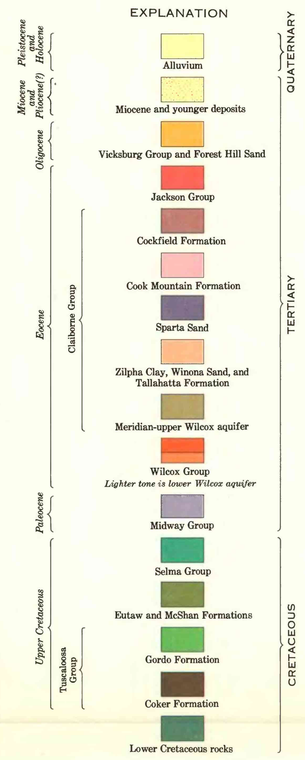


Water use, 1965

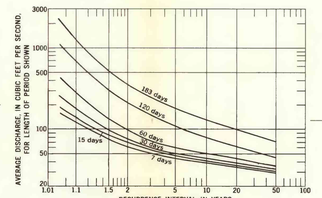
[Results in millions of gallons per day; a, less than 0.1]

Source	Big Black River and Bayou Pierre basins					Pearl River basin					Pascagoula River basin				
	Public supplies	Industrial supplies	Irrigation	Other	Total	Public supplies	Industrial supplies	Irrigation	Other	Total	Public supplies	Industrial supplies	Irrigation	Other	Total
Surface water	0	0	a	a	a	20.0	0	a	a	20.0	5.0	0	a	0	5.0
Gordo Formation	.3	0	0	0	0.3										
Eutaw and McShan Formations	0	0	0	.1	.1										
Lower Wilcox aquifer	.5	a	0	.1	.6	2.5	2.0	a	1.0	5.5	3.0	5.0	a	.5	8.5
Minor Wilcox aquifers	.2	a	0	.1	.3	0	0	0	.2	.2	.5	.5	a	.2	1.2
Meridian-upper Wilcox aquifer	.5	.2	0	.1	.8	5.0	1.0	0	.2	6.2	2.0	1.0	a	.3	3.3
Winona-Tallahatta aquifer	.1	a	0	.1	.2	.2	.1	0	.1	.4	.2	0	0	.1	.3
Sparta Sand	.9	.2	0	.1	1.2	12.0	5.0	a	.6	17.6	1.5	1.0	0	.2	2.7
Cockfield Formation	.7	.2	0	.2	1.1	1.0	1.0	0	.7	2.7	.8	.4	0	.1	1.3
Forest Hill Sand	.1	a	0	.1	.2	.2	.1	0	.2	.5	0	0	0	a	a
Miocene deposits	.5	.1	0	.1	.7	.2	a		.2	.4	0	0	0	a	a
Total	3.8	.7	a	1.0	5.5	41.1	9.2	a	3.2	53.5	13.0	7.9	a	1.4	22.3

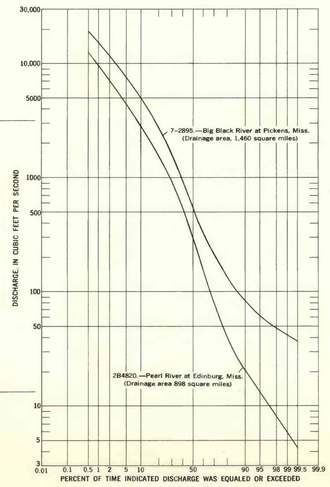
Maximum, minimum, and median concentrations of selected constituents in ground water in the Pearl River basin

[Data in parts per million, except specific conductance, pH, color, and temperature]

