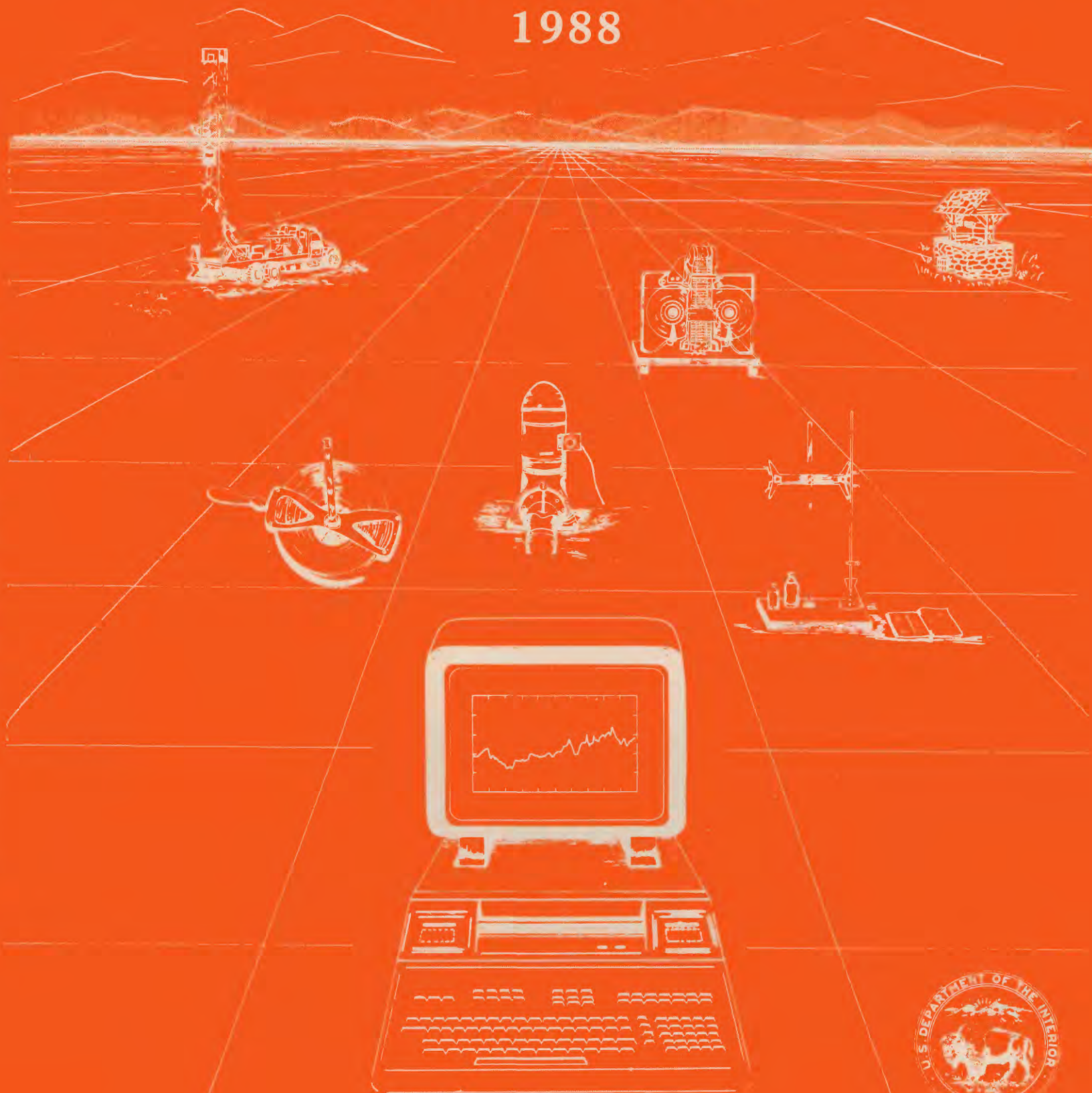


# GROUND-WATER DATA FOR GEORGIA, 1988

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U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT 89-408

GROUND-WATER DATA FOR GEORGIA, 1988

By C.N. Joiner, M.F. Peck, M.S. Reynolds, and W.L. Stayton

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U.S. GEOLOGICAL SURVEY

Open-File Report 89-408

Prepared in cooperation with the

GEORGIA DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION  
GEORGIA GEOLOGIC SURVEY

Doraville, Georgia

1989



DEPARTMENT OF THE INTERIOR  
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## PREFACE

This report was prepared in cooperation with the State of Georgia; Chatham County; Glynn County; the cities of Brunswick and Valdosta; and the Albany Water, Gas, and Light Commission.

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who edited and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed substantially to the collection, processing, and tabulation of the data:

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Records of all water-level measurements and water-quality data used in this report may be obtained upon request from the U.S. Geological Survey, Water Resources Division, 6481 Peachtree Industrial Boulevard, Suite B, Doraville, GA 30360.

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hydrographs are included in this report

<u>County</u>	<u>Aquifer</u>	<u>Well number</u>	<u>Well name</u>	<u>Page</u>
Burke	Midville aquifer system	28X001	Midville Experiment Station	49
Bulloch	Upper Floridan	32R002	Bulloch South test well 1	123
Bulloch	Upper Brunswick	31U009	Hopeulikit test well 2	157
Camden	Upper Floridan	33E027	Kings Bay	151
Charlton	Upper Floridan	27E004	Test well OK9	153
Chatham	Surficial aquifers	35P094	UGA	29
Chatham	Upper Floridan	36Q008	Layne-Atlantic	115
Chatham	Upper Floridan	36Q020	Morrison	117
Chatham	Upper Floridan	38Q002	Pilot House	119
Chatham	Upper Floridan	39Q003	Test well 7, point 3	121
Chattahoochee	Cretaceous rock aquifer system	06S001	Fort Benning	33
Cook	Upper Floridan	18H016	Adel	97
Crisp	Clayton	14P014	Georgia Veterans Memorial State Park test well 1	55
Decatur	Upper Floridan	09F520	Bolton	77
DeKalb	Crystalline rock	11FF04	GAR, test well 5	17
Dougherty	Providence	12L021	Test well 10	37
Dougherty	Clayton	11L002	Albany Nursery	59
Dougherty	Clayton	13L002	Turner City	61
Dougherty	Claiborne	11L001	Test well 4	65
Dougherty	Claiborne	12L019	Test well 5	67



List of observation wells for which water-level  
hydrographs are included in this report--Continued

<u>County</u>	<u>Aquifer</u>	<u>Well number</u>	<u>Well name</u>	<u>Page</u>
Dougherty	Claiborne	13L011	Test well 2	69
Dougherty	Upper Floridan	13L003	Albany-Dougherty County	85
Dougherty	Upper Floridan	13L012	Test well 3	87
Fulton	Crystalline rock	10DD02	Fort McPherson	15
Glynn	Upper Floridan	33H127	Test well 3	141
Glynn	Upper Floridan	33H133	Test well 6	143
Glynn	Lower Floridan	33J044	Test well 27	147
Glynn	Lower Floridan	34H391	Test well 16	145
Johnson	Midville aquifer system	24V001	Test well 1	47
Laurens	Upper Floridan	21T001	Hogan	105
Laurens	Midville aquifer system	21U004	Test well 3	45
Liberty	Upper Floridan	34M054	Test well 2	133
Liberty	Upper Floridan	34N089	Test well 1	135
Long	Upper Floridan	33M004	Test well 3	131
Lowndes	Upper Floridan	19E009	Valdosta	101
Lowndes	Upper Floridan	19F039	Valdosta 8	99
Madison	Crystalline rock	19HH12	Meadowlake Estates	19
McIntosh	Upper Floridan	35M013	Harris Neck	137
Miller	Surficial aquifers	07H003	DP-3	27
Miller	Upper Floridan	08G001	Fleet	79
Mitchell	Upper Floridan	10G313	Meinders	75
Mitchell	Upper Floridan	13J004	Wright	89

List of observation wells for which water-level  
hydrographs are included in this report--Continued

<u>County</u>	<u>Aquifer</u>	<u>Well number</u>	<u>Well name</u>	<u>Page</u>
Montgomery	Upper Floridan	25Q001	Uvalda School	107
Pulaski	Midville aquifer system	18T001	Arrowhead test well 1	43
Randolph	Clayton	07N001	Cuthbert	57
Richmond	Dublin-Midville aquifer system	30AA04	McBean 2	51
Seminole	Upper Floridan	06F001	Roddenberry Farms test well 1	81
Spalding	Surficial aquifers	11AA01	Experiment Station	23
Tift	Upper Floridan	18K049	Test well 1	95
Toombs	Upper Floridan	26R001	Vidalia 2	109
Twiggs	Dublin aquifer system	18U001	Test well 3	41
Walker	Paleozoic rock	03PP01	Fort Oglethorpe	11
Wayne	Upper Floridan	30L003	Johnson	127
Wayne	Upper Floridan	32L015	Gardi test well 1	129
Wayne	Upper Brunswick	32L016	Gardi test well 2	159
Worth	Surficial aquifers	13M007	DP-9	25
Worth	Upper Floridan	15L020	Sylvester	91

FACTORS FOR CONVERTING INCH-POUND UNITS  
TO INTERNATIONAL SYSTEM (SI) UNITS

<u>Multiply inch-pound units</u>	<u>By</u>	<u>To obtain metric units</u>
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
gallon per minute (gal/min)	0.06308	liter per second (L/s)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m <sup>3</sup> /s)
million gallons per day (Mgal/d)	43.81	liter per second (L/s)
<u>Concentration</u>		
parts per million (ppm)	1	milligram per liter (mg/L)

Sea level

In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

## GROUND-WATER DATA FOR GEORGIA, 1988

By

Charles N. Joiner, Michael F. Peck, Mark S. Reynolds, and Welby L. Stayton

### ABSTRACT

Continuous water-level records from 144 wells and water-level measurements from an additional 617 wells in Georgia during 1988 provide the basic data for this report. Daily mean water-level hydrographs for selected wells illustrate the effects that changes in recharge and discharge have had on the ground-water reservoirs in the State during 1988. Monthly mean water levels are shown for the 10-year period 1979-88. Maps showing the potentiometric surface of the Upper Floridan aquifer for May 1988 and the Claiborne and Clayton aquifers for October 1988 also are presented.

Annual mean water levels in Georgia generally were below those measured in 1987; water levels ranged from 6.9 feet higher to 7.3 feet lower. Record-low water levels were measured during the last half of 1988 in 18 wells tapping the crystalline rock aquifer, the Cretaceous rock aquifer system, the Midville aquifer system, and the Clayton, Upper Floridan, and upper Brunswick aquifers. These record lows were from 0.1 to 1.4 feet lower than the previous record lows. A prolonged drought resulted in decreased recharge to the aquifers and increased ground-water pumping, which caused water levels to decline.

Water-quality samples collected periodically throughout Georgia are analyzed as part of areal and regional ground-water studies. Maps showing chloride concentrations in the Upper Floridan aquifer in October 1988 in coastal Georgia and in the Savannah and Brunswick areas are presented. Periodic monitoring of water quality in the Savannah and Brunswick areas indicates that chloride concentrations in the Upper Floridan generally have remained stable.

## 1.0 INTRODUCTION

Monitoring water levels and water quality is essential to the management of a ground-water reservoir or aquifer. Fluctuations and long-term trends in water levels occur as a result of recharge to and discharge from the aquifer. Recharge varies in response to precipitation, evapotranspiration, and surface-water infiltration into the aquifer. Discharge occurs as natural flow from the aquifer to streams and springs, as evapotranspiration, and as withdrawal from wells.

Ground-water levels have been monitored in Georgia for about 100 years. In the early years, water-level data were used in areal reconnaissance studies, and were published in tables and a few graphs to show water-level trends. These data had limited value for resource-management purposes because of the timelag between collection of the data and publication.

As part of the cooperative ground-water investigations undertaken by the U.S. Geological Survey and the State of Georgia, a statewide water-level measurement program to monitor long-term trends was begun in 1938. Initially, this program consisted of an observation-well network in the coastal area of Georgia that provided long-term data concerning changes in ground-water storage and quality. Other wells were added in areas where changes in water levels might forewarn of potential water-resources problems. About 1,350 water-level measurements were made in Georgia during 1988. Water-level measurements were made in 617 wells, and an additional 144 network and project wells were monitored continuously.

This report continues a series of annual publications that present both ground-water-level and ground-water-quality data for Georgia. Hydrographs from 57 wells have been selected to illustrate the effects that changes in recharge and discharge have had on the various aquifers in the State. Daily mean water levels are shown in hydrographs for 1988. Monthly mean water levels, as well as chloride concentrations for selected areas along the coast, are shown for the 10-year period 1979-88. In this report, record-low water level refers to the lowest daily mean water level for the period of record in a particular well. Consequently, any individual water-level measurement on a given day may be lower or higher than the record low mentioned in the text or the daily mean measurement shown on the hydrograph.

This report also includes maps that show the potentiometric surfaces of the Upper Floridan, Claiborne, Clayton, and Providence aquifers, and the Dublin-Midville aquifer system. The potentiometric surface of an aquifer is an imaginary surface that represents the altitude to which water would rise in a tightly cased well that fully penetrates the aquifer. The potentiometric surface is highest in areas of recharge and lowest in areas of discharge, which indicates that ground water flows from recharge areas to discharge areas. Where discharge is concentrated and exceeds recharge, the potentiometric surface is lower and a cone of depression is produced.

The cooperation and assistance of the following agencies in collecting water-level and water-quality data during 1988 are gratefully acknowledged:

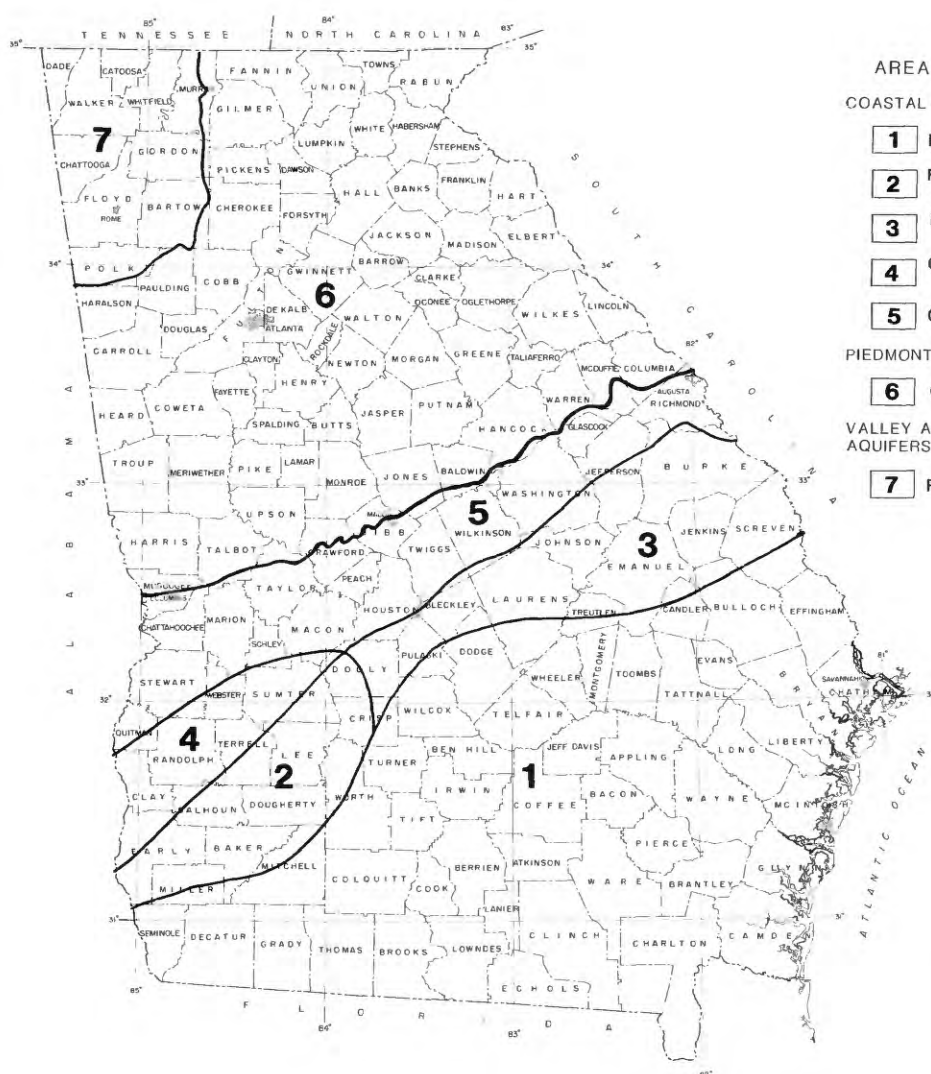
Georgia Department of Natural Resources,  
Georgia Geologic Survey  
Albany Water, Gas, and Light Commission  
City of Brunswick  
Glynn County, and  
City of Valdosta.



## 1.1 Major Aquifers

Differing geologic features and landforms of the several physiographic provinces of Georgia cause substantial differences in ground-water conditions from one part of the State to another. The most productive aquifers in Georgia are in the Coastal Plain province, which includes the southern half of the State. The Coastal Plain is underlain by alternating layers of sand, clay, and limestone that dip and thicken to the southeast. In the Coastal Plain, aquifers generally are confined, except near their northern limits where they are exposed or are near land surface. Major aquifers in the Coastal Plain include the predominantly limestone Upper Floridan aquifer, the sandy Claiborne aquifer, the limestone Clayton aquifer, and the sandy Cretaceous rock aquifer system. The Upper Floridan aquifer is overlain in most of its area of occurrence by the predominantly clastic upper Brunswick aquifer, which are not considered major aquifers.

The Piedmont and the Blue Ridge provinces in the northern half of Georgia are underlain by massive igneous and metamorphic rocks that form aquifers of low permeability. The Valley and Ridge and the Appalachian Plateau provinces in the northwestern corner of Georgia are underlain by sandstone, limestone, dolostone, and shale of Paleozoic age. Water-table conditions occur where the aquifers are unconfined and near land surface. For a more complete discussion of aquifers, see the list of Selected References at the back of this report.



## EXPLANATION

### AREA IN WHICH AQUIFER IS UTILIZED

#### COASTAL PLAIN AQUIFERS

- 1** Floridan aquifer system
- 2** Floridan aquifer system, Claiborne aquifer, Clayton aquifer Cretaceous rock aquifer system
- 3** Floridan aquifer system, Cretaceous rock aquifer system
- 4** Claiborne aquifer, Clayton aquifer, Cretaceous rock aquifer system
- 5** Cretaceous rock aquifer system

#### PIEDMONT AND BLUE RIDGE AQUIFERS

- 6** Crystalline rock aquifers

#### VALLEY AND RIDGE AND APPALACHIAN PLATEAU AQUIFERS

- 7** Paleozoic rock aquifers

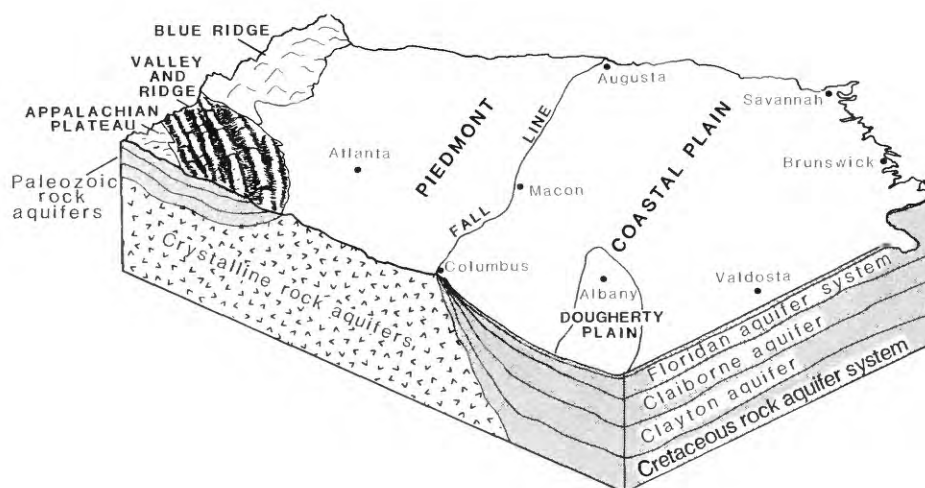


Figure 1.1-1.—Areas of utilization of major aquifers and block diagram showing major aquifers and physiographic provinces of Georgia.

## 2.0 GROUND-WATER LEVELS

Annual mean ground-water levels were from 6.9 ft higher to 7.3 ft lower in 1988 than in 1987. For this report, continuous water-level records are given for 57 wells. The annual mean water level was higher in eight wells in 1988 than in 1987, and lower in 49 wells. Record-low water levels measured in 18 wells during the last half of 1988 were from 0.1 to 1.4 ft lower than the previous record lows. New record lows were measured during July and September in the crystalline rock aquifers; during December in the Cretaceous rock aquifer system; during August and December in the Midville aquifer system; during November in the Clayton aquifer; and during July, August, September, and December in the Upper Floridan and upper Brunswick aquifer of the Coastal Plain province.



## 2.1 Paleozoic Rock Aquifers

Ground-water storage in the Paleozoic rock aquifers is limited mainly to the residuum and to joints, fractures, and solution openings in the bedrock. Water in the Paleozoic rock aquifers generally occurs under water-table conditions where water levels are affected mainly by precipitation and locally by pumping. During 1985, about 29 Mgal/d (Turlington and others, 1987) was withdrawn from the Paleozoic rock aquifers, primarily for industrial supply.

Water levels in the Paleozoic rock aquifers generally are at their highest for the year in March or April and at their lowest for the year in October or November. Wells in areas that have a thin soil cover commonly show a rapid response to rainfall; water levels may rise several feet within a few minutes or a few hours. In areas that have a thick soil cover, wells may show little response to individual rains, but there is a gradual rise in water level during wet periods. The water level in most wells declines slowly between rains. Rainfall in the area generally is heavy in winter and midsummer and relatively light in spring and fall.

Hydrographs for observation well 03PP01 (fig. 2.1-2) in Walker County illustrate the effect that precipitation has on water levels in areas of thin soil cover. The mean water level in well 03PP01 during 1988 was 0.5 ft higher than in 1987.

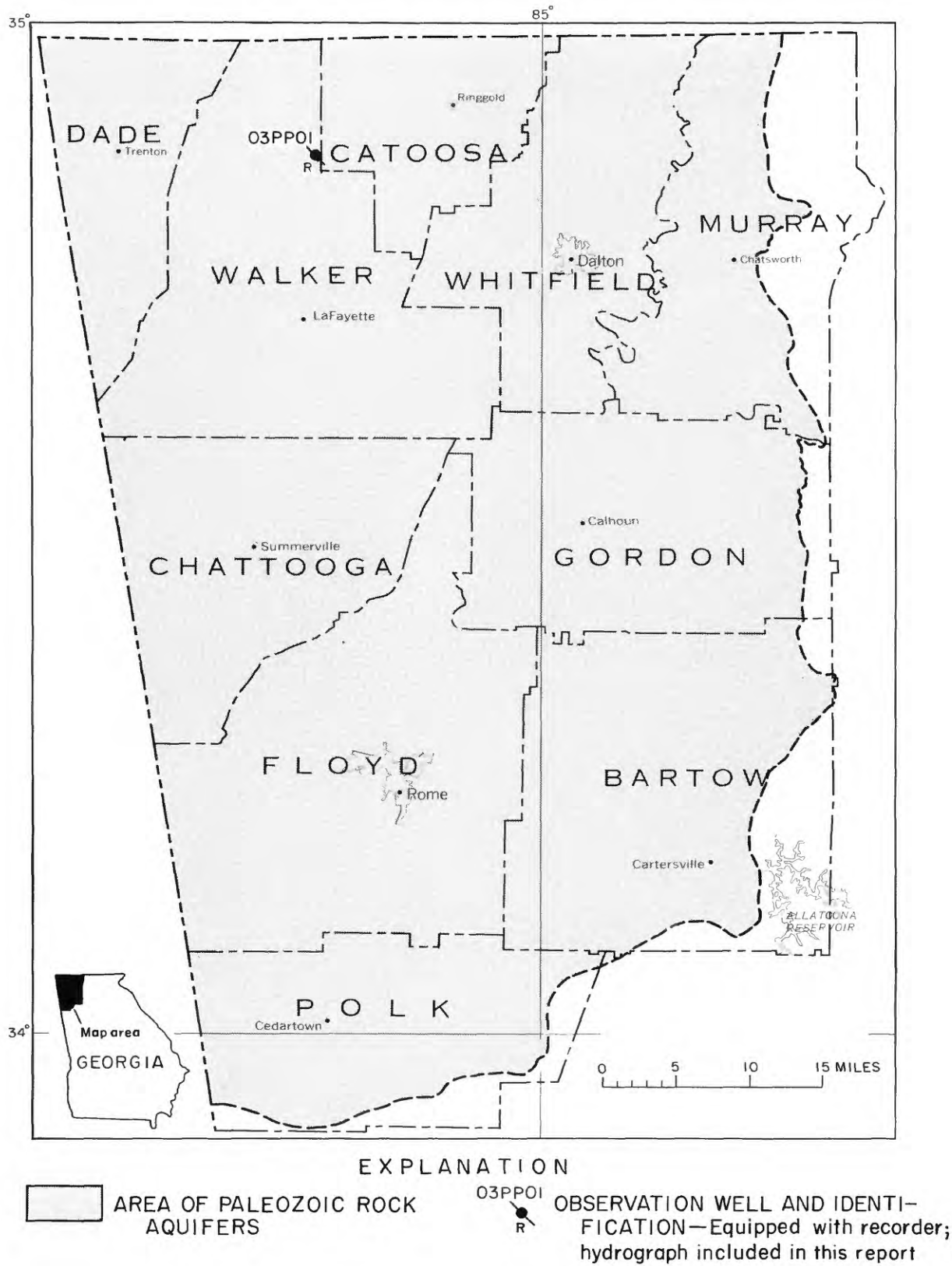


Figure 2.1-1.—Observation well location in the Paleozoic rock aquifers.



## 03PP01 FORT OGLETHORPE WALKER COUNTY

345403085160001 Local number, 03PP01.

LOCATION.--Lat 34°54'08", long 85°16'00", Hydrologic Unit 06020001, Chickamauga and Chattanooga National Military Park.

Owner: National Park Service, Fort Oglethorpe.

AQUIFER.--Paleozoic Rock (Chickamauga Limestone).

WELL CHARACTERISTICS.--Cable-tooled, observation well, diameter 8 in., depth 72 ft.

DATUM.--Elevation of land-surface datum is 730 ft.

Measuring point: Pointer on recorder shelter, 2.09 ft above land surface.

REMARKS.--Well sounded October 18, 1977.

PERIOD OF RECORD.--1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.97 ft below land-surface datum, March 9, 1978; lowest, 21.70 ft below land-surface datum, August 5, 1978.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	13.46	12.57	12.60	11.60	12.26	15.65	18.92	17.84	19.62	14.86	16.83	11.48
2	13.55	11.35	12.74	10.88	12.48	15.73	18.97	17.96	19.65	14.48	16.90	11.82
3	13.67	10.83	12.83	10.87	12.68	15.89	19.01	18.07	19.67	14.61	16.97	12.06
4	13.03	10.90	12.84	10.87	12.85	16.01	19.07	18.16	16.62	14.82	15.99	12.34
5	13.23	11.02	12.95	10.88	13.05	16.14	19.13	18.24	17.36	15.01	13.18	12.61
6	13.56	11.14	13.06	10.86	13.19	16.25	19.16	18.33	18.19	15.14	13.66	12.84
7	13.79	11.24	13.16	10.85	13.38	16.36	19.18	18.42	18.53	15.35	14.00	13.02
8	13.99	11.39	13.22	10.94	13.54	16.51	19.21	18.50	18.71	15.47	14.24	13.21
9	14.14	11.60	13.28	11.07	13.45	16.70	19.26	18.57	18.84	15.58	14.43	13.43
10	14.26	11.77	13.34	11.12	11.58	16.90	19.32	18.66	18.94	15.66	14.52	13.60
11	14.35	11.97	13.40	10.99	12.00	17.05	19.38	18.74	19.02	15.79	14.60	13.75
12	14.40	12.18	13.46	6.69	12.28	17.19	19.44	18.81	11.85	15.91	14.74	13.91
13	13.03	12.37	13.50	9.30	12.53	17.30	19.24	18.88	11.35	16.04	14.60	14.03
14	12.27	12.42	13.52	9.47	12.75	17.42	18.89	18.95	12.30	16.19	14.63	14.18
15	12.48	11.67	12.40	9.48	12.95	17.53	19.08	19.02	12.95	16.30	14.73	14.34
16	12.78	10.90	11.68	9.49	13.12	17.63	16.63	19.09	12.54	16.42	14.85	14.46
17	10.44	10.91	10.95	9.50	13.30	17.73	14.26	19.17	8.02	16.52	14.93	14.57
18	7.56	10.90	10.95	9.25	13.53	17.87	14.88	19.22	10.77	16.61	15.03	14.69
19	5.48	10.88	10.99	8.44	13.72	18.00	15.37	19.30	11.31	16.47	15.05	14.81
20	6.50	10.97	11.11	9.18	13.91	18.09	15.74	19.36	11.89	16.68	10.10	14.94
21	10.41	11.12	11.23	9.20	14.10	18.15	15.80	19.45	12.40	16.28	10.78	15.03
22	10.86	11.21	11.42	9.22	14.27	18.22	15.80	19.51	12.82	16.22	11.05	15.09
23	10.90	11.39	11.64	9.23	14.43	18.31	16.08	19.52	13.13	16.31	11.28	14.80
24	11.01	11.57	11.81	9.28	14.56	18.40	16.33	18.27	13.41	16.41	11.61	13.67
25	11.12	11.73	11.94	9.39	14.69	18.50	16.52	18.92	13.61	16.52	11.95	12.16
26	11.29	11.82	12.09	9.51	14.85	18.56	16.71	19.09	13.88	16.65	12.19	12.24
27	11.58	12.02	12.31	10.31	15.01	18.64	17.01	19.20	14.13	16.84	10.74	12.38
28	11.81	12.20	12.52	11.67	15.11	18.70	17.27	19.31	14.35	16.93	10.77	12.43
29	12.01	12.44	12.66	11.87	15.24	18.77	17.48	19.39	14.54	16.97	10.99	12.43
30	12.18	---	12.32	12.07	15.43	18.83	17.60	19.48	14.73	17.01	11.17	10.51
31	12.38	---	11.88	---	15.55	---	17.73	19.56	---	17.02	---	7.55
MEAN	11.98	11.53	12.38	10.12	13.61	17.43	17.69	18.87	14.84	16.03	13.55	13.17
CAL YR 1988	MEAN	14.29		HIGH	5.48		LOW	19.67				

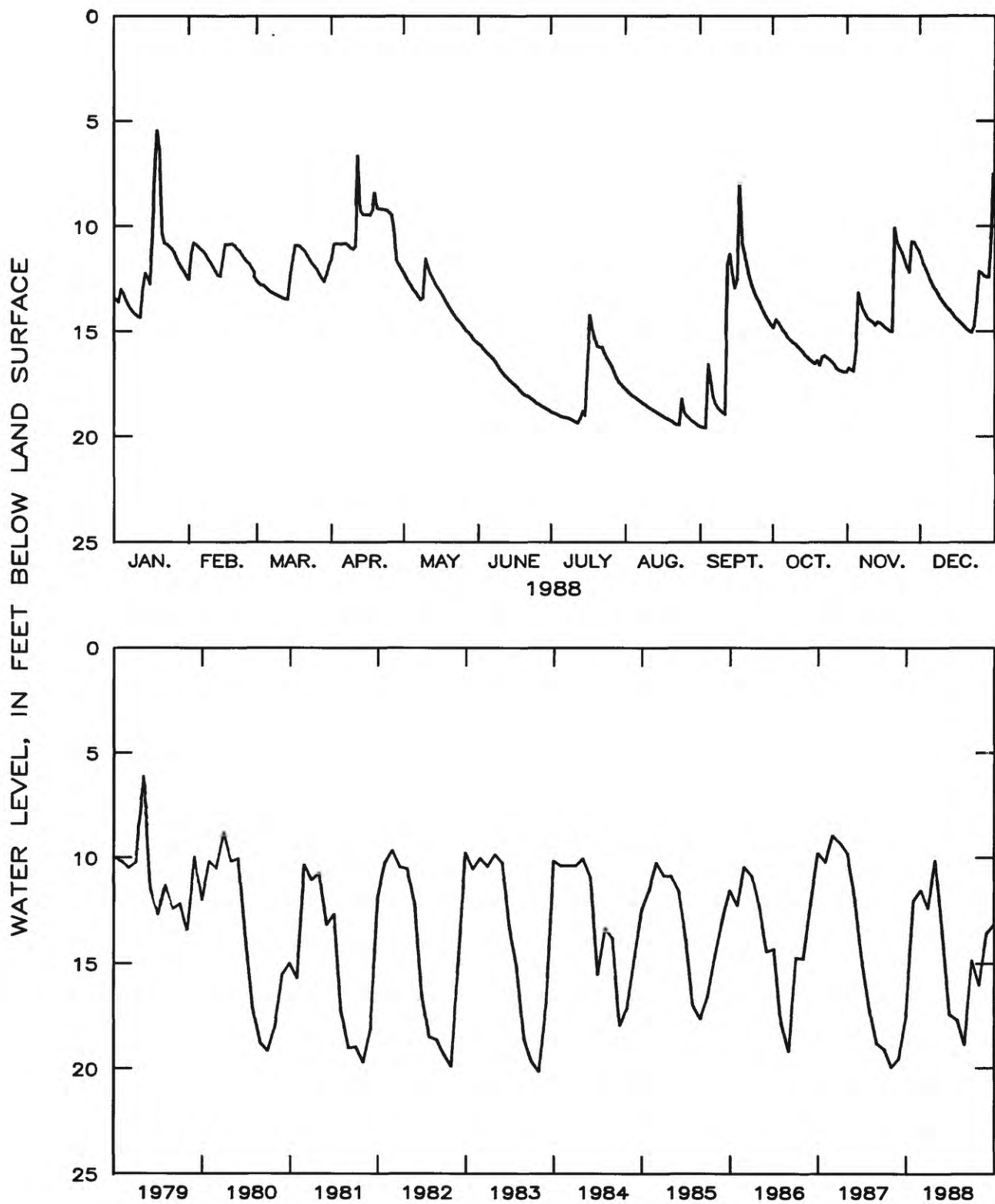


Figure 2.1-2.—Water level in observation well 03PP01, Walker County.

## 2.2 Crystalline Rock Aquifers

Although individual crystalline rock aquifers are not laterally extensive; collectively they yielded an estimated 91 Mgal/d in 1985 (Turlington and others, 1987), primarily for rural supply. Ground-water storage occurs in unconsolidated material overlying the crystalline rock and in joints, fractures, and other types of secondary openings within the rock (Cressler and others, 1983).

Ground-water levels in the crystalline rock aquifers are affected mainly by precipitation and evapotranspiration. Rainfall in the area is heavy in winter and midsummer and relatively light in spring and fall. The driest season of the year is fall. Ground-water levels rise rapidly with the onset of late winter rains and reduced evapotranspiration, and generally reach their highest levels for the year in March or April. Increased evapotranspiration and decreased rainfall during spring and early summer cause ground-water levels to decline. Heavy rainfall in midsummer results in small rises in ground-water levels, but a lack of recharge in the fall causes water levels to decline to annual lows, which generally occur in October or November.

During 1988, the annual mean water levels at wells 10DD02 in Fulton County, 11FF04 in DeKalb County, and 19HH12 in Madison County were from 0.1 to 1.9 ft lower than in 1987. Record-low water levels were measured in the three wells from July through September 1988. The water-level decline in each well continued a downward trend that is attributed to below-normal precipitation.

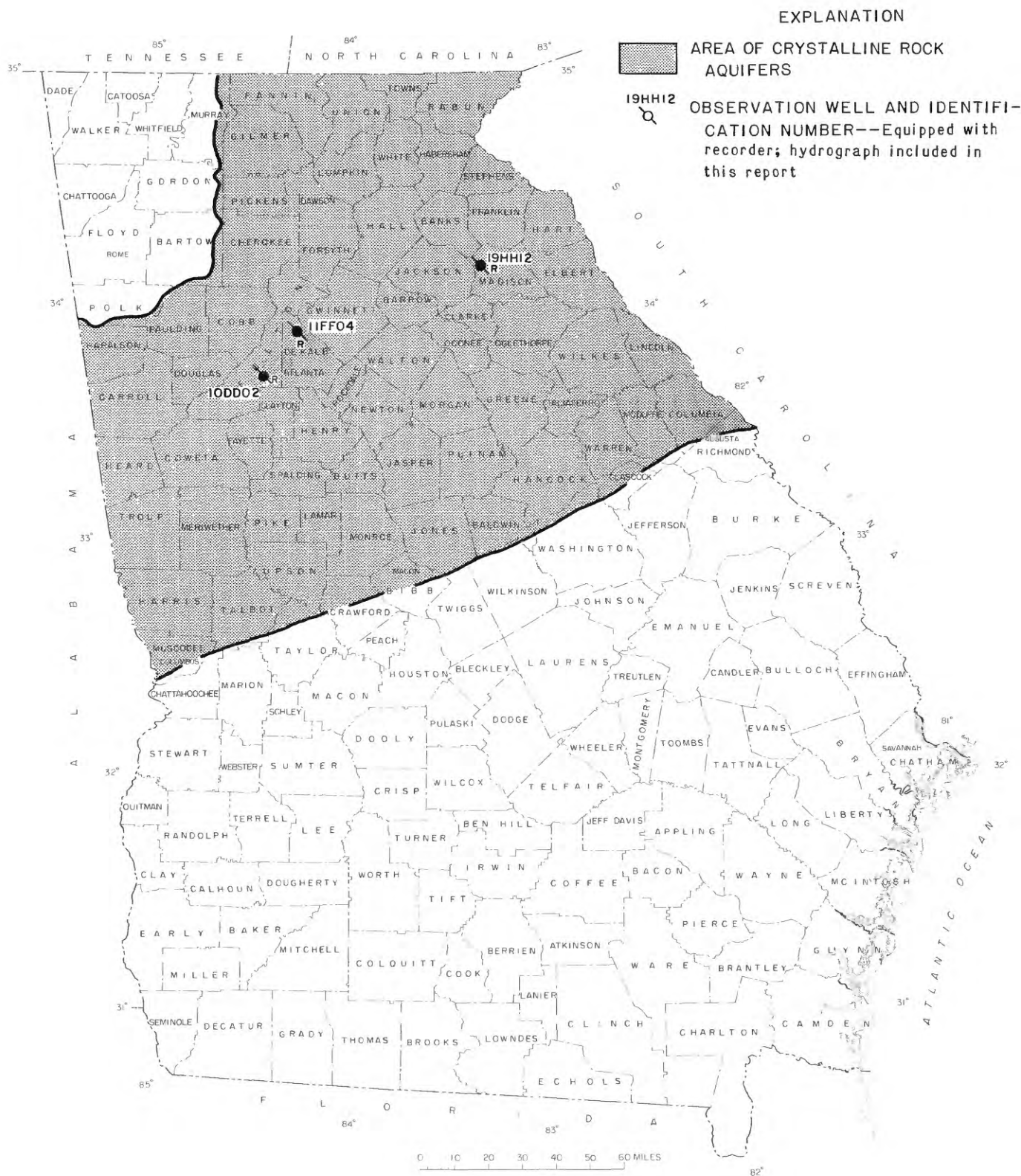


Figure 2.2-1.—Observation well locations in the crystalline rock aquifers.

## 10DD02 FORT MCPHERSON FULTON COUNTY

334207084254801 Local number, 10DD02.

LOCATION.--Lat 33°42'07", long 84°25'48", Hydrologic Unit 03130002, 100 ft east of parking lot at main entrance.

Owner: U.S. Army, Fort McPherson.

AQUIFER.--Biotite gneiss.

WELL CHARACTERISTICS.--Drilled unused supply well, diameter 12 in., depth 338 ft, cased to 41 ft, open hole.

DATUM.--Elevation of land-surface datum is 1,013 ft.

Measuring point: At land-surface datum.

REMARKS.--Well pumped and sounded February 14, 1976, to a depth of 338 ft, well pumped and water sample collected November 26, 1985. Borehole geophysical survey conducted November 19, 1974.

PERIOD OF RECORD.--November 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.10 ft below land-surface datum, March 30, 1980; lowest, 10.95 ft below land-surface datum, September 2, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	9.68	8.90	8.65	8.55	7.58	8.78	9.83	10.49	10.93	10.48	9.89	10.02
2	9.65	8.85	8.67	8.55	7.64	8.84	9.94	10.55	10.95	10.34	9.91	10.12
3	9.56	8.80	8.63	8.51	7.65	8.85	9.95	10.61	10.86	10.22	9.98	10.09
4	9.44	8.30	8.57	8.47	7.65	8.94	10.01	10.58	10.73	10.25	9.90	10.02
5	9.52	8.17	8.68	8.50	7.68	9.01	10.05	10.54	10.62	10.34	9.79	10.05
6	9.54	8.25	8.65	8.44	7.69	9.05	10.06	10.53	10.61	10.37	9.91	10.02
7	9.47	8.32	8.52	8.41	7.75	9.10	10.06	10.58	10.66	9.61	9.99	9.99
8	9.43	8.27	8.55	8.49	7.82	9.05	10.08	10.58	10.67	9.39	10.08	10.03
9	9.50	8.29	8.38	8.57	7.84	9.08	10.06	10.59	10.62	9.30	10.09	10.04
10	9.55	8.32	8.12	8.56	7.83	9.23	10.14	10.60	10.63	9.29	10.02	10.04
11	9.50	8.35	8.25	8.45	7.85	9.27	10.20	10.64	10.62	9.25	10.10	10.02
12	9.39	8.33	8.30	8.30	7.79	9.28	10.21	10.64	10.60	9.27	10.14	10.08
13	9.34	8.41	8.25	8.30	8.02	9.38	10.23	10.64	10.56	9.38	10.10	10.03
14	9.34	8.45	8.25	8.37	8.01	9.50	10.35	10.64	10.53	9.48	10.11	10.07
15	9.31	8.34	8.33	8.39	7.98	9.54	10.29	10.65	10.58	9.48	10.10	10.08
16	9.33	8.45	8.42	8.44	8.00	9.52	10.32	10.67	10.62	9.45	10.05	10.09
17	9.28	8.54	8.45	8.45	7.99	9.48	10.32	10.70	10.52	9.45	10.09	10.09
18	9.00	8.45	8.35	8.30	8.06	9.49	10.34	10.72	10.40	9.49	10.14	10.15
19	8.85	8.35	8.28	8.20	8.12	9.52	10.41	10.79	10.36	9.50	10.09	10.17
20	8.62	8.32	8.35	8.30	8.17	9.55	10.55	10.86	10.38	9.50	10.03	10.20
21	8.50	8.50	8.37	8.25	8.24	9.68	10.57	10.83	10.40	9.58	10.12	10.18
22	8.60	8.52	8.45	8.27	8.27	9.63	10.49	10.80	10.39	9.53	10.12	10.19
23	8.65	8.50	8.52	8.29	8.32	9.65	10.44	10.80	10.35	9.57	10.10	10.16
24	8.66	8.56	8.50	8.24	8.35	9.68	10.46	10.70	10.38	9.60	10.10	10.10
25	8.62	8.57	8.45	8.18	8.36	9.70	10.46	10.68	10.40	9.76	10.14	10.21
26	8.76	8.60	8.38	7.75	8.54	9.65	10.47	10.69	10.45	9.77	10.09	10.27
27	8.92	8.49	8.44	7.57	8.55	9.65	10.47	10.76	10.49	9.83	10.02	10.21
28	8.99	8.55	8.52	7.64	8.60	9.79	10.51	10.79	10.50	9.89	10.00	10.25
29	8.97	8.57	8.55	7.63	8.60	9.84	10.50	10.80	10.52	9.92	10.09	10.23
30	8.95	---	8.55	7.60	8.68	9.82	10.48	10.83	10.52	9.94	10.01	10.21
31	8.90	---	8.58	---	8.72	---	10.45	10.87	---	9.95	---	10.14
MEAN	9.16	8.46	8.45	8.27	8.08	9.39	10.28	10.68	10.56	9.72	10.04	10.11
CAL YR 1988	MEAN	9.44		HIGH	7.57		LOW	10.95				

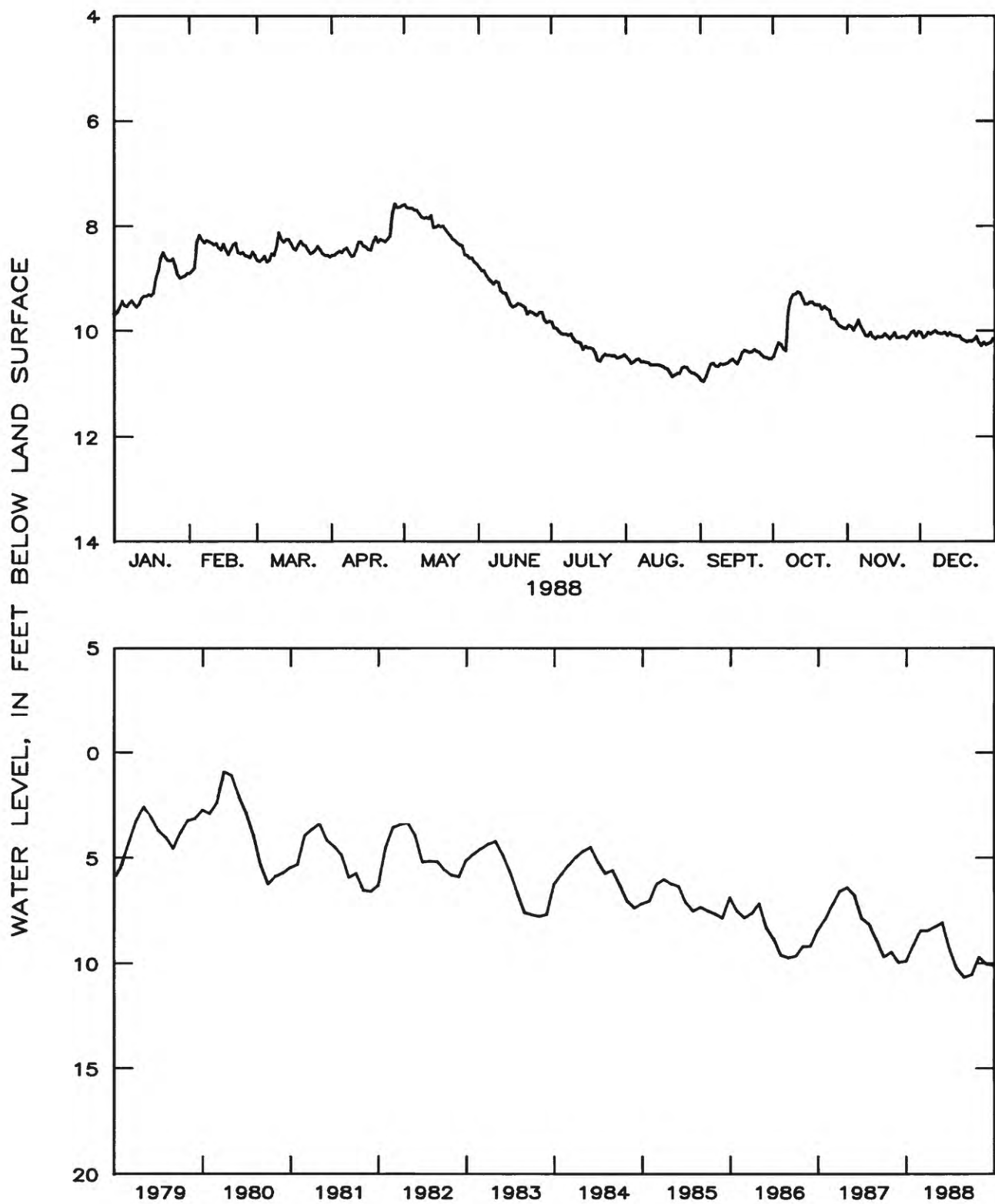


Figure 2.2-2.—Water level in observation well 10DD02, Fulton County.



## 11FF04 GAR TW5 DEKALB COUNTY

335517084164001 Local number, 11FF04.

LOCATION.--Lat 33°55'17", long 84°16'40", Hydrologic Unit 03130001, 6481 Peachtree Industrial Boulevard, 55 ft south of southeastern corner of building.

Owner: U.S. Geological Survey

AQUIFER.--Crystalline rock.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 620 ft, cased to 36 ft, open hole.

DATUM.--Elevation of land-surface datum is 950 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Well sounded to a depth of 620 ft. Borehole geophysical survey conducted April 18, 1980. Water levels for period of missing records, January 26-31, March 7-8, May 28-29, June 17-29, and October 30 to November 17, were estimated.

PERIOD OF RECORD.--February 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.46 ft below land-surface datum, February 2, 1983; lowest, 7.66 ft below land-surface datum, July 20, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.94	6.94	6.96	6.82	6.91	7.26	7.51	7.44	7.36	7.02	7.18	6.76
2	6.96	6.60	6.96	6.86	6.93	7.27	7.54	7.46	7.37	6.83	7.15	6.80
3	6.94	6.06	6.95	6.81	6.95	7.25	7.47	7.51	7.24	6.68	7.17	6.82
4	6.92	6.38	6.91	6.78	6.87	7.31	7.45	7.28	6.94	6.74	7.12	6.84
5	6.99	6.58	6.98	6.83	6.94	7.32	7.46	7.25	6.88	6.94	7.14	6.86
6	7.01	6.67	6.98	6.81	6.95	7.31	7.48	7.36	7.09	7.02	7.08	6.84
7	6.98	6.70	6.91	6.83	6.97	7.30	7.52	7.41	7.18	7.06	7.10	6.83
8	6.98	6.75	6.85	6.87	6.98	7.30	7.53	7.42	7.21	7.07	7.02	6.85
9	7.00	6.79	6.78	6.91	6.98	7.33	7.55	7.44	7.14	7.08	7.00	6.85
10	6.98	6.80	6.63	6.90	6.95	7.39	7.57	7.43	7.15	7.09	6.91	6.85
11	6.96	6.80	6.82	6.64	7.00	7.43	7.60	7.38	7.14	7.15	6.97	6.85
12	6.95	6.85	6.84	6.45	7.03	7.44	7.53	7.45	7.17	7.16	6.88	6.88
13	6.90	6.87	6.72	6.64	7.04	7.46	7.49	7.48	7.18	7.22	6.90	6.85
14	6.97	6.81	6.78	6.78	7.05	7.47	7.50	7.49	7.19	7.22	6.83	6.88
15	6.96	6.82	6.82	6.75	7.06	7.44	7.56	7.51	7.23	7.21	6.86	6.89
16	6.99	6.91	6.85	6.80	7.05	7.45	7.58	7.53	7.20	7.21	6.80	6.88
17	6.71	6.91	6.87	6.82	7.05	7.43	7.56	7.55	7.01	7.17	6.82	6.87
18	6.68	6.83	6.77	6.60	7.07	7.49	7.61	7.57	7.01	7.19	6.79	6.89
19	6.73	6.85	6.80	6.55	7.09	7.53	7.64	7.48	7.04	7.18	6.75	6.89
20	6.32	6.92	6.86	6.67	7.10	7.54	7.66	7.13	7.07	7.19	6.71	6.90
21	6.67	6.96	6.87	6.73	7.13	7.56	7.65	7.18	7.11	7.11	6.75	6.89
22	6.74	6.93	6.93	6.74	7.14	7.57	7.42	7.26	7.13	7.13	6.83	6.90
23	6.80	6.95	6.94	6.72	7.14	7.54	7.35	7.17	7.14	7.16	6.90	6.85
24	6.83	6.97	6.92	6.74	7.13	7.55	7.48	7.12	7.15	7.17	6.89	6.83
25	6.80	6.97	6.79	6.76	7.15	7.53	7.53	7.21	7.17	7.20	6.92	6.88
26	6.82	6.97	6.82	6.77	7.20	7.59	7.57	7.25	7.20	7.19	6.87	6.91
27	6.84	6.92	6.86	6.81	7.21	7.57	7.51	7.30	7.23	7.21	6.71	6.89
28	6.86	6.92	6.80	6.85	7.23	7.54	7.37	7.31	7.25	7.23	6.61	6.86
29	6.88	6.93	6.86	6.88	7.25	7.56	7.39	7.31	7.27	7.22	6.75	6.84
30	6.90	---	6.87	6.90	7.26	7.55	7.37	7.30	7.28	7.19	6.74	6.81
31	6.92	---	6.88	---	7.25	---	7.43	7.34	---	7.20	---	6.67
MEAN	6.87	6.81	6.86	6.77	7.07	7.44	7.51	7.37	7.16	7.11	6.91	6.85
CAL YR 1988	MEAN	7.06		HIGH	6.06		LOW	7.66				

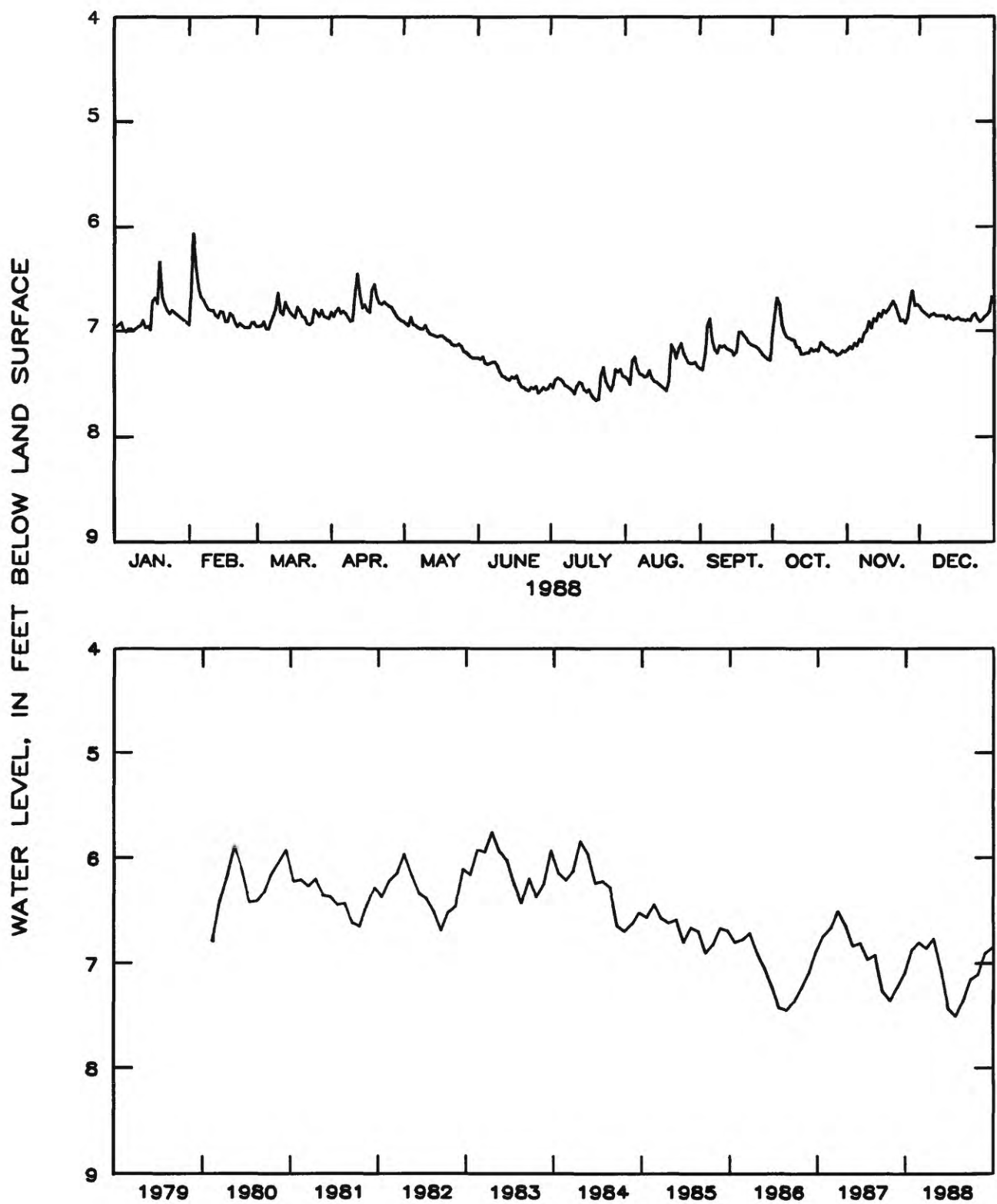


Figure 2.2-3.—Water level in observation well 11FF04, Dekalb County.

## 19HH12 MEADOWLAKE ESTATES MADISON COUNTY

341020083201701 Local number, 19HH12.

LOCATION.--Lat 34°10'20", long 83°20'17", Hydrologic Unit 03060104, 2.5 mi west of the intersection of Georgia Highways 98 and 106 in Ia, approximately 0.8 mi south of Georgia Highway 98.

Owner: Meadowlake Estates.

AQUIFER.--Crystalline rock.

WELL CHARACTERISTICS.--Drilled unused supply well, diameter 6 in., depth 185 ft, cased to 50 ft, open hole.

DATUM.--Elevation of land-surface datum is 800 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Water levels for periods of missing record, May 17-19, September 11-21, and September 26 to November 5, were estimated.

PERIOD OF RECORD.--October 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.69 ft below land-surface datum, April 14, 1984; lowest, 15.56 ft below land-surface datum, September 2-3, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	14.13	13.48	13.43	13.58	13.75	14.24	14.88	15.37	15.51	15.48	15.19	14.88
2	14.14	13.48	13.43	13.58	13.75	14.26	14.90	15.38	15.56	15.35	15.22	14.88
3	14.10	13.39	13.43	13.57	13.76	14.29	14.90	15.38	15.56	15.24	15.30	14.86
4	14.08	13.25	13.44	13.58	13.78	14.34	14.90	15.39	15.53	15.28	15.23	14.87
5	14.06	13.16	13.49	13.60	13.80	14.36	14.89	15.39	15.53	15.38	15.13	14.87
6	14.04	13.13	13.47	13.59	13.82	14.37	14.90	15.38	15.54	15.42	15.26	14.85
7	14.02	13.11	13.42	13.64	13.82	14.38	14.92	15.39	15.55	15.32	15.26	14.86
8	14.01	13.08	13.43	13.66	13.83	14.41	14.95	15.38	15.55	15.22	15.24	14.87
9	14.03	13.09	13.39	13.64	13.86	14.44	14.97	15.39	15.53	15.12	15.23	14.87
10	14.05	13.11	13.41	13.60	13.88	14.48	15.00	15.40	15.51	15.02	15.22	14.87
11	14.05	13.11	13.47	13.58	13.88	14.50	15.02	15.38	15.50	14.95	15.23	14.88
12	14.04	13.13	13.43	13.56	13.89	14.52	15.05	15.38	15.49	14.84	15.23	14.89
13	14.05	13.17	13.42	13.56	13.91	14.55	15.07	15.39	15.47	14.73	15.21	14.87
14	14.05	13.19	13.43	13.57	13.92	14.57	15.09	15.40	15.45	14.61	15.22	14.89
15	14.02	13.15	13.45	13.56	13.94	14.59	15.12	15.41	15.43	14.62	15.21	14.90
16	14.02	13.23	13.46	13.54	13.96	14.60	15.13	15.42	15.41	14.60	15.20	14.89
17	13.98	13.24	13.45	13.57	13.97	14.63	15.14	15.43	15.39	14.60	15.21	14.90
18	13.89	13.24	13.42	13.59	13.98	14.65	15.16	15.44	15.38	14.65	15.20	14.91
19	13.80	13.23	13.44	13.58	14.00	14.67	15.18	15.45	15.36	14.67	15.19	14.92
20	13.59	13.26	13.46	13.60	14.01	14.68	15.20	15.45	15.34	14.68	15.18	14.92
21	13.42	13.31	13.47	13.61	14.04	14.70	15.21	15.45	15.33	14.77	15.20	14.91
22	13.40	13.32	13.52	13.61	14.05	14.72	15.22	15.46	15.32	14.73	15.19	14.92
23	13.38	13.31	13.51	13.62	14.07	14.76	15.23	15.45	15.32	14.78	15.17	14.92
24	13.38	13.35	13.50	13.63	14.09	14.79	15.25	15.44	15.33	14.82	15.18	14.91
25	13.37	13.36	13.50	13.65	14.10	14.79	15.26	15.45	15.34	14.99	15.17	14.94
26	13.42	13.37	13.50	13.68	14.13	14.79	15.28	15.47	15.40	15.01	15.14	14.95
27	13.44	13.35	13.54	13.69	14.14	14.83	15.30	15.49	15.45	15.08	15.11	14.94
28	13.44	13.40	13.56	13.70	14.15	14.85	15.32	15.49	15.47	15.15	15.01	14.94
29	13.45	13.41	13.55	13.71	14.17	14.85	15.32	15.50	15.50	15.19	14.93	14.95
30	13.45	---	13.56	13.73	14.20	14.87	15.33	15.51	15.51	15.22	14.89	14.94
31	13.46	---	13.57	---	14.22	---	15.35	15.51	---	15.24	---	14.93
MEAN	13.80	13.26	13.47	13.61	13.96	14.58	15.11	15.43	15.45	14.99	15.18	14.90
CAL YR 1988	MEAN	14.48		HIGH	13.08		LOW	15.56				

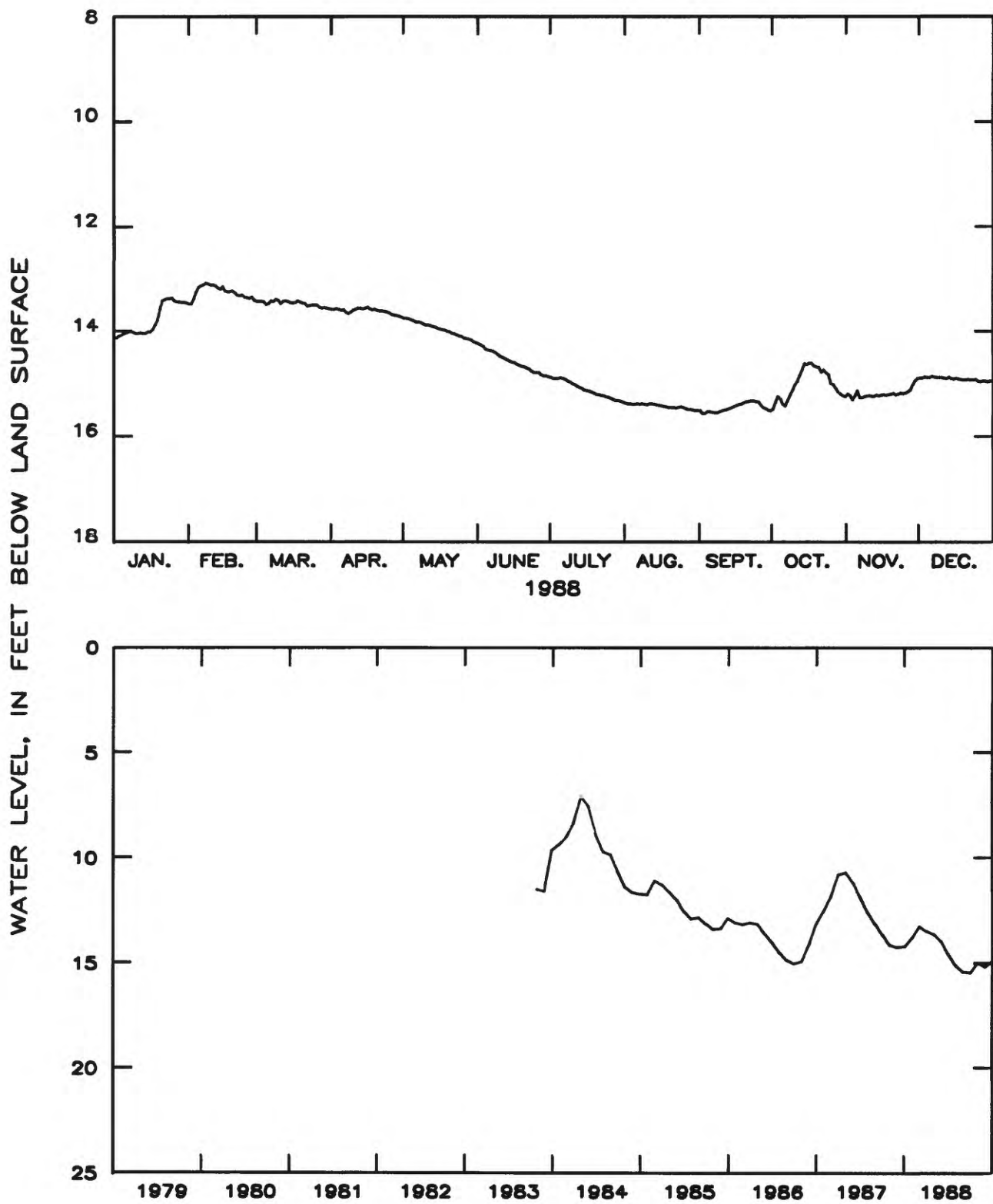


Figure 2.2-4.—Water level in observation well 19HH12, Madison County.

### 2.3 Surficial Aquifers

Shallow surficial aquifers under water-table conditions are used for domestic and stock supplies in most areas of Georgia. In the Piedmont and the Blue Ridge provinces, the aquifers are comprised of stream alluvium and residual soils derived from the weathering of crystalline rocks. In the southwestern part of the Coastal Plain province, the aquifers consist of undifferentiated sand, clay, and limestone that range in thickness from less than 10 ft to about 125 ft (Hayes and others, 1983). Surficial aquifers in the Savannah area consist of sand, silt, and clay and some shell and gravel beds.

Water-level fluctuations in these aquifers are caused mainly by changes in precipitation. Generally, water levels rise rapidly during wet periods and decline slowly during dry periods. Prolonged droughts may cause water levels, particularly beneath hill tops and steep slopes, to decline below pump intakes in dug, bored, or shallow-drilled wells, and result in temporary well failures. Generally, well yields are restored with the return of precipitation.

Reduced recharge to the surficial aquifers, owing to below-normal rainfall, resulted in lower water levels during 1988 than in 1987. During 1988, the mean water level in well 11AA01 in Spalding County in the Piedmont province was 1.8 ft lower than in 1987. In the southwestern part of the Coastal Plain province (Dougherty Plain), the annual mean water levels in wells 13M007 in Worth County and 07H003 in Miller County were from 0.6 to 2.7 ft lower in 1988 than in 1987. In the Coastal Plain province near Savannah, the annual mean water level in well 35P094 was 1.2 ft lower in 1988 than in 1987.

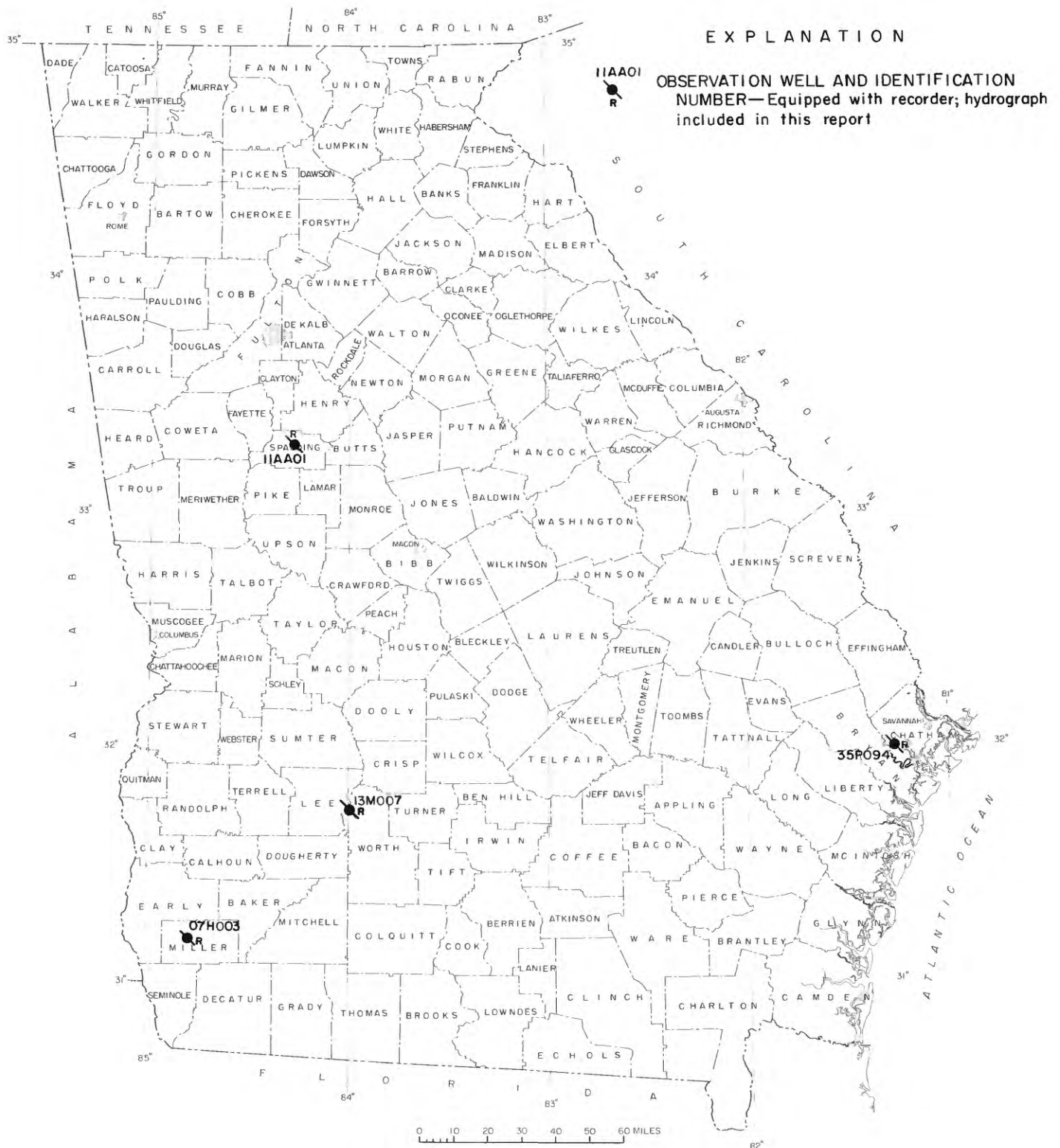


Figure 2.3-1.—Observation well locations in the surficial aquifers.



## 11AA01 EXPERIMENT STATION SPALDING COUNTY

331507084171801 Local number, 11AA01.

LOCATION.--Lat 33°15'54", long 84°16'56", Hydrologic Unit 03070103, University of Georgia Experiment Station, Experiment, Ga.

Owner: University of Georgia.

AQUIFER.--Residuum.

WELL CHARACTERISTICS.--Dug unused water-table well, size 4 x 4 ft, depth 30 ft, open hole.

DATUM.--Elevation of land-surface datum is 960 ft.

Measuring point: Hole in floor of recorder shelter, 3.1 ft above land-surface datum.

REMARKS.--None.

PERIOD OF RECORD.--October 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.26 ft below land-surface datum, March 19, 1948; lowest, 21.82 ft below land-surface datum, November 18-19, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988 MEAN VALUES												
DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	20.71	17.69	16.76	17.43	17.32	18.21	19.90	21.30	21.07	17.51	18.66	19.25
2	20.65	17.64	16.77	17.46	17.31	18.24	19.97	21.32	21.03	17.48	18.71	19.24
3	20.54	17.60	16.76	17.45	17.31	18.28	20.03	21.34	20.96	17.48	18.75	19.18
4	20.43	17.47	16.77	17.47	17.30	18.37	20.10	21.35	20.88	17.52	18.74	19.15
5	20.34	17.36	16.88	17.51	17.32	18.45	20.15	21.36	20.61	17.55	18.74	19.15
6	20.22	17.23	16.88	17.47	17.31	18.47	20.20	21.37	20.35	17.54	18.84	19.12
7	20.12	17.09	16.92	17.48	17.37	18.50	20.25	21.38	20.15	17.55	18.92	19.09
8	20.00	16.93	16.95	17.57	17.40	18.52	20.30	21.38	19.98	17.55	18.95	19.11
9	19.93	16.83	16.85	17.62	17.42	18.58	20.35	21.37	19.80	17.56	18.98	19.11
10	19.86	16.76	16.86	17.60	17.42	18.69	20.40	21.36	19.66	17.57	18.98	19.11
11	19.80	16.67	17.03	17.56	17.46	18.74	20.45	21.35	19.53	17.58	19.04	19.10
12	19.71	16.62	16.98	17.60	17.52	18.79	20.51	21.34	19.41	17.67	19.07	19.15
13	19.64	16.62	16.96	17.69	17.55	18.84	20.56	21.33	19.28	17.75	19.09	19.13
14	19.60	16.58	17.01	17.71	17.56	18.89	20.58	21.32	19.18	17.76	19.13	19.16
15	19.54	16.48	17.10	17.71	17.57	18.92	20.63	21.30	19.11	17.77	19.15	19.18
16	19.47	16.59	17.15	17.75	17.60	18.95	20.68	21.29	19.06	17.80	19.16	19.20
17	19.40	16.59	17.16	17.74	17.62	19.00	20.74	21.28	18.93	17.85	19.22	19.21
18	19.32	16.53	17.10	17.66	17.68	19.09	20.77	21.27	18.72	17.87	19.27	19.27
19	19.23	16.46	17.13	17.67	17.71	19.15	20.82	21.27	18.52	17.91	19.27	19.30
20	19.05	16.50	17.19	17.72	17.76	19.20	20.86	21.26	18.34	17.97	19.26	19.33
21	18.88	16.59	17.19	17.63	17.80	19.25	20.90	21.25	18.19	17.98	19.33	19.34
22	18.72	16.61	17.25	17.61	17.82	19.29	20.96	21.24	18.04	18.03	19.36	19.37
23	18.52	16.57	17.27	17.60	17.86	19.35	20.99	21.23	17.92	18.07	19.36	19.37
24	18.36	16.63	17.25	17.59	17.89	19.42	21.04	21.22	17.84	18.11	19.39	19.37
25	18.19	16.64	17.24	17.59	17.92	19.49	21.08	21.21	17.78	18.31	19.43	19.45
26	18.13	16.66	17.24	17.55	18.02	19.51	21.12	21.20	17.75	18.42	19.43	19.50
27	18.07	16.60	17.31	17.53	18.05	19.57	21.16	21.19	17.66	18.48	19.44	19.52
28	17.97	16.67	17.35	17.48	18.07	19.66	21.20	21.18	17.56	18.54	19.43	19.49
29	17.86	16.70	17.36	17.40	18.10	19.76	21.24	21.19	17.55	18.58	19.39	19.55
30	17.78	---	17.40	17.35	18.14	19.82	21.26	21.20	17.54	18.61	19.29	19.55
31	17.72	---	17.42	---	18.19	---	21.28	21.15	---	18.65	---	19.55
MEAN	19.28	16.82	17.08	17.57	17.66	18.97	20.66	21.28	19.08	17.90	19.13	19.28
CAL YR 1988	MEAN	18.74		HIGH	16.46		LOW	21.38				

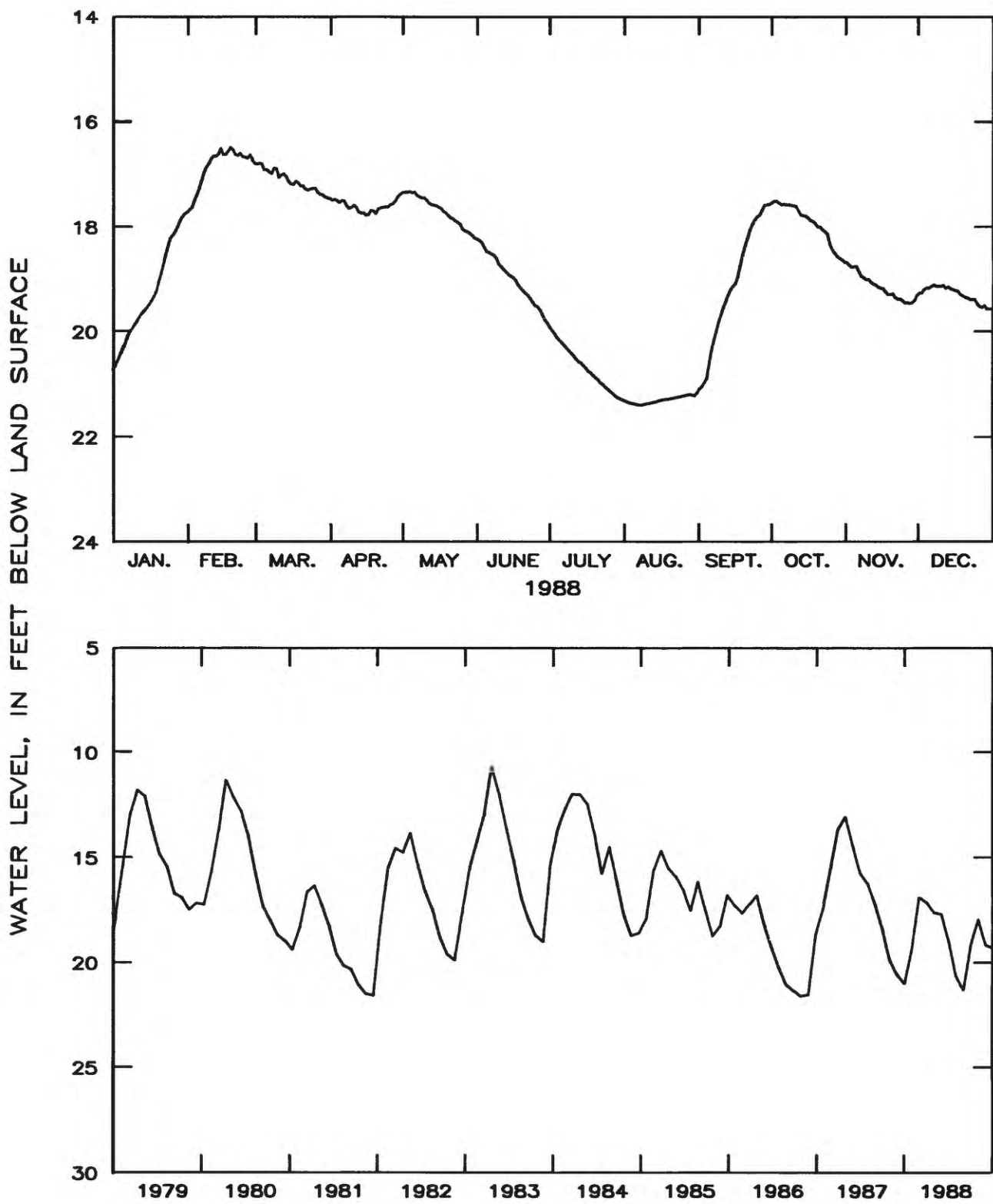


Figure 2.3-2.—Water level in observation well 11AA01, Spalding County.

