POTENTIOMETRIC SURFACE MAPS OF THE UPPER AND MIDDLE FLORIDAN AND GORDON AQUIFERS IN SOUTH CAROLINA

NOVEMBER–DECEMBER 2018

STATE OF SOUTH CAROLINA
DEPARTMENT OF NATURAL RESOURCES

LAND, WATER AND CONSERVATION DIVISION

WATER RESOURCES REPORT 61
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ABSTRACT

Water-level measurements of 229 wells made primarily during November and December 2018 were used to construct two potentiometric surface maps of the Tertiary-age Coastal Plain aquifers in South Carolina: one map of the Upper Floridan and Middle Floridan aquifers, and one of the Gordon aquifer. This project is the first effort by the South Carolina Department of Natural Resources to produce a potentiometric map of the Gordon aquifer separately from that of the Upper and Middle Floridan aquifers. This report includes well information and water-level data used for the two maps, and a brief discussion about each potentiometric map.

The Upper and Middle Floridan potentiometric map was constructed using water-level data collected from 132 wells open to those aquifers. Water level measurements in 21 Upper Floridan wells were corrected for tidal influences. Potentiometric elevations ranged from a high of 279 feet in Barnwell County to a low of -41 feet in southern Jasper County. Groundwater flow is generally toward the southeast. Although no significant cones of depression were indicated, the potentiometric low near Savannah, Georgia continues to impact water levels and the groundwater flow direction in southern Beaufort and Jasper Counties.

The Gordon aquifer potentiometric map was constructed using water-level data collected from 97 wells open to that aquifer. Potentiometric elevations were generally lower than those of the Floridan aquifer and ranged from a high of 276 feet in Aiken County to a low of -34 feet in Charleston County. No cones of depression were identified, but a potentiometric low exists in southern Colleton and Charleston Counties, where all measured water levels were below sea level.

INTRODUCTION

In late 2018, static water levels were measured in a synoptic network of more than 200 wells completed in the Upper Floridan aquifer, Middle Floridan aquifer, or the underlying Gordon aquifer in the Coastal Plain of South Carolina. The resulting information was used by the South Carolina Department of Natural Resources (SCDNR) to produce two potentiometric surface maps—one of both the Upper and Middle Floridan aquifers, and one of the Gordon aquifer. These maps illustrate the elevation of the aquifer's potentiometric surface and provide an overview of conditions within the aquifer; indicate the general direction of groundwater flow; help identify changes in groundwater storage related to groundwater development; and help calibrate groundwater models.

Water levels were collected primarily in November and December 2018 from the Tertiary-aged Floridan and Gordon aquifers. Aquifer boundaries are defined in Aadland and others (1995) and in Gellici and Lautier (2010). In the updip area (Aiken and Barnwell Counties), the Upper and Middle Floridan aquifers are generally hydraulically connected and were mapped at the Savannah River Site (SRS) as a single aquifer—the Upper Three Runs aquifer—which is the water table aquifer at SRS (Aadland and others, 1995). For this potentiometric mapping study, the Upper Three Runs aquifer is treated as part of the Floridan aquifer. Also in Aiken County, the Gordon and Upper Three Runs aquifers coalesce and were mapped at SRS as the Steed Pond aquifer (Aadland and others, 1995). For this study, wells screened in the lower Steed Pond aquifer unit were included on the Gordon potentiometric map; wells screened in the middle and upper Steed Pond aquifer units were included on the Floridan map.

The 2018 maps represent the first effort by SCDNR to produce a potentiometric map of the the Gordon aquifer separate from that of the Upper and Middle Floridan aquifers. Previous potentiometric maps of the Tertiary aquifers contoured the Floridan and Tertiary Sand aquifers as if they were one aquifer (see, for example, Hockensmith and others, 2013; Wachob and others, 2014; and Wachob and others, 2017). Relatively large hydraulic head differences observed between the Floridan (Upper and Middle Floridan) and Gordon aquifers, especially in the SRS area, motivated SCDNR to map the potentiometric surfaces of the Floridan and Gordon aquifers individually for the 2018 study.

