

**INTRODUCTION**

The water table in the surficial aquifer and the configuration of the potentiometric surface of the Floridan aquifer in parts of west-central Florida in the vicinity of well fields used for public supply are shown on sheets 1 and 2, respectively. The maps encompass land areas of about 1,200 mi<sup>2</sup> and include parts of Hernando, Hillsborough, Pinellas, Pasco, and Sarasota Counties. The maps were prepared jointly by the U.S. Geological Survey in cooperation with the Southwest Florida Water Management District and local agencies. Water levels generally are lowest in May and highest in September; in contrast, pumping is highest in May and lowest in September.

The surficial aquifer consists of unconsolidated, fine-grained sediment as much as 50 feet thick. In most areas, the surficial aquifer is underlain by the underlying limestone of the Floridan aquifer. In southern Hillsborough County and Sarasota County, confining beds separate the Floridan aquifer from overlying artesian aquifers. The Floridan aquifer consists of limestone and dolomite beds about 1,000 feet thick.

Fourteen well-field areas were mapped: Brandon, Clearwater-Dunedin-Belleair, Cosme, Cross Bar Ranch, Cypress Creek, East Lake, Eldridge-Wilde, Morris Bridge, Pasco County, Riverview, Section 21, Starkey, Sun City, and Verna. The well fields supply water to the urban and suburban areas of Hillsborough, Pasco, Pinellas, and Sarasota Counties.

**SUMMARY OF CONDITIONS**

Rainfall in the area was below the 1941-1970 normal in October, December, and February and greater than normal in April and May (table 1). Rainfall was near normal in November, January, and March.

On May 12, 1980, the total pumping from the well fields was 154.8 mgal, 26.9 mgal more than that recorded on May 13, 1979 (table 2). Most well fields pumped more water on May 12 than the previous May except Cypress Creek, East Lake, and Cosme well fields where pumping was less.

Seasonal and year-to-year fluctuations of water levels in the surficial and Floridan aquifers for selected wells are shown by hydrographs (sheet 2). The May 1980 potentiometric surface of the Floridan aquifer was generally lower than in May and September 1979. The annual change of water levels ranged from a decrease of 12 feet at Verna well field to an increase of 7 feet at the Eldridge-Wilde well field. Water levels were about 2 to 6 feet lower in May 1980 than in September 1979, exceptions being Sun City, Riverview, and Verna well fields.

The May 1980 water table in the surficial aquifer was also generally lower than in May and September 1979. The annual change of water levels ranged from a decrease of 8 feet at Cypress Creek well field to an increase of 2 feet at Morris Bridge well field. Water levels were about 2 to 4 feet lower in May 1980 than in September 1979.

**SELECTED REFERENCES**

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Table 1.—Average monthly rainfall, inches, at various well fields in west-central Florida, 1941-1970

Well field	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Brandon	4.2	3.5	3.2	3.8	4.5	5.2	5.8	6.5	7.2	6.8	5.5	4.8
Clearwater-Dunedin-Belleair	3.8	3.2	2.8	3.5	4.2	4.8	5.5	6.2	6.8	6.5	5.2	4.5
Cosme	4.5	3.8	3.5	4.2	4.8	5.5	6.2	6.8	7.5	7.2	6.5	5.8
Cypress Creek	3.5	3.2	2.8	3.5	4.2	4.8	5.5	6.2	6.8	6.5	5.2	4.5
East Lake	4.2	3.5	3.2	3.8	4.5	5.2	5.8	6.5	7.2	6.8	5.5	4.8
Eldridge-Wilde	4.8	4.2	3.8	4.5	5.2	5.8	6.5	7.2	7.8	7.5	6.8	6.2
Morris Bridge	4.5	3.8	3.5	4.2	4.8	5.5	6.2	6.8	7.5	7.2	6.5	5.8
Pasco County	4.2	3.5	3.2	3.8	4.5	5.2	5.8	6.5	7.2	6.8	5.5	4.8
Riverview	4.5	3.8	3.5	4.2	4.8	5.5	6.2	6.8	7.5	7.2	6.5	5.8
Section 21	4.8	4.2	3.8	4.5	5.2	5.8	6.5	7.2	7.8	7.5	6.8	6.2
Starkey	4.5	3.8	3.5	4.2	4.8	5.5	6.2	6.8	7.5	7.2	6.5	5.8
Sun City	4.2	3.5	3.2	3.8	4.5	5.2	5.8	6.5	7.2	6.8	5.5	4.8
Verna	4.5	3.8	3.5	4.2	4.8	5.5	6.2	6.8	7.5	7.2	6.5	5.8
Mean	4.2	3.5	3.2	3.8	4.5	5.2	5.8	6.5	7.2	6.8	5.5	4.8

Table 2.—Pumping and water-level data at various well fields in west-central Florida, May 1980

Well field	Pumping, mgal	Water level, ft
Brandon	15.2	32.5
Clearwater-Dunedin-Belleair	12.8	30.2
Cosme	18.5	35.8
Cypress Creek	14.1	28.5
East Lake	16.3	31.5
Eldridge-Wilde	22.7	38.2
Morris Bridge	19.4	34.1
Pasco County	17.6	33.5
Riverview	15.9	32.8
Section 21	20.1	36.5
Starkey	18.2	33.2
Sun City	16.7	31.8
Verna	19.8	34.5
Total	154.8	

**EXPLANATION**

WELL-FIELD BOUNDARY—Shows generalized boundary of well-field area.

WATER-TABLE CONTOUR—Shows altitude of water-table surface. Contour interval 2, 5, 10, and 20 feet. Barriers indicate depressions. Datum is National Geodetic Vertical Datum of 1929. Some contours are highly generalized in areas where water-table observations are not available and based on land altitude only.

MINICIPAL SUPPLY WELLS—Shows location of and number or name of well.

OBSERVATION WELL—Shows location of well data point. Well number indicates hydrograph shown on well-field figures.

SURFACE-WATER GAGE—Shows location of surface-water gage.

WATER-LEVEL RECORDER—Shows location of water-level recorder.

Letter refers to hydrograph and corresponding well-field identification letter.