## 13M007 DP-9 WORTH COUNTY

314330084005403 Local number, 13M007.

LOCATION.--Lat 31°43'30", long 84°00'54", Hydrologic Unit 03130006, 1,400 ft east of the Flint River on the north side of State Highway 32.

Owner: U.S. Geological Survey, test well DP-9.

AQUIFER.--Eocene residuum.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 25 ft, cased to 10 ft, open hole.

DATUM.--Elevation of land-surface datum is 230 ft.

Measuring point: Top of 4-in. casing, 1 ft above land-surface datum.

REMARKS.--Water level for period of missing record, February 17, was estimated.

PERIOD OF RECORD.--April 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.48 ft below land-surface datum, March 7, 1984; lowest, 13.03 ft below land-surface datum, October 22, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	11.98	7.38	6.36	5.63	5.62	7.10	8.36	9.27	10.42	9.83	10.42	11.18
2	11.98	7.40	6.40	5.67	5.70	7.14	8.38	9.32	10.44	9.84	10.45	11.22
3	11.88	7.42	6.41	5.70	5.76	7.19	8.39	9.36	10.44	9.84	10.48	11.23
4	11.42	7.43	6.34	5.74	5.81	7.27	8.40	9.40	10.44	9.81	10.48	11.24
5	11.10	7.48	6.10	5.79	5.86	7.32	8.40	9.44	10.39	9.75	10.50	11.28
6	10.96	7.51	5.94	5.81	5.92	7.35	8.38	9.49	10.32	9.75	10.55	11.30
7	10.86	7.51	5.90	5.83	5.99	7.38	8.39	9.53	10.30	9.75	10.57	11.32
8	10.80	7.50	5.89	5.87	6.05	7.41	8.40	9.57	10.26	9.75	10.64	11.35
9	10.73	7.51	5.75	5.92	6.09	7.46	8.42	9.61	10.22	9.75	10.67	11.37
10	10.67	7.53	5.50	5.93	6.13	7.52	8.44	9.66	10.16	9.75	10.69	11.40
11	10.60	7.54	5.45	5.94	6.16	7.55	8.48	9.72	9.86	9.75	10.72	11.41
12	10.56	7.58	5.41	5.97	6.21	7.58	8.50	9.77	9.72	9.76	10.75	11.43
13	10.54	7.61	5.39	6.03	6.24	7.62	8.53	9.81	9.49	9.82	10.77	11.44
14	10.54	7.62	5.43	6.06	6.26	7.66	8.55	9.84	9.40	9.84	10.79	11.47
15	10.52	7.60	5.48	6.08	6.30	7.69	8.59	9.88	9.41	9.86	10.81	11.49
16	10.52	7.69	5.53	6.12	6.34	7.73	8.62	9.91	9.43	9.88	10.83	11.52
17	10.49	7.70	5.56	6.14	6.37	7.78	8.64	9.94	9.43	9.93	10.86	11.55
18	10.35	7.70	5.55	6.14	6.42	7.83	8.67	9.97	9.43	9.96	10.90	11.58
19	9.62	7.56	5.62	5.96	6.46	7.88	8.71	10.00	9.44	9.99	10.92	11.60
20	8.56	7.28	5.69	5.73	6.51	7.92	8.76	10.03	9.47	10.03	10.93	11.62
21	7.95	6.66	5.72	5.62	6.57	7.97	8.79	10.06	9.50	10.04	10.96	11.63
22	7.64	6.37	5.76	5.61	6.61	8.02	8.82	10.11	9.52	10.07	10.98	11.64
23	7.45	6.26	5.79	5.62	6.64	8.07	8.86	10.13	9.54	10.11	10.99	11.65
24	7.36	6.25	5.81	5.63	6.69	8.13	8.92	10.14	9.57	10.14	11.01	11.67
25	7.31	6.25	5.81	5.66	6.74	8.18	8.96	10.16	9.60	10.21	11.03	11.69
26	7.36	6.25	5.72	5.64	6.81	8.21	9.01	10.19	9.65	10.23	11.04	11.72
27	7.38	6.23	5.65	5.59	6.85	8.24	9.05	10.23	9.70	10.27	11.06	11.75
28	7.37	6.28	5.58	5.57	6.90	8.30	9.11	10.25	9.73	10.32	11.11	11.79
29	7.36	6.31	5.57	5.58	6.94	8.33	9.16	10.29	9.77	10.35	11.14	11.82
30	7.35	---	5.58	5.59	7.00	8.34	9.20	10.33	9.80	10.38	11.15	11.83
31	7.36	---	5.60	---	7.04	---	9.22	10.38	---	10.40	---	11.84
MEAN	9.57	7.15	5.75	5.81	6.35	7.74	8.68	9.86	9.83	9.97	10.81	11.52
CAL YR 1988	MEAN	8.59		HIGH	5.39		LOW	11.98				

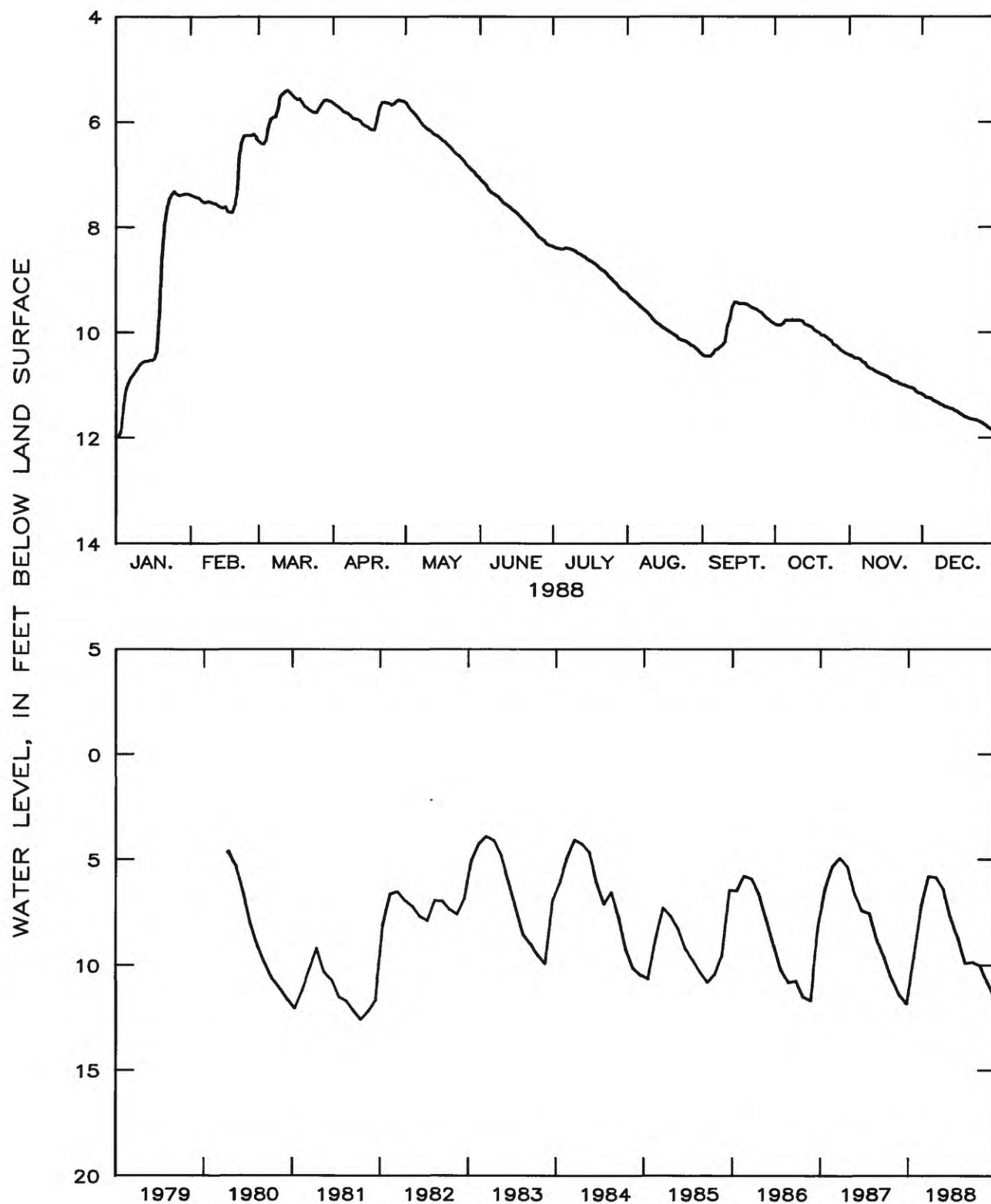


Figure 2.3-3.—Water level in observation well 13M007, Worth County.

## 07H003 DP-3 MILLER COUNTY

311009084495503 Local number, 07H003.

LOCATION.--Lat 31°10'08", long 84°49'54", Hydrologic Unit 03130010, 0.2 mi north on dirt road off Georgia Highway 273, 2.75 mi west of intersection of Georgia Highways 273 and 91.

Owner: U.S. Geological Survey

AQUIFER.--Residuum.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 40 ft, perforated casing 30 to 40 ft.

DATUM.--Elevation of land-surface datum is 180 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--None.

PERIOD OF RECORD.--February 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.52 ft below land-surface datum, March 6, 1984; lowest, 24.19 ft below land-surface datum, November 10, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	11.23	5.57	3.89	4.61	6.74	12.40	14.89	16.13	17.10	13.49	13.23	12.63
2	10.79	5.82	4.08	4.78	6.97	12.46	14.98	16.12	17.17	13.46	13.28	12.69
3	5.64	6.09	3.99	4.91	7.18	12.52	15.06	16.12	17.23	12.74	13.33	12.74
4	2.65	6.30	1.19	5.03	7.39	12.61	15.12	16.11	17.29	10.32	13.36	12.75
5	3.37	6.55	1.67	5.19	7.64	12.79	15.19	16.11	17.32	9.70	13.34	12.76
6	4.08	6.06	2.11	5.30	7.85	12.88	15.27	16.11	17.36	9.88	13.39	12.80
7	4.93	5.42	2.47	5.32	8.11	12.94	15.33	16.11	17.41	10.12	13.51	12.81
8	5.66	5.29	2.77	5.45	8.41	12.98	15.39	16.11	17.46	10.34	13.62	12.84
9	5.92	5.45	1.85	5.61	8.69	13.04	15.44	16.13	17.50	10.53	13.71	12.89
10	6.60	5.69	1.81	5.73	8.93	13.14	15.49	16.16	17.52	10.72	13.78	12.94
11	7.11	5.94	2.28	5.84	9.23	13.24	15.55	16.19	17.54	10.93	13.84	12.97
12	8.02	6.23	2.59	5.95	9.60	13.34	15.59	16.22	17.56	11.15	13.91	13.01
13	8.64	6.50	2.84	6.04	10.01	13.42	15.54	16.25	17.59	11.42	13.98	13.09
14	9.08	6.72	3.10	6.16	10.39	13.51	15.58	16.29	17.61	11.63	14.04	13.14
15	9.33	6.81	3.37	6.29	10.75	13.59	15.64	16.33	17.64	11.72	14.11	13.18
16	9.56	6.92	3.60	6.45	11.01	13.67	15.70	16.36	17.68	11.81	14.16	13.21
17	9.75	6.96	3.78	6.59	11.18	13.72	15.77	16.39	17.71	11.93	14.20	13.23
18	9.33	6.57	3.89	6.69	11.31	13.79	15.82	16.42	17.70	12.02	14.27	13.28
19	2.98	1.65	4.00	5.76	11.42	13.87	15.88	16.46	17.70	12.09	14.33	13.31
20	2.07	.76	4.15	4.99	11.49	13.96	15.94	16.50	17.69	12.19	14.25	13.32
21	2.16	1.34	4.28	4.86	11.59	14.05	16.00	16.53	17.66	12.29	14.03	13.31
22	2.57	1.84	4.43	4.95	11.66	14.14	15.94	16.57	17.61	12.37	13.87	13.27
23	2.90	2.12	4.57	5.10	11.71	14.23	15.94	16.62	17.55	12.44	13.58	13.23
24	3.22	2.41	4.69	5.24	11.77	14.32	15.99	16.68	17.22	12.52	13.28	13.18
25	3.50	2.69	4.79	5.40	11.84	14.41	16.03	16.73	16.59	12.65	12.98	13.15
26	3.72	2.97	4.55	5.57	11.94	14.50	16.09	16.77	15.62	12.78	12.74	13.17
27	4.03	3.21	3.91	5.83	12.05	14.57	16.12	16.82	14.79	12.87	12.57	13.19
28	4.37	3.46	3.89	6.09	12.12	14.65	16.10	16.87	14.15	12.98	12.52	13.15
29	4.67	3.67	4.06	6.33	12.18	14.73	16.12	16.92	13.81	13.07	12.58	13.14
30	4.97	---	4.25	6.53	12.25	14.81	16.14	16.96	13.59	13.14	12.61	13.15
31	5.26	---	4.44	---	12.33	---	16.13	17.02	---	13.18	---	13.05
MEAN	5.75	4.72	3.46	5.62	10.19	13.61	15.67	16.42	16.95	11.89	13.55	13.05
CAL YR 1988	MEAN	10.92		HIGH	.76		LOW	17.71				

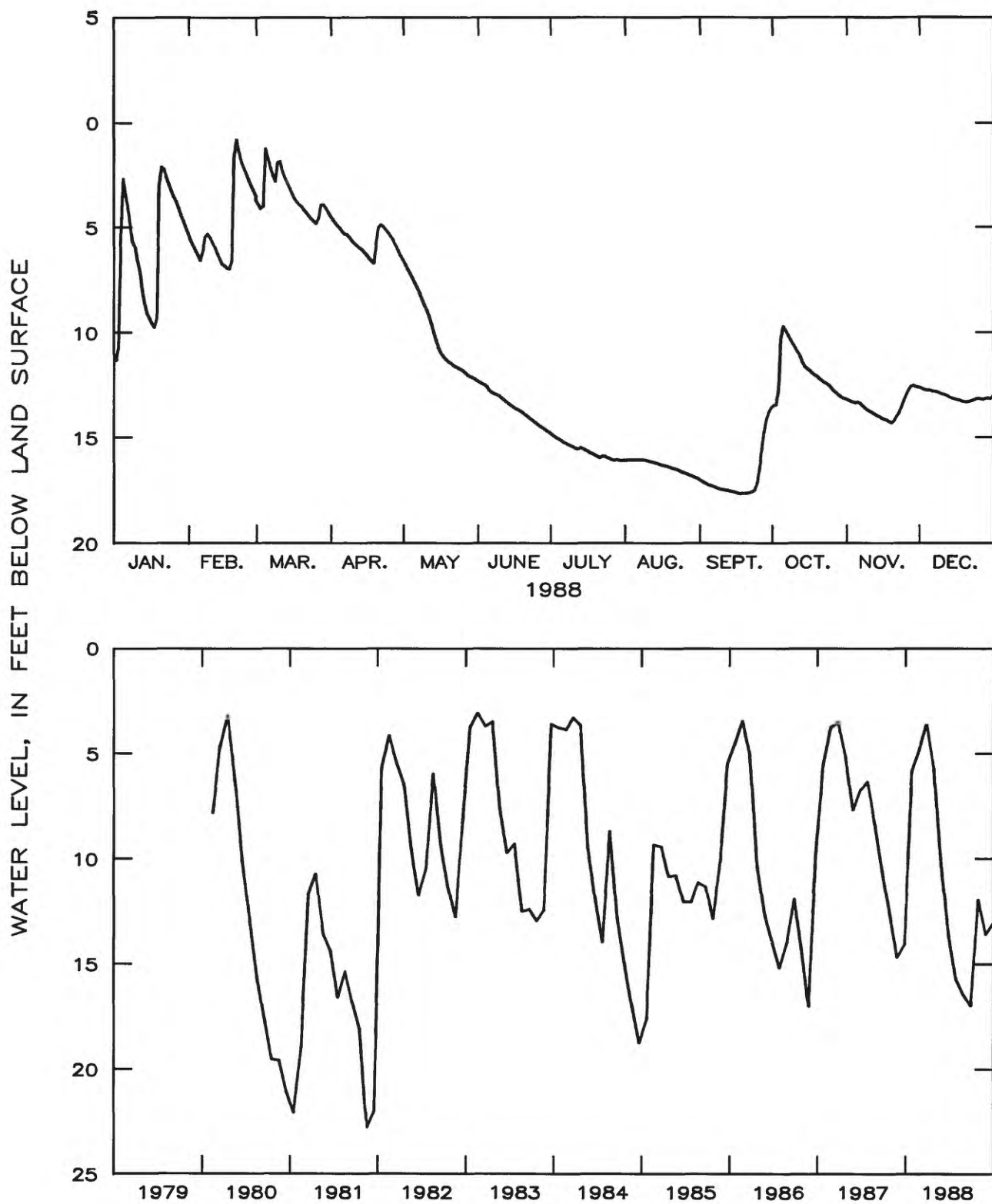


Figure 2.3-4.—Water level in observation well 07H003, Miller County.



## 35P094 UGA CHATHAM COUNTY

315950081161201 Local number, 35P094.

LOCATION.--Lat 31°59'50", long 81°16'12", Hydrologic Unit 03060204, Barbour Lathrop Plant Introduction Station, 10 miles south of Savannah, north of the intersection of U.S. Highway 17 and Argyle Rd.

Owner: University of Georgia, formerly U.S. Department of Agriculture.

AQUIFER.--Sands of Holocene and Pleistocene age.

WELL CHARACTERISTICS.--Bored observation well, diameter 30 in., depth 15 ft, cased to 15 ft, open end.

DATUM.--Elevation of land-surface datum is 18.67 ft.

Measuring point: Iron bracket on recorder shelter, 3.3 ft above land-surface datum.

REMARKS.--Responds quickly to precipitation. Water levels for period of missing record, April 25-28, were estimated.

PERIOD OF RECORD.--August 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.05 ft below land-surface datum, September 26, 1953; lowest, 12.28 ft below land-surface datum, November 30, 1972.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	7.74	5.13	3.92	4.86	4.25	6.51	8.91	9.76	4.13	2.62	4.04	4.82
2	7.83	5.16	3.99	4.91	4.36	6.60	8.99	9.87	3.15	2.67	4.13	4.88
3	7.70	5.20	4.04	4.95	4.46	6.70	9.03	9.96	2.76	2.28	4.21	4.92
4	7.31	5.23	3.85	4.98	4.55	6.85	9.09	9.91	2.63	1.90	4.17	4.96
5	7.07	5.31	3.45	5.01	4.59	6.93	9.14	9.53	2.54	2.21	3.61	5.03
6	6.85	5.23	3.42	5.03	4.64	7.00	9.19	9.45	1.81	2.45	3.57	5.07
7	6.68	5.17	3.48	5.07	4.76	7.10	9.22	9.49	2.17	2.61	3.64	5.11
8	6.48	5.10	3.56	5.15	4.85	7.19	9.22	9.55	2.11	2.75	3.72	5.16
9	6.09	5.10	3.57	5.20	4.93	7.28	9.21	9.64	.66	2.86	3.81	5.21
10	6.09	5.14	3.52	5.24	5.01	7.38	9.29	9.73	1.18	2.95	3.87	5.25
11	6.08	5.16	3.62	5.26	5.10	7.46	9.37	9.80	1.63	3.05	3.94	5.27
12	6.06	5.19	3.66	5.24	5.20	7.54	9.40	9.82	1.94	3.16	4.02	5.25
13	6.03	5.28	3.71	5.24	5.26	7.62	9.42	9.86	2.21	3.27	4.08	5.18
14	6.10	5.33	3.80	5.27	5.33	7.70	9.45	9.85	2.44	3.34	4.19	5.22
15	6.08	5.30	3.91	5.30	5.40	7.78	9.49	9.84	2.62	3.42	4.27	5.26
16	6.09	5.40	4.00	5.37	5.48	7.84	9.48	9.08	2.73	3.48	4.32	5.27
17	6.05	5.44	4.06	5.40	5.55	7.92	9.50	8.31	2.37	3.56	4.38	5.19
18	6.05	5.43	4.09	5.44	5.56	8.01	9.55	8.18	.67	3.63	4.45	5.17
19	6.02	4.95	4.10	5.29	5.61	8.11	9.61	8.21	1.16	3.71	4.49	5.17
20	5.96	3.93	4.14	4.93	5.68	8.20	9.56	8.27	1.57	3.80	4.53	5.21
21	5.68	3.35	4.18	4.80	5.76	8.28	9.63	8.37	1.61	3.69	4.61	5.24
22	5.33	3.34	4.30	4.83	5.84	8.36	9.64	8.48	1.94	3.51	4.65	5.29
23	5.09	3.36	4.42	4.91	5.91	8.44	9.63	7.89	2.16	3.60	4.64	5.31
24	5.01	3.46	4.45	4.90	6.06	8.50	9.66	7.51	2.33	3.72	4.56	5.32
25	4.94	3.55	4.49	4.69	6.04	8.56	9.69	7.44	2.47	3.85	4.54	5.36
26	4.97	3.64	4.54	4.48	6.06	8.60	9.56	7.52	2.15	3.93	4.57	5.42
27	4.99	3.68	4.60	4.23	6.11	8.66	9.65	7.62	2.26	4.01	4.62	5.37
28	5.00	3.78	4.67	4.00	6.17	8.74	9.71	7.52	2.47	4.06	4.69	5.36
29	5.02	3.85	4.70	4.07	6.27	8.80	9.80	6.81	2.32	4.10	4.74	5.48
30	5.05	---	4.75	4.17	6.36	8.85	9.86	6.42	2.48	3.96	4.76	5.52
31	5.08	---	4.81	---	6.43	---	9.89	5.08	---	3.97	---	5.55
MEAN	6.02	4.66	4.06	4.94	5.41	7.78	9.45	8.67	2.16	3.29	4.26	5.22
CAL YR 1988	MEAN	5.51		HIGH	.66		LOW	9.96				

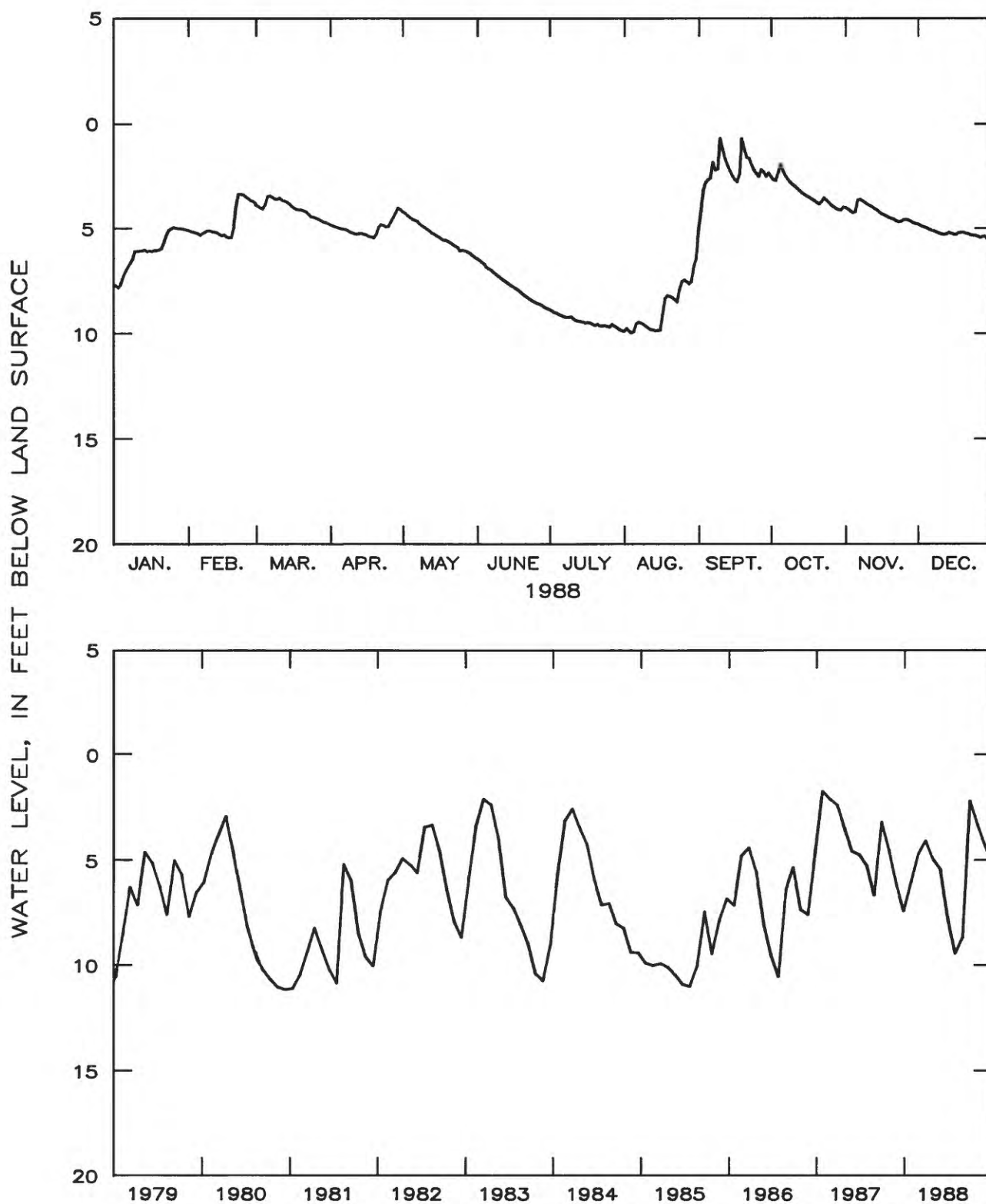


Figure 2.3–5.—Water level in observation well 35P094, Chatham County.

## 2.4 Cretaceous Rock Aquifer System

The Cretaceous rock aquifer system in the Coastal Plain of Georgia supplied more than 135 Mgal/d in 1985, primarily for municipal and industrial use (Turlington and others, 1987). The aquifer system is comprised of sand and gravel that locally contain layers of clay and silt that act as confining units. In parts of the Coastal Plain, these confining units hydraulically separate the aquifer system into two or more aquifers. In southwestern Georgia, the Cretaceous rock aquifer system includes the Providence aquifer and sandy units in the Cusseta, Blufftown, Eutaw, and Tuscaloosa Formations. In east-central Georgia, the Cretaceous rock aquifer system is divided into three systems: the Dublin aquifer system, the Midville aquifer system, and the Dublin-Midville aquifer system (Clarke and others, 1985a).

The major source of recharge to the Cretaceous rock aquifer system is rainfall in areas where rocks comprising the aquifers crop out at land surface or where they are overlain by permeable surface material. Rainfall that recharges the aquifers directly or infiltrates through the surface material generally moves downgradient and to the southeast. Most natural discharge from the aquifer system is to streams and rivers that cross the outcrop area of the aquifers.

Water-level fluctuations in the Cretaceous rock aquifer system are related primarily to changes in precipitation and pumping. In western Georgia, the annual mean water level in well 06S001 in Chattahoochee County was 3.4 ft lower in 1988 than in 1987, and a record-low water level was measured in December 1988. This decline continued a long-term downward trend that is attributed to ground-water pumping in the area.

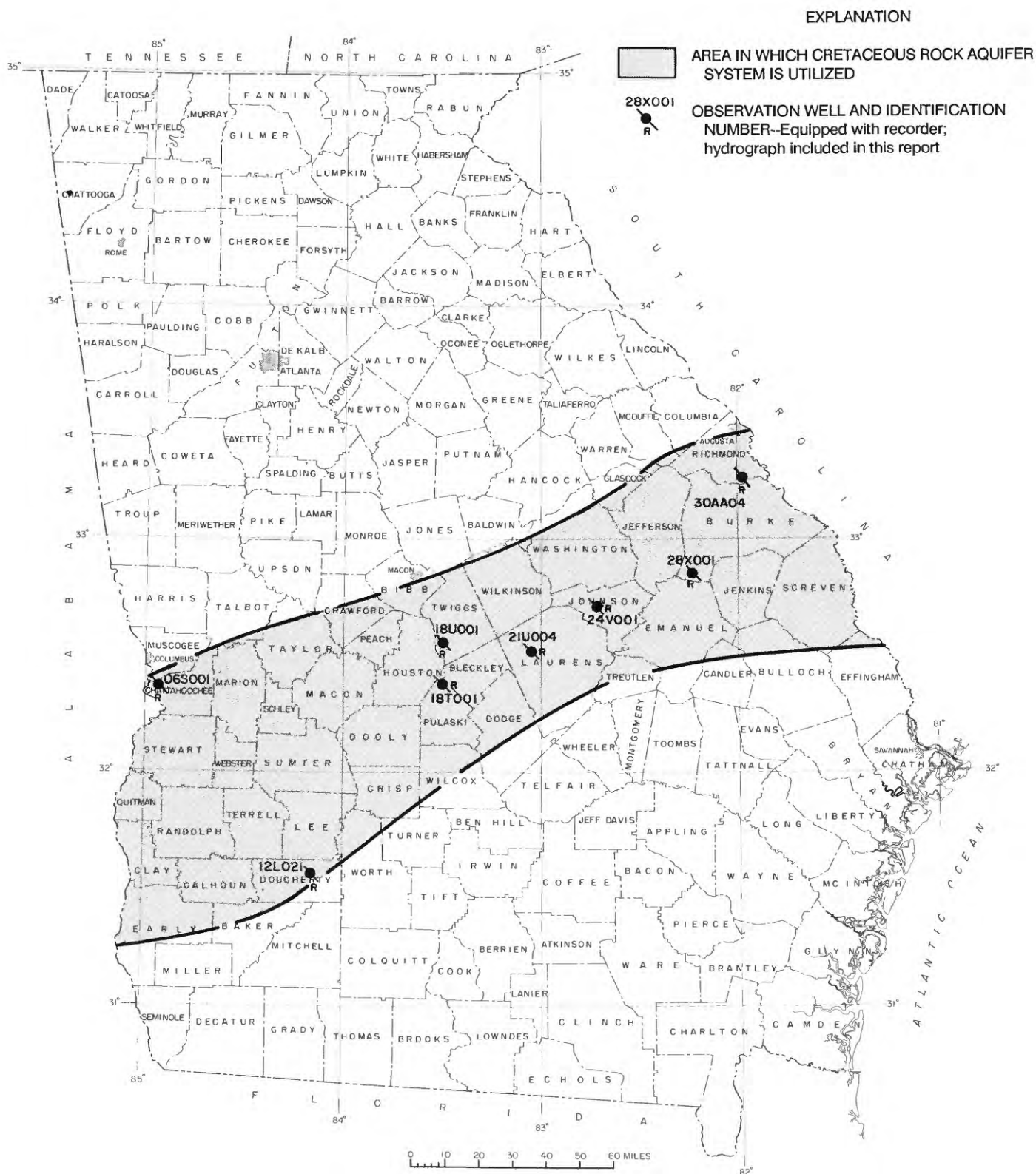


Figure 2.4-1.—Observation well locations in the Cretaceous rock aquifer system.

## 06S001 FORT BENNING CHATTAHOOCHEE COUNTY

322036084590301 Local number, 06S001

LOCATION.--Lat 32°20'31", long 84°59'11", Hydrologic Unit 03130003, in "Motor Pool" across road from Lawson Airfield main building.

Owner: U.S. Army.

AQUIFER.--Upper Cretaceous (Blufftown, Eutaw, and Tuscaloosa Formations).

WELL CHARACTERISTICS.--Drilled unused supply well, diameter 12 in., depth 568 ft, screened interval 215-220 ft, 230-235 ft, 280-290 ft, 540-550 ft.

DATUM.--Elevation of land-surface datum is 255 ft.

Measuring point: Floor of recorder shelter, 2.80 ft above land-surface datum.

REMARKS.--Well pumped June 1978; water-quality sample collected at conclusion of pumping. Water levels for period of missing record, July 21 to August 24, were estimated.

PERIOD OF RECORD.--May 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.37 ft below land-surface datum, April 10, 1964; lowest, 31.11 ft below land-surface datum, December 20, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	28.69	28.48	28.51	28.47	28.49	29.01	29.49	29.67	30.03	30.04	30.25	30.30
2	28.67	28.47	28.52	28.48	28.51	29.00	29.51	29.68	30.05	30.01	30.25	30.34
3	28.63	28.44	28.49	28.47	28.53	28.99	29.48	29.68	30.03	29.98	30.26	30.34
4	28.63	28.39	28.43	28.47	28.53	29.05	29.50	29.69	29.93	30.01	30.20	30.33
5	28.67	28.43	28.48	28.48	28.55	29.11	29.50	29.66	29.86	30.06	30.10	30.35
6	28.66	28.45	28.46	28.45	28.56	29.12	29.51	29.70	29.87	30.09	30.16	30.33
7	28.59	28.45	28.47	28.44	28.59	29.10	29.52	29.71	29.90	30.10	30.22	30.31
8	28.54	28.42	28.47	28.47	28.62	29.08	29.52	29.71	29.91	30.10	30.23	30.33
9	28.55	28.41	28.38	28.51	28.63	29.10	29.52	29.72	29.90	30.09	30.23	30.33
10	28.58	28.41	28.35	28.49	28.63	29.17	29.54	29.73	29.89	30.09	30.21	30.33
11	28.59	28.40	28.42	28.43	28.65	29.22	29.55	29.74	29.91	30.08	30.24	30.31
12	28.58	28.41	28.40	28.41	28.68	29.25	29.52	29.74	29.91	30.13	30.25	30.34
13	28.58	28.45	28.38	28.47	28.70	29.27	29.53	29.75	29.91	30.19	30.25	30.33
14	28.62	28.45	28.40	28.50	28.69	29.29	29.53	29.76	29.90	30.21	30.26	30.34
15	28.60	28.39	28.45	28.52	28.69	29.30	29.53	29.77	29.92	30.20	30.25	30.36
16	28.61	28.45	28.49	28.54	28.69	29.27	29.52	29.77	29.95	30.20	30.23	30.35
17	28.54	28.48	28.50	28.54	28.69	29.27	29.53	29.79	29.93	30.21	30.25	30.35
18	28.49	28.44	28.43	28.47	28.71	29.30	29.53	29.81	29.92	30.20	30.26	30.38
19	28.43	28.34	28.44	28.40	28.73	29.34	29.55	29.83	29.91	30.19	30.24	30.39
20	28.37	28.36	28.49	28.45	28.77	29.36	29.56	29.83	29.92	30.21	30.21	31.11
21	28.35	28.42	28.48	28.43	28.80	29.36	29.59	29.85	29.93	30.17	30.24	30.88
22	28.37	28.45	28.50	28.43	28.82	29.37	29.61	29.86	29.93	30.18	30.25	30.69
23	28.37	28.43	28.52	28.44	28.83	29.39	29.62	29.88	29.92	30.19	30.22	30.61
24	28.37	28.47	28.50	28.42	28.83	29.41	29.62	29.91	29.93	30.19	30.24	30.57
25	28.33	28.49	28.48	28.42	28.82	29.43	29.63	29.94	29.95	30.23	30.26	30.59
26	28.40	28.50	28.44	28.40	28.89	29.42	29.63	29.95	29.97	30.24	30.23	30.62
27	28.47	28.46	28.46	28.43	28.93	29.42	29.64	29.98	30.00	30.25	30.21	30.60
28	28.51	28.47	28.48	28.48	28.94	29.47	29.65	30.00	30.01	30.28	30.26	30.57
29	28.51	28.48	28.47	28.49	28.96	29.47	29.65	30.00	30.03	30.30	30.30	30.59
30	28.50	---	28.46	28.49	28.98	29.46	29.66	29.99	30.05	30.31	30.28	30.58
31	28.48	---	28.46	---	29.00	---	29.66	29.99	---	30.28	---	30.51
MEAN	28.53	28.44	28.46	28.46	28.72	29.26	29.56	29.81	29.94	30.16	30.23	30.46
CAL YR 1988	MEAN	29.34		HIGH	28.33		LOW	31.11				

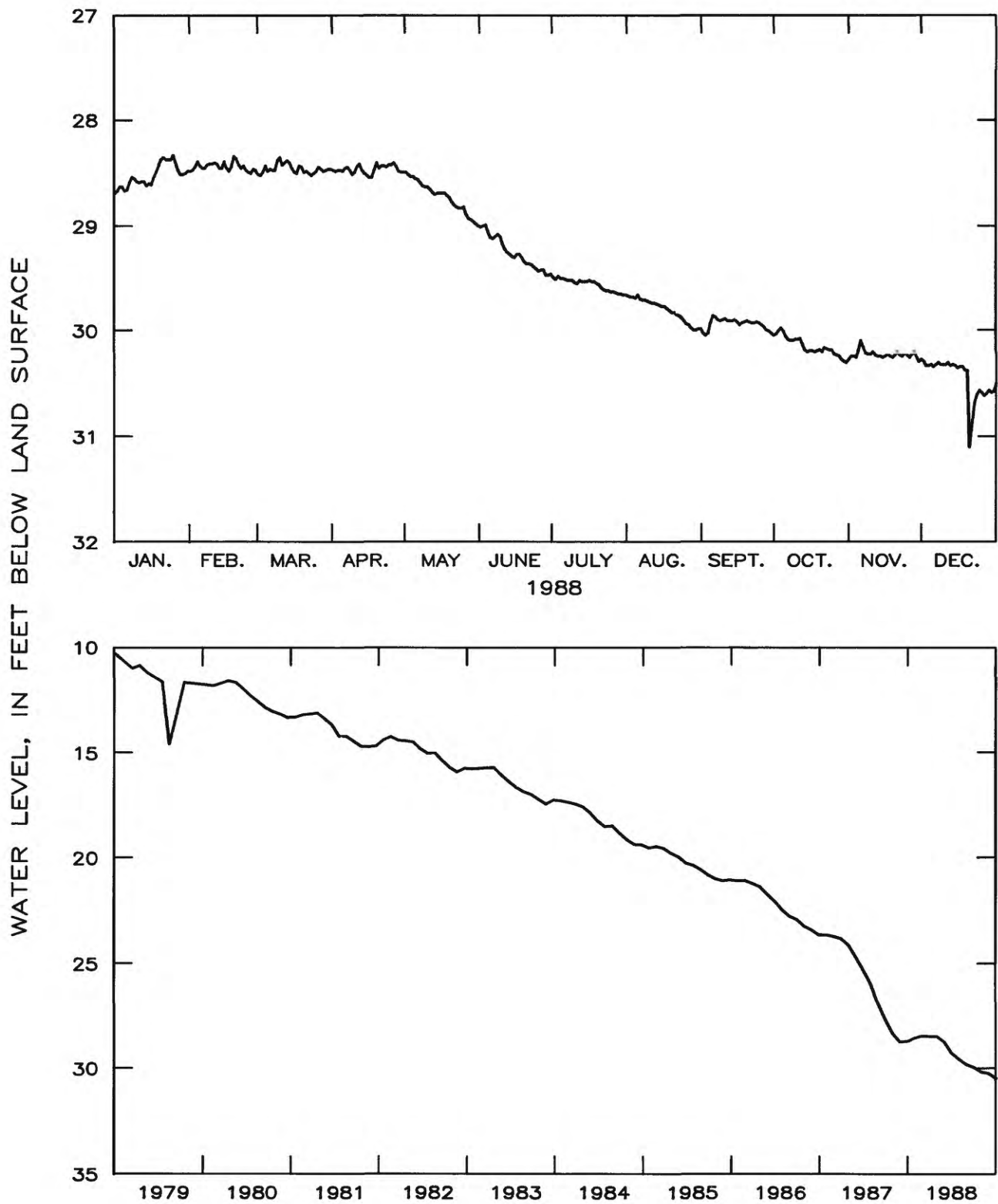


Figure 2.4-2.—Water level in observation well 06S001, Chattahoochee County.



#### 2.4.1 Providence Aquifer

The Providence aquifer consists of sand of Late Cretaceous age. The aquifer supplies about 9 Mgal/d for municipal, industrial, and agricultural use in southwestern Georgia (Clarke and others, 1983).

Pumping from the aquifer has resulted in the development of cones of depression at Albany and Americus. According to Clarke and others (1983), the water level in the Providence aquifer near Albany declined more than 100 ft during the period 1950-80.

The water level in the Providence aquifer at Albany is affected primarily by changes in local pumping. The annual mean water level in well 12L021 at Albany was 6.9 ft higher in 1988 than in 1987, which continued the recovery from the effects of the 1986 drought. Above-normal precipitation during early 1988 resulted in decreased pumping, which allowed the water level to rise in well 12L021.

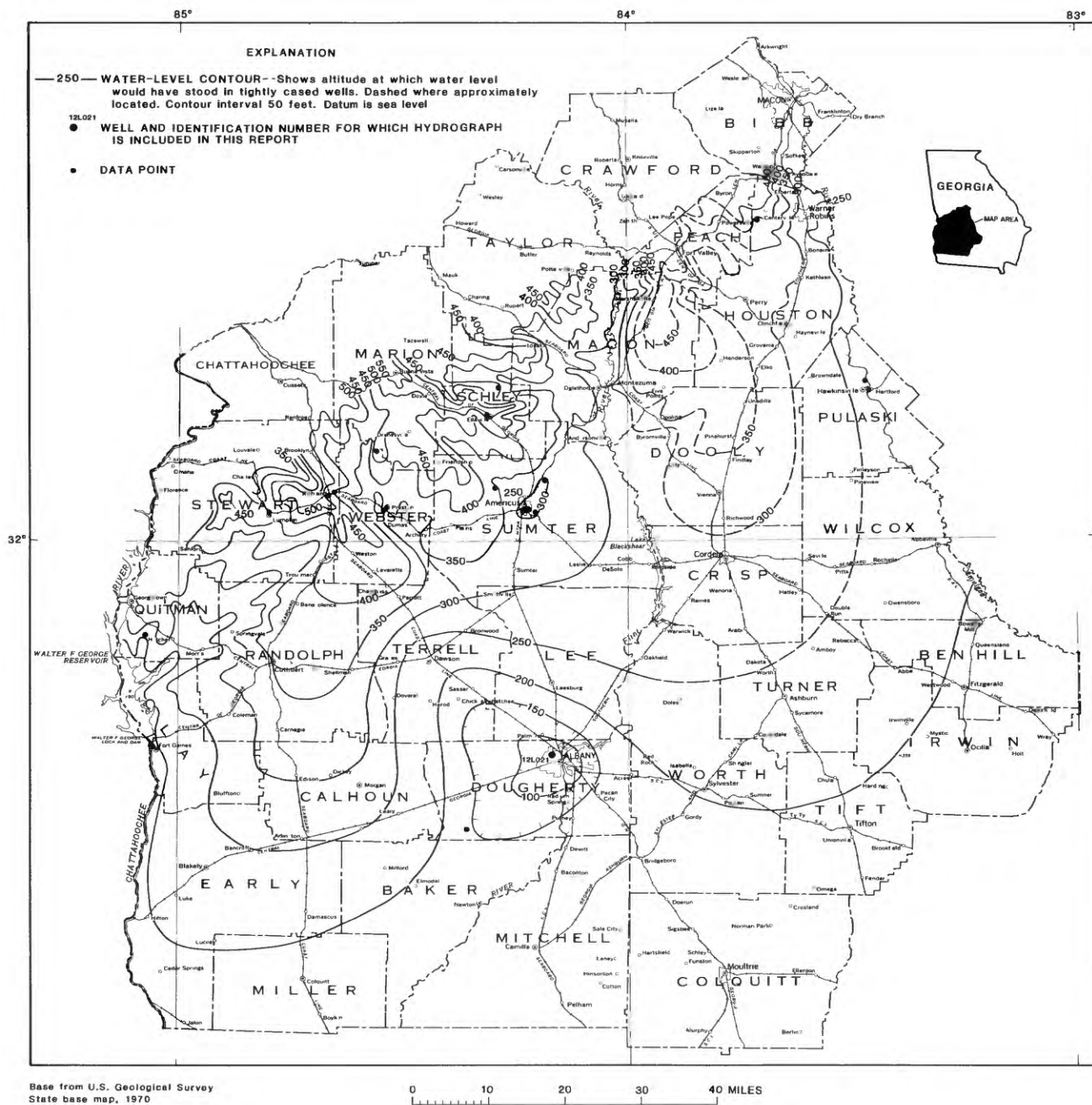


Figure 2.4.1-1.—Location of observation well 12L021 and the water level in the Providence aquifer, October-November 1987.

## 12L021 TEST WELL 10 DOUGHERTY COUNTY

313534084103003 Local number, 12L021.

LOCATION.--Lat 31°35'37", long 84°10'30". Hydrologic Unit 03130008, located in park at intersection of Slappey Drive and Fifth Avenue.

Owner: U.S. Geological Survey, test well 10.

AQUIFER.--Providence (Upper Cretaceous).

WELL CHARACTERISTICS.--Drilled observation well, depth 1,346 ft, cased to 797 ft.

DATUM.--Elevation of land-surface datum is 198 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Water levels for periods of missing record, June 22, June 30 to July 18, October 18-21, and November 27-29, were estimated.

PERIOD OF RECORD.--December 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 101.59 ft below land-surface datum, April 26, 1984; lowest, 156.36 ft below land-surface datum, July 26, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	130.15	128.02	123.58	122.48	119.98	130.44	141.89	139.19	139.18	137.78	134.35	125.77
2	131.00	128.61	123.77	122.63	120.00	131.19	141.50	138.64	139.99	137.08	133.59	125.31
3	131.56	127.91	124.15	123.07	120.54	131.95	140.97	138.60	139.81	136.50	132.96	124.82
4	131.80	126.98	123.91	123.16	120.59	132.70	140.21	137.82	139.01	136.15	132.81	124.35
5	131.31	127.53	124.32	122.60	120.45	133.24	139.52	137.60	138.29	135.78	132.33	124.02
6	130.44	128.37	124.23	123.15	120.98	133.61	138.81	137.59	138.00	135.42	132.13	123.70
7	129.52	128.56	123.78	122.81	120.85	134.26	137.99	138.07	138.88	135.39	131.46	123.35
8	129.76	128.55	123.49	122.50	121.42	134.82	137.47	138.85	139.16	135.55	130.87	123.27
9	129.59	128.93	122.58	123.40	121.78	134.21	136.81	139.09	138.57	135.39	130.33	123.64
10	128.67	128.07	121.99	124.14	121.19	133.81	136.00	139.33	138.60	135.31	130.15	124.25
11	128.00	127.69	121.99	124.65	120.95	134.08	135.21	139.58	137.87	134.93	129.89	123.80
12	127.54	126.86	123.06	123.95	121.72	134.28	135.62	139.87	137.45	134.55	129.65	123.46
13	127.03	126.07	124.09	123.18	122.47	134.99	135.47	140.52	137.84	134.37	129.73	123.10
14	126.52	125.51	124.97	122.56	122.87	135.52	135.49	140.87	138.14	134.60	129.34	123.19
15	126.26	125.90	124.72	122.21	122.91	136.10	135.53	140.00	138.78	135.76	129.50	123.45
16	126.28	126.13	124.00	122.64	123.15	136.36	135.31	139.34	138.77	136.45	130.57	123.39
17	125.71	126.82	124.50	122.46	123.57	136.63	135.49	139.33	138.70	136.93	130.20	124.56
18	125.61	127.39	124.44	121.78	124.27	137.07	135.53	138.04	137.84	137.07	129.54	124.93
19	126.22	127.04	123.62	121.25	125.00	137.77	135.69	137.44	137.24	137.23	128.97	124.97
20	126.18	126.40	123.01	121.07	125.28	138.53	136.34	137.91	137.41	137.39	129.07	125.30
21	125.72	125.46	122.46	120.88	125.94	139.29	136.59	138.14	137.64	137.55	129.10	124.55
22	125.52	124.75	122.24	120.92	126.96	139.91	136.96	138.66	138.26	137.71	129.45	124.19
23	125.39	124.32	122.32	121.85	127.78	140.46	136.61	138.96	138.98	137.63	128.69	124.59
24	124.91	123.86	122.83	121.78	128.65	141.12	136.87	139.59	139.58	137.13	128.29	124.05
25	124.85	123.58	123.85	121.26	128.71	141.63	137.70	140.79	140.08	136.72	127.54	123.64
26	125.55	123.52	123.60	120.88	128.31	141.79	137.97	141.25	139.94	135.56	126.77	123.30
27	125.80	123.36	123.04	120.57	127.93	142.19	138.65	141.09	139.05	134.83	126.63	122.98
28	126.07	122.93	122.69	120.30	127.61	142.85	139.28	140.73	138.28	135.11	126.51	123.79
29	126.68	122.80	122.34	120.82	127.90	142.86	139.79	140.07	137.81	135.87	126.38	124.30
30	126.59	---	121.99	120.64	128.93	142.41	140.17	140.07	137.75	136.05	126.26	124.13
31	127.09	---	121.71	---	129.71	---	140.09	139.47	---	135.15	---	124.06
MEAN	127.53	126.27	123.33	122.19	124.14	136.87	137.66	139.24	138.56	136.09	129.77	124.07
CAL YR 1988	MEAN	130.49		HIGH	119.98		LOW	142.86				

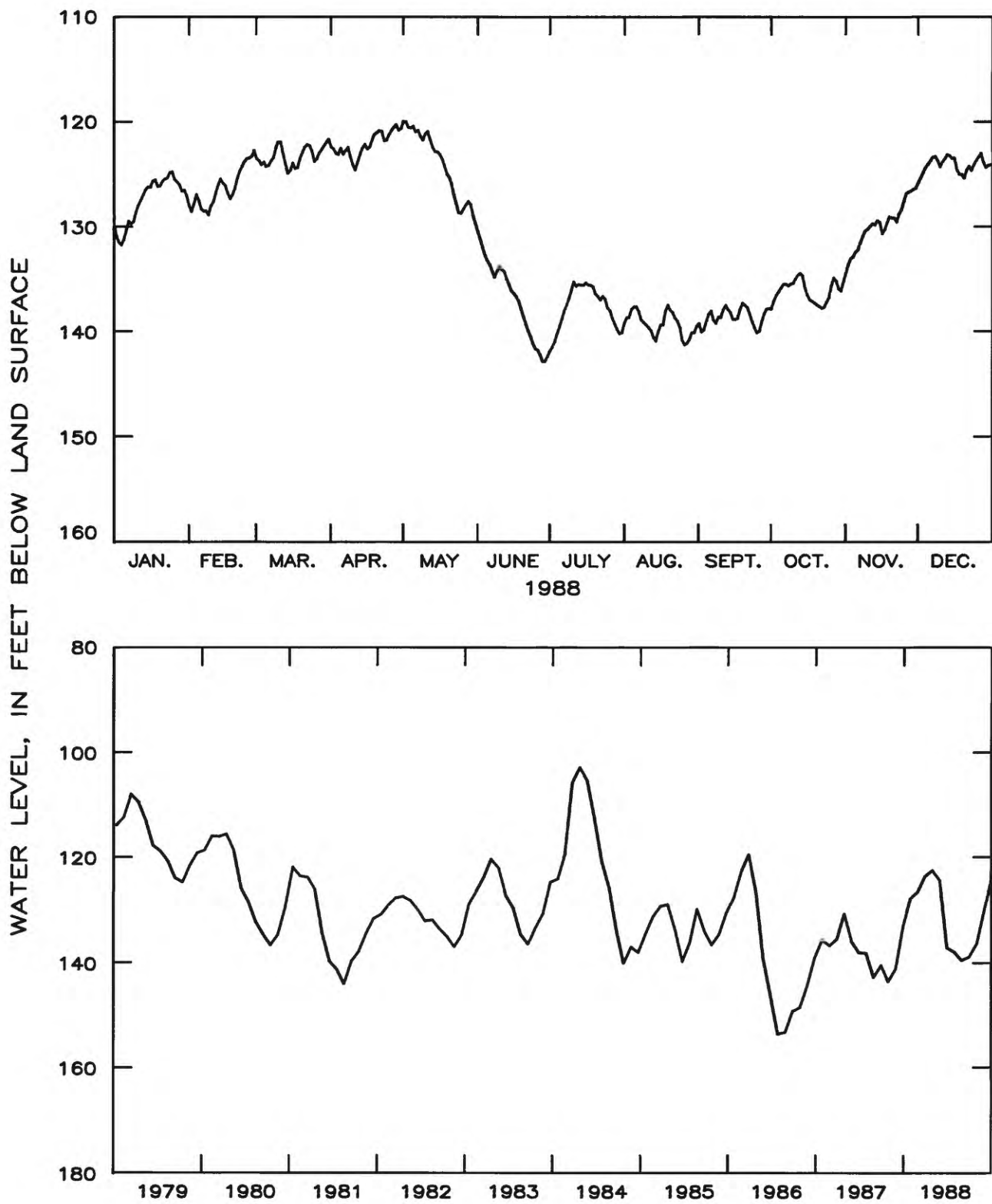


Figure 2.4.1-2—Water level in observation well 12L021, Dougherty County.

#### 2.4.2 Dublin, Midville, and Dublin-Midville Aquifer Systems

In east-central Georgia, interlayered sand and clay of Paleocene and Late Cretaceous age comprise the Dublin and the Midville aquifer systems. In the northern quarter of the Coastal Plain, the two systems merge into the Dublin-Midville aquifer system. During 1985, the aquifer systems supplied an estimated 126 Mgal/d, about 60 percent of which was withdrawn for kaolin mining and processing, and other industries (Turlington and others, 1987).

The water level in the Dublin aquifer system in southern Twiggs County is affected by rainfall and by pumping in eastern Houston and western Twiggs Counties, where pumpage exceeded 37 Mgal/d in 1985 (Turlington and others, 1987). The annual mean water level in well 18U001 was 0.4 ft lower in 1988 than in 1987. This decline continued a downward trend that began in 1984, and that is attributed to below-normal precipitation and increased regional ground-water withdrawals.

The water level in the Midville aquifer system is affected primarily by local and regional pumping. During 1988, the mean water levels in four wells tapping the Midville aquifer system were from 0.1 to 1.1 ft lower than in 1987. Record-low water levels were measured during December in wells 21U004, 24V001, and 28X001. These declines continued the downward water-level trend in the Midville aquifer system, and is attributed to increased regional ground-water withdrawals.

The water level in the Dublin-Midville aquifer system in Richmond County is influenced primarily by rainfall (Clarke and others, 1985a). The annual mean water level in well 30AA04 was 1.4 ft lower in 1988 than in 1987, and a record-low water level was measured in August. This decline continued a downward trend that began in 1985 that was attributed to below-normal precipitation and increased ground-water withdrawals.

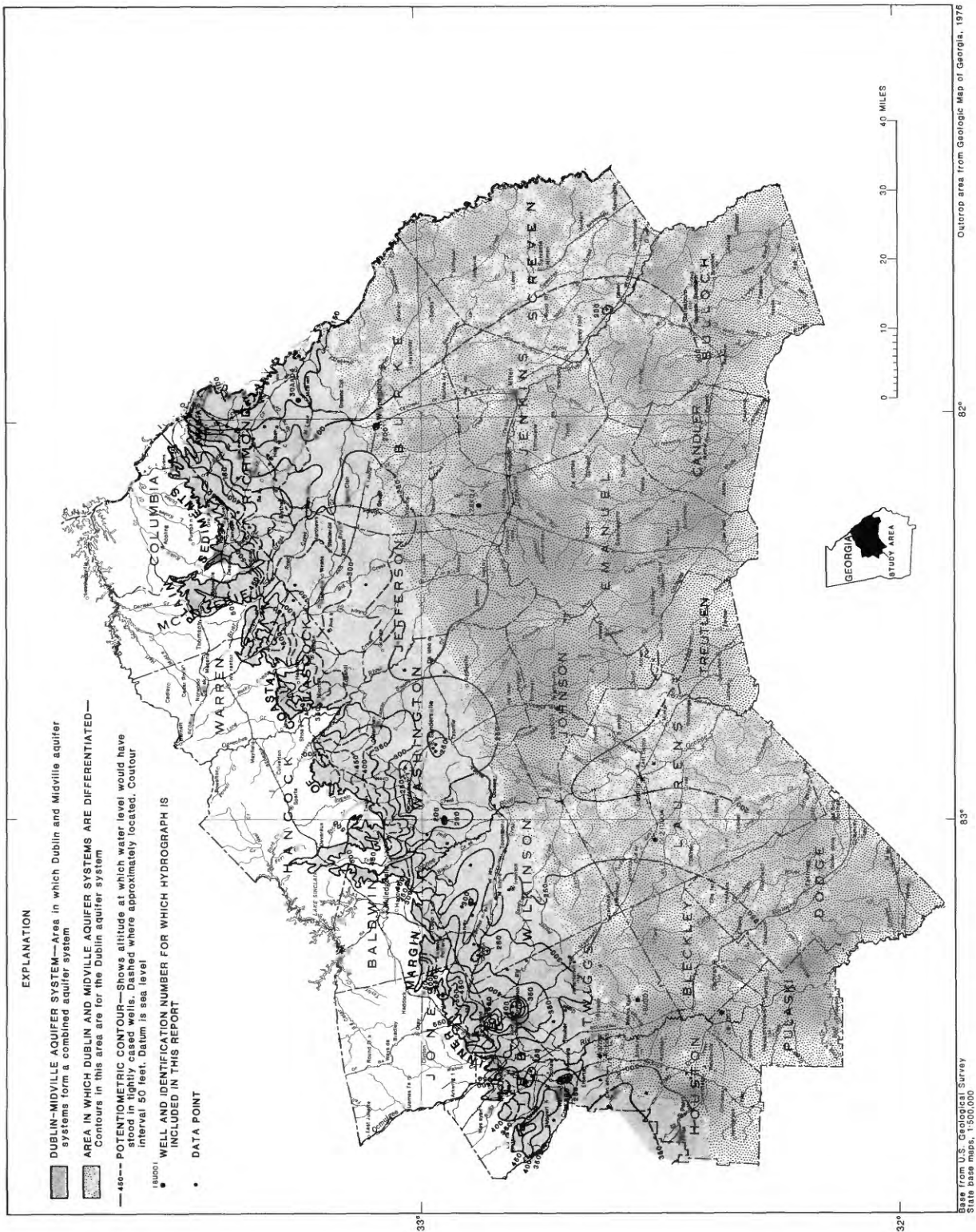


Figure 2.4.2-1.—Observation well locations and the water level in the Dublin and Dublin-Midville aquifer systems, October 1984.



## 18U001 TEST WELL 3 TWIGGS COUNTY

323302083263401 Local number, 18U001.

LOCATION.--Lat 32°33'02", long 83°26'34", Hydrologic Unit 03070104, 0.6 mi north of intersection of U.S. Highways 23 and 12 and Georgia Highway 96, 100 feet west of highway near Woods Road West.

Owner: Georgia Kraft.

AQUIFER.--Dublin aquifer system.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 590 ft; 3 in., depth 586-616 ft, cased to 616 ft.

DATUM.--Elevation of land-surface datum is 442 ft.

Measuring point: Floor of recorder shelter, 2.6 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted. Water quality analysis June 10, 1975. Water level for period of missing record, January 22, was estimated.

PERIOD OF RECORD.--July 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 162.00 ft below land-surface datum, April 4, 1977; lowest, 166.39 ft below land-surface datum, August 10-11, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	164.98	164.50	164.54	164.55	164.26	164.84	165.57	165.86	165.89	165.53	165.47	165.44
2	164.97	164.49	164.56	164.55	164.29	164.81	165.64	165.87	165.90	165.47	165.48	165.48
3	164.88	164.48	164.53	164.52	164.32	164.79	165.67	165.87	165.84	165.41	165.50	165.44
4	164.86	164.45	164.42	164.50	164.32	164.90	165.72	165.86	165.73	165.44	165.41	165.40
5	164.93	164.57	164.51	164.53	164.34	164.98	165.74	165.85	165.63	165.52	165.28	165.42
6	164.91	164.63	164.49	164.46	164.34	165.00	165.75	165.85	165.66	165.55	165.39	165.39
7	164.82	164.65	164.51	164.41	164.41	164.99	165.75	165.86	165.71	165.53	165.49	165.35
8	164.73	164.57	164.52	164.47	164.47	164.96	165.74	165.81	165.68	165.48	165.53	165.37
9	164.75	164.51	164.35	164.54	164.49	164.96	165.74	165.81	165.57	165.43	165.53	165.36
10	164.78	164.46	164.28	164.51	164.47	165.09	165.77	165.83	165.58	165.40	165.49	165.36
11	164.80	164.39	164.43	164.42	164.49	165.18	165.77	165.84	165.56	165.38	165.52	165.34
12	164.79	164.37	164.39	164.41	164.56	165.22	165.76	165.83	165.56	165.44	165.55	165.39
13	164.75	164.43	164.33	164.52	164.57	165.27	165.75	165.83	165.51	165.55	165.53	165.36
14	164.83	164.44	164.34	164.56	164.53	165.31	165.78	165.79	165.48	165.56	165.53	165.39
15	164.79	164.32	164.43	164.55	164.52	165.31	165.79	165.77	165.51	165.53	165.50	165.40
16	164.79	164.44	164.51	164.57	164.52	165.26	165.80	165.78	165.56	165.51	165.46	165.37
17	164.70	164.51	164.54	164.54	164.50	165.24	165.81	165.79	165.51	165.51	165.47	165.37
18	164.63	164.45	164.42	164.41	164.53	165.30	165.80	165.74	165.46	165.49	165.51	165.42
19	164.57	164.29	164.40	164.27	164.57	165.36	165.82	165.75	165.43	165.46	165.46	165.44
20	164.48	164.31	164.50	164.39	164.63	165.40	165.84	165.74	165.45	165.49	165.38	165.45
21	164.48	164.42	164.51	164.35	164.68	165.40	165.81	165.75	165.45	165.46	165.43	165.42
22	164.50	164.48	164.56	164.35	164.69	165.41	165.80	165.78	165.42	165.44	165.44	165.43
23	164.53	164.42	164.59	164.34	164.70	165.43	165.78	165.82	165.40	165.45	165.38	165.40
24	164.49	164.48	164.57	164.29	164.70	165.48	165.80	165.77	165.41	165.44	165.40	165.35
25	164.36	164.50	164.52	164.28	164.67	165.52	165.82	165.75	165.42	165.51	165.43	165.39
26	164.47	164.52	164.47	164.23	164.77	165.49	165.82	165.77	165.45	165.51	165.38	165.46
27	164.58	164.41	164.52	164.27	164.81	165.50	165.85	165.83	165.50	165.54	165.33	165.44
28	164.61	164.45	164.58	164.32	164.80	165.58	165.86	165.84	165.50	165.56	165.40	165.37
29	164.60	164.47	164.58	164.32	164.79	165.58	165.89	165.85	165.54	165.58	165.49	165.42
30	164.55	---	164.57	164.29	164.82	165.53	165.88	165.81	165.56	165.57	165.44	165.40
31	164.51	---	164.56	---	164.84	---	165.85	165.84	---	165.55	---	165.34
MEAN	164.69	164.46	164.48	164.42	164.56	165.24	165.78	165.81	165.56	165.49	165.45	165.40
CAL YR 1988	MEAN	165.12		HIGH	164.23		LOW	165.90				

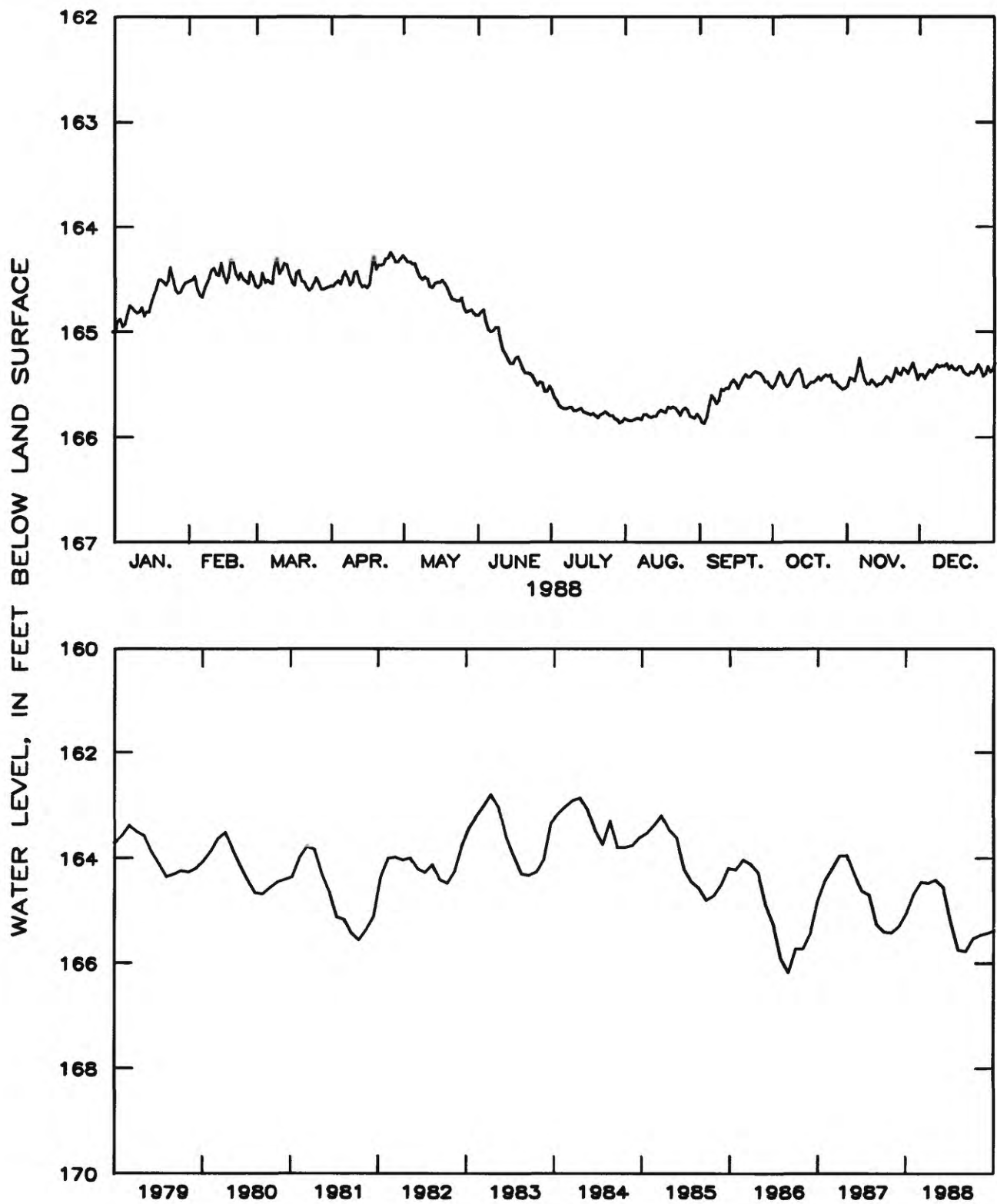


Figure 2.4.2-2—Water level in observation well 18U001, Twiggs County.

## 18T001 ARROWHEAD TEST WELL 1 PULASKI COUNTY

322245083290101 Local number, 18T001.

LOCATION.--Lat 32°22'45", long 83°29'01", Hydrologic Unit 03070104, about 8.5 mi west of Cochran off State Highway 126, at Georgia Forestry Commission Tree Nursery.

Owner: U.S. Geological Survey, test well 1

AQUIFER.--Midville aquifer system.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,555 ft cased to 1,555 ft, screened interval 970-980 ft, 1,110-1,130 ft, and 1,270-1,280 ft.

DATUM.--Elevation of land-surface datum is 334 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted January 28 and April 15, 1981. Water quality analysis May 12, 1981.

PERIOD OF RECORD.--June 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.48 ft below land-surface datum, April 12, 1983; lowest, 59.41 ft below land-surface datum, August 22, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	58.46	58.05	57.84	57.73	57.60	57.96	58.41	58.81	59.00	58.87	58.74	58.71
2	58.45	58.01	57.84	57.72	57.67	57.91	58.47	58.83	59.02	58.81	58.74	58.77
3	58.36	57.98	57.80	57.69	57.71	57.88	58.49	58.85	58.96	58.72	58.76	58.74
4	58.34	57.93	57.70	57.66	57.69	57.98	58.55	58.86	58.87	58.74	58.65	58.70
5	58.41	58.01	57.77	57.68	57.69	58.05	58.60	58.85	58.79	58.80	58.53	58.74
6	58.38	58.05	57.75	57.61	57.67	58.04	58.61	58.86	58.81	58.84	58.64	58.72
7	58.30	58.07	57.77	57.55	57.72	58.01	58.62	58.87	58.87	58.83	58.72	58.67
8	58.21	57.98	57.78	57.62	57.76	57.96	58.61	58.85	58.86	58.81	58.74	58.68
9	58.24	57.92	57.61	57.68	57.77	57.96	58.61	58.86	58.78	58.79	58.75	58.67
10	58.28	57.85	57.53	57.65	57.75	58.08	58.62	58.89	58.82	58.77	58.72	58.67
11	58.29	57.77	57.69	57.55	57.75	58.16	58.65	58.92	58.82	58.75	58.75	58.63
12	58.27	57.78	57.65	57.55	57.80	58.19	58.66	58.93	58.85	58.81	58.78	58.67
13	58.23	57.89	57.57	57.65	57.81	58.23	58.67	58.93	58.83	58.91	58.76	58.62
14	58.30	57.93	57.58	57.68	57.78	58.27	58.66	58.91	58.80	58.91	58.77	58.65
15	58.26	57.80	57.68	57.69	57.75	58.27	58.66	58.90	58.83	58.86	58.76	58.65
16	58.26	57.91	57.75	57.73	57.74	58.22	58.69	58.89	58.89	58.84	58.73	58.63
17	58.16	57.96	57.77	57.72	57.71	58.20	58.71	58.91	58.86	58.84	58.75	58.62
18	58.08	57.89	57.64	57.63	57.72	58.25	58.72	58.89	58.80	58.80	58.79	58.67
19	57.98	57.71	57.64	57.55	57.74	58.30	58.75	58.88	58.78	58.77	58.73	58.68
20	57.90	57.70	57.73	57.64	57.79	58.32	58.79	58.87	58.81	58.79	58.65	58.70
21	57.90	57.79	57.72	57.59	57.82	58.31	58.78	58.88	58.81	58.74	58.71	58.66
22	57.98	57.85	57.76	57.60	57.82	58.30	58.78	58.90	58.80	58.73	58.73	58.67
23	57.99	57.80	57.79	57.62	57.83	58.32	58.78	58.90	58.80	58.73	58.66	58.64
24	57.96	57.85	57.76	57.58	57.83	58.35	58.78	58.82	58.82	58.71	58.68	58.58
25	57.85	57.87	57.72	57.58	57.81	58.38	58.78	58.80	58.82	58.77	58.71	58.61
26	57.94	57.87	57.68	57.53	57.92	58.33	58.78	58.82	58.85	58.77	58.65	58.68
27	58.06	57.76	57.71	57.59	57.95	58.32	58.80	58.88	58.89	58.80	58.60	58.65
28	58.13	57.78	57.75	57.64	57.94	58.40	58.83	58.90	58.88	58.82	58.69	58.59
29	58.14	57.79	57.74	57.65	57.94	58.40	58.86	58.91	58.90	58.83	58.76	58.64
30	58.11	---	57.73	57.62	57.96	58.36	58.84	58.90	58.91	58.83	58.70	58.61
31	58.07	---	57.73	---	57.98	---	58.80	58.94	---	58.80	---	58.55
MEAN	58.17	57.88	57.72	57.63	57.79	58.19	58.69	58.88	58.85	58.80	58.71	58.66
CAL YR 1988	MEAN	58.33		HIGH	57.53		LOW	59.02				

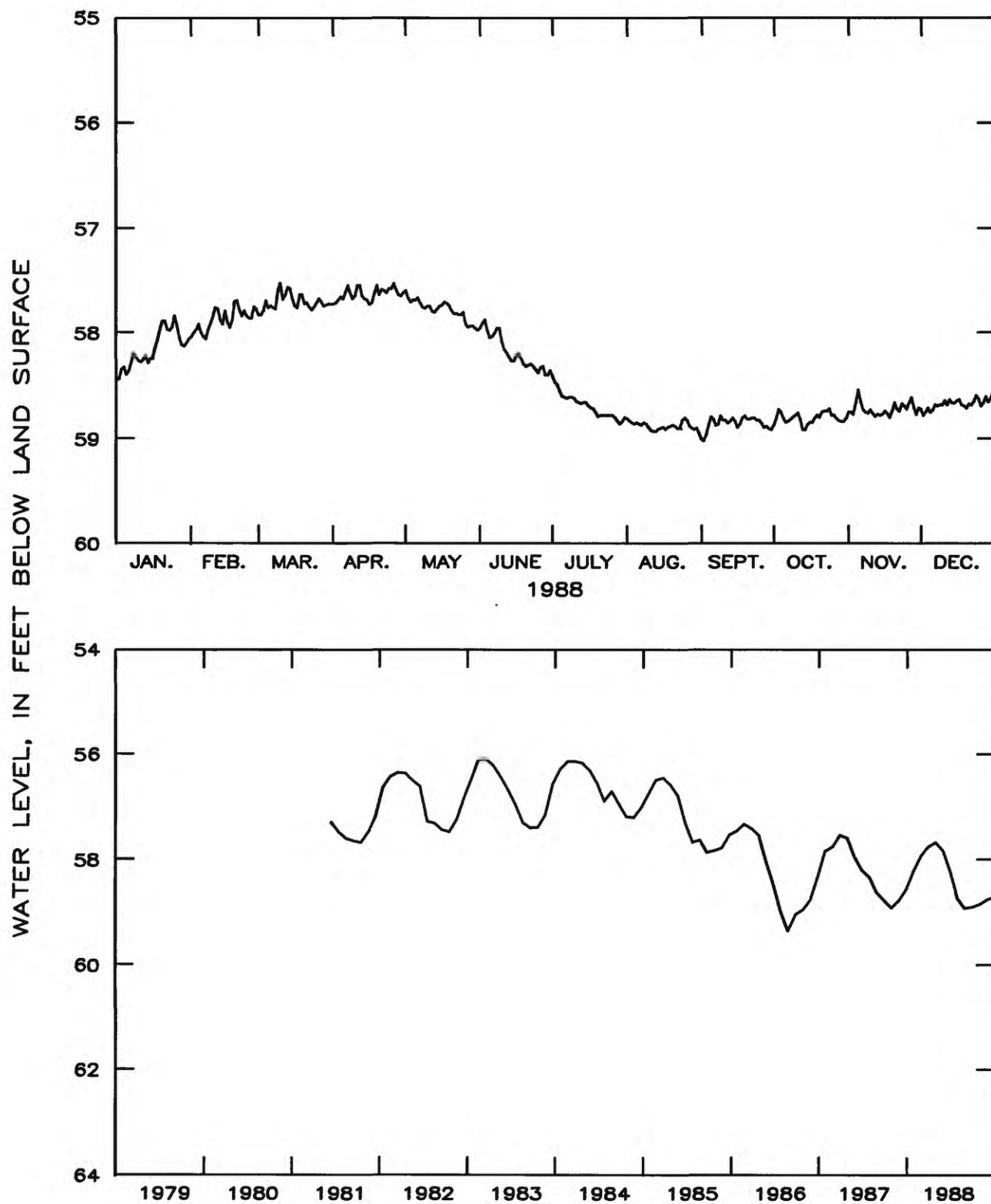


Figure 2.4.2-3.—Water level in observation well 18T001, Pulaski County.

## 21U004 DNR LAURENS NO. 3 LAURENS COUNTY

323030083030003 Local number, 21U004.

LOCATION.--Lat 32°30'28", long 83°02'45", Hydrologic Unit 03070102, at rest area No. 87 on U.S. Highway I-16 (east).

Owner: U.S. Geological Survey.

AQUIFER.--Midville aquifer system.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,685 ft, cased to 1,685 ft, screened interval 1,060-1,080 ft, and 1,220-1,240 ft.

DATUM.--Elevation of land-surface datum is 282 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted. Water quality analysis January 28, 1982. Water levels for period of missing record, December 19-31, were estimated.