In this report, well location latitude and longitude coordinates are referenced to the horizontal datum NAD 83, and elevations are referenced to the vertical datum NAVD 88. Land surface elevations at all well locations were determined using county-based 10-foot Digital Elevation Models, improving on previous mapping efforts in which land surface elevations were estimated from topographic maps. Water levels measured relative to land surface were converted to water level elevations in feet (ft) referenced to NAVD 88.

ACKNOWLEDGEMENTS

Water level measurements were collected by SCDNR, Savannah River National Laboratory, South Carolina Department of Health and Environmental Control, and U.S. Geological Survey. The authors are grateful for the participation of these cooperating agencies and for the cooperation of the many well owners who provided the access to their wells needed to obtain the water level measurements used for these maps.

2018 UPPER AND MIDDLE FLORIDAN AQUIFERS POTENTIOMETRIC MAP

The November–December 2018 potentiometric surface map of the Upper and Middle Floridan (Floridan) aquifers (Plate 1) was constructed using water levels from 132 wells (Table 1). Of that total, 79 wells are open to or screened in the Upper Floridan, 50 are open to or screened in the Middle Floridan aquifer, and 3 are open to both the Upper and Middle Floridan aquifers.

Water levels in wells near tidal water bodies can fluctuate in response to the compression and expansion of the aquifer owing to the weight of the incoming and outgoing tide. In these wells, measured water levels can be corrected for tidal effects to improve the accuracy of the water level measurement (Czwartacki, 2018). For this map, water levels of 21 Upper Floridan wells were corrected for tidal effects (see Table 1).

On the 2018 map, potentiometric elevations range from 279 ft in Barnwell County to -41 ft in southern Jasper County, and the potentiometric surface indicates groundwater flow is generally toward the southeast. No significant cones of depression are seen on the 2018 Floridan aquifer map, but the low potentiometric pressure from pumping in Savannah, Georgia continues to direct groundwater flow in southern Beaufort and Jasper Counties toward the Savannah cone of depression.

In Beaufort County, water levels north of the Broad River were generally slightly above sea level, while south of the Broad River water levels were below sea level, decreasing steadily toward the southwest. In coastal wells having water levels at or below sea level, saltwater intrusion is an ongoing concern; some Upper and Middle Floridan wells on Hilton Head Island have already become saline.

Table 1. Wells used for 2018 Upper Floridan (UF) and Middle Floridan (MF) potentiometric map

