



Maps of the potentiometric surface of the Floridan aquifer in the Southwest Florida Water Management District (SWFWMD) are prepared semiannually by the U.S. Geological Survey in cooperation with SWFWMD. Maps for May and September show, respectively, the potentiometric surface for the expected seasonal low- and high-water level conditions. These potentiometric maps have been prepared annually for January 1964, May 1969, and annually for May 1971-74 and twice annually since 1975.

The potentiometric surface of the Floridan aquifer is the level to which water will rise in tightly cased wells tapping the 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 the same altitude.

This report shows the potentiometric surface of the Floridan aquifer in the SWFWMD area measured during the week of May 18-23, 1981. The map represents water-level conditions when extensive ground-water withdrawals were occurring during a period of extended drought.

The May 1981 potentiometric surface was lower than both May and September 1980 levels. Water levels averaged about 25 feet lower in the southern part of the study area and 6 feet lower in the north, when compared to September 1980 levels. Normally, an average decline of about 12 feet in the south and 2 feet in the north is expected from September to May. May 1981 water levels in several areas declined to record lows and averaged about 8 feet lower than normal May levels. The seasonal and annual fluctuations of the potentiometric surface were generally greater in the southern part of the study area than in the north, as shown in the hydrographs (fig. 1). Water levels in the south are widely affected by pumping for irrigation and normally have a large seasonal fluctuation.

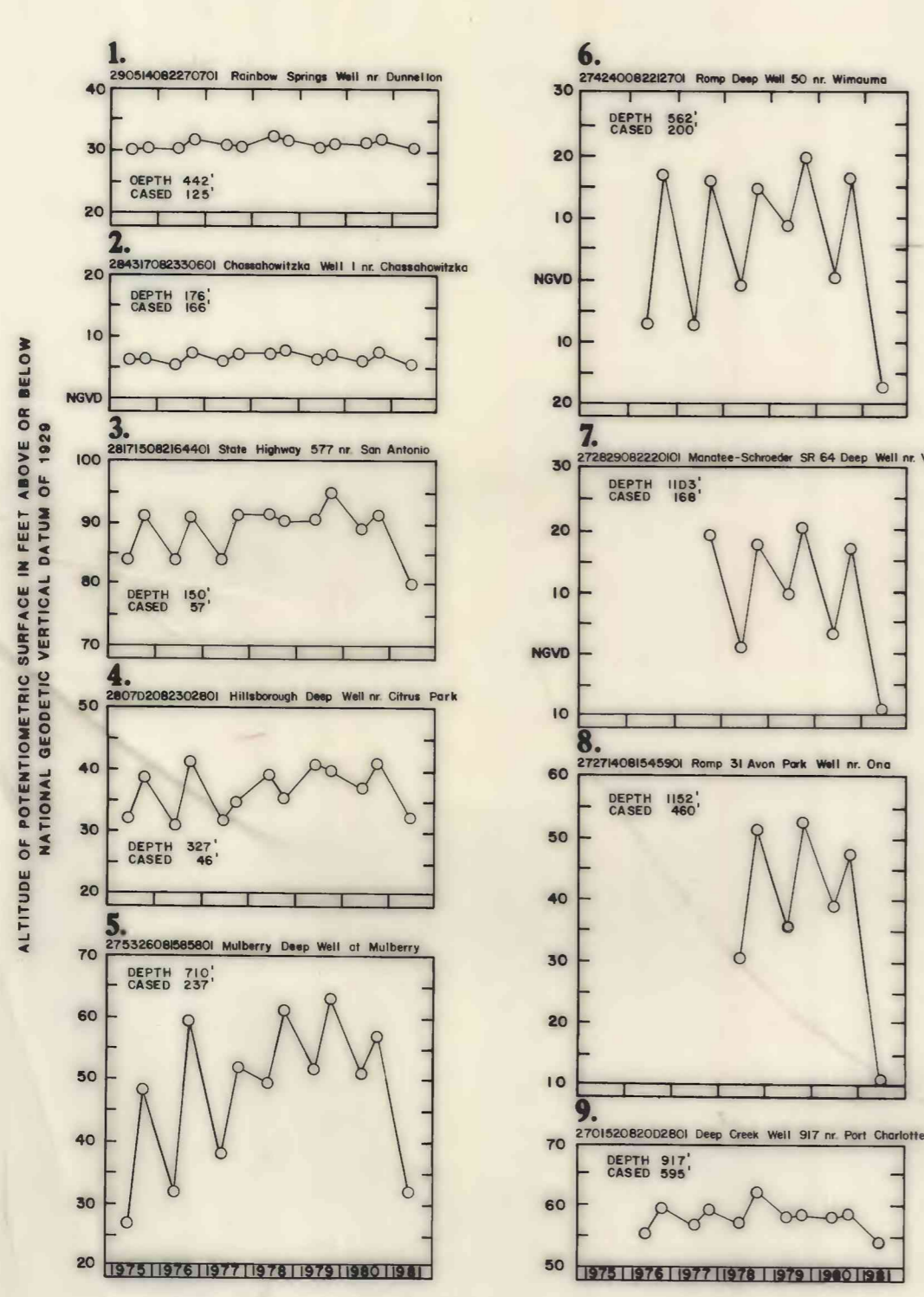


Figure 1. -- Hydrographs showing May and September water levels in selected wells

**EXPLANATION**

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

OBSERVATION WELLS - Large number identifies hydrograph. Small number is altitude of water level in feet above or below NGVD measured May 18-23, 1981

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

0 10 20 30 MILES  
SCALE 1:500 000

POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER, SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, MAY 1981

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1981

Base from U. S. Geological Survey State of Florida map 1967 1:500 000