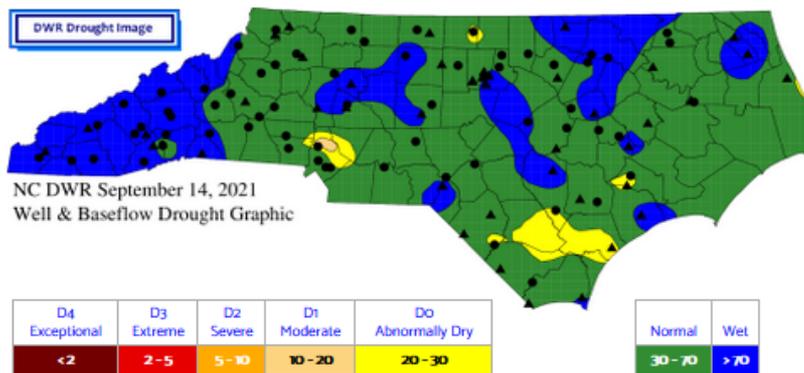
Now it's much easier to see how this year's water levels compare to that well's history of water levels.



Today: September 14, 2021



Water level in status table ranked against historical data for the matching month through 2020.



Contoured baseflow (circles) and well (triangles) percentile data. Current or selected month ranked against data from same month in previous years (1965 - 2020). Graphic is re-drawn each Tuesday.

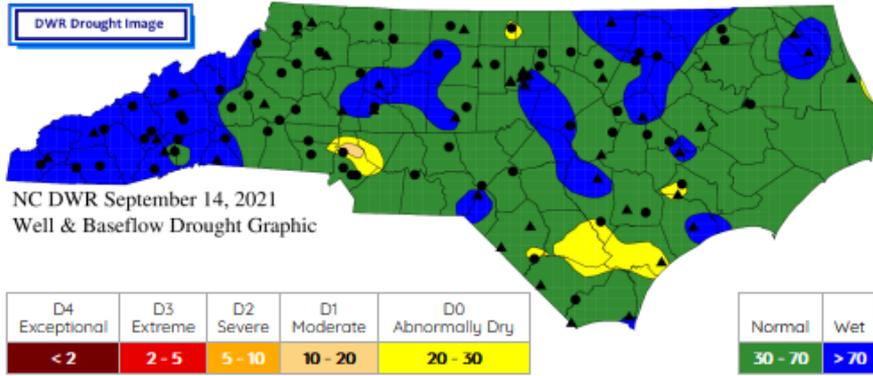
#	WELL NAME	CUR%ILE	STATUS	COUNTY	RIVER BASIN	YEARS	%-DAILY
1	Columbus	79	Sep 14, 2021	Polk	Broad	47	43
2	Kelly	31	Jul 28, 2021	Bladen	Cape Fear	41	37
3	Southport (BR-083)	73	Sep 13, 2021	Brunswick	Cape Fear	52	48
4	General Timber	75	Aug 4, 2021	Chatham	Cape Fear	8	95
5	Seabrook School	68	Jul 27, 2021	Cumberland	Cape Fear	40	41
6	Rose Hill (NC-222R)	60	Sep 13, 2021	Duplin	Cape Fear	39	52
7	Pink Hill	96	Jul 27, 2021	Duplin	Cape Fear	10	98
8	Hagan Stone Park	75	Jul 22, 2021	Guilford	Cape Fear	18	78
9	Summerfield (Jack Dent Park)	100	Jul 22, 2021	Guilford	Cape Fear	19	77
10	Gibsonville	64	Sep 14, 2021	Guilford	Cape Fear	54	39
11	Prison Farm	70	Jul 22, 2021	Guilford	Cape Fear	17	80
12	Gibson Park	93	Jul 22, 2021	Guilford	Cape Fear	18	83
13	Knox Road	28	Jul 22, 2021	Guilford	Cape Fear	19	79
14	Triad Park	100	Jul 22, 2021	Guilford	Cape Fear	19	81
15	Station 45 (Humble Road)	100	Mar 10, 2021	Guilford	Cape Fear	15	54
16	NH Correctional Institute**	92	Aug 11, 2021	New Hanover	Cape Fear	9	94
17	Camp Lejeune	88	Aug 25, 2021	Onslow	Cape Fear	34	90
18	Millhouse Road	79	Aug 30, 2021	Orange	Cape Fear	11	100
19	COL-1	64	Sep 1, 2021	Orange	Cape Fear	10	97
20	UNC Campus	90	Aug 17, 2021	Orange	Cape Fear	65	34
21	DF-4D	100	Aug 30, 2021	Orange	Cape Fear	13	66
22	COL-4	46	Sep 1, 2021	Orange	Cape Fear	10	98
23	Eubanks Road	83	Aug 30, 2021	Orange	Cape Fear	11	100
24	COL-3	42	Sep 1, 2021	Orange	Cape Fear	10	99
25	Blackwood Farm Bedrock	45	Aug 30, 2021	Orange	Cape Fear	11	100
26	Topsail Beach	19	Sep 14, 2021	Pender	Cape Fear	38	46
27	NC Zoo	79	Sep 14, 2021	Randolph	Cape Fear	49	39
28	Halls	95	Aug 17, 2021	Sampson	Cape Fear	41	39
29	Glen Alpine (BK-126)	60	Sep 13, 2021	Burke	Catawba	51	41
30	Troutman	75	Sep 14, 2021	Iredell	Catawba	53	55
31	Hornets Nest Park	79	Aug 3, 2021	Mecklenburg	Catawba	25	100
32	Roxobel	45	Jul 23, 2021	Bertie	Chowan	22	100
33	Como	22	Aug 4, 2021	Hertford	Chowan	40	44
34	Bent Creek	46	Aug 9, 2021	Buncombe	French Broad	10	100
35	Champion (HW-047)	90	Sep 12, 2021	Haywood	French Broad	66	97
36	Blantyre (NC-144)	60	Sep 13, 2021	Transylvania	French Broad	40	99
37	Pisgah Forest (NC-147)	70	Sep 13, 2021	Transylvania	French Broad	36	98