SCDNR Well ID	Latitude (NAD 83)	Longitude (NAD 83)	Aquifer	2018 Water Level Elevation (ft NAVD 88)	Water Level Change from 2016 (ft)	Tide Corrected?
AIK-0867	33.37722	-81.64083	UF	209	-4	
AIK-0868	33.37730	-81.64088	MF	197	n/a	
AIK-0877	33.21417	-81.75889	MF	110	-4	
AIK-0890	33.28683	-81.72216	MF	163	n/a	
AIK-0891	33.28702	-81.72198	UF	163	0	
AIK-0897	33.33778	-81.70861	MF	254	-1	
ALL-0330	33.02667	-81.28667	MF	149	0	
ALL-0363	33.11361	-81.50611	UF	167	n/a	
ALL-0364	33.11361	-81.50611	MF	164	5	
ALL-0371	33.02472	-81.38472	MF	190	n/a	
ALL-0372	33.02472	-81.38444	UF	233	n/a	
ALL-0373	33.02500	-81.38417	MF	155	-2	
ALL-0408	32.97500	-81.45833	UF/MF	120	1	
ALL-0442	32.86389	-81.30556	UF	119	-2	
BAM-0011	33.18221	-81.18524	UF/MF	184	-2	
BAM-0026	33.10306	-81.01278	MF	135	0	
BAM-0031	33.29667	-81.03667	MF	150	n/a	
BAM-0062	33.19558	-81.05782	MF	124	n/a	
BAM-0081	33.17639	-80.91694	MF	126	-2	
BAM-0125	33.18919	-80.98003	MF	119	n/a	
BFT-0101	32.16806	-80.74056	UF	-8	0	
BFT-0118	32.42219	-80.75033	UF	2	1	
BFT-0133	32.52361	-80.71861	UF	2	1	
BFT-0145	32.55089	-80.74100	UF	-2	0	
BFT-0392	32.49541	-80.77688	UF	1	n/a	
BFT-0429	32.26417	-80.82000	UF	-15	n/a	
BFT-0430	32.29061	-80.64458	UF	2	n/a	Yes
BFT-0441	32.24917	-80.72778	UF	-1	1	Yes
BFT-0449	32.32689	-80.46131	UF	1	1	Yes
BFT-0452	32.39806	-80.43750	UF	3	0	Yes
BFT-0459	32.31442	-80.69753	UF	1	n/a	Yes
BFT-0488	32.40861	-80.51333	UF	4	n/a	
BFT-0501	32.28707	-80.81392	UF	-3	n/a	Yes
BFT-0563	32.37444	-80.54722	UF	6	0	
BFT-0564	32.33556	-80.62361	UF	3	1	
BFT-0565	32.32167	-80.67361	UF	2	n/a	Yes
BFT-0704	32.15379	-80.76499	UF	-9	1	
BFT-0709	32.13167	-80.79444	UF	-10	2	
BFT-0744	32.16616	-80.77812	UF	-10	-2	
BFT-0787	32.24889	-80.69917	UF	-1	0	Yes
BFT-0976	32.34022	-80.58725	UF	0	-2	
BFT-0982	32.36461	-80.65981	UF	2	0	Yes
BFT-1212	32.57722	-80.74139	UF	-2	n/a	
BFT-1306	32.46294	-80.75986	UF	9	4	
BFT-1540	32.43317	-80.53297	UF	3	1	
BFT-1548	32.38119	-80.57278	UF	4	0	

Table 1 (continued). Wells used for 2018 Upper Floridan (UF) and Middle Floridan (MF) potentiometric map

SCDNR Well ID	Latitude (NAD 83)	Longitude (NAD 83)	Aquifer	2018 Water Level Elevation (ft NAVD 88)	Water Level Change from 2016 (ft)	Tide Corrected?
BFT-1583	32.44611	-80.65433	UF	7	1	
BFT-1592	32.35958	-80.59522	UF	3	1	
BFT-1599	32.47589	-80.63283	UF	18	2	
BFT-1609	32.46336	-80.56136	UF	3	n/a	
BFT-1736	32.40750	-80.77111	UF	1	3	
BFT-1809	32.26750	-80.72278	MF	-1	n/a	
BFT-1810	32.26750	-80.72278	UF	-2	2	
BFT-1813	32.23278	-80.67722	MF	-1	n/a	
BFT-1814	32.23278	-80.67722	UF	-1	n/a	
BFT-1820	32.20472	-80.74917	MF	-4	n/a	
BFT-1822	32.20472	-80.74917	UF	-4	n/a	
BFT-1840	32.30547	-80.68964	MF	4	3	
BFT-1841	32.30541	-80.68963	UF	2	1	
BFT-1845	32.28056	-80.82167	MF	-2	3	
BFT-1846	32.28056	-80.82167	UF	-3	2	
BFT-1925	32.46944	-80.74111	UF	24	0	
BFT-1970	32.37500	-80.69333	UF	2	2	Yes
BFT-2198	32.25972	-80.71111	UF	0	1	Yes
BFT-2200	32.25667	-80.70722	UF	0	1	Yes
BFT-2245	32.14806	-80.83778	UF	-10	2	
BFT-2247	32.09028	-80.87194	UF	-17	0	
BFT-2301	32.29528	-80.79917	UF	0	2	Yes
BFT-2303	32.23833	-80.80861	UF	-5	1	Yes
BFT-2305	32.23861	-80.85583	UF	-7	1	Yes
BFT-2308	32.22111	-80.67194	UF	-2	1	Yes
BFT-2309	32.17611	-80.76806	UF	-6	1	Yes
BFT-2311	32.21500	-80.84694	UF	-11	n/a	Yes
BFT-2314	32.22167	-80.77833	UF	-4	1	Yes
BFT-2356	32.20333	-80.88028	UF	-13	n/a	
BFT-2402	32.24284	-80.71526	UF	1	n/a	Yes
BFT-2404	32.21306	-80.71722	UF	-6	n/a	
BFT-2405	32.23698	-80.73241	UF	-2	0	Yes
BFT-2408	32.28444	-80.85139	UF	-7	n/a	
BFT-2473	32.17586	-80.72828	UF	-8	n/a	
BFT-2502	32.47100	-80.59240	UF	2	n/a	
BRN-0295	33.12694	-81.22917	MF	154	-1	
BRN-0341	33.20222	-81.57778	MF	214	0	
BRN-0345	33.21417	-81.62306	MF	213	-1	
BRN-0351	33.17861	-81.31472	UF	176	n/a	
BRN-0360	33.32083	-81.40778	MF	251	1	
BRN-0362	33.34444	-81.50028	MF	279	-3	
BRN-0390	33.25278	-81.67222	MF	219	-4	
BRN-0396	33.24583	-81.61611	MF	266	4	
BRN-0399	33.27500	-81.57333	MF	234	-1	
BRN-0405	33.14667	-81.60750	UF	157	-3	
BRN-0409	33.19111	-81.51306	MF	170	0	