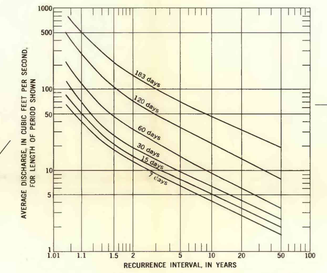
Constituent	Lower Wilcox aquifer			Minor Wilcox aquifers			Meridian-upper Wilcox aquifer			Sparta Sand			Cockfield Formation			Forest Hill Sand		
	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
Silica (SiO_2)	12	8.0		29	9.8		41	6.2	15	24	0.4	12	16	5.7	9.8	35	5.5	12
Iron (Fe)	14	3.4	6.3	2.4	.02	0.21	2.5	.00	.22	4.0	.02	.13	3.5	.00	1.2	9.0	.13	.68
Calcium (Ca)	2.0	3.3	6.2	12	3.5	6.0	26	.3	5.0	20	.1	.8	23	.4	1.4	39	.6	2.4
Magnesium (Mg)	3.2	1.5	2.1	6.2	1.6	2.1	8.9	.1	1.8	5.1	.0	.2	12	.0	.8	24	.3	1.7
Sodium (Na)	10	7.8	8.8	11	5.7	6.0	868	2.5	197	177	3.1	96	226	67	129	149	65	133
Carbonate plus bicarbonate (CO_3+HCO_3)	50	39	48	198	9	16	1,960	11	136	474	12	248	460	168	256	465	154	340
Sulfate (SO_4)	5.6	2.8	4.6	7.2	.6	1.8	42	.4	5.7	49	1.0	14	255	9.0	42	95	14	28
Chloride (Cl)	5.0	2.0	3.5	12	2.8	10	245	2.0	8.9	16	2.0	3.2	52	11	20	12	7.0	7.8
Fluoride (F)	.1	.0	.0	.1	.0	.1	7.0	.0	.1	.6	.0	.3	.5	.0	.2	1.0	.1	.3
Nitrate (NO_3)	.3	.2	.3	6.3	.4	1.4	41	.0	1.2	1.6	.0	.8	2.2	.0	1.2	3.0	.0	2.4
Dissolved solids	84	70	71	135	66	66	2,260	100	197	464	52	263	653	281	380	570	270	385
Hardness as $CaCO_3$	29	17	24	73	15	19	101	1	20	71	0	4	107	2	6	196	2	11
Specific conductance (micromhos at 25°C)	106	77	94	193	73	73	3,400	70	250	706	58	411	1,050	450	575	845	297	572
pH	6.7	6.4	6.6	7.3	5.5	6.0	8.9	5.7	7.5	8.9	6.7	8.6	160	7.5	8.4	8.4	7.0	8.0
Color	10	5	7	7	5	1	90	0	22	100	0	20	160	5	20	80	4	37
Temperature (°F)							94	65	80	94	74	81	82	70	74	72	68	72



MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOW, BIG BLACK RIVER AT PICKENS, MISS. (7–2895), 1929–57