PERIOD OF RECORD.--February 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.17 ft below land-surface datum, April 3, 1983; lowest, 38.85 ft below land-surface datum, December 2, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	38.26	38.06	37.92	37.87	37.73	37.92	38.01	38.39	38.61	38.65	38.65	38.78
2	38.26	38.02	37.93	37.87	37.75	37.86	38.07	38.41	38.63	38.56	38.66	38.85
3	38.19	38.00	37.89	37.83	37.78	37.82	38.10	38.41	38.57	38.50	38.69	38.82
4	38.17	37.95	37.78	37.80	37.75	37.93	38.16	38.37	38.49	38.52	38.58	38.79
5	38.26	38.05	37.86	37.81	37.75	38.01	38.21	38.37	38.41	38.62	38.45	38.83
6	38.26	38.11	37.86	37.74	37.74	37.98	38.22	38.37	38.45	38.68	38.57	38.80
7	38.19	38.15	37.88	37.68	37.80	37.92	38.22	38.39	38.53	38.68	38.68	38.74
8	38.10	38.07	37.90	37.75	37.84	37.86	38.21	38.39	38.54	38.67	38.73	38.76
9	38.13	38.02	37.72	37.81	37.85	37.85	38.19	38.40	38.46	38.64	38.74	38.75
10	38.17	38.01	37.61	37.79	37.82	37.96	38.21	38.43	38.51	38.61	38.70	38.76
11	38.19	37.97	37.80	37.68	37.82	38.04	38.24	38.46	38.53	38.58	38.73	38.71
12	38.18	37.92	37.76	37.65	37.88	38.07	38.24	38.48	38.54	38.65	38.77	38.77
13	38.15	37.98	37.68	37.76	37.88	38.10	38.25	38.49	38.52	38.76	38.75	38.72
14	38.23	37.99	37.70	37.81	37.82	38.13	38.24	38.46	38.49	38.78	38.76	38.75
15	38.20	37.83	37.80	37.82	37.79	38.11	38.25	38.47	38.54	38.73	38.75	38.76
16	38.20	37.94	37.87	37.87	37.77	38.04	38.27	38.47	38.61	38.71	38.71	38.73
17	38.11	38.00	37.90	37.86	37.74	38.01	38.29	38.48	38.58	38.71	38.73	38.71
18	38.02	37.95	37.77	37.75	37.76	38.05	38.30	38.47	38.54	38.67	38.79	38.77
19	37.94	37.75	37.76	37.61	37.77	38.10	38.32	38.46	38.53	38.64	38.74	38.79
20	37.87	37.74	37.86	37.73	37.81	38.12	38.35	38.45	38.56	38.68	38.66	38.82
21	37.88	37.85	37.86	37.69	37.84	38.09	38.33	38.47	38.57	38.63	38.72	38.78
22	37.97	37.93	37.92	37.70	37.84	38.07	38.32	38.52	38.55	38.61	38.75	38.79
23	37.99	37.88	37.95	37.71	37.84	38.07	38.29	38.52	38.54	38.63	38.66	38.76
24	37.98	37.92	37.92	37.67	37.83	38.10	38.30	38.41	38.55	38.60	38.69	38.69
25	37.89	37.94	37.86	37.68	37.82	38.11	38.32	38.40	38.56	38.68	38.73	38.72
26	38.02	37.95	37.81	37.62	37.93	38.05	38.32	38.43	38.61	38.68	38.67	38.80
27	38.15	37.83	37.84	37.67	37.96	38.04	38.37	38.49	38.65	38.71	38.62	38.79
28	38.20	37.86	37.90	37.73	37.94	38.11	38.42	38.51	38.65	38.74	38.70	38.71
29	38.19	37.87	37.90	37.75	37.93	38.10	38.45	38.52	38.68	38.76	38.81	38.75
30	38.15	---	37.89	37.74	37.95	38.02	38.42	38.50	38.70	38.76	38.76	38.74
31	38.09	---	37.88	---	37.96	---	38.39	38.55	---	38.74	---	38.68
MEAN	38.12	37.95	37.84	37.75	37.83	38.02	38.27	38.45	38.56	38.66	38.70	38.76
CAL YR 1988	MEAN	38.24		HIGH	37.61		LOW	38.85				

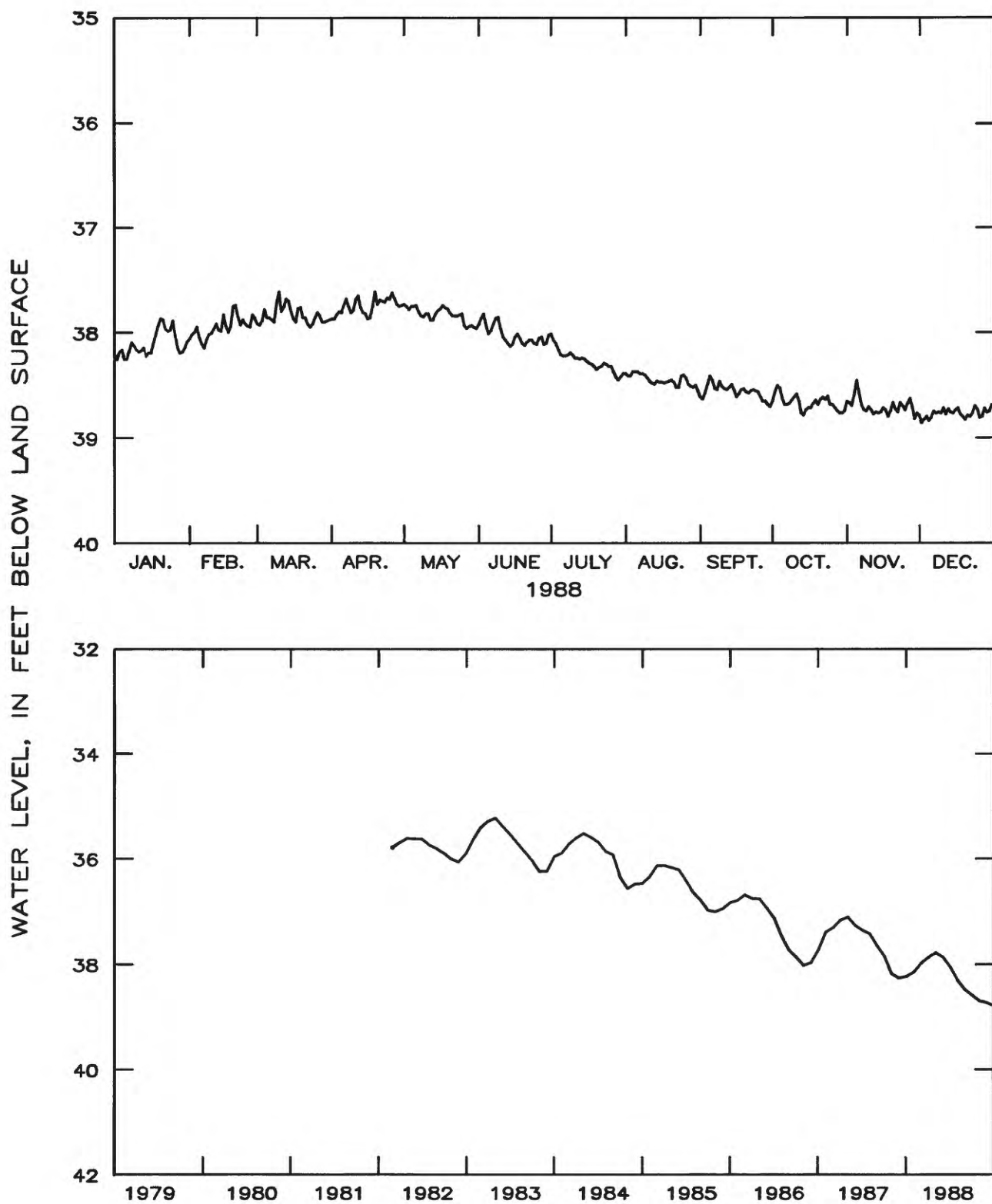


Figure 2.4.2-4.—Water level in observation well 21U004, Laurens County.



## 24V001 TEST WELL 1 JOHNSON COUNTY

324209082430201 Local number, 24V001.

LOCATION.--lat 32°42'09", long 82°43'02", Hydrologic Unit 03070107, about 500 ft west of State Highway 15, 1.8 mi south of intersection of State Highways 15 and 57, at Georgia Forestry Commission Firetower.

Owner: U.S. Geological Survey, test well 1

AQUIFER.--Midville aquifer system.

WELL CHARACTERISTICS.--Drilled observation well, depth 1,780 ft, cased to 1,780 ft, screened interval 1,120-1,140 ft, 1,260-1,280 ft, and 1,320-1,340 ft.

DATUM.--Elevation of land-surface datum is 355 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted July 15 and August 18, 1980. Water-quality analysis August 29, 1980. Water levels for periods of missing record, January 5, February 16, May 12, and June 27-29, were estimated.

PERIOD OF RECORD.--September 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 129.30 ft below land-surface datum, March 5, 1981; lowest, 136.52 ft below land-surface datum, December 2, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	135.77	135.41	135.16	135.07	134.87	135.09	135.33	135.93	136.32	136.41	136.37	136.45
2	135.75	135.37	135.18	135.07	134.90	135.04	135.37	135.96	136.34	136.33	136.38	136.52
3	135.70	135.35	135.13	135.03	134.92	135.01	135.40	135.97	136.29	136.27	136.41	136.49
4	135.65	135.30	135.04	134.98	134.90	135.12	135.46	135.98	136.23	136.26	136.31	136.46
5	135.66	135.38	135.11	134.99	134.89	135.19	135.51	135.98	136.16	136.36	136.18	136.50
6	135.68	135.42	135.11	134.91	134.87	135.17	135.53	135.99	136.19	136.41	136.28	136.47
7	135.61	135.46	135.12	134.85	134.94	135.12	135.53	136.01	136.26	136.41	136.40	136.42
8	135.51	135.38	135.14	134.92	134.99	135.07	135.53	136.02	136.28	136.40	136.44	136.43
9	135.54	135.34	134.97	134.99	134.99	135.05	135.53	136.04	136.21	136.37	136.45	136.43
10	135.58	135.33	134.86	134.96	134.96	135.14	135.55	136.08	136.23	136.34	136.41	136.43
11	135.59	135.29	135.05	134.87	134.97	135.25	135.59	136.13	136.25	136.30	136.44	136.40
12	135.58	135.23	135.01	134.84	135.00	135.30	135.61	136.13	136.27	136.38	136.48	136.44
13	135.54	135.29	134.92	134.94	135.03	135.31	135.63	136.14	136.25	136.49	136.45	136.40
14	135.62	135.30	134.92	134.99	134.99	135.26	135.63	136.13	136.24	136.50	136.47	136.42
15	135.59	135.13	135.02	134.99	134.96	135.25	135.64	136.13	136.28	136.46	136.46	136.42
16	135.58	135.22	135.09	135.04	134.94	135.30	135.66	136.10	136.37	136.44	136.43	136.41
17	135.49	135.30	135.12	135.02	134.91	135.33	135.68	136.13	136.33	136.44	136.44	136.38
18	135.41	135.24	135.00	134.92	134.92	135.33	135.69	136.12	136.25	136.41	136.49	136.43
19	135.36	135.05	134.98	134.78	134.94	135.32	135.74	136.13	136.25	136.38	136.45	136.45
20	135.31	135.04	135.07	134.89	134.98	135.32	135.76	136.14	136.28	136.42	136.38	136.48
21	135.31	135.13	135.06	134.85	135.01	135.32	135.76	136.17	136.29	136.37	136.43	136.44
22	135.36	135.20	135.12	134.86	135.00	135.34	135.75	136.19	136.29	136.34	136.46	136.45
23	135.37	135.14	135.15	134.88	135.00	135.34	135.75	136.16	136.28	136.36	136.38	136.42
24	135.36	135.18	135.12	134.84	135.00	135.30	135.77	136.13	136.29	136.33	136.40	136.35
25	135.29	135.19	135.07	134.84	134.99	135.34	135.79	136.13	136.31	136.41	136.44	136.38
26	135.39	135.21	135.01	134.75	135.09	135.38	135.82	136.16	136.35	136.42	136.39	136.46
27	135.51	135.08	135.05	134.80	135.12	135.37	135.86	136.21	136.39	136.45	136.33	136.45
28	135.55	135.11	135.10	134.86	135.10	135.36	135.90	136.21	136.39	136.47	136.39	136.37
29	135.54	135.12	135.09	134.89	135.09	135.35	135.95	136.22	136.42	136.48	136.49	136.41
30	135.49	---	135.08	134.89	135.11	135.34	135.96	136.21	136.44	136.48	136.44	136.40
31	135.43	---	135.08	---	135.13	---	135.94	136.25	---	136.46	---	136.34
MEAN	135.52	135.25	135.06	134.92	134.98	135.25	135.67	136.11	136.29	136.40	136.41	136.43
CAL YR 1988	MEAN	135.69		HIGH	134.75		LOW	136.52				

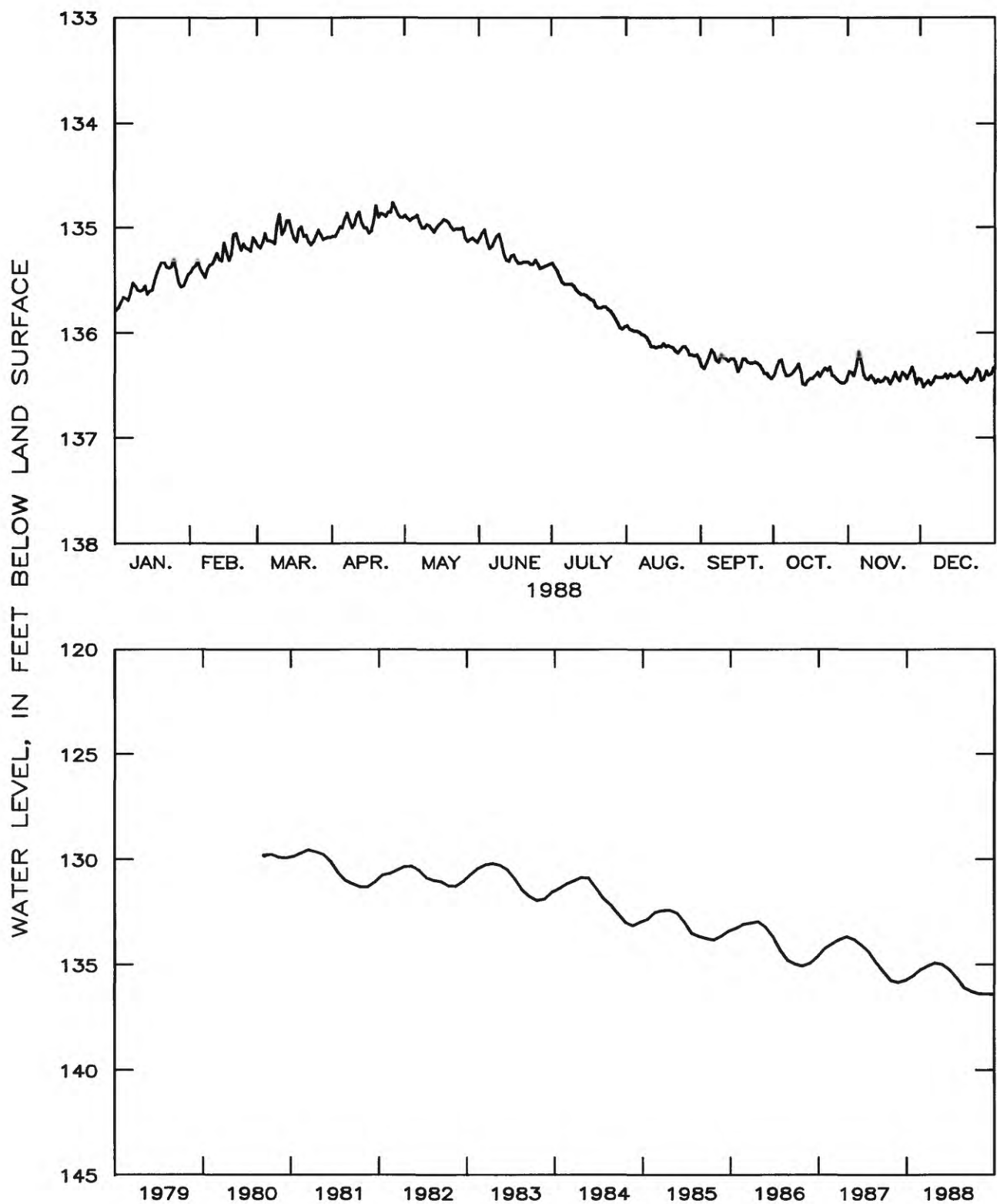


Figure 2.4.2-5.—Water level in observation well 24V001, Johnson County.

## 28X001 MIDVILLE EXPERIMENT STATION BURKE COUNTY

325232082131501 Local number, 28X001.

LOCATION.--Lat 32°52'32", long 82°13'15", Hydrologic Unit 03060201, 4.2 mi north of Midville off State Highway 56 at Southeastern Experiment Station.

Owner: U.S. Geological Survey.

AQUIFER.--Midville aquifer system.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 1,045 ft, cased to 1,025 ft, screened. DATUM.--Elevation of land-surface datum is 269 ft.

Measuring point: Floor of recorder platform, 3.04 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted March 8 and April 22, 1980. Water quality analyses May 23, 1980.

Water levels for period of missing record, October 4 to November 21, were estimated.

PERIOD OF RECORD.--June 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 49.07 ft below land-surface datum, June 4, 1980; lowest, 59.34 ft below land-surface datum, December 2, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	58.47	58.22	58.01	57.92	57.56	57.70	57.87	58.32	58.82	58.96	59.06	59.28
2	58.45	58.18	58.02	57.90	57.58	57.65	57.93	58.34	58.85	58.92	59.08	59.34
3	58.40	58.16	57.98	57.87	57.60	57.63	57.96	58.37	58.83	58.82	59.11	59.31
4	58.38	58.14	57.92	57.82	57.56	57.70	58.00	58.38	58.75	58.80	59.02	59.28
5	58.43	58.18	57.96	57.84	57.55	57.78	58.04	58.39	58.69	58.90	58.90	59.33
6	58.44	58.24	57.92	57.76	57.55	57.77	58.07	58.39	58.71	58.96	59.00	59.29
7	58.38	58.28	57.98	57.69	57.59	57.72	58.08	58.41	58.80	58.97	59.13	59.24
8	58.30	58.23	57.98	57.74	57.64	57.67	58.08	58.41	58.85	58.96	59.17	59.26
9	58.31	58.18	57.86	57.80	57.67	57.66	58.05	58.42	58.76	58.94	59.19	59.25
10	58.33	58.17	57.77	57.79	57.64	57.70	58.06	58.46	58.76	58.91	59.15	59.26
11	58.36	58.14	57.88	57.70	57.64	57.79	58.09	58.51	58.77	58.88	59.19	59.23
12	58.36	58.07	57.88	57.62	57.69	57.83	58.08	58.54	58.80	58.96	59.23	59.28
13	58.16	58.14	57.80	57.64	57.73	57.85	58.12	58.55	58.78	59.08	59.21	59.22
14	58.28	58.14	57.81	57.70	57.68	57.88	58.13	58.53	58.76	59.09	59.24	59.25
15	58.30	58.02	57.89	57.68	57.64	57.87	58.12	58.56	58.81	59.06	59.23	59.26
16	58.31	58.09	57.93	57.74	57.61	57.82	58.13	58.56	58.88	59.05	59.21	59.24
17	58.26	58.15	57.97	57.71	57.55	57.78	58.17	58.56	58.82	59.05	59.22	59.21
18	58.20	58.11	57.86	57.62	57.55	57.83	58.17	58.56	58.75	59.03	59.28	59.27
19	58.12	57.99	57.84	57.52	57.57	57.88	58.19	58.56	58.75	59.00	59.24	59.30
20	58.08	57.92	57.92	57.62	57.59	57.88	58.20	58.57	58.78	59.05	59.18	59.32
21	58.07	57.98	57.91	57.58	57.62	57.86	58.20	58.59	58.80	59.00	59.23	59.28
22	58.11	58.08	57.95	57.58	57.64	57.86	58.20	58.63	58.82	58.98	59.27	59.29
23	58.15	58.06	57.99	57.58	57.63	57.86	58.22	58.63	58.81	59.00	59.20	59.26
24	58.13	58.06	57.98	57.52	57.62	57.88	58.23	58.60	58.82	58.98	59.21	59.20
25	58.08	58.04	57.94	57.53	57.62	57.92	58.24	58.60	58.84	59.07	59.25	59.22
26	58.16	58.06	57.87	57.48	57.69	57.86	58.25	58.64	58.85	59.08	59.20	59.31
27	58.28	57.96	57.89	57.52	57.73	57.82	58.28	58.71	58.88	59.12	59.15	59.29
28	58.33	57.96	57.93	57.56	57.71	57.91	58.33	58.72	58.90	59.14	59.20	59.21
29	58.33	57.93	57.93	57.57	57.69	57.90	58.36	58.72	58.92	59.16	59.31	59.26
30	58.30	---	57.93	57.58	57.73	57.85	58.35	58.71	58.98	59.16	59.27	59.24
31	58.26	---	57.92	---	57.73	---	58.33	58.75	---	59.15	---	59.18
MEAN	58.27	58.10	57.92	57.67	57.63	57.80	58.15	58.54	58.81	59.01	59.18	59.26
CAL YR 1988	MEAN	58.36		HIGH	57.48		LOW	59.34				

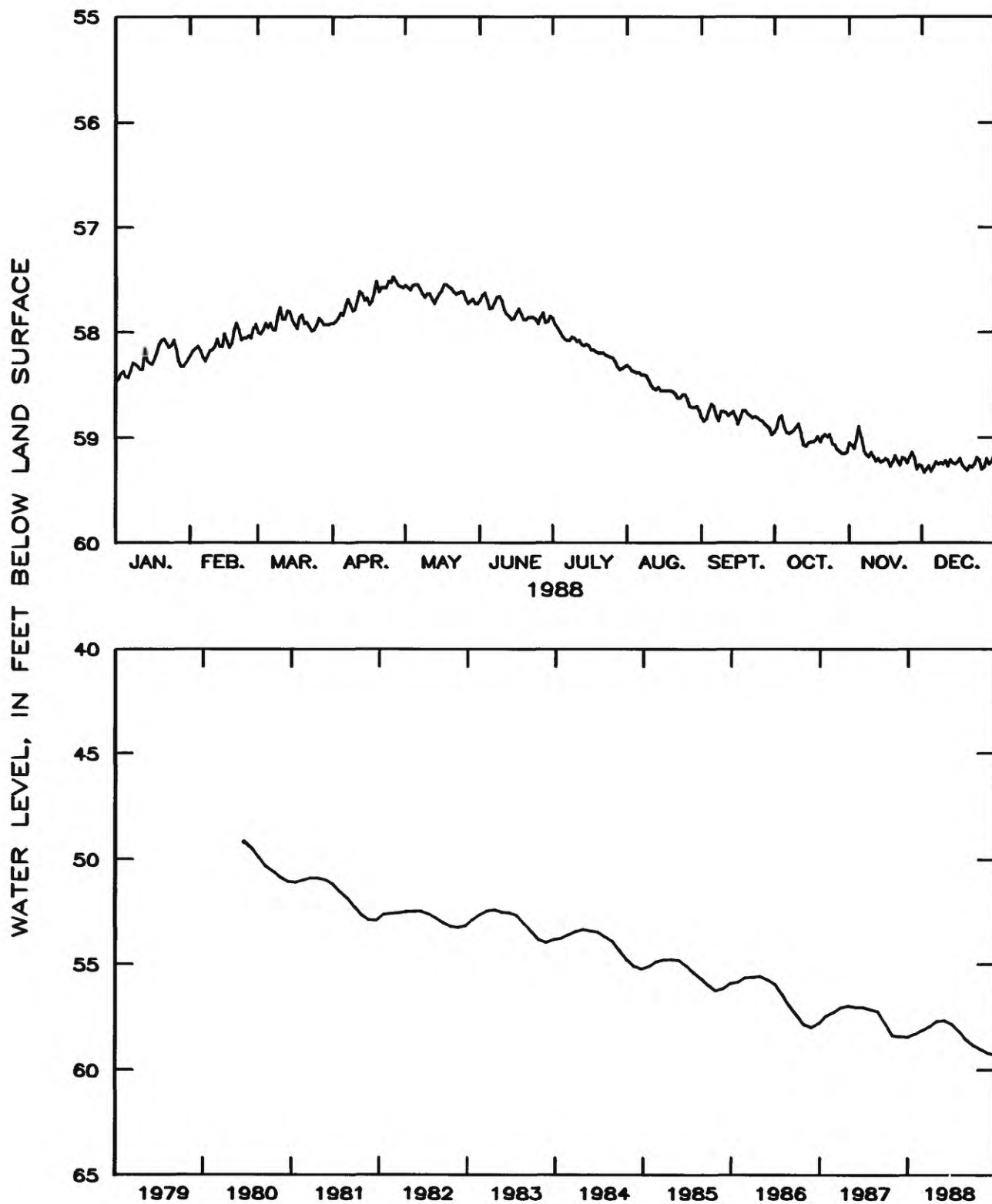


Figure 2.4.2-6.—Water level in observation well 28X001, Burke County.

## 30AA04 MCBEAN 2 RICHMOND COUNTY

331711081573701 Local number, 30AA04.

LOCATION.--lat 33°15'25", long 81°57'47", Hydrologic Unit 03060106, 1.5 mi north of McBean, 0.65 mi south of Little McBean Creek, 0.5 mi west of Georgia Highway 56.

Owner: Richmond County water system.

AQUIFER.--Dublin-Midville aquifer system.

WELL CHARACTERISTICS.--Drilled unused municipal well, diameter 6 in., depth 496 ft, cased to 174 ft, screened. DATUM.--Elevation of land-surface datum is 293 ft.

Measuring point: Top of 6-in. casing, 1.5 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted October 23, 1967. Water-quality sample collected November 26, 1967. Water levels for periods of missing record, February 25, March 8, and April 1-15, were estimated. PERIOD OF RECORD.--June 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 116.70 ft below land-surface datum, May 30, 1984; lowest, 129.61 ft below land-surface datum, August 28, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	128.52	128.48	128.52	128.61	128.57	129.09	128.89	129.27	129.40	129.35	129.30	129.42
2	128.50	128.46	128.54	128.59	128.57	129.22	128.92	129.33	129.42	129.34	129.31	129.44
3	128.44	128.45	128.56	128.58	128.82	129.29	128.94	129.34	129.39	129.26	129.34	129.42
4	128.41	128.40	128.51	128.56	128.75	129.19	128.97	129.32	129.33	129.17	129.33	129.41
5	128.43	128.40	128.52	128.51	128.65	129.08	129.05	129.27	129.25	129.21	129.25	129.43
6	128.45	128.44	128.52	128.48	128.58	129.08	129.05	129.26	129.28	129.23	129.28	129.44
7	128.43	128.48	128.54	128.45	128.62	129.26	129.14	129.27	129.34	129.25	129.34	129.42
8	128.39	128.48	128.53	128.42	128.89	129.12	129.14	129.28	129.35	129.24	129.38	129.43
9	128.38	128.47	128.52	128.45	128.81	128.93	129.39	129.29	129.17	129.24	129.40	129.44
10	128.40	128.46	128.40	128.47	128.69	128.77	129.58	129.30	129.17	129.24	129.37	129.45
11	128.42	128.45	128.50	128.49	128.61	128.78	129.40	129.28	129.19	129.27	129.38	129.45
12	128.43	128.42	128.52	128.47	128.61	128.79	129.23	129.24	129.21	129.29	129.42	129.47
13	128.43	128.42	128.49	128.47	128.61	128.81	129.23	129.24	129.20	129.34	129.42	129.45
14	128.51	128.48	128.49	128.55	128.60	128.98	129.17	129.22	129.21	129.37	129.42	129.47
15	128.49	128.47	128.53	128.59	128.57	129.15	129.27	129.24	129.24	129.32	129.39	129.47
16	128.48	128.46	128.59	128.61	128.62	129.10	129.32	129.24	129.28	129.30	129.35	129.45
17	128.46	128.51	128.61	128.88	128.84	129.16	129.43	129.25	129.22	129.31	129.30	129.43
18	128.41	128.51	128.56	128.71	128.84	129.24	129.42	129.28	129.12	129.38	129.34	129.47
19	128.38	128.44	128.51	128.53	128.84	129.33	129.54	129.30	129.14	129.34	129.34	129.48
20	128.35	128.36	128.53	128.54	128.76	129.20	129.44	129.35	129.19	129.35	129.32	129.51
21	128.32	128.36	128.53	128.51	128.75	129.26	129.36	129.39	129.21	129.30	129.33	129.50
22	128.35	128.41	128.58	128.51	128.84	129.20	129.38	129.36	129.21	129.27	129.36	129.50
23	128.37	128.43	128.59	128.49	128.85	129.22	129.31	129.37	129.20	129.28	129.33	129.48
24	128.39	128.43	128.57	128.43	128.96	129.30	129.21	129.34	129.24	129.28	129.34	129.45
25	128.37	128.46	128.54	128.45	128.83	129.18	129.19	129.34	129.35	129.34	129.37	129.46
26	128.37	128.48	128.50	128.42	128.79	129.20	129.21	129.35	129.32	129.38	129.33	129.50
27	128.45	128.43	128.50	128.44	128.76	129.07	129.23	129.55	129.32	129.40	129.30	129.50
28	128.49	128.46	128.56	128.45	128.95	129.01	129.28	129.61	129.39	129.41	129.33	129.45
29	128.51	128.48	128.57	128.47	128.91	128.97	129.44	129.48	129.41	129.42	129.42	129.46
30	128.52	---	128.57	128.50	128.93	128.91	129.45	129.41	129.39	129.42	129.42	129.46
31	128.51	---	128.58	---	129.18	---	129.30	129.39	---	129.38	---	129.42
MEAN	128.43	128.45	128.53	128.52	128.76	129.10	129.25	129.33	129.27	129.31	129.35	129.46
CAL YR 1988	MEAN	128.98		HIGH	128.32		LOW	129.61				

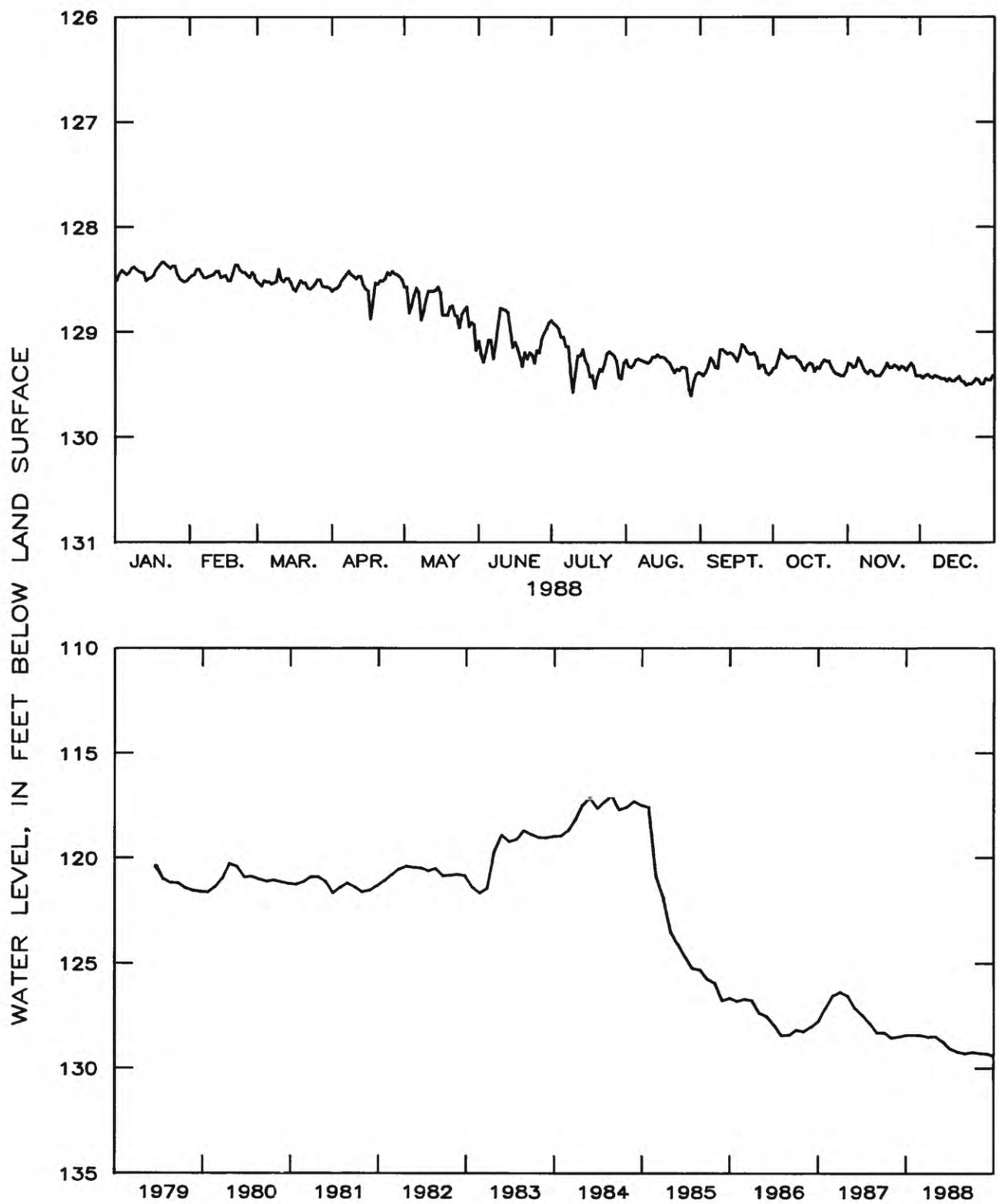


Figure 2.4.2-7—Water level in observation well 30AA04, Richmond County.

## 2.5 Clayton Aquifer

The Clayton aquifer consists of limestone and sand, and it supplies more than 20 Mgal/d for municipal and agricultural use in the area between the Chattahoochee and Flint Rivers in southwestern Georgia (Clarke and others, 1984a). Pumping from the Clayton aquifer has resulted in the development of a cone of depression centered at Albany.

During October, water levels were measured in 68 wells tapping the Clayton aquifer. From these measurements, a map showing the configuration of the potentiometric surface was constructed. During October 1988, westward elongation of the cone of depression at Albany disappeared suggesting decreased withdrawals in that area (Joiner and others, 1988).

In the Cordele, Cuthbert and Albany areas, the water level in the Clayton aquifer is affected primarily by seasonal changes in local and regional pumping. With the exception of well 07N001 at Cuthbert, the mean water level in the Clayton aquifer was from about the same to 3.7 ft higher in 1988 than in 1987, which continued the recovery from the effects of the 1986 drought. The recovery is attributed to a decrease in regional pumping as a result of near-normal precipitation during most of 1987 and 1988.

At Cuthbert, the annual mean water level was 1.3 ft lower in 1988 than in 1987, which continued the long-term water-level decline in that area. Although the annual mean water level in well 14P014 near Cordele was about the same in 1987, a record-low water level was measured in November 1988.





Figure 2.5-1.—Observation well locations and the water level in the Clayton aquifer, October 1988.

## 14P014 GEORGIA VETERANS TW1 CRISP COUNTY

315731083542301, Local number, 14P014.

LOCATION.--Lat 31°57'31", long 83°54'23", Hydrologic Unit 03130006, in the Georgia Veterans Memorial State Park, about 7.5 mi west of Cordele.

Owner: State of Georgia.

AQUIFER.--Clayton.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 550 ft, cased to 500 ft, open hole. DATUM.--Elevation of land-surface datum is 252 ft.

Measuring point: Floor of recorder shelter, 3.1 ft above land-surface datum.

REMARKS.--Well pumped May 20, 1982. Borehole geophysical survey conducted February 22, 1982.

PERIOD OF RECORD.--September 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 37.16 ft below land-surface datum, September 2, 1984; lowest, 49.26 ft below land-surface datum, November 29, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	48.22	47.52	46.71	45.77	44.89	44.33	44.24	45.00	46.18	47.72	48.83	49.21
2	48.23	47.46	46.68	45.74	44.88	44.28	44.29	45.06	46.22	47.74	48.87	49.22
3	48.16	47.43	46.60	45.67	44.88	44.26	44.30	45.08	46.17	47.75	48.89	49.13
4	48.20	47.38	46.52	45.63	44.81	44.34	44.32	45.07	46.09	47.88	48.78	49.04
5	48.30	47.50	46.60	45.63	44.80	44.37	44.37	45.02	46.01	48.07	48.71	49.05
6	48.25	47.58	46.52	45.52	44.77	44.31	44.37	45.06	46.07	48.16	48.87	48.99
7	48.16	47.58	46.52	45.45	44.80	44.25	44.37	45.10	46.22	48.20	48.99	48.91
8	48.12	47.47	46.48	45.50	44.79	44.14	44.37	45.13	46.27	48.21	49.07	48.92
9	48.15	47.37	46.24	45.53	44.76	44.03	44.38	45.18	46.27	48.21	49.10	48.90
10	48.16	47.32	46.16	45.46	44.71	44.10	44.40	45.25	46.36	48.19	49.07	48.90
11	48.12	47.23	46.28	45.35	44.68	44.15	44.43	45.31	46.42	48.21	49.12	48.85
12	48.06	47.21	46.21	45.33	44.70	44.17	44.46	45.35	46.50	48.31	49.16	48.92
13	48.00	47.27	46.15	45.42	44.67	44.20	44.49	45.39	46.55	48.45	49.15	48.94
14	48.07	47.23	46.15	45.43	44.60	44.22	44.49	45.39	46.58	48.48	49.18	48.99
15	48.03	47.02	46.23	45.41	44.54	44.19	44.50	45.43	46.70	48.46	49.17	48.98
16	48.02	47.17	46.28	45.42	44.49	44.11	44.55	45.44	46.81	48.46	49.14	48.93
17	47.88	47.17	46.26	45.37	44.42	44.10	44.58	45.49	46.81	48.50	49.20	48.92
18	47.80	47.06	46.06	45.21	44.41	44.16	44.59	45.49	46.82	48.50	49.25	48.97
19	47.74	46.88	46.10	45.10	44.40	44.20	44.65	45.52	46.86	48.50	49.18	48.97
20	47.66	46.83	46.15	45.20	44.44	44.23	44.68	45.55	46.95	48.55	49.09	48.97
21	47.66	46.93	46.09	45.12	44.44	44.25	44.68	45.61	47.02	48.53	49.16	48.91
22	47.72	46.90	46.11	45.08	44.43	44.26	44.67	45.67	47.06	48.55	49.16	48.91
23	47.68	46.83	46.10	45.05	44.41	44.28	44.69	45.75	47.11	48.58	49.09	48.85
24	47.61	46.88	46.05	45.02	44.40	44.32	44.76	45.74	47.18	48.60	49.13	48.77
25	47.48	46.87	45.96	45.00	44.37	44.30	44.80	45.75	47.28	48.71	49.17	48.82
26	47.65	46.86	45.88	44.94	44.45	44.23	44.83	45.79	47.38	48.72	49.10	48.87
27	47.77	46.68	45.90	44.99	44.44	44.20	44.90	45.88	47.51	48.76	49.04	48.84
28	47.79	46.69	45.92	45.02	44.38	44.27	44.96	45.92	47.55	48.83	49.17	48.80
29	47.73	46.68	45.87	45.00	44.32	44.26	44.97	45.98	47.62	48.87	49.26	48.87
30	47.63	---	45.84	44.94	44.33	44.21	44.97	46.01	47.69	48.88	49.21	48.81
31	47.55	---	45.80	---	44.35	---	44.96	46.09	---	48.87	---	48.74
MEAN	47.92	47.14	46.21	45.31	44.57	44.22	44.58	45.47	46.74	48.40	49.08	48.93
CAL YR 1988	MEAN	46.55		HIGH	44.03		LOW	49.26				

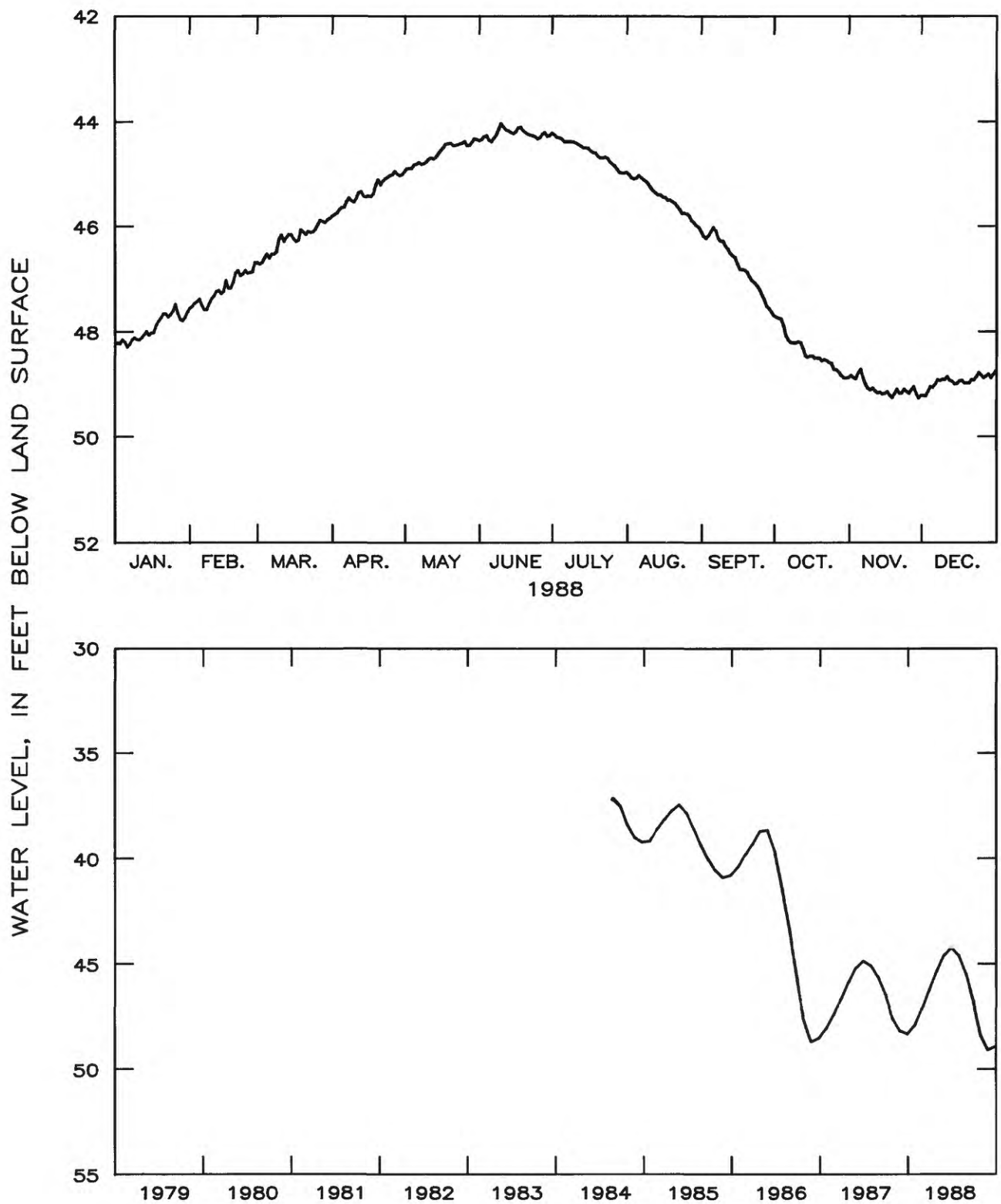


Figure 2.5—2.—Water level in observation well 14P014, Crisp County.

## 07N001 CUTHBERT RANDOLPH COUNTY

314602084473701 Local number, 07N001.

LOCATION.--Lat 31°46'09", long 84°47'43", Hydrologic Unit 03110204, south of intersection of College and Andrew Streets, near electric substation.

Owner: City of Cuthbert.

AQUIFER.--Clayton.

WELL CHARACTERISTICS.--Drilled unused municipal well, diameter 8 in., depth 372 ft, casing depth unknown.

DATUM.--Elevation of land-surface datum is 460 ft.

Measuring point: Floor of recorder shelter, 3.30 ft above land-surface datum.

REMARKS.--Well pumped and sounded June 22, 1978, to a depth of 372 ft; water-quality sample collected at conclusion of pumping. Well near city wells. Water levels for periods of missing record, November 24 to December 5, were estimated.

PERIOD OF RECORD.--January 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 132.00 ft below land-surface datum, December 10, 1967; lowest, 162.08 ft below land-surface datum, August 4, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988 MEAN VALUES												
DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	151.43	151.66	152.15	150.07	150.47	157.92	160.06	157.71	160.33	155.73	155.96	154.26
2	152.32	151.66	150.48	149.36	150.30	158.73	158.33	157.70	160.44	154.92	154.71	153.60
3	151.88	151.58	150.47	150.70	150.69	157.85	158.40	158.54	160.04	155.07	155.47	153.89
4	152.35	150.45	150.91	149.30	150.69	158.07	158.25	158.78	159.80	155.18	156.51	154.15
5	152.85	151.31	150.99	150.47	150.81	155.64	158.76	160.02	159.41	156.24	154.74	154.36
6	152.72	150.86	150.41	150.39	150.88	157.26	158.63	159.32	159.47	157.63	153.79	154.58
7	151.67	151.63	151.54	151.16	151.56	157.07	158.65	159.25	160.29	158.11	154.39	153.64
8	151.84	151.85	152.03	150.37	153.06	156.66	158.55	159.70	160.41	158.24	155.39	153.52
9	152.63	151.88	151.50	149.22	151.85	157.60	158.46	157.92	159.49	158.21	155.36	153.95
10	153.16	151.52	150.91	151.53	151.84	157.57	158.29	159.61	158.95	158.72	154.58	153.42
11	151.74	151.72	151.90	150.07	152.99	156.68	158.36	159.65	159.18	158.26	154.80	153.07
12	152.24	151.47	150.64	150.45	152.49	156.64	158.29	159.72	158.94	156.89	154.71	153.07
13	152.17	151.04	150.22	151.55	153.19	158.52	157.73	160.27	158.98	155.01	154.89	154.76
14	152.23	151.59	151.64	151.71	151.63	159.25	158.32	159.78	160.04	156.54	156.10	153.16
15	152.50	151.36	150.67	150.21	153.01	158.88	157.91	159.06	158.67	157.38	154.87	154.53
16	151.53	150.17	150.43	150.89	152.48	159.04	157.38	159.27	157.73	157.12	154.08	153.18
17	152.74	151.33	150.99	150.96	152.04	159.70	157.24	159.71	158.04	156.52	154.53	153.80
18	152.50	151.85	149.92	150.16	152.10	160.14	157.40	160.15	158.41	159.00	155.05	153.53
19	151.24	150.87	151.23	151.92	153.33	158.94	157.22	160.26	157.51	154.09	154.30	153.96
20	150.31	149.86	149.69	150.99	154.34	160.34	157.19	159.60	157.11	154.37	154.04	153.64
21	153.45	151.38	150.03	151.52	154.67	160.66	157.11	159.89	157.41	157.20	154.49	154.52
22	155.75	151.52	151.55	151.61	153.92	161.75	157.70	161.15	156.85	157.22	154.07	153.56
23	152.06	151.23	151.70	149.96	154.79	162.04	158.31	161.12	156.15	156.30	153.52	153.64
24	151.28	151.92	151.12	149.50	154.86	160.98	156.70	160.10	156.21	156.61	153.72	153.40
25	150.52	151.65	150.46	149.39	154.16	161.21	156.94	160.62	156.61	156.92	154.27	152.66
26	151.26	149.69	149.48	150.54	154.34	159.67	156.90	160.97	155.98	158.07	153.78	153.14
27	151.89	148.87	149.51	150.62	154.93	160.16	156.66	160.69	155.11	156.41	153.06	152.79
28	151.59	149.19	150.84	151.39	155.41	160.50	156.70	160.64	155.17	155.94	153.27	153.39
29	151.76	150.54	149.78	150.44	155.28	160.84	157.22	160.90	155.47	155.70	153.71	152.57
30	151.41	---	150.10	150.12	156.58	161.05	157.17	160.14	155.76	155.52	154.15	152.81
31	151.72	---	149.93	---	157.04	---	157.14	160.68	---	155.68	---	152.69
MEAN	152.09	151.09	150.75	150.55	153.09	159.05	157.81	159.77	158.13	156.61	154.54	153.59
CAL YR 1988	MEAN	154.77		HIGH	148.87		LOW	162.04				

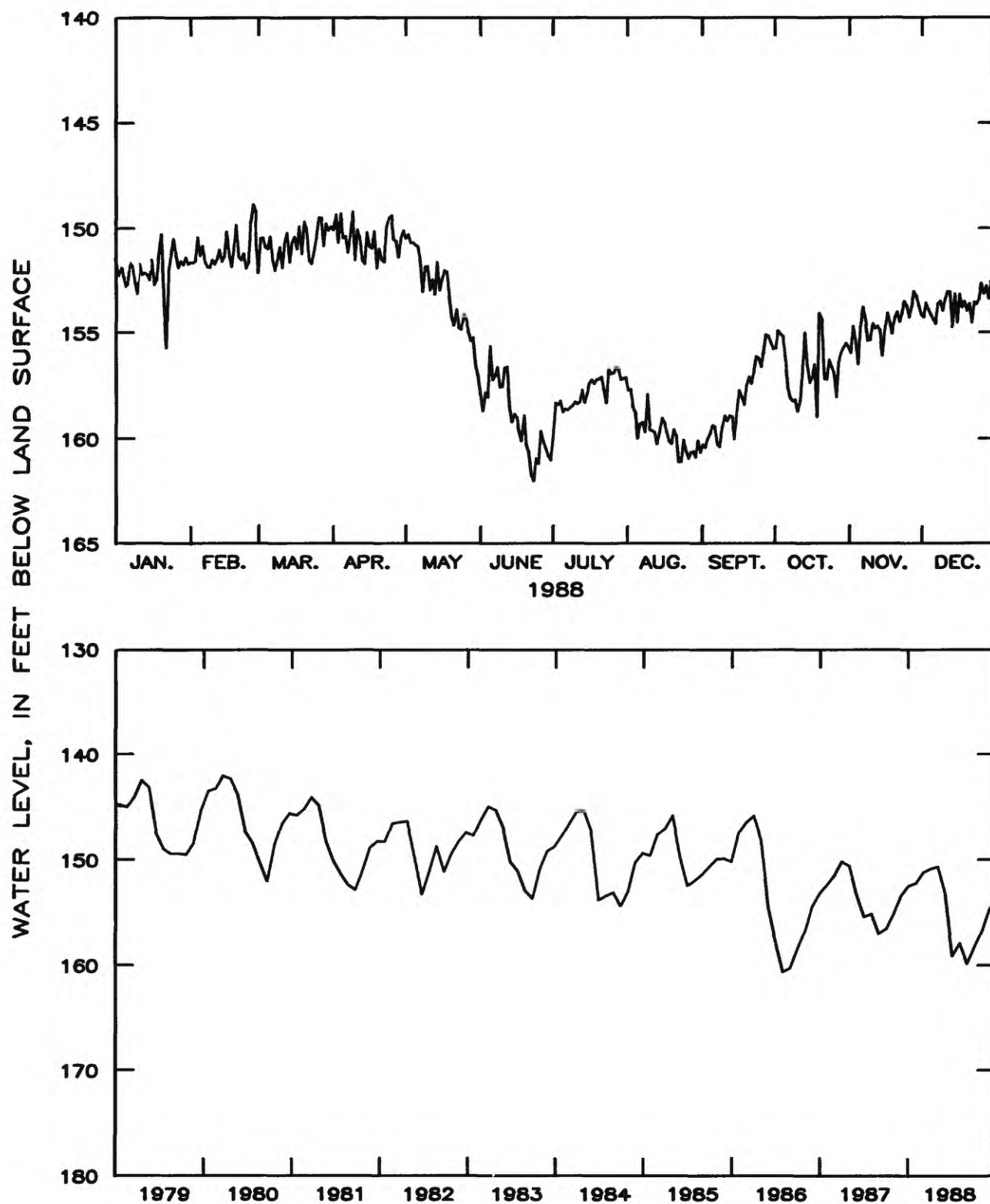


Figure 2.5-3.—Water level in observation well 07N001, Randolph County.

## 11L002 ALBANY NURSERY DOUGHERTY COUNTY

313532084203501 Local number, 11L002.

LOCATION.--Lat 31°35'32", long 84°20'35", Hydrologic Unit 03130008, Tallahassee Plantation, 10.4 mi west of Albany.

Owner: Georgia Department of Natural Resources, Albany Nursery.

AQUIFER.--Clayton.

WELL CHARACTERISTICS.--Drilled observation well, diameter 3 in., depth 656 ft, cased to 542 ft, open hole. DATUM.--Elevation of land-surface datum is 222 ft.

Measuring point: Floor of recorder shelter, 3.02 ft above land-surface datum.

REMARKS.--Well pumped and redeveloped August 14, 1988. Borehole geophysical survey conducted June 3, 1975. Water levels for periods of missing record, January 1-14, February 21-25, May 3, May 6-25, June 3-10, and July 4-10, were estimated.

PERIOD OF RECORD.--September 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.90 ft below land-surface datum, April 29, 1975; lowest, 152.61 ft below land-surface datum, August 23, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	112.89	107.06	102.79	99.16	97.69	108.08	127.92	132.22	145.60	134.35	124.33	117.42
2	112.44	106.91	102.62	99.06	97.67	108.11	128.15	132.59	145.42	134.01	123.96	117.32
3	112.27	106.77	102.39	98.89	97.65	109.06	128.20	132.75	144.89	133.66	123.66	117.13
4	112.06	106.58	102.12	98.77	97.67	110.02	128.21	132.84	144.18	133.39	123.29	116.93
5	111.84	106.51	102.10	98.71	97.68	110.97	128.22	133.12	143.51	133.16	122.95	116.75
6	111.62	106.46	101.97	98.55	98.22	111.93	128.23	133.53	142.93	132.86	122.96	116.31
7	111.40	106.39	101.93	98.36	98.82	112.89	128.24	134.09	142.33	132.47	122.94	115.87
8	111.17	106.19	101.88	98.30	98.96	113.84	128.25	134.72	141.79	131.96	122.83	115.64
9	110.95	106.00	101.48	98.30	99.11	114.80	128.24	135.52	141.25	131.38	122.62	115.36
10	110.75	105.82	101.28	98.30	99.27	115.76	128.23	136.54	140.78	130.89	122.29	115.18
11	110.56	105.60	101.36	98.28	99.44	116.72	128.22	137.73	140.23	130.42	122.13	114.94
12	110.37	105.38	101.18	98.24	99.65	116.93	128.20	138.62	139.63	130.19	121.96	114.96
13	110.16	105.35	100.94	98.55	99.88	117.01	128.21	139.31	139.02	130.08	121.64	114.85
14	109.98	105.22	100.85	98.69	100.16	117.12	128.08	140.14	138.45	129.84	121.43	114.81
15	109.82	104.76	100.89	98.69	100.44	117.20	127.81	140.73	137.99	129.47	121.10	114.76
16	109.65	104.65	100.90	98.68	100.75	117.41	127.63	141.04	137.60	129.11	120.74	114.62
17	109.36	104.62	100.84	98.64	101.06	117.85	127.54	141.36	137.14	128.80	120.49	114.37
18	109.13	104.35	100.51	98.40	101.41	118.56	127.38	141.58	136.63	128.43	120.29	114.12
19	108.88	103.95	100.38	98.22	101.79	119.34	127.22	141.64	136.24	128.09	119.95	113.85
20	108.68	103.77	100.37	98.22	102.21	119.81	127.14	142.05	135.89	127.86	119.53	113.71
21	108.53	103.70	100.23	98.22	102.62	119.82	127.15	142.66	135.46	127.39	119.44	113.58
22	108.50	103.62	100.14	98.11	103.04	119.82	127.38	143.20	135.07	127.03	119.28	113.53
23	108.34	103.54	100.07	98.07	103.50	121.17	127.84	143.64	134.69	126.77	118.91	113.39
24	108.16	103.46	99.95	98.04	104.02	123.80	128.17	144.11	134.50	126.43	118.62	113.24
25	107.87	103.38	99.79	97.96	104.52	124.93	128.30	144.35	134.52	126.27	118.41	113.28
26	107.84	103.30	99.66	97.87	105.17	125.93	128.34	144.59	134.80	126.01	117.98	113.31
27	107.85	103.03	99.65	97.91	105.83	126.80	128.59	144.96	134.99	125.72	117.64	113.07
28	107.81	102.94	99.66	97.91	106.26	127.57	129.07	145.16	134.96	125.46	117.87	112.85
29	107.63	102.87	99.59	97.90	106.74	127.87	129.71	145.36	134.87	125.23	118.04	112.69
30	107.41	---	99.45	97.81	107.27	127.84	130.56	145.40	134.64	125.01	117.68	112.45
31	107.19	---	99.29	---	107.74	---	131.50	145.48	---	124.76	---	112.22
MEAN	109.71	104.90	100.85	98.36	101.49	117.97	128.26	139.71	138.67	129.24	120.83	114.60
CAL YR 1988	MEAN	117.09		HIGH	97.65		LOW	145.60				

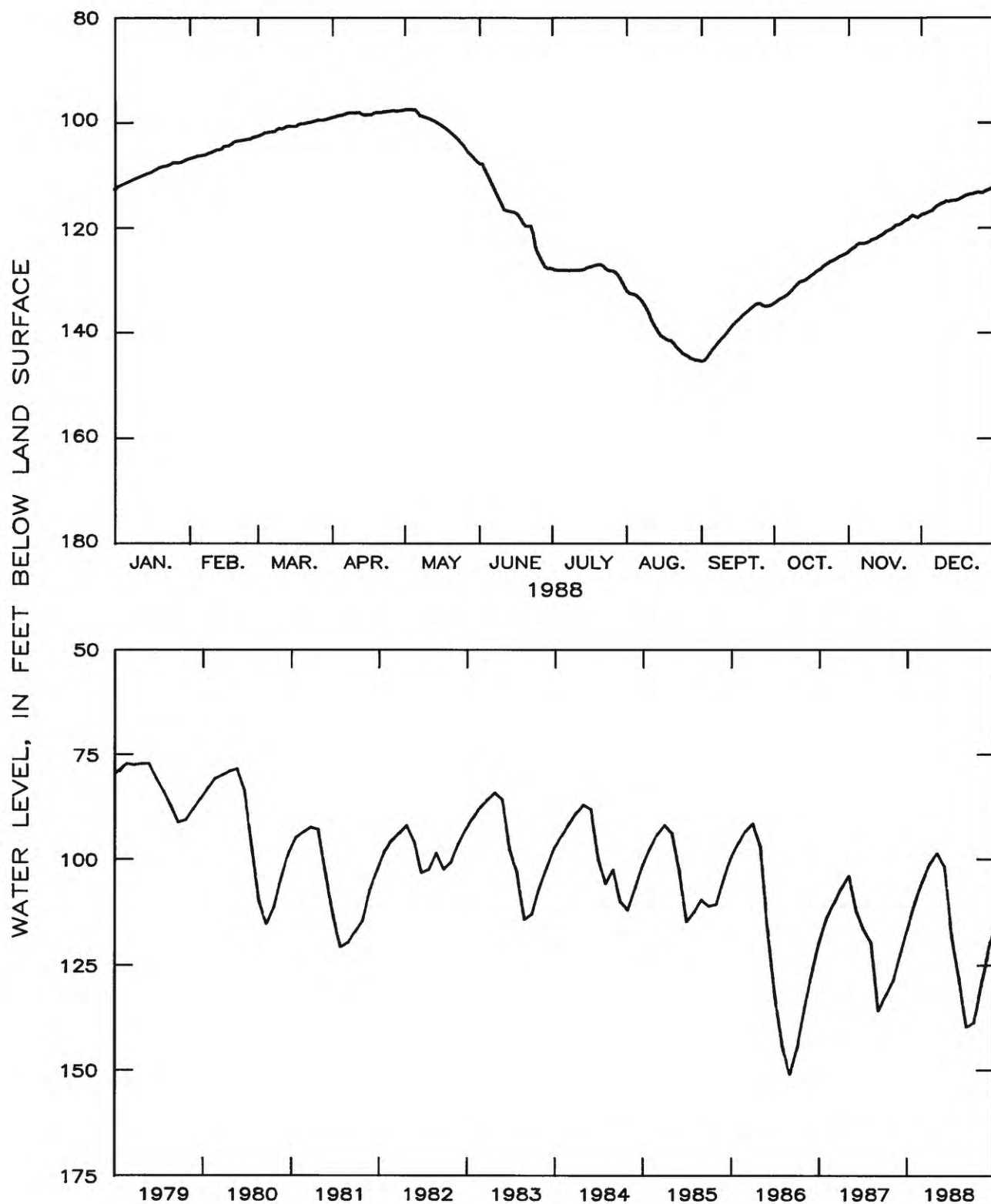


Figure 2.5-4.—Water level in observation well 11L002, Dougherty County.



## 13L002 TURNER CITY DOUGHERTY COUNTY

313554084062501 Local number, 13L002.

LOCATION.--Lat 31°35'54", long 84°06'25", Hydrologic Unit 03130008, Malone and Gardner Avenue near main entrance to Turner Field, Albany.

Owner: City of Albany, Turner City.

AQUIFER.--Clayton.

WELL CHARACTERISTICS.--Drilled unused supply well, diameter 12 in. and 8 in., depth 760 ft, cased to 713 ft, open hole.

DATUM.--Elevation of land-surface datum is 212.84 ft.

Measuring point: Floor of recorder shelter, 3.2 ft above land-surface datum.

REMARKS.--Well pumped and sounded to a depth of 760 ft, June 21, 1978: water-quality sample collected at conclusion of pumping. Borehole geophysical survey conducted March 17, 1977. Water levels for period of missing record, October 26-27, was estimated.

PERIOD OF RECORD.--December 1957 to December 1959. January 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 38.19 ft below land-surface datum, April 1, 1959; lowest, 160.88 ft below land-surface datum, July 26, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	135.42	133.92	129.51	127.72	126.14	136.65	144.96	145.88	148.94	147.74	139.24	129.94
2	135.42	133.98	131.00	126.00	126.67	137.41	144.94	146.24	148.54	147.39	141.10	129.68
3	135.01	134.35	130.96	127.41	128.09	138.21	143.57	146.61	149.01	147.30	141.56	129.35
4	134.37	134.82	130.59	127.72	127.68	138.75	141.62	146.56	149.48	147.49	140.45	130.33
5	131.59	135.06	131.79	127.90	128.10	139.62	139.95	145.83	149.55	147.85	141.07	132.05
6	131.34	135.33	132.04	128.01	129.08	139.97	141.71	145.95	149.55	148.04	141.55	130.76
7	133.51	135.35	131.37	128.49	129.64	140.05	141.27	145.06	149.56	148.03	141.71	130.79
8	131.26	134.90	128.64	128.73	130.28	140.02	142.03	143.82	149.36	147.96	141.94	132.03
9	129.70	134.72	126.95	128.82	130.46	139.66	142.41	142.30	148.90	147.78	142.01	133.40
10	129.23	134.75	128.55	128.67	130.06	140.44	141.00	143.82	148.63	147.31	141.78	133.17
11	129.76	134.75	126.58	126.65	129.61	139.56	141.88	145.86	146.92	146.85	141.38	133.42
12	130.96	134.59	125.19	128.31	130.49	140.36	140.97	146.41	145.86	145.29	139.30	134.35
13	131.39	132.62	124.33	128.86	129.99	140.54	140.53	144.00	145.56	146.41	139.95	134.59
14	130.93	133.71	124.45	129.19	130.44	140.64	140.35	142.75	146.64	146.61	138.95	133.80
15	131.67	133.58	127.42	129.70	130.45	140.51	141.83	143.69	147.36	146.57	135.75	134.25
16	129.65	133.77	128.84	130.06	128.94	140.67	139.59	146.35	147.69	146.23	136.73	134.59
17	130.62	133.73	129.29	130.15	130.47	141.35	139.20	147.46	147.26	145.89	134.96	133.85
18	131.74	133.48	129.24	130.26	131.37	141.81	139.67	147.93	143.98	145.66	135.22	134.16
19	132.04	132.88	129.21	130.57	131.84	142.66	141.15	148.28	142.66	145.30	137.11	133.14
20	129.66	133.17	127.16	130.88	132.52	143.29	141.85	148.63	144.42	145.41	137.78	132.51
21	130.06	132.82	126.52	129.45	133.23	143.46	142.40	147.35	145.00	143.98	137.78	133.45
22	132.65	130.63	127.74	130.01	133.66	144.60	142.31	146.83	145.45	142.73	136.24	133.39
23	133.15	131.45	127.95	130.35	134.20	145.51	143.19	148.42	146.14	143.13	134.49	133.62
24	130.68	131.80	127.11	128.97	134.73	146.31	143.49	148.92	146.60	142.30	134.18	133.77
25	132.16	132.15	128.12	127.43	135.34	146.93	143.36	149.33	144.69	142.21	133.05	133.51
26	132.36	132.33	127.92	126.95	135.24	146.58	143.51	149.49	143.70	141.99	131.67	133.23
27	132.06	132.32	127.22	127.37	134.37	146.62	144.10	149.51	145.91	141.77	130.49	131.90
28	133.77	131.07	127.21	127.08	134.56	146.08	144.71	149.33	146.71	141.54	132.54	128.39
29	134.30	129.00	126.25	127.36	135.52	145.72	145.42	149.00	147.19	141.00	133.75	128.19
30	134.74	---	125.83	127.58	135.96	144.18	145.87	148.84	147.47	140.09	131.28	130.09
31	134.21	---	125.34	---	136.16	---	145.97	149.07	---	139.88	---	130.86
MEAN	132.11	133.35	128.07	128.56	131.46	141.94	142.41	146.76	146.96	145.09	137.50	132.28
CAL YR 1988	MEAN	137.21		HIGH	124.33		LOW	149.56				

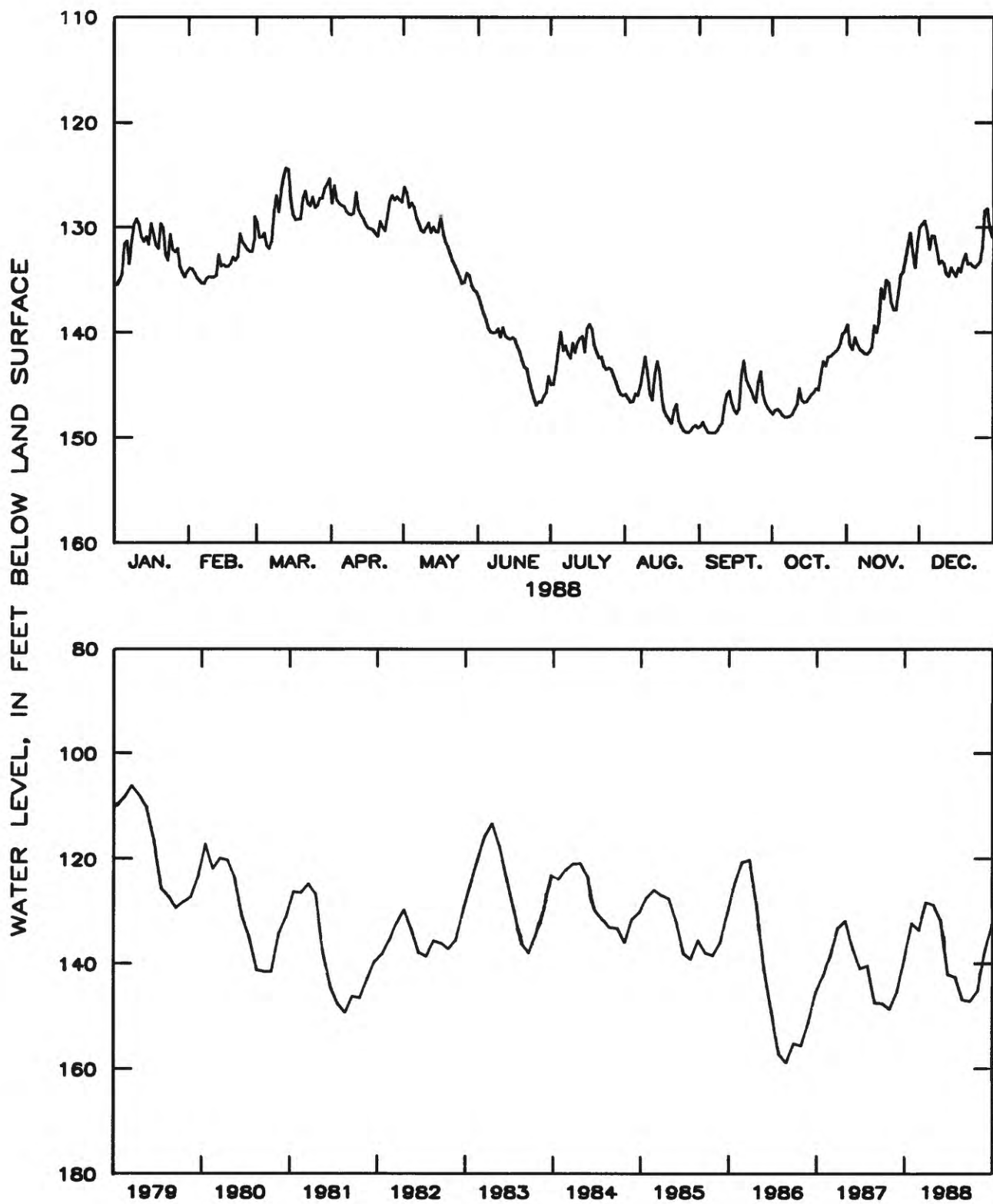


Figure 2.5-5.—Water level in observation well 13L002, Dougherty County.

## 2.6 Claiborne Aquifer

The Claiborne aquifer is a major aquifer in southwestern Georgia where it supplies more than 36 Mgal/d for municipal, agricultural, and industrial use (McFadden and Perriello, 1983). The aquifer is comprised of several hydraulically connected water-bearing zones of sand, limestone, and coquina. In east-central Georgia, the Claiborne aquifer is part of the Gordon aquifer system (Brooks and others, 1985).

During October 1988, water-level measurements made in 75 wells tapping the Claiborne aquifer were used to construct a potentiometric map. Pumping from the aquifer has resulted in a cone of depression centered at Albany. The water level in the Claiborne aquifer near Albany in Dougherty County, is affected primarily by local and regional pumping. The water level generally is highest during winter and spring rainy seasons, and lowest in fall following the summer-irrigation season. Annual mean water levels in three wells tapping the Claiborne aquifer near Albany were from 0.9 to 5.0 ft higher in 1988 than in 1987. These rises are attributed to the continued recovery of water levels from the effects of the 1986 drought and to a decrease in regional pumping as a result of above-normal precipitation.



Figure 2.6-1.—Observation well locations and the water level in the Claiborne aquifer, October 1988.

## 11L001 TEST WELL 4 DOUGHERTY COUNTY

31353084203202 Local number, 11L001.

LOCATION.--Lat 31°35'30", long 84°20'32", Hydrologic Unit 03130008, 10.4 mi west of Albany.

Owner: U.S. Geological Survey, test well 4.

AQUIFER.--Claiborne.

WELL CHARACTERISTICS.--Drilled observation well, depth 251 ft, cased to 233 ft.

DATUM.--Elevation of land-surface datum is 220 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Well pumped and redeveloped August 14, 1988; water sample collected August 31, 1988. Water levels for the periods of missing record, January 14 and May 25, were estimated.

PERIOD OF RECORD.--March 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.11 ft below land-surface datum, June 5-6, 1978; lowest, 34.75 ft below land-surface datum, October 19-20, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	29.13	25.28	22.07	18.83	17.51	17.89	21.42	24.02	26.12	26.91	27.03	26.97
2	29.01	25.14	21.98	18.75	17.50	17.93	21.62	24.01	26.20	26.90	27.05	26.99
3	28.82	24.99	21.82	18.69	17.50	17.98	21.72	24.04	26.27	26.84	27.06	26.99
4	28.70	24.85	21.53	18.61	17.49	18.13	21.79	24.09	26.25	26.83	27.01	26.97
5	28.63	24.79	21.43	18.55	17.47	18.23	21.88	24.15	26.23	26.87	26.92	26.97
6	28.53	24.72	21.34	18.47	17.48	18.28	22.00	24.21	26.32	26.88	26.97	26.96
7	28.39	24.64	21.26	18.40	17.49	18.29	22.12	24.27	26.42	26.87	27.01	26.92
8	28.26	24.51	21.16	18.37	17.50	18.38	22.23	24.32	26.47	26.85	27.03	26.91
9	28.20	24.39	20.92	18.35	17.51	18.48	22.37	24.38	26.47	26.81	27.03	26.88
10	28.14	24.29	20.75	18.30	17.48	18.59	22.48	24.44	26.50	26.79	27.01	26.87
11	28.08	24.16	20.74	18.21	17.40	18.68	22.58	24.50	26.54	26.77	27.02	26.82
12	27.87	24.06	20.63	18.15	17.41	18.75	22.64	24.58	26.59	26.78	27.03	26.83
13	27.74	24.01	20.50	18.18	17.41	18.83	22.74	24.65	26.61	26.83	27.02	26.84
14	27.67	23.91	20.44	18.16	17.39	18.96	22.85	24.72	26.62	26.86	27.03	26.83
15	27.60	23.74	20.41	18.12	17.37	19.08	22.96	24.79	26.65	26.86	27.03	26.80
16	27.54	23.69	20.35	18.09	17.36	19.22	23.05	24.85	26.69	26.86	27.01	26.75
17	27.39	23.64	20.27	18.06	17.36	19.32	23.16	24.99	26.71	26.87	27.02	26.75
18	27.23	23.51	20.12	17.99	17.35	19.46	23.27	25.07	26.71	26.88	27.03	26.79
19	27.00	23.23	20.02	17.84	17.34	19.60	23.38	25.13	26.72	26.88	27.01	26.81
20	26.80	23.01	19.98	17.84	17.37	19.76	23.47	25.19	26.74	26.91	26.96	26.81
21	26.62	22.91	19.88	17.81	17.37	19.91	23.53	25.25	26.76	26.86	26.96	26.77
22	26.54	22.86	19.80	17.78	17.36	20.08	23.59	25.32	26.78	26.84	26.99	26.75
23	26.43	22.73	19.71	17.73	17.37	20.27	23.65	25.39	26.79	26.88	26.98	26.70
24	26.28	22.65	19.60	17.71	17.38	20.48	23.73	25.44	26.82	26.90	26.99	26.66
25	26.11	22.60	19.46	17.63	17.43	20.61	23.78	25.51	26.82	26.96	27.01	26.65
26	26.04	22.52	19.30	17.56	17.47	20.74	23.84	25.64	26.85	26.99	26.99	26.67
27	25.97	22.37	19.23	17.58	17.53	20.84	23.89	25.75	26.88	27.00	26.95	26.66
28	25.86	22.26	19.18	17.58	17.59	20.99	23.94	25.83	26.88	27.03	26.95	26.60
29	25.75	22.19	19.09	17.56	17.64	21.14	23.98	25.91	26.89	27.05	26.99	26.60
30	25.60	---	19.00	17.53	17.73	21.27	24.01	25.95	26.91	27.04	26.98	26.57
31	25.44	---	18.91	---	17.81	---	24.02	26.02	---	27.03	---	26.50
MEAN	27.33	23.71	20.35	18.08	17.46	19.34	22.96	24.92	26.61	26.89	27.00	26.79
CAL YR 1988	MEAN	23.46		HIGH	17.34		LOW	29.13				

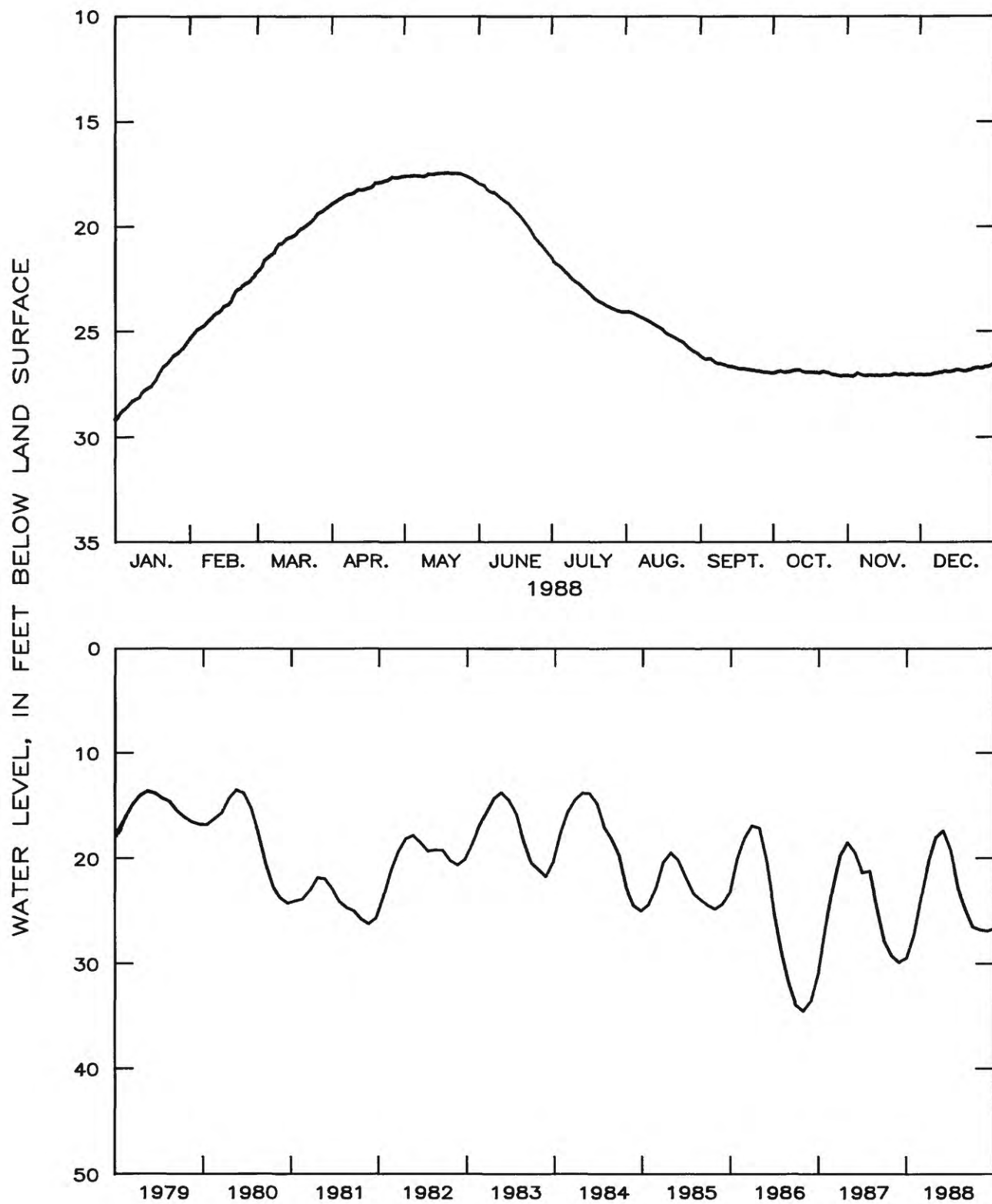


Figure 2.6-2.—Water level in observation well 11L001, Dougherty County.



## 12L019 TEST WELL 5 DOUGHERTY COUNTY

313534084103001 Local number, 12L019.

LOCATION.--Lat 31°35'34", long 84°10'30", Hydrologic Unit 03130008, located in park at intersection of Slappey Drive and Fifth Avenue.

Owner: U.S. Geological Survey, test well 5.

AQUIFER.--Claiborne.

WELL CHARACTERISTICS.--Drilled observation well, depth 257 ft, cased and screened to 88 ft.

DATUM.--Elevation of land-surface datum is 198 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Well pumped and redeveloped August 15, 1988; water sample collected August 29, 1988. Water levels for period of missing record, July 3-18, were estimated.