Table 1 (continued). Wells used for 2018 Upper Floridan (UF) and Middle Floridan (MF) potentiometric map

SCDNR Well ID	Latitude (NAD 83)	Longitude (NAD 83)	Aquifer	2018 Water Level Elevation (ft NAVD 88)	Water Level Change from 2016 (ft)	Tide Corrected?
BRN-0410	33.19143	-81.51312	UF	190	6	
BRN-0416	33.18250	-81.67861	UF	140	-4	
BRN-0420	33.22972	-81.57528	MF	220	0	
BRN-0421	33.22972	-81.57529	MF	249	n/a	
BRN-0422	33.22970	-81.57525	UF	271	n/a	
BRN-0429	33.21056	-81.65750	UF/MF	206	n/a	
BRN-0434	33.28583	-81.63472	MF	239	-1	
BRN-0435	33.28601	-81.63479	UF	264	1	
COL-0164	32.80014	-80.85708	MF	25	n/a	
COL-0284	33.12847	-80.81192	MF	100	-1	
COL-0790	32.80353	-80.77689	MF	18	13	
COL-0793	33.11361	-80.70333	MF	90	0	
DOR-0168	33.20768	-80.64124	MF	100	0	
HAM-0073	32.89917	-81.00528	MF	54	-2	
HAM-0074	32.87830	-81.04000	UF	68	-4	
HAM-0076	32.80583	-80.90972	MF	29	0	
HAM-0079	32.78528	-81.05806	MF	33	-1	
HAM-0083	32.69722	-80.85083	UF	6	1	
HAM-0174	32.82333	-81.28306	MF	107	-6	
HAM-0175	32.92470	-81.04810	UF	67	-3	
HAM-0180	32.76167	-81.25750	MF	80	-6	
HAM-0181	32.73361	-81.36111	MF	56	-4	
HAM-0314	32.83028	-81.16583	UF	81	1	
HAM-0315	32.83028	-81.16583	MF	78	n/a	
JAS-0298	32.45917	-80.89667	UF	-7	7	
JAS-0351	32.52028	-81.15222	UF	17	2	
JAS-0402	32.46361	-81.10750	UF	3	-6	
JAS-0403	32.60500	-81.16278	UF	23	4	
JAS-0420	32.29778	-81.12028	UF	-13	1	
JAS-0474	32.54261	-81.25483	MF	29	4	
JAS-0490	32.48167	-80.97278	MF	-11	-6	
JAS-0491	32.48167	-80.97278	UF	-11	n/a	
JAS-0492	32.61806	-80.99556	MF	7	n/a	
JAS-0499	32.17306	-81.07639	UF	-39	0	
JAS-0503	32.14796	-81.05121	UF	-41	n/a	
ORG-0427	33.45528	-80.65583	MF	117	n/a	
ORG-0431	33.50806	-80.86500	MF	229	1	
ORG-0636	33.39389	-80.54250	MF	90	7	
ORG-0638	33.43278	-80.42861	MF	81	-2	
ORG-0639	33.30944	-80.27944	MF	77	0	

