Downloading Water Level (Quantity) and Water Quality Data Using the Division of Water Resources (DWR)/Groundwater Management Branch (GWMB) Database

This document describes how to download water quantity and water quality data from the DWR/GWMB database. For the purposes of this document, we are using the Merchants Millpond Station, C16S1, Gates County well as the example.

Navigating the website

- 1. Open <u>https://www.ncwater.org/gwmb</u>
- 2. Click on Groundwater Levels and Quality link (Figure 1, upper left) to open the map interface (Figure 2). The map displays all active DWR Network wells, and you can use the Zoom tools to enlarge the map and view individual station names. If you click on an individual station, a list of station wells will display (Figure 3).



Figure 1. Screen capture of the North Carolina Groundwater Data web interface.



Figure 2. Screen capture of the North Carolina Dept. of Environmental Quality's Groundwater levels and quality map interface.



Figure 3. List of wells located at the Merchants Millpond State Park monitoring station when accessed through the map interface.

3. Use the "Browse by counties" tool at the top of the map interface to view wells in counties that start with "G" (click on the 'G' indicated by the purple arrow in Figure 2). A list of wells, sorted by counties will display as a new tab (Figure 4).

For each item in the list, the well ID is a link to water level data and the well name is a link to water quality data (Figure 5).



Figure 4. Screen capture of the list of wells in counties whose names start with 'G'.

DWR Active Monitoring Well Database 17 Wells Download text file Search table for											
Id link to water level data & name link to water quality data County ◇ Id ◇ Name ◇ Aquifer ◇ Depth (feet) ◇											
Granville	B 39X1	Wallace Vauahan	Basement rock	14/							
Sates	C 1651	Merchants Milloond State Park	Upper Cape Fear	460							
Gates	C 1652	Merchants Millpond State Park	Begufort	250							
Gates	C 16S3	Merchants Millpond State Park	Castle Haune	205							
Gates	C 16S4	Merchants Millpond State Park	Yorktown	55							
Gates	C 16S5	Merchants Millpond State Park	Surficial	25							
Gates	C 16S6	Merchants Millpond State Park	Lower Cape Fear	870							
Granville	E 38F1	Oxford	Basement rock	490							
Guilford	G 50W2	Gibsonville	Basement rock	49							
Greene	O 27J10	Eastern Correctional Institution	Black Creek	125							
Greene	O 27J11	Eastern Correctional Institution	Upper Cape Fear	325							
Greene	O 27J8	Eastern Correctional Institution	Surficial	18							
Greene	O 27J9	Eastern Correctional Institution	Yorktown	55							
Greene	O 28K3	Snow Hill	Lower Cape Fear	415							
Greene	O 28K4	Snow Hill	Upper Cape Fear	239							
Greene	O 28K5	Snow Hill	Surficial	8							
Greene	O 28K6	Snow Hill	Surficial	25							

Figure 5. Screen capture of list of wells in counties whose names start with 'G'. Well IDS, which link to water level data, are highlighted in red. Well names, which link to water quality data, are highlighted in blue.

Downloading and viewing water level data

- 1. Click on well ID "C16S1" from the previous list (Figure 5) to open the water level data interface (Figure 6).
- 2. Locate the number of water levels at the bottom of the table, and click on this number (1,531 as of January 24, 2024, see Figure 6) to initiate the download of a CSV file. The data will be saved in a comma separated value format which can be imported into Excel or viewed in a text editor application (Figure 7).