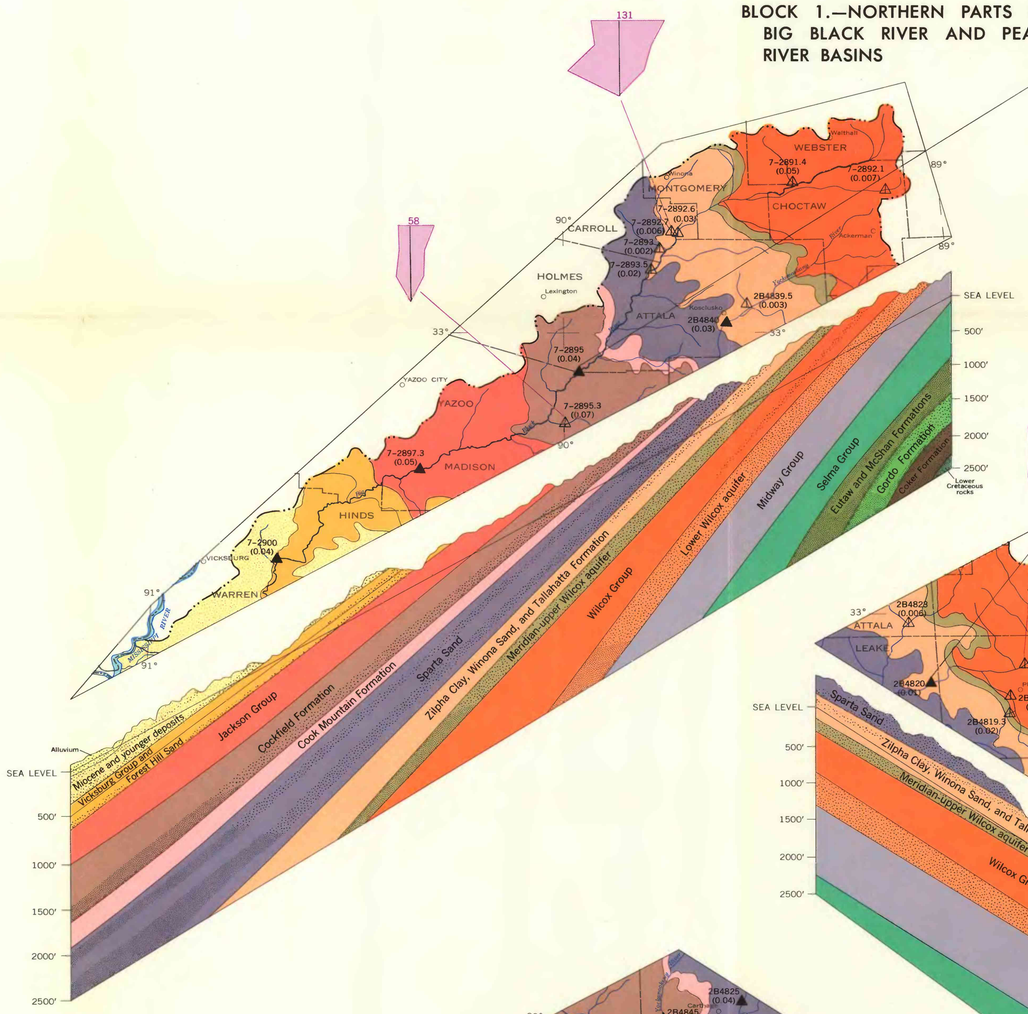


FLOW-DURATION CURVES FOR PEARL RIVER AT EDINBURG, MISS., AND BIG BLACK RIVER AT PICKENS, MISS., 1929–57

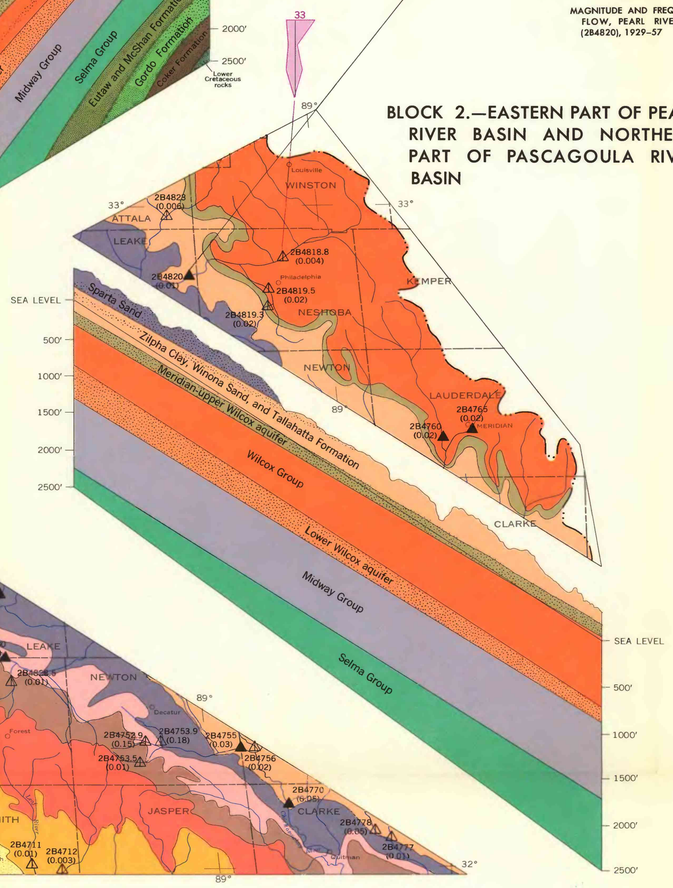


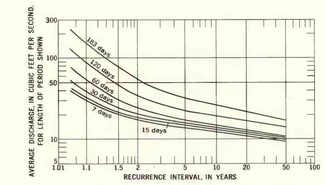
MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOW, PEARL RIVER AT EDINBURG, MISS. (2B4820), 1929–57