At SRS, in Aiken and Barnwell Counties, a potentiometric high creates a local groundwater divide. West of the divide, groundwater flow is directed toward the Savannah River; east of the divide, flow is directed towards the Edisto River. This groundwater flow pattern likely results from the absence of a confining layer above the aquifer, allowing groundwater to flow as an unconfined water table, and the connection between groundwater and surface water systems in this area.

2018 GORDON AQUIFER POTENTIOMETRIC MAP

The November–December 2018 potentiometric surface map of the Gordon aquifer (Plate 2) was constructed using water levels from 97 wells, of which 96 are completed in the Gordon aquifer and one is open to both the Middle Floridan and Gordon aquifers (Table 2). Twenty-four wells not used for previous Floridan/Tertiary Sand potentiometric maps were included on this map. Several of those wells are located at P-well cluster sites at SRS in Aiken and Barnwell Counties; in the past, water levels in those wells were not used for mapping owing to large hydraulic head differences observed between the Floridan and Gordon aquifers. Additional wells in Aiken and Orangeburg Counties helped define conditions in the northern (updip) part of the aquifer, and wells in Berkeley County provided water levels in and near the aquifer's outcrop area to the east near the Santee River. Newly identified wells in Hampton and Beaufort Counties helped define conditions in the southwestern portion of the aquifer, although water-level data in that area remains sparse.

Potentiometric elevations range from 276 ft in Aiken County to -34 ft in Charleston County, and no cones of depression are seen on the 2018 Gordon aquifer map. Groundwater flow is generally to the southeast, toward the coast, with a few notable exceptions. In Aiken, Barnwell, and Allendale Counties, flow occurs in a southwestern direction, indicating drainage toward the Savannah River. Near much of the coast, flow is directed from all sides toward southern Charleston County, as there is a potentiometric low in that area, with water levels below -20 ft in most of southern Charleston County. In the coastal areas of Charleston and Colleton Counties, some Gordon wells are experiencing saltwater intrusion.

COMPARISON OF THE 2018 MAPS

Both potentiometric maps indicate a general northwest-to-southeast direction of groundwater flow through the Floridan and Gordon aquifers. Where both aquifers occur, the potentiometric surface of the Floridan aquifer is generally higher than that of the Gordon aquifer; localized head differences greater than 50 ft are seen in updip areas of Barnwell and Allendale Counties. In Dorchester and Colleton Counties, water levels in the Gordon aquifer are equal to or only slightly lower than those in the Middle Floridan in the northern part of this area, but to the south, Gordon water levels are 40 ft or more lower than Middle Floridan levels. In much of eastern Beaufort County, water levels in the Gordon may be up to 20 ft lower than in the Floridan.

In most of Hampton County, all of Jasper County, and western Beaufort County, water levels in the Gordon aquifer are higher by as much as 50 ft than in the Floridan aquifer. Here, the Gordon aquifer's potentiometric surface may be much closer to its predevelopment condition, as that aquifer has not been significantly used in this area, whereas the Floridan aquifer has experienced significant declines as a result of extensive groundwater use.