NC DMAC, Current Conditions Tab
<https://www.ncdrought.org/current-conditions>

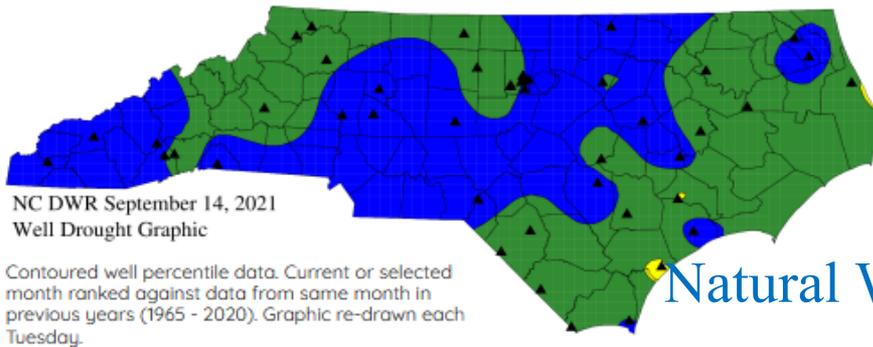
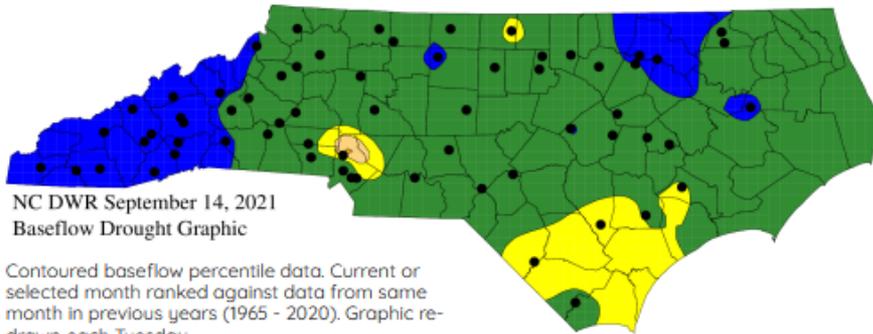


DWR Drought Image

- 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 - 2020). Graphic re-drawn each Tuesday.

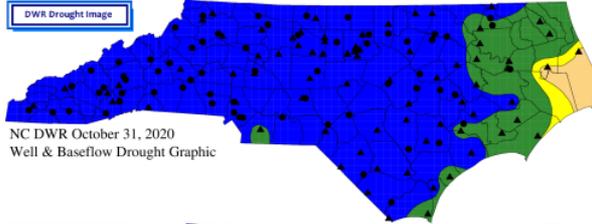


Natural Water  Storage Status



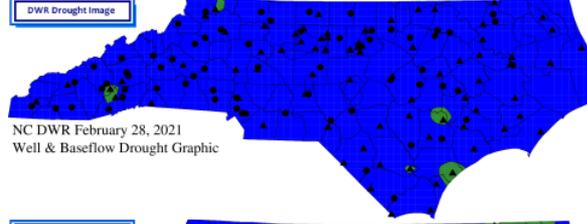
Year in Review

October 2020



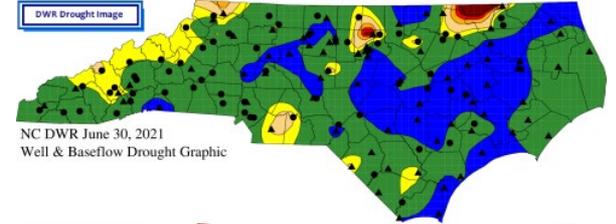
NC DWR October 31, 2020
Well & Baseflow Drought Graphic