PERIOD OF RECORD.--March 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 72.35 ft below land-surface datum, April 20, 1983; lowest, 99.53 ft below land-surface datum, August 1-2, 1978.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	79.36	77.47	70.91	72.04	68.33	77.42	84.80	84.08	83.84	81.36	78.05	73.93
2	78.72	77.20	71.12	71.55	68.03	78.03	84.93	84.58	83.87	81.44	78.18	73.92
3	78.52	76.88	71.03	71.31	67.96	78.73	84.61	84.72	83.88	81.90	78.23	73.90
4	78.66	76.67	70.56	70.63	67.97	79.35	84.28	84.64	83.75	81.93	78.08	73.90
5	78.49	76.34	70.22	70.07	67.92	79.21	84.02	84.58	83.39	81.42	78.07	73.90
6	77.87	76.12	70.08	69.64	67.81	78.85	83.87	84.56	83.02	81.17	78.27	73.90
7	77.58	75.94	69.99	69.71	68.31	78.97	83.73	84.47	82.41	81.08	78.24	74.35
8	77.30	75.46	69.91	69.87	68.65	78.68	83.59	84.58	81.64	80.71	77.90	74.90
9	77.28	75.37	69.84	69.73	68.39	78.71	83.48	84.87	80.79	80.43	77.77	74.80
10	77.32	75.56	69.94	69.57	68.30	79.20	83.33	85.20	80.40	80.63	77.77	74.65
11	77.32	75.32	69.77	69.47	68.27	79.77	83.16	85.26	79.88	80.71	78.10	74.80
12	76.73	75.02	69.20	69.56	68.18	80.17	83.11	85.34	79.19	81.10	78.45	75.06
13	75.86	75.07	68.94	69.98	68.24	80.56	83.10	85.13	78.52	81.72	78.74	75.42
14	75.86	74.98	68.88	70.31	68.24	80.63	83.14	84.67	78.97	82.01	78.90	75.50
15	75.88	74.52	68.99	70.53	68.30	80.78	82.97	84.07	79.43	82.02	79.00	75.17
16	75.85	74.54	69.55	70.74	68.91	80.90	82.74	84.01	79.49	81.57	79.00	74.68
17	75.85	74.33	69.93	70.93	69.65	81.24	82.85	84.29	79.25	80.88	78.85	74.20
18	76.01	73.71	70.07	71.03	70.47	81.72	83.18	84.24	79.04	80.69	78.51	74.07
19	76.06	73.05	70.62	70.94	71.25	82.10	83.47	84.22	78.66	80.27	77.72	73.75
20	76.38	72.88	71.35	71.07	72.10	82.47	83.46	84.45	78.72	80.22	77.13	73.84
21	76.38	73.06	71.73	71.14	72.60	82.97	83.29	84.84	79.33	79.69	76.64	74.34
22	75.90	72.91	71.96	71.18	73.29	83.37	83.19	85.00	79.99	79.05	76.17	74.98
23	75.64	72.30	72.39	71.15	74.19	83.74	82.75	85.16	80.30	78.47	75.76	74.69
24	75.52	71.92	72.66	71.12	75.01	84.15	82.34	85.15	80.58	77.91	75.22	74.46
25	75.45	71.79	72.51	70.51	75.57	84.42	81.56	84.88	80.72	77.67	74.70	74.84
26	75.42	71.93	72.72	70.03	75.78	84.11	81.65	84.45	80.99	77.21	74.18	75.05
27	75.99	71.55	73.28	69.69	75.74	83.81	82.36	83.78	81.51	77.04	73.83	74.81
28	76.76	71.08	73.35	69.47	75.79	84.19	82.84	83.36	81.84	77.01	73.71	74.64
29	76.87	70.83	73.07	69.19	75.86	84.81	82.85	83.20	81.88	77.35	73.84	74.11
30	77.00	---	72.88	68.85	76.33	85.03	83.30	82.97	81.72	77.68	73.93	73.58
31	77.49	---	72.54	---	76.85	---	83.68	83.43	---	77.77	---	73.27
MEAN	76.82	74.27	70.97	70.37	71.04	81.27	83.28	84.46	80.90	80.00	77.10	74.43
CAL YR 1988	MEAN	77.09		HIGH	67.81		LOW	85.34				



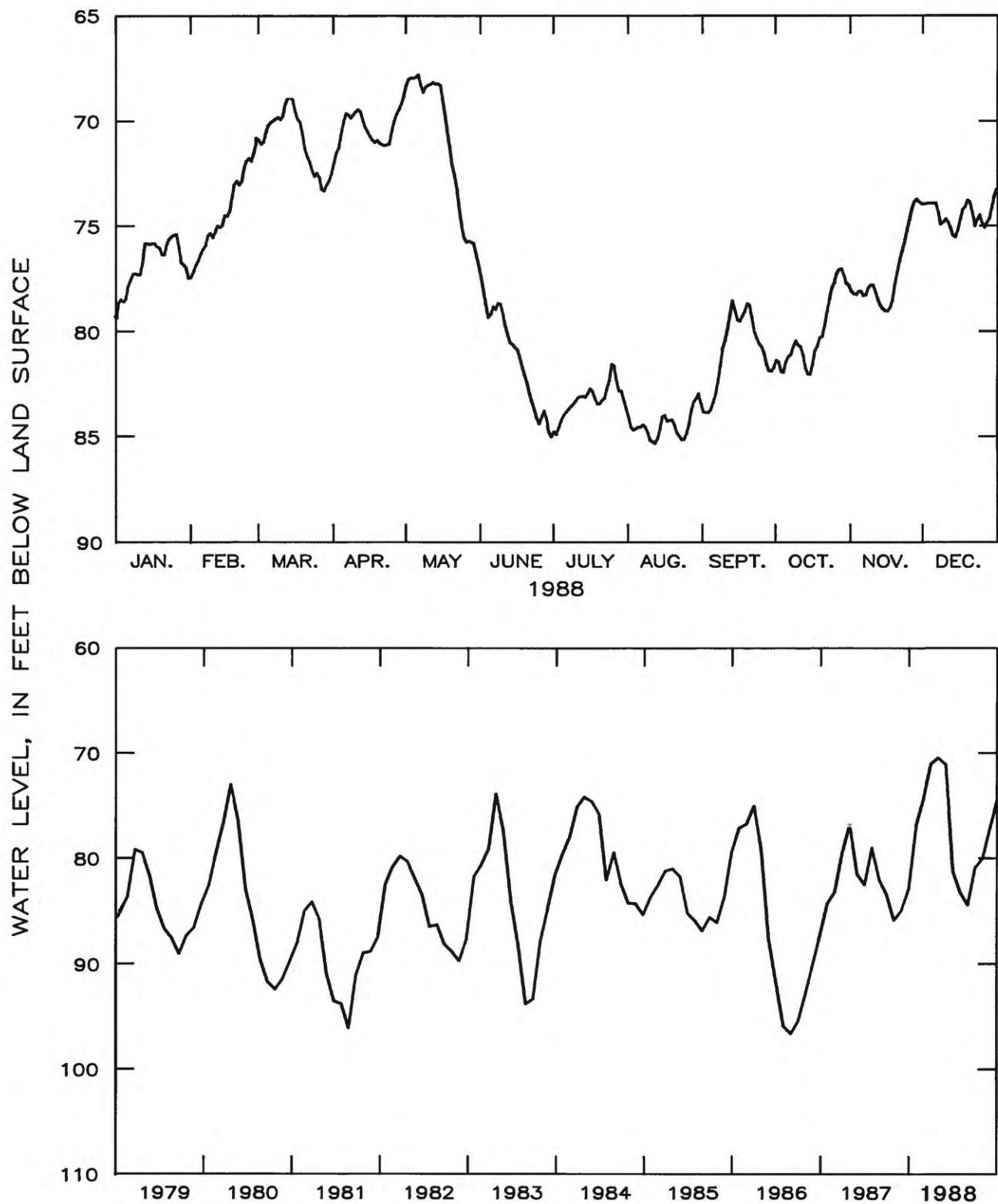


Figure 2.6-3.—Water level in observation well 12L019, Dougherty County.

## 13L011 TEST WELL 2 DOUGHERTY COUNTY

313105084064301 Local number, 13L011.

LOCATION.--Lat 31°31'05", long 84°06'43", Hydrologic Unit 03130008, about 6.5 mi southeast of Albany off U.S. Highway 19 on School Bus Road.

Owner: U.S. Geological Survey, test well 2.

AQUIFER.--Claiborne.

WELL CHARACTERISTICS.--Drilled observation well, depth 418 ft, cased to 398 ft.

DATUM.--Elevation of land-surface datum is 195 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Well pumped and redeveloped August 16, 1988; water sample collected August 31, 1988. Water levels for periods of missing record, January 17-28, March 31 to April 1, May 9-30, and July 7-8, were estimated.

PERIOD OF RECORD.--June 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 60.01 ft below land-surface datum, April 5, 1978; lowest, 95.00 ft below land-surface datum, August 9-11, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	80.23	76.66	74.51	72.68	71.60	74.75	77.72	78.03	80.62	77.17	75.11	76.11
2	80.08	76.73	74.43	72.54	71.47	75.03	77.52	77.93	80.74	77.03	75.06	75.91
3	79.82	76.66	74.45	72.38	71.54	75.28	77.31	78.03	80.63	76.82	75.09	75.66
4	79.64	76.62	74.45	72.41	71.59	75.66	77.10	78.12	80.35	76.70	75.32	75.39
5	79.65	76.67	74.56	72.53	71.73	76.01	76.95	78.18	80.00	76.68	75.58	75.23
6	79.60	76.64	74.37	72.65	71.68	76.17	76.92	78.20	79.80	76.77	75.91	75.04
7	79.37	76.52	74.19	72.74	71.79	76.12	76.89	78.39	79.73	76.80	76.25	74.98
8	79.10	76.22	74.02	72.69	72.18	76.20	76.86	78.52	79.65	76.69	76.44	75.22
9	78.86	76.05	73.81	72.65	72.19	76.15	76.87	78.62	79.41	76.51	76.80	75.39
10	78.78	75.91	73.64	72.79	72.15	75.95	76.83	78.76	79.23	76.33	77.17	75.42
11	78.76	75.75	73.61	72.82	72.10	75.87	76.78	78.78	79.14	76.15	77.41	75.33
12	78.70	75.66	73.61	72.84	72.01	75.73	76.84	78.93	79.17	76.05	77.49	75.17
13	78.63	75.54	73.70	72.90	71.95	75.49	76.95	79.13	79.16	75.98	77.68	74.96
14	78.65	75.42	73.77	73.07	71.92	75.26	77.10	79.13	79.28	75.98	77.74	74.86
15	78.58	75.26	73.83	73.18	72.10	75.22	77.04	79.02	79.33	76.14	77.62	74.90
16	78.46	75.15	73.74	73.03	72.11	75.38	76.93	79.36	79.19	76.20	77.59	75.08
17	78.35	75.10	73.62	72.79	72.21	75.60	77.15	79.28	78.97	76.25	77.67	75.22
18	78.24	75.08	73.38	72.53	72.51	75.96	77.60	79.21	78.73	76.13	77.58	75.15
19	78.15	74.84	73.25	72.27	72.77	76.32	78.00	79.23	78.58	75.94	77.39	74.96
20	78.02	74.59	73.29	72.27	72.79	76.64	78.27	79.15	78.63	75.77	77.26	74.78
21	77.90	74.51	73.31	72.35	72.86	76.98	78.42	79.19	78.66	75.59	77.05	74.67
22	77.77	74.50	73.31	72.52	72.98	77.33	78.30	79.36	78.58	75.46	76.87	74.64
23	77.68	74.39	73.46	72.64	73.17	77.70	78.12	79.40	78.39	75.34	76.78	74.46
24	77.57	74.42	73.59	72.62	73.23	78.05	78.10	79.48	78.16	75.21	76.67	74.25
25	77.49	74.48	73.72	72.39	73.35	78.44	78.24	79.88	77.91	75.24	76.44	74.24
26	77.36	74.55	73.79	72.16	73.44	78.69	78.33	80.35	77.70	75.40	76.14	74.34
27	77.27	74.51	73.69	72.11	73.61	78.72	78.43	80.50	77.56	75.48	75.93	74.25
28	77.12	74.56	73.45	72.12	73.77	78.58	78.39	80.38	77.49	75.54	76.10	74.25
29	77.00	74.56	73.19	71.93	73.93	78.36	78.33	80.24	77.45	75.52	76.29	74.51
30	76.86	---	72.97	71.75	74.18	78.03	78.29	80.20	77.31	75.39	76.24	74.57
31	76.72	---	72.83	---	74.42	---	78.16	80.48	---	75.23	---	74.63
MEAN	78.40	75.43	73.73	72.55	72.56	76.52	77.57	79.14	78.99	76.05	76.62	74.95
CAL YR 1988	MEAN	76.04		HIGH	71.47		LOW	80.74				

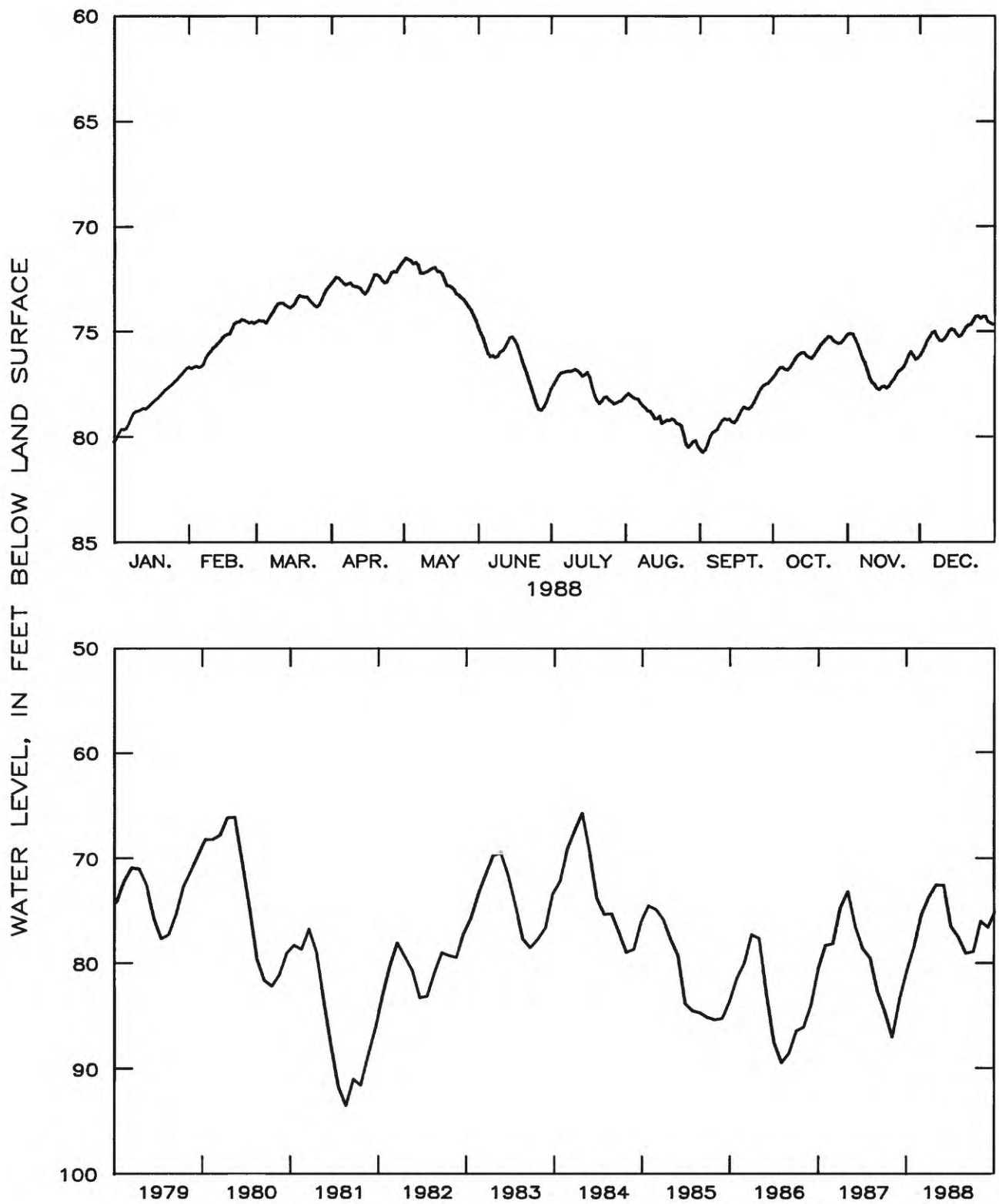


Figure 2.6—4.—Water level in observation well 13L011, Dougherty County.

## 2.7 Upper Floridan Aquifer

The Upper Floridan aquifer is part of the Floridan aquifer system, which is one of the most productive ground-water reservoirs in the United States. Regionally, the Floridan aquifer system has been divided by Miller (1986) into the Upper and the Lower Floridan aquifers. In Georgia, about 600 Mgal/d is pumped from the Upper Floridan aquifer, mostly for industrial use and for irrigation purposes (Pierce and Barber, 1982).

The Upper Floridan aquifer consists of a sequence of limestone and dolostone that underlies most of the Georgia Coastal Plain. Water in the Upper Floridan is under artesian pressure, except where rocks comprising the aquifer crop out at land surface. In some areas, the artesian pressure is sufficient to produce flowing wells.

In outcrop areas, the water level in the Upper Floridan aquifer fluctuates seasonally in response to recharge from precipitation. Near the coast where the aquifer is deeply buried, the water level responds primarily to pumping, thus fluctuations related to recharge are less pronounced.

In October 1988, water levels measured in 124 wells tapping the Upper Floridan aquifer in Glynn County and surrounding coastal counties and in 296 wells in the Albany area were used to construct two maps showing the configuration of the potentiometric surface.

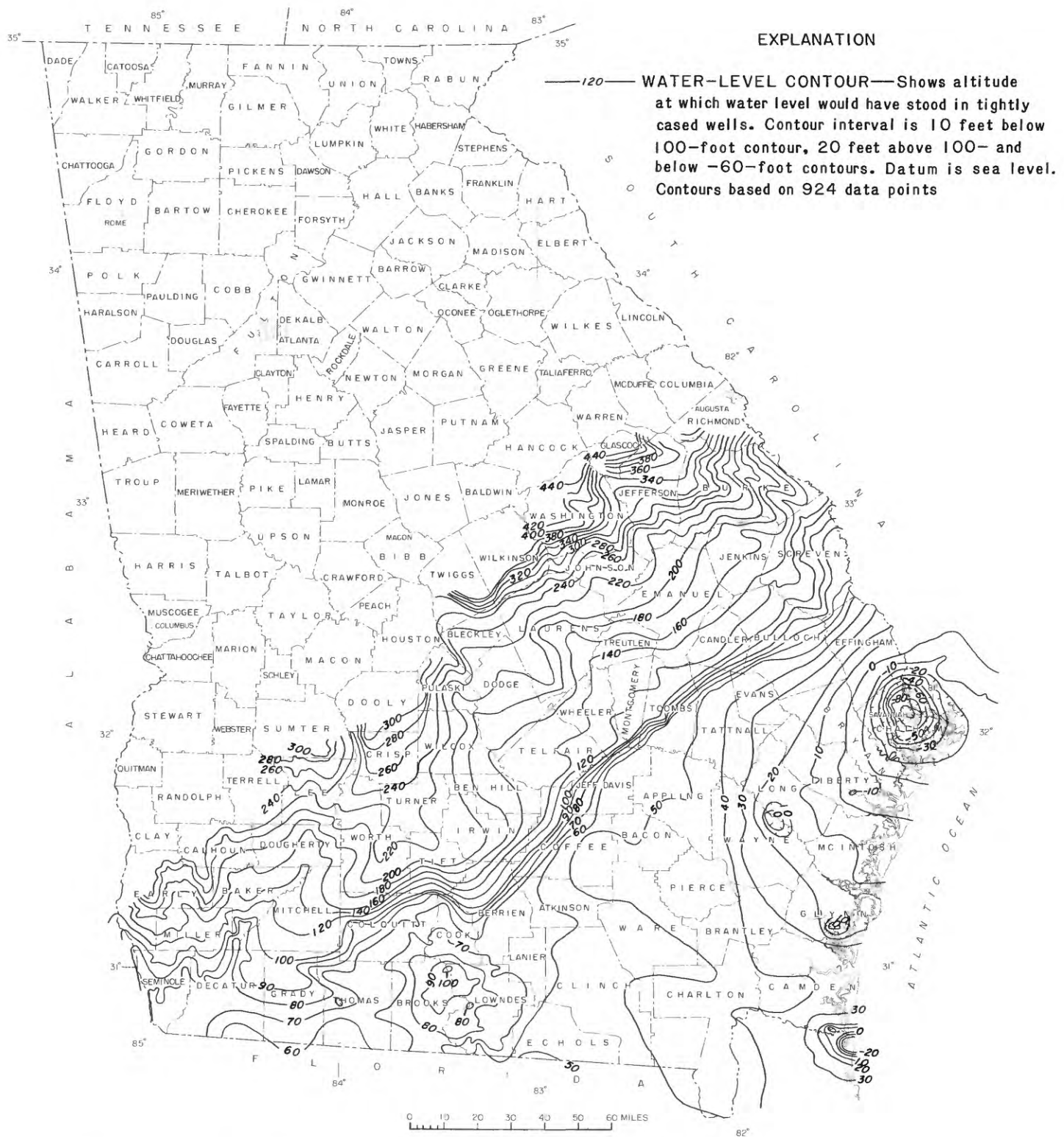


Figure 2.7-1.—Water level in the Floridan aquifer system, May 1985.

### 2.7.1 Southwest Area

The water level in the Upper Floridan aquifer in southwestern Georgia (Dougherty Plain area) responds to variations in rainfall, evapotranspiration, stream stage, and pumping. During 1985, an estimated 207 Mgal/d (Turlington and others, 1987) was withdrawn from aquifers in southwestern Georgia, much of which was from the Upper Floridan aquifer, primarily for irrigation. This large withdrawal, including the more than 2,250 Mgal/d that was pumped during the irrigation season (H.E. Gill, U.S. Geological Survey, written commun., 1981), has not produced a discernable cone of depression because wells in the area are widely separated, and the transmissivity of the aquifer is high. The large withdrawal also has not caused long-term water-level declines because pumping is seasonal and recharge is plentiful during periods of normal rainfall.

The annual mean water levels in eight wells tapping the Upper Floridan aquifer in the southwest area were from 0.9 to 7.3 ft lower in 1988 than in 1987. The water-level decline in these wells is attributed to an increase in regional pumping during spring and summer 1988 and below-normal precipitation during the last half of the year.





## 10G313 MEINDERS MITCHELL COUNTY

310507084262201 Local number, 10G313.

LOCATION.--Lat 31°05'07", long 84°26'22", Hydrologic Unit 03130008, 1.95 mi west of Vada off of Decatur-Mitchell County line road, on right.

Owner: Harvey Meinders.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Cable-tooled observation well, diameter 12 in., depth 250 ft, cased to 87 ft, open hole. DATUM.--Elevation of land-surface datum is 145 ft.

Measuring point: Floor of recorder shelter, 1.35 ft above land-surface datum.

REMARKS.--Water levels for period of missing record, April 12-13, were estimated.

PERIOD OF RECORD.--November 1961 to September 1968; April 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.98 ft below land-surface datum, April 9, 1984; lowest, 60.26 ft below land-surface datum, January 1, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	54.65	55.23	53.92	49.40	48.97	50.16	52.27	53.78	55.10	55.80	56.41	57.05
2	54.70	55.22	53.83	49.37	48.98	50.20	52.36	53.84	55.12	55.82	56.45	57.08
3	54.71	55.22	53.76	49.35	48.99	50.26	52.41	53.91	55.14	55.84	56.46	57.09
4	54.78	55.22	53.56	49.37	48.96	50.40	52.46	53.97	55.16	55.88	56.45	57.10
5	54.81	55.25	53.20	49.33	48.99	50.47	52.49	54.03	55.20	55.90	56.50	57.14
6	54.83	55.28	52.97	49.31	48.98	50.50	52.52	54.08	55.24	55.92	56.54	57.14
7	54.84	55.26	52.70	49.36	49.05	50.52	52.55	54.14	55.27	55.94	56.57	57.15
8	54.89	55.25	52.26	49.39	49.09	50.59	52.59	54.19	55.29	55.95	56.58	57.19
9	54.92	55.26	52.09	49.36	49.10	50.68	52.64	54.24	55.33	55.96	56.60	57.20
10	54.96	55.27	51.90	49.32	49.10	50.77	52.70	54.30	55.36	55.98	56.61	57.22
11	54.98	55.26	51.54	49.37	49.14	50.85	52.74	54.35	55.39	56.00	56.66	57.23
12	55.00	55.30	51.25	49.41	49.18	50.92	52.79	54.40	55.41	56.03	56.67	57.27
13	55.04	55.30	51.05	49.45	49.20	50.99	52.82	54.46	55.42	56.05	56.69	57.28
14	55.07	55.29	50.88	49.49	49.20	51.06	52.86	54.50	55.44	56.06	56.72	57.30
15	55.08	55.27	50.67	49.51	49.22	51.13	52.91	54.54	55.48	56.07	56.73	57.32
16	55.11	55.33	50.44	49.55	49.27	51.19	52.96	54.56	55.51	56.09	56.75	57.34
17	55.11	55.33	50.15	49.54	49.29	51.27	53.00	54.59	55.52	56.12	56.78	57.36
18	55.14	55.30	50.07	49.49	49.34	51.37	53.05	54.61	55.53	56.13	56.79	57.39
19	55.16	55.22	49.94	49.48	49.40	51.45	53.11	54.64	55.55	56.15	56.80	57.40
20	55.18	55.14	49.77	49.44	49.47	51.52	53.16	54.67	55.58	56.17	56.83	57.42
21	55.21	55.01	49.70	49.30	49.52	51.58	53.19	54.70	55.60	56.18	56.86	57.43
22	55.24	54.78	49.66	49.25	49.57	51.66	53.23	54.74	55.61	56.20	56.87	57.46
23	55.23	54.56	49.60	49.19	49.61	51.74	53.28	54.77	55.63	56.22	56.88	57.47
24	55.23	54.49	49.55	49.13	49.66	51.82	53.33	54.79	55.66	56.25	56.91	57.48
25	55.24	54.35	49.52	49.07	49.71	51.89	53.36	54.82	55.68	56.27	56.93	57.53
26	55.29	54.24	49.52	49.06	49.82	51.92	53.43	54.86	55.71	56.29	56.93	57.54
27	55.30	54.08	49.50	49.07	49.87	51.97	53.52	54.90	55.74	56.32	56.95	57.55
28	55.29	54.07	49.46	49.07	49.92	52.07	53.59	54.94	55.75	56.34	57.01	57.57
29	55.27	54.00	49.44	49.03	49.97	52.14	53.65	54.98	55.78	56.36	57.02	57.60
30	55.24	---	49.42	48.99	50.03	52.21	53.69	55.01	55.79	56.38	57.02	57.60
31	55.23	---	49.42	---	50.11	---	53.73	55.06	---	56.39	---	57.62
MEAN	55.06	54.99	50.99	49.32	49.38	51.18	52.98	54.50	55.47	56.10	56.73	57.34
CAL YR 1988	MEAN	53.67		HIGH	48.96		LOW	57.62				

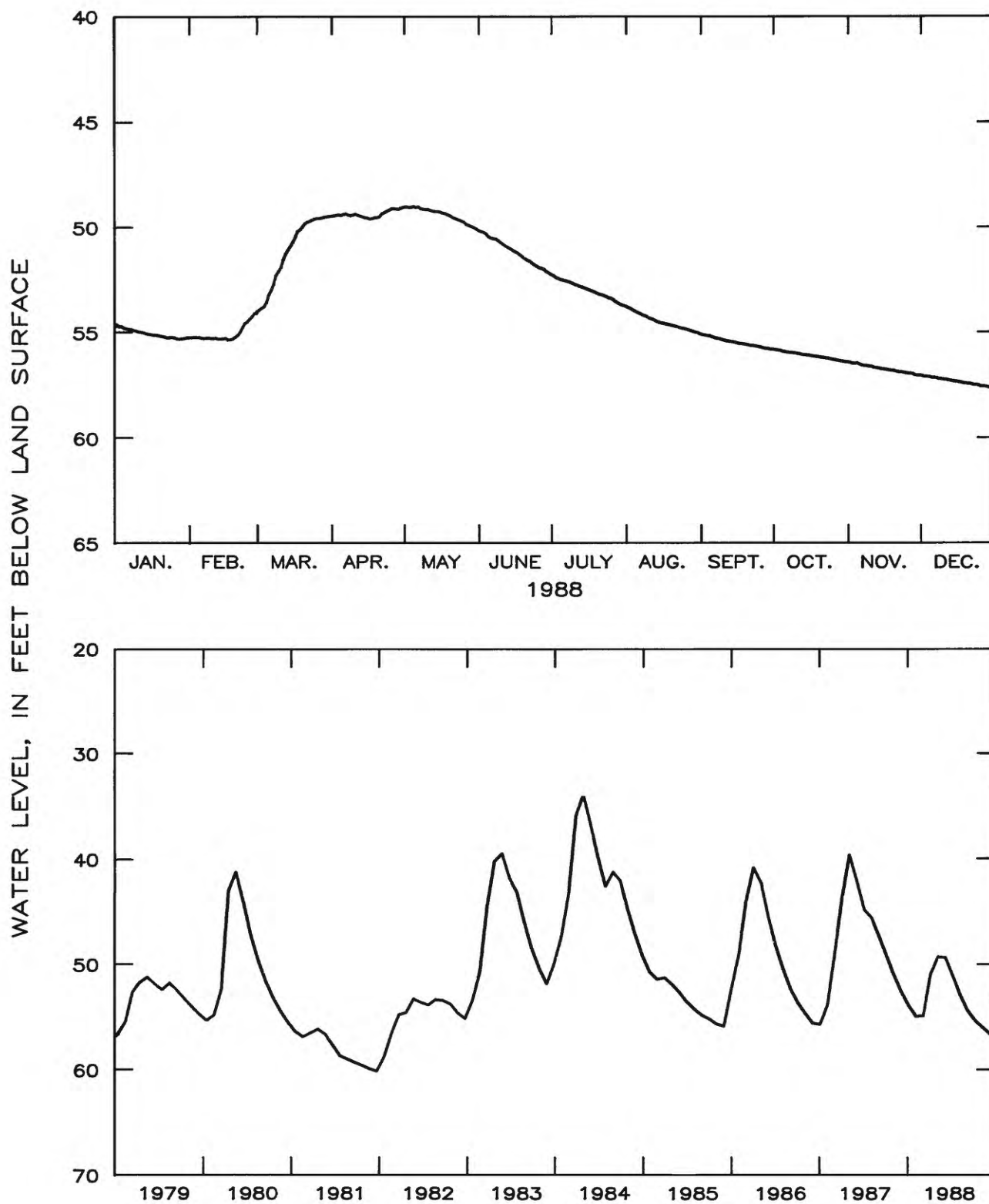


Figure 2.7.1-2.—Water level in observation well 10G313, Mitchell County.

## 09F520 BOLTON DECATUR COUNTY

305736084355801 Local number, 09F520.

LOCATION.--Lat 30°57'42", long 84°35'46", Hydrologic Unit 03130008, U.S. Highway 27 north of Bainbridge, right on dirt road near John Deere tractor dealership.

Owner: Graham Bolton.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Unused private irrigation well, diameter 12 in., depth 251 ft, cased to 130 ft, open hole. DATUM.--Elevation of land-surface datum is 128 ft.

Measuring point: Floor of recorder shelter, 3.50 ft above land-surface datum.

REMARKS.--This well is about 15 ft from pumped well.

PERIOD OF RECORD.--June 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.86 ft below land-surface datum, April 15, 1984; lowest, 54.78 ft below land-surface datum, August 20, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	48.65	48.25	46.99	45.10	45.00	49.60	48.73	48.63	48.54	47.97	48.09	48.58
2	48.67	48.27	46.96	45.09	47.36	49.94	48.70	48.56	48.53	47.96	48.11	48.60
3	48.66	48.29	46.94	45.07	47.82	49.97	48.67	48.47	48.52	47.94	48.12	48.59
4	48.68	48.32	46.89	45.05	49.00	49.62	48.65	48.42	48.51	47.93	48.12	48.59
5	48.68	48.37	46.76	45.07	45.24	50.86	48.61	48.40	48.50	47.89	48.16	48.61
6	48.66	48.40	46.54	45.08	48.51	51.21	48.59	48.39	48.48	47.85	48.20	48.62
7	48.63	48.38	46.40	45.05	47.64	48.50	48.58	48.41	48.47	47.81	48.23	48.63
8	48.63	48.35	46.24	47.32	45.46	49.09	48.57	48.43	48.45	47.77	49.40	48.66
9	48.62	48.33	46.04	47.70	45.44	48.61	48.59	48.45	48.44	47.74	51.05	48.68
10	48.62	48.31	46.01	45.17	49.77	51.36	48.69	48.44	48.40	47.72	48.29	48.68
11	48.62	48.28	45.93	45.12	46.47	47.40	48.68	48.43	48.33	47.73	48.30	48.69
12	48.63	48.28	45.80	45.14	47.56	47.45	48.65	48.45	48.26	47.75	48.30	48.73
13	48.64	48.26	45.69	45.18	51.35	49.68	48.63	48.47	48.19	47.77	48.31	48.73
14	48.65	48.23	45.63	45.21	47.85	53.82	48.61	48.45	48.14	47.76	48.33	48.75
15	48.65	48.22	45.58	45.22	46.52	50.19	48.60	48.44	48.13	47.76	48.34	48.76
16	48.66	48.28	45.52	45.25	47.72	49.92	48.64	48.40	48.10	47.76	48.35	48.77
17	48.64	48.30	45.45	45.26	49.12	50.82	50.61	48.36	48.07	47.77	48.38	48.80
18	48.66	48.28	45.36	45.23	46.14	47.87	52.31	48.32	48.03	47.78	48.39	48.81
19	48.67	48.18	45.38	45.23	48.40	49.87	48.87	48.30	48.27	47.79	48.39	48.83
20	48.66	48.06	45.35	45.22	49.09	54.27	48.91	48.31	49.06	47.82	48.41	48.84
21	48.64	47.88	45.31	45.14	46.10	51.06	48.91	48.34	48.00	47.83	48.44	48.86
22	48.61	47.65	45.30	45.10	46.15	48.00	48.87	48.33	47.97	47.84	48.45	48.88
23	48.55	47.46	48.43	45.06	49.41	50.19	48.85	48.41	47.97	47.86	48.47	48.88
24	48.49	47.38	45.29	45.02	51.52	50.31	48.84	48.51	47.99	47.88	48.49	48.90
25	48.45	47.26	45.24	44.98	48.89	49.07	48.80	48.51	48.00	47.93	48.50	48.93
26	48.44	47.16	45.22	44.97	50.76	49.71	48.78	48.56	48.01	47.95	48.50	48.94
27	48.40	47.06	45.22	46.68	47.50	54.39	48.63	48.62	48.01	47.98	48.51	48.95
28	48.34	47.04	45.19	48.15	46.60	51.27	48.50	48.57	47.99	48.01	48.56	48.98
29	48.28	47.00	45.16	45.10	48.31	50.22	48.53	48.53	48.00	48.03	48.56	48.99
30	48.24	---	45.14	45.06	52.99	52.12	48.58	48.79	47.99	48.05	48.56	49.00
31	48.24	---	45.36	---	49.85	---	48.60	48.54	---	48.32	---	49.01
MEAN	48.57	47.98	45.88	45.43	48.05	50.21	48.86	48.46	48.25	47.87	48.48	48.78
CAL YR 1988	MEAN	48.07		HIGH	44.97		LOW	54.39				

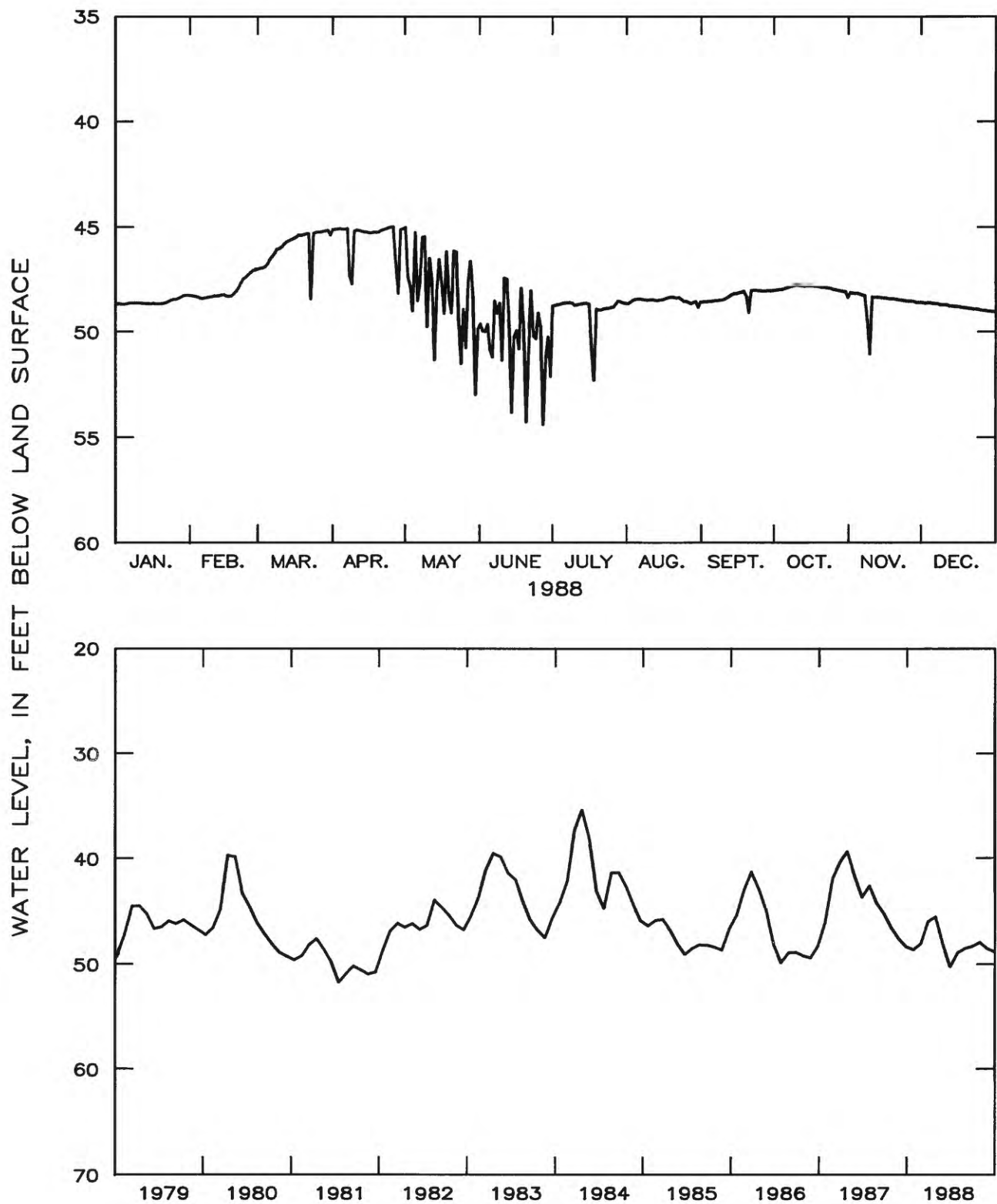


Figure 2.7.1-3.—Water level in observation well 09F520, Decatur County.

## 08G001 FLEET MILLER COUNTY

310651084404501 Local number, 08G001.

LOCATION.--Lat 31°06'51", long 84°40'45", Hydrologic Unit 03130010, 1 mi northeast of Boykin, Ga.

Owner: Jack Fleet.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused irrigation well, diameter 12 in., depth 255 ft, cased to 130 ft, open hole.

DATUM.--Elevation of land-surface datum is 150 ft.

Measuring point: Top front edge of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--None.

PERIOD OF RECORD.--February 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.18 ft below land-surface datum, April 11, 1984; lowest, 43.88 ft below land-surface datum, July 17, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	39.97	35.21	22.97	21.24	23.29	36.03	40.00	37.23	40.53	38.76	40.36	40.83
2	39.99	35.24	23.52	21.43	23.57	35.75	40.13	38.61	40.48	38.73	40.34	40.85
3	39.98	35.31	23.98	21.59	24.45	36.18	39.65	38.91	40.30	38.74	40.34	40.85
4	39.92	35.38	23.49	21.76	25.98	36.43	38.58	38.89	40.21	38.81	40.31	40.85
5	39.78	35.60	19.97	22.00	27.36	36.31	37.21	39.24	40.07	38.87	40.31	40.88
6	39.60	35.73	17.68	22.16	27.50	35.83	36.47	39.56	39.77	38.93	40.35	40.91
7	39.39	35.77	16.97	22.31	27.74	35.82	36.17	39.49	39.42	38.95	40.39	40.91
8	39.22	35.69	16.83	22.56	29.02	35.53	36.08	39.20	39.06	38.95	40.41	40.92
9	39.08	35.70	16.79	22.84	29.16	35.25	36.07	39.10	38.76	38.95	40.43	40.94
10	38.95	35.75	16.93	23.06	28.88	34.80	36.41	39.12	38.56	38.97	40.44	40.96
11	38.83	35.79	17.04	23.19	28.64	36.37	36.65	39.73	38.36	38.99	40.46	40.97
12	38.71	35.91	16.98	23.42	28.79	36.98	36.44	40.09	38.08	39.06	40.49	40.99
13	38.60	36.04	16.94	23.75	28.69	37.38	36.40	40.07	37.74	39.13	40.51	41.01
14	38.55	36.07	17.03	24.00	30.37	37.71	36.59	39.95	37.46	39.17	40.54	41.03
15	38.46	35.97	17.20	24.21	31.20	37.92	36.51	39.84	37.35	39.19	40.65	41.04
16	38.41	36.24	17.38	24.43	31.42	38.12	36.50	39.64	37.34	39.22	41.20	41.05
17	38.31	36.35	17.54	24.61	31.00	38.64	36.52	39.44	37.32	39.27	41.54	41.06
18	38.25	36.30	17.64	24.68	30.19	39.15	37.14	39.26	37.31	39.56	41.57	41.08
19	38.20	35.51	17.94	24.58	30.29	39.53	37.47	39.13	37.37	40.17	41.36	41.09
20	38.08	32.77	18.24	24.06	31.30	39.80	37.83	39.07	37.49	40.63	41.15	41.10
21	37.86	27.10	18.47	23.35	32.04	39.77	37.08	39.06	37.57	40.92	41.03	41.12
22	37.55	22.31	18.76	23.11	33.57	39.56	36.56	39.04	37.64	41.05	40.95	41.14
23	37.07	20.43	19.06	22.55	33.19	39.19	36.37	39.03	37.73	40.86	40.89	41.16
24	36.54	20.15	19.32	22.28	32.72	39.34	36.31	39.08	37.84	40.52	40.86	41.16
25	36.03	20.34	19.60	22.24	32.44	39.63	36.30	39.17	38.10	40.35	40.84	41.18
26	35.87	20.72	19.86	22.29	32.96	39.80	36.50	39.25	38.60	40.43	40.81	41.20
27	35.73	21.09	20.14	22.49	33.31	39.82	36.67	39.45	38.69	40.55	40.80	41.22
28	35.55	21.69	20.39	22.72	34.88	39.90	36.63	40.12	38.90	40.67	40.82	41.24
29	35.37	22.32	20.59	22.93	36.25	39.88	36.67	40.37	39.05	40.65	40.83	41.26
30	35.23	---	20.80	23.11	36.23	39.72	36.97	40.33	38.86	40.51	40.82	41.27
31	35.20	---	21.01	---	35.89	---	36.92	40.43	---	40.42	---	41.28
MEAN	38.01	31.33	19.07	22.97	30.40	37.87	37.03	39.38	38.53	39.68	40.73	41.05
CAL YR 1988	MEAN	34.68		HIGH	16.79		LOW	41.57				

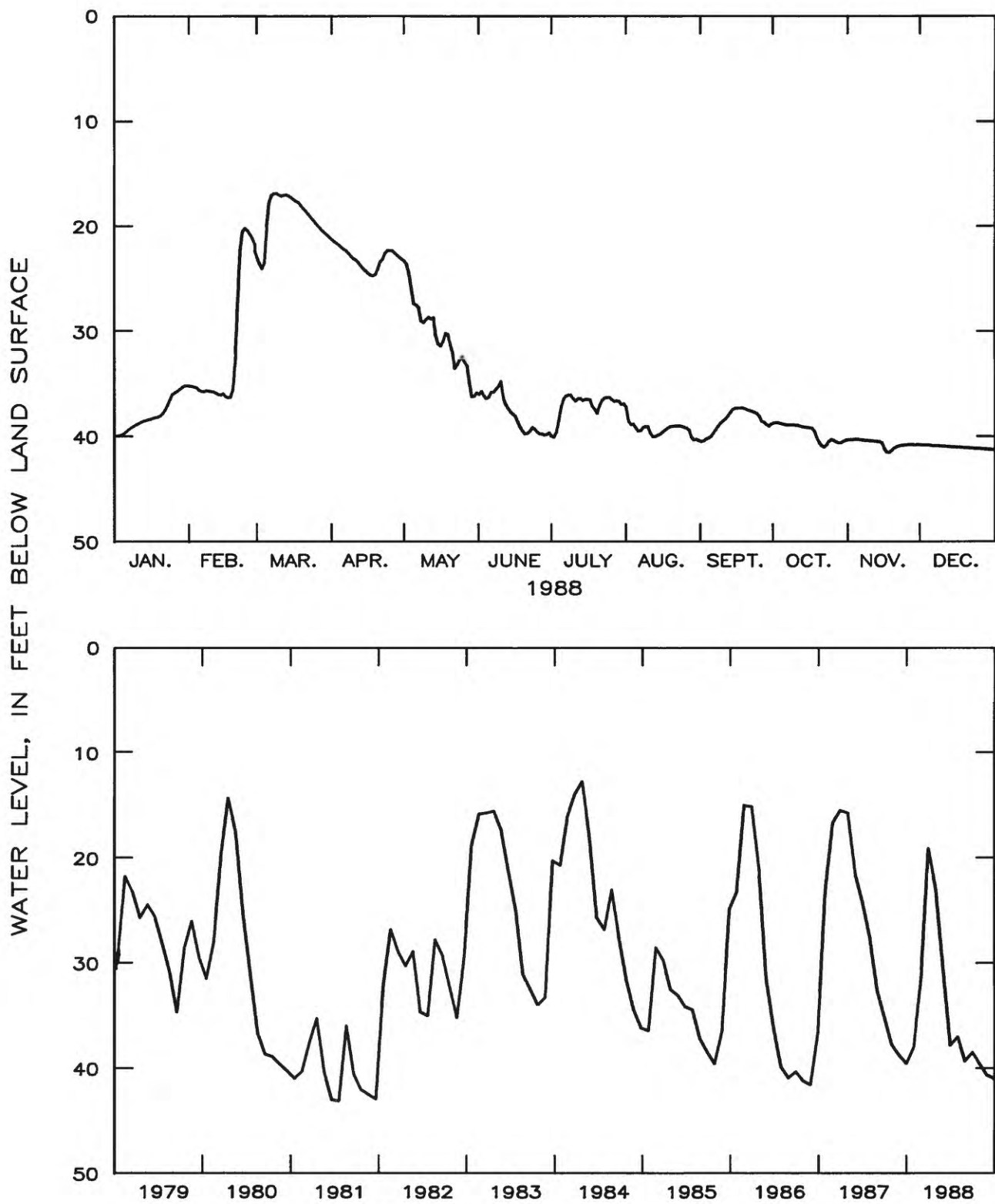


Figure 2.7.1-4.—Water level in observation well 08G001, Miller County.

## 06F001 RODDENBERY FARMS TW 1 SEMINOLE COUNTY

305356084534601 Local number, 06F001.

LOCATION.--Lat 30°54'01", long 84°53'40", Hydrologic Unit 03130004, 9.8 mi south of Donalsonville, 0.85 mi west of Georgia Highway 39.

Owner: Roddenbery Company.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 150 ft, cased to 98.5 ft, open hole. DATUM.--Elevation of land-surface datum is 110 ft.

Measuring point: Top front edge of recorder shelter, 3.14 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted August 10, 1983.

PERIOD OF RECORD.--March 1979 to July 1982, August 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.13 ft below land-surface datum, March 8, 1984; lowest, 35.65 ft below land-surface datum, October 5, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	33.57	29.64	15.72	15.25	20.26	31.33	32.92	29.96	33.49	32.87	32.69	33.57
2	33.57	29.70	16.33	15.54	20.74	31.07	32.88	30.13	33.61	32.34	32.89	33.61
3	33.41	29.78	16.79	15.78	21.32	31.89	31.97	30.47	33.65	31.97	32.82	33.60
4	33.21	29.84	13.52	16.07	21.72	31.83	29.63	30.62	33.52	30.98	32.75	33.59
5	33.14	30.07	9.21	16.44	23.22	31.34	27.83	30.81	33.37	30.57	32.77	33.62
6	33.04	30.20	8.55	16.65	23.38	31.08	26.86	31.00	33.34	30.44	32.89	33.63
7	32.91	30.22	8.65	16.92	24.12	30.96	26.61	31.13	33.34	30.42	32.96	33.63
8	32.85	30.13	8.90	17.30	23.40	30.92	26.74	31.23	33.33	30.44	33.01	33.67
9	32.81	30.09	8.75	17.70	23.47	30.92	27.07	31.34	33.30	30.68	33.04	33.69
10	32.77	30.10	8.63	17.96	23.72	30.92	27.46	31.41	33.02	31.32	33.05	33.70
11	32.73	30.09	8.89	18.14	24.37	30.92	26.01	31.71	32.88	31.48	33.10	33.70
12	32.68	30.16	9.07	18.47	25.63	30.95	23.35	32.17	32.96	31.23	33.13	33.75
13	32.64	30.23	9.32	18.96	26.01	31.16	22.19	32.22	33.01	31.75	33.15	33.77
14	32.67	30.24	9.73	19.31	25.52	31.34	22.07	32.17	32.98	32.18	33.19	33.79
15	32.61	30.09	10.24	19.62	25.54	31.27	22.43	32.19	33.23	31.68	33.21	33.81
16	32.59	30.31	10.70	20.12	25.61	31.34	22.99	32.21	33.00	31.59	33.25	33.82
17	32.51	30.41	11.09	20.53	25.82	31.49	23.55	32.26	32.91	31.74	33.32	33.85
18	32.47	30.16	11.30	20.71	26.44	31.66	24.09	32.39	31.55	32.06	33.35	33.88
19	32.31	24.11	11.82	18.40	28.28	31.78	24.71	32.75	31.01	31.96	33.36	33.89
20	31.83	16.93	12.33	17.19	28.51	31.82	25.32	32.79	30.98	32.09	33.38	33.91
21	30.92	12.10	12.72	16.91	27.79	31.84	25.83	32.83	31.16	31.98	33.39	33.91
22	30.49	11.12	13.13	17.11	27.71	31.90	26.34	32.83	31.25	32.04	33.38	33.93
23	30.05	11.10	13.54	18.03	27.94	32.01	26.77	32.91	31.58	32.16	33.39	33.93
24	29.72	11.61	13.89	17.83	28.81	32.13	27.15	33.16	31.40	32.70	33.44	33.93
25	29.49	12.32	14.21	18.41	29.03	32.26	27.45	32.86	31.44	32.43	33.48	33.97
26	29.66	13.05	14.27	18.59	29.14	32.41	27.81	32.84	31.57	32.47	33.45	34.01
27	29.79	13.56	14.25	19.13	29.54	32.49	27.84	32.89	31.97	32.52	33.47	34.01
28	29.81	14.25	14.40	19.34	30.42	32.68	28.86	32.92	32.01	32.69	33.51	34.02
29	29.74	14.97	14.56	19.85	30.53	32.81	29.58	32.96	32.03	32.64	33.53	34.06
30	29.63	---	14.77	20.38	30.20	32.89	29.76	33.24	32.68	32.65	33.52	34.06
31	29.59	---	14.99	---	31.24	---	29.86	33.27	---	32.67	---	34.04
MEAN	31.78	24.02	12.07	18.09	26.11	31.65	26.90	32.05	32.52	31.83	33.20	33.82
CAL YR 1988	MEAN	27.85		HIGH	8.55		LOW	34.06				



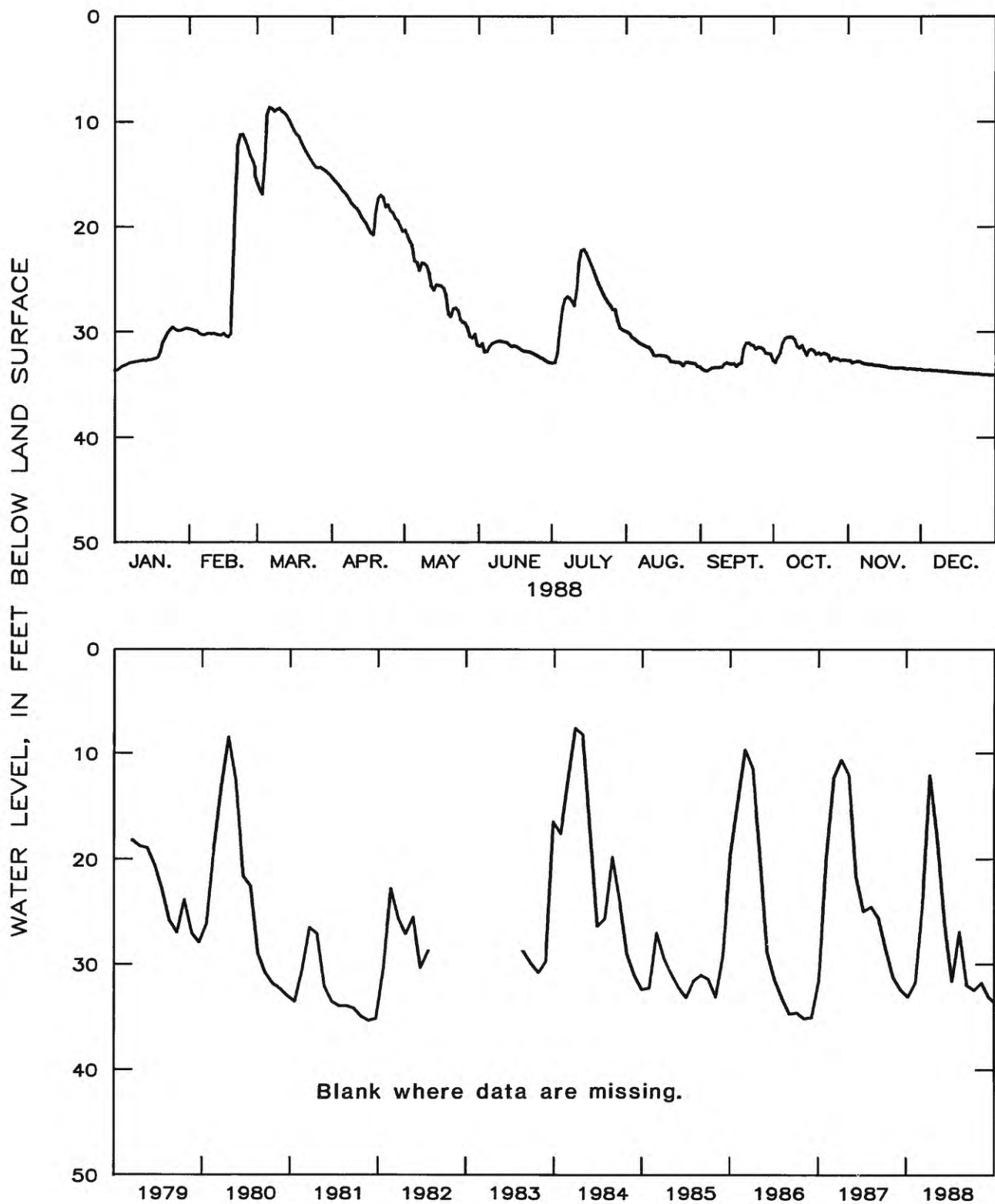
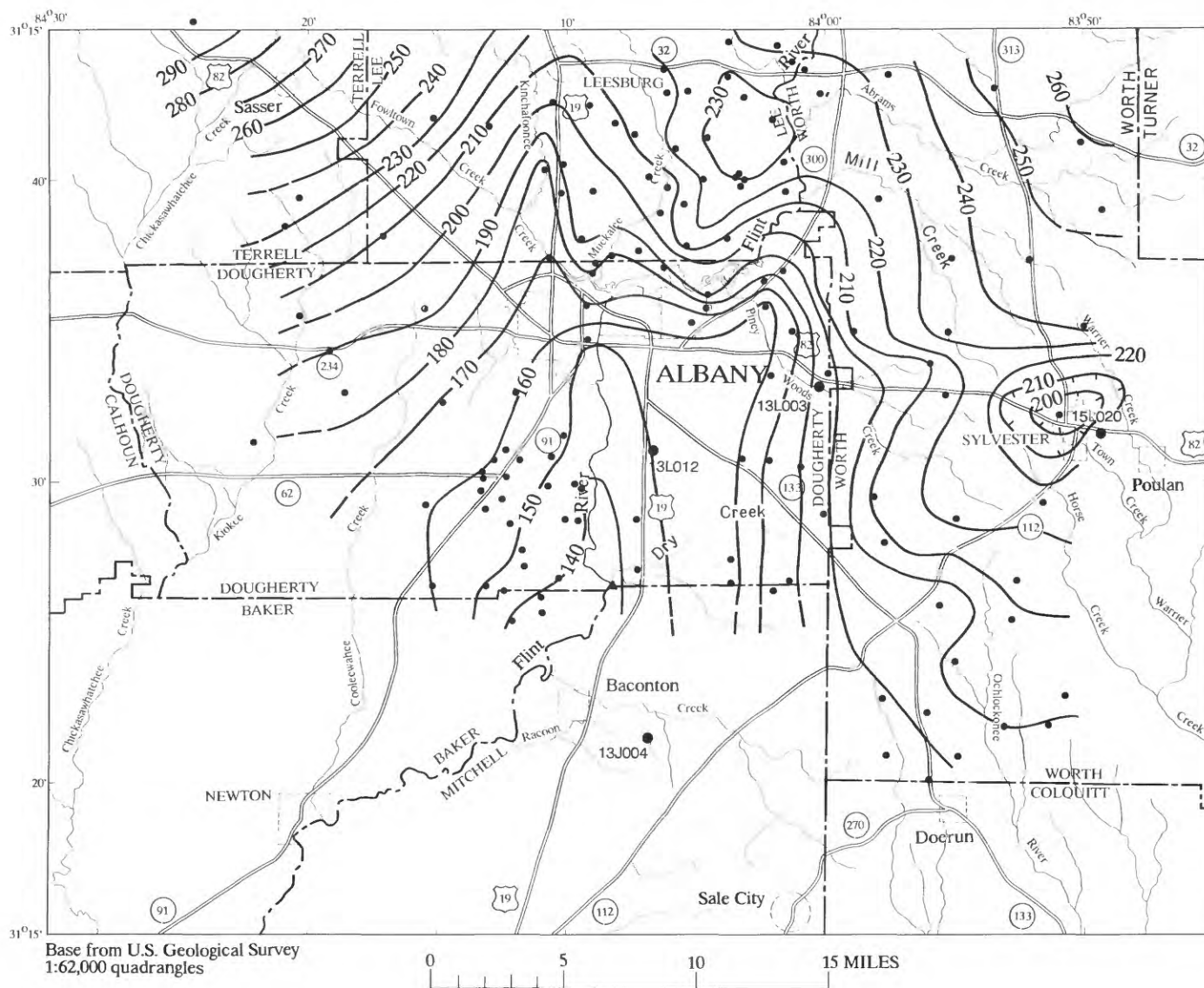


Figure 2.7.1-5—Water level in observation well 06F001, Seminole County.

#### 2.7.1.1 Albany Area

The water level in the Upper Floridan aquifer in the Albany area responds to variations in rainfall, evapotranspiration, stream stage, and pumping. During November 1988, water levels were measured in 296 wells tapping the Upper Floridan aquifer in the Albany area, and a map showing the potentiometric surface was constructed. A cone of depression centered at Sylvester was produced by pumping in the area.

The annual mean water levels in five wells tapping the Upper Floridan aquifer in the Albany area were from 0.9 to 3.4 ft lower in 1988 than in 1987. Below-normal rainfall during the last half of 1987 decreased the amount of recharge available to the aquifer and resulted in a lower mean water level in 1988.



#### EXPLANATION

—140— WATER-LEVEL CONTOUR—Shows altitude at which water level would have stood in tightly case wells. Dashed where approximately located. Contour interval 10 feet. Datum is sea level

13J004 ● WELL AND IDENTIFICATION NUMBER FOR WHICH HYDROGRAPH IS INCLUDED IN THIS REPORT

• DATA POINT

Figure 2.7.1.1-1.—Observation well locations and the water level in the Upper Floridan aquifer in the Albany area, November 1988.

## 13L003 ALBANY-DOUGHERTY COUNTY DOUGHERTY COUNTY

313748084002901 Local number, 13L003.

LOCATION.--Lat 31°33'13", long 84°00'21", Hydrologic Unit 03130008, near northeast corner of Marine Corps Supply Center, Acree, Ga.

Owner: City of Albany and Dougherty County.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused supply well, diameter 6 in., depth 259 ft, cased to 206 ft, open hole.

DATUM.--Elevation of land-surface datum is 225 ft.

Measuring point: Floor of recorder shelter, 4.10 ft above land-surface datum.

REMARKS.--Well pumped and sounded June 21, 1978; water-quality sample collected at conclusion of pumping.

Borehole geophysical survey conducted March 17, 1977.

PERIOD OF RECORD.--January 1963 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.41 ft below land-surface datum, April 2, 1965; lowest, 44.89 ft below land-surface datum, December 13, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	39.95	38.53	36.21	33.34	31.48	34.08	35.62	37.48	38.69	39.04	39.95	40.85
2	39.98	38.67	36.17	33.37	31.53	34.01	35.69	37.43	38.71	38.97	40.01	40.93
3	39.84	38.61	36.08	33.35	31.56	34.15	35.71	37.34	38.67	38.94	40.05	40.93
4	39.84	38.58	35.86	33.35	31.55	34.27	35.77	37.35	38.65	39.02	39.97	40.96
5	39.87	38.64	35.63	33.42	31.62	34.34	35.83	37.37	38.60	39.04	40.01	41.04
6	39.84	38.64	35.29	33.34	31.63	34.39	35.91	37.43	38.61	39.03	40.14	41.04
7	39.73	38.59	35.10	33.32	31.78	34.19	36.01	37.52	38.65	39.04	40.21	41.05
8	39.70	38.43	34.91	33.47	31.87	34.07	35.96	37.64	38.60	39.02	40.18	41.13
9	39.83	38.38	34.44	33.59	31.92	34.15	35.99	37.75	38.59	39.03	40.15	41.15
10	39.94	38.38	34.12	33.56	31.97	34.29	36.05	37.92	38.53	39.08	40.16	41.18
11	40.00	38.28	34.14	33.49	31.99	34.43	36.10	37.88	38.51	39.11	40.23	41.14
12	40.03	38.31	33.80	33.54	32.05	34.55	36.12	37.97	38.49	39.23	40.25	41.20
13	40.03	38.36	33.52	33.69	32.10	34.53	36.15	38.08	38.39	39.32	40.26	41.13
14	40.05	38.36	33.49	33.75	32.09	34.64	36.19	38.20	38.37	39.34	40.31	41.16
15	39.97	38.24	33.61	33.77	32.11	34.76	36.23	38.10	38.44	39.34	40.34	41.22
16	39.97	38.47	33.63	33.82	32.23	34.93	36.24	38.06	38.52	39.39	40.37	41.27
17	39.92	38.51	33.56	33.78	32.42	35.03	36.28	38.06	38.50	39.44	40.44	41.34
18	39.85	38.43	33.33	33.67	32.48	35.23	36.36	38.06	38.52	39.43	40.47	41.41
19	39.55	38.12	33.42	33.44	32.57	35.24	36.61	38.12	38.56	39.45	40.45	41.42
20	39.22	37.90	33.54	33.20	32.72	35.27	36.77	38.16	38.63	39.56	40.49	41.43
21	39.03	37.59	33.49	32.80	32.90	35.44	36.76	38.24	38.63	39.58	40.59	41.43
22	38.96	37.21	33.51	32.60	32.98	35.51	36.80	38.34	38.61	39.59	40.58	41.49
23	38.81	36.77	33.54	32.48	33.07	35.63	36.86	38.44	38.65	39.61	40.54	41.49
24	38.61	36.63	33.49	32.34	33.13	35.69	36.90	38.50	38.72	39.65	40.59	41.50
25	38.53	36.52	33.43	32.22	33.15	35.88	36.97	38.55	38.73	39.74	40.59	41.57
26	38.51	36.40	33.38	32.02	33.39	35.65	37.15	38.49	38.78	39.76	40.57	41.63
27	38.48	36.18	33.39	31.94	33.64	35.56	37.35	38.53	38.88	39.81	40.63	41.61
28	38.53	36.19	33.42	31.83	33.74	35.61	37.37	38.51	38.93	39.85	40.82	41.59
29	38.50	36.17	33.36	31.70	33.67	35.59	37.39	38.52	39.02	39.87	40.83	41.66
30	38.56	---	33.33	31.56	33.72	35.56	37.40	38.54	39.08	39.90	40.79	41.66
31	38.62	---	33.32	---	33.88	---	37.43	38.61	---	39.93	---	41.68
MEAN	39.43	37.87	34.11	33.06	32.48	34.89	36.45	38.04	38.64	39.39	40.37	41.30
CAL YR 1988	MEAN	37.17		HIGH	31.48		LOW	41.68				

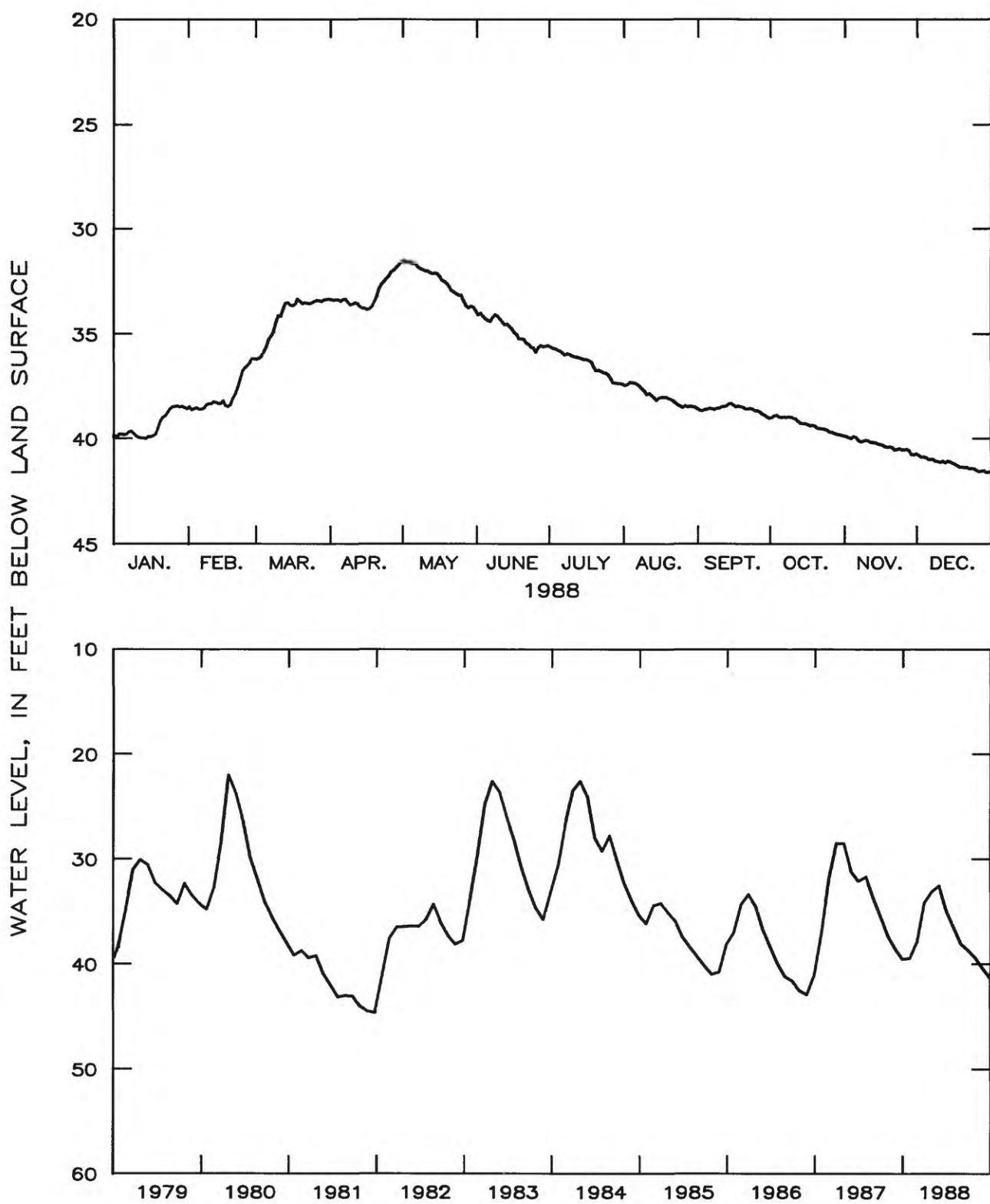


Figure 2.7.1.1-2.—Water level in observation well 13L003, Dougherty County.

## 13L012 TEST WELL 3 DOUGHERTY COUNTY

313105084064302 Local number, 13L012.

LOCATION.--Lat 31°31'05", long 84°06'43", Hydrologic Unit 03130008, about 6.5 mi southeast of Albany, off U.S. Highway 19 on School Bus Road.

Owner: U.S. Geological Survey, test well 3.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 218 ft, cased to 54 ft.

DATUM.--Elevation of land-surface datum is 195 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Well pumped and redeveloped August 17, 1988; water sample collected August 30, 1988. Water levels for periods of missing record, January 15, 18, 20, 24-25, 28, February 7-8, 11, and April 27, were estimated.

PERIOD OF RECORD.--June 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.92 ft below land-surface datum, March 2, 1979; lowest, 48.18 ft below land-surface datum, July 1, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	44.94	42.66	40.64	39.97	38.90	43.27	44.10	45.47	45.20	44.40	44.69	44.61
2	44.87	42.61	40.75	40.05	39.32	43.39	44.12	45.10	45.21	44.10	44.67	44.79
3	43.98	42.17	40.77	40.11	39.59	43.24	44.09	44.80	45.18	44.06	44.74	44.93
4	43.98	42.12	39.58	40.25	40.12	43.30	44.03	44.88	45.10	44.01	44.67	44.99
5	44.02	42.02	38.67	40.30	40.38	43.29	44.04	44.97	44.88	43.81	44.59	45.07
6	44.24	41.79	38.46	40.36	40.42	43.32	44.06	45.03	44.85	43.84	44.52	45.05
7	43.51	41.73	38.38	40.59	40.49	41.82	44.07	45.19	44.72	43.92	44.61	45.10
8	43.72	41.68	38.71	40.83	40.64	41.93	44.17	45.58	44.64	43.89	44.28	45.17
9	44.04	41.62	38.09	40.88	40.87	42.27	44.19	45.55	44.40	43.94	44.28	45.18
10	44.45	41.57	37.42	40.89	41.05	42.45	44.16	45.47	44.11	44.08	44.36	45.10
11	44.62	41.52	37.21	40.96	40.53	42.55	44.15	45.49	44.18	44.10	44.51	44.90
12	44.65	41.46	37.19	40.43	40.62	42.67	43.98	45.58	44.11	44.19	44.41	44.83
13	44.32	41.57	37.42	40.49	40.82	42.93	44.00	45.64	43.68	44.24	44.50	44.43
14	44.11	41.79	37.93	40.68	40.84	43.28	44.06	45.60	43.74	44.36	44.56	44.49
15	43.95	41.93	38.40	40.69	40.88	43.45	44.02	45.49	43.90	44.46	44.58	44.75
16	43.79	41.92	38.67	40.68	41.53	43.65	43.89	45.32	44.02	44.61	44.60	44.93
17	43.90	42.05	38.74	40.67	41.76	43.79	43.98	45.26	43.97	44.61	44.64	44.97
18	42.70	42.05	39.02	40.81	42.09	43.94	44.15	45.32	44.15	44.43	44.63	45.00
19	41.51	41.05	39.03	39.32	42.27	43.93	44.50	45.53	44.22	44.46	44.67	44.97
20	41.39	40.15	39.33	38.77	42.29	44.25	44.69	45.59	44.16	44.55	44.76	44.90
21	41.27	39.00	39.47	38.46	42.27	44.63	44.94	45.61	44.03	44.55	44.80	44.95
22	41.40	39.05	39.57	38.66	42.18	44.67	44.95	45.81	43.99	44.56	44.65	45.00
23	41.32	38.63	39.69	38.83	42.53	44.70	44.82	45.94	44.14	44.53	44.57	45.04
24	40.73	38.98	39.79	38.93	42.67	44.85	44.75	45.80	44.23	44.56	44.51	45.05
25	40.15	39.57	39.85	38.76	42.72	44.79	44.92	45.47	43.99	44.52	44.47	45.04
26	39.56	39.82	39.62	38.18	43.03	44.26	45.13	45.36	44.24	44.59	44.51	45.14
27	40.31	40.14	39.33	38.12	43.17	44.15	45.55	45.39	44.51	44.62	44.66	45.03
28	41.20	40.30	39.55	38.05	42.88	44.15	45.63	45.09	44.67	44.58	44.80	44.89
29	42.09	40.47	39.64	38.39	42.80	44.10	45.60	45.14	44.93	44.51	44.63	44.93
30	42.37	---	39.73	38.62	42.91	44.07	45.58	45.17	45.00	44.66	44.63	45.02
31	42.56	---	39.95	---	43.13	---	45.56	45.18	---	44.68	---	45.00
MEAN	42.89	41.08	39.05	39.76	41.47	43.57	44.51	45.38	44.41	44.34	44.58	44.94
CAL YR 1988	MEAN	43.01		HIGH	37.19		LOW	45.94				

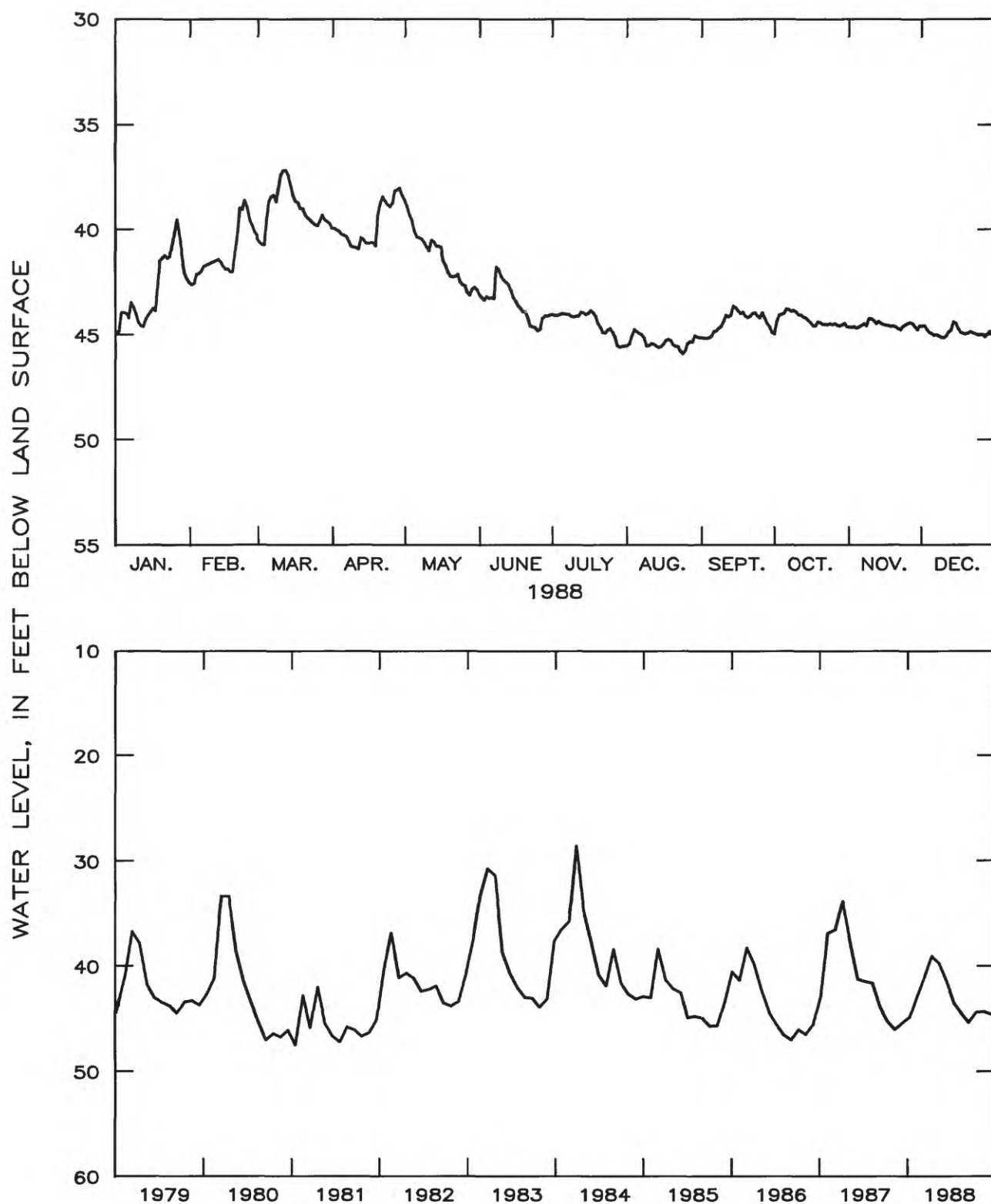


Figure 2.7.1.1-3—Water level in observation well 13L012, Dougherty County.



## 13J004 WRIGHT MITCHELL COUNTY

312127084065801 Local number, 13J004.

LOCATION.--Lat 31°21'27", long 84°06'58", Hydrologic Unit 03130008, 2.7 mi north of intersection of U.S. Highway 19 and Georgia Highway 112, 0.7 mi west of Stagecoach Road.