Table 2. Wells used for 2018 Gordon aquifer potentiometric map

SCDNR Well ID	Latitude (NAD 83)	Longitude (NAD 83)	Aquifer*	2018 Water Level Elevation (ft NAVD 88)	Water Level Change from 2016 (ft)
AIK-0849	33.54222	-81.48500	G	264	n/a
AIK-0869	33.37722	-81.64083	G	207	0
AIK-0875	33.21444	-81.75889	G	116	1
AIK-0889	33.28667	-81.72194	G	162	0
AIK-0894	33.33778	-81.70861	G	202	1
AIK-2734	33.58944	-81.32528	G	276	n/a
ALL-0365	33.11354	-81.50614	G	127	n/a
ALL-0366	33.11339	-81.50615	G	127	n/a
ALL-0374	33.02481	-81.38411	G	128	n/a
ALL-0375	33.02490	-81.38493	G	128	n/a
BAM-0022	33.31583	-81.13861	MF/G	185	3
BAM-0068	33.05583	-81.09833	G	103	-1
BFT-2279	32.56610	-80.72611	G	-4	n/a
BFT-2281	32.56778	-80.74111	G	-4	n/a
BRK-0035	33.14000	-79.79639	G	23	1
BRK-0048	33.17056	-80.29167	G	48	n/a
BRK-0165	33.30684	-79.96944	G	55	n/a
BRK-0166	33.27194	-79.96444	G	45	n/a
BRK-0174	33.03056	-79.96806	G	-3	0
BRK-0177	33.44867	-80.06841	G	55	-2
BRK-0523	33.15750	-80.02500	G	18	n/a
BRK-0595	32.97306	-79.77639	G	13	0
BRK-0644	33.40417	-79.93389	G	63	3
BRK-0647	33.26167	-79.65750	G	41	-1
BRN-0322	33.21361	-81.62222	G	175	1
BRN-0323	33.20222	-81.57778	G	167	0
BRN-0350	33.17917	-81.31500	G	176	-4
BRN-0352	33.17899	-81.31415	G	161	n/a
BRN-0354	33.17909	-81.31428	G	162	n/a
BRN-0359	33.32182	-81.40658	G	213	n/a
BRN-0367	33.32150	-81.40692	G	212	n/a
BRN-0388	33.34444	-81.50000	G	223	0
BRN-0394	33.24611	-81.61611	G	185	1
BRN-0398	33.27500	-81.57333	G	192	n/a
BRN-0404	33.14667	-81.60722	G	125	2
BRN-0408	33.19111	-81.51333	G	151	0
BRN-0415	33.18250	-81.67861	G	137	1
BRN-0419	33.22972	-81.57528	G	190	0
BRN-0427	33.21083	-81.65750	G	178	1
BRN-0433	33.28583	-81.63500	G	178	0
BRN-0436	33.25278	-81.67250	G	167	0
CHN-0044	32.79583	-80.07056	G	-30	-3
CHN-0101	33.04583	-79.56250	G	10	0
CHN-0220	32.65912	-80.34076	G	-34	n/a
CHN-0422	33.16842	-79.47085	G	17	1
CHN-0460	32.88167	-79.98861	G	-26	-1