February 2021

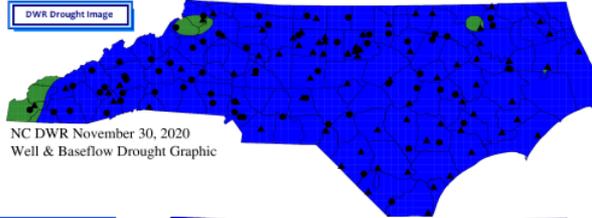


NC DWR February 28, 2021
Well & Baseflow Drought Graphic

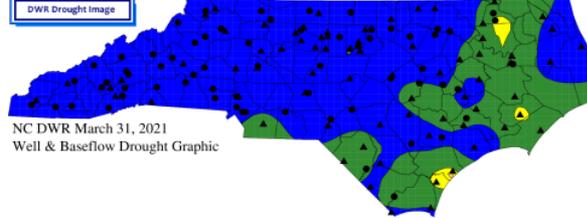
June 2021



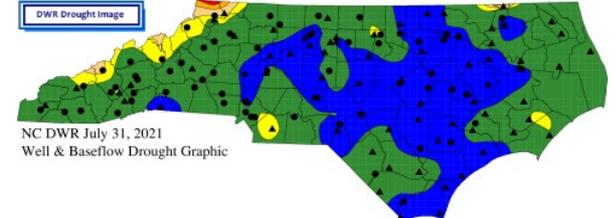
NC DWR June 30, 2021
Well & Baseflow Drought Graphic



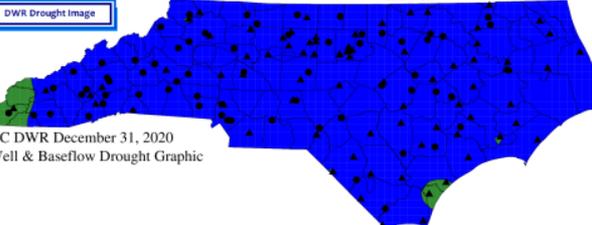
NC DWR November 30, 2020
Well & Baseflow Drought Graphic



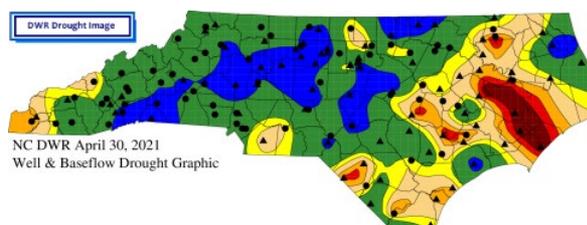
NC DWR March 31, 2021
Well & Baseflow Drought Graphic



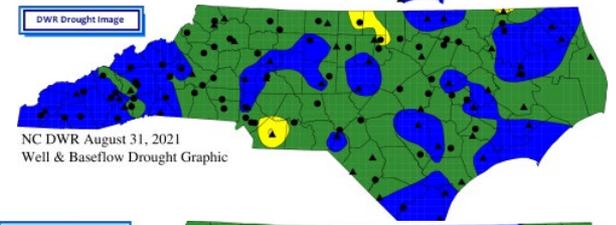
NC DWR July 31, 2021
Well & Baseflow Drought Graphic



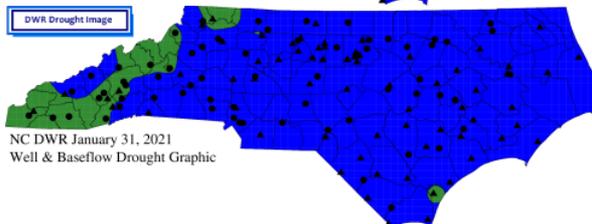
NC DWR December 31, 2020
Well & Baseflow Drought Graphic



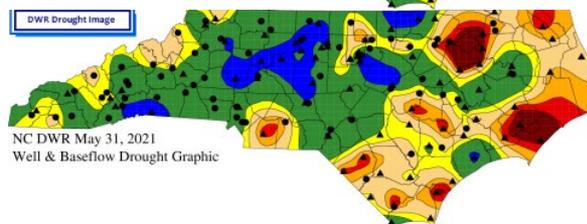
NC DWR April 30, 2021
Well & Baseflow Drought Graphic



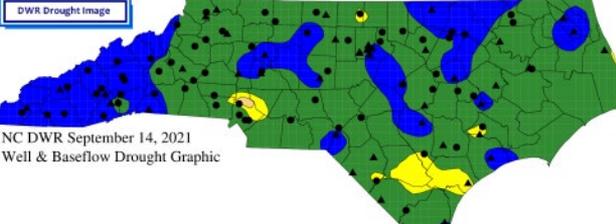
NC DWR August 31, 2021
Well & Baseflow Drought Graphic



NC DWR January 31, 2021
Well & Baseflow Drought Graphic



NC DWR May 31, 2021
Well & Baseflow Drought Graphic



NC DWR September 14, 2021
Well & Baseflow Drought Graphic

January 2021

May 2021

September 2021

What's Next?

Adding wells

- Additional DWR wells will have enough data collected (5-10 years) to be potentially added to the DIW network

Local networks

- Orange and Guilford county wells recently have been added to the Drought Indicator Well webpage and are used for drought analysis



Topsail Beach Station
Pender County