Owner: Henry Wright.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 12 in., depth 208 ft, cased to 77 ft, open hole.

DATUM.--Elevation of land-surface datum is 200 ft.

Measuring point: Top front edge of recorder shelter, 3.60 ft above land-surface datum.

REMARKS.--None.

PERIOD OF RECORD.--June 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.90 ft below land-surface datum, April 13, 1980; lowest, 54.00 ft below land-surface datum, September 25, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	48.57	46.99	44.48	42.15	41.78	44.79	46.64	48.37	49.39	50.05	49.83	50.34
2	48.61	46.94	44.51	42.22	41.95	45.47	46.78	48.28	49.51	49.60	49.91	50.44
3	48.51	46.93	44.45	42.24	42.09	45.08	46.83	48.20	49.52	49.36	49.92	50.36
4	48.58	46.91	44.20	42.37	42.15	45.40	46.85	48.15	50.08	49.52	49.73	50.29
5	48.68	47.12	43.55	42.44	42.33	46.04	46.88	48.12	49.32	49.62	49.72	50.38
6	48.59	47.20	42.91	42.37	42.75	45.33	46.93	48.52	49.31	49.67	49.98	50.36
7	48.42	47.16	42.64	42.36	43.08	45.06	47.06	48.72	49.32	49.64	50.11	50.29
8	48.37	46.91	42.40	42.54	42.97	44.87	47.28	48.99	49.25	49.50	50.10	50.40
9	48.44	46.79	41.87	42.74	42.87	44.87	47.52	49.61	49.19	49.43	50.05	50.39
10	48.50	46.76	41.62	42.72	42.90	45.03	48.00	49.79	49.20	49.42	49.98	50.41
11	48.53	46.69	41.69	42.61	42.77	45.21	47.43	49.90	49.20	49.41	50.05	50.35
12	48.49	46.71	41.41	42.68	42.64	45.28	47.24	49.04	49.17	49.56	50.08	50.47
13	48.45	46.80	41.15	42.93	42.34	45.49	47.14	48.97	49.08	49.73	50.05	50.44
14	48.58	46.75	41.16	43.04	42.28	45.46	47.06	48.87	49.00	49.69	50.10	50.47
15	48.48	46.48	41.34	43.07	42.32	45.65	47.04	48.75	49.06	49.61	50.06	50.48
16	48.47	46.80	41.56	43.12	42.41	46.19	47.10	48.68	49.19	49.60	50.02	50.46
17	48.30	46.89	42.08	43.10	42.49	46.25	47.13	48.66	49.22	49.59	50.12	50.50
18	48.24	46.74	41.73	42.92	42.63	46.85	47.37	48.65	49.14	49.63	50.18	50.61
19	48.13	46.34	41.75	42.53	43.16	47.20	48.33	48.72	49.16	49.62	50.13	50.60
20	47.95	45.81	41.85	42.00	43.77	46.81	48.73	49.22	49.66	49.70	50.10	50.60
21	47.85	45.32	42.08	41.46	43.34	46.28	48.80	49.88	50.25	49.61	50.19	50.54
22	47.77	44.81	42.01	41.24	43.33	46.57	48.49	50.18	50.42	49.65	50.17	50.58
23	47.52	44.53	42.07	41.23	43.49	47.29	47.78	50.26	50.40	49.70	50.09	50.53
24	47.35	44.34	42.07	41.30	43.74	47.09	47.77	49.79	49.61	49.72	50.20	50.49
25	47.15	44.52	42.06	41.35	43.65	47.44	48.42	49.29	49.56	49.96	50.26	50.63
26	47.38	44.58	42.04	41.42	43.94	46.64	48.69	49.37	49.58	49.92	50.14	50.73
27	47.51	44.23	42.07	41.62	44.33	46.43	48.71	49.43	49.64	49.96	50.12	50.67
28	47.47	44.32	42.00	41.70	44.66	46.60	48.74	49.27	49.40	49.94	50.35	50.60
29	47.33	44.40	41.92	41.75	44.33	46.73	49.04	49.31	49.57	49.93	50.42	50.71
30	47.14	---	41.96	41.74	44.49	46.68	48.86	49.32	50.35	49.88	50.29	50.64
31	47.01	---	42.05	---	44.76	---	48.42	49.34	---	49.84	---	50.60
MEAN	48.08	46.10	42.28	42.23	43.09	46.00	47.71	49.09	49.49	49.68	50.08	50.50
CAL YR 1988	MEAN	47.03		HIGH	41.15		LOW	50.73				

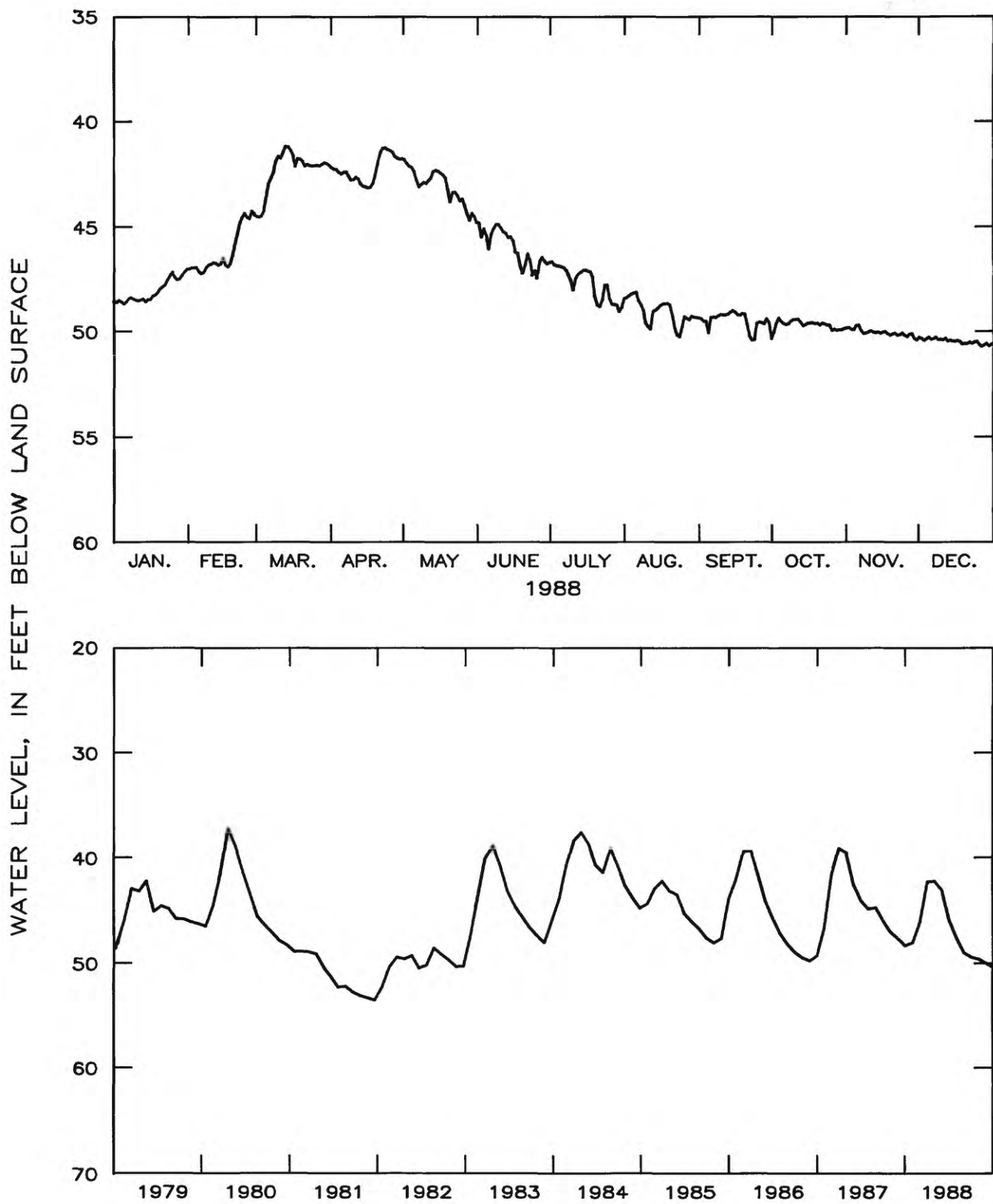


Figure 2.7.1.1-4—Water level in observation well 13J004, Mitchell County.

## 15L020 SYLVESTER WORTH COUNTY

313146083491601 Local number, 15L020.

LOCATION.--Lat 31°31'46", long 83°49'16", Hydrologic Unit 03110204, near water tank, behind the VFW on U.S. Highway 82 east, Sylvester, Ga.

Owner: City of Sylvester.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused municipal well, diameter 18 in., depth 450 ft, cased to 212 ft, open hole. DATUM.--Elevation of land-surface datum is 420 ft.

Measuring point: Floor of recorder shelter, 2.90 ft above land-surface datum.

REMARKS.--Well pumped and sounded July 19, 1978. Borehole geophysical survey conducted June 5, 1975. Water levels for period of missing record, June 27 to August 11, were estimated.

PERIOD OF RECORD.--May 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 191.50 ft below land-surface datum, May 17, 1973; lowest, 204.67 ft below land-surface datum, August 10, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	202.21	202.39	201.99	201.68	202.11	202.74	202.41	202.19	203.61	203.36	203.11	203.16
2	202.22	202.29	202.02	201.65	202.15	202.65	202.46	202.41	203.67	203.23	203.12	203.28
3	202.13	202.22	201.94	201.57	202.18	202.56	202.48	202.60	203.55	203.13	203.13	203.24
4	202.17	202.13	201.81	201.50	202.12	202.70	202.17	202.83	203.37	203.20	202.89	203.12
5	202.36	202.29	201.94	201.52	202.12	202.92	202.18	202.82	203.25	203.37	202.69	203.18
6	202.36	202.41	201.91	201.39	202.07	202.90	202.42	202.81	203.28	203.44	202.94	203.13
7	202.20	202.47	201.97	201.25	202.16	202.81	202.75	202.85	203.34	203.43	203.15	203.01
8	202.09	202.33	201.97	201.33	202.26	202.69	203.26	203.02	203.39	203.38	203.23	203.04
9	202.17	202.24	201.63	201.46	202.29	202.68	203.70	203.20	203.35	203.28	203.24	203.01
10	202.26	202.22	201.52	201.43	202.25	202.85	203.67	203.47	203.42	203.21	203.17	203.00
11	202.32	202.16	201.83	201.65	202.25	203.01	203.27	203.45	203.47	203.15	203.20	202.90
12	202.33	202.13	201.76	201.90	202.34	203.08	202.93	203.36	203.49	203.26	203.23	202.96
13	202.28	202.23	201.58	202.12	202.39	203.14	202.69	203.48	203.42	203.47	203.18	202.94
14	202.43	202.22	201.59	202.23	202.33	203.22	202.60	203.53	203.33	203.50	203.24	202.99
15	202.36	201.92	201.77	202.26	202.24	203.23	202.49	203.59	203.37	203.41	203.27	203.00
16	202.37	202.13	201.90	202.31	202.20	203.15	202.16	203.59	203.47	203.34	203.19	202.95
17	202.19	202.18	201.93	202.27	202.13	203.10	201.80	203.59	203.43	203.33	203.22	202.95
18	202.06	201.99	201.65	202.05	202.11	203.21	201.78	203.53	203.31	203.25	203.30	203.09
19	201.98	201.71	201.66	201.91	202.13	203.34	201.85	203.49	203.26	203.14	203.20	203.12
20	201.87	201.75	201.85	202.14	202.23	203.40	201.79	203.45	203.30	203.16	203.03	203.14
21	201.95	201.99	201.83	202.09	202.31	203.38	201.75	203.45	203.31	203.08	203.12	203.07
22	202.20	202.12	201.88	202.10	202.35	203.37	201.68	203.52	203.27	203.04	203.13	203.07
23	202.23	202.03	201.94	202.10	202.41	203.00	201.48	203.56	203.23	203.03	202.99	202.99
24	202.19	202.10	201.87	202.05	202.44	202.81	201.44	203.47	203.23	202.97	203.04	202.87
25	202.04	202.16	201.78	201.99	202.39	202.88	201.58	203.40	203.26	203.13	203.10	202.94
26	202.31	202.15	201.68	201.93	202.54	202.79	201.90	203.40	203.30	203.14	202.97	203.09
27	202.59	201.93	201.71	202.09	202.64	202.40	202.25	203.48	203.38	203.20	202.86	203.08
28	202.70	201.90	201.78	202.19	202.63	202.28	202.34	203.49	203.39	203.31	203.03	202.95
29	202.68	201.92	201.76	202.21	202.61	202.24	202.40	203.50	203.42	203.31	203.20	203.05
30	202.57	---	201.73	202.16	202.66	202.41	202.34	203.44	203.44	203.28	203.12	202.98
31	202.45	---	201.70	---	202.73	---	202.12	203.49	---	203.22	---	202.88
MEAN	202.27	202.13	201.80	201.88	202.32	202.90	202.33	203.27	203.38	203.25	203.11	203.04
CAL YR 1988	MEAN	202.64		HIGH	201.25		LOW	203.70				

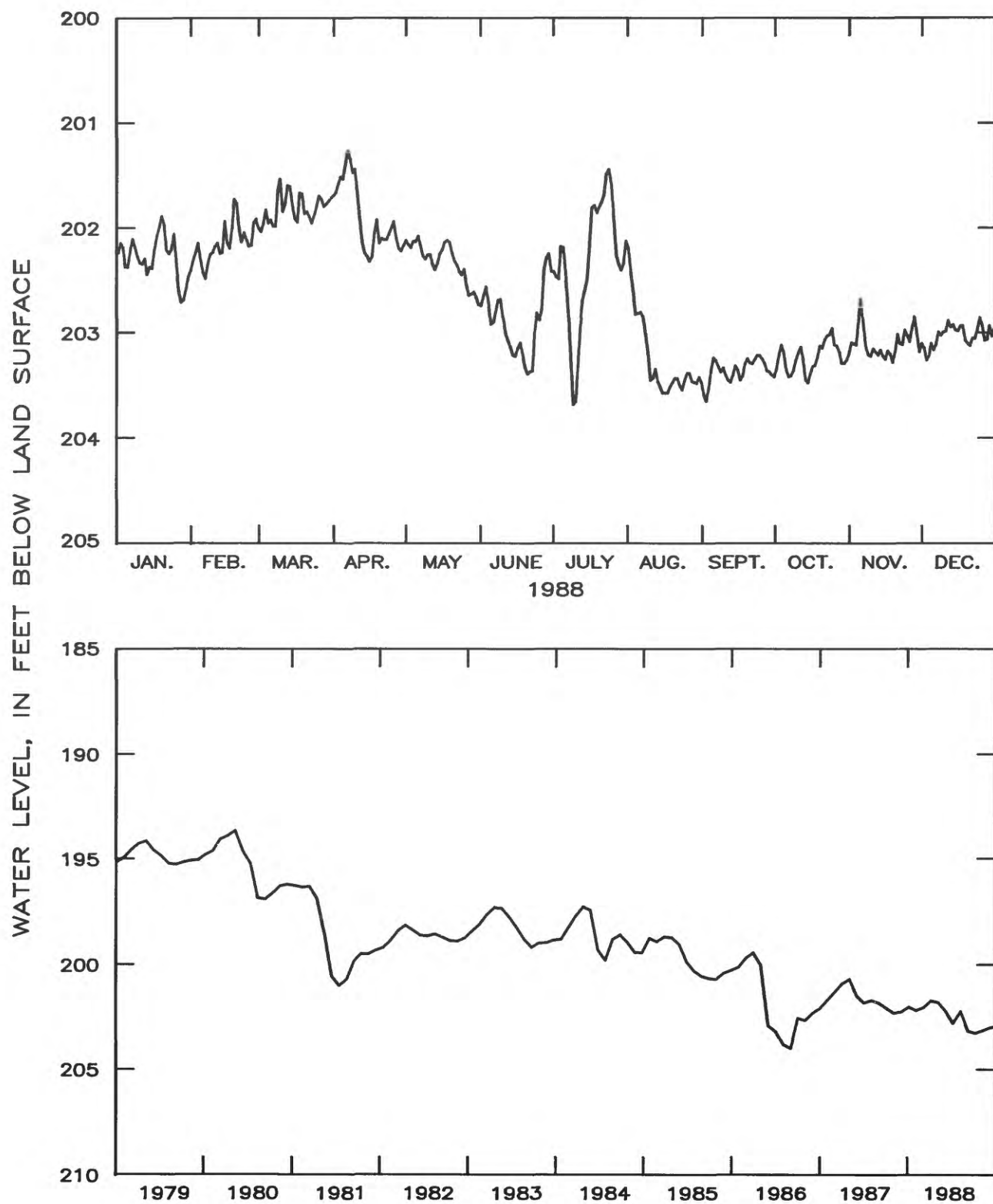


Figure 2.7.1.1-5.—Water level in observation well 15L020, Worth County.

### 2.7.2 South-Central Area

The water level in the Upper Floridan aquifer in south-central Georgia is affected by rainfall, evapotranspiration, stream stage, and pumping. In this area, the water level generally is highest during winter and spring rainy seasons, and lowest in fall following the summer-irrigation season.

The annual mean water levels in three wells tapping the Upper Floridan aquifer in Tift and Cook Counties were from 0.6 to 0.9 ft lower in 1988 than in 1987. Record low water levels were measured in well 18K049 in Tift County and in well 18H016 in Cook County. These declines continued a general downward trend since 1977.

The ground-water level in the Valdosta area is controlled mainly by local recharge (Krause, 1979). The water level is highest north of Valdosta, where the Upper Floridan aquifer receives recharge from the Withlacoochee River. Where the river flows into sinkholes and cave openings in the aquifer, the ground-water level responds to the recharge. Increased rainfall and streamflow in winter and early spring result in a high water level. Decreased rainfall and increased evapotranspiration in summer and fall result in low streamflow and a correspondingly low water level. In the Valdosta area, the annual mean water levels in two wells were from 2.8 to 3.3 ft lower in 1988 than in 1987. These declines continue a downward trend that began in 1983.

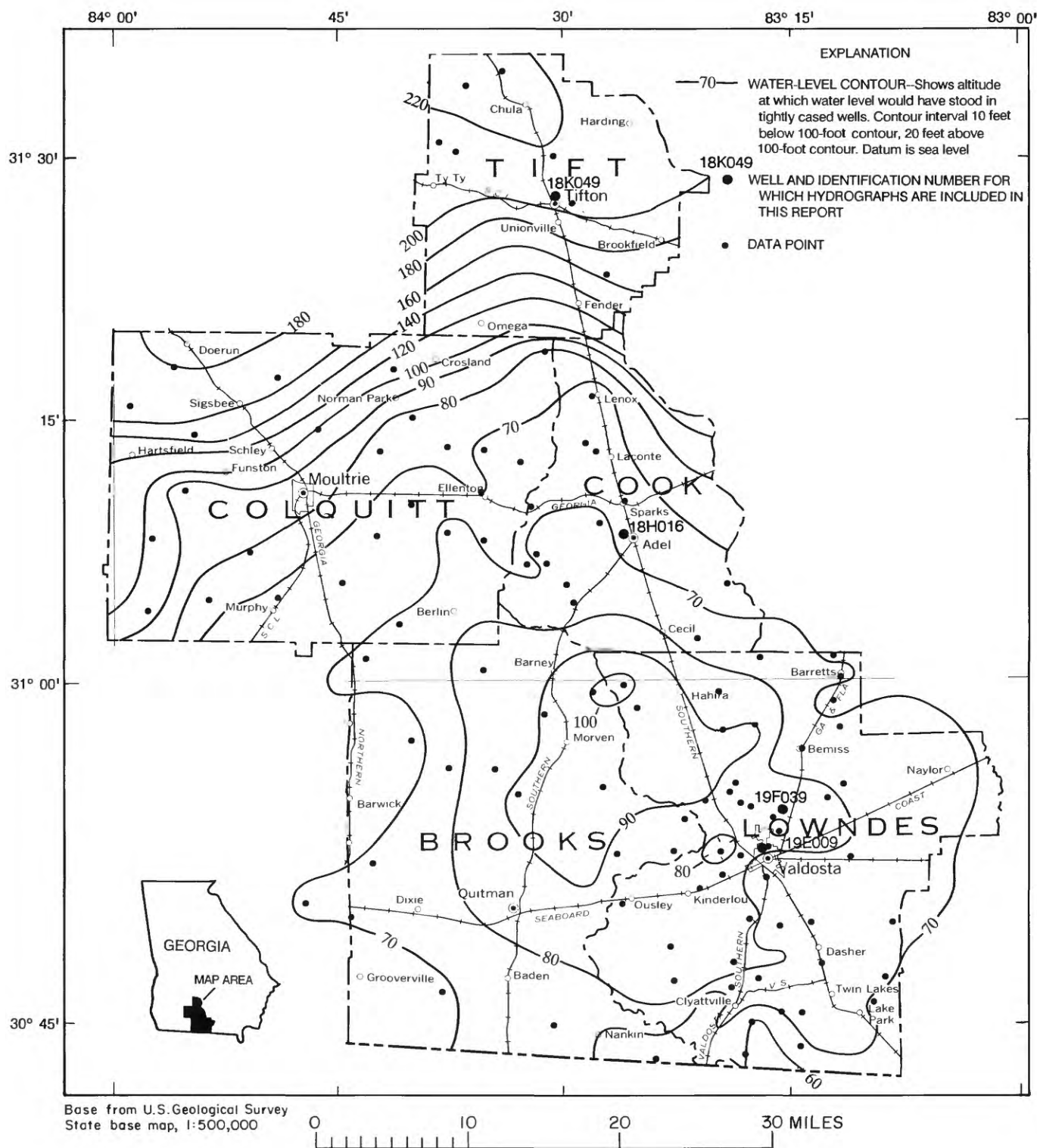


Figure 2.7.2-1.—Observation well locations and the water level in the Upper Floridan aquifer in the south-central area, May 1985.



## 18K049 U.S. GEOLOGICAL SURVEY TIFT COUNTY

312712082593301, Local number, 18K049.

LOCATION.--Lat 31°27'12", long 82°59'33", Hydrologic Unit 03110203, near the intersection of Goff Street and Ferry Lake Road, at city of Tifton Maintenance and Water Works, on east side of Tifton.

Owner: U.S. Geological Survey

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 620 ft, cased to 270 ft.

DATUM.--Elevation of land-surface datum is 330 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Well sounded March 10, 1978. Borehole geophysical survey conducted.

PERIOD OF RECORD.--March 28, 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 102.70 ft below land-surface datum, May 14, 1978; lowest, 121.61 ft below land-surface datum, August 10-11, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	117.56	116.80	116.21	115.97	115.19	116.87	119.68	120.13	120.17	118.43	117.89	117.92
2	117.46	116.80	116.22	115.78	115.38	117.13	119.75	120.37	120.14	118.16	118.19	118.00
3	117.33	116.75	116.13	115.67	115.63	117.37	119.79	120.58	119.72	118.19	118.12	117.88
4	117.48	116.67	116.01	115.79	115.72	117.49	119.50	120.84	119.35	118.28	117.87	117.66
5	117.71	116.71	116.00	116.14	115.65	117.43	119.54	120.85	119.09	118.37	117.53	117.83
6	117.73	116.68	115.80	116.27	115.62	117.61	119.80	120.86	119.24	118.43	117.55	117.91
7	117.65	116.67	115.93	116.17	115.79	117.70	120.15	120.92	119.35	118.37	117.81	117.87
8	117.52	116.64	116.03	116.29	115.96	117.64	120.68	121.11	119.32	118.25	117.93	117.89
9	117.37	116.64	115.71	116.26	116.18	117.77	121.14	121.31	119.17	118.04	117.95	117.88
10	117.29	116.63	115.57	116.20	116.23	117.79	121.13	121.61	119.06	118.14	118.04	117.77
11	117.38	116.53	115.80	116.10	116.05	117.48	120.76	121.61	118.88	118.22	118.11	117.55
12	117.46	116.43	115.68	115.94	116.00	117.28	120.44	121.54	118.95	118.30	117.96	117.67
13	117.44	116.37	115.42	115.98	115.97	117.43	120.22	121.44	118.93	118.42	117.81	117.62
14	117.55	116.25	115.54	116.21	115.80	117.79	120.15	121.23	118.84	118.47	117.93	117.69
15	117.47	116.05	115.77	116.42	115.72	118.05	120.06	121.00	118.86	118.26	118.05	117.63
16	117.35	116.25	115.98	116.58	115.89	118.22	119.75	120.75	118.94	118.11	118.03	117.59
17	117.05	116.37	115.97	116.59	116.15	118.63	119.42	120.56	118.79	118.25	118.09	117.51
18	117.02	116.26	115.78	116.57	116.19	118.88	119.42	120.43	118.47	118.37	118.17	117.51
19	116.96	116.07	115.70	116.23	116.34	118.99	119.51	120.36	118.51	118.31	117.93	117.57
20	116.87	115.92	115.78	116.12	116.71	119.18	119.47	120.18	118.61	118.38	117.68	117.62
21	116.85	115.99	115.90	116.00	116.72	119.52	119.45	119.99	118.64	118.28	117.81	117.61
22	116.97	116.16	116.04	115.95	116.65	115.87	119.40	119.98	118.62	118.10	117.92	117.62
23	116.88	116.17	116.11	115.78	116.71	120.22	119.23	120.09	118.68	117.93	117.81	117.46
24	116.72	116.26	116.06	115.59	116.77	120.47	119.21	120.10	118.58	117.99	117.69	117.21
25	116.65	116.30	116.00	115.62	116.46	120.56	119.37	119.96	118.35	118.14	117.67	117.14
26	116.92	116.30	115.74	115.49	116.31	119.95	119.71	120.05	118.44	118.20	117.54	117.19
27	117.17	116.08	115.56	115.56	116.24	119.58	120.08	120.08	118.59	118.24	117.42	117.27
28	117.21	115.95	115.71	115.59	116.03	119.48	120.19	119.92	118.69	118.24	117.71	117.29
29	117.18	116.06	115.87	115.64	115.92	119.47	120.28	120.09	118.67	118.12	117.93	117.35
30	116.98	---	115.98	115.42	116.11	119.66	120.24	120.29	118.69	117.93	117.88	117.30
31	116.75	---	116.06	---	116.55	---	120.04	120.30	---	117.91	---	117.07
MEAN	117.22	116.37	115.87	116.00	116.09	118.52	119.92	120.60	118.94	118.22	117.87	117.58
CAL YR 1988	MEAN	117.77		HIGH	115.19		LOW	121.61				



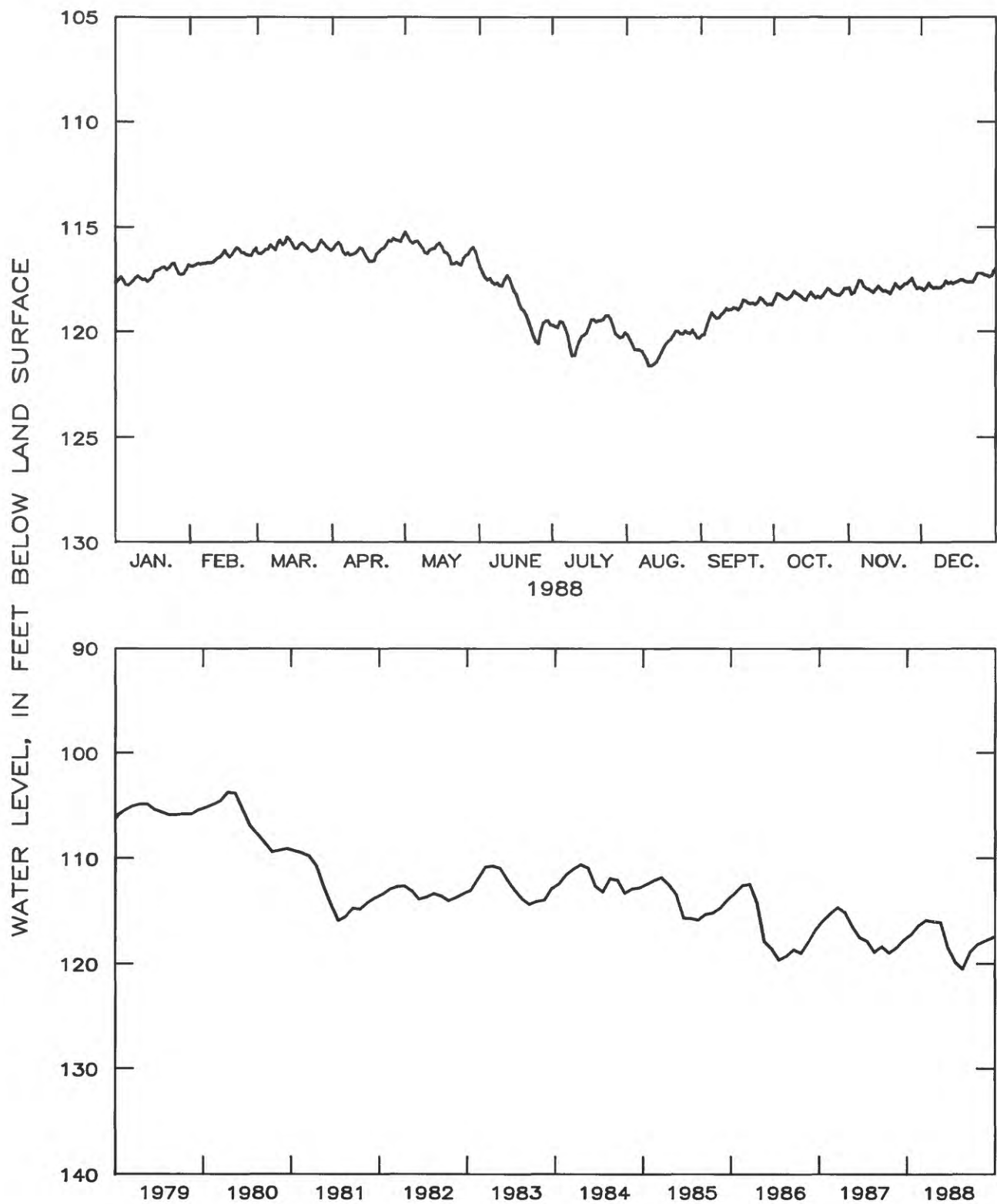


Figure 2.7.2-2.—Water level in observation well 18K049, Tift County.

## 18H016 ADEL COOK COUNTY

310813083260301 Local number, 18H016.

LOCATION.--Lat 31°08'13", long 83°26'03", Hydrologic Unit 03110203, on West Second Street near intersection of Georgia Highways 76 and 37.

Owner: U.S. Geological Survey, Adel test well.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 8 in., depth 865 ft, cased to 207 ft, open hole. DATUM.--Elevation of land-surface datum is 241 ft.

Measuring point: Floor of recorder shelter, 2.66 ft above land-surface datum.

REMARKS.--Well pumped July 19, 1978; water-quality sample collected at conclusion of pumping. Borehole geo-physical survey conducted October 24, 1974. Water levels for periods of missing record, January 21, May 24, and August 15-26, were estimated.

PERIOD OF RECORD.--December 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 163.34 ft below land-surface datum, July 5, 1966; lowest, 175.75 ft below land-surface datum, July 22, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	173.67	173.56	173.06	172.73	172.17	173.64	174.97	175.69	175.12	174.56	174.22	174.25
2	173.61	173.53	173.12	172.71	172.26	173.63	175.04	175.72	175.11	174.39	174.28	174.40
3	173.58	173.48	173.01	172.57	172.35	173.57	175.04	175.71	174.98	174.28	174.32	174.34
4	173.73	173.45	172.88	172.62	172.35	173.64	174.96	175.63	174.70	174.37	174.01	174.20
5	174.01	173.62	173.00	172.70	172.34	173.76	174.99	175.60	174.49	174.50	173.74	174.30
6	174.07	173.64	172.93	172.53	172.34	173.79	175.20	175.59	174.54	174.57	173.92	174.31
7	173.77	173.66	173.03	172.35	172.39	173.77	175.29	175.55	174.70	174.57	174.17	174.21
8	173.65	173.53	173.07	172.45	172.48	173.67	175.41	175.57	174.73	174.45	174.31	174.25
9	173.67	173.47	172.74	172.64	172.58	173.67	175.56	175.59	174.68	174.37	174.32	174.23
10	173.62	173.44	172.58	172.50	172.66	173.80	175.67	175.67	174.74	174.32	174.28	174.19
11	173.77	173.35	172.86	172.28	172.60	173.98	175.56	175.71	174.81	174.29	174.31	174.05
12	173.83	173.34	172.80	172.24	172.61	174.12	175.54	175.72	174.81	174.35	174.34	174.12
13	173.77	173.43	172.57	172.45	172.65	174.21	175.53	175.63	174.75	174.56	174.23	174.25
14	173.94	173.37	172.59	172.55	172.63	174.31	175.55	175.52	174.65	174.58	174.30	174.22
15	173.85	173.03	172.80	172.59	172.59	174.37	175.58	175.47	174.70	174.50	174.31	174.22
16	173.79	173.26	172.93	172.69	172.56	174.35	175.55	175.43	174.79	174.43	174.25	174.10
17	173.51	173.37	172.97	172.62	172.54	174.35	175.56	175.40	174.74	174.50	174.28	174.12
18	173.43	173.18	172.71	172.41	172.56	174.49	175.55	175.36	174.56	174.46	174.35	174.22
19	173.42	172.84	172.68	172.26	172.64	174.63	175.66	175.29	174.53	174.33	174.20	174.28
20	173.33	172.81	172.81	172.48	172.76	174.72	175.73	175.27	174.61	174.37	174.10	174.28
21	173.42	173.08	172.86	172.38	172.86	174.77	175.74	175.24	174.61	174.29	174.20	174.20
22	173.50	173.24	172.91	172.37	172.91	174.86	175.75	175.18	174.56	174.16	174.16	174.21
23	173.55	173.17	172.96	172.37	172.89	174.98	175.73	175.11	174.53	174.06	174.10	174.09
24	173.40	173.26	172.90	172.28	172.85	174.99	175.62	175.08	174.51	174.13	173.98	173.91
25	173.26	173.28	172.79	172.21	172.80	175.07	175.56	174.99	174.47	174.33	174.04	173.95
26	173.58	173.30	172.69	172.19	172.96	175.00	175.55	174.94	174.53	174.30	173.92	174.09
27	173.93	173.02	172.69	172.32	173.14	174.97	175.57	174.90	174.61	174.35	173.83	174.15
28	174.11	172.90	172.79	172.39	173.25	175.02	175.68	174.84	174.60	174.41	174.07	174.04
29	174.08	172.98	172.84	172.44	173.37	175.09	175.75	174.88	174.63	174.43	174.29	174.15
30	173.84	---	172.78	172.37	173.40	175.00	175.72	174.93	174.65	174.27	174.22	174.08
31	173.57	---	172.77	---	173.52	---	175.71	175.01	---	174.26	---	173.89
MEAN	173.69	173.30	172.84	172.46	172.71	174.34	175.49	175.36	174.68	174.38	174.17	174.17
CAL YR 1988	MEAN	173.97		HIGH	172.17		LOW	175.75				

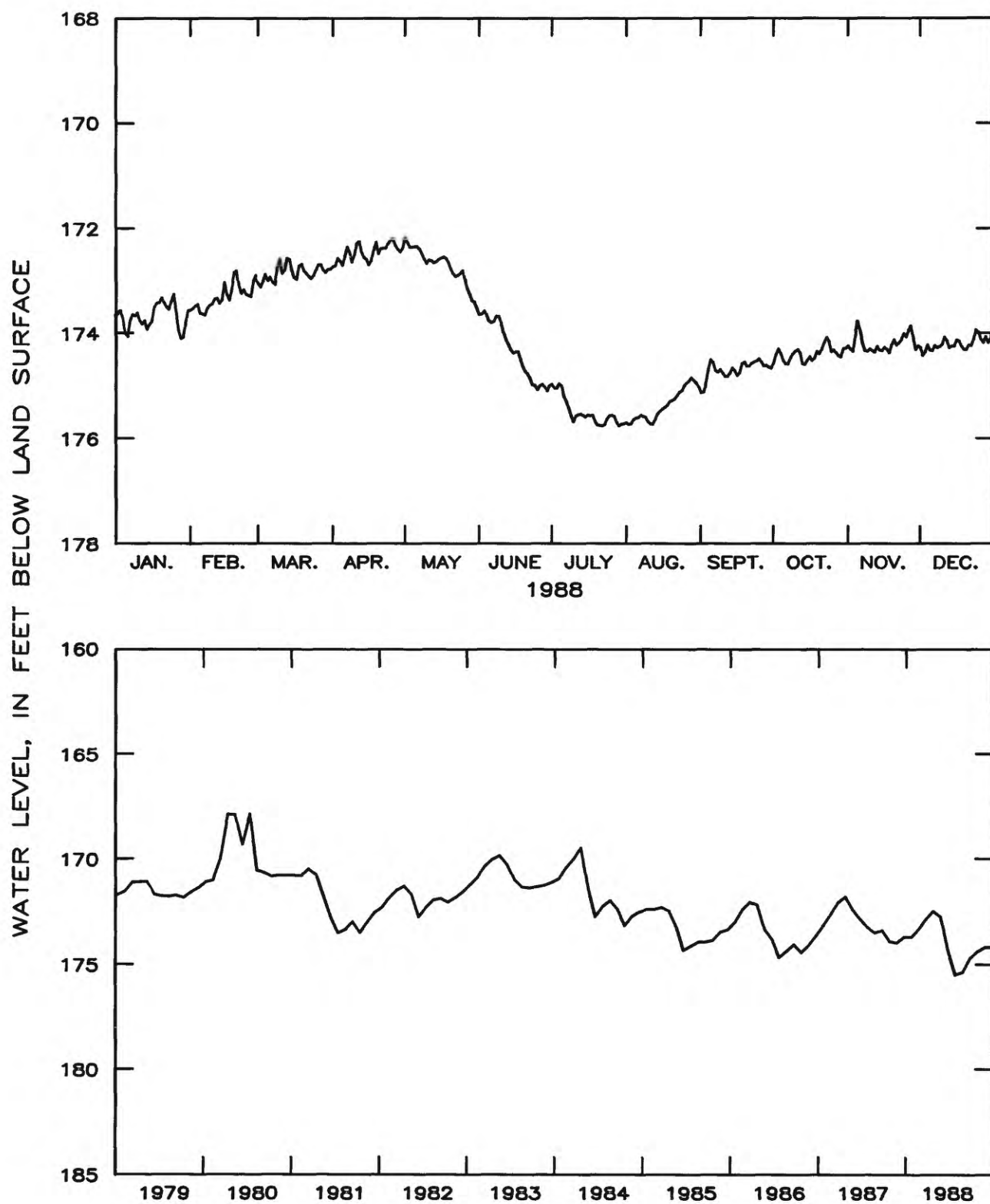


Figure 2.7.2-3.—Water level in observation well 18H016, Cook County.

## 19F039 VALDOSTA 8 LOWNDES COUNTY

305241083154401 Local number, 19F039.

LOCATION.--Lat 30°52'41", long 83°15'44", Hydrologic Unit 03110203, at water tank by Valdosta High School.

Owner: City of Valdosta, well 8.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, depth 450 ft, cased to 350 ft, open hole.

DATUM.--Elevation of land-surface datum is 222 ft.

Measuring point: Pump base, 1.40 ft above land-surface datum.

REMARKS.--None.

PERIOD OF RECORD.--February 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 114.28 ft below land-surface datum, April 9, 1984; lowest, 145.67 ft below land-surface datum, October 24, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	135.86	129.86	123.90	123.64	122.61	132.72	141.32	142.29	133.14	128.70	132.84	134.52
2	135.74	129.80	124.13	123.68	122.22	133.10	141.58	140.29	132.90	128.61	133.08	135.14
3	135.82	129.81	124.38	123.76	122.05	133.26	141.83	138.44	132.72	128.50	133.26	135.49
4	135.69	129.66	123.76	123.84	122.21	133.85	141.76	140.16	132.67	128.06	133.41	135.83
5	134.95	129.64	123.22	124.08	122.73	134.26	141.83	140.93	132.22	127.66	133.18	136.23
6	133.80	129.57	122.84	124.25	123.21	134.75	142.08	141.46	131.75	127.56	131.81	136.49
7	133.03	129.49	122.54	124.25	123.62	134.77	142.41	140.77	131.71	127.62	132.10	136.73
8	132.52	129.28	122.18	124.42	124.03	134.36	142.77	141.31	131.56	127.57	133.01	136.89
9	132.28	129.08	121.69	124.64	124.37	131.46	143.14	142.28	130.65	127.46	133.76	136.94
10	132.11	129.01	121.51	124.80	124.63	130.25	143.42	143.08	129.77	127.34	134.11	137.02
11	131.95	128.92	121.64	124.82	124.33	129.77	143.46	143.61	128.88	127.40	134.36	136.78
12	131.86	128.84	121.58	124.79	124.32	129.64	143.59	143.80	128.59	127.61	134.68	135.33
13	131.79	128.84	121.51	124.86	124.54	131.13	143.67	144.08	128.49	127.74	134.79	134.00
14	131.74	128.79	121.57	124.97	124.68	133.08	143.87	143.76	128.40	127.88	134.79	133.77
15	131.59	128.62	121.72	125.07	124.82	134.34	144.22	139.41	128.33	127.85	134.86	133.73
16	131.55	128.81	121.84	125.25	125.02	135.37	144.24	136.58	128.16	127.90	135.22	133.62
17	131.41	128.79	121.94	125.41	124.98	136.15	143.89	135.63	128.02	128.01	135.45	133.49
18	131.28	128.59	121.92	125.44	124.90	136.95	143.98	135.05	127.90	128.18	135.61	133.50
19	130.89	127.26	122.12	124.72	125.06	137.58	144.26	136.15	127.94	128.18	135.76	133.37
20	130.46	126.29	122.57	123.35	125.41	138.16	144.40	137.55	128.06	128.53	135.89	133.19
21	130.26	125.72	122.78	122.64	125.67	138.61	144.06	137.97	128.27	128.68	135.96	133.20
22	130.22	125.20	122.95	122.56	125.77	138.97	144.05	138.20	128.32	128.35	135.88	133.28
23	130.07	124.64	123.17	122.60	125.95	139.26	143.90	138.22	128.39	128.41	135.54	133.41
24	129.97	124.29	123.27	122.80	126.27	139.45	143.15	138.34	128.48	129.43	135.34	133.39
25	129.84	124.06	123.19	122.87	126.51	139.91	141.97	136.31	128.56	130.48	134.95	133.49
26	129.93	123.91	123.14	122.55	127.55	140.28	141.72	134.98	128.58	131.22	134.72	133.63
27	130.01	123.71	123.17	122.86	128.75	140.45	141.96	134.72	128.59	131.88	134.69	133.82
28	130.06	123.68	123.38	123.34	129.70	140.65	142.17	134.37	128.61	132.22	133.03	133.91
29	130.13	123.75	123.45	123.58	130.48	140.90	142.49	135.62	128.79	132.39	133.51	134.09
30	130.04	---	123.55	123.31	131.36	141.17	141.59	136.68	128.75	132.64	133.94	134.29
31	129.95	---	123.69	---	132.09	---	141.64	134.06	---	132.72	---	134.33
MEAN	131.83	127.51	122.72	123.97	125.48	135.82	142.92	138.91	129.57	128.93	134.32	134.61
CAL YR 1988	MEAN	131.41		HIGH	121.51		LOW	144.40				

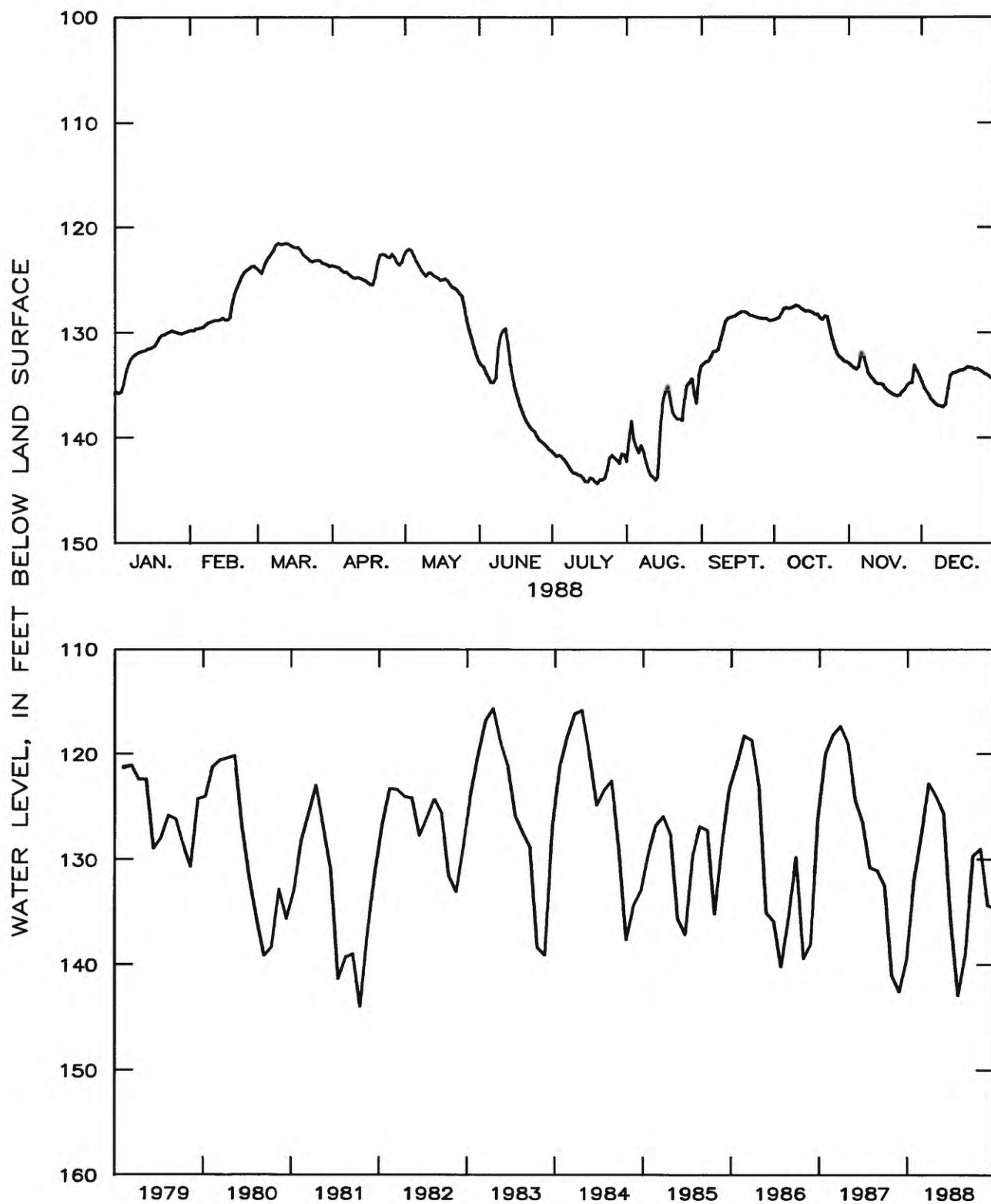


Figure 2.7.2-4.—Water level in observation well 19F039, Lowndes County.

## 19E009 VALDOSTA LOWNDES COUNTY

304949083165301 Local number, 19E009.

LOCATION.--Lat 30°49'51", long 83°16'59", Hydrologic Unit 03110202, N. Oak Street, one block north of intersection with U.S. Highway 84, Valdosta, Ga.

Owner: City of Valdosta.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused municipal supply well, diameter 20 in., depth 342 ft, cased to 200 ft, open hole.

DATUM.--Elevation of land-surface datum is 217 ft.

Measuring point: Top of casing, 1.7 ft above land-surface datum.

REMARKS.--Well pumped July 18, 1978; water-quality sample collected at conclusion of pumping. Borehole geophysical survey conducted April 11, 1963. Water level affected by city pumping.

PERIOD OF RECORD.--February 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 112.69 ft below land-surface datum, March 9, 1964; lowest, 146.60 ft below land-surface datum, July 18, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	139.19	134.39	129.27	127.87	128.23	137.06	143.28	144.03	138.25	133.99	135.48	137.22
2	138.82	134.33	129.72	128.37	128.06	138.24	144.08	142.79	138.43	133.24	135.93	137.70
3	138.41	134.43	129.02	127.95	128.14	139.73	143.24	141.73	138.54	132.72	136.36	138.22
4	138.54	134.34	128.97	127.85	128.30	138.36	142.45	142.03	137.60	132.19	136.13	137.87
5	138.52	134.70	128.82	127.75	128.39	137.81	142.80	143.05	136.64	132.48	136.48	137.82
6	137.87	134.73	128.72	128.35	129.07	137.45	143.03	143.24	137.16	132.22	135.34	138.20
7	137.19	134.70	128.23	127.90	129.88	136.74	143.39	143.52	136.99	132.44	135.35	138.31
8	137.50	134.17	127.78	128.84	130.16	136.34	144.72	142.79	136.68	132.32	136.28	138.42
9	137.27	133.90	126.98	129.26	130.10	135.85	145.27	143.42	136.76	132.32	136.52	138.84
10	137.12	133.61	127.11	129.16	130.34	135.55	144.79	144.09	136.08	132.87	137.00	139.37
11	136.61	133.58	126.95	128.72	129.75	135.95	143.89	144.52	135.53	132.49	137.15	139.11
12	136.46	134.34	127.24	128.17	129.36	134.92	143.81	144.73	134.99	132.97	137.34	137.81
13	136.27	134.49	127.30	128.44	129.94	135.56	144.30	144.90	134.53	132.73	136.89	137.37
14	136.27	134.19	126.89	128.74	130.00	136.99	144.89	143.95	134.41	133.38	137.14	137.06
15	136.97	133.79	126.76	129.45	129.56	138.27	145.98	142.59	134.29	133.20	137.62	137.15
16	136.75	134.18	126.65	129.95	129.61	139.04	145.44	141.39	134.57	133.41	137.87	137.03
17	136.24	133.98	126.79	130.09	129.80	141.00	144.09	140.66	134.94	133.25	138.05	137.27
18	135.35	133.00	126.83	129.75	129.47	141.68	144.17	139.99	133.94	133.12	138.29	137.33
19	135.69	132.62	127.02	128.94	129.83	141.31	144.54	140.47	133.55	133.16	137.62	136.69
20	135.24	132.25	126.97	128.59	130.65	141.29	145.16	141.12	133.51	133.41	137.05	136.77
21	135.00	131.93	127.10	128.42	131.38	142.94	145.42	141.03	133.62	133.64	137.20	136.59
22	135.52	131.24	126.89	128.81	131.09	142.97	145.44	140.98	133.86	133.57	137.90	136.65
23	135.29	130.68	127.41	128.48	131.18	142.61	144.83	141.65	134.26	133.12	137.64	136.81
24	135.01	130.37	127.40	128.11	131.43	142.71	143.88	141.35	134.43	133.07	137.38	137.03
25	134.66	130.95	127.79	128.06	131.05	143.74	143.66	140.60	133.91	133.74	137.83	136.83
26	134.52	130.87	127.59	128.03	131.45	143.72	143.79	140.16	133.28	134.35	137.84	136.42
27	134.74	130.38	127.36	128.39	133.27	143.12	144.12	139.74	133.45	134.87	137.13	136.59
28	135.03	130.13	127.53	128.53	134.46	142.50	144.76	138.89	133.51	135.52	136.68	136.77
29	135.25	129.56	127.50	129.67	134.15	142.92	145.25	139.16	133.63	135.56	136.88	136.86
30	135.30	---	127.34	128.93	135.29	142.98	144.28	139.75	134.06	135.67	136.92	137.30
31	134.90	---	127.27	---	136.29	---	143.81	138.91	---	135.43	---	137.68
MEAN	136.37	132.96	127.59	128.65	130.63	139.65	144.28	141.85	135.18	133.43	136.98	137.45
CAL YR 1988	MEAN	135.43		HIGH	126.65		LOW	145.98				

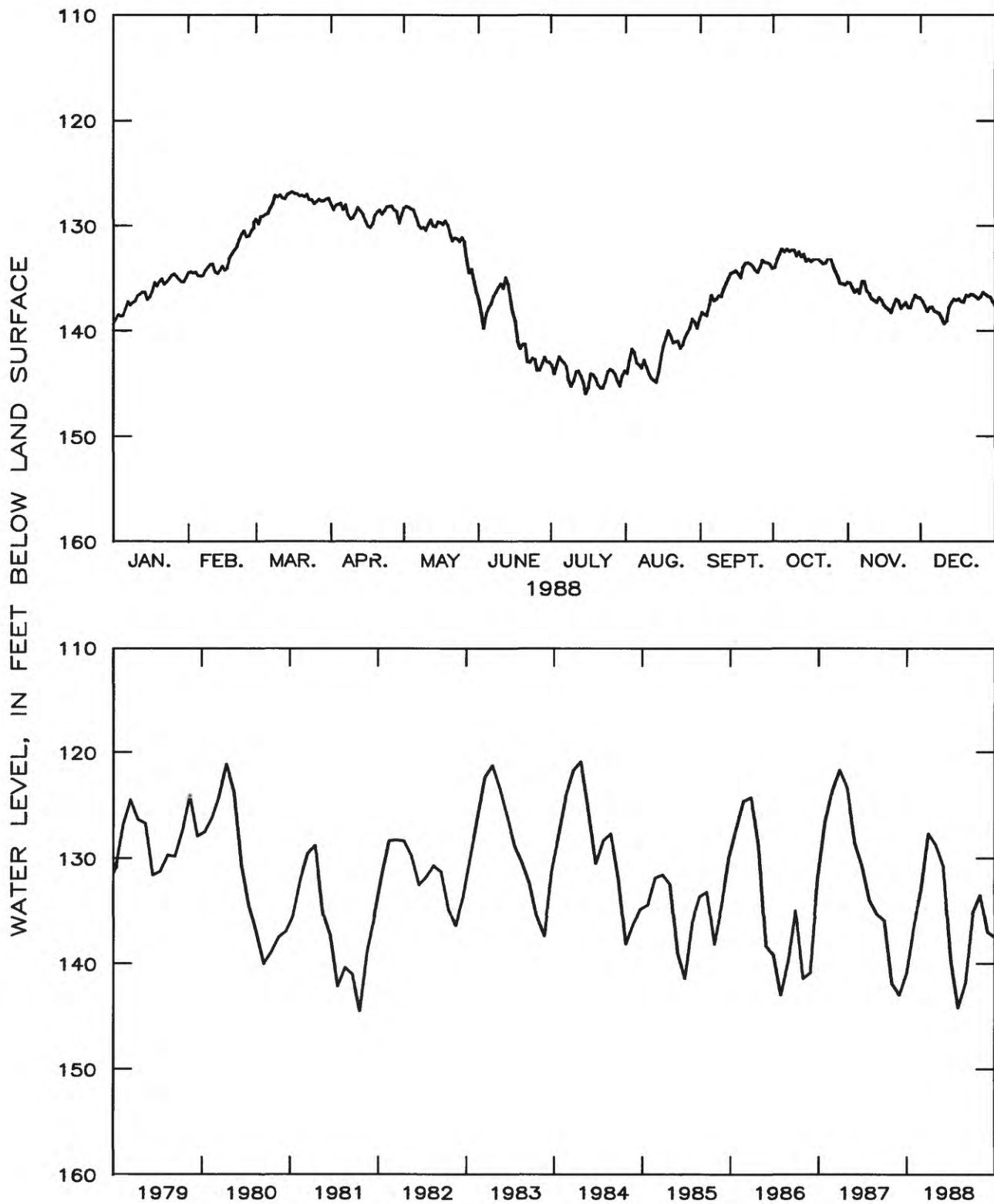


Figure 2.7.2-5.—Water level in observation well 19E009, Lowndes County.



### 2.7.3 East-central Area

The water level in the Upper Floridan aquifer in east-central Georgia is affected by rainfall, evapotranspiration, stream stage, and pumping. The water level generally is highest during winter and spring rainy seasons and lowest in fall following the summer-irrigation season.

Well 21T001 in Laurens County is near the recharge area for the Upper Floridan aquifer; the water level in the well primarily responds to seasonal fluctuations in rainfall and evapotranspiration. The mean water level in well 21T001 was 4.0 ft lower in 1988 than in 1987. This decline continued a downward trend that began in 1983 as a result of below-normal rainfall.

In Montgomery and Toombs Counties, the annual mean water levels in wells 25Q001 and 26R001 were from 0.2 to 0.6 ft lower in 1988 than in 1987, which continued the downward trend for the 10-year period 1979-1988.

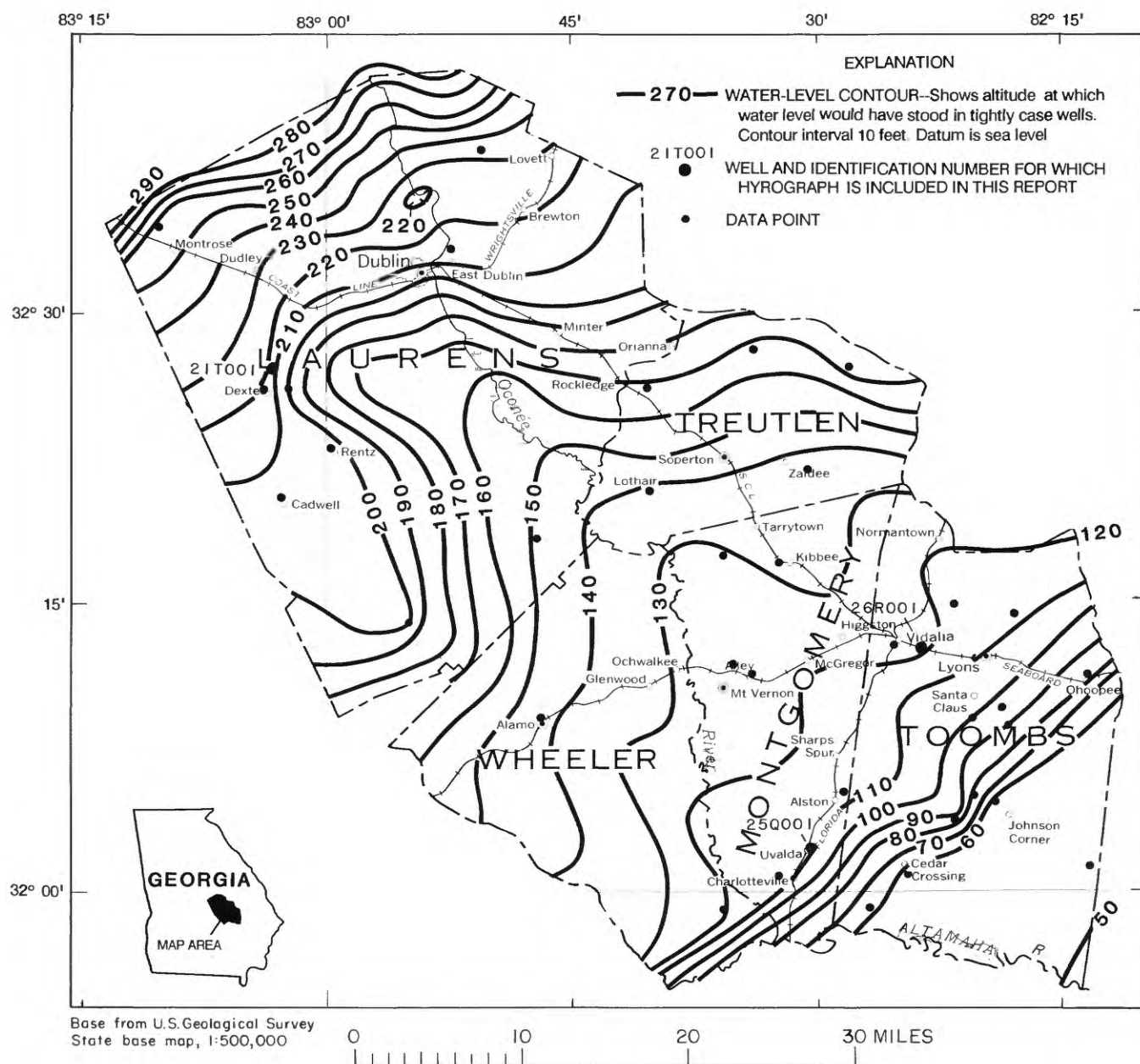


Figure 2.7.3-1.—Observation well locations and the water level in the Upper Floridan aquifer in the east-central area, May 1985.

## 21T001 HOGAN LAURENS COUNTY

322652083033001 Local number, 21T001.

LOCATION.--Lat 32°27'06", long 83°03'28", Hydrologic Unit 03070102, approximately 1.8 mi northeast of Dexter, Ga.

Owner: Danny Hogan.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused domestic well, diameter 4 in., depth 123 ft, cased to 89 ft, open hole.

DATUM.--Elevation of land-surface datum is 259 ft.

Measuring point: Floor of recorder shelter, 2.57 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted November 1973. Water levels for periods of missing record, January 22 and February 5, were estimated.

PERIOD OF RECORD.--March 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.62 ft below land-surface datum, January 26, 1987; lowest, 39.58 ft below land-surface datum, November 12, 1968.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	36.91	32.37	29.20	28.51	27.52	31.53	34.86	36.74	37.63	36.99	37.53	37.82
2	36.91	32.29	29.21	28.60	27.49	31.63	34.96	36.74	37.67	36.99	37.53	37.84
3	36.91	32.22	29.19	28.66	27.53	31.74	35.04	36.74	37.68	36.99	37.54	37.85
4	36.91	32.16	29.04	28.72	27.56	31.94	35.11	36.75	37.67	36.96	37.55	37.85
5	36.72	32.20	28.94	28.82	27.62	32.13	35.18	36.75	37.61	36.94	37.50	37.86
6	36.59	32.23	28.76	28.89	27.69	32.27	35.25	36.75	37.61	36.94	37.49	37.87
7	36.45	32.31	28.59	28.95	27.83	32.38	35.31	36.75	37.62	36.94	37.55	37.87
8	36.33	32.25	28.46	29.07	27.98	32.43	35.37	36.75	37.65	36.94	37.59	37.87
9	36.30	32.20	28.22	29.25	28.14	32.51	35.46	36.76	37.61	36.94	37.60	37.87
10	36.26	32.17	28.00	29.35	28.29	32.65	35.56	36.80	37.61	36.94	37.60	37.87
11	36.20	32.16	27.97	29.38	28.44	32.79	35.67	36.85	37.61	36.94	37.60	37.87
12	36.12	32.12	27.83	29.40	28.64	32.91	35.75	36.87	37.59	36.95	37.63	37.89
13	36.01	32.15	27.64	29.51	28.81	33.02	35.83	36.88	37.57	37.04	37.64	37.91
14	36.00	32.18	27.52	29.64	28.93	33.14	35.88	36.90	37.57	37.08	37.64	37.91
15	35.95	32.13	27.52	29.73	29.04	33.26	35.92	36.91	37.53	37.09	37.64	37.92
16	35.88	32.12	27.55	29.85	29.17	33.35	35.99	36.94	37.52	37.09	37.64	37.93
17	35.78	32.19	27.57	29.94	29.29	33.45	36.06	36.96	37.51	37.10	37.65	37.93
18	35.65	32.19	27.51	29.95	29.43	33.59	36.13	36.98	37.51	37.12	37.70	37.97
19	35.43	31.98	27.45	29.76	29.58	33.74	36.22	37.03	37.50	37.12	37.71	37.99
20	34.99	31.64	27.54	29.51	29.76	33.86	36.31	37.07	37.48	37.18	37.71	38.00
21	34.46	31.22	27.62	29.21	29.95	33.95	36.36	37.15	37.08	37.21	37.71	38.00
22	34.24	30.77	27.71	28.99	30.12	34.03	36.43	37.24	36.64	37.21	37.73	38.00
23	33.90	30.31	27.81	28.88	30.28	34.12	36.47	37.30	36.65	37.25	37.74	38.00
24	33.62	29.98	27.87	28.78	30.43	34.27	36.49	37.32	36.68	37.27	37.73	38.00
25	33.30	29.76	27.90	28.70	30.54	34.40	36.51	37.32	36.72	37.34	37.73	38.00
26	33.21	29.58	27.92	28.45	30.71	34.47	36.54	37.33	36.78	37.38	37.73	38.02
27	33.10	29.37	27.99	28.11	30.87	34.52	36.59	37.39	36.85	37.43	37.73	38.04
28	32.97	29.25	28.12	27.88	31.00	34.64	36.67	37.44	36.87	37.47	37.74	38.04
29	32.85	29.21	28.23	27.73	31.11	34.73	36.73	37.47	36.90	37.50	37.81	38.04
30	32.58	---	28.32	27.61	31.26	34.80	36.77	37.49	36.95	37.52	37.82	38.04
31	32.45	---	28.41	---	31.42	---	36.75	37.54	---	37.53	---	38.04
MEAN	35.19	31.47	28.12	28.99	29.24	33.28	35.94	37.03	37.33	37.14	37.65	37.94
CAL YR 1988	MEAN	34.12		HIGH	27.45		LOW	38.04				

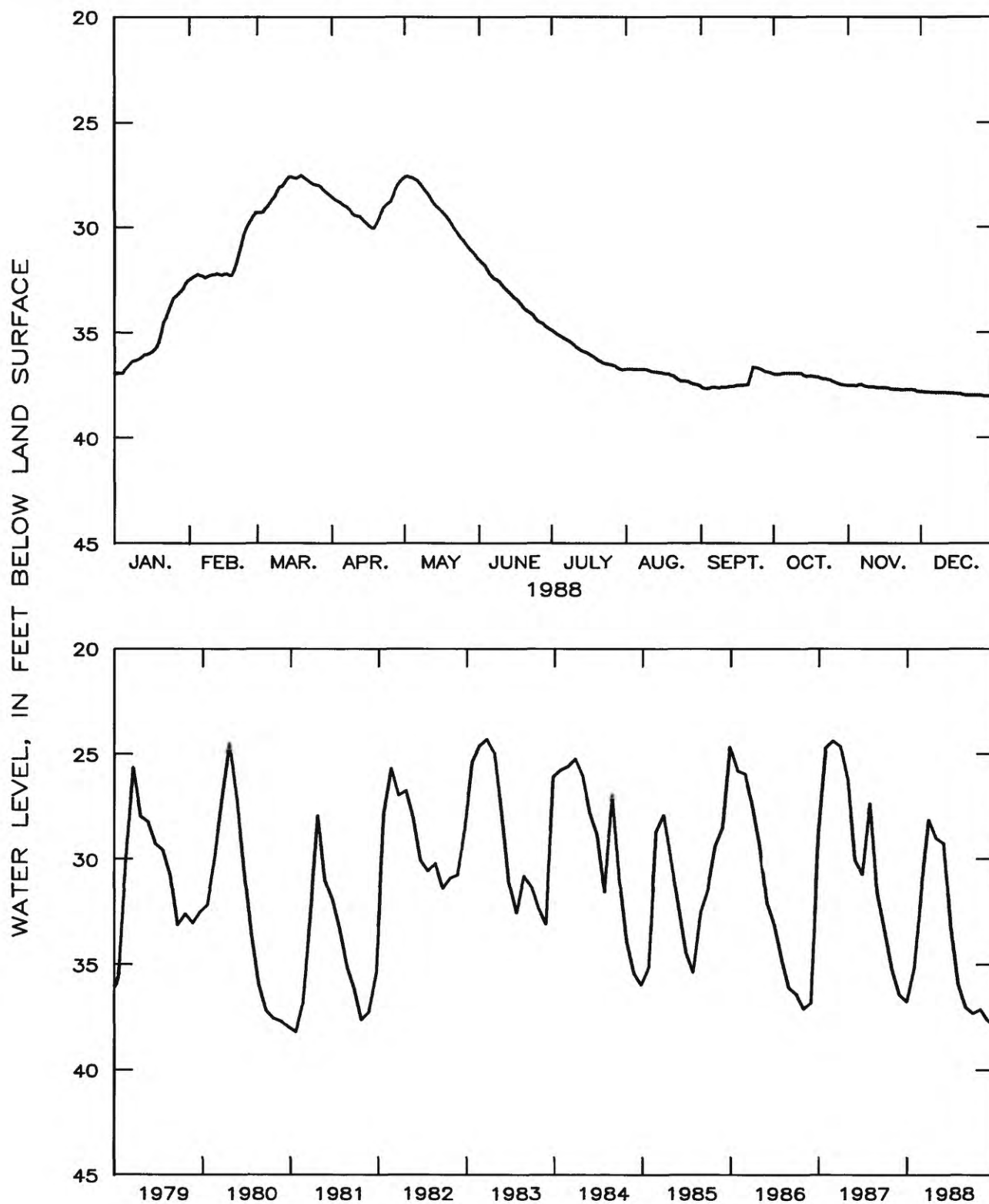


Figure 2.7.3-2.—Water level in observation well 21T001, Laurens County.

## 25Q001 UVALDA SCHOOL MONTGOMERY COUNTY

320226082301101 Local number, 25Q001.

LOCATION.--Lat 32°02'25", long 82°30'05", Hydrologic Unit 03070106, well is located behind the Uvalda School in the city of Uvalda.

Owner: Montgomery County Board of Education.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused supply well, diameter 6 in., depth 536 ft, cased to 421 ft, open hole.

DATUM.--Elevation of land-surface datum is 190 ft.

Measuring point: Top of 6-in. casing at land surface.

REMARKS.--Borehole geophysical survey conducted April 22, 1966.

PERIOD OF RECORD.--June 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 64.13 ft below land-surface datum, June 10, 1966; lowest, 82.27 ft below land-surface datum, July 17, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	79.64	79.06	78.61	78.54	79.28	79.35	81.08	80.58	80.67	80.57	80.01	79.86
2	79.62	79.00	78.63	78.64	79.26	79.25	81.17	80.59	80.67	80.47	80.00	79.92
3	79.52	78.96	78.61	78.72	79.23	79.22	81.19	80.58	80.63	80.39	80.02	79.87
4	79.48	78.91	78.54	78.81	79.15	79.38	81.22	80.58	80.52	80.40	79.85	79.83
5	79.56	78.99	78.64	78.96	79.03	79.48	81.29	80.57	80.42	80.48	79.69	79.88
6	79.56	79.03	78.69	79.01	78.98	79.44	81.34	80.56	80.42	80.52	79.82	79.84
7	79.49	79.08	78.74	79.04	79.02	79.39	81.34	80.57	80.49	80.51	79.94	79.78
8	79.41	78.99	78.78	79.15	79.05	79.38	81.26	80.56	80.53	80.47	79.98	79.85
9	79.46	78.93	78.57	79.22	79.03	79.42	81.18	80.59	80.44	80.41	79.97	79.83
10	79.51	78.90	78.42	79.22	78.95	79.54	81.15	80.65	80.46	80.35	79.92	79.86
11	79.53	78.83	78.59	79.15	78.92	79.65	81.15	80.69	80.49	80.30	79.93	79.79
12	79.52	78.78	78.52	79.17	78.94	79.67	81.14	80.69	80.50	80.34	79.97	79.81
13	79.45	78.85	78.39	79.33	78.90	79.70	81.09	80.69	80.45	80.45	79.94	79.78
14	79.52	78.86	78.36	79.48	78.80	79.81	81.01	80.65	80.42	80.47	79.95	79.84
15	79.46	78.68	78.46	79.58	78.74	79.84	80.94	80.65	80.46	80.41	79.94	79.84
16	79.44	78.79	78.52	79.72	78.69	79.78	80.93	80.65	80.52	80.36	79.90	79.79
17	79.32	78.84	78.52	79.81	78.65	79.74	80.90	80.66	80.48	80.33	79.92	79.78
18	79.22	78.76	78.35	79.80	78.75	79.79	80.86	80.63	80.42	80.28	79.97	79.87
19	79.13	78.54	78.32	79.76	78.92	79.90	80.87	80.62	80.40	80.22	79.92	79.89
20	79.04	78.51	78.45	79.91	79.13	79.93	80.87	80.60	80.42	80.25	79.83	79.89
21	79.02	78.62	78.46	79.88	79.32	79.98	80.82	80.62	80.41	80.16	79.89	79.83
22	79.09	78.75	78.50	79.86	79.42	80.08	80.69	80.65	80.38	80.12	79.90	79.84
23	79.10	78.69	78.51	79.83	79.49	80.24	80.67	80.65	80.39	80.14	79.79	79.81
24	79.07	78.71	78.46	79.75	79.58	80.47	80.67	80.59	80.41	80.08	79.79	79.74
25	78.95	78.71	78.38	79.67	79.62	80.67	80.67	80.55	80.41	80.16	79.84	79.78
26	79.08	78.70	78.30	79.52	79.77	80.73	80.67	80.58	80.45	80.15	79.78	79.88
27	79.21	78.54	78.31	79.51	79.77	80.83	80.69	80.66	80.54	80.16	79.72	79.85
28	79.24	78.55	78.37	79.50	79.70	81.02	80.72	80.67	80.61	80.14	79.81	79.75
29	79.22	78.57	78.36	79.45	79.58	81.08	80.74	80.70	80.64	80.14	79.92	79.80
30	79.16	---	78.36	79.37	79.52	81.05	80.69	80.66	80.64	80.13	79.85	79.76
31	79.09	---	78.43	---	79.45	---	80.60	80.66	---	80.10	---	79.69
MEAN	79.33	78.80	78.49	79.38	79.18	79.93	80.96	80.62	80.49	80.31	79.89	79.82
CAL YR 1988	MEAN	79.77		HIGH	78.30		LOW	81.34				

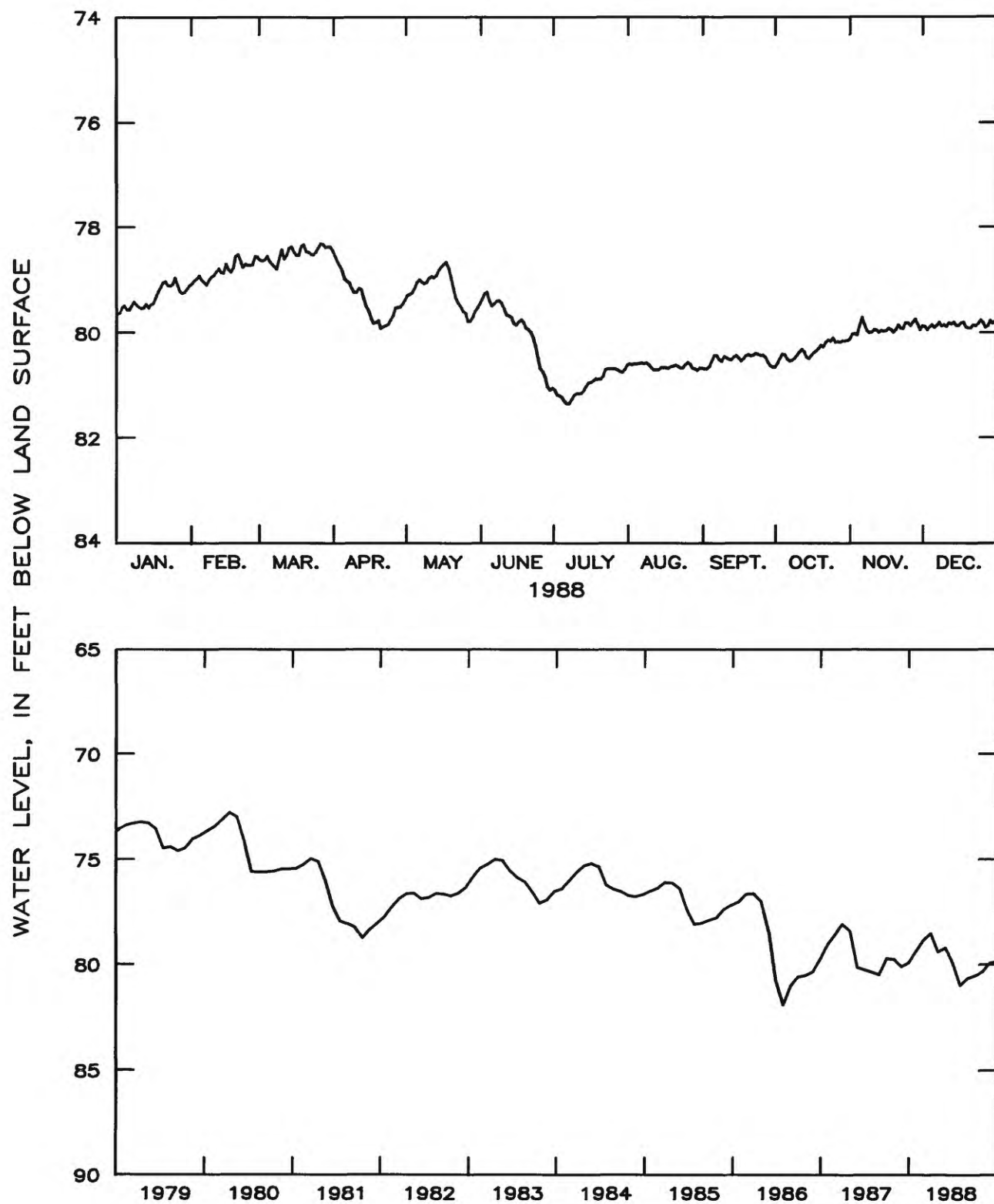


Figure 2.7.3—3.—Water level in observation well 25Q001, Montgomery County.

## 26R001 VIDALIA 2 TOOMBS COUNTY

321302082243601 Local number, 26R001.

LOCATION.--Lat 32°13'02", long 82°24'36", Hydrologic Unit 03070107, 15 ft south of the Vidalia Water and Street Department and Fire Station.

Owner: City of Vidalia, well 2.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled municipal well, diameter 12 in., depth 1,000 ft, cased to 720 ft, open hole.

DATUM.--Elevation of land-surface datum is 285 ft.

Measuring point: Top of 12-in. casing.

REMARKS.--Water level affected by city pumping. Water levels for periods of missing record, July 17-21, 28, and August 3-4, were estimated.