Table 2 (continued). Wells used for 2018 Gordon aquifer potentiometric map

SCDNR Well ID	Latitude (NAD 83)	Longitude (NAD 83)	Aquifer*	2018 Water Level Elevation (ft NAVD 88)	Water Level Change from 2016 (ft)
CHN-0484	32.58194	-80.30611	G	-32	-3
CHN-0802	32.94110	-79.65721	G	3	0
CHN-0803	33.15583	-79.36389	G	3	1
CHN-0811	32.77597	-79.94002	G	-9	-3
CHN-0989	32.73722	-80.17778	G	-31	3
CHN-0990	32.94083	-79.65694	G	2	1
COL-0051	32.53803	-80.42147	G	-27	-5
COL-0073	33.00083	-80.78222	G	35	3
COL-0092	32.66167	-80.65722	G	-14	4
COL-0096	32.73583	-80.45222	G	-23	-1
COL-0097	33.04778	-80.59778	G	28	0
COL-0170	32.61083	-80.55361	G	-20	1
COL-0232	33.06722	-80.95389	G	87	6
COL-0243	32.61889	-80.61175	G	-12	1
COL-0253	32.80261	-80.47019	G	-12	0
COL-0269	32.86389	-80.65333	G	-11	3
COL-0273	32.8775	-80.77833	G	9	5
COL-0274	32.87361	-80.68881	G	-5	7
COL-0275	32.82294	-80.69903	G	-3	7
COL-0294	32.88383	-80.40436	G	-4	1
COL-0301	32.51167	-80.29944	G	-25	0
COL-0782	32.59306	-80.46436	G	-22	1
COL-0785	32.73697	-80.81725	G	9	1
COL-0786	32.78931	-80.64361	G	-18	n/a
COL-0787	32.63308	-80.49786	G	-29	-4
COL-0788	32.96694	-80.69528	G	4	4
COL-0789	32.73528	-80.59111	G	-28	-10
COL-0791	33.04508	-80.44636	G	30	2
COL-0792	32.82972	-80.56639	G	-12	1
COL-0794	32.98083	-80.85306	G	39	3
COL-0795	32.74889	-80.69556	G	-12	-2
COL-0796	32.85250	-80.84556	G	14	4
COL-0797	32.99250	-80.55639	G	20	1
COL-0798	33.04775	-80.52167	G	29	1
COL-0800	32.96491	-80.44270	G	9	n/a
DOR-0030	33.18306	-80.55278	G	54	0
DOR-0049	32.96389	-80.27500	G	-10	5
DOR-0058	33.11083	-80.28556	G	36	1
DOR-0068	33.21333	-80.44944	G	43	4
DOR-0155	33.14972	-80.42722	G	51	0
DOR-0240	33.03083	-80.20556	G	-10	-12
HAM-0025	32.92475	-81.18689	G	115	n/a
HAM-0050	32.68000	-81.18889	G	92	n/a
ORG-0009	33.32306	-80.41139	G	91	n/a
ORG-0048	33.46667	-80.86111	G	157	1
ORG-0430	33.50830	-80.86500	G	168	n/a

Table 2 (continued). Wells used for 2018 Gordon aquifer potentiometric map

SCDNR Well ID	Latitude (NAD 83)	Longitude (NAD 83)	Aquifer*	2018 Water Level Elevation (ft NAVD 88)	Water Level Change from 2016 (ft)
ORG-0635	33.45694	-80.59500	G	129	3
ORG-0637	33.58194	-80.81639	G	255	1
ORG-0640	33.33222	-80.60556	G	107	2
ORG-0641	33.28556	-80.71889	G	131	0
ORG-0642	33.45222	-81.13694	G	199	5

* G: *Gordon aquifer;* MF: *Middle Floridan aquifer*

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Potentiometric Surface of the Upper Floridan and Middle Floridan Aquifers in South Carolina, November–December 2018

EXPLANATION

- 20 — Potentiometric contour for the Upper Floridan and Middle Floridan aquifers, in feet above vertical datum (NAVD 88); dashed where inferred
- HAM-175 67 — Measured well, with county well number and potentiometric elevation. For sites having multiple wells screened in different zones, a gray well number indicates the measurement was not used for contouring.
- Approximate updip limit of Upper Floridan aquifer
- Approximate area in which Upper Floridan aquifer is unconfined
- Approximate updip limit of Middle Floridan aquifer
- Approximate area in which Middle Floridan aquifer is unconfined