BLOCK 1.—NORTHERN PARTS OF BIG BLACK RIVER AND PEARL RIVER BASINS



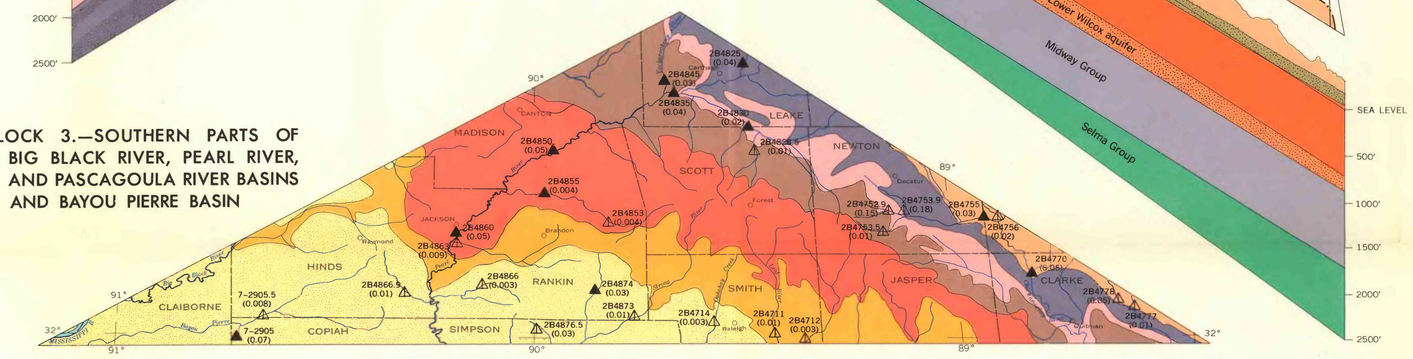
BLOCK 2.—EASTERN PART OF PEARL RIVER BASIN AND NORTHERN PART OF PASCAGOULA RIVER BASIN

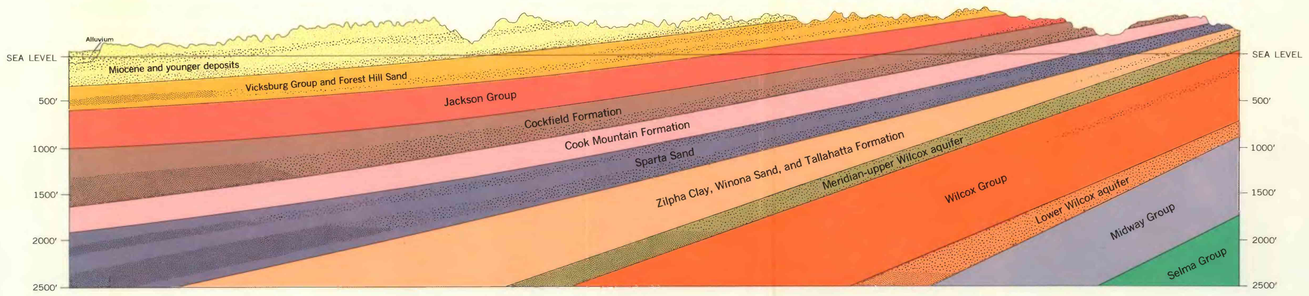


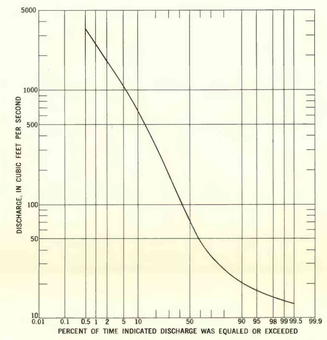


MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOW, OAKOHAY CREEK AT MIZE, MISS. (2B4715), 1929–57

