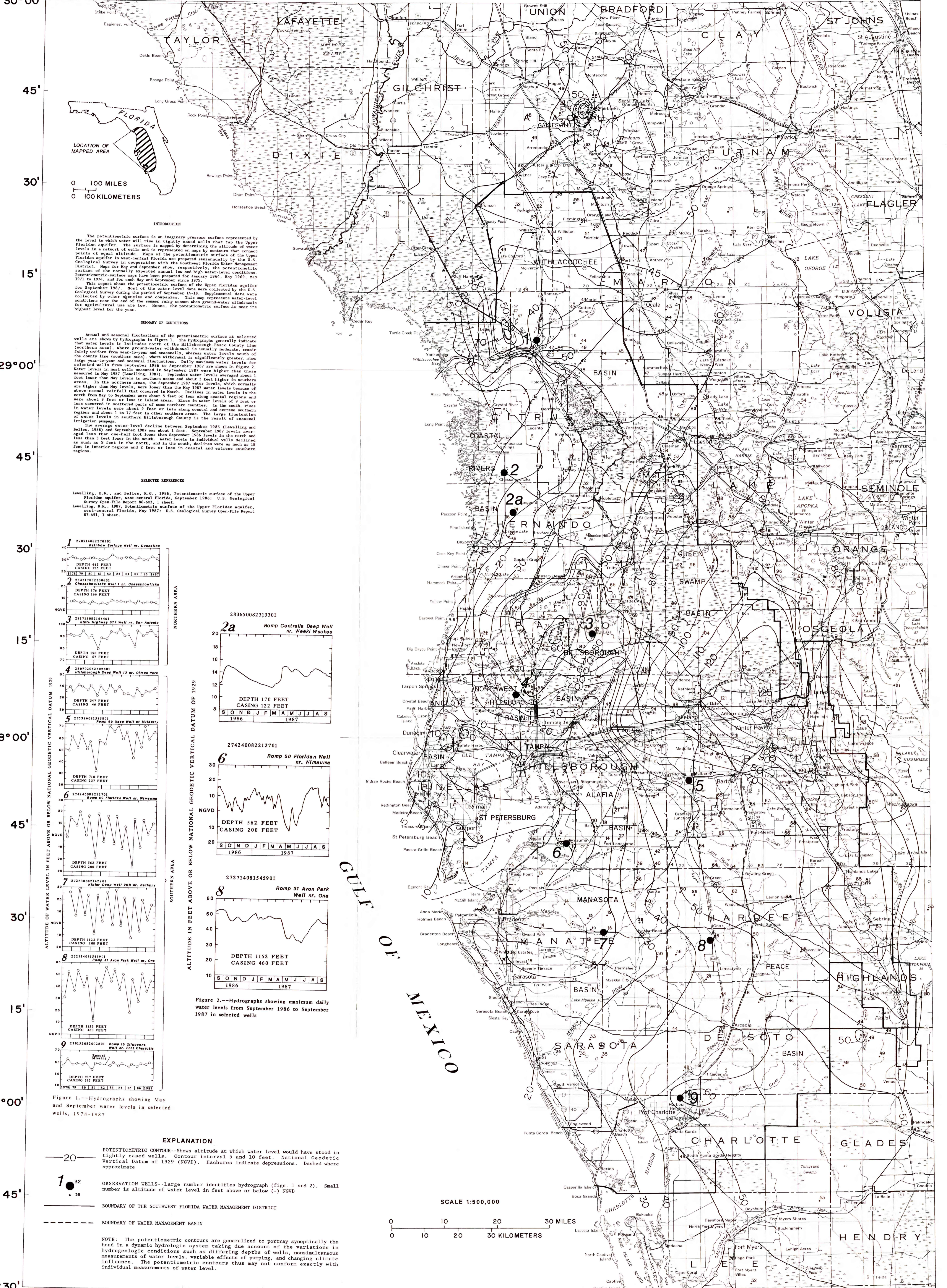


84°00' 45' 30' 15' 83°00' 45' 30' 15' 82°00' 45' 30' 81°15'



INTRODUCTION

The potentiometric surface is an imaginary pressure surface represented by the level to which water will rise in tightly cased wells that tap the Upper Floridan aquifer. The surface is mapped by determining the altitude of water levels in a network of wells and is represented by contours that connect points of equal altitude. Maps of the potentiometric surface of the Upper Floridan aquifer in west-central Florida are prepared seasonally by the U.S. Geological Survey in cooperation with the Southwest Florida Water Management District. Maps for May and September 1987 are prepared seasonally by the U.S. Geological Survey in cooperation with the Southwest Florida Water Management District. Maps for May and September 1987 are prepared seasonally by the U.S. Geological Survey in cooperation with the Southwest Florida Water Management District. Maps for May and September 1987 are prepared seasonally by the U.S. Geological Survey in cooperation with the Southwest Florida Water Management District.

SUMMARY OF CONDITIONS

Annual and seasonal fluctuations of the potentiometric surface at selected wells are shown by hydrographs in figure 1. The hydrographs generally indicate that water levels in the northern part of the Hillsborough-Pasco County line (northern area), where ground-water withdrawal is usually moderate, remain fairly uniform from year-to-year and seasonally, whereas water levels south of the county line (southern area), where withdrawal is significantly greater, show large year-to-year and seasonal fluctuations. Daily maximum water levels for selected wells from September 1986 to September 1987 are shown in figure 2. Water levels in most wells measured in September 1987 were higher than those measured in May 1987 (leveling). September water levels averaged about 1 foot lower than May levels in northern areas and about 3 feet higher in southern areas. In the northern areas, the September 1987 water levels because of north from May to September were about 3 feet or less along coastal regions and were about 9 feet or less in inland areas. Rises in water levels of 9 feet or less occurred in scattered parts of some northern counties. In the south, rises in water levels were about 9 feet or less along coastal and extreme southern regions and about 1 to 17 feet in other southern areas. The large fluctuation of water levels in southern Hillsborough County is the result of seasonal irrigation pumping.

SELECTED REFERENCES

Lewelling, B.R., and Bellis, R.C., 1986. Potentiometric surface of the Upper Floridan aquifer, west-central Florida, September 1986. U.S. Geological Survey Open-File Report 86-603, 1 sheet.

Lewelling, B.R., 1987. Potentiometric surface of the Upper Floridan aquifer, west-central Florida, May 1987. U.S. Geological Survey Open-File Report 87-451, 1 sheet.