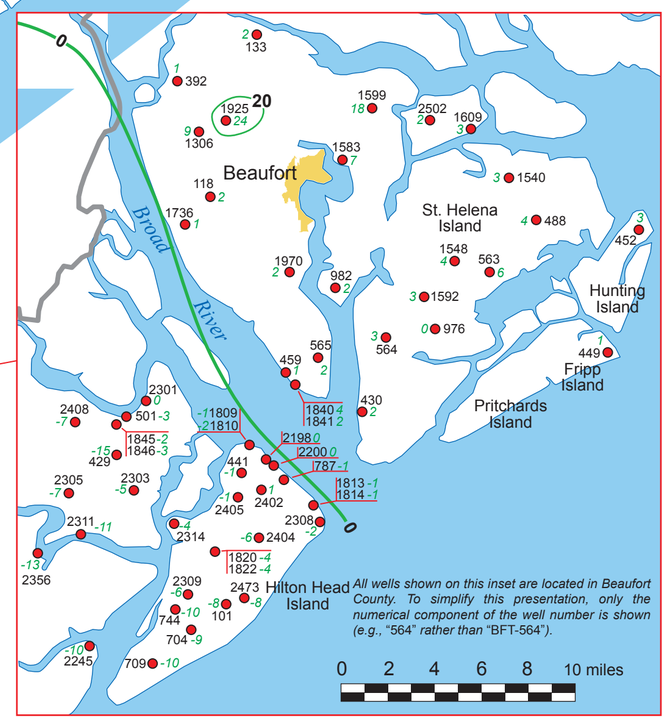
SALUDA
EDGEFIELD
FALL LINE
LEXINGTON
RICHLAND
SUMTER
CLARENDON
FLORENCE
MARION
HORRY
WILLIAMSBURG
GEORGETOWN
BERKELEY
CHARLESTON
DORCHESTER
COLLETON
HAMPTON
JASPER
BEAUFORT
ALLENDALE
BARNWELL
BAMBERG
AIKEN
CALHOUN
ORANGEBURG
North Fork Edisto
South Fork Edisto
Edisto
Black River
Lake Marion
Lake Moultrie
Santee River
Saluda River
Salkehatchie River
Coosawhatchie River
Combahee River
Broad River
Savannah River
Aiken
Orangeburg
Bamberg
Walterboro
Moncks Corner
Summerville
Mt. Pleasant
Charleston
Kiawah Island
Seabrook Island
St. Stephen
Beaufort
Hilton Head Island
Hunting Island
Fripp Island
Pritchards Island
St. Helena Island

ORG-431 229
ORG-427 117
ORG-638 81
ORG-636 90
ORG-639 77
BAM-31 150
BAM-62 124
BAM-125 119
BAM-81 126
BAM-11 184
BAM-26 135
DOR-168 100
COL-284 100
COL-793 90
COL-164 25
COL-790 18
HAM-175 67
HAM-73 54
HAM-74 68
HAM-76 29
HAM-79 33
HAM-83 6
HAM-174 107
HAM-180 80
HAM-181 56
HAM-314 81
HAM-315 78
ALL-442 119
ALL-330 149
ALL-363 167
ALL-364 164
ALL-371 190
ALL-372 233
ALL-373 155
ALL-408 120
BRN-434 239
BRN-435 264
AIK-867 209
AIK-868 197
AIK-897 254
AIK-890 163
AIK-891 163
BRN-390 219
AIK-877 110
BRN-396 266
BRN-429 206
BRN-416 140
BRN-345 213
BRN-420 220
BRN-421 249
BRN-422 271
BRN-341 214
BRN-405 157
BRN-362 279
BRN-360 251
BRN-399 234
BRN-409 170
BRN-410 190
BRN-351 176
BRN-295 154
JAS-492 7
JAS-403 23
JAS-474 29
JAS-351 17
JAS-402 3
JAS-490 -11
JAS-491 -11
JAS-298 -7
JAS-420 -13
JAS-499 -39
JAS-503 -41
BFT-1212 2
BFT-145 -2
BFT-2247 -17

DNR

N

10 0 10 20 30 40 miles



South Carolina Department of Natural Resources
Land, Water and Conservation Division
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Potentiometric Surface of the Gordon Aquifer in South Carolina, November–December 2018