Field	Data	DWR Monitoring Database Detail for C16S1
County	Gates	Show Map Monthlu Statistics Plot Site Map Station Levels
Quad link to framework	C 16S1	C1801 water lawle and eklesides, samplete resert, 02/02/2014 NC DMP
Name link to logs	Merchants Millpond State Park	C1551 water reveis and chiorides - complete record - 02/20/20/24 NC-DWR
atitude	36.440600	-16 *
ongitude	-76.699700	-60 -60
ocation Accuracy	GPS	W W W W W
Netname		
link to USGS data)		5
JSGS ID		
Aquifer	Upper Cape Fear	1 ŭ 1 5
and Surface Elevation		-20
ED elevation = 32.58 feet	32.361	
Date Constructed	2019-06-14	-21
Measuring Point	2.91	2020 2021 2022 2023 2024
Depth	469	+ water levels —— daily water levels 🗰 chlorides
Diameter	4	
rield	0	- C1051 water levels and chiondes - UZ/Z0/Z0/Z0/A NG-DWR O + E = X //
Existing	yes	-18.2
Recorder Box	no	-60
Top of Screen Depth	440	-10.4
Bottom of Screen Depth	458	B-18.6
lemperature	61.398	
Number of Water Levels	1,531	<u>8</u> -18.8
date * feet below land surface *	999.99 feet below land surface value	-10 -10 -20
levation)	indicates dry well -222.22 feet above land surface value	
1019-12-02 to 2024-01-24	indicates a flowing well	-19.2
Number of Chlorides	3	; Oct 2023 Jan 2024 Apr 2024 Jul 2024 Oct 2024
date * chlorppm * spcond_uS/cm salin_ppt * pH * comments}	" -1 values equal no data	
019-12-03 to 2023-09-14	" a negative number other than -1 equals below detection limit of abs(number)	slope: +0.32 feet/year between 2023-10-01 and 2024-01-24
SV download file(s)	GWMB	Plotly tools are available above lower chart to zoom into rectangular area, pan, zoom in, zoom out, scale to extremes of
ED = National Elevation Dataset, 1	/3 arc second value	data, return to initial view, and show closest data point information.
10 X 10 meter grid)	王	

Figure 6. Screen capture of the water level data interface. Data shown corresponds to well C16S1.

•••	C16s1_084817_lev.csv ~
pate, reet below land surface, elev "2019–12–02", 49.51, -17.15 "2019–12–09", 49.68, -17.32 "2019–12–10", 49.806, -17.44	
"2019-12-11",49.879,-17.52 "2019-12-12",49.959,-17.60 "2019-12-13",49.91,-17.55	
"2019-12-14",49,719,-17.36 "2019-12-15",49.809,-17.45 "2019-12-16",49.859,-17.50 "2019-12-17",49.804,-17.44	
"2019-12-18",49.823,-17.46 "2019-12-19",49.962,-17.60 "2019-12-20",50,-17.64	
"2019-12-21",49.977,-17.62 "2019-12-22",49.962,-17.60 "2019-12-23",49.878,-17.52	
"2019-12-24",49.819,-17.46	

Figure 7. Screen capture of the first several water level records for C16S1 from the downloaded file.

- 3. You may open the file directly into Excel by either double-clicking the file which will normally be associated with Excel or from Excel: File: Open... command open the file.
- 4. Or you may open Microsoft Excel, navigate to the cell of interest, and use the File: Import command and select CSV and then choose the file of interest and then check delimited with comma and finally, use the Finish button (Figure 8).

A	1 ;	\times f_x		
	A	В	С	D
1	date	feet below land surface	elevation	
2	12/2/19	49.51	-17.15	
3	12/9/19	49.68	-17.32	
4	12/10/19	49.806	-17.44	
5	12/11/19	49.879	-17.52	
6	12/12/19	49.959	-17.6	
7	12/13/19	49.91	-17.55	
8	12/14/19	49.719	-17.36	
9	12/15/19	49.809	-17.45	
10	12/16/19	49.859	-17.5	
11	12/17/19	49.804	-17.44	
12	12/18/19	49.823	-17.46	
13	12/19/19	49.962	-17.6	
14	12/20/19	50	-17.64	
15	12/21/19	49.977	-17.62	
16	12/22/19	49.962	-17.6	
17	12/23/19	49.878	-17.52	
18	12/24/19	49.819	-17.46	
19	12/25/19	49.861	-17.5	
20	12/26/19	49.869	-17.51	
21	12/27/19	49.87	-17.51	
22	12/28/19	49.84	-17.48	
23	12/29/19	49.804	-17.44	
24	12/30/19	49.713	-17.35	
25	12/31/19	49.687	-17.33	
26	1/1/20	49.695	-17.33	
27	1/2/20	49.764	-17.4	
28	1/3/20	49.701	-17.34	
29	1/4/20	49.641	-17.28	
30	1/5/20	49.609	-17.25	
31	1/6/20	49.649	-17.29	
32	1/7/20	49.673	-17 31	

Figure 8. Screen capture of water level data in Excel.

Downloading and viewing water quality data

- 1. Return to the list of wells in counties whose names start with "G" (refer to Figure 5).
- 2. Open the water quality data interface for well C16S1 (Figure 9) by clicking on the monitoring station name (Merchants Millpond State Park) that appears in the column to the right of well ID C16S1.

