

**INTRODUCTION**

Maps of the potentiometric surface of the Floridan aquifer in west-central Florida are prepared semiannually by the U.S. Geological Survey in cooperation with the Southwest Florida Water Management District. Maps for May and September show, respectively, the potentiometric surface for the normally expected annual low- and high-water level conditions. Potentiometric surface maps have been prepared for January 1964, May 1969, and May 1971 to 1974 and for May and September since 1975.

The potentiometric surface is the level to which water will rise in tightly cased wells that tap the Floridan aquifer. The surface is mapped by determining the altitude of water levels in a network of wells and is represented on maps by contours that connect points of equal altitude.

This report shows the potentiometric surface of the Floridan aquifer for May 1982. Data for the map were collected during the week of May 10-14. The map represents water-level conditions when ground-water withdrawals for agricultural use are high, before the beginning of the summer rainy season. Hence, the potentiometric surface is near its lowest level for the year.

**SUMMARY OF CONDITIONS**

Seasonal and annual fluctuations of the potentiometric surface are shown by hydrographs in figure 1. The hydrographs generally indicate that water levels in northern and extreme southern areas remain fairly uniform from year-to-year and during each year, whereas water levels in central and southern areas show larger year-to-year and annual ranges in fluctuation.

Water levels in most wells measured in May 1982 were lower than those measured in September 1981. May water levels, from hydrographs shown in figure 1, averaged about 9 feet lower than September levels in the south and about 1.5 feet lower in the north. Normally, an average decline in water levels from September to May would be about 2 feet in the north and 13 to 15 feet in the south. In agricultural areas of southern Hillsborough, Manatee, southeastern Polk, southern Hardee, northwestern De Soto, and northern Sarasota Counties, water-level declines from September 1981 to May 1982 ranged from 5 to 39 feet in individual wells. Water levels in these counties are affected by irrigation pumpage and generally large fluctuations between the dry and wet seasons are observed. For the September 1981 to May 1982 period, water levels generally showed a smaller decline than for this period in previous years.

Generally, water levels in May 1982 were higher when compared to May 1981. In southeastern Hillsborough, southeastern Polk, Manatee, Hardee, western Highlands, northern Sarasota, and De Soto Counties, water levels from hydrographs 5, 6, 7, and 8 showed an average increase of about 20 feet from May 1981 to May 1982. Water levels from hydrographs 1, 2, 3, and 4, representative of the northern areas, showed an average increase of about 3 feet. In the extreme southern area, water levels from hydrograph 9 showed about a 4-foot increase from May 1981 to May 1982.

**SELECTED REFERENCES**

Yobbi, D. K., and Schiner, G. R., 1981, Potentiometric surface of the Floridan aquifer, Southwest Florida Water Management District, September 1981. U.S. Geological Survey Open-File Report 82-101, 1 sheet.

Yobbi, D. K., Woodham, M. M., and Schiner, G. R., 1981, Potentiometric surface of the Floridan aquifer, Southwest Florida Water Management District, May 1981. U.S. Geological Survey Open-File Report 81-1006, 1 sheet.