BLOCK 3.—SOUTHERN PARTS OF BIG BLACK RIVER, PEARL RIVER, AND PASCAGOULA RIVER BASINS AND BAYOU PIERRE BASIN







FLOW-DURATION CURVE FOR OAKOHAY CREEK AT MIZE, MISS. (2B4715), 1929–57 (DRAINAGE AREA, 217 SQUARE MILES)

Station 2B4715 not plotted because it is south of area shown on map.

Hydraulic characteristics of aquifers

[Averaged by aquifer; number in parentheses denotes number of tests used to compute average. gpd–gallons per day; gpm–gallons per minute]

Aquifer	Coefficient: Transmissibility (gpd per ft)	Coefficient: Storage	Coefficient: Permeability (gpd per sq ft)	Specific capacity (gpm per ft of drawdown)
Pearl River basin				
Lower Wilcox aquifer	(1) 80,000	(1) 0.0001	(1) 890	(1) 39
Meridian-upper Wilcox aquifer	(2) 32,000	(1) .0002		(2) 15
Sparta Sand	(10) 43,000	(7) .0004	(10) 550	(5) 16
Cockfield Formation	(3) 40,000	(2) .0006	(4) 420	(4) 12
Forest Hill Sand	(1) 900	(1) .0001	(1) 26	
Pascagoula River basin				
Lower Wilcox aquifer	(3) 96,000	(1) 0.0002	(3) 790	(3) 30
Minor Wilcox aquifers	(1) 20,600		(1) 200	(1) 11
Big Black River and Bayou Pierre basins				
Winona-Tallahatta aquifer	(1) 4,800	(1) 0.0005	(1) 60	
Cockfield Formation	(2) 22,500	(2) .0001	(2) 230	(1) 4

Maximum, minimum, and median concentrations of selected constituents in ground water in the Big Black River and Bayou Pierre basins

[Data in parts per million, except specific conductance, pH, color, and temperature]

Constituent	Lower Wilcox aquifer			Meridian-upper Wilcox aquifer			Winona-Tallahatta aquifer			Sparta Sand			Cockfield Formation			Forest Hill Sand		
	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
Silica (SiO_2)	17	9.5	17	41	2.4	27	4.0	2.4		62	12	37	15	5.7	11	9.3	6.1	7.3
Iron (Fe)	2.2	.00	.28	4.5	.00	.28	.48	.00	0.09	7.8	.07	.74	11	.04	.44	37	.04	.14
Calcium (Ca)	7.7	3.3	5.9	26	.4	13	40	.8	4.07	10	.2	5.9	34	.8	2.6	26	1.1	1.8
Magnesium (Mg)	2.2	.2	1.4	8.9	.0	4.4	18	.0	2.0	3.5	.2	1.1	12	.0	1.6	8.6	.3	2.3
Sodium (Na)	85	16	22	526	2.0	7.6	536	5.6	88	250	21	62	529	17	136	289	111	231
Carbonate plus bicarbonate (CO_3+HCO_3)	235	26	137	1,410	10	81	1,410	15	214	283	88	151	1,310	72	280	724	298	505
Sulfate (SO_4)	18	.0	1.4	42	1.2	12	23	.0	2.4	170	3.2	8.8	100	.8	30	214	.0	18
Chloride (Cl)	14	2.0	3.5	15	.0	3.0	12	2.0	7.0	130	2.0	3.2	50	6.5	21	109	3.5	12
Fluoride (F)	.2	.0	.0	2.0	.0	.1	4.0	.1	.2	.8	.0	.2	4.4	.1	.1	4.0	.1	1.8
Nitrate (NO_3)	.6	.0	.2	1.9	.0	.3	2.7	.3		2.5	.0	.7	3.0	.0	1.1	4.8	2.0	3.2
Dissolved solids	238	104	170	1,230	99	148	1,230	33	312	713	96	220	1,310	203	376	791	342	698
Hardness as $CaCO_3$	24	9	23	101	1	51	174	2	20	40	2	20	108	3	10	108	4	14
Specific conductance (micromhos at 25°C)	363	132	225	740	104	182		60		1,190	170	355	887	100	563	1,130	483	1,040
pH	8.3	6.2	8.1	8.7	5.2	7.4	8.6	7.1	8.5	8.7	7.0	8.1	8.9	6.0	8.4	8.7	8.1	8.4
Color	90	0	7	23	0	7				50	5	20	960	4	15	320	0	80
Temperature (°F)	65	62	64	82	64	67	64	61		87	67	78	92	68	73	82	67	73