Field	Data	DWR Monitoring I	Database Detai	I for C16S1		
County	Gates	Show Man - Download WO d	ata Show in Groundwate	r Quality Man Inte	erface Sho	w Lab Qualifier
Duad link to framework	C 16S1	List		200 right op hit		a cab goanner
ame link to logs	Merchants Millpond State Park					
atitude	36.440600	FLD (6) MET (58) MIC (7) NU	JT (4) PES (32) PFAS (28)	RAD (0) SEM (61)	VOL (60) W	ET (7)
onaitude	-76.699700	Field: Search table				
ocation Accuracy	GPS	analvte name ⇔	value ◇ unit ◇	det lim ⇔	aual ⇔	date 🛇
lataama		Temperature	18.4 °C			2021-01-21
remarne		Specific Conductance	1133 µS/cm			2021-01-21
ink to USGS data)		Dissolved Oxygen	0.22 mg/L			2021-01-21
ISGS ID		pH	8.37			2021-01-21
quifer	Upper Cape Fear	Salinity	0.57 g/L			2021-01-21
and Surface Elevation		Oxidation-Reduction Potential	-99.9 mV			2021-01-21
IED elevation = 32.59 feet	32.361		/			
ate Constructed	2019-06-14	000 E - <	🔒 ncw	ater.org (•	
1easuring Point	2.91	-				
Depth	469	283 records created				
Diameter	4	download your data (labres	<u>082211.csv)</u>		/	
'ield	0				/	
xisting	yes		labres_	090637.csv ~		
lecorder Box	no	location_code,sample_id,date,a	nalyte_name,numeric_resul	t,analysis_unit,a	nalyte_mdl,a	oql,analysis_refere
op of Screen Depth	440	"MERCHANTSMILLPONDSTATEPARK_C1	6S1","AC81121","2021-01-2	1","Ag-Dissolved	Silver by I	CPMS","1","µg/
Bottom of Screen Depth	450	"MERCHANTSMILLPONDSTATEPARK_C1	"U","","7440-22-4","AG_L1 6S1","AC81121","2021-01-2	Q_DIS","A NEAL"," 1","Al - Dissolve	d Aluminum b	y ICP","50","µg/
emperature	61.398	"MERCHANTSMILLPONDSTATEPARK_C1	","U","","7429-90-5","AL_ 651","AC81121","2021-01-2	LIQ_DIS","A NEAL" 1","As- Dissolved	by ICPMS Ar:	senic","2","µg/
SV download file	Canva	L", "2", "2", "EPA 200.8 Rev5.4",	"U","","7440-38-2","AS_LI	Q_DIS","A NEAL","	MET",""	"uo/l" "50" "50"
ED - National Elevation Dataset; 10 X 10 meter grid) eturn to well table	1/3 arc second value	200.7 Rev4.44","","","7400-33-3 "MERCHANTSMILLPONDSTATEPARK_C1 L',"10","10","EPA 200.7 Rev4.4 "MERCHANTSMILLPONDSTATEPARK_C1 L',"S","5","5","EPA 200.7 Rev4.4" "NERCHANTSMILLPONDSTATEPARK_C1 L","0.1","64.1","EPA 200.7 Rev4	""B LIQ_DISS""A NEAL"" 651","AC81121","2021-01-2 ""","","7440-38-3","BA_L 651","AC81121","2021-01-2 "U","","7440-41-7","BE_LI 651","AC81121","2021-01-2 4","","","240-41-2","C6 651","AC81121","2021-01-2	MET","" 1","Ba- Dissolved IQ_DIS","A NEAL", 1","Be-Beryllium 1 Q_DIS","A NEAL"," 1","Ca-Dissolved _LIQ_DIS","A NEAL 1","Cd- Dissolved	Barium by I "MET","" Dissolved by MET","" Calcium by I ","MET","" Cadmium by	СР","14","µg/ ICP","5","µg/ CP","1.8","mg/ ICPMS","0.5","µg/

Figure 8. Screen capture of the groundwater quality data interface for monitoring well C16S1. A separate window displays the data as comma separated value file in a text editor application..

- 3. Click on the Download WQ data link to retrieve the data. The window will show that C16S1 has 283 records and a link to download the text file. Click on the link in blue and the text file will download to your computer as shown in Figure 9.
- 4. Either double-click the file (which is normally associated with Excel) or use the Open... command from within Excel or open Excel and use the File: Import command (as described previously). Your worksheet should look like Figure 10. As before, the file can also be viewed in a text editor application.