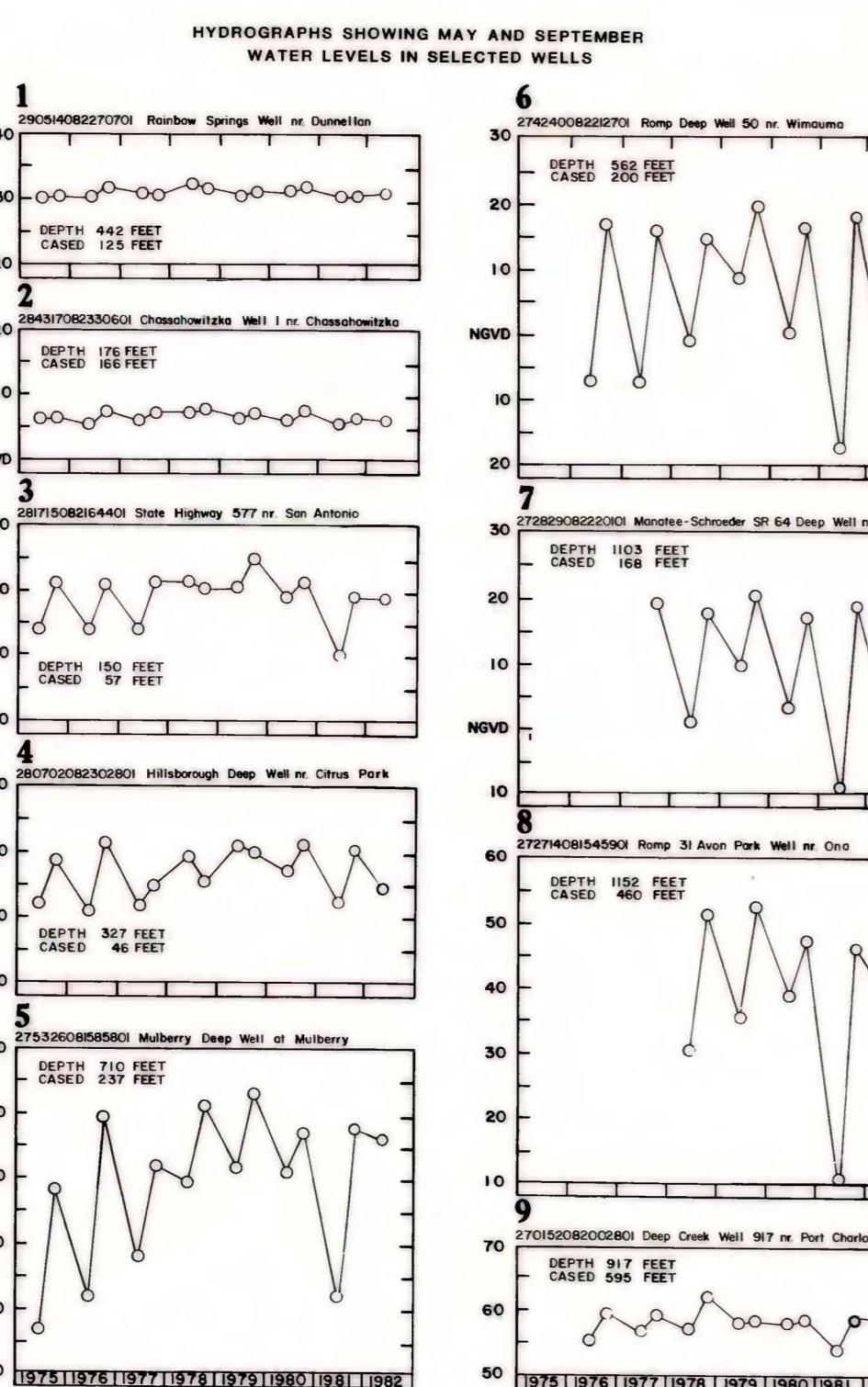


Figure 1.—Hydrographs showing May and September water levels in selected wells.

**EXPLANATION**

**POTENTIOMETRIC CONTOUR**— Shows altitude at which water level would have stood in tightly cased wells. Contour interval is 5 and 10 feet. Datum is National Geodetic Vertical Datum of 1929 (NGVD). Hachures indicate depressions.

**OBSERVATION WELLS**— Large number identifies hydrograph (Fig. 1) Small number is altitude of water level in feet above or below NGVD.

**BOUNDARY OF SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT**

**BOUNDARY OF WATER MANAGEMENT BASIN**

**NOTE**—Potentiometric contours are generalized to show the water level at a point in time in a changing hydrologic system taking into account variations in hydrogeologic conditions. These include different depths of wells, nonsimultaneous measurements of water levels, variable effects of pumping, and changing climate. Potentiometric contours thus may not conform exactly with individual measurements of water levels.

SCALE 1:500 000  
0 10 20 30 MILES

**POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER  
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT  
MAY 1982**

By  
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