PERIOD OF RECORD.--April 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 151.64 ft below land-surface datum, April 15, 1974; lowest, 171.94 ft below land-surface datum, July 10, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	164.42	164.29	163.68	164.21	163.74	166.90	168.01	168.91	167.58	166.82	166.15	165.58
2	164.41	164.49	163.66	164.17	164.43	167.24	168.23	169.17	167.67	166.60	166.34	165.53
3	164.29	164.47	163.61	164.00	164.84	167.54	167.76	169.06	167.60	166.16	166.39	165.50
4	164.42	164.40	163.55	163.66	164.69	167.53	167.62	168.91	167.47	166.33	166.40	165.42
5	164.57	164.33	163.54	163.85	164.47	167.53	167.76	168.80	167.01	166.40	166.19	165.55
6	164.55	164.29	163.35	163.85	164.44	167.63	168.40	168.75	167.04	166.50	166.26	165.58
7	164.49	164.30	163.50	163.69	164.77	166.78	168.56	168.58	167.00	166.65	166.18	165.57
8	164.64	164.06	163.71	164.02	164.68	166.90	169.34	168.48	166.97	166.56	165.96	165.65
9	164.71	164.16	163.52	164.51	164.53	167.65	169.89	168.65	166.88	166.25	165.99	165.55
10	164.57	164.15	163.30	164.52	164.47	167.44	170.03	168.86	167.01	166.26	166.05	165.44
11	164.61	164.20	163.48	164.14	164.75	167.52	169.40	168.75	166.87	166.37	166.20	165.27
12	164.69	164.05	163.45	163.97	165.27	167.73	168.65	168.54	166.70	166.67	166.02	165.31
13	164.75	164.07	163.29	163.72	164.75	167.87	168.30	168.34	166.85	166.77	165.98	165.30
14	164.77	163.92	163.16	164.08	164.48	168.63	168.58	167.88	166.89	166.79	165.93	165.30
15	164.74	163.85	163.44	164.30	164.40	168.95	168.69	167.48	167.03	166.83	166.15	165.43
16	164.67	163.88	163.56	164.61	164.54	169.37	168.57	167.93	167.05	166.69	166.06	165.41
17	164.40	164.06	163.52	164.60	164.47	169.69	168.71	168.16	166.98	166.79	166.00	165.27
18	164.23	163.92	163.49	164.28	164.57	169.98	168.92	168.10	166.62	166.78	165.94	165.25
19	164.09	163.62	163.16	164.07	164.94	169.20	169.21	168.16	166.68	166.92	165.84	165.24
20	164.20	163.62	163.32	163.95	165.45	169.14	169.64	168.47	166.97	166.83	165.58	165.40
21	164.10	163.60	163.53	163.98	166.00	169.44	169.90	168.77	166.99	166.69	165.59	165.39
22	164.29	163.77	163.77	164.15	166.08	169.29	169.74	168.36	167.00	166.44	165.72	165.45
23	164.23	163.81	163.95	164.41	165.99	170.20	169.04	168.40	167.05	166.34	165.50	165.36
24	164.11	163.77	164.03	164.03	165.71	170.45	168.33	168.15	167.17	166.25	165.50	165.25
25	164.05	163.78	163.82	163.86	165.42	169.64	168.23	168.01	166.96	166.45	165.35	165.14
26	164.30	163.95	163.75	163.56	165.32	168.77	168.36	168.36	166.83	166.59	165.41	165.09
27	164.65	163.58	163.48	163.62	165.49	168.35	168.79	168.38	166.85	166.73	165.26	165.14
28	164.69	163.49	163.70	163.72	165.66	168.50	168.98	168.31	166.89	166.53	165.26	165.12
29	164.82	163.54	164.09	163.68	165.81	168.74	169.17	168.05	166.93	166.59	165.50	165.06
30	164.60	---	164.42	163.67	166.32	168.79	169.02	167.97	166.90	166.37	165.38	164.99
31	164.50	---	164.60	---	166.70	---	168.78	167.75	---	166.33	---	165.09
MEAN	164.47	163.98	163.63	164.03	165.07	168.45	168.79	168.40	167.01	166.56	165.87	165.34
CAL YR 1988	MEAN	165.97		HIGH	163.16		LOW	170.45				



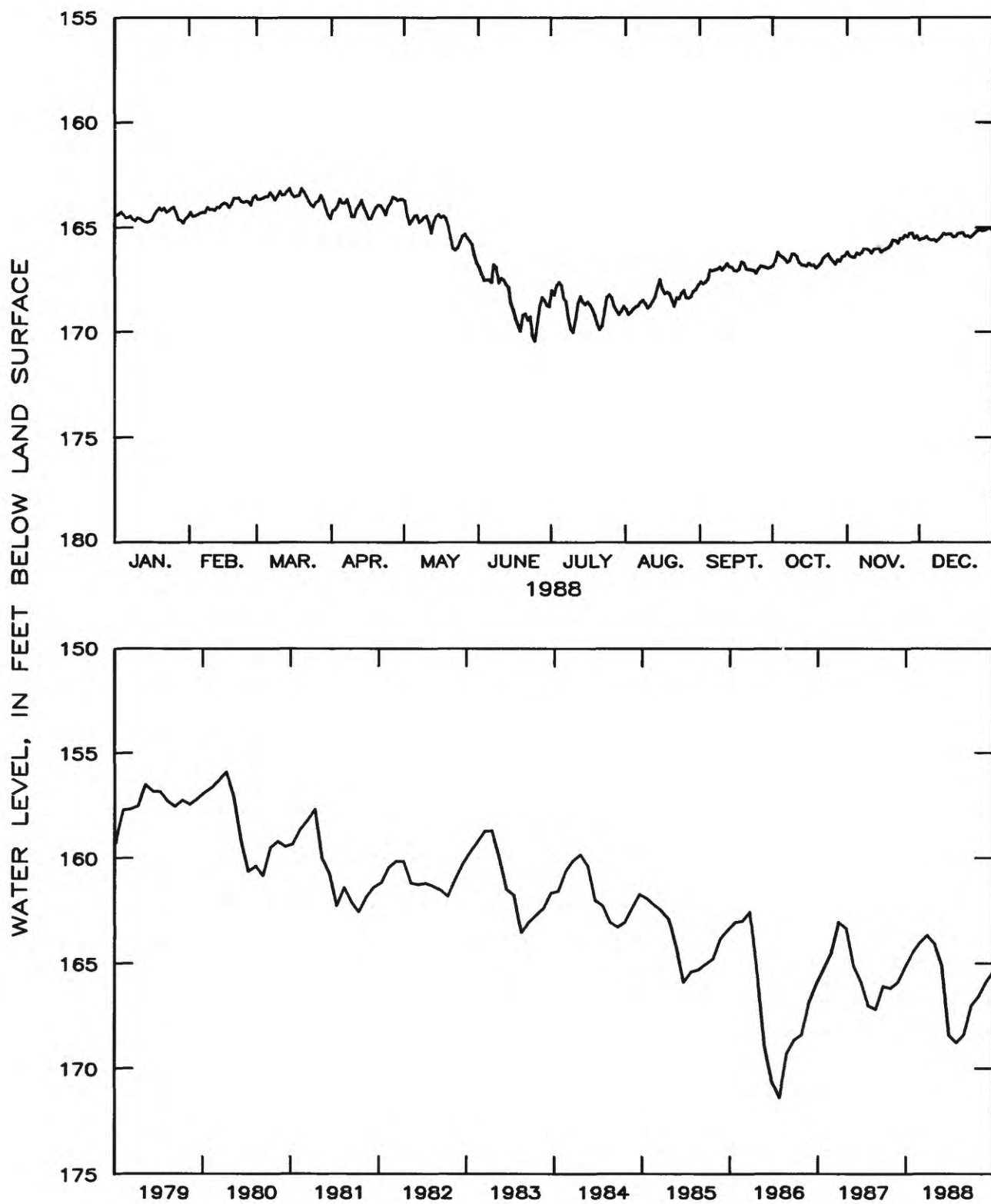


Figure 2.7.3-4.—Water level in observation well 26R001, Toombs County.

#### 2.7.4 Coastal Area

In the coastal area of Georgia and adjacent parts of Florida and South Carolina, the potentiometric surface of the Upper Floridan aquifer is characterized by cones of depression that are caused by large ground-water withdrawals. The combined pumpage in the coastal area of Georgia in 1985 was about 306 Mgal/d (Turlington and others, 1987), about 69 percent of which was used for industrial purposes. In the coastal area of Georgia, nearly all the ground water is pumped from the Upper Floridan aquifer.

Because the Upper Floridan aquifer is deeply buried in the coastal area and far from the outcrop area, the ground-water level is not influenced by concurrent rainfall, but rather by increased withdrawals during dry periods.

During May 1988, water levels measured in 124 wells tapping the Upper Floridan aquifer were used to construct a map showing the potentiometric surface of the aquifer. Ground-water withdrawal from the Upper Floridan, primarily in the Savannah, Jesup, Brunswick, and St Marys-Fernandina Beach areas, has resulted in water-level declines and in the development of cones of depression.

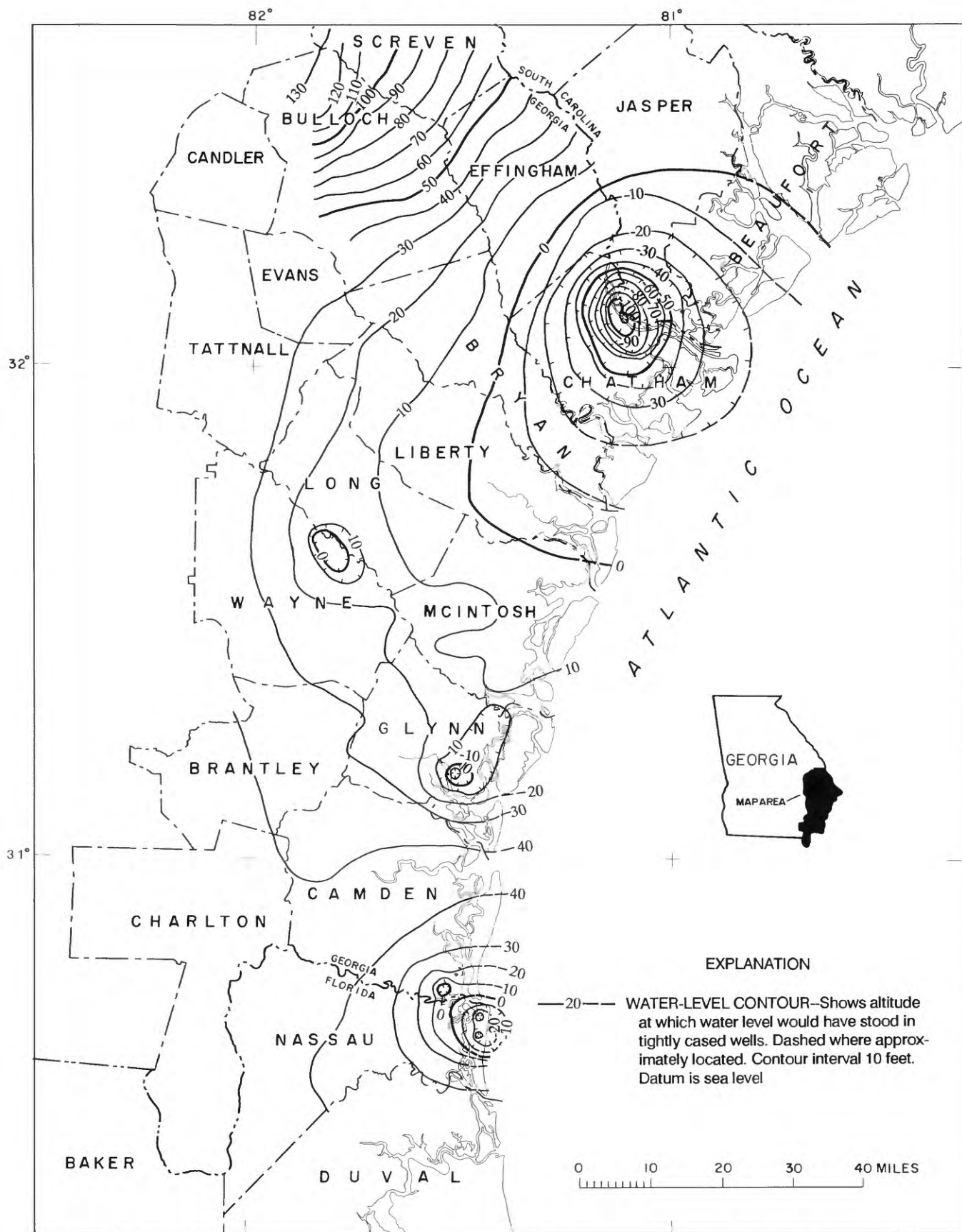


Figure 2.7.4-1.—Water level in the Upper Floridan aquifer in the coastal area, May 1988.

#### 2.7.4.1 Savannah Area

The water level in the Upper Floridan aquifer in the Savannah area is affected by pumping for municipal and industrial uses. In 1985, withdrawals from the Upper Floridan exceeded 82 Mgal/d in the Savannah area (Turlington and others, 1987). As a result, a cone of depression has developed in the potentiometric surface around Savannah. Hydrographs for observation wells near the center of pumping, and in outlying areas, illustrate the effects of pumping on the ground-water level.

The 1988 annual mean water levels in four wells in the area of the cone of depression at Savannah were from 0.4 to 1.5 ft lower than in 1987, which continued the downward trend that began in 1983. Water-level declines in these wells are attributed to below-normal rainfall and increased regional pumping. Observation well 32R002, located west of the pumping center at Savannah, responds to changes in pumping at Savannah, but to a lesser degree than those wells in the area of the cone of depression. During 1988, the annual mean water level in well 32R002 was 1.0 ft lower than in 1987, and a new record low was measured during August.



## 36Q008 LAYNE-ATLANTIC CHATHAM COUNTY

320530081085001 Local number, 36Q008.

LOCATION.--Lat 32°05'30", long 81°08'50", Hydrologic Unit 03060204, 0.19 mi southeast of intersection of Alfred Street and U.S. Highway 80.

Owner: Layne-Atlantic Co.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused industrial well, diameter 4 in., depth 406 ft, cased to 250 ft, open hole. DATUM.--Elevation of land-surface datum is 9.91 ft.

Measuring point: Top of 3-in. casing, 1.0 ft above land-surface datum.

REMARKS.--Water levels for period of missing record, March 18-22, were estimated.

PERIOD OF RECORD.--February 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 49.17 ft below land-surface datum, July 11, 1954; lowest, 124.40 ft below land-surface datum, August 30, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	106.37	110.06	107.44	104.40	104.07	104.50	112.52	116.95	116.10	113.83	113.51	113.74
2	105.11	110.18	108.13	102.96	104.42	105.43	111.83	117.55	115.73	113.26	113.40	114.38
3	104.26	110.01	107.82	100.82	105.11	105.72	111.01	118.03	115.07	113.29	114.39	113.50
4	105.38	110.31	107.12	100.29	105.67	105.01	110.14	118.01	114.58	113.75	114.64	112.22
5	107.49	110.68	105.28	101.44	106.12	104.04	110.43	117.33	114.41	113.90	113.95	112.10
6	108.70	110.77	103.48	102.10	106.17	104.38	111.07	116.65	115.36	113.69	113.39	113.20
7	109.61	110.50	104.37	101.64	105.81	105.34	111.73	115.75	115.82	113.98	113.42	114.13
8	109.64	109.98	105.62	101.49	105.38	106.57	112.76	115.93	116.62	113.37	114.00	114.88
9	110.00	110.16	105.50	103.06	105.40	106.38	113.05	116.65	115.68	113.04	114.41	115.10
10	109.82	110.32	105.15	103.34	105.68	106.44	113.71	116.92	114.85	113.30	114.52	114.61
11	109.91	110.28	104.86	103.68	106.05	107.30	113.81	116.61	114.36	114.05	114.25	113.93
12	111.04	110.06	103.01	105.36	106.91	107.68	113.92	116.44	114.75	114.07	112.91	112.86
13	110.72	109.86	101.36	105.57	107.61	108.44	113.85	116.12	116.00	113.57	112.60	113.30
14	110.89	108.64	101.83	106.74	106.27	109.32	114.32	115.97	116.35	113.36	111.82	114.39
15	110.89	107.53	102.38	107.33	104.82	110.16	115.32	115.73	116.06	112.79	112.23	114.18
16	110.16	108.50	101.67	106.92	104.44	110.82	115.19	116.27	114.84	112.11	112.33	114.74
17	108.86	109.07	101.34	104.70	104.70	111.01	115.09	116.39	114.14	112.92	112.47	114.70
18	108.32	108.68	101.40	103.76	104.68	110.40	115.48	116.29	114.12	114.41	113.12	114.60
19	109.73	107.97	101.47	104.39	104.49	110.39	115.98	116.24	114.84	115.01	112.36	114.08
20	110.06	106.60	101.54	104.66	105.01	111.24	116.27	115.60	115.51	115.05	111.72	113.12
21	110.27	104.82	101.60	103.89	104.31	112.40	116.87	115.02	116.05	115.07	112.54	112.18
22	110.44	106.04	101.66	103.83	103.99	113.12	117.30	115.26	116.44	114.50	113.62	111.79
23	109.05	106.77	101.73	103.32	104.34	113.84	116.60	115.88	116.58	113.71	113.37	111.04
24	107.20	106.68	100.84	102.86	105.02	114.11	115.61	116.06	115.87	113.75	112.31	109.94
25	107.49	107.09	100.54	103.72	105.14	113.10	115.76	116.22	114.76	113.84	112.14	109.26
26	109.18	107.36	100.38	104.28	104.85	112.00	116.62	116.30	115.07	114.60	111.33	108.78
27	110.28	105.83	99.63	105.14	104.35	111.54	116.69	116.51	115.48	114.47	110.96	108.85
28	111.16	104.85	100.33	105.45	103.62	111.72	116.75	115.97	115.42	114.62	112.22	110.34
29	110.95	105.63	102.80	105.59	103.72	111.66	116.88	116.16	114.85	114.44	113.36	110.02
30	110.02	---	103.23	104.93	103.31	111.98	116.85	116.60	114.29	113.73	113.06	109.60
31	109.61	---	104.34	---	103.71	---	116.59	116.45	---	113.41	---	109.71
MEAN	109.12	108.46	103.16	103.92	105.01	109.20	114.52	116.38	115.33	113.84	113.01	112.56
CAL YR 1988	MEAN	110.39		HIGH	99.63		LOW	118.03				

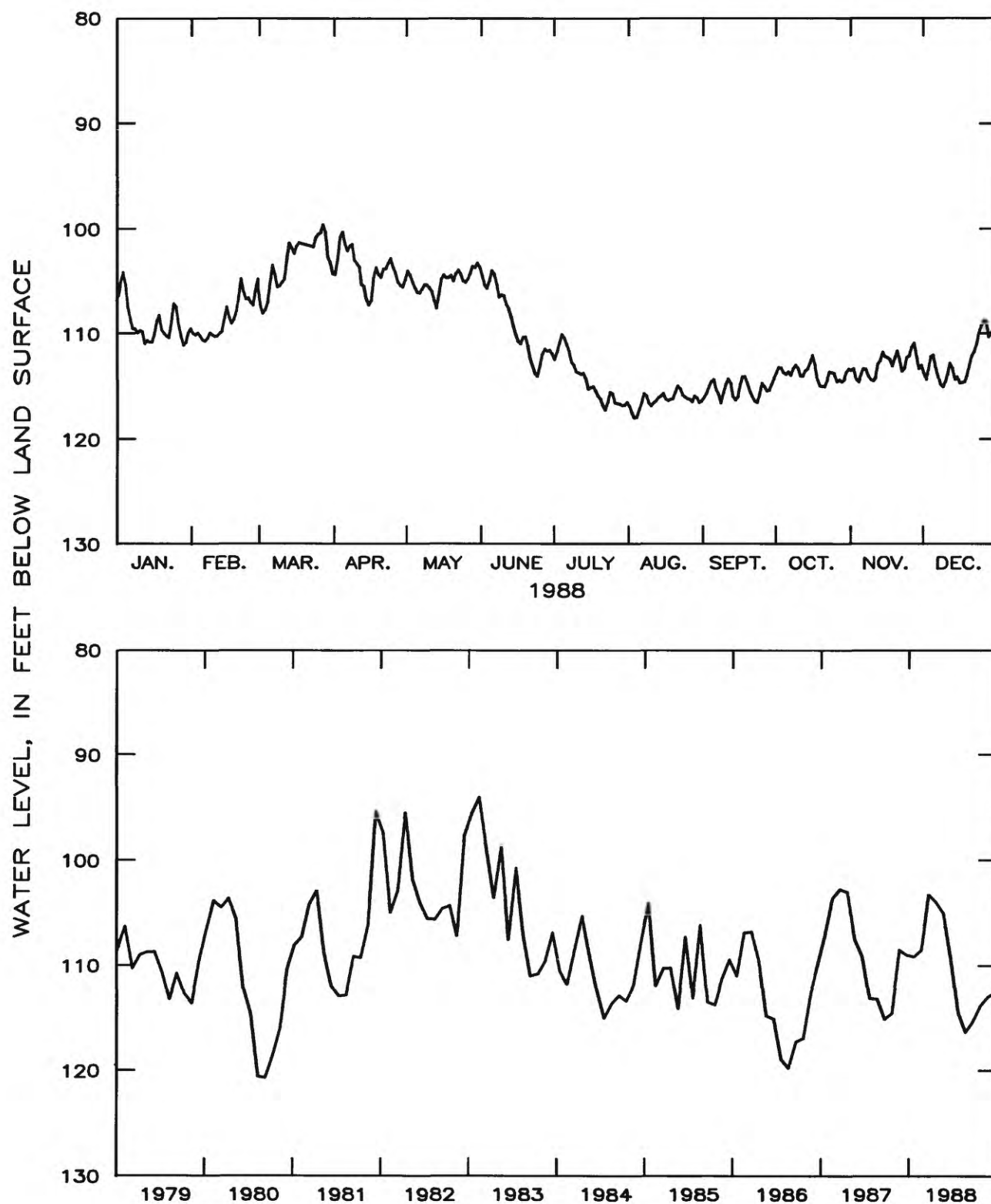


Figure 2.7.4.1-2.—Water level in observation well 36Q008, Chatham County.



## 36Q020 MORRISON CHATHAM COUNTY

320021081124801 Local number, 36Q020.

LOCATION.--Lat 32°00'18", Long 81°12'48", Hydrologic Unit 03060204, 2.7 mi south of intersection of U.S. Highway 17 with Dean Forest Road.

Owner: H. J. Morrison.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused domestic well, diameter 3 in., depth 365 ft, cased to 330 ft, open hole. DATUM.--Elevation of land-surface datum is 13 ft.

Measuring point: Floor of recorder shelter, 3.88 ft above land-surface datum.

REMARKS.--Borehole geophysical survey, May 7, 1985. Water levels for period of missing record, November 23-December 20, were estimated.

PERIOD OF RECORD.--March 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.66 ft below land-surface datum, June 28, 1958; lowest, 54.45 ft below land-surface datum, July 23, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	49.15	49.16	48.32	47.85	48.09	49.30	51.97	54.11	52.57	51.81	51.13	50.34
2	49.13	49.04	48.33	47.98	48.13	49.36	51.97	54.19	52.49	51.74	51.14	50.42
3	48.98	48.99	48.27	48.10	48.17	49.40	51.97	54.19	52.37	51.67	51.15	50.44
4	48.97	48.86	48.15	48.09	48.13	49.62	51.98	54.23	52.26	51.69	50.95	50.39
5	49.08	48.93	48.23	48.12	48.09	49.80	52.01	54.12	52.17	51.79	50.80	50.21
6	49.12	48.99	48.17	48.02	48.05	49.90	52.06	54.01	52.15	51.77	51.01	50.23
7	49.02	49.17	48.19	47.91	48.19	49.95	52.16	53.89	52.16	51.70	51.14	50.24
8	49.01	49.09	48.20	48.00	48.39	49.99	52.27	53.78	52.12	51.66	51.13	50.31
9	49.09	49.01	47.87	48.14	48.49	50.04	52.39	53.71	51.98	51.59	51.08	50.26
10	49.21	48.95	47.69	48.18	48.47	50.20	52.57	53.68	52.03	51.54	50.97	50.14
11	49.28	48.84	47.94	48.07	48.50	50.21	52.75	53.63	52.09	51.49	50.98	50.15
12	49.34	48.72	47.86	47.98	48.67	50.27	52.71	53.58	52.09	51.56	51.02	50.04
13	49.31	48.84	47.71	48.03	48.75	50.38	52.64	53.44	52.01	51.73	50.96	50.09
14	49.46	48.86	47.65	48.07	48.65	50.52	52.63	53.31	51.96	51.74	51.01	50.33
15	49.39	48.58	47.77	48.03	48.59	50.59	52.70	53.30	52.02	51.65	50.99	50.44
16	49.40	48.70	47.83	48.14	48.59	50.62	52.90	53.15	52.09	51.60	50.91	50.25
17	49.25	48.72	47.84	48.21	48.55	50.77	53.10	53.02	52.05	51.58	50.92	50.26
18	49.14	48.58	47.60	48.17	48.51	51.02	53.25	52.92	51.95	51.50	50.98	50.46
19	49.05	48.28	47.54	48.12	48.51	51.25	53.48	52.87	51.91	51.44	50.87	50.25
20	48.98	48.26	47.70	48.30	48.57	51.37	53.77	52.87	51.91	51.47	50.78	50.26
21	48.98	48.43	47.66	48.23	48.68	51.38	53.87	52.91	51.87	51.37	50.89	50.51
22	49.09	48.57	47.70	48.29	48.80	51.55	53.87	52.95	51.79	51.33	50.87	50.50
23	49.14	48.50	47.69	48.36	48.87	51.75	53.80	52.89	51.77	51.32	50.18	50.37
24	49.13	48.51	47.61	48.34	48.94	51.96	53.71	52.76	51.82	51.25	50.07	50.17
25	48.95	48.51	47.51	48.37	48.89	52.06	53.61	52.69	51.88	51.36	50.20	50.11
26	49.19	48.51	47.44	48.20	48.93	52.09	53.60	52.70	51.92	51.36	50.10	50.13
27	49.42	48.30	47.51	48.22	48.96	52.05	53.59	52.76	51.92	51.37	50.11	50.01
28	49.55	48.31	47.69	48.22	48.97	52.00	53.69	52.67	51.87	51.38	50.53	49.82
29	49.54	48.32	47.72	48.20	49.01	52.03	53.83	52.70	51.86	51.40	50.32	49.83
30	49.40	---	47.74	48.17	49.10	52.01	53.94	52.63	51.88	51.36	50.26	49.74
31	49.26	---	47.79	---	49.21	---	54.05	52.58	---	51.28	---	49.64
MEAN	49.19	48.71	47.84	48.14	48.60	50.78	52.99	53.30	52.03	51.53	50.78	50.20
CAL YR 1988	MEAN	50.35		HIGH	47.44		LOW	54.23				

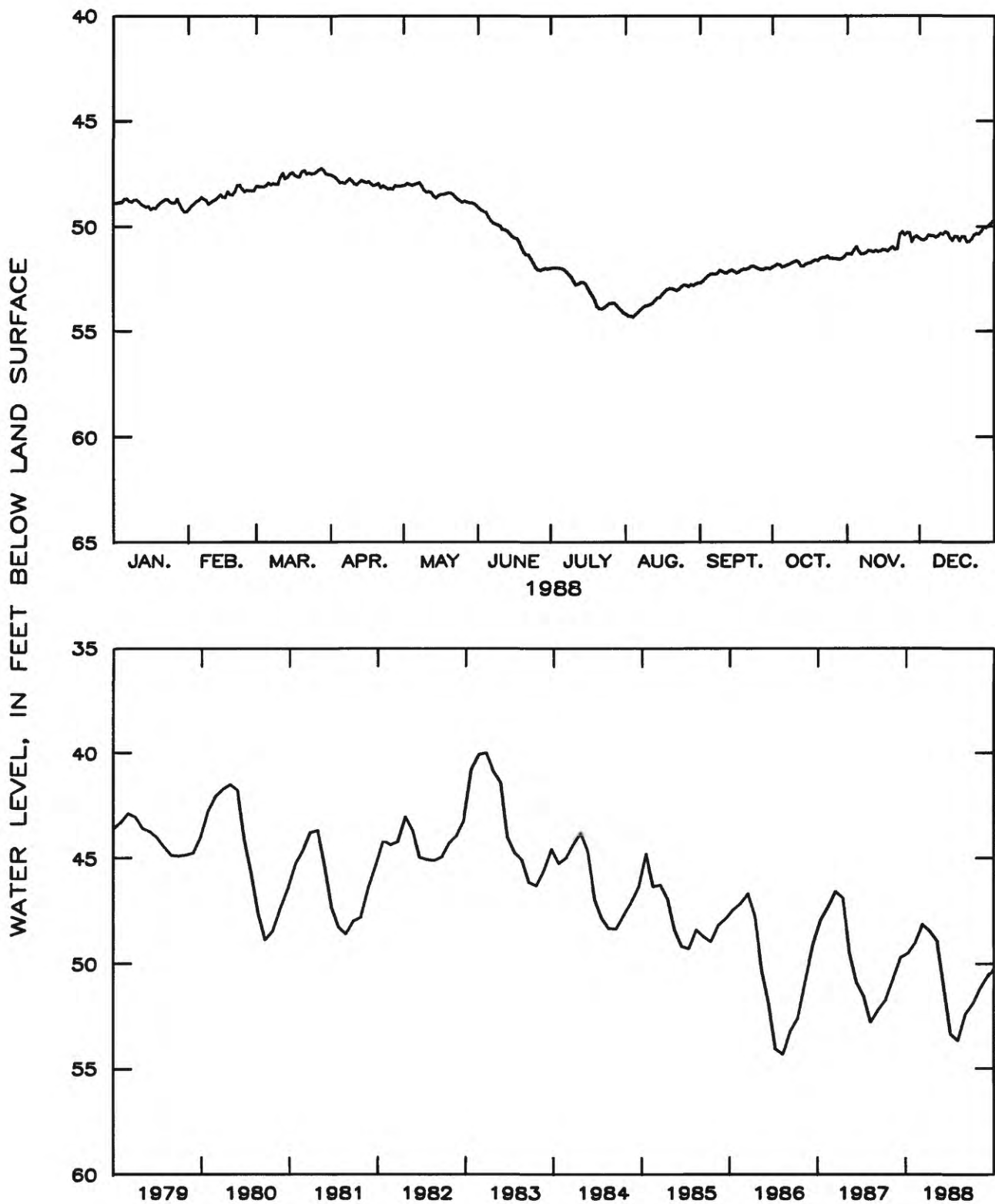


Figure 2.7.4.1–3.—Water level in observation well 36Q020, Chatham County.

38Q002 PILOT HOUSE CHATHAM COUNTY

320202080541201 Local number, 38Q002.

LOCATION.--Lat 32°02'02", long 80°54'12", Hydrologic Unit 03060204, Cockspur Island, near pilot house.

Owner: U.S. Department of the Interior, National Park Service.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 8 in., depth 348 ft, cased to 110 ft, open hole.

DATUM.--Elevation of land-surface datum is 8.0 ft.

Measuring point: Floor of recorder shelter, 3.62 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted June 16, 1961.

PERIOD OF RECORD.--February 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.00 ft below land-surface datum, March 5, 1956; lowest, 38.48 ft below land-surface datum, August 4, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	34.71	34.14	33.38	33.66	33.90	34.76	36.55	38.02	37.00	35.97	35.36	35.58
2	34.58	34.09	33.43	33.72	33.95	35.13	36.63	38.06	37.02	35.93	35.57	35.67
3	34.32	34.05	33.51	33.74	34.08	34.74	36.68	37.96	36.95	35.79	35.53	35.63
4	34.52	33.92	33.50	33.76	34.13	34.73	36.72	37.98	36.89	35.84	35.28	35.52
5	34.71	33.94	33.61	33.80	34.18	35.01	36.71	38.02	36.92	35.82	35.30	35.34
6	34.63	34.01	33.41	33.75	34.08	35.28	36.72	38.08	36.71	35.76	35.67	35.39
7	34.36	34.05	33.52	33.86	34.08	35.32	36.82	38.09	36.39	35.64	35.73	35.35
8	34.46	33.95	33.61	33.64	34.15	35.15	36.95	38.01	36.44	35.65	35.66	35.36
9	34.53	33.86	33.40	33.66	34.18	35.41	37.07	37.92	36.48	35.62	35.59	35.32
10	34.45	33.76	33.44	33.66	34.20	35.39	37.21	37.99	36.56	35.61	35.46	35.19
11	34.40	33.67	33.33	33.52	34.23	35.27	37.36	37.98	36.51	35.66	35.49	35.18
12	34.44	33.91	33.35	33.57	34.28	35.35	37.45	37.95	36.45	35.76	35.27	35.06
13	34.50	34.08	33.35	33.64	34.36	35.61	37.48	37.86	36.47	35.77	35.44	35.14
14	34.47	33.85	33.36	33.52	34.34	35.62	37.43	37.83	36.42	35.84	35.54	35.30
15	34.29	33.56	33.43	33.55	34.28	35.77	37.45	37.94	36.36	35.84	35.52	35.40
16	34.27	33.91	33.36	33.67	34.30	35.74	37.54	37.90	36.21	35.76	35.43	35.22
17	34.18	33.81	33.36	33.82	34.29	35.73	37.65	37.85	36.29	35.75	35.55	35.24
18	34.17	33.68	33.19	33.89	34.29	35.94	37.75	37.78	36.28	35.72	35.39	35.31
19	34.04	33.36	33.31	34.01	34.32	36.09	37.87	37.71	36.15	35.68	35.26	35.41
20	34.06	33.51	33.62	34.00	34.41	36.20	37.97	37.63	36.12	35.46	35.31	35.37
21	34.01	33.73	33.66	34.03	34.46	36.22	38.06	37.60	36.13	35.45	35.52	35.28
22	34.19	33.79	33.53	34.12	34.53	36.27	38.13	37.41	35.88	35.52	35.31	35.24
23	34.24	33.72	33.57	34.12	34.60	36.37	38.18	37.31	35.83	35.43	35.19	35.08
24	34.18	33.79	33.67	34.18	34.70	36.50	38.16	37.26	35.90	35.72	35.24	35.11
25	33.95	33.72	33.62	33.95	34.65	36.42	37.91	37.22	35.97	35.42	35.39	35.19
26	34.43	33.64	33.55	33.80	34.32	36.48	37.74	37.27	35.91	35.49	35.36	35.18
27	34.40	33.54	33.62	33.94	34.41	36.52	37.75	37.30	35.93	35.42	35.35	35.13
28	34.42	33.35	33.61	34.19	34.55	36.48	37.80	37.07	35.94	35.56	35.73	35.22
29	34.43	33.36	33.60	34.12	34.67	36.59	37.86	37.31	35.87	35.57	35.61	35.33
30	34.34	---	33.62	34.09	34.97	36.65	37.87	37.21	36.02	35.40	35.49	35.19
31	34.21	---	33.65	---	34.85	---	37.91	37.09	---	35.30	---	34.98
MEAN	34.35	33.78	33.49	33.83	34.35	35.76	37.46	37.70	36.33	35.65	35.45	35.29
CAL YR 1988	MEAN	35.29		HIGH	33.19		LOW	38.18				

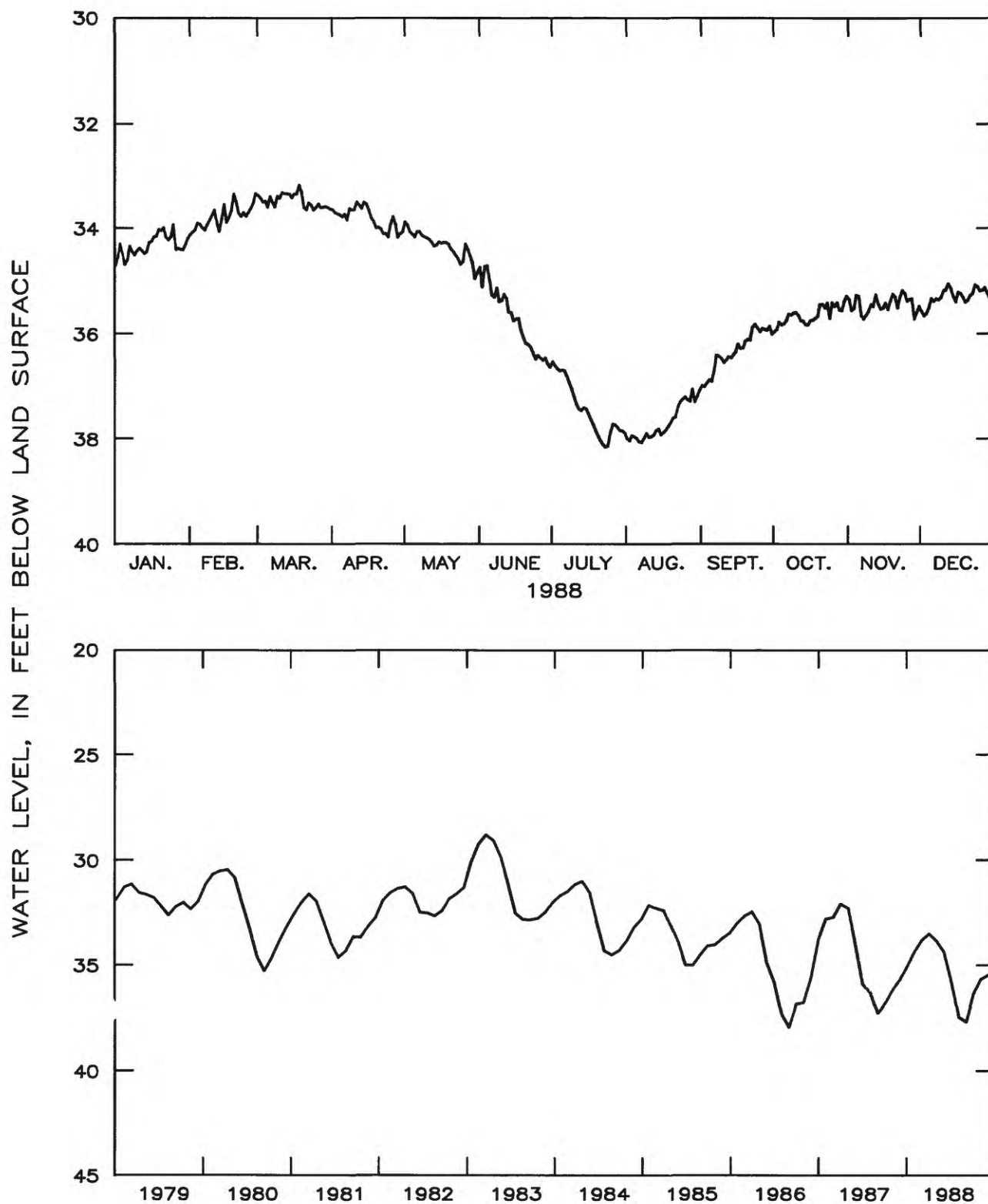


Figure 2.7.4.1—4.—Water level in observation well 38Q002, Chatham County.

## 39Q003 TEST WELL 7 CHATHAM COUNTY

320122080510204 Local number, 39Q003.

LOCATION.--Lat 32°01'22", long 80°51'02", Hydrologic Unit 03060204, Tybee Island near Fort Screven.

Owner: U.S. Geological Survey, test well 7.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 10 in., depth 600 ft, cased to 129 ft, open hole.

DATUM.--Elevation of land-surface datum is 7.0 ft.

Measuring point: Top of 10-in. casing, 2.0 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted January 24, 1962. Water levels for period of missing record, May 2-5, were estimated.

PERIOD OF RECORD.--May 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.80 ft below land-surface datum, April 11, 1963; lowest, 34.33 ft below land-surface datum, August 3, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	30.78	30.14	29.42	29.87	29.96	30.80	32.30	33.82	32.59	31.47	31.03	31.33
2	30.50	30.12	29.46	29.96	30.05	30.67	32.51	33.83	32.70	31.46	31.25	31.41
3	30.15	30.04	29.59	29.91	30.14	30.63	32.62	33.71	32.73	31.29	31.17	31.37
4	30.45	29.86	29.63	29.86	30.24	30.50	32.70	33.60	32.70	31.33	30.91	31.29
5	30.73	29.88	29.78	29.89	30.33	30.94	32.59	33.52	32.80	31.25	30.96	30.99
6	30.68	29.99	29.52	29.84	30.25	31.13	32.56	33.70	32.46	31.14	31.39	31.08
7	30.31	30.06	29.64	30.02	30.27	31.18	32.69	33.79	32.02	31.01	31.56	31.11
8	30.55	29.92	29.74	29.68	30.33	31.12	32.93	33.60	32.02	31.06	31.42	31.18
9	30.59	29.80	29.51	29.72	30.24	31.14	33.13	33.52	32.11	31.08	31.37	31.18
10	30.42	29.67	29.60	29.75	30.28	31.10	33.21	33.77	32.26	31.12	31.24	31.02
11	30.32	29.57	29.40	29.52	30.39	31.10	33.19	33.74	32.19	31.21	31.29	31.03
12	30.37	30.01	29.51	29.59	30.40	31.37	33.20	33.70	32.09	31.36	30.99	30.82
13	30.48	30.33	29.57	29.85	30.42	31.53	33.32	33.56	32.12	31.33	31.18	30.91
14	30.45	29.94	29.56	29.73	30.37	31.72	33.30	33.54	32.08	31.44	31.31	31.08
15	30.21	29.60	29.65	29.69	30.32	31.75	33.45	33.69	31.99	31.50	31.27	31.19
16	30.19	30.09	29.58	29.99	30.36	31.70	33.60	33.63	31.79	31.47	31.12	30.89
17	30.18	29.95	29.59	30.08	30.30	31.78	33.62	33.60	31.93	31.41	31.39	30.99
18	30.24	29.75	29.40	30.01	30.28	32.07	33.53	33.56	31.98	31.31	31.18	31.14
19	30.06	29.40	29.57	30.12	30.35	32.14	33.66	33.58	31.78	31.26	31.00	31.20
20	30.08	29.60	29.95	30.00	30.51	32.12	33.72	33.54	31.75	30.90	31.16	31.23
21	30.01	29.87	29.96	30.11	30.65	32.08	33.81	33.53	31.79	30.89	31.40	31.36
22	30.19	29.88	29.68	30.26	30.66	32.16	33.81	33.15	31.51	31.06	31.09	31.34
23	30.25	29.79	29.72	30.17	30.64	32.32	33.73	32.86	31.48	30.96	30.94	31.07
24	30.15	29.90	29.89	30.26	30.79	32.35	33.64	32.92	31.66	31.06	30.89	31.24
25	29.86	29.77	29.82	29.92	30.69	32.21	33.37	32.94	31.79	31.16	31.13	31.38
26	30.54	29.68	29.74	29.67	30.11	32.20	33.29	33.02	31.60	31.24	31.13	31.30
27	30.55	29.66	29.91	29.89	30.25	32.13	33.45	33.08	31.51	31.22	31.16	31.05
28	30.51	29.41	29.79	30.22	30.42	32.08	33.62	32.79	31.47	31.37	31.55	30.95
29	30.47	29.39	29.74	30.23	30.69	32.34	33.70	33.03	31.34	31.32	31.35	30.99
30	30.37	---	29.88	30.24	30.72	32.50	33.69	32.90	31.51	31.04	31.15	30.80
31	30.24	---	29.90	---	30.74	---	33.77	32.71	---	30.86	---	30.77
MEAN	30.35	29.83	29.67	29.94	30.39	31.63	33.28	33.42	31.99	31.21	31.20	31.12
CAL YR 1988	MEAN	31.18		HIGH	29.39		LOW	33.83				

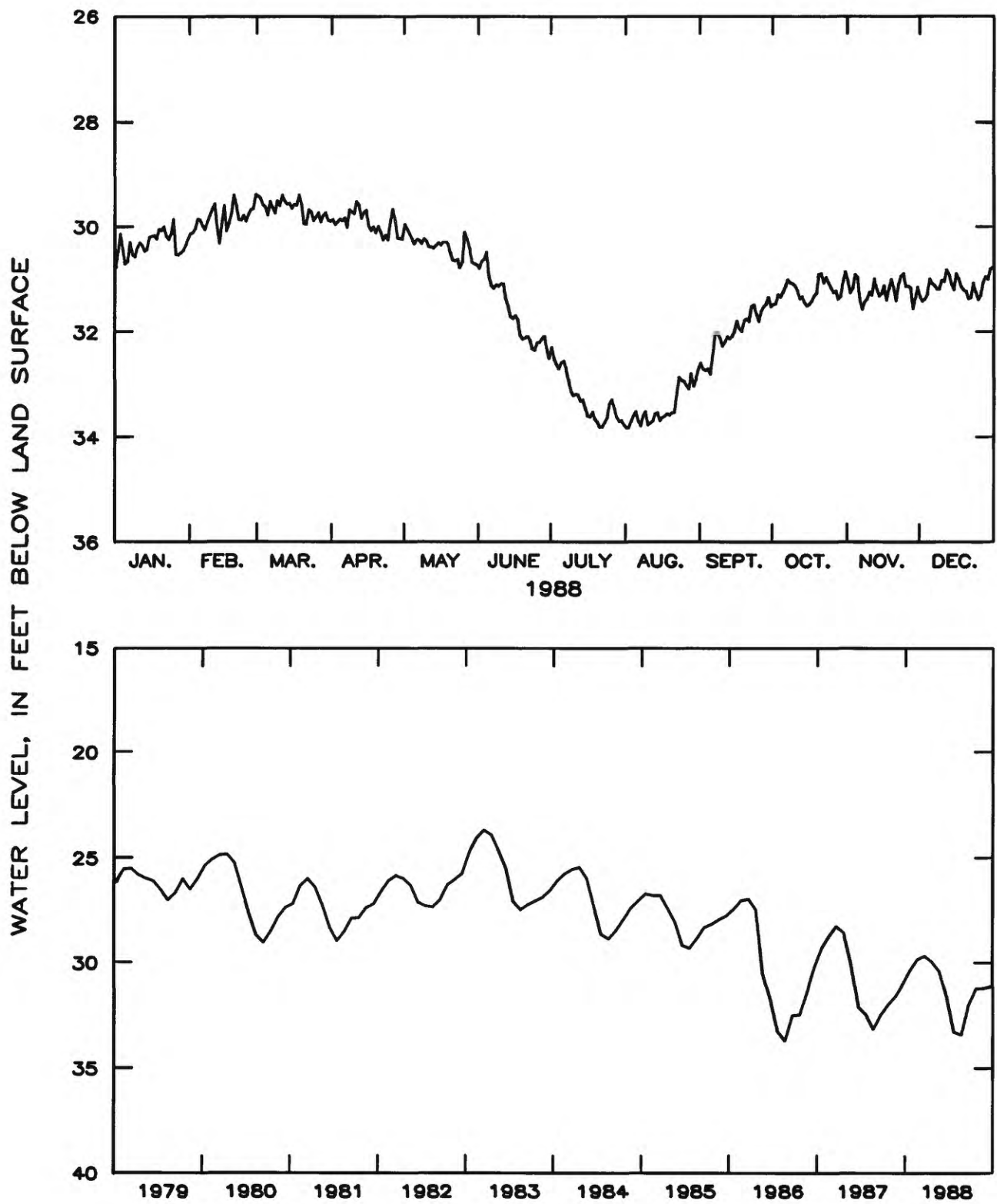


Figure 2.7.4.1–5.—Water level in observation well 39Q003, Chatham County.

## 32R002 BULLOCH SOUTH TW1 BULLOCH COUNTY

321240081411501, Local number, 32R002.

LOCATION.--Lat 32°12'40", long 81°41'15", Hydrologic Unit 03060202, 2.6 mi north along Georgia Road 67 from the Bulloch-Bryan County line, on east side of, and approximately 100 ft from center line of road.

Owner: Georgia Geologic Survey.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 804 ft, cased to 420 ft.

DATUM.--Elevation of land-surface datum is 120 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Borehole geophysical survey and well sounded August 1982.

PERIOD OF RECORD.--February 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 85.08 ft below land-surface datum, April 24, 1983; lowest, 92.72 ft below land-surface datum, August 4, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	90.88	90.59	90.28	90.18	90.03	90.28	91.56	92.69	92.56	92.31	91.98	91.82
2	90.86	90.54	90.31	90.18	90.07	90.23	91.67	92.71	92.55	92.31	91.99	91.90
3	90.78	90.48	90.25	90.14	90.10	90.20	91.71	92.71	92.54	92.31	92.03	91.87
4	90.75	90.43	90.16	90.07	90.06	90.37	91.79	92.72	92.40	92.31	91.86	91.82
5	90.83	90.51	90.21	90.07	90.00	90.49	91.87	92.70	92.30	92.31	91.68	91.88
6	90.84	90.60	90.21	89.99	89.99	90.47	91.88	92.68	92.33	92.31	91.84	91.84
7	90.74	90.68	90.23	89.90	90.03	90.44	91.90	92.67	92.42	92.33	91.98	91.75
8	90.62	90.60	90.25	89.96	90.11	90.40	91.92	92.65	92.43	92.32	92.03	91.76
9	90.65	90.51	90.04	90.08	90.12	90.45	91.92	92.66	92.35	92.26	92.02	91.73
10	90.69	90.49	89.82	90.09	90.06	90.61	91.96	92.69	92.38	92.21	91.97	91.74
11	90.74	90.43	90.12	89.99	90.05	90.74	92.02	92.70	92.42	92.14	91.98	91.68
12	90.74	90.33	90.12	89.96	90.13	90.80	92.05	92.70	92.44	92.21	92.04	91.74
13	90.68	90.43	89.98	90.08	90.13	90.86	92.07	92.70	92.38	92.38	91.99	91.66
14	90.78	90.47	89.98	90.18	90.10	90.93	92.07	92.65	92.34	92.39	92.00	91.72
15	90.77	90.26	90.11	90.20	90.08	90.95	92.07	92.67	92.39	92.33	91.99	91.72
16	90.77	90.34	90.22	90.21	90.00	90.93	92.11	92.65	92.48	92.28	91.92	91.66
17	90.67	90.43	90.25	90.21	89.99	90.93	92.19	92.66	92.41	92.27	91.93	91.62
18	90.56	90.36	90.08	90.10	89.99	91.03	92.23	92.63	92.27	92.20	91.99	91.73
19	90.48	90.19	90.03	89.97	89.99	91.15	92.30	92.61	92.26	92.12	91.93	91.76
20	90.40	90.09	90.17	90.14	89.99	91.19	92.36	92.57	92.29	92.18	91.80	91.77
21	90.37	90.24	90.18	90.07	90.02	91.22	92.36	92.57	92.29	92.08	91.86	91.70
22	90.44	90.36	90.23	90.08	90.05	91.24	92.39	92.62	92.26	92.04	91.89	91.71
23	90.50	90.28	90.30	90.10	90.05	91.27	92.41	92.64	92.25	92.06	91.73	91.65
24	90.48	90.28	90.26	90.05	90.04	91.35	92.48	92.57	92.25	92.02	91.77	91.55
25	90.38	90.32	90.18	90.06	90.03	91.44	92.50	92.53	92.27	92.11	91.84	91.57
26	90.51	90.35	90.11	89.98	90.17	91.42	92.52	92.56	92.28	92.10	91.75	91.71
27	90.70	90.21	90.12	90.02	90.22	91.43	92.56	92.63	92.33	92.14	91.66	91.67
28	90.79	90.18	90.22	90.07	90.21	91.53	92.64	92.59	92.31	92.15	91.74	91.53
29	90.79	90.21	90.23	90.10	90.19	91.55	92.70	92.60	92.31	92.15	91.90	91.60
30	90.74	---	90.20	90.08	90.25	91.52	92.69	92.54	92.31	92.14	91.81	91.55
31	90.65	---	90.19	---	90.29	---	92.68	92.51	---	92.09	---	91.47
MEAN	90.66	90.39	90.16	90.08	90.08	90.91	92.18	92.64	92.36	92.21	91.90	91.71
CAL YR 1988	MEAN	91.28		HIGH	89.82		LOW	92.72				



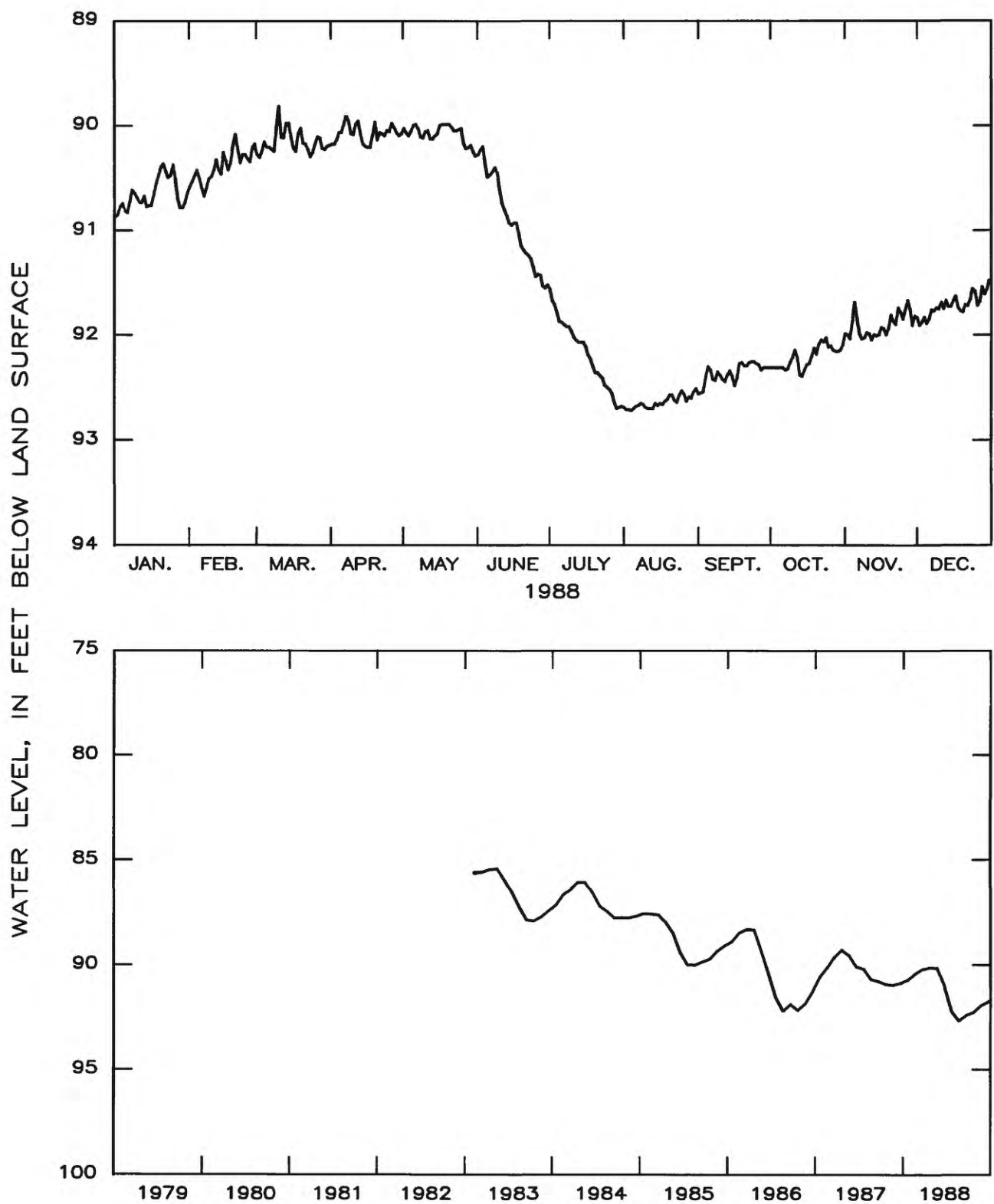


Figure 2.7.4.1-6.—Water level in observation well 32R002, Bulloch County.

#### 2.7.4.2 Jesup-Riceboro Area

The water level in the Upper Floridan aquifer in the Jesup-Riceboro area is affected by industrial pumping at Doctortown near Jesup and at Riceboro. In 1985, pumpage was about 70 Mgal/d at Doctortown and about 16 Mgal/d at Riceboro (Turlington and others, 1987). Hydrographs for wells 30L003 and 32L015 illustrate the effects that a partial-industrial shutdown had on the water level in the Jesup area in April 1988. Similarly, the hydrograph for well 34M054 illustrates the effects that partial-industrial shutdowns had on the water level at Riceboro in May 1988.

Annual mean water levels during 1988 were from 0.6 to 1.8 ft lower than in 1987, and record-low water levels were measured in wells 32L015, 33M004, 34M054, 34N089, and 35M013 during August and September 1988. These declines continued a downward trend that began in 1983, and which is attributed to increased regional pumping as a result of below-normal precipitation.

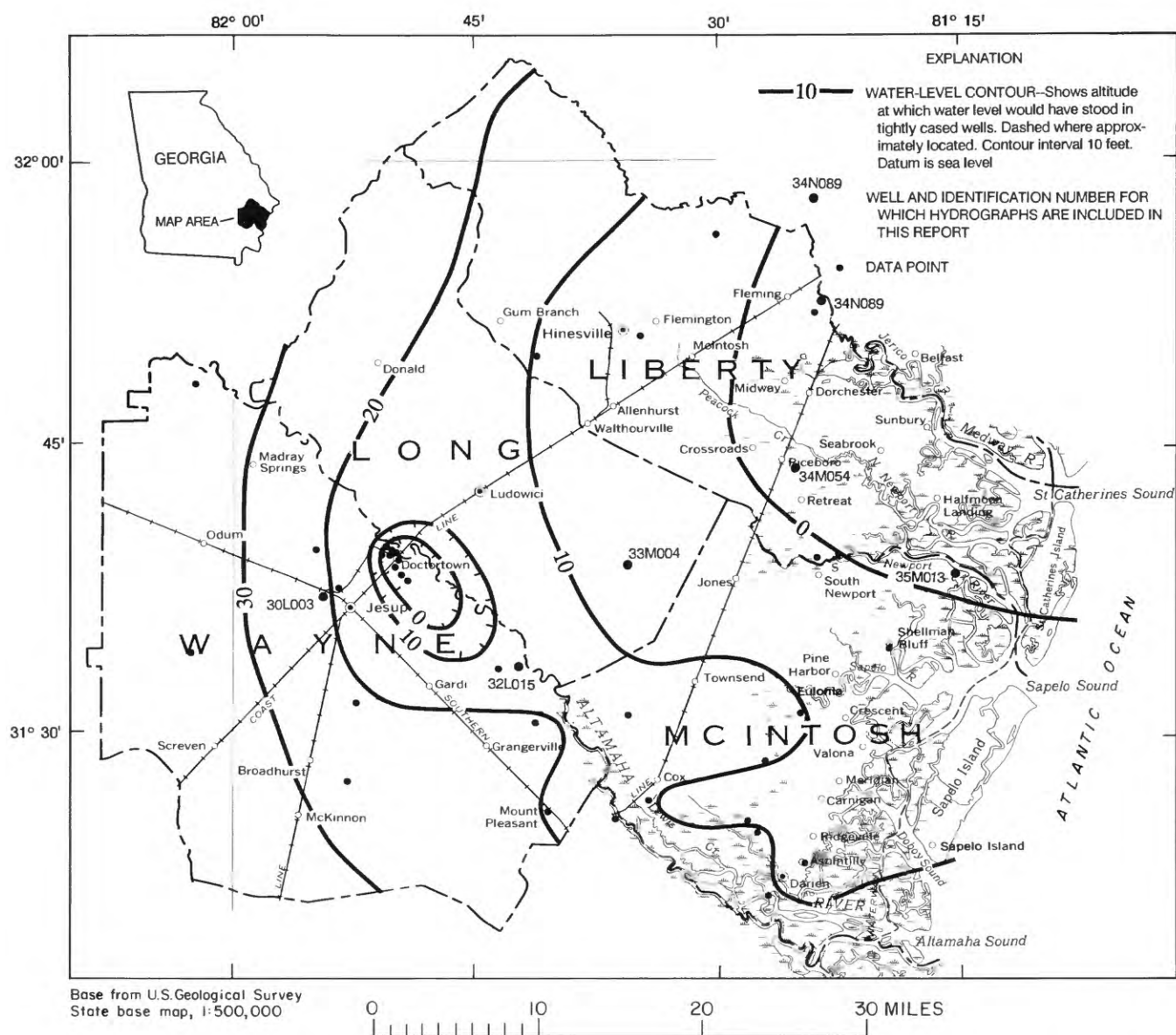


Figure 2.7.4.2-1.—Observation well locations and the water level in the Upper Floridan aquifer in the Jesup-Riceboro area, May 1988.

30L003 JOHNSON WAYNE COUNTY

313701081543501 Local number, 30L003.

LOCATION.--Lat 31°37'01", long 81°54'35", Hydrologic Unit 03070106, about 0.5 mi west of Jesup city limits near intersection of Highway 341 and Sunset Drive.

Owner: City of Jesup Housing Authority.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused domestic well, diameter 4 in., depth 584 ft, cased to 472 ft, open hole.

DATUM.--Elevation of land-surface datum is 107 ft.

Measuring point: Floor of recorder shelter, 2.88 ft above land-surface datum.

REMARKS.--Borehole geophysical survey conducted August 19, 1963.

PERIOD OF RECORD.--January 1964 to March 1967. February 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 59.98 ft below land-surface datum, April 19, 1964; lowest 85.27 ft below land-surface datum, June 29, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	83.27	83.46	83.28	82.52	80.71	82.15	84.26	85.07	84.78	83.97	83.81	84.26
2	83.28	83.50	83.28	82.53	80.83	81.94	84.28	85.03	84.83	84.02	83.77	84.39
3	83.30	83.51	83.18	82.50	80.95	82.07	84.29	85.09	84.77	83.93	83.83	84.49
4	83.22	83.56	83.09	82.41	81.15	82.32	84.37	85.06	84.62	83.58	83.73	84.49
5	83.30	83.70	83.13	82.45	81.20	82.50	84.41	84.99	84.53	83.44	83.52	84.57
6	83.38	83.80	83.15	82.38	81.21	82.55	84.50	84.98	84.48	83.61	83.65	84.53
7	83.30	83.86	83.22	82.16	81.33	82.57	84.55	84.94	84.49	83.88	83.91	84.42
8	83.19	83.80	83.16	82.15	81.34	82.60	84.53	84.92	84.50	83.98	84.05	84.38
9	83.18	83.77	82.86	82.18	81.38	82.71	84.56	84.93	84.41	84.02	84.04	84.34
10	83.21	83.69	82.70	81.75	81.36	82.80	84.69	84.99	84.46	83.81	83.94	84.32
11	83.29	83.41	82.86	80.74	81.43	82.94	84.82	85.02	84.52	83.43	83.95	84.26
12	83.35	83.31	82.76	79.02	81.42	83.08	84.84	84.91	84.53	83.18	84.01	84.27
13	83.33	83.51	82.54	78.21	81.38	83.14	84.84	84.91	84.50	83.06	83.99	84.14
14	83.40	83.57	82.51	77.45	81.34	83.26	84.74	84.80	84.45	83.01	83.96	84.10
15	83.44	83.40	82.69	76.80	81.20	83.28	84.71	84.74	84.52	82.86	83.93	84.09
16	83.46	83.51	82.83	76.38	81.14	83.22	84.70	84.74	84.58	83.03	83.95	84.05
17	83.30	83.58	82.92	76.45	81.11	83.36	84.68	84.79	84.48	83.26	83.95	83.98
18	83.15	83.48	82.77	76.93	81.19	83.52	84.80	84.74	84.37	83.41	84.03	84.08
19	83.21	83.28	82.69	77.35	81.31	83.75	84.88	84.74	84.41	83.48	84.11	84.14
20	83.16	83.18	82.79	78.11	81.38	83.88	84.78	84.76	84.45	83.55	84.04	84.20
21	83.14	83.32	82.78	78.48	81.47	83.89	84.72	84.65	84.49	83.43	84.15	84.16
22	83.23	83.38	82.75	78.91	81.61	83.94	84.71	84.66	84.45	83.53	84.19	84.18
23	83.28	83.30	82.72	79.35	81.84	83.94	84.75	84.68	84.43	83.66	84.02	84.13
24	83.29	83.42	82.61	79.71	81.99	83.96	84.74	84.68	84.43	83.68	84.13	83.99
25	83.25	83.36	82.50	79.75	81.93	83.95	84.76	84.64	84.42	83.83	84.20	84.01
26	83.46	83.36	82.37	79.80	82.08	83.90	84.82	84.68	84.45	83.94	84.10	84.23
27	83.77	83.23	82.41	80.00	82.10	84.02	84.89	84.78	84.29	84.05	83.98	84.28
28	83.88	83.22	82.55	80.31	82.00	84.19	84.99	84.78	83.91	84.07	84.03	84.12
29	83.76	83.23	82.58	80.36	81.94	84.09	85.16	84.81	83.77	83.96	84.21	84.12
30	83.50	---	82.45	80.59	82.03	84.09	85.18	84.79	83.88	83.97	84.15	84.04
31	83.49	---	82.46	---	82.16	---	85.10	84.78	---	83.94	---	83.96
MEAN	83.35	83.47	82.79	79.92	81.47	83.25	84.71	84.84	84.44	83.63	83.98	84.22
CAL YR 1988	MEAN	83.34		HIGH	76.38		LOW	85.18				

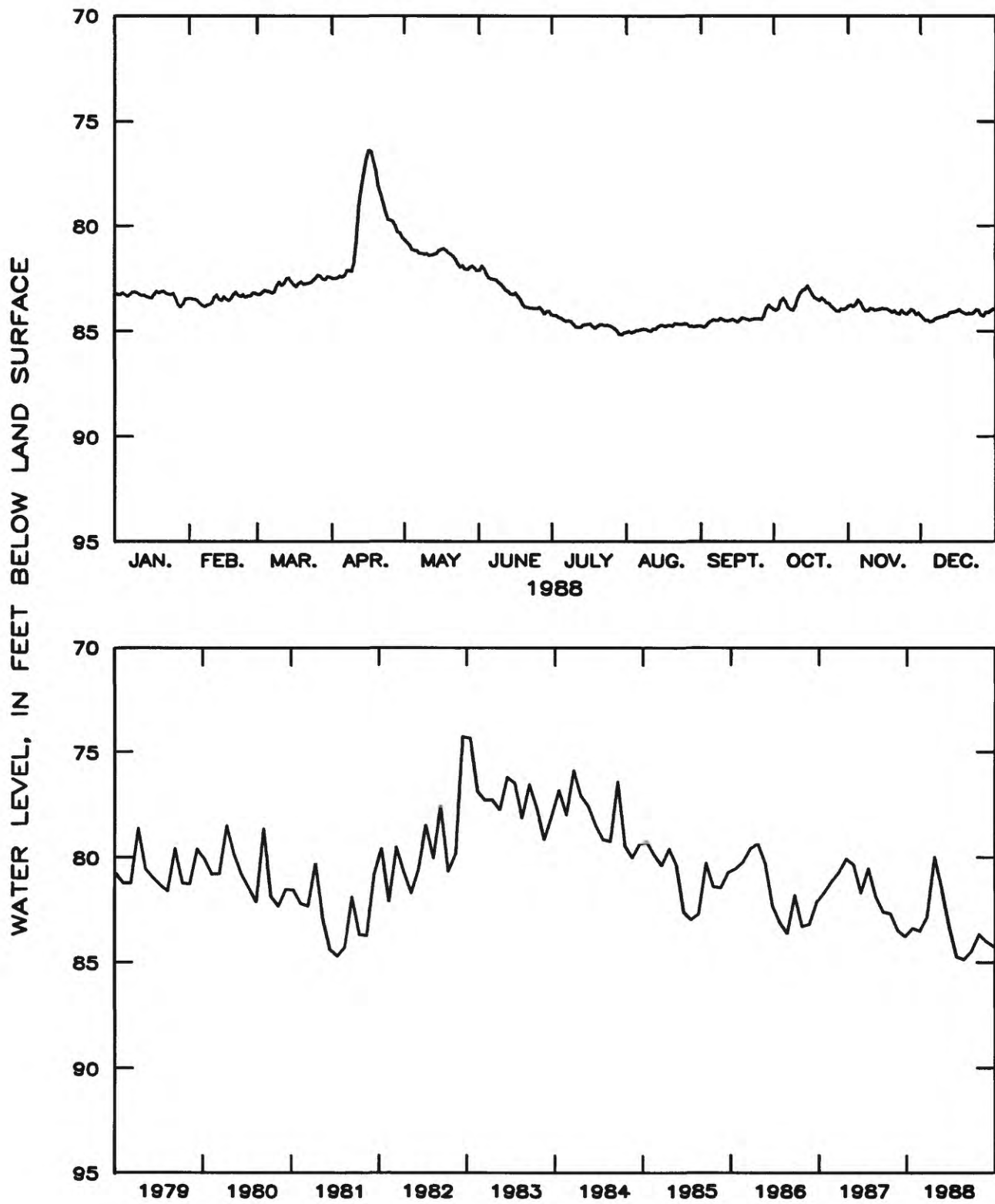


Figure 2.7.4.2-2.—Water level in observation well 30L003, Wayne County.

## 32L015 GARDI TW1 WAYNE COUNTY

313253081433502, Local number, 32L015.

LOCATION.--Lat 31°32'52", long 81°43'36", Hydrologic Unit 03070106, 4.3 mi east of Gardi Road, left onto dirt road 0.8 mi, well on right side of road.

Owner: Georgia Geologic Survey.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 750 ft, cased to 545 ft.

DATUM.--Elevation of land-surface datum is 74 ft.

Measuring point: Floor of recorder shelter, 4.0 ft above land-surface datum.

REMARKS.--Borehole geophysical survey and well sounded April 20, 1983.

PERIOD OF RECORD.--April 20, 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 49.12 ft below land-surface datum, March 19, 1984; lowest, 60.31 ft below land-surface datum, September 2, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	58.91	58.86	58.75	58.26	56.34	57.58	59.09	60.11	60.30	59.79	59.51	59.83
2	58.89	58.83	58.80	58.25	56.52	57.44	59.22	60.14	60.31	59.72	59.52	59.95
3	58.82	58.82	58.73	58.20	56.64	57.38	59.25	60.15	60.24	59.67	59.57	59.97
4	58.82	58.81	58.62	58.13	56.73	57.62	59.37	60.16	60.11	59.58	59.38	59.94
5	58.92	58.97	58.72	58.14	56.78	57.79	59.46	60.13	60.00	59.59	59.22	60.02
6	58.94	59.07	58.71	58.04	56.81	57.80	59.48	60.13	60.01	59.64	59.41	60.01
7	58.82	59.17	58.77	57.89	56.96	57.79	59.49	60.13	60.07	59.68	59.60	59.92
8	58.69	59.08	58.77	57.96	57.05	57.77	59.49	60.13	60.08	59.72	59.69	59.94
9	58.75	59.02	58.44	58.03	57.08	57.85	59.47	60.15	60.01	59.70	59.69	59.90
10	58.79	59.00	58.25	57.88	57.06	58.05	59.52	60.20	60.08	59.64	59.63	59.90
11	58.83	58.91	58.53	57.37	57.08	58.21	59.62	60.25	60.13	59.47	59.64	59.84
12	58.85	58.77	58.44	56.47	57.16	58.31	59.67	60.23	60.14	59.41	59.73	59.90
13	58.79	58.88	58.21	55.83	57.17	58.39	59.72	60.22	60.07	59.46	59.69	59.82
14	58.91	58.92	58.15	55.31	57.13	58.49	59.71	60.15	60.01	59.38	59.71	59.83
15	58.87	58.68	58.30	54.70	57.08	58.48	59.72	60.17	60.09	59.21	59.69	59.82
16	58.91	58.84	58.42	54.30	57.04	58.41	59.76	60.17	60.18	59.17	59.64	59.76
17	58.76	58.94	58.49	54.21	57.00	58.40	59.78	60.19	60.11	59.22	59.67	59.74
18	58.64	58.86	58.32	54.17	57.01	58.54	59.78	60.15	59.98	59.24	59.75	59.84
19	58.62	58.58	58.28	54.26	57.06	58.72	59.85	60.11	59.98	59.22	59.72	59.87
20	58.54	58.56	58.47	54.71	57.11	58.82	59.86	60.11	60.04	59.30	59.64	59.88
21	58.50	58.74	58.46	54.86	57.17	58.84	59.82	60.12	60.04	59.24	59.73	59.83
22	58.66	58.87	58.51	55.09	57.22	58.85	59.80	60.16	60.01	59.24	59.77	59.84
23	58.72	58.73	58.52	55.38	57.29	58.86	59.83	60.18	60.00	59.31	59.61	59.79
24	58.72	58.74	58.45	55.56	57.38	58.90	59.86	60.11	60.00	59.29	59.70	59.68
25	58.56	58.79	58.34	55.70	57.38	58.93	59.87	60.07	60.01	59.46	59.80	59.68
26	58.81	58.81	58.23	55.71	57.55	58.86	59.88	60.12	60.08	59.52	59.70	59.83
27	59.04	58.62	58.23	55.91	57.63	58.89	59.95	60.22	60.06	59.59	59.61	59.85
28	59.15	58.65	58.34	56.08	57.59	59.06	60.03	60.21	59.90	59.66	59.66	59.73
29	59.15	58.68	58.34	56.21	57.55	59.06	60.13	60.25	59.79	59.65	59.84	59.80
30	58.99	---	58.29	56.29	57.58	58.98	60.13	60.22	59.82	59.64	59.78	59.76
31	58.90	---	58.26	---	57.60	---	60.09	60.25	---	59.61	---	59.67
MEAN	58.82	58.83	58.46	56.30	57.12	58.37	59.70	60.16	60.06	59.48	59.64	59.84
CAL YR 1988	MEAN	58.90		HIGH	54.17		LOW	60.31				

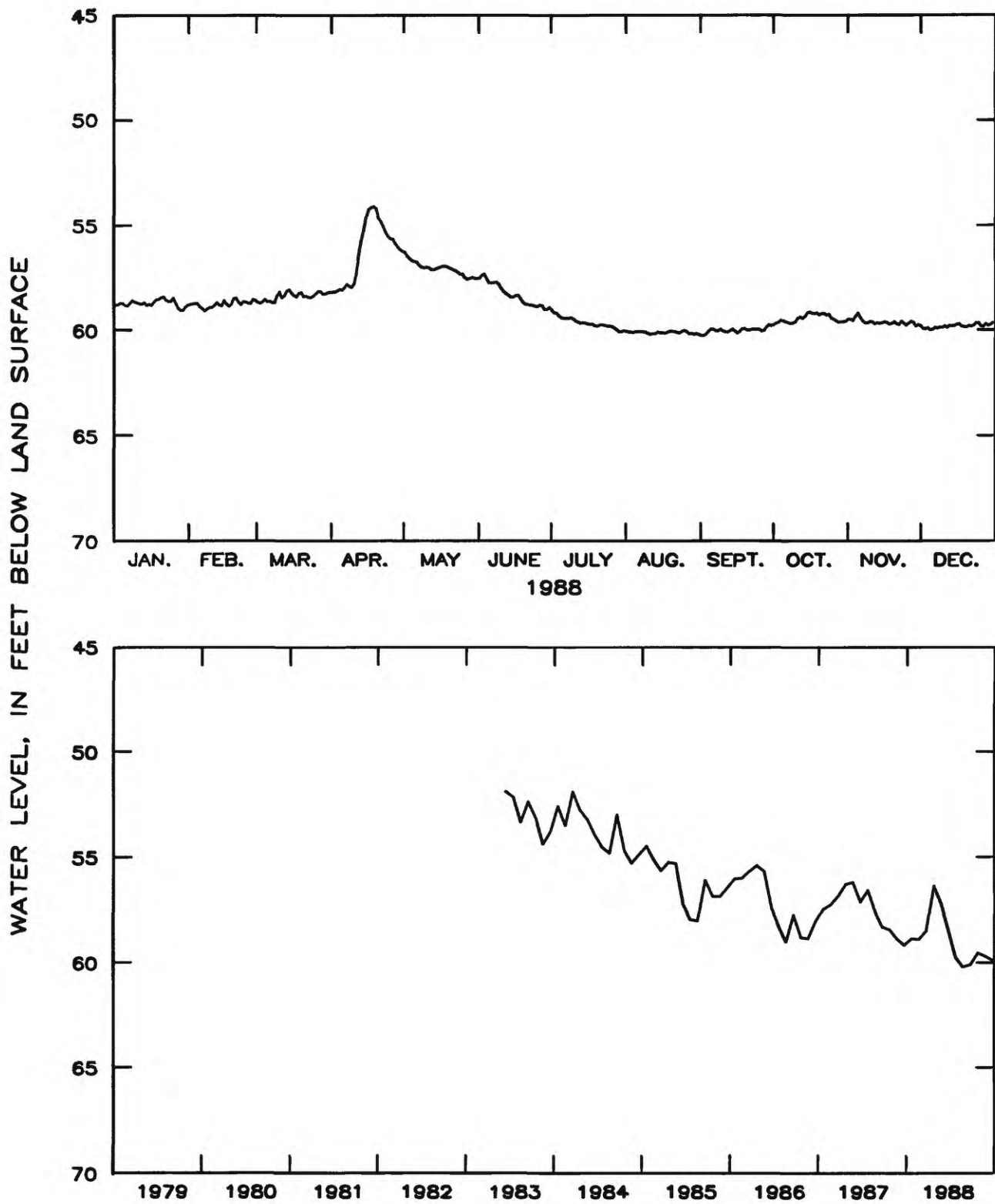


Figure 2.7.4.2-3.—Water level in observation well 32L015, Wayne County.



## 33M004 TEST WELL 3 LONG COUNTY

313845081361701 Local number, 33M004.

LOCATION.--Lat 31°38'54", long 81°36'04", Hydrologic Unit 03070106, 9 mi southeast of Ludowici, at Hope Cemetery.

Owner: U.S. Geological Survey, test well 3.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4-3 in., depth 872 ft, cased to 538 ft, open hole.

DATUM.--Elevation of land-surface datum is 61.2 ft.

Measuring point: Floor of recorder shelter, 3.5 ft above land-surface datum.

REMARKS.--Well pumped and sounded June 17, 1976, to depth of 861 ft; water-quality sample collected. Borehole geophysical survey conducted July 28, 1976. Water levels for periods of missing record, January 1-26, February 25 to March 22, and March 24 to May 10, were estimated.