A	В	С	D	E	F	G	н	1	J	К	L	М	N	0	Р
location_code	sample_id	date	analyte_name	umeric_resu	lanalysis_unit	analyte_mdl	apql	analysis_reference	qualifier	pam_dilution	cas_number	analysis_coder	mple_collects	inalysis_dep	commen
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	Ag-Dissolved Silver by ICPMS	1	µg/L	1	1	EPA 200.8 Rev5.4	U		7440-22-4	AG_LIQ_DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	Al - Dissolved Aluminum by ICP	50	µg/L	50	50	EPA 200.7 Rev4.4	U		7429-90-5	AL_LIQ_DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	As- Dissolved by ICPMS Arsenic	2	µg/L	2	2	EPA 200.8 Rev5.4	U		7440-38-2	AS_LIQ_DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	B Dissolved by ICP	2700	µg/L	50	50	EPA 200.7 Rev4.4			7440-39-3	B_LIQ_DISS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	Ba- Dissolved Barium by ICP	14	µg/L	10	10	EPA 200.7 Rev4.4			7440-38-3	BA_LIQ_DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	Be-Beryllium Dissolved by ICP	5	µg/L	5	5	EPA 200.7 Rev4.4	U		7440-41-7	BE_LIQ_DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	Ca-Dissolved Calcium by ICP	1.8	mg/L	0.1	0.1	EPA 200.7 Rev4.4			7440-70-2	CA_LIQ_DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	Cd- Dissolved Cadmium by ICPMS	0.5	µg/L	0.5	0.5	EPA 200.8 Rev5.4	U		7440-43-9	CD_LIQ_DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK C16S1	AC81121	1/21/21	Cobalt Dissolved by ICP	50	µg/L	50	50	EPA 200.7 Rev4.4	U		7440-48-4	CO ICP DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK C16S1	AC81121	1/21/21	Cr- Dissolved Chromium by ICPMS	5	µg/L	5	5	EPA 200.8 Rev5.4	U		7440-47-3	OMIUM LIQ	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	Cu- Dissolved Copper by ICPMS	2	µg/L	2	2	EPA 200.8 Rev5.4	U		7440-50-8	CU_LIQ_DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK C16S1	AC81121	1/21/21	Fe- Dissolved Iron by ICP	50	ug/L	50	50	EPA 200.7 Rev4.4	U		7439-89-6	FE LIQ DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK C16S1	AC81121	1/21/21	Hg 245.1 Dissolved	0.2	µg/L	0.2	0.2	EPA 245.1 Rev3	U		7439-97-6	HG LIQ DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK C16S1	AC81121	1/21/21	K-Dissolved Potassium by ICP	11	mg/L	0.1	0.1	EPA 200.7 Rev4.4			9/7/40	K LIQ DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK C16S1	AC81121	1/21/21	LI DISSOLVED ICP	25	ug/L	25	25	EPA 200.7 Rev4.4	U		7439-93-2		A NEAL	MET	
VERCHANTSMILLPONDSTATEPARK C16S1	AC81121	1/21/21	Mg- Dissolved Magnesium by ICP	1.1	mg/L	0.1	0.1	EPA 200.7 Rev4.4			7439-95-4	MG LIQ DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C1651	AC81121	1/21/21	Mn Dissolved by ICP	10	ug/1	10	10	EPA 200.7 Rev4.4	U		7439-96-5	N ICP LIQ D	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C1651	AC81121	1/21/21	Mo Dissolved by ICPMS	11	ug/1	10	10	FPA 200.8 Rev5.4			7439-98-7	MO LIO DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C16S1	AC81121	1/21/21	Na-Dissolved Sodium, by ICP	310	me/l	0.1	0.1	FPA 200 7 Rev4 4			7440-23-5	NA LIO DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C1651	AC81121	1/21/21	Ni-Dissolved Nickel by ICPMS	2		2	2	EPA 200 8 Rev5 4			7440-02-0	NI LIO DIS	ANEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C1651	AC81121	1/21/21	Pb-Dissolved Lead by ICPMS	2	ug/L	2	2	EPA 200 8 Rev5 4			7430-02-0		A NEAL	MET	