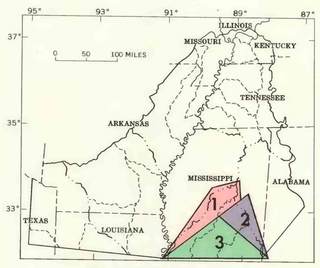
Maximum, minimum, and median concentrations of selected constituents in ground water in the Pascagoula River basin

[Data in parts per million, except specific conductance, pH, color, and temperature]

Constituent	Lower Wilcox aquifer			Minor Wilcox aquifers			Meridian-upper Wilcox aquifer		
	Max	Min	Median	Max	Min	Median	Max	Min	Median
Silica (SiO_2)	44	0.0	19	29	2.8	5.4	38	1.2	12
Iron (Fe)	2.0	.04	1.6	7.5	.00	.25	.83	.00	.06
Calcium (Ca)	36	4.9	15	48	12	24	36	2.4	8.8
Magnesium (Mg)	5.4	.6	2.0	19	.4	4.2	12	.0	1.6
Sodium (Na)	67	1.8	25	38	.8	24	118	8.0	29
Carbonate plus bicarbonate (CO_3+HCO_3)	178	77	131	235	51	142	308	26	165
Sulfate (SO_4)	12	1.0	6.2	36	3.3	7.5	46	.0	2.4
Chloride (Cl)	5.0	1.8	4.2	8.0	3.0	5.5	16	3.7	5.0
Fluoride (F)	.3	.0	.0	.3	.0	.2	.2	.1	.2
Nitrate (NO_3)	1.8	.0	.1				1.4	.5	.9
Dissolved solids	197	78	156	277	84	162	322	49	204
Hardness as $CaCO_3$	112	16	46	199	42	76	134	10	27
Specific conductance (micromhos at 25°C)	295	118	229						
pH	8.9	7.9	6.5	7.1	8.3	6.1	7.3	8.2	6.3	7.9
Color	10	5	5						
Temperature (°F)				77	68				

Note: The block diagrams are schematic, and depths and distances are not exact. For more detailed information about the aquifers and low flow of streams in these basins, refer to Prof. Papers 448–B, C, D, and I (Cushing and others, 1964; Boswell and others, 1965; Herman and others, 1966; and Speer and others, 1966). Additional water information for these basins is contained in the following publications:

Gaydos (1965)
Harvey, Callahan, and Wasson (1961, 1964)
Lang (1957)
Lang and Boswell (1960)
Newcome (1967)
Robinson and Skelton (1960)
Wasson (1966)



AREA COVERED BY BLOCK DIAGRAMS

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1970—W68264

BLOCK DIAGRAMS, GRAPHS, AND CHEMICAL-ANALYSES DIAGRAMS SHOWING AVAILABILITY AND QUALITY OF WATER IN THE SOUTH-CENTRAL PART OF THE MISSISSIPPI EMBAYMENT