PERIOD OF RECORD.--January 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.04 ft below land-surface datum, January 14, 1968; lowest, 55.11 ft below land-surface datum, September 1-2, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	53.95	53.78	53.60	53.23	51.42	52.55	53.68	54.74	55.11	54.92	54.63	54.43
2	53.93	53.72	53.65	53.22	51.60	52.46	53.81	54.80	55.11	54.79	54.63	54.53
3	53.85	53.69	53.58	53.18	51.72	52.41	53.87	54.82	55.02	54.69	54.63	54.51
4	53.84	53.64	53.48	53.11	51.82	52.60	53.97	54.82	54.88	54.73	54.52	54.44
5	53.93	53.69	53.58	53.13	51.87	52.76	54.04	54.82	54.79	54.86	54.33	54.51
6	53.95	53.79	53.58	53.03	51.90	52.74	54.07	54.81	54.80	54.90	54.38	54.49
7	53.82	53.85	53.64	52.88	52.06	52.71	54.08	54.82	54.91	54.87	54.50	54.41
8	53.68	53.85	53.65	52.96	52.15	52.66	54.08	54.80	54.90	54.86	54.57	54.44
9	53.73	53.79	53.32	53.03	52.18	52.68	54.08	54.83	54.85	54.82	54.56	54.42
10	53.77	53.75	53.13	52.88	52.17	52.83	54.12	54.88	54.94	54.79	54.52	54.42
11	53.80	53.71	53.42	52.38	52.19	53.00	54.19	54.85	55.00	54.74	54.52	54.36
12	53.81	53.60	53.33	51.48	52.28	53.07	54.23	54.97	55.02	54.75	54.58	54.41
13	53.74	53.69	53.11	50.84	52.35	53.15	54.26	54.96	54.96	54.84	54.54	54.37
14	53.86	53.74	53.05	50.33	52.30	53.23	54.26	54.89	54.92	54.85	54.56	54.41
15	53.81	53.54	53.21	49.72	52.27	53.22	54.29	54.95	54.86	54.78	54.55	54.41
16	53.84	53.58	53.33	49.32	52.25	53.14	54.34	54.95	55.09	54.74	54.50	54.35
17	53.68	53.74	53.40	49.24	52.21	53.12	54.38	54.98	55.02	54.73	54.50	54.34
18	53.56	53.66	53.24	49.20	52.20	53.23	54.40	54.95	54.88	54.70	54.58	54.43
19	53.53	53.44	53.20	49.29	52.23	53.35	54.44	54.93	54.86	54.69	54.52	54.47
20	53.44	53.35	53.40	49.75	52.28	53.40	54.49	54.91	54.92	54.68	54.43	54.48
21	53.39	53.48	53.39	49.90	52.33	53.40	54.49	54.93	54.91	54.66	54.47	54.41
22	53.55	53.63	53.45	50.13	52.34	53.42	54.48	54.98	54.88	54.66	54.47	54.43
23	53.60	53.61	53.46	50.43	52.33	53.47	54.50	55.05	54.87	54.66	54.28	54.38
24	53.59	53.56	53.39	50.61	52.33	53.55	54.53	54.97	54.87	54.65	54.34	54.31
25	53.42	53.61	53.29	50.75	52.30	53.61	54.54	54.94	54.89	54.65	54.41	54.32
26	53.67	53.64	53.18	50.77	52.42	53.53	54.55	54.99	54.97	54.65	54.35	54.43
27	53.89	53.45	53.18	50.97	52.51	53.54	54.62	55.08	55.05	54.66	54.29	54.41
28	54.03	53.49	53.30	51.14	52.51	53.67	54.70	55.05	55.03	54.66	54.34	54.30
29	54.03	53.52	53.30	51.28	52.50	53.69	54.76	55.08	55.03	54.67	54.49	54.35
30	53.98	---	53.25	51.36	52.56	53.63	54.76	55.01	54.94	54.66	54.42	54.33
31	53.89	---	53.23	---	52.58	---	54.72	55.05	---	54.65	---	54.28
MEAN	53.76	53.64	53.37	51.32	52.20	53.13	54.31	54.92	54.94	54.74	54.48	54.41
CAL YR 1988	MEAN	53.77		HIGH	49.20		LOW	55.11				

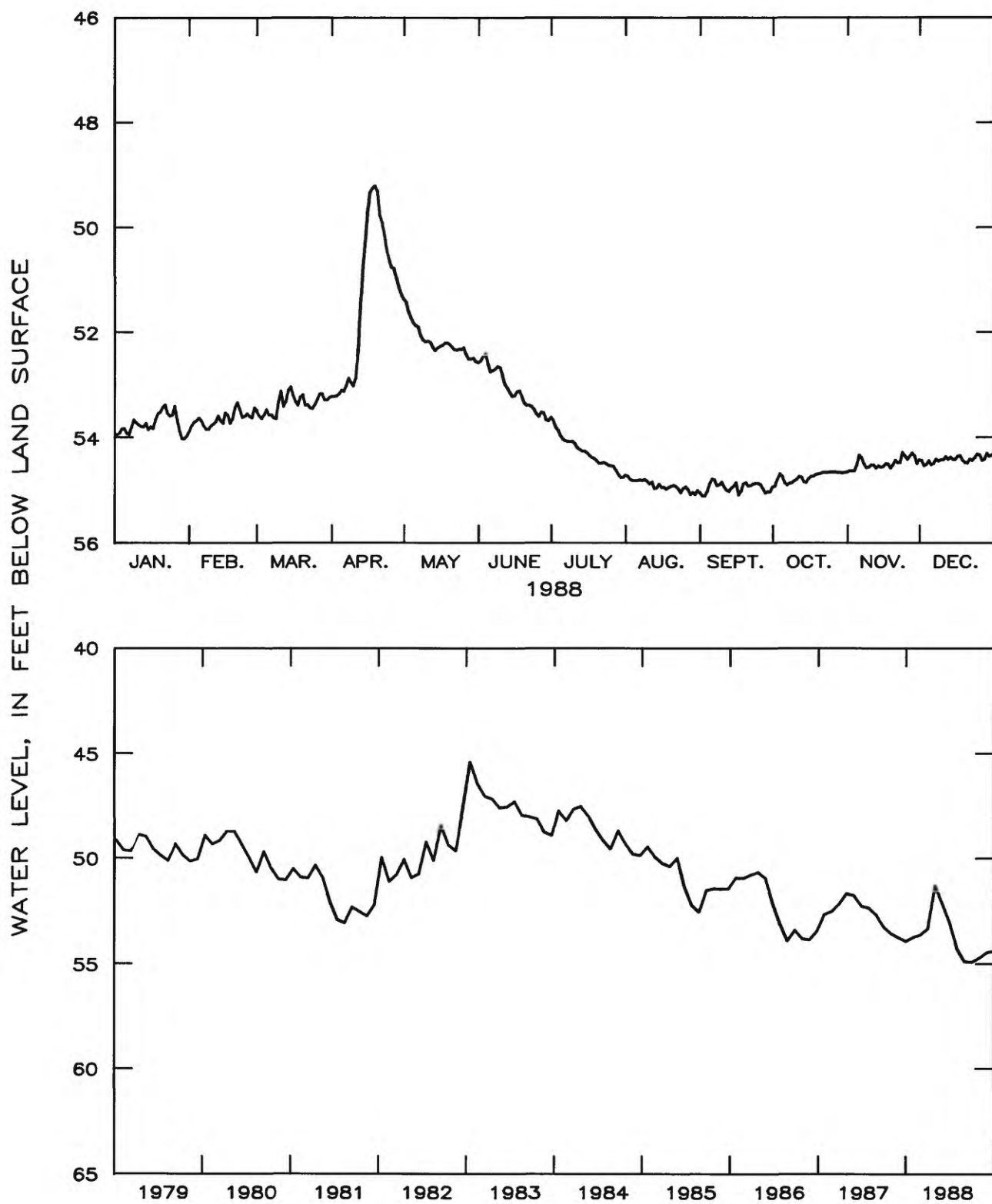


Figure 2.7.4.2—4.—Water level in observation well 33M004, Long County.

## 34M054 TEST WELL 2 LIBERTY COUNTY

314343081251901 Local number, 34M054.

LOCATION.--Lat 31°43'43", long 81°25'19", Hydrologic Unit 03060204, Riceboro, Ga., near entrance to Interstate Paper Company.

Owner: U.S. Geological Survey, test well 2.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 802 ft, cased to 467 ft, open hole. DATUM.--Elevation of land-surface datum is 19 ft.

Measuring point: Floor of recorder shelter, 3.4 ft above land-surface datum.

REMARKS.--Well pumped July 11, 1979; water-quality sample collected at conclusion of pumping. Borehole geophysical survey conducted June 15, 1976.

PERIOD OF RECORD.--February 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.85 ft below land-surface datum, February 5, 1967; lowest, 27.59 ft below land-surface datum, September 16-17, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	26.36	26.28	25.66	25.54	25.09	25.60	25.90	26.93	27.38	27.39	26.35	25.92
2	26.34	26.20	25.75	25.59	25.08	25.59	25.99	26.74	27.46	27.30	26.33	26.00
3	26.48	26.12	25.69	25.53	25.11	25.56	26.06	26.90	27.50	27.18	26.28	25.98
4	26.69	26.03	25.51	25.45	25.06	25.78	26.10	27.09	27.45	27.21	26.22	25.90
5	26.64	26.16	25.62	25.50	25.00	25.69	26.11	27.07	27.42	27.34	25.97	25.87
6	26.72	26.26	25.63	25.35	24.91	25.55	26.17	27.08	27.40	27.42	26.14	25.69
7	26.58	26.33	25.67	25.17	25.05	25.35	26.20	27.05	27.48	27.37	26.35	25.82
8	26.44	26.39	25.72	25.30	25.12	25.27	26.21	27.11	27.40	27.30	26.23	25.73
9	26.51	26.32	25.62	25.47	25.12	25.27	26.20	27.19	27.36	27.20	26.07	25.63
10	26.55	26.20	25.24	25.49	25.04	25.68	26.28	27.29	27.43	27.15	26.07	25.60
11	26.47	26.44	25.55	25.35	25.11	25.65	26.27	27.38	27.53	27.07	26.03	25.49
12	26.56	26.04	25.58	25.18	25.26	25.65	26.28	27.46	27.56	27.19	26.10	25.51
13	26.59	26.14	25.46	25.25	25.33	25.57	26.33	27.55	27.53	27.34	25.99	25.48
14	26.92	26.16	25.40	25.36	25.28	25.59	26.34	27.50	27.54	27.38	26.01	25.68
15	26.36	25.89	25.57	25.32	25.17	25.49	26.35	27.42	27.58	27.37	25.98	25.84
16	26.45	26.06	25.69	25.32	24.73	25.39	26.38	27.49	27.59	27.26	26.00	25.87
17	26.25	26.12	25.68	25.28	24.07	25.34	26.45	27.49	27.59	27.14	25.99	25.82
18	26.11	25.98	25.46	25.17	23.33	25.42	26.57	27.47	27.41	26.87	26.04	25.90
19	26.01	25.73	25.43	25.05	23.00	25.57	26.66	27.48	27.39	26.70	25.98	25.92
20	25.94	25.66	25.66	25.25	22.92	25.77	26.74	27.46	27.39	26.69	25.82	25.99
21	25.90	25.89	25.67	25.13	23.11	25.81	26.73	27.47	27.35	26.54	25.87	25.92
22	26.09	26.07	25.73	25.09	22.99	25.88	26.65	27.52	27.31	26.48	25.91	25.95
23	26.16	26.00	25.79	25.07	23.32	25.92	26.71	27.56	27.29	26.48	25.73	25.94
24	26.16	26.09	25.74	25.00	23.65	25.97	26.72	27.48	27.28	26.41	25.80	25.78
25	26.01	26.10	25.69	24.98	24.22	26.00	26.66	27.41	27.33	26.53	25.87	25.81
26	26.24	26.04	25.59	24.88	24.71	25.91	26.62	27.44	27.36	26.61	25.83	25.91
27	26.46	25.83	25.62	24.90	24.80	26.03	26.73	27.57	27.29	26.65	25.73	25.95
28	26.61	25.83	25.72	25.01	25.07	26.03	26.83	27.49	27.20	26.73	25.77	25.86
29	26.59	25.77	25.61	25.11	25.30	25.95	26.95	27.54	27.16	26.72	26.15	26.01
30	26.47	---	25.61	25.15	25.46	25.87	26.94	27.49	27.35	26.60	25.96	25.88
31	26.38	---	25.61	---	25.49	---	26.95	27.33	---	26.54	---	25.75
MEAN	26.39	26.07	25.61	25.24	24.61	25.67	26.45	27.34	27.41	26.97	26.02	25.82
CAL YR 1988	MEAN	26.13		HIGH	22.92		LOW	27.59				

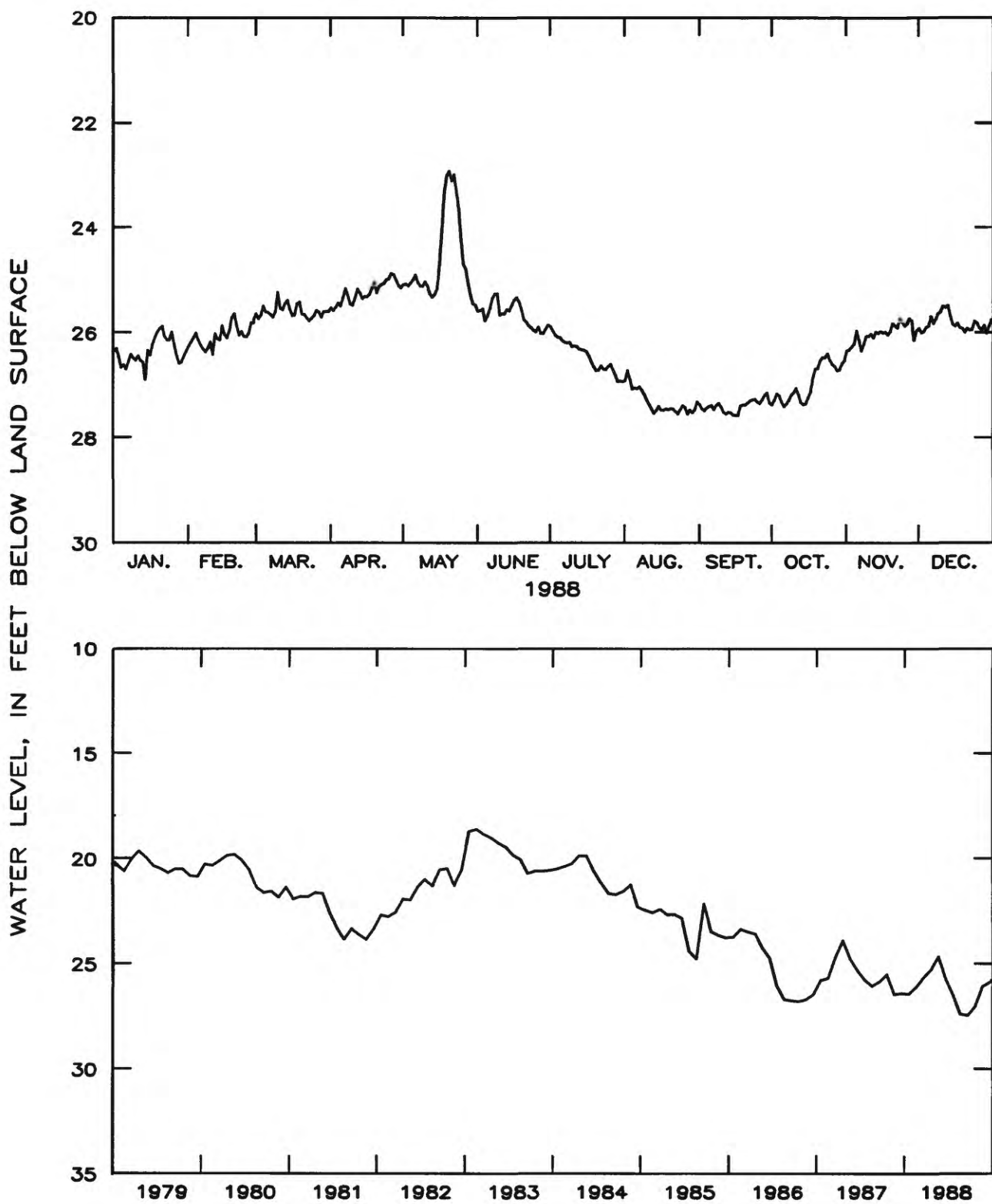


Figure 2.7.4.2-5.—Water level in observation well 34M054, Liberty County.

## 34N089 TEST WELL 1 LIBERTY COUNTY

315214081235301 Local number, 34N089.

LOCATION.--Lat 31°52'14", long 81°23'53", Hydrologic Unit 03060204, north of Midway, Ga., near intersection of Georgia Highway 196 and U.S. Highway 17.

Owner: U.S. Geological Survey, test well 1.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 789 ft, cased to 410 ft, open hole.

DATUM.--Elevation of land-surface datum is 17 ft.

Measuring point: Top of 4-in. casing, 1.33 ft above land-surface datum.

REMARKS.--Well pumped July 11, 1979; water-quality sample collected at conclusion of pumping. Borehole geophysical survey conducted June 15, 1976. Water levels for period of missing record, April 23-25, were estimated.

PERIOD OF RECORD.--February 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.34 ft below land-surface datum, March 6, 1967; lowest, 25.82 ft below land-surface datum, August 5, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	23.95	23.72	23.36	23.34	22.84	23.20	24.27	25.65	25.56	25.24	24.80	24.49
2	23.94	23.72	23.41	23.32	22.87	23.11	24.33	25.69	25.49	25.15	24.79	24.58
3	23.82	23.66	23.35	23.31	22.90	23.06	24.34	25.70	25.40	25.07	24.82	24.53
4	23.80	23.56	23.25	23.24	22.86	23.24	24.39	25.78	25.27	25.09	24.63	24.45
5	23.94	23.68	23.31	23.23	22.78	23.38	24.45	25.82	25.18	25.20	24.40	24.50
6	23.96	23.74	23.30	23.11	22.75	23.38	24.45	25.79	25.19	25.25	24.58	24.45
7	23.87	23.86	23.32	22.98	22.86	23.35	24.46	25.71	25.29	25.22	24.75	24.35
8	23.75	23.70	23.34	23.07	22.98	23.32	24.47	25.66	25.28	25.20	24.79	24.35
9	23.80	23.61	23.12	23.20	22.99	23.34	24.54	25.65	25.18	25.15	24.77	24.32
10	23.88	23.59	22.96	23.18	22.93	23.50	24.70	25.70	25.27	25.10	24.69	24.32
11	23.91	23.52	23.24	23.02	22.93	23.62	24.81	25.70	25.36	25.04	24.69	24.24
12	23.92	23.45	23.20	22.98	23.03	23.65	24.78	25.69	25.39	25.10	24.76	24.29
13	23.82	23.57	23.04	23.09	23.05	23.72	24.76	25.72	25.34	25.22	24.68	24.22
14	23.96	23.62	23.03	23.20	22.98	23.81	24.74	25.63	25.29	25.27	24.71	24.26
15	23.91	23.37	23.19	23.17	22.92	23.81	24.77	25.65	25.36	25.19	24.69	24.25
16	23.93	23.48	23.27	23.21	22.89	23.82	24.83	25.63	25.47	25.15	24.61	24.20
17	23.78	23.57	23.32	23.20	22.82	23.80	24.89	25.63	25.40	25.14	24.63	24.17
18	23.67	23.49	23.15	23.06	22.79	23.97	24.91	25.61	25.24	25.09	24.75	24.28
19	23.60	23.21	23.10	22.92	22.79	24.18	24.99	25.58	25.20	25.02	24.71	24.33
20	23.48	23.18	23.24	23.12	22.80	24.27	25.12	25.55	25.24	25.07	24.57	24.33
21	23.44	23.32	23.23	23.02	22.83	24.25	25.18	25.57	25.24	24.97	24.62	24.25
22	23.53	23.45	23.32	23.01	22.82	24.24	25.21	25.63	25.19	24.92	24.65	24.26
23	23.60	23.35	23.37	22.98	22.79	24.22	25.23	25.66	25.18	24.96	24.44	24.21
24	23.60	23.35	23.34	22.92	22.76	24.29	25.30	25.55	25.18	24.89	24.49	24.10
25	23.43	23.40	23.27	22.87	22.68	24.28	25.33	25.48	25.20	24.97	24.56	24.13
26	23.66	23.44	23.20	22.82	22.82	24.18	25.36	25.50	25.25	24.97	24.46	24.25
27	23.89	23.28	23.22	22.87	22.89	24.17	25.45	25.56	25.31	25.00	24.36	24.23
28	24.00	23.32	23.33	22.92	22.92	24.29	25.54	25.50	25.29	25.01	24.41	24.10
29	24.02	23.33	23.34	22.95	22.95	24.29	25.61	25.54	25.30	25.01	24.59	24.18
30	23.94	---	23.36	22.92	23.02	24.26	25.64	25.49	25.32	24.98	24.48	24.15
31	23.84	---	23.35	---	23.13	---	25.64	25.51	---	24.91	---	24.06
MEAN	23.79	23.50	23.25	23.07	22.88	23.80	24.92	25.63	25.30	25.08	24.63	24.28
CAL YR 1988	MEAN	24.18		HIGH	22.68		LOW	25.82				

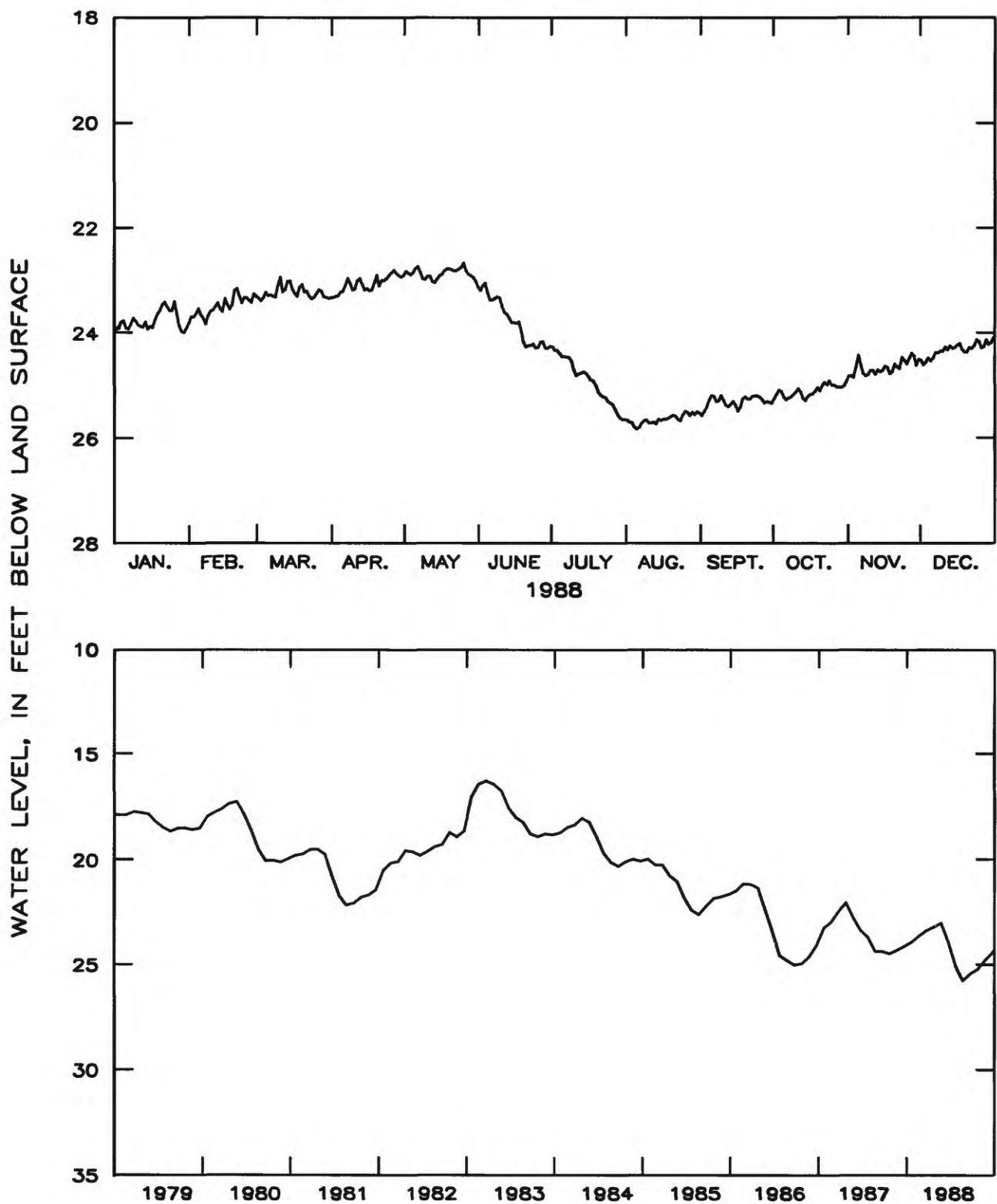


Figure 2.7.4.2-6.—Water level in observation well 34N089, Liberty County.

## 35M013 HARRIS NECK MCINTOSH COUNTY

313823081154201 Local number, 35M013.

LOCATION.--Lat 31°38'23", long 81°15'42", Hydrologic Unit 03060204, 8.5 mi east of U.S. Highway 17 at Harris Neck Wildlife Refuge.

Owner: U.S. Department of the Interior, Fish and Wildlife Service.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused supply well, diameter 10 in., depth 553 ft, cased to 376 ft, open hole.

DATUM.--Elevation of land-surface datum is 16.3 ft.

Measuring point: Floor of recorder shelter, 3.2 ft above land-surface datum.

REMARKS.--Well pumped August 3, 1976; water-quality sample collected at conclusion of pumping. Borehole geophysical survey conducted June 16, 1976. Water level for period of missing record, January 25, was estimated.

PERIOD OF RECORD.--September 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.35 ft below land-surface datum, October 4, 1966; lowest, 23.12 ft below land-surface datum, August 18, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	22.12	21.92	21.47	21.45	20.99	21.04	21.79	22.66	22.79	22.71	22.47	22.52
2	22.06	21.85	21.50	21.45	21.02	21.00	21.70	22.86	22.84	22.69	22.59	22.61
3	21.84	21.81	21.52	21.40	21.11	20.90	21.71	22.84	22.80	22.60	22.58	22.58
4	22.12	21.68	21.47	21.33	21.11	20.93	21.78	22.86	22.74	22.67	22.33	22.51
5	22.40	21.75	21.58	21.49	21.10	21.12	21.92	22.86	22.75	22.71	22.24	22.40
6	22.28	21.82	21.45	21.37	21.03	21.19	22.07	22.73	22.67	22.71	22.51	22.40
7	22.04	21.86	21.53	21.38	21.08	21.18	22.16	22.72	22.52	22.63	22.66	22.34
8	22.01	21.72	21.60	21.21	21.13	21.11	22.19	22.80	22.55	22.62	22.66	22.37
9	22.08	21.78	21.36	21.22	21.09	21.16	22.06	22.93	22.62	22.59	22.63	22.36
10	22.06	21.71	21.33	21.17	21.06	21.27	22.07	22.98	22.74	22.35	22.53	22.28
11	22.10	21.52	21.45	20.98	21.04	21.25	22.27	22.82	22.76	22.61	22.55	22.22
12	22.23	21.58	21.39	20.98	21.09	21.33	22.46	22.78	22.76	22.73	22.47	22.16
13	22.28	21.74	21.30	21.15	21.12	21.40	22.50	22.73	22.77	22.82	22.49	22.19
14	22.30	21.60	21.30	21.08	21.07	21.48	22.49	22.68	22.76	22.88	22.58	22.33
15	22.05	21.29	21.43	21.08	21.01	21.48	22.48	22.80	22.79	22.85	22.55	22.37
16	22.03	21.54	21.44	21.14	21.02	21.40	22.36	22.90	22.76	22.82	22.46	22.25
17	21.91	21.60	21.46	21.19	20.97	21.38	22.36	23.00	22.78	22.81	22.52	22.24
18	21.86	21.41	21.25	21.25	20.96	21.49	22.52	23.12	22.74	22.74	22.50	22.37
19	21.84	21.10	21.33	21.20	20.98	21.57	22.74	23.08	22.68	22.67	22.35	22.43
20	21.83	21.14	21.58	21.33	21.03	21.62	22.75	22.88	22.70	22.50	22.32	22.41
21	21.74	21.37	21.60	21.32	21.05	21.60	22.53	22.85	22.71	22.45	22.47	22.33
22	21.95	21.61	21.59	21.38	21.04	21.61	22.47	22.93	22.56	22.51	22.32	22.32
23	21.98	21.64	21.58	21.28	21.03	21.64	22.47	22.86	22.51	22.46	22.16	22.20
24	21.95	21.68	21.62	21.25	21.04	21.66	22.46	22.71	22.57	22.45	22.25	22.18
25	21.98	21.70	21.57	21.15	21.00	21.52	22.46	22.68	22.62	22.56	22.38	22.26
26	22.02	21.69	21.48	20.97	20.88	21.43	22.54	22.73	22.62	22.58	22.33	22.32
27	22.14	21.53	21.53	21.07	20.93	21.59	22.63	22.78	22.65	22.58	22.31	22.28
28	22.18	21.45	21.56	21.22	21.00	21.76	22.70	22.68	22.67	22.66	22.54	22.27
29	22.19	21.44	21.52	21.19	21.04	21.80	22.72	22.83	22.65	22.71	22.57	22.35
30	22.09	---	21.50	21.15	21.03	21.74	22.53	22.79	22.75	22.60	22.46	22.25
31	21.97	---	21.47	---	21.06	---	22.48	22.77	---	22.47	---	22.17
MEAN	22.05	21.60	21.48	21.23	21.04	21.39	22.33	22.83	22.69	22.64	22.46	22.33
CAL YR 1988	MEAN	22.01		HIGH	20.88		LOW	23.12				



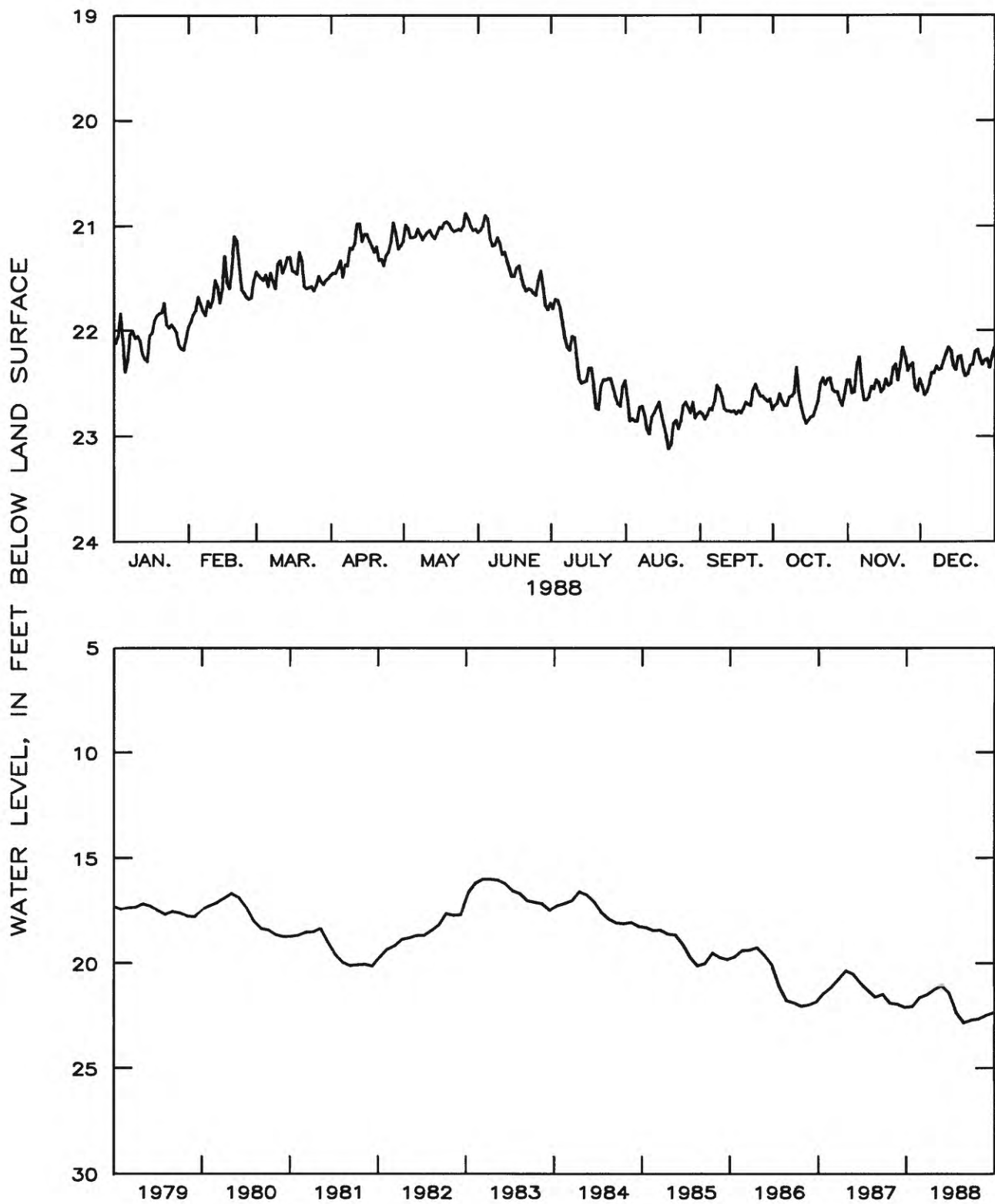


Figure 2.7.4.2-7.—Water level in observation well 35M013, McIntosh County.

#### 2.7.4.3 Brunswick Area

In the Brunswick area, the Floridan aquifer system is divided into the Upper Floridan aquifer and the Lower Floridan aquifer. The Upper Floridan aquifer includes two freshwater-bearing zones: the upper water-bearing zone and the lower water-bearing zone (Wait and Gregg, 1973, p. 16; Gregg and Zimmerman, 1974, p. D17 and pl. 1). The upper part of the Lower Floridan aquifer includes a zone of water that has a chloride concentration of about 6,000 mg/L, which Gregg and Zimmerman (1974, pl. 1) referred to as the brackish-water zone. The lower part of the Lower Floridan aquifer is referred to as the Fernandina permeable zone (Krause and Randolph, 1985). In 1978, water in the Fernandina permeable zone had a chloride concentration of more than 20,000 mg/L (Gill and Mitchell, 1979).

The water level in the Upper Floridan aquifer in the Brunswick area is affected primarily by industrial pumpage, which totalled about 80 Mgal/d in 1985 (Turlington and others, 1987). This pumping has resulted in the development of a cone of depression centered at Brunswick. In 1988, two partial-industrial shutdowns are reflected by sharp water-level rises during mid-May and mid-October.

In May 1988, water levels were measured in 103 wells that tap the Upper Floridan aquifer in the Brunswick area. A map showing the potentiometric surface of the aquifer in the Brunswick area was constructed by using the May 1988 water-level measurements. The annual mean water level in the Upper Floridan aquifer in the Brunswick area was from 0.6 to 1.3 ft lower in 1988 than in 1987. The annual mean water level in the Lower Floridan aquifer was 0.9 ft lower in 1988 than in 1987. These declines continued a downward trend that began in 1983, and which is attributed to increased regional pumping as a result of below-normal precipitation.

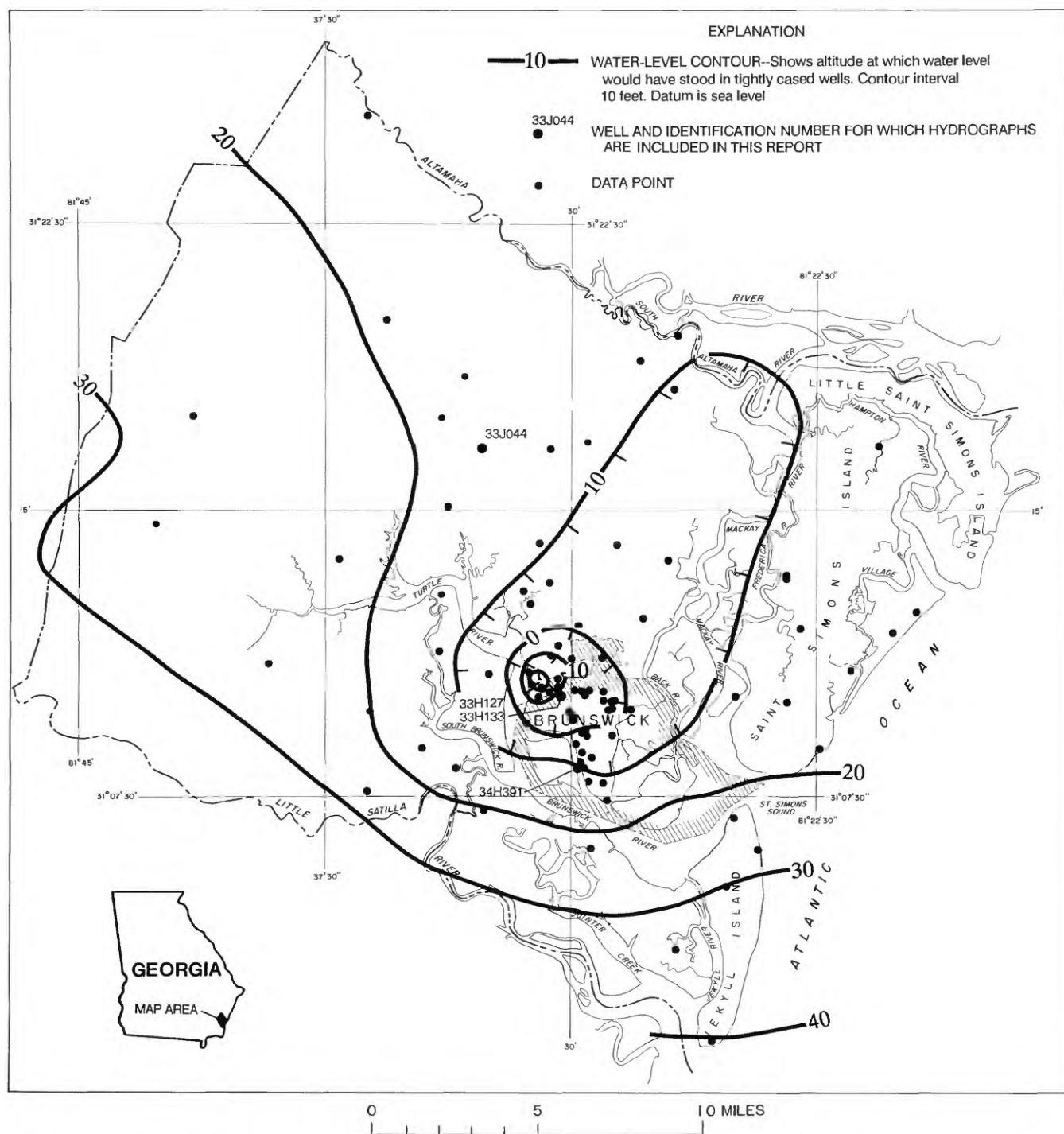


Figure 2.7.4.3-1.—Observation well locations and the water level in the Upper Floridan aquifer in the Brunswick area, May 1988.

## 33H127 TEST WELL 3 GLYNN COUNTY

311007081301701 Local number, 33H127.

LOCATION.--Lat 31°10'07", Long 81°30'17", Hydrologic Unit 03070203, in south corner of Greenwood Cemetery in Brunswick.

Owner: U.S. Geological Survey, test well 3.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 1,002 ft, cased to 823 ft, open hole.

DATUM.--Elevation of land-surface datum is 6.2 ft.

Measuring point: Floor of recorder shelter, 8.00 ft above land-surface datum.

REMARKS.--Water levels for periods of missing record, July 2-25, November 6-19, and November 29 to December 7, were estimated. Well pumped and sampled semi-annually.

PERIOD OF RECORD.--August 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.00 ft above land-surface datum, October 9, 1962; lowest, 11.19 ft below land-surface datum, July 14, 1977.

WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM, CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-4.03	-4.62	-3.94	-4.15	-4.23	-5.05	-8.01	-8.10	-5.55	-5.60	-6.47	-5.08
2	-3.94	-4.54	-3.56	-4.68	-3.72	-5.60	-7.42	-7.54	-6.05	-5.06	-6.30	-4.95
3	-3.62	-3.58	-3.95	-4.68	-3.38	-5.20	-6.84	-6.39	-5.43	-4.94	-6.06	-5.09
4	-2.77	-4.25	-4.25	-4.49	-3.87	-5.46	-6.56	-7.12	-5.96	-5.08	-6.51	-5.09
5	-3.46	-4.20	-4.44	-4.74	-3.91	-5.32	-7.43	-6.90	-5.46	-5.18	-6.32	-5.42
6	-3.84	-4.13	-4.34	-4.43	-4.60	-4.97	-7.66	-6.73	-5.62	-4.98	-7.55	-5.53
7	-3.76	-4.80	-4.02	-4.70	-4.95	-5.06	-6.62	-7.30	-5.87	-5.66	-7.71	-5.77
8	-3.99	-4.26	-3.25	-4.46	-3.78	-4.88	-6.37	-7.86	-5.92	-5.60	-8.00	-5.51
9	-3.95	-4.69	-3.79	-4.40	-1.57	-5.86	-7.80	-8.04	-6.74	-5.74	-7.50	-5.64
10	-3.67	-4.41	-3.82	-4.88	.19	-5.12	-7.82	-8.12	-6.57	-5.28	-6.95	-6.37
11	-3.67	-4.35	-3.80	-4.85	2.31	-6.08	-8.47	-8.03	-5.80	-5.53	-7.63	-6.36
12	-4.06	-3.94	-3.79	-4.28	4.31	-5.60	-8.14	-7.26	-5.74	-5.01	-7.58	-6.22
13	-3.95	-3.89	-3.60	-4.24	3.78	-6.00	-8.10	-7.34	-5.56	-5.14	-7.77	-6.49
14	-3.61	-3.82	-4.16	-4.80	1.76	-6.52	-6.71	-7.58	-5.92	-5.69	-8.09	-6.39
15	-3.95	-4.32	-4.00	-4.12	-1.55	-6.54	-7.81	-6.76	-5.54	-5.52	-8.12	-5.79
16	-4.12	-4.18	-3.93	-4.70	-3.24	-7.62	-7.41	-6.98	-5.64	-4.90	-7.28	-6.74
17	-4.04	-3.49	-4.25	-4.41	-3.74	-7.62	-7.38	-7.50	-5.19	-3.27	-6.47	-6.63
18	-2.89	-3.70	-3.90	-4.70	-3.46	-6.95	-7.39	-7.25	-5.38	-2.09	-6.93	-6.41
19	-2.90	-3.07	-4.17	-4.31	-3.30	-7.42	-7.97	-8.28	-5.80	-1.11	-7.60	-5.77
20	-3.54	-3.46	-4.18	-4.00	-3.49	-7.50	-7.75	-8.14	-5.34	-1.68	-6.93	-6.31
21	-3.62	-3.94	-4.63	-4.41	-4.67	-7.42	-7.29	-7.70	-6.38	-3.42	-6.71	-6.63
22	-2.75	-4.54	-4.87	-3.84	-4.88	-7.82	-6.77	-7.42	-5.95	-5.25	-5.83	-7.18
23	-3.80	-4.64	-3.90	-3.82	-5.09	-8.18	-6.98	-7.29	-5.89	-4.87	-5.81	-7.01
24	-3.79	-4.21	-4.35	-3.64	-5.30	-8.00	-6.95	-7.04	-6.32	-4.71	-5.50	-6.99
25	-3.75	-4.82	-4.52	-3.42	-4.14	-7.83	-6.96	-6.06	-6.57	-6.39	-6.28	-6.43
26	-4.19	-4.68	-4.63	-3.38	-5.03	-8.07	-7.14	-6.65	-6.39	-6.52	-6.28	-6.66
27	-4.01	-3.96	-4.74	-3.98	-4.90	-7.64	-8.72	-6.15	-6.14	-6.09	-5.98	-7.43
28	-3.73	-3.91	-4.60	-4.27	-5.54	-8.02	-7.70	-6.13	-6.33	-6.38	-6.28	-7.47
29	-3.87	-4.03	-4.13	-4.53	-5.52	-7.82	-7.98	-6.19	-6.00	-6.66	-7.39	-6.89
30	-4.48	---	-4.08	-4.10	-5.59	-8.29	-8.06	-5.18	-5.38	-6.82	-7.04	-7.07
31	-4.30	---	-4.44	---	-5.71	---	-7.94	-6.53	---	-6.66	---	-7.02
MEAN	-3.74	-4.15	-4.13	-4.31	-3.12	-6.65	-7.49	-7.15	-5.88	-5.06	-6.90	-6.27
CAL YR 1988	MEAN	-5.41		MAX	4.31		MIN	-8.72				

WATER LEVEL, IN FEET ABOVE AND BELOW LAND SURFACE

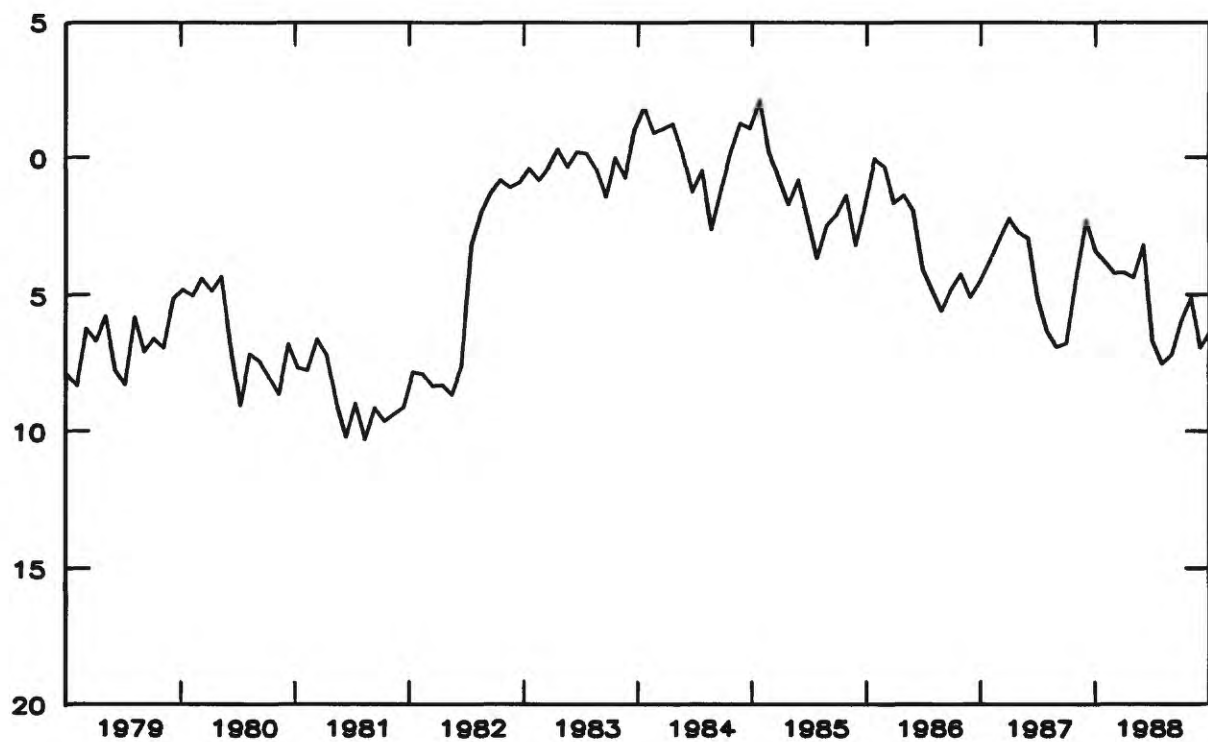
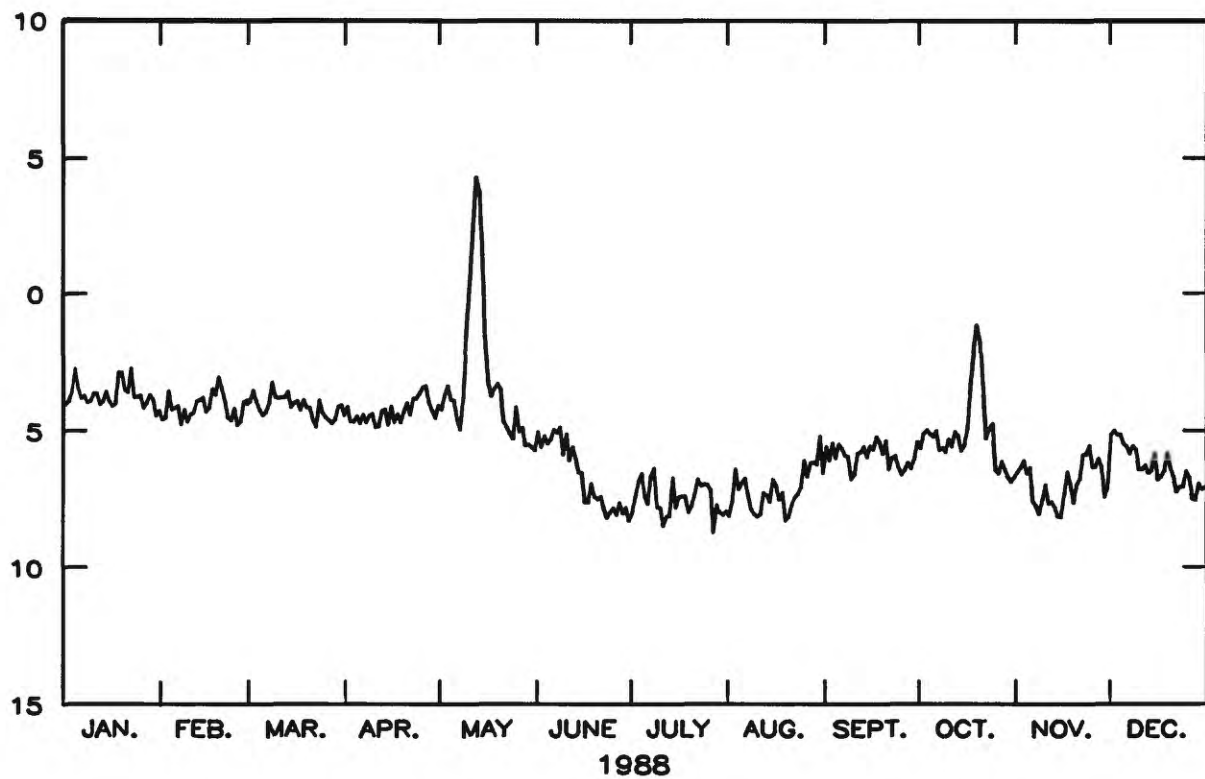


Figure 2.7.4.3-2.—Water level in observation well 33H127, Glynn County.

## 33H133 TEST WELL 6 GLYNN COUNTY

311007081301702 Local number, 33H133.

LOCATION.--Lat 31°10'07", long 81°30'17", Hydrologic Unit 03070203, in south corner of Greenwood Cemetery in Brunswick.

Owner: U.S. Geological Survey, test well 6.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 790 ft, cased to 520 ft, open hole.

DATUM.--Elevation of land-surface datum is 6.7 ft.

Measuring point: Floor of recorder shelter, 5.1 ft above land-surface datum.

REMARKS.--Well pumped and sampled semi-annually. Borehole geophysical survey conducted September 26, 1977.

PERIOD OF RECORD.--January 1963 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.07 ft above land-surface datum, December 26, 1965; lowest, 21.87 ft below land-surface datum, July 22, 1977.

WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM, CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-12.97	-13.89	-13.66	-13.26	-12.93	-13.99	-13.16	-16.63	-15.01	-14.44	-16.18	-13.60
2	-12.84	-13.88	-12.74	-13.67	-12.71	-14.71	-12.73	-16.47	-14.96	-13.67	-15.55	-13.38
3	-11.95	-12.67	-12.94	-13.72	-11.95	-14.61	-12.32	-15.17	-14.72	-13.77	-14.42	-13.43
4	-12.18	-13.79	-13.22	-13.51	-13.23	-14.59	-12.20	-15.73	-15.27	-13.51	-15.34	-13.34
5	-11.65	-13.25	-13.61	-13.95	-13.33	-14.22	-13.23	-15.78	-14.45	-13.72	-15.49	-13.58
6	-11.98	-13.26	-13.38	-13.55	-13.99	-14.09	-13.62	-15.56	-14.78	-13.83	-16.65	-13.61
7	-11.95	-14.00	-13.23	-13.97	-14.37	-14.54	-12.75	-15.94	-14.90	-14.09	-16.74	-13.76
8	-12.22	-13.23	-12.53	-13.61	-12.73	-13.83	-12.66	-16.72	-14.75	-13.97	-16.95	-13.41
9	-12.06	-13.88	-12.85	-13.67	-9.83	-14.79	-14.25	-16.91	-15.69	-14.12	-16.38	-13.58
10	-11.70	-13.80	-12.61	-13.95	-7.65	-14.35	-14.44	-16.88	-15.60	-13.99	-15.76	-14.28
11	-12.32	-13.56	-12.89	-13.90	-3.24	-15.37	-15.25	-16.65	-14.45	-14.02	-16.37	-15.14
12	-13.02	-12.98	-12.95	-13.33	.25	-15.08	-15.08	-16.14	-14.30	-14.02	-16.25	-15.06
13	-12.99	-12.68	-12.68	-13.00	-2.73	-15.26	-15.20	-15.71	-14.58	-14.13	-16.36	-15.22
14	-12.33	-12.67	-13.43	-13.94	-6.71	-15.85	-13.98	-16.05	-14.50	-14.35	-16.61	-15.22
15	-12.88	-13.51	-13.05	-12.95	-10.36	-15.62	-15.24	-15.70	-14.57	-14.05	-16.57	-14.91
16	-12.98	-13.45	-13.11	-13.57	-12.26	-14.03	-15.00	-16.39	-14.65	-13.81	-15.66	-15.56
17	-12.99	-12.44	-13.49	-13.55	-12.74	-14.41	-15.13	-16.57	-14.10	-11.52	-14.78	-15.50
18	-11.42	-12.71	-13.53	-13.61	-12.65	-14.94	-15.31	-16.58	-14.20	-10.01	-15.16	-15.02
19	-11.17	-12.15	-13.53	-13.27	-13.03	-14.54	-16.05	-17.16	-14.70	-8.84	-15.76	-14.77
20	-12.30	-12.72	-13.40	-12.28	-13.22	-14.48	-15.99	-17.17	-13.84	-9.79	-15.02	-15.47
21	-12.45	-13.14	-14.17	-13.46	-13.94	-14.28	-15.70	-16.75	-15.30	-11.88	-14.84	-15.70
22	-11.45	-13.83	-14.27	-12.92	-14.21	-13.40	-15.34	-15.93	-15.14	-13.49	-14.22	-16.24
23	-12.81	-14.10	-12.73	-12.77	-14.33	-13.42	-15.71	-16.20	-14.86	-13.48	-14.30	-16.36
24	-12.47	-13.71	-13.13	-12.63	-14.53	-14.07	-15.84	-15.85	-15.46	-13.91	-14.21	-16.27
25	-12.71	-14.21	-13.50	-11.97	-13.06	-14.09	-16.02	-14.37	-15.35	-15.83	-15.05	-15.69
26	-13.53	-13.92	-13.77	-12.37	-14.29	-13.39	-16.36	-15.49	-15.18	-15.89	-14.96	-15.88
27	-13.36	-13.31	-13.93	-12.87	-14.39	-13.62	-16.70	-15.02	-15.17	-14.74	-15.22	-16.77
28	-12.90	-13.19	-13.49	-13.12	-14.66	-13.37	-16.43	-15.29	-15.19	-15.20	-15.06	-16.76
29	-13.15	-13.76	-12.92	-13.45	-14.53	-13.14	-16.97	-15.45	-14.48	-15.42	-16.08	-15.93
30	-13.96	---	-12.26	-13.01	-14.59	-12.80	-16.75	-14.49	-14.38	-15.89	-15.64	-16.09
31	-13.54	---	-13.36	---	-14.89	---	-16.67	-15.79	---	-16.24	---	-15.97
MEAN	-12.52	-13.37	-13.24	-13.29	-11.83	-14.30	-14.91	-16.02	-14.82	-13.73	-15.59	-15.02
CAL YR 1988	MEAN	-14.05		MAX	.25		MIN	-17.17				

WATER LEVEL, IN FEET ABOVE AND BELOW LAND SURFACE

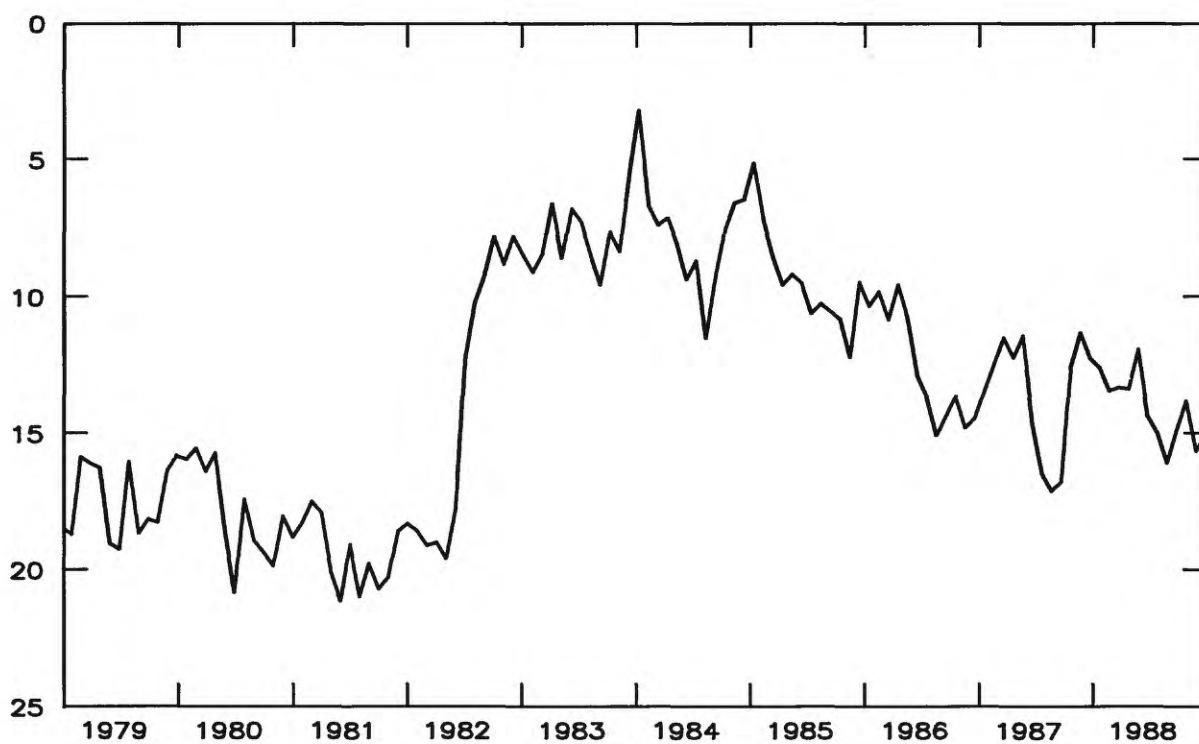
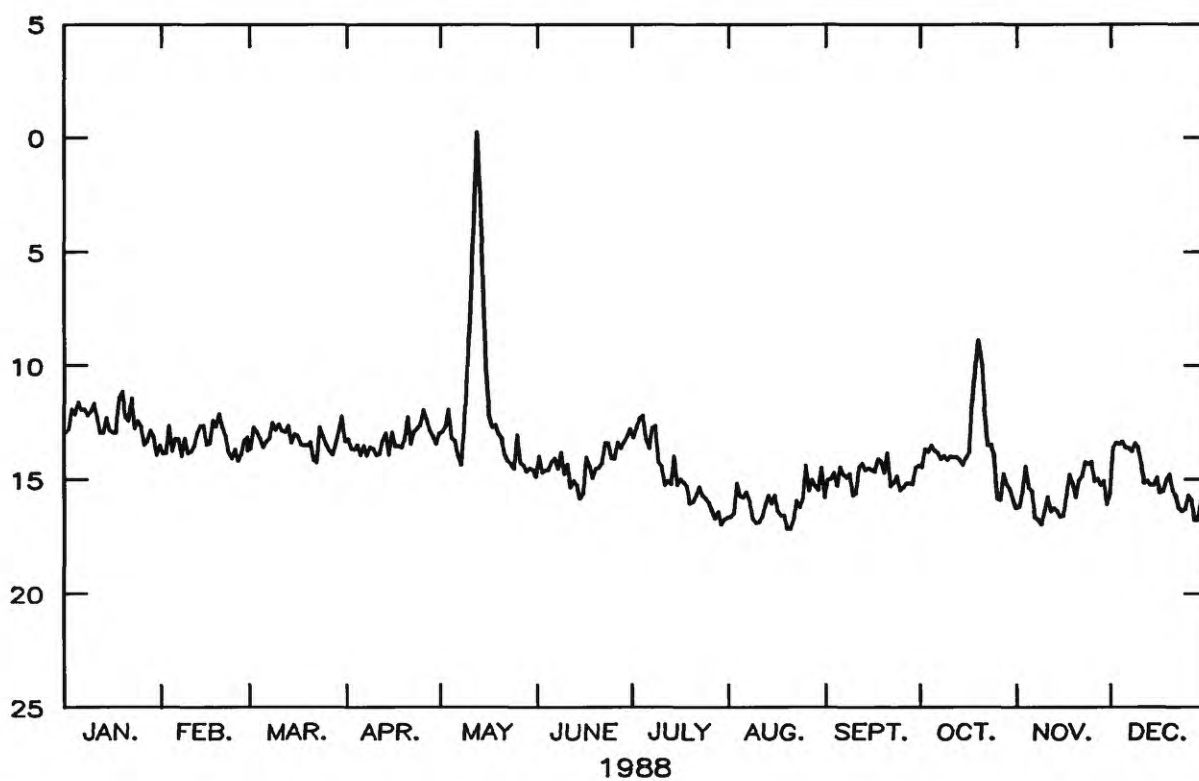


Figure 2.7.4.3-3.—Water level in observation well 33H133, Glynn County.



## 34H391 TEST WELL 16 GLYNN COUNTY

310818081294201 Local number, 34H391.

LOCATION.--Lat 31°08'18", long 81°29'42", Hydrologic Unit 03070203, located near intersection of Albermarle Street and Bay Street in Brunswick.

Owner: U.S. Geological Survey, test well 16.

AQUIFER.--Lower Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 1,150 ft, cased to 1,070 ft, open hole.

DATUM.--Elevation of land-surface datum is 7.13 ft.

Measuring point: Floor of recorder shelter 12.5 ft above land-surface datum.

REMARKS.--Well pumped and sampled semi-annually. Water levels for periods of missing record, November 29-30, and December 17-31, were estimated.

PERIOD OF RECORD.--August 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.65 ft above land-surface datum, October 13-14, 1985; lowest, 2.96 ft below land-surface datum, July 27, 1977.

WATER LEVEL, IN FEET ABOVE LAND SURFACE DATUM , CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.54	4.22	4.18	4.31	4.40	2.70	3.11	1.13	2.01	2.68	1.64	2.43
2	4.53	4.17	4.30	4.32	4.32	2.69	3.33	1.04	2.19	2.93	1.66	2.51
3	4.80	4.45	4.44	4.29	4.46	2.69	3.47	1.37	2.04	3.00	1.98	2.57
4	4.70	4.41	4.46	4.35	4.34	2.63	3.44	1.40	2.03	3.05	2.10	2.72
5	4.70	4.30	4.29	4.22	4.13	2.68	3.11	1.22	2.03	3.00	2.03	2.80
6	4.60	4.26	4.43	4.23	3.99	2.70	2.88	1.37	2.03	2.98	1.54	2.65
7	4.71	4.11	4.34	4.20	3.73	2.59	3.00	1.38	2.03	2.98	1.30	2.75
8	4.67	4.16	4.54	4.20	3.88	2.80	3.09	1.19	2.03	3.02	1.12	2.79
9	4.63	4.18	4.71	4.18	4.75	2.52	2.80	1.10	1.99	3.01	1.17	2.82
10	4.85	4.16	4.79	4.11	5.70	2.43	2.52	1.00	1.99	2.97	1.38	2.60
11	4.72	4.27	4.60	4.19	6.84	2.38	2.12	.98	2.01	2.97	1.33	2.46
12	4.56	4.35	4.64	4.30	8.28	2.01	1.98	1.11	2.03	2.83	1.35	2.32
13	4.49	4.38	4.83	4.34	8.43	2.00	1.93	1.36	2.21	2.69	1.36	2.18
14	4.51	4.68	4.68	4.18	7.57	1.88	2.25	1.47	2.46	2.64	1.18	2.12
15	4.53	4.71	4.46	4.25	5.96	1.80	2.06	1.48	2.38	2.72	1.09	2.14
16	4.50	4.38	4.47	4.25	4.80	1.97	1.97	1.28	2.19	2.83	1.08	2.08
17	4.67	4.58	4.32	4.15	4.26	2.12	1.98	1.28	2.46	3.27	1.21	2.07
18	4.97	4.68	4.41	4.19	4.09	2.06	1.92	1.19	2.63	3.71	1.37	2.16
19	5.25	4.98	4.45	4.22	3.97	2.07	1.67	1.02	2.61	4.06	1.56	2.18
20	4.99	4.95	4.29	4.32	3.89	2.22	1.53	.98	2.65	4.17	1.84	2.01
21	4.96	4.70	4.15	4.36	3.55	2.20	1.50	1.02	2.48	3.82	1.89	1.83
22	4.79	4.36	3.99	4.23	3.43	2.55	1.54	1.27	2.37	3.23	2.12	1.64
23	4.70	4.24	4.15	4.35	3.23	2.74	1.59	1.29	2.50	3.01	2.43	1.68
24	4.81	4.13	4.39	4.50	3.03	2.59	1.58	1.42	2.01	2.90	2.34	1.81
25	4.94	3.97	4.25	4.66	3.23	2.66	1.53	1.75	2.00	2.06	2.31	1.95
26	4.43	3.88	4.24	4.80	3.18	3.00	1.47	1.75	2.03	1.76	2.28	2.00
27	4.13	4.23	4.24	4.48	2.95	2.92	1.31	1.80	2.17	2.09	2.26	1.67
28	4.28	4.45	4.18	4.29	2.88	2.93	1.20	1.95	2.03	2.01	2.40	1.42
29	4.21	4.32	4.29	4.12	2.84	2.99	1.04	1.77	2.37	1.92	2.34	1.49
30	4.20	---	4.48	4.19	2.79	3.07	1.04	2.16	2.50	1.84	2.41	1.68
31	4.35	---	4.41	---	2.61	---	1.10	1.85	---	1.68	---	1.83
MEAN	4.64	4.37	4.40	4.29	4.37	2.49	2.10	1.37	2.22	2.83	1.74	2.17
CAL YR 1988	MEAN	3.08		MAX	8.43		MIN	.98				

WATER LEVEL, IN FEET ABOVE AND BELOW LAND SURFACE

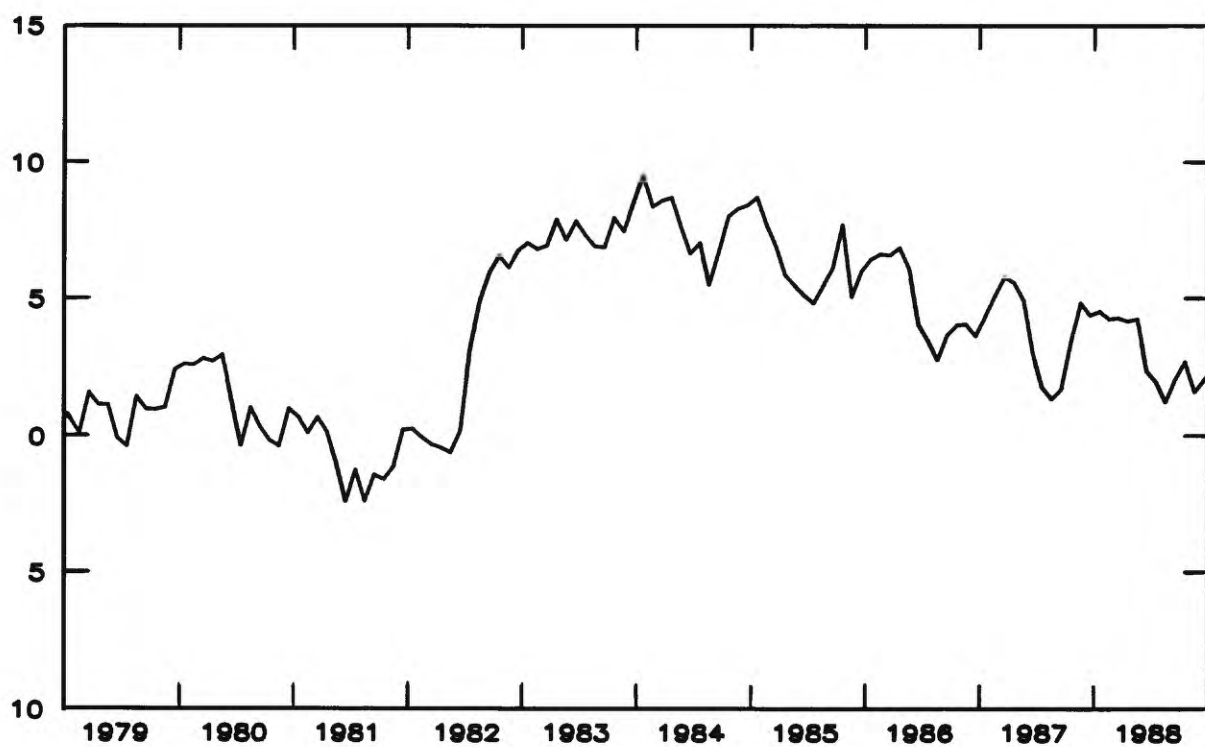
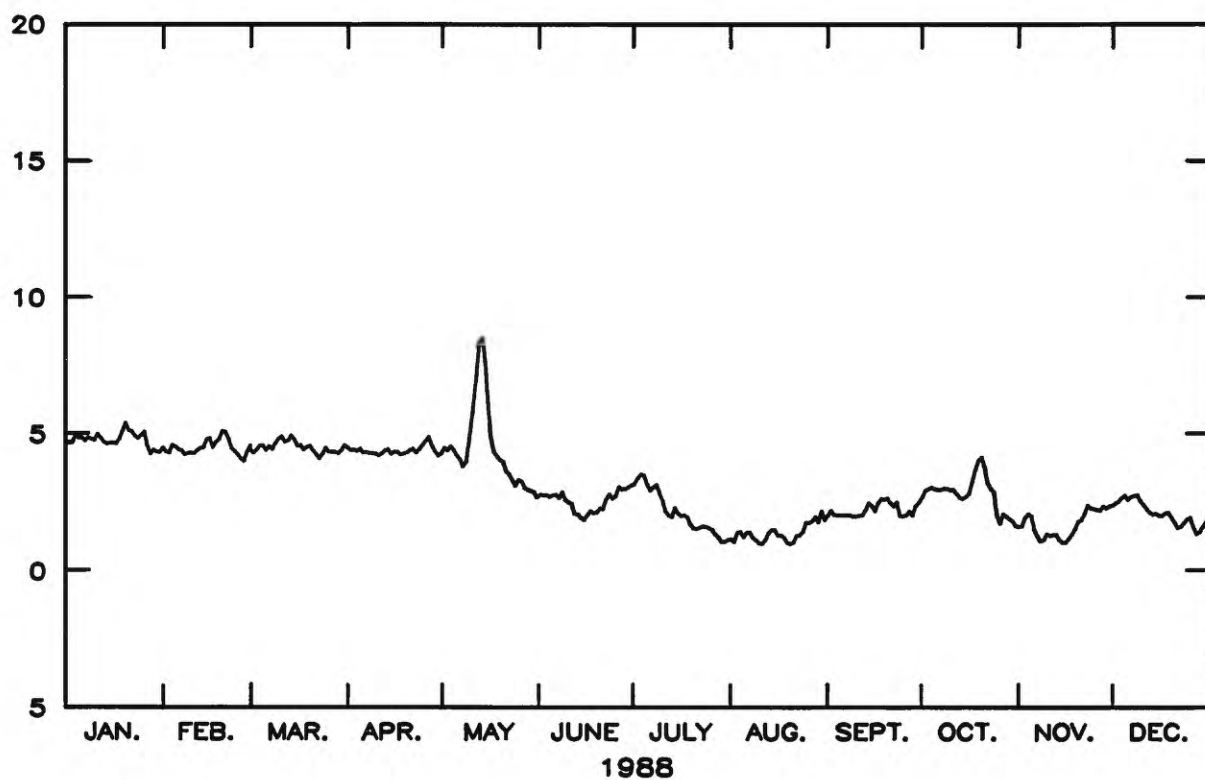


Figure 2.7.4.3—4.—Water level in observation well 34H391, Glynn County.

## 33J044 TEST WELL 27 GLYNN COUNTY

311633081324001 Local number, 33J044.

LOCATION.--Lat 31°16'33", long 81°32'40", Hydrologic Unit 03070203, 1.2 mi east of Sterling, off State Highway 99 at the Brunswick Pulp and Paper Company, Sterling Wood Products Division.

Owner: Brunswick Pulp and Paper Co., USGS test well 27.

AQUIFER.--Lower Floridan aquifer.

WELL CHARACTERISTICS.--Drilled unused oil-test well converted to observation well, diameter 9 in., depth 2,260 ft, cased to 1,079 ft, open hole.

DATUM.--Elevation of land-surface datum is 20 ft.

Measuring point: Floor of recorder shelter, 9.5 ft above land-surface datum.

REMARKS.--This is the Sterling oil-test well. Water levels for periods of missing record, January 12-26, August 21-23, September 25-26, and November 3-23, were estimated.

PERIOD OF RECORD.--May 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.09 ft above land-surface datum, October 13, 1985; lowest, 6.30 ft below land-surface datum, August 11, 1981.

WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM, CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-2.23	-2.34	-2.26	-2.15	-1.78	-2.81	-3.17	-4.80	-4.33	-3.80	-3.80	-3.92
2	-2.20	-2.36	-2.16	-2.09	-1.83	-2.72	-3.22	-4.86	-4.25	-3.64	-3.91	-3.85
3	-2.16	-2.29	-2.18	-2.09	-1.82	-2.72	-3.16	-4.80	-4.14	-3.50	-3.62	-3.73
4	-2.12	-2.15	-2.25	-2.16	-1.75	-2.91	-3.14	-4.69	-4.01	-3.48	-3.51	-3.58
5	-2.18	-2.31	-2.21	-2.05	-1.79	-3.02	-3.19	-4.74	-3.93	-3.57	-3.64	-3.55
6	-2.16	-2.42	-2.27	-1.98	-1.83	-2.99	-3.25	-4.71	-3.88	-3.59	-4.15	-3.54
7	-2.04	-2.50	-2.09	-2.11	-2.06	-2.95	-3.27	-4.66	-3.94	-3.56	-4.43	-3.45
8	-1.98	-2.40	-1.77	-2.20	-2.19	-2.87	-3.19	-4.69	-3.96	-3.55	-4.63	-3.49
9	-2.04	-2.36	-1.91	-2.18	-1.96	-2.92	-3.22	-4.77	-3.99	-3.50	-4.60	-3.43
10	-2.02	-2.40	-2.08	-2.05	-1.46	-3.13	-3.39	-4.85	-4.13	-3.49	-4.42	-3.46
11	-2.06	-2.35	-1.92	-2.04	-0.90	-3.21	-3.59	-4.90	-4.14	-3.43	-4.51	-3.46
12	-2.21	-2.28	-1.79	-2.12	-0.10	-3.34	-3.73	-4.91	-4.05	-3.54	-4.50	-3.59
13	-2.16	-2.36	-1.95	-2.17	.43	-3.39	-3.82	-4.81	-3.96	-3.71	-4.52	-3.63
14	-1.82	-2.29	-2.13	-2.17	.51	-3.51	-3.80	-4.68	-3.90	-3.72	-4.74	-3.74
15	-1.98	-2.04	-2.18	-2.14	.22	-3.59	-3.74	-4.70	-3.96	-3.67	-4.84	-3.75
16	-1.97	-2.26	-2.17	-2.14	-0.32	-3.48	-3.87	-4.71	-4.04	-3.61	-4.87	-3.69
17	-1.76	-2.27	-1.95	-2.00	-0.74	-3.37	-3.93	-4.75	-3.95	-3.47	-4.77	-3.75
18	-1.75	-2.07	-2.14	-1.92	-1.02	-3.46	-3.98	-4.78	-3.78	-3.08	-4.62	-3.88
19	-1.39	-1.82	-2.20	-2.04	-1.24	-3.54	-4.13	-4.82	-3.74	-2.66	-4.47	-3.89
20	-1.99	-1.77	-2.22	-1.88	-1.45	-3.52	-4.27	-4.87	-3.80	-2.45	-4.19	-3.86
21	-1.59	-1.97	-2.36	-1.93	-1.68	-3.51	-4.31	-4.82	-3.77	-2.41	-4.12	-3.84
22	-1.98	-2.20	-2.25	-1.92	-1.85	-3.45	-4.34	-4.78	-3.84	-2.61	-3.89	-3.95
23	-1.50	-2.41	-2.18	-1.94	-2.00	-3.36	-4.33	-4.74	-3.80	-2.87	-3.74	-3.96
24	-1.83	-2.46	-2.12	-1.89	-2.16	-3.38	-4.36	-4.70	-3.87	-2.89	-3.72	-3.93
25	-1.69	-2.40	-2.14	-1.83	-2.20	-3.42	-4.33	-4.56	-3.91	-3.19	-3.73	-3.98
26	-2.11	-2.25	-2.26	-1.64	-2.30	-3.26	-4.38	-4.45	-3.96	-3.45	-3.70	-4.05
27	-2.39	-2.25	-2.27	-1.71	-2.45	-3.24	-4.51	-4.48	-4.01	-3.63	-3.65	-4.08
28	-2.44	-2.28	-2.17	-1.81	-2.56	-3.32	-4.65	-4.33	-4.01	-3.67	-3.76	-4.07
29	-2.43	-2.38	-2.10	-1.89	-2.62	-3.30	-4.75	-4.39	-3.99	-3.72	-3.95	-4.19
30	-2.39	---	-2.12	-1.90	-2.70	-3.18	-4.80	-4.25	-3.94	-3.75	-3.94	-4.13
31	-2.34	---	-2.15	---	-2.79	---	-4.79	-4.25	---	-3.80	---	-4.04
MEAN	-2.03	-2.26	-2.13	-2.00	-1.56	-3.23	-3.89	-4.69	-3.97	-3.39	-4.16	-3.79
CAL YR 1988	MEAN	-3.09		MAX	.51		MIN	-4.91				

WATER LEVEL, IN FEET ABOVE AND BELOW LAND SURFACE

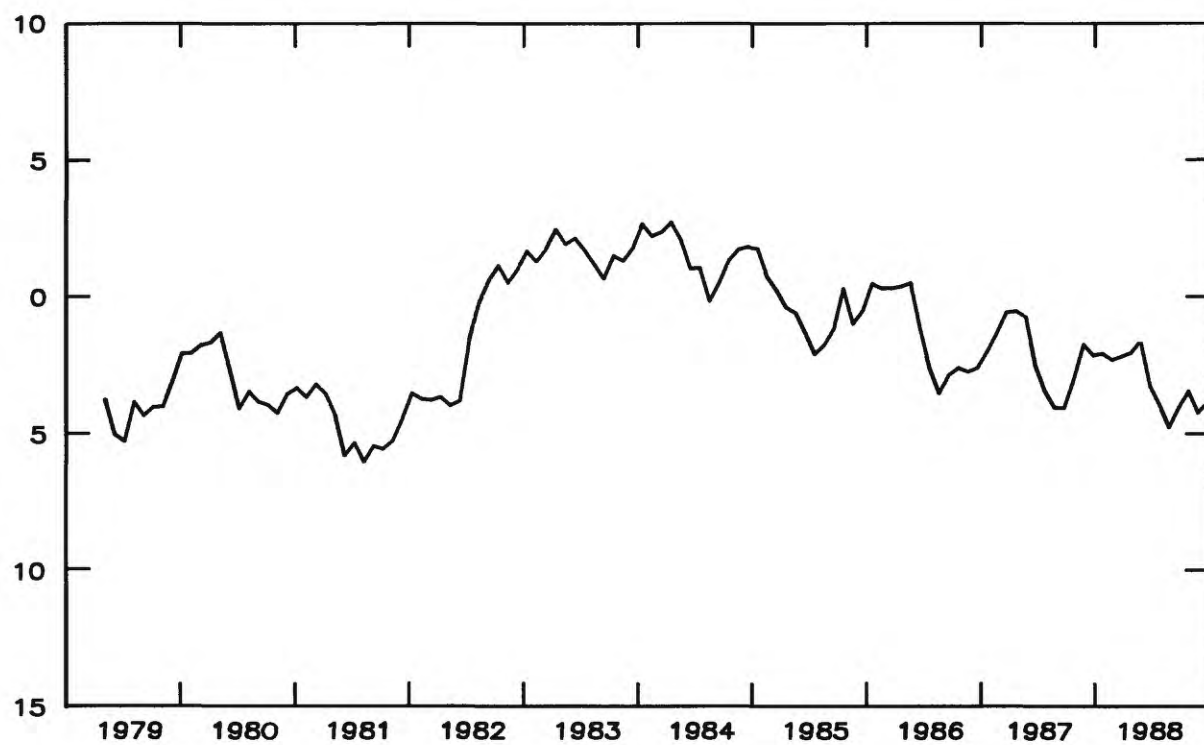
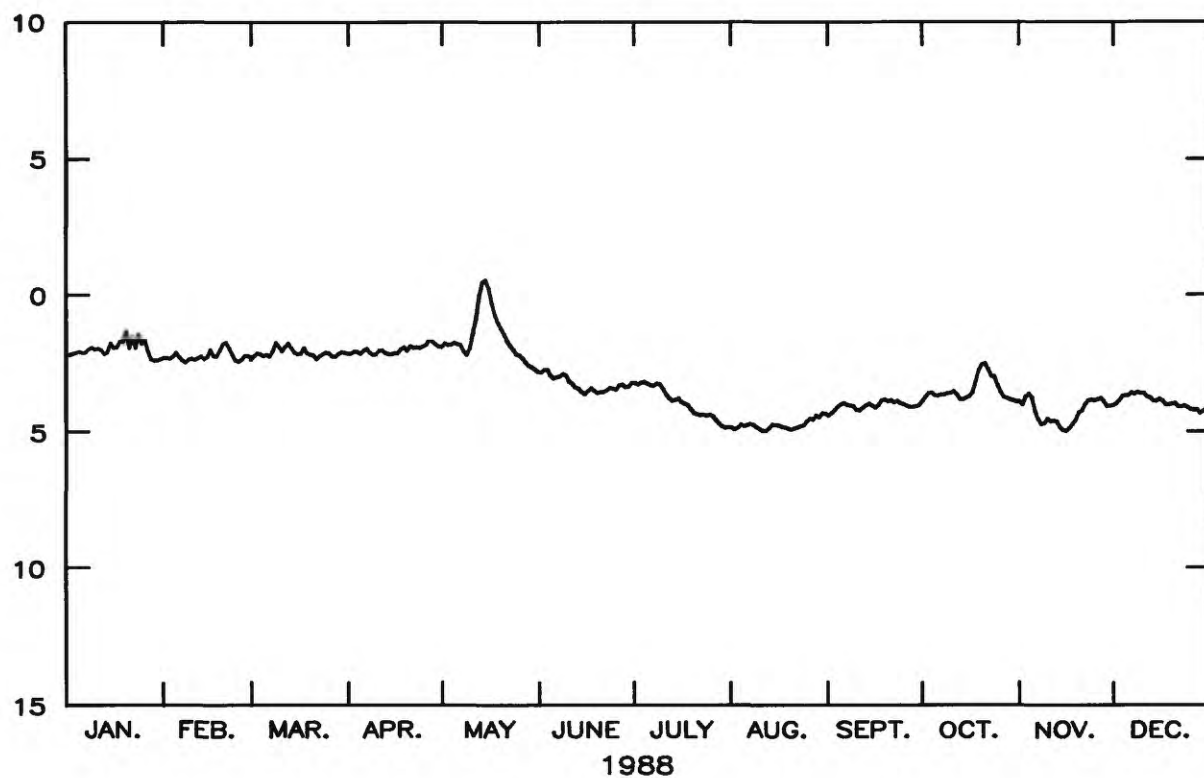


Figure 2.7.4.3–5.—Water level in observation well 33J044, Glynn County.

#### 2.7.4.4 Kings Bay-Okefenokee Swamp Area

The water level in the Upper Floridan aquifer in the Kings Bay area is affected by industrial pumpage totalling about 32 Mgal/d (Turlington and others, 1987) at St Marys, Ga., and about 37 Mgal/d at Fernandina Beach, Fla. (Marella, 1986). Pumping in these areas has resulted in the formation of a cone of depression centered at Fernandina Beach, Fla., and to a lesser extent at St Marys, Ga.

The annual mean water level in well 33E027 at Kings Bay was 0.2 ft lower in 1988 than in 1987. This decline continued the downward trend in the area since 1983, and which is attributed to increased regional pumping as a result of below-normal precipitation.

The water table in the Okefenokee Swamp fluctuates seasonally in response to rainfall and evapotranspiration. This fluctuation probably affects the water level in the underlying, confined Upper Floridan aquifer (Callahan, 1964). The annual mean water level at well 27E004 in western Charlton County was 2.0 ft lower in 1988 than in 1987, which continued the downward trend that began in 1984, and which is attributed to increased regional pumping as a result of below-normal precipitation.

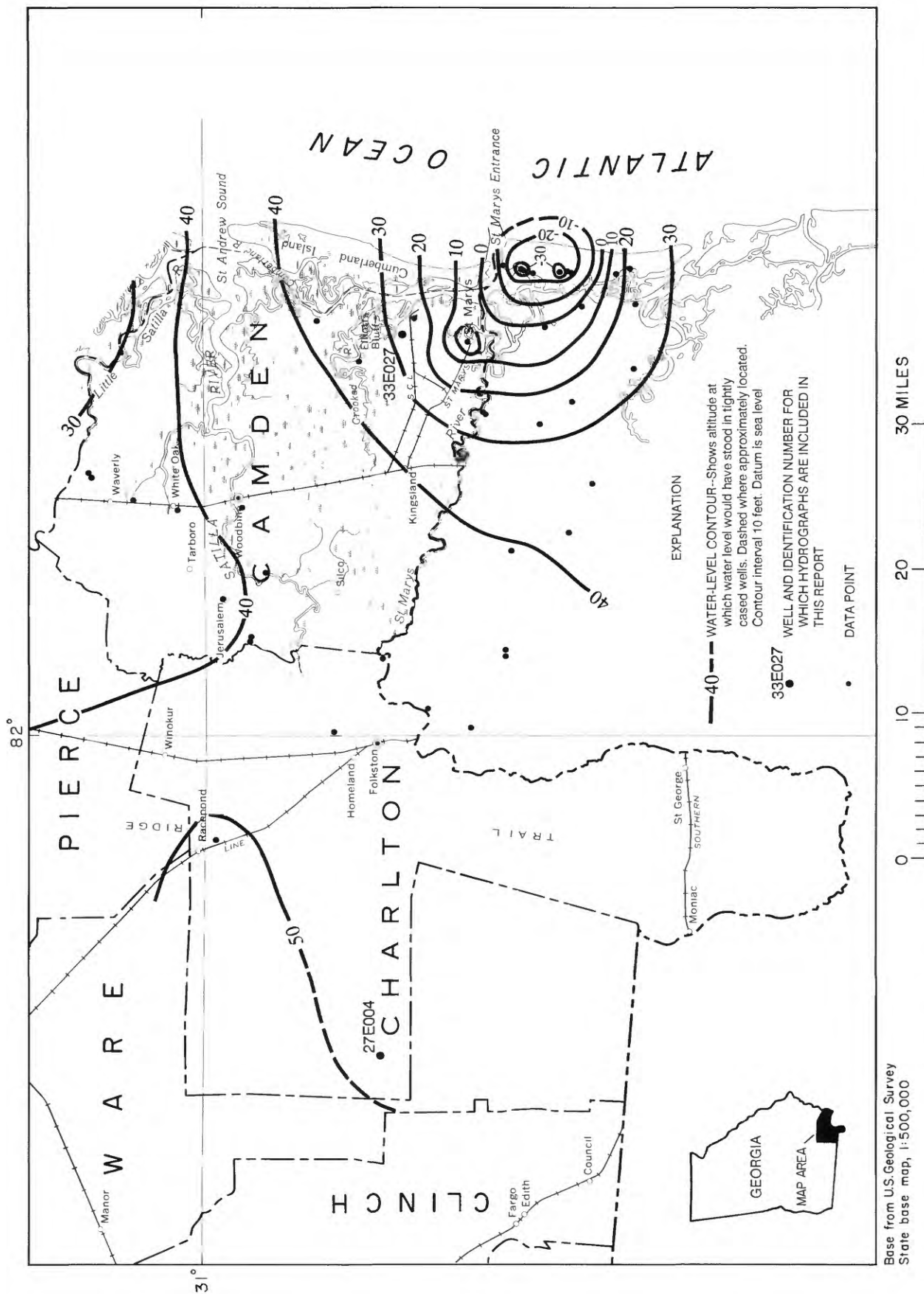


Figure 2.7.4.4-1.—Observation well locations and the water level in the Upper Floridan aquifer in the Kings Bay-Okefenokee Swamp area, May 1988.

## 33E027 KINGS BAY CAMDEN COUNTY

304756081311101 Local number, 33E027.

LOCATION.--Lat 30°47'56", long 81°31'11", Hydrologic Unit 03070203, Naval Submarine Base, Kings Bay.

Owner: U.S. Department of the Navy.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled test well, diameter 8 in., depth 1,306 ft, cased to 555 ft, backfilled to 990 ft.

DATUM.--Elevation of land-surface datum is 10.0 ft.

Measuring point: Top of flange at land-surface datum.

REMARKS.--Water levels for periods of missing record, January 20 to February 3, and February 25, were estimated.

PERIOD OF RECORD.--August 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.71 ft above land-surface datum, March 28, 1984, and March 17, 1983; lowest, 13.90 ft above land-surface datum, June 10-11, 1985.

WATER LEVEL, IN FEET ABOVE LAND SURFACE DATUM , CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	18.60	18.20	18.70	18.40	19.70	18.60	18.30	17.60	18.90	18.20	18.70	19.40
2	18.80	18.10	18.50	18.40	19.80	18.70	18.30	17.50	18.90	18.30	18.80	19.20
3	18.90	18.00	18.60	18.60	19.70	18.70	18.30	17.60	18.30	18.40	18.60	19.30
4	18.80	17.90	19.00	18.70	19.70	18.80	18.30	17.60	17.90	18.20	18.90	19.40
5	18.60	17.90	19.20	18.70	19.80	18.80	18.30	17.50	17.90	18.30	19.00	19.20
6	18.70	17.90	19.00	18.80	19.70	18.70	18.20	17.60	17.70	18.30	18.90	19.20
7	18.90	17.90	19.00	19.10	19.70	18.60	18.20	17.60	17.80	18.00	18.70	19.30
8	18.80	17.80	19.10	19.40	19.60	18.60	18.10	17.50	17.90	17.80	18.60	19.30
9	18.70	17.90	19.20	19.60	19.60	18.50	18.10	17.40	18.20	17.90	18.90	19.30
10	18.70	17.80	19.20	19.70	19.50	18.40	18.10	17.40	17.90	17.90	19.30	19.10
11	18.60	17.80	19.10	19.90	19.70	18.30	18.00	17.50	17.90	17.80	19.50	19.30
12	18.50	17.70	18.80	19.70	19.50	18.20	18.00	17.60	18.00	17.80	19.50	19.10
13	18.30	17.60	19.10	19.70	19.20	18.40	17.90	17.90	17.90	18.20	19.70	19.10
14	18.00	17.70	19.20	19.80	19.30	18.50	17.90	18.00	18.00	18.30	19.60	19.00
15	17.90	17.90	19.10	19.80	19.50	18.50	17.90	17.90	18.00	18.50	19.60	18.90
16	17.90	17.80	19.20	19.50	19.30	18.30	17.90	18.00	18.10	18.60	19.70	18.90
17	17.90	17.60	19.20	19.20	19.40	18.20	17.80	17.90	18.30	18.70	19.80	18.80
18	18.10	17.80	19.20	19.40	19.40	18.20	17.70	18.00	18.50	18.80	19.70	18.80
19	17.90	18.30	19.50	19.70	19.20	18.10	17.60	18.00	18.70	18.80	19.80	18.70
20	18.00	18.30	19.10	19.80	19.10	18.20	17.50	18.10	18.70	18.80	19.80	18.60
21	18.10	18.10	19.10	20.00	18.80	18.20	17.50	18.10	18.70	18.70	19.80	18.70
22	18.20	17.90	19.10	20.00	18.40	18.20	17.40	18.20	18.60	18.50	19.70	18.60
23	18.30	18.10	19.10	20.00	18.30	18.30	17.30	18.20	18.70	18.40	20.00	18.90
24	18.20	18.20	19.00	20.10	18.80	18.50	17.50	18.30	18.60	18.50	19.80	19.00
25	18.10	18.35	19.20	20.10	18.80	18.60	17.50	18.30	18.70	18.80	19.70	19.00
26	18.00	18.50	19.30	20.00	18.90	18.60	17.60	18.20	18.60	18.90	19.80	18.90
27	17.90	18.60	19.40	20.00	18.80	18.50	17.40	17.70	18.60	19.00	19.70	19.00
28	17.80	18.80	19.30	19.60	18.70	18.50	17.50	17.60	18.20	19.00	19.70	19.10
29	17.90	18.90	18.70	19.50	18.60	18.40	17.40	18.10	18.30	18.80	19.60	18.90
30	18.00	---	18.60	19.50	18.50	18.30	17.40	18.60	18.20	18.80	19.40	18.80
31	18.10	---	18.50	---	18.50	---	17.60	18.90	---	18.80	---	19.60
MEAN	18.30	18.05	19.04	19.49	19.21	18.45	17.82	17.88	18.29	18.45	19.41	19.05
CAL YR 1988	MEAN	18.62		MAX	20.10		MIN	17.30				



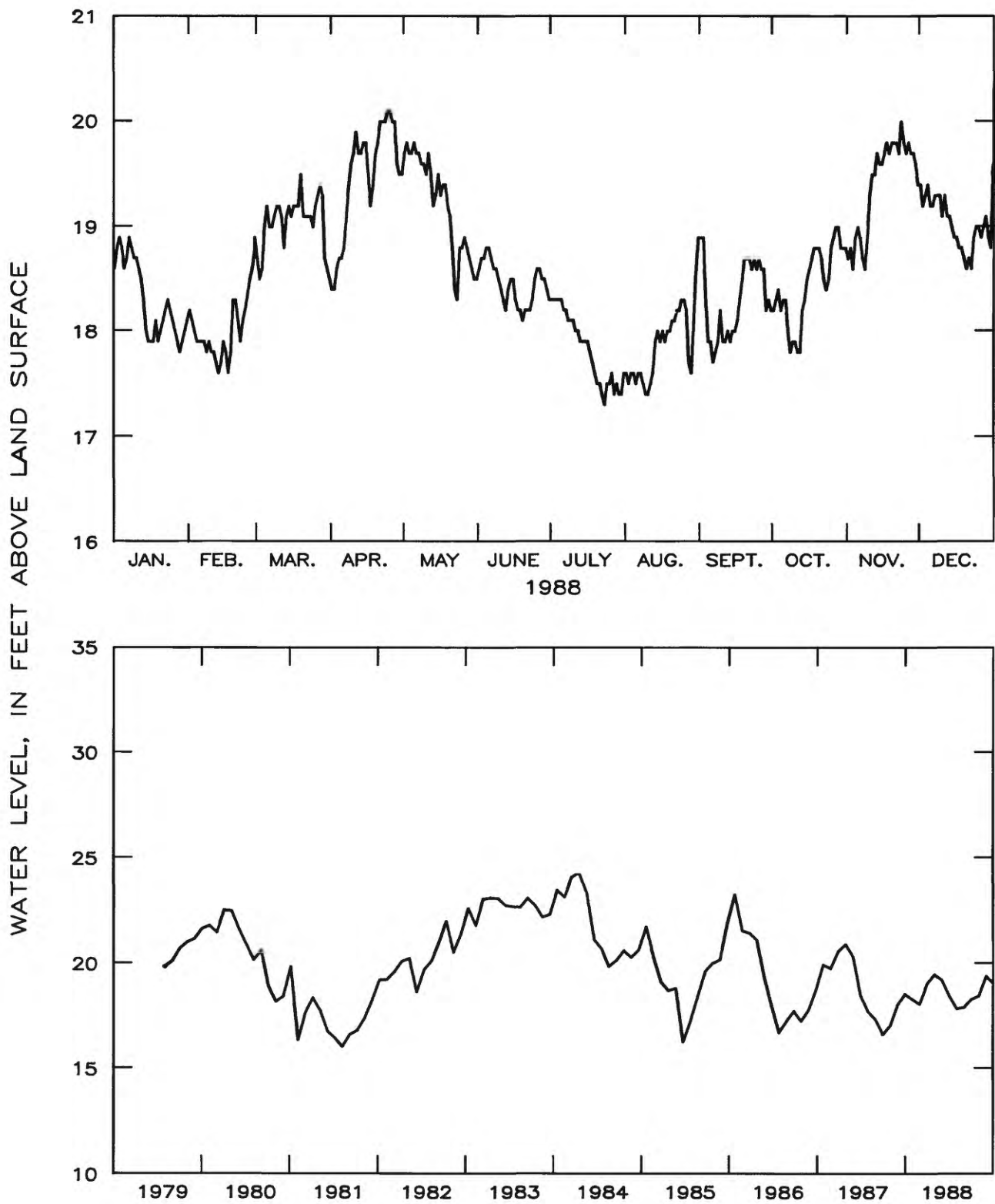


Figure 2.7.4.4-2.—Water level in observation well 33E027, Camden County.

## 27E004 TEST WELL OK9 CHARLTON COUNTY

304942082213801 Local number, 27E004.

LOCATION.--Lat 30°49'43", long 82°21'38", Hydrologic Unit 03110201, end of Georgia Highway 177 east of Stephen C. Foster State Park.

Owner: U.S. Geological Survey, test well OK 9.

AQUIFER.--Upper Floridan aquifer.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 700 ft, cased to 498 ft, open hole.

DATUM.--Elevation of land-surface datum is 116 ft.

Measuring point: Floor of recorder shelter, 4.3 ft above land-surface datum.

REMARKS.--Well drilled in May, 1978 to replace U.S. Geological Survey test well OK 8 (27E002). Water levels for period of missing record, September 23 to October 3, were estimated.

PERIOD OF RECORD.--June 14, 1978 to January 26, 1979; January 1, 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.30 ft below land-surface datum, May 9, 1984; lowest, 71.60 ft below land-surface datum, July 27, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	69.48	69.21	68.21	66.90	67.26	68.26	69.83	70.96	71.09	70.19	69.69	69.89
2	69.47	69.15	68.19	66.90	67.31	68.22	69.97	71.02	71.10	70.17	69.73	69.99
3	69.39	69.10	68.07	66.86	67.36	68.21	70.06	71.03	71.01	70.15	69.77	69.97
4	69.41	69.03	67.92	66.80	67.34	68.41	70.18	71.01	70.89	70.13	69.56	69.89
5	69.52	69.15	67.94	66.84	67.31	68.60	70.28	70.98	70.78	69.98	69.45	69.94
6	69.51	69.23	67.87	66.75	67.29	68.62	70.31	71.00	70.75	70.04	69.64	69.93
7	69.39	69.28	67.87	66.65	67.38	68.59	70.34	71.01	70.81	70.02	69.80	69.84
8	69.28	69.13	67.83	66.75	67.48	68.55	70.36	71.00	70.79	69.99	69.86	69.88
9	69.34	69.04	67.52	66.89	67.50	68.62	70.38	71.01	70.74	69.90	69.87	69.85
10	69.39	69.02	67.34	66.89	67.46	68.78	70.44	71.06	70.77	69.86	69.82	69.85
11	69.42	68.95	67.56	66.79	67.45	68.94	70.50	71.09	70.79	69.81	69.84	69.77
12	69.43	68.91	67.45	66.79	67.54	69.01	70.53	71.12	70.76	69.86	69.88	69.84
13	69.37	69.01	67.24	66.95	67.58	69.07	70.57	71.14	70.68	69.99	69.86	69.82
14	69.47	69.01	67.18	67.07	67.52	69.14	70.61	71.13	70.59	70.00	69.89	69.87
15	69.48	68.76	67.29	67.10	67.48	69.14	70.63	71.12	70.58	69.92	69.88	69.87
16	69.45	68.90	67.35	67.14	67.48	69.08	70.66	71.10	70.61	69.88	69.84	69.82
17	69.31	68.99	67.33	67.15	67.43	69.07	70.69	71.11	70.54	69.87	69.86	69.83
18	69.21	68.86	67.12	67.06	67.44	69.18	70.70	71.07	70.41	69.81	69.91	69.93
19	69.17	68.55	67.04	67.01	67.51	69.30	70.74	71.03	70.35	69.73	69.86	69.98
20	69.07	68.47	67.18	67.15	67.60	69.36	70.78	71.01	70.34	69.74	69.79	69.98
21	69.02	68.64	67.13	67.13	67.68	69.39	70.78	71.02	70.33	69.69	69.84	69.91
22	69.17	68.76	67.13	67.15	67.74	69.42	70.76	71.08	70.32	69.67	69.84	69.93
23	69.21	68.64	67.15	67.20	67.78	69.47	70.78	71.12	70.31	69.68	69.70	69.88
24	69.18	68.62	67.07	67.19	67.81	69.54	70.81	71.11	70.29	69.63	69.81	69.81
25	69.02	68.62	67.00	67.17	67.81	69.61	70.81	71.07	70.28	69.74	69.87	69.85
26	69.24	68.58	66.91	67.13	67.96	69.58	70.84	71.01	70.27	69.75	69.80	69.96
27	69.43	68.35	66.91	67.25	68.07	69.58	70.89	71.05	70.25	69.77	69.73	69.95
28	69.49	68.28	66.98	67.33	68.11	69.72	70.95	71.04	70.24	69.82	69.76	69.85
29	69.46	68.23	66.96	67.37	68.13	69.79	70.99	71.08	70.22	69.83	69.91	69.91
30	69.36	---	66.93	67.34	68.21	69.78	70.99	70.98	70.21	69.82	69.86	69.88
31	69.25	---	66.91	---	68.26	---	70.94	70.99	---	69.76	---	69.82
MEAN	69.34	68.84	67.37	67.02	67.62	69.07	70.58	71.05	70.57	69.88	69.80	69.89
CAL YR 1988	MEAN	69.26		HIGH	66.65		LOW	71.14				

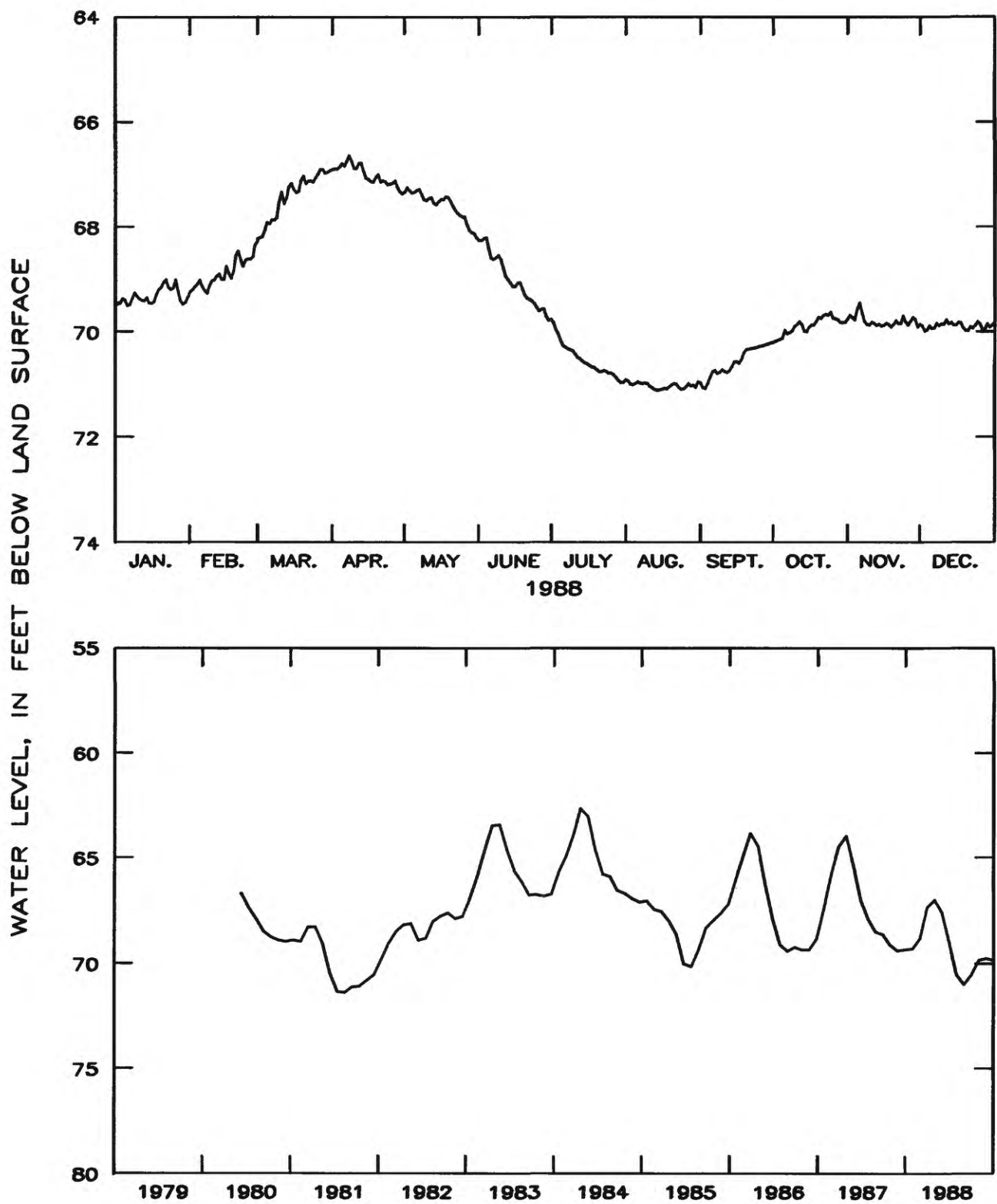


Figure 2.7.4.4-3.—Water level in observation well 27E004, Charlton County.

## 2.8 Upper Brunswick Aquifer

The upper Brunswick aquifer consists of poorly sorted fine to coarse, slightly phosphatic and dolomitic quartz sand of Miocene age that ranges in thickness from about 10 to to 150 ft (Clarke and others, 1989). The aquifer is a source of water for industrial use in the Glynn County area, and may serve as a supplemental source of water throughout most of coastal Georgia (Clarke and Hacke, 1989).

Water levels respond to pumping in areas where the aquifer is deeply buried and where they are near pumping centers for the Upper Floridan aquifer (Clarke and others, 1989). Conversely, in areas where the aquifer is not as deeply buried and where it is distant from Upper Floridan pumping centers, water levels primarily respond to seasonal climatic changes, although regional pumping has some influence.

In Bulloch County, the upper Brunswick aquifer is found near the area where Miocene sediments crop out. Water levels in this area are influenced by both evapotranspiration and by pumping from the Upper Floridan aquifer. The annual mean water level in well 31U009 was 1.1 ft lower in 1988 than in 1987. This decline, which continues a downward trend since 1983, is attributed to below-normal precipitation and to increased regional pumping.

In the Wayne County area, the water-level trend in the upper Brunswick aquifer is similar to that in the underlying Upper Floridan aquifer. The annual mean water level in well 32L016 was 0.9 ft lower in 1988 than in 1987, and a new record low was measured in December. This decline corresponds to a downward trend in the Upper Floridan aquifer, which was described previously in this report.

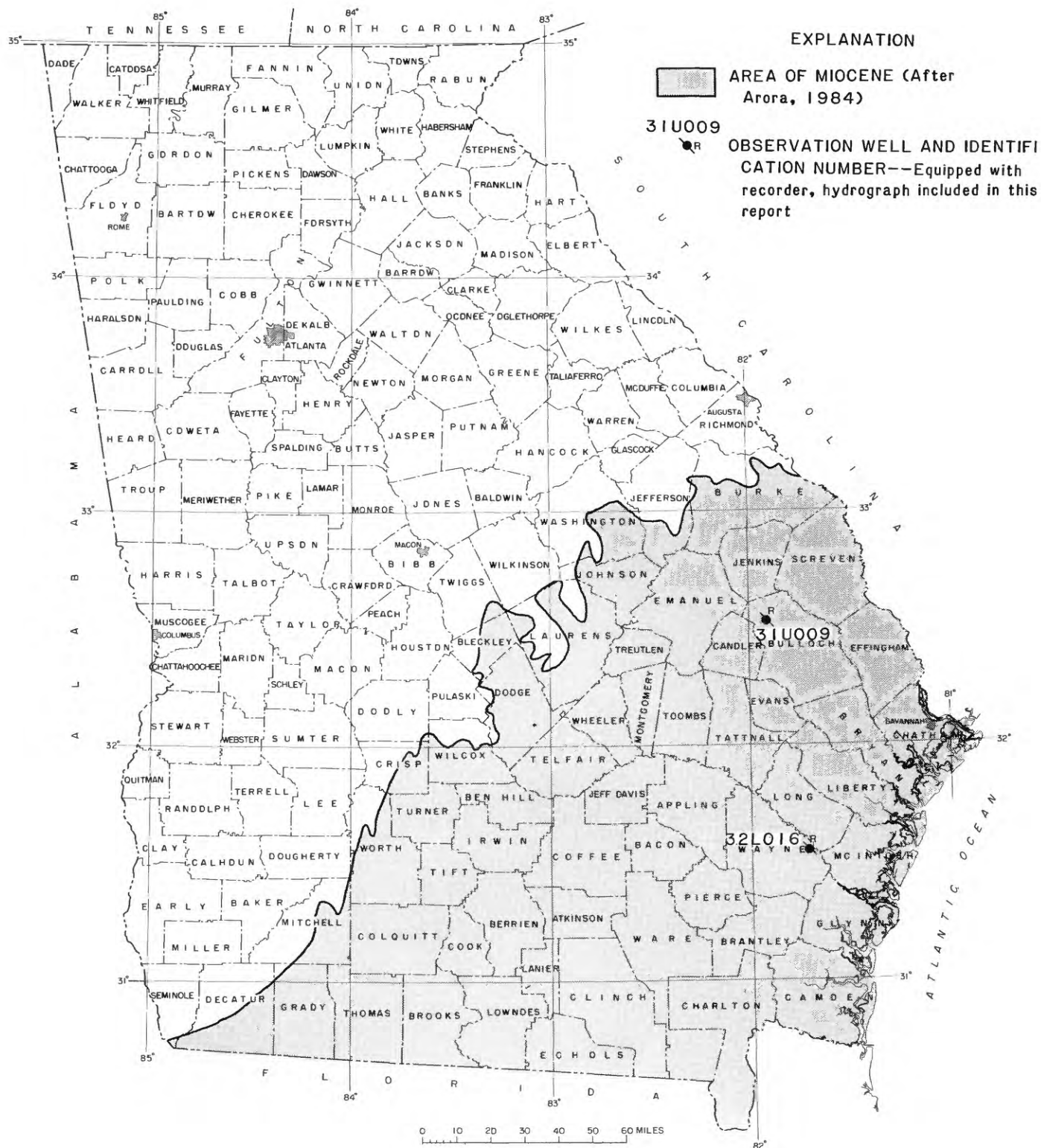


Figure 2.8-1.—Observation well locations in the Upper Brunswick aquifer.

## 31U009 HOPEULIKIT TW2 BULLOCH COUNTY

323123081511602, Local number, 31U009.

LOCATION.--Lat 32°31'23", long 81°51'16", Hydrologic Unit 03060202, in roadside park on west side of Hopeulikit community, U.S. Highways 25 and 80.

Owner: Georgia Geologic Survey.

AQUIFER.--Miocene.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 210 ft, cased to 160 ft, stainless steel screen 160 to 210 ft.

DATUM.--Elevation of land-surface datum is 205 ft.

Measuring point: Floor of recorder shelter, 3.0 ft above land-surface datum.

REMARKS.--Well sounded August 1982. Water levels for period of missing record, January 12-13, were estimated.

PERIOD OF RECORD.--October 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 70.77 ft below land-surface datum, April 24, 1983; lowest, 78.87 ft below land-surface datum, August 4, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	74.36	73.79	73.39	72.99	72.77	72.99	74.93	76.68	77.41	76.97	76.63	76.21
2	74.34	73.77	73.39	72.98	72.78	72.98	75.05	76.73	77.37	76.94	76.62	76.22
3	74.26	73.75	73.36	72.96	72.79	72.99	75.14	76.78	77.34	76.88	76.62	76.19
4	74.21	73.70	73.30	72.94	72.78	73.06	75.23	76.80	77.31	76.85	76.55	76.16
5	74.23	73.73	73.27	72.94	72.74	73.13	75.28	76.84	77.30	76.90	76.43	76.17
6	74.22	73.75	73.27	72.90	72.73	73.15	75.33	76.89	77.30	76.94	76.47	76.14
7	74.16	73.77	73.28	72.87	72.77	73.18	75.37	76.93	77.28	76.90	76.51	76.11
8	74.08	73.73	73.28	72.89	72.80	73.20	75.41	76.96	77.25	76.87	76.52	76.10
9	74.06	73.70	73.14	72.93	72.81	73.24	75.46	77.01	77.25	76.86	76.52	76.08
10	74.06	73.69	73.02	72.92	72.79	73.35	75.51	77.08	77.25	76.84	76.49	76.07
11	74.06	73.67	73.08	72.87	72.80	73.43	75.57	77.14	77.19	76.81	76.48	76.04
12	74.09	73.63	73.10	72.84	72.83	73.49	75.61	77.18	77.07	76.83	76.49	76.04
13	74.02	73.66	73.06	72.88	72.82	73.57	75.68	77.21	77.08	76.88	76.47	76.00
14	74.15	73.66	73.05	72.91	72.79	73.66	75.74	77.22	77.07	76.88	76.46	76.00
15	74.09	73.59	73.08	72.92	72.78	73.72	75.79	77.26	77.10	76.85	76.45	75.99
16	74.07	73.62	73.10	72.94	72.78	73.78	75.87	77.28	77.14	76.83	76.42	75.95
17	74.01	73.64	73.10	72.94	72.76	73.85	75.93	77.31	77.07	76.82	76.41	75.92
18	73.94	73.61	73.06	72.91	72.76	73.96	75.99	77.32	76.96	76.80	76.42	75.94
19	73.89	73.50	73.00	72.77	72.77	74.08	76.07	77.34	76.98	76.77	76.39	75.94
20	73.84	73.42	73.04	72.80	72.79	74.17	76.13	77.35	77.01	76.78	76.34	75.93
21	73.82	73.42	73.03	72.81	72.81	74.26	76.17	77.38	77.03	76.75	76.36	75.90
22	73.84	73.46	73.04	72.83	72.82	74.34	76.23	77.39	77.03	76.73	76.36	75.89
23	73.84	73.45	73.06	72.84	72.82	74.42	76.29	77.38	77.02	76.73	76.28	75.86
24	73.83	73.45	73.04	72.81	73.09	74.50	76.36	77.39	77.01	76.71	76.26	75.81
25	73.78	73.46	73.02	72.79	72.99	74.60	76.42	77.40	77.00	76.72	76.28	75.81
26	73.81	73.46	72.98	72.64	72.96	74.66	76.48	77.43	76.88	76.71	76.25	75.84
27	73.86	73.40	72.98	72.69	72.96	74.69	76.55	77.45	76.90	76.72	76.21	75.82
28	73.88	73.38	73.01	72.75	72.95	74.78	76.61	77.44	76.94	76.72	76.22	75.76
29	73.87	73.38	73.01	72.78	72.95	74.85	76.68	77.45	76.98	76.71	76.26	75.77
30	73.84	---	73.00	72.78	72.97	74.88	76.67	77.43	76.99	76.70	76.22	75.74
31	73.82	---	72.99	---	72.99	---	76.62	77.37	---	76.68	---	75.71
MEAN	74.01	73.59	73.11	72.86	72.84	73.83	75.88	77.19	77.12	76.81	76.41	75.97
CAL YR 1988	MEAN	74.98		HIGH	72.64		LOW	77.45				

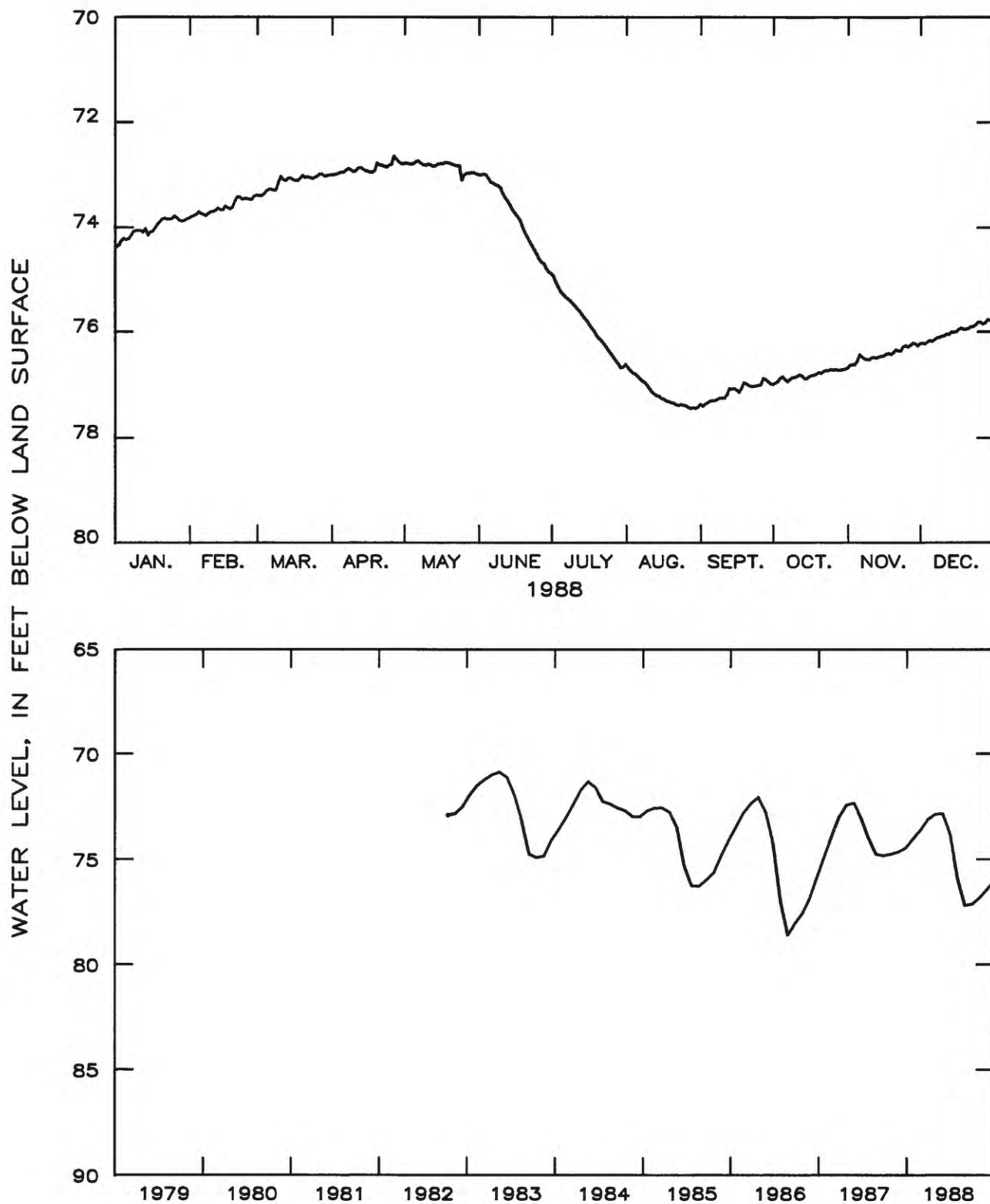


Figure 2.8-2.—Water level in observation well 31U009, Bulloch County.



## 32L016 GARDI TW2 WAYNE COUNTY

313253081433503, Local number, 32L016.

LOCATION.--Lat 31°32'53", long 81°43'35", Hydrologic Unit 03070106, 4.3 mi east of Gardi Road, left onto dirt road 0.8 mi, well on right side of road.

Owner: Georgia Geologic Survey.

AQUIFER.--Miocene.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 340 ft, cased to 320 ft, PVC screen 320 to 340 ft.

DATUM.--Elevation of land-surface datum is 74 ft.

Measuring point: Floor of recorder shelter, 4.0 ft above land-surface datum.

REMARKS.--Well sounded April 26, 1983.

PERIOD OF RECORD.--June 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 49.26 ft below land-surface datum, March 20, 1984; lowest, 54.67 ft below land-surface datum, December 26, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), CALENDAR YEAR JANUARY 1988 TO DECEMBER 1988  
MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	53.92	53.54	53.07	53.35	53.34	53.96	54.22	54.44	54.40	54.12	54.36	54.56
2	53.92	53.50	53.09	53.38	53.34	53.94	54.27	54.46	54.30	54.10	54.39	54.60
3	53.85	53.47	53.08	53.38	53.33	53.94	54.28	54.47	54.27	54.04	54.41	54.59
4	53.81	53.45	53.02	53.37	53.31	54.01	54.32	54.47	54.24	54.02	54.33	54.58
5	53.86	53.46	53.05	53.40	53.28	54.06	54.34	54.46	54.17	54.08	54.27	54.61
6	53.87	53.43	53.07	53.38	53.26	54.05	54.35	54.46	54.13	54.12	54.35	54.60
7	53.83	53.46	53.12	53.33	53.30	54.04	54.36	54.46	54.17	54.13	54.41	54.57
8	53.77	53.42	53.15	53.40	53.35	53.98	54.36	54.43	54.16	54.13	54.44	54.59
9	53.77	53.40	53.08	53.48	53.37	53.92	54.36	54.44	54.07	54.13	54.44	54.58
10	53.78	53.41	53.04	53.49	53.37	53.97	54.37	54.45	54.10	54.13	54.43	54.59
11	53.78	53.39	53.16	53.46	53.38	54.02	54.38	54.46	54.13	54.12	54.44	54.55
12	53.79	53.37	53.14	53.45	53.46	54.05	54.37	54.47	54.14	54.16	54.47	54.56
13	53.79	53.42	53.09	53.52	53.50	54.07	54.37	54.46	54.13	54.23	54.46	54.55
14	53.81	53.43	53.10	53.57	53.52	54.10	54.37	54.42	54.12	54.24	54.48	54.58
15	53.82	53.33	53.16	53.59	53.54	54.09	54.38	54.44	54.14	54.23	54.48	54.58
16	53.82	53.38	53.18	53.63	53.57	54.07	54.40	54.43	54.17	54.23	54.47	54.56
17	53.80	53.41	53.18	53.65	53.58	54.07	54.42	54.43	54.11	54.24	54.48	54.56
18	53.74	53.35	53.10	53.62	53.60	54.11	54.43	54.44	54.01	54.23	54.52	54.61
19	53.72	53.12	53.08	53.51	53.63	54.14	54.45	54.44	54.01	54.22	54.50	54.63
20	53.67	53.06	53.14	53.55	53.68	54.16	54.47	54.41	54.04	54.27	54.47	54.63
21	53.61	53.09	53.14	53.53	53.73	54.15	54.47	54.43	54.05	54.25	54.50	54.61
22	53.61	53.15	53.17	53.54	53.76	54.15	54.47	54.46	54.05	54.26	54.51	54.63
23	53.62	53.12	53.20	53.55	53.78	54.17	54.47	54.47	54.06	54.29	54.44	54.61
24	53.62	53.12	53.19	53.54	53.80	54.18	54.47	54.40	54.08	54.28	54.48	54.59
25	53.58	53.13	53.17	53.53	53.79	54.18	54.45	54.41	54.10	54.34	54.51	54.61
26	53.61	53.13	53.16	53.44	53.85	54.16	54.46	54.43	54.11	54.35	54.49	54.67
27	53.69	53.05	53.19	53.45	53.88	54.17	54.49	54.46	54.13	54.38	54.47	54.66
28	53.70	53.05	53.26	53.44	53.90	54.22	54.52	54.44	54.14	54.40	54.50	54.62
29	53.66	53.05	53.28	53.44	53.91	54.22	54.54	54.43	54.14	54.40	54.57	54.66
30	53.61	---	53.30	53.41	53.94	54.20	54.52	54.42	54.13	54.39	54.55	54.65
31	53.56	---	53.32	---	53.96	---	54.43	54.42	---	54.38	---	54.64
MEAN	53.74	53.30	53.14	53.48	53.58	54.09	54.41	54.44	54.13	54.22	54.45	54.60
CAL YR 1988	MEAN	53.97		HIGH	53.02		LOW	54.67				

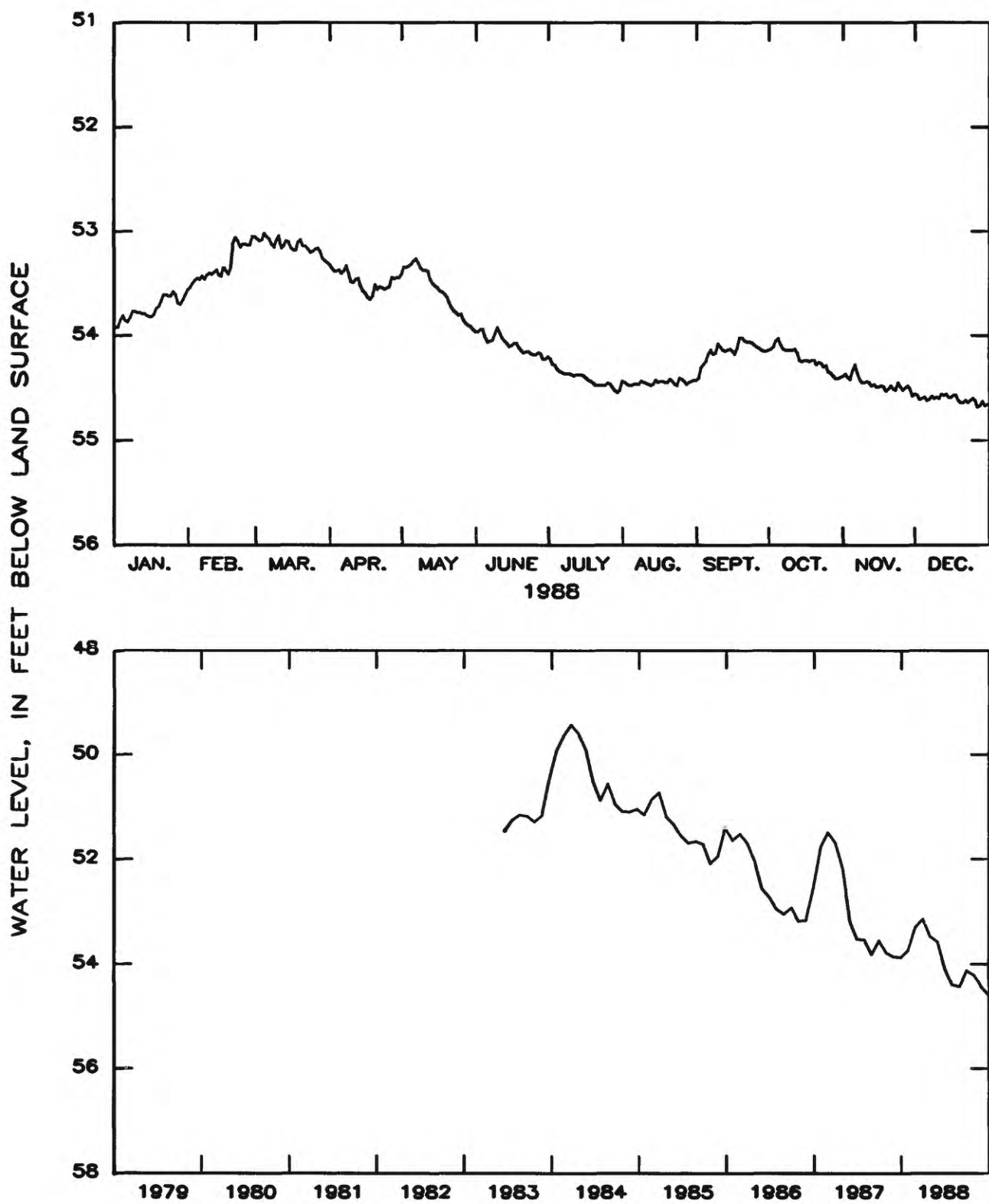


Figure 2.8-3.—Water level in observation well 32L016, Wayne County.

### 3.0 GROUND-WATER QUALITY

Ground-water samples are collected periodically throughout Georgia, and they are analyzed chemically as part of areal and regional ground-water studies. For example, chloride concentrations in water from wells along the coast have been monitored since the late 1950's. Additionally, select wells in several water-level-monitoring networks in the State also are pumped and sampled periodically to note chemical changes that may occur in the quality of ground water from various aquifers in Georgia.

#### 3.1 Coastal Area

Water samples from 137 wells that tap the Upper Floridan aquifer were collected in October and November 1988, and were analyzed for chloride concentration and specific conductance. Results of these analyses were used to construct a map showing chloride concentrations in coastal Georgia. In the Upper Floridan aquifer, chloride concentrations over most of coastal Georgia are less than 40 milligrams per liter (mg/L), which is within the 250 mg/L drinking water standard established by the Georgia Department of Natural Resources (1977) and the U.S. Environmental Protection Agency (1986b). Chloride concentrations that exceed drinking water standards have been detected only in the Brunswick area.

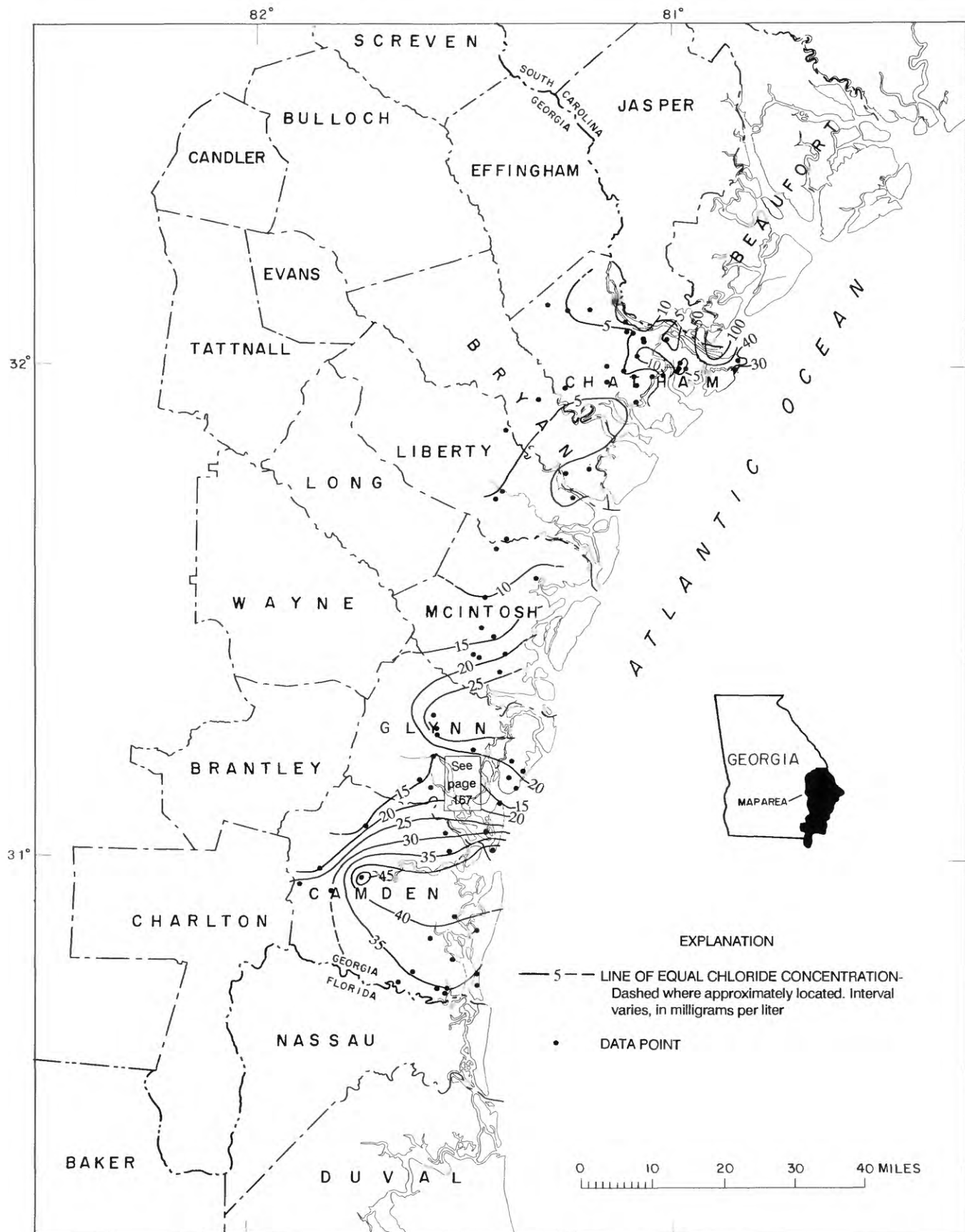


Figure 3.1-1.--Chloride concentrations in the Upper Floridan aquifer in the coastal area, October 1988.

### 3.1.1 Savannah area

Saltwater has the potential to enter the Floridan aquifer system in the Savannah area by encroachment from the sea or by upconing (upward leakage) from deeper zones. Twelve wells in the Savannah area are pumped and sampled periodically to monitor changes in chloride concentrations in the area. There has been no substantial increase in chloride concentrations in these wells during the past 20 years.

A map of chloride concentrations in the Savannah area indicates that chloride concentrations generally increase toward the eastern part of Chatham County. In October 1988, concentrations as high as 150 mg/L were observed in water samples from the uppermost part of the Upper Floridan aquifer at Fort Pulaski.

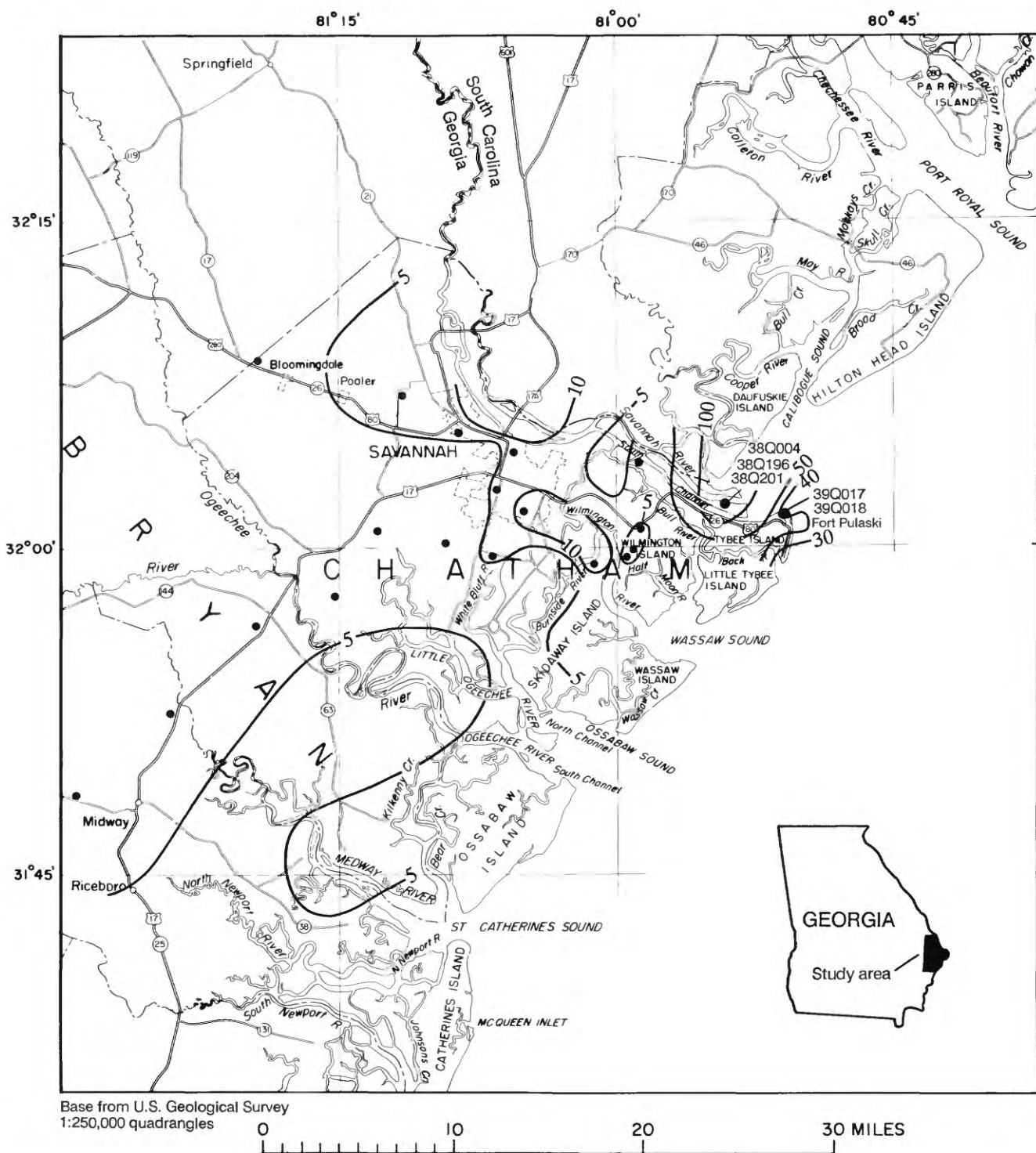


Figure 3.1.1-1.--Locations of chloride-monitoring wells in the Lower Floridan aquifer and chloride concentrations in the Upper Floridan aquifer in the Savannah area, October 1988.

Chloride concentrations generally increase with depth below land surface in the Savannah area as indicated by chloride graphs for four wells tapping the Lower Floridan aquifer. During 1988, a water sample from well 38Q004 (interval tapped, 606-657 ft) had a concentration of less than 200 mg/L. Water samples from wells 39Q018 (interval tapped, 630-670 ft) and 39Q017 (interval tapped, 710-745 ft) had chloride concentrations of less than 900 mg/L. A water sample from well 38Q196 (interval tapped, 870-925 ft) had a chloride concentration of about 5,400 mg/L in 1988.

A new monitoring well was constructed in 1986 to replace an older monitoring well (38Q195) in which the casing had failed. The new monitoring well, 38Q201 (interval tapped, 1,358-1,546 ft), was constructed to tap a deep zone underlying the Floridan aquifer system. Results of analyses of water samples collected during 1987 and 1988 indicated that chloride concentrations in water from the well ranged from about 15,600 to 18,100 mg/L.



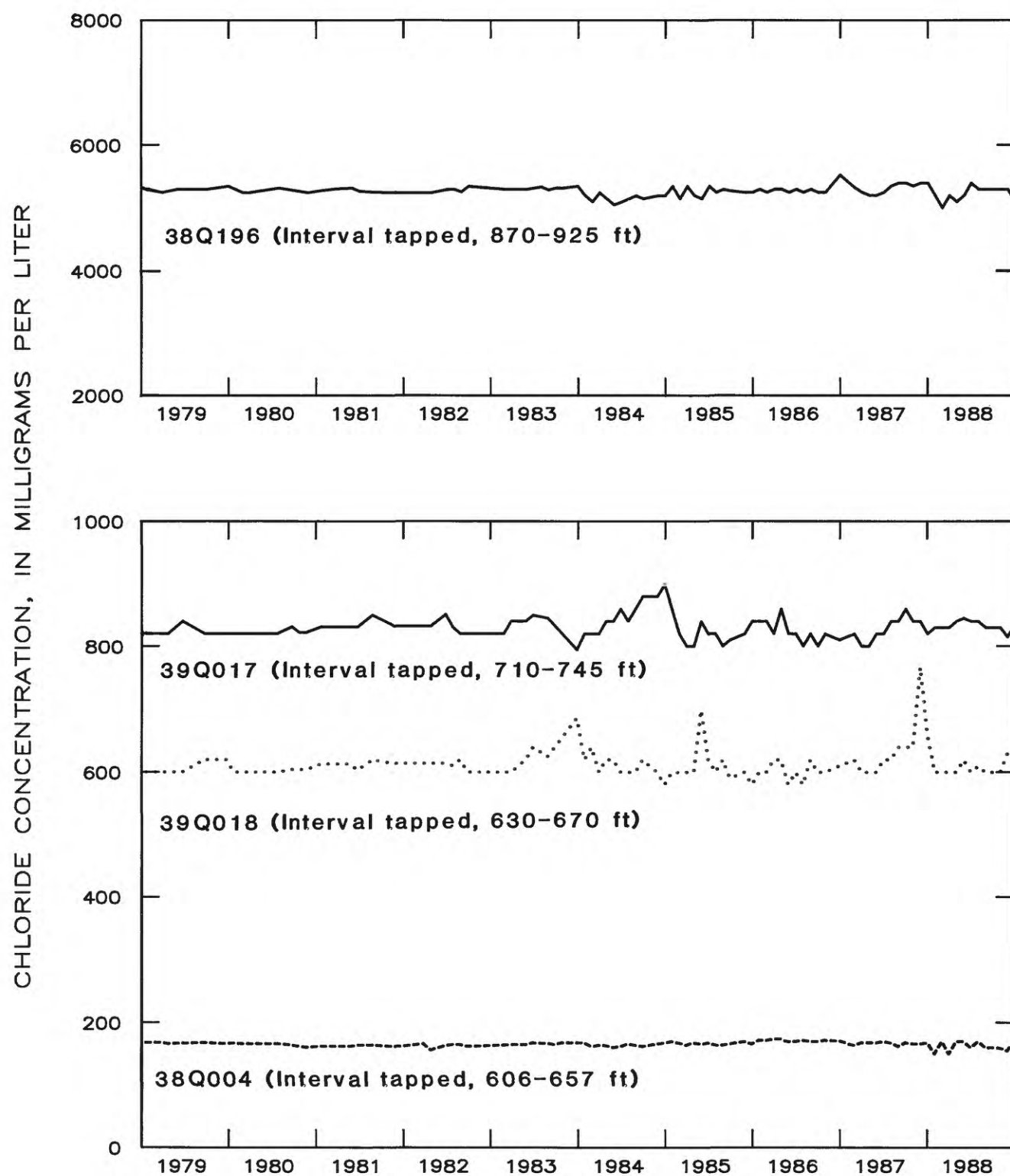


Figure 3.1.1-2.—Chloride concentrations in the Lower Floridan aquifer in the Savannah area.

### 3.1.2 Brunswick Area

Since pumping began in the late 1800's, ground-water withdrawal in the Brunswick area has lowered the water level in the Upper Floridan aquifer by as much as 25 to 65 ft. This water-level decline has allowed saltwater to migrate upward into the Upper Floridan aquifer at three known locations in Brunswick. Saltwater also has moved downgradient toward centers of pumping. Changes in chloride concentrations may be attributed to shifting water-level gradients that may alter the direction of chloride migration. About 80 wells in Glynn County, mostly in the Brunswick area, are pumped and sampled periodically for chloride analysis. At three locations in Brunswick, the chloride concentrations in the upper water-bearing zone are greater than 2,000 mg/L.

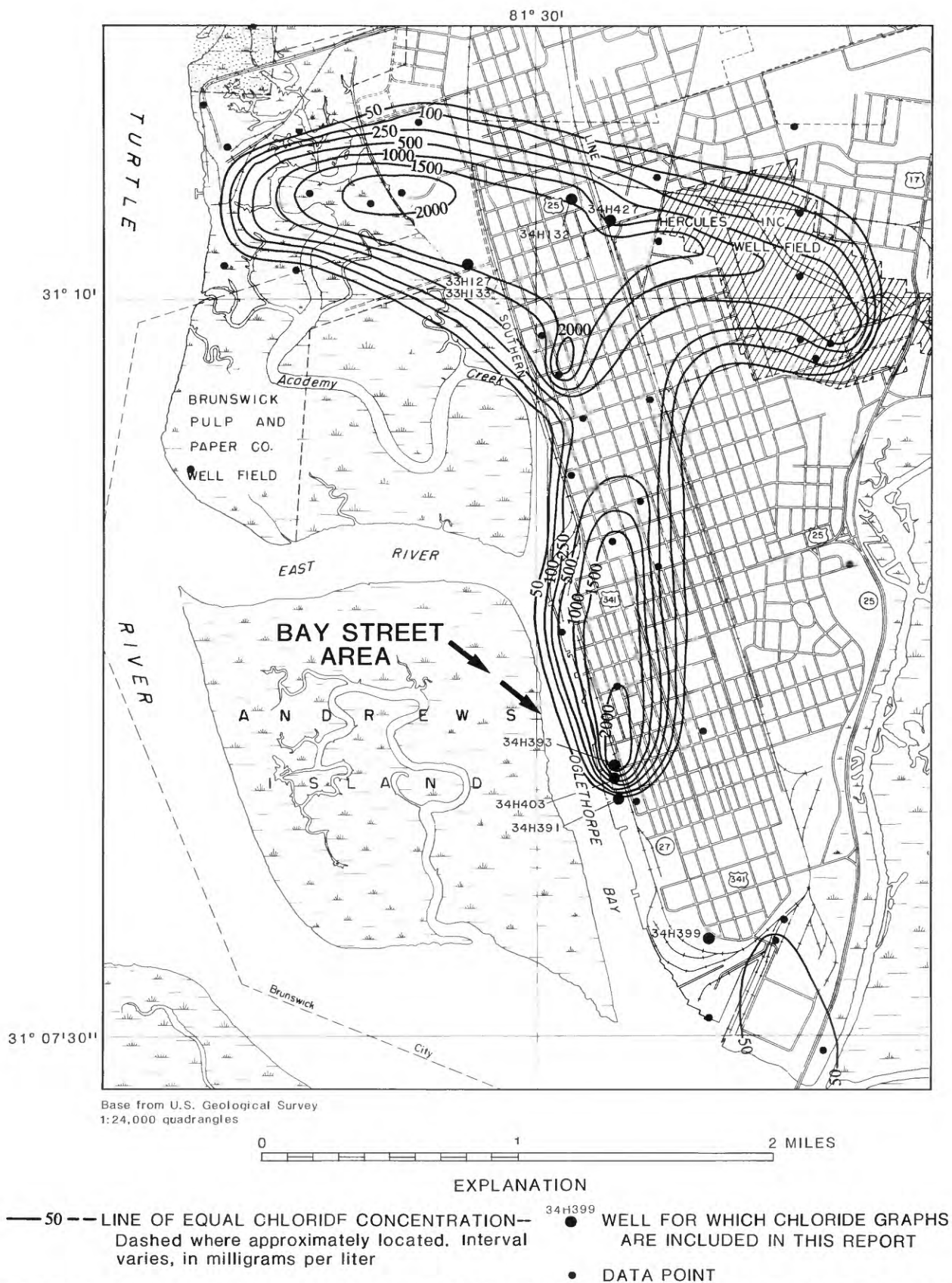


Figure 3.1.2-1.--Locations of chloride-monitoring wells in the Floridan aquifer system and chloride concentrations in the upper water-bearing zone of the Upper Floridan aquifer in the Brunswick area, October 1988.

The chloride concentrations in water from well 34H393, which taps the upper water-bearing zone of the Upper Floridan aquifer in the Bay Street area, has remained about the same since 1976. The chloride concentration in water from this well was 2,300 mg/L at the end of 1988. Well 34H403, which taps the lower water-bearing zone of the Upper Floridan aquifer, yielded water that had a chloride concentration of about 1,400 mg/L at the end of 1988, which was about the same as in 1987. Water from well 34H391, which taps the brackish-water zone, had a chloride concentration of 2,600 mg/L at the end of 1988, which was 200 mg/L greater than in 1987. Well 34H399 at the southern tip of the Brunswick Peninsula also taps the brackish-water zone. Water in this well had a chloride concentration of 7,100 mg/L at the end of 1988, which was about the same as during 1987.

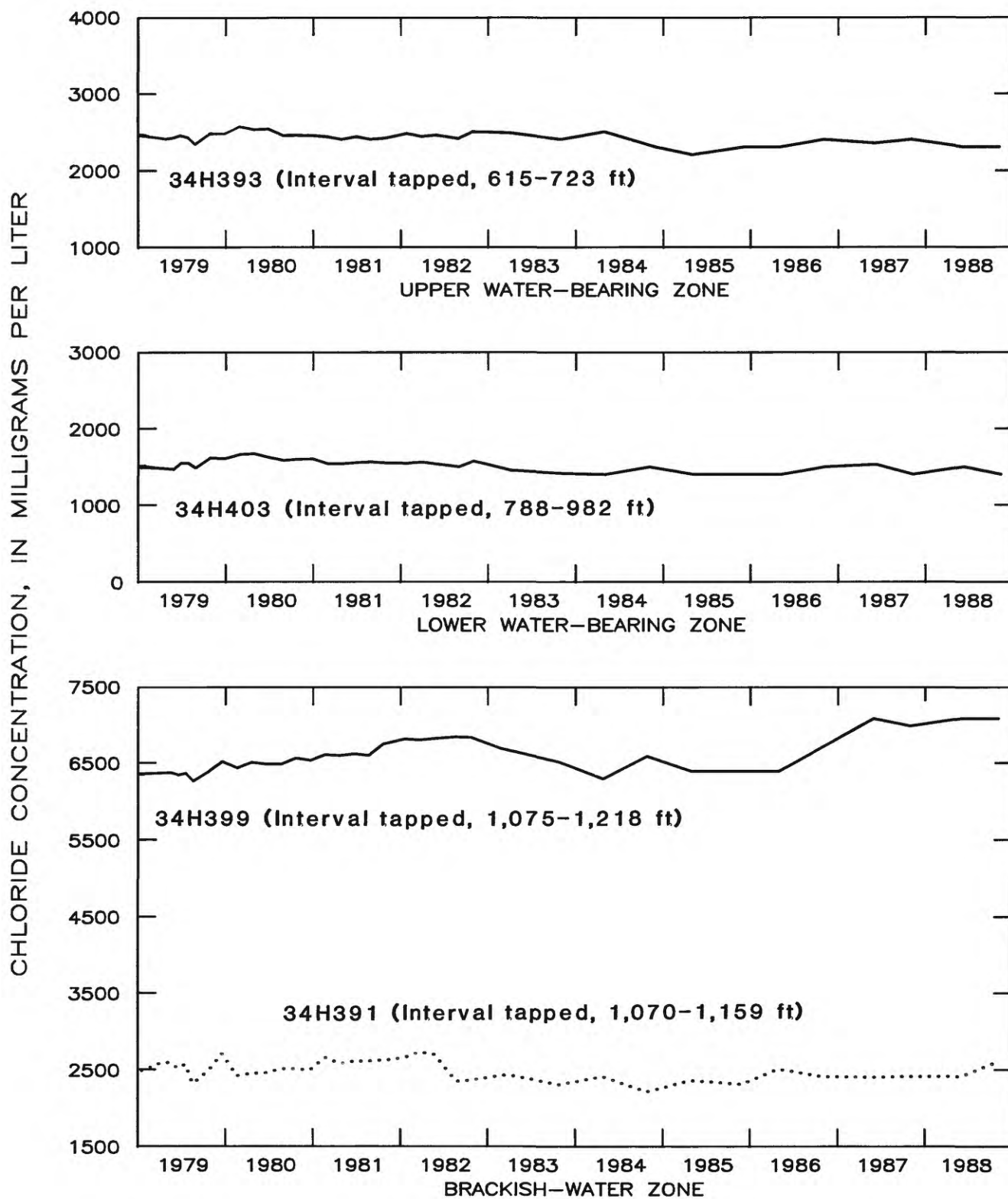


Figure 3.1.2-2.—Chloride concentrations in the Floridan aquifer system in the Bay Street area of Brunswick.

During 1988, chloride concentrations in the upper water-bearing zone in the north Brunswick area continued to decrease in wells 34H427 and 34H132. At the end of 1988, water from the two wells had chloride concentrations of 920 and 1,400 mg/L, respectively. Water in well 33H133, which also taps the upper water-bearing zone, had a chloride concentration that remained about 1,500 mg/L during 1988, which indicates that the trend of increasing concentrations found since 1979 had leveled off during 1988.

The chloride concentration in water from well 33H127, which taps the lower water-bearing zone in the northwestern part of Brunswick, increased slightly during 1979-88; at the end of 1988 the concentration was about 600 mg/L.

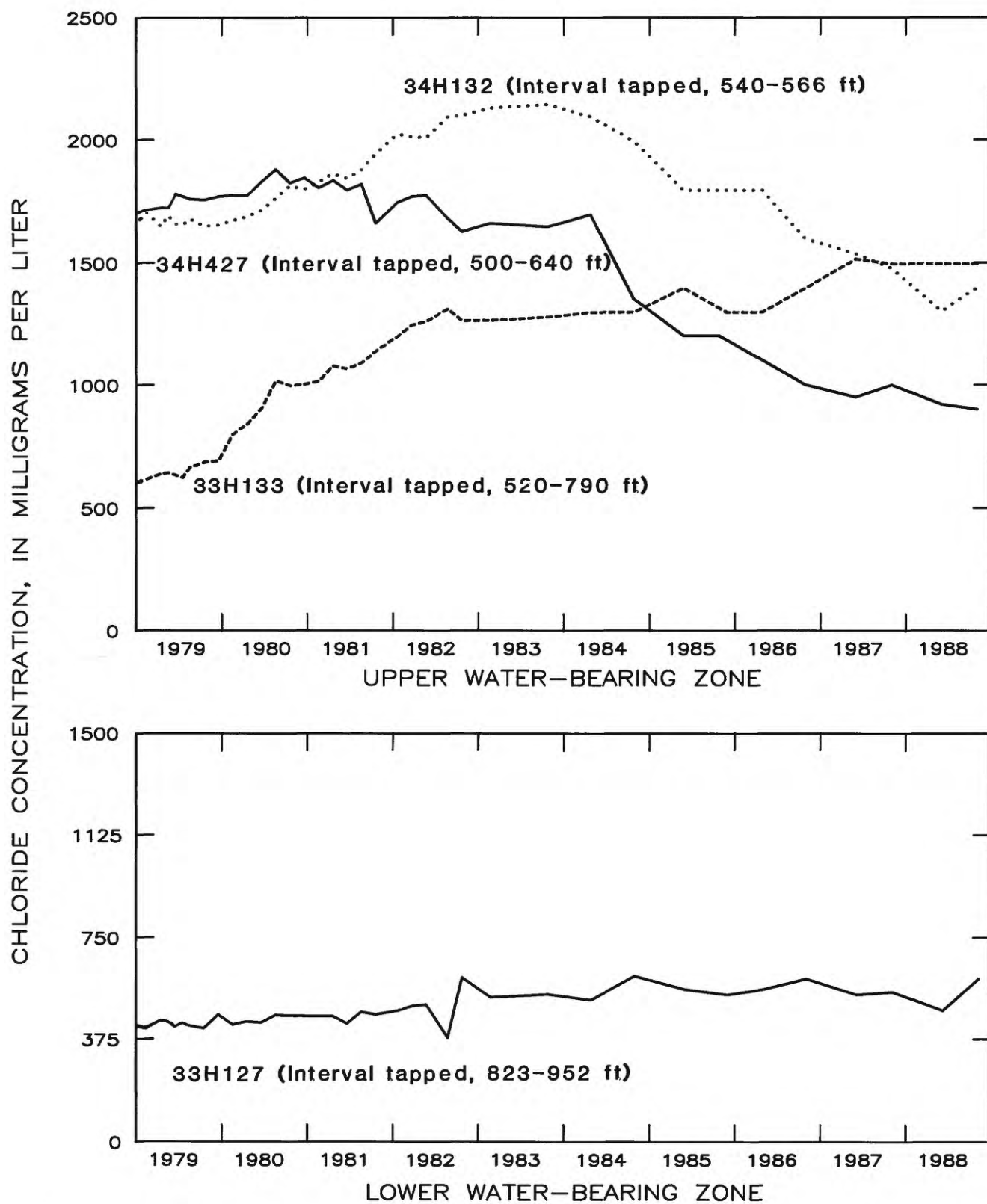


Figure 3.1.2-3—Chloride concentrations in the Floridan aquifer system in the north Brunswick area.



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