MERCHANTSMILLFONDSTATEPARK_C16S1	AC81121	1/21/21	Sh Dissolved by ICPMS	10	ug/1	10	10	EPA 200.8 Rev5.4	U		7440-36-0	SB LIQ DIS	A NEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C1651	AC81121	1/21/21	Se Dissolved Selenium, by ICPMS	1	ug/1	1	1	EPA 200 8 Rev5 4			7782-49-2	SE LIO DIS	A NEAL	MET	
AERCHANTSMILLPONDSTATEPARK C1651	AC81121	1/21/21	Sp.Dissolved Scientian by ICIMS	10	ug/1	10	10	EPA 200 8 Rev5 4			7440-31-5	SN LIO DIS	ANEAL	MET	
MERCHANTSMILLIONDSTATEPARK_C1651	AC81121	1/21/21	Sr Dissolved hu ICRMS	29	ug/L	10	10	EPA 200.8 Rev5.4			7440-34-5		A NEAL	MET	
MERCHANTSMILLFONDSTATEPARK_C1651	AC01121	1/21/21	Thallium (TI) Dissolved by ICPMS	20	µg/L	2	2	EPA 200.0 Rev5.4			7440-24-0	NULUM UO	A NEAL	MET	
MERCHANTSMILLFONDSTATEPARK_C1651	AC81121	1/21/21	Ti (Titanium) Dissolved by ICP VIS	10	µg/L	10	10	EPA 200.8 Rev3.4			7440-20-0	TLUO DIS	ANEAL	MET	
MERCHANTSMILLFONDSTATEPARK_CIESI	AC01121	1/21/21	V Disselved by ICP	10	μg/L	10	10	EPA 200.7 Rev4.4			7440-52-0		ANEAL	MET	
MERCHANTSMILLFONDSTATEPARK_C1051	AC81121	1/21/21	To Dissolved Dy ICP	10	μg/L	10	10	EPA 200.7 Rev4.4	0		7440-02-2		ANCAL	MET	
MERCHANTSMILLPONDSTATEPARK_C1651	AC81121	1/21/21	2n-bissolved 2inc by icervis	10	μg/L	10	10	EPA 200.8 Rev5.4	0		7440-00-0			MET	
MERCHANTSMILLPONDSTATEPARK_CIES1	AC01122	1/21/21	Al hu ICD	50	μg/L	1	1	EPA 200.8 Rev3.4			7440-22-4	AG_LIQ	ANEAL	MET	
MERCHANTSMILLFONDSTATEPARK_C1051	AC01122	1/21/21	All by ICP	50	μg/L	30	10	EPA 200.7 Rev4.4	0		7425-50-5	AL_LIQ	ANEAL	MET	
MERCHANTSMILLPONDSTATEPARK_C1651	AC81122	1/21/21	Antimony by ICPWIS	10	μg/L	10	10	EPA 200.8 Rev5.4	0		7440-30-0	SB_UQ	ANEAL	MET	
VERCHANTSMILLPONDSTATEPARK_CIBS1	AC81122	1/21/21	As by ICPMS	2	µg/L	2	2	EPA 200.8 Rev5.4	U		7440-38-2	AS_UQ	ANEAL	MET	
ACREMENTS MILLFONDSTATE PARK_C1651	AC01122	1/21/21	B DY ICP	2800	µg/L	50	50	EPA 200.7 Rev4.4			7440-39-3	B_UQ	ANCAL	MET	
VIERCHAN I SMILLPONDSTATEPARK_C1651	AC81122	1/21/21	Ba by ICP	14	µg/L	10	10	EPA 200.7 Kev4.4			7440-38-3	BA_UQ	A NEAL	MET	
VIERCHANTSWILLPONDSTATEPARK_C16S1	AC81122	1/21/21	BE BY ICP	5	µg/L	5	5	EPA 200.7 Rev4.4	U		7440-41-7	BE_UQ	ANEAL	MET	
VIERCHAN I SMILLPONDSTATEPARK_C16S1	AC81122	1/21/21	Ca by ICP	1.9	mg/L	0.1	0.1	EPA 200.7 Rev4.4			/440-70-2	CA_LIQ	A NEAL	MET	
MERCHAN (SMILLPONDSTATEPARK_C16S1	AC81122	1/21/21	Cd by ICPMS	0.5	µg/L	0.5	0.5	EPA 200.8 Rev5.4	U		/440-43-9	CD_LIQ	A NEAL	MET	

Figure 10. Screen capture of Microsoft Excel worksheet with water quality data for well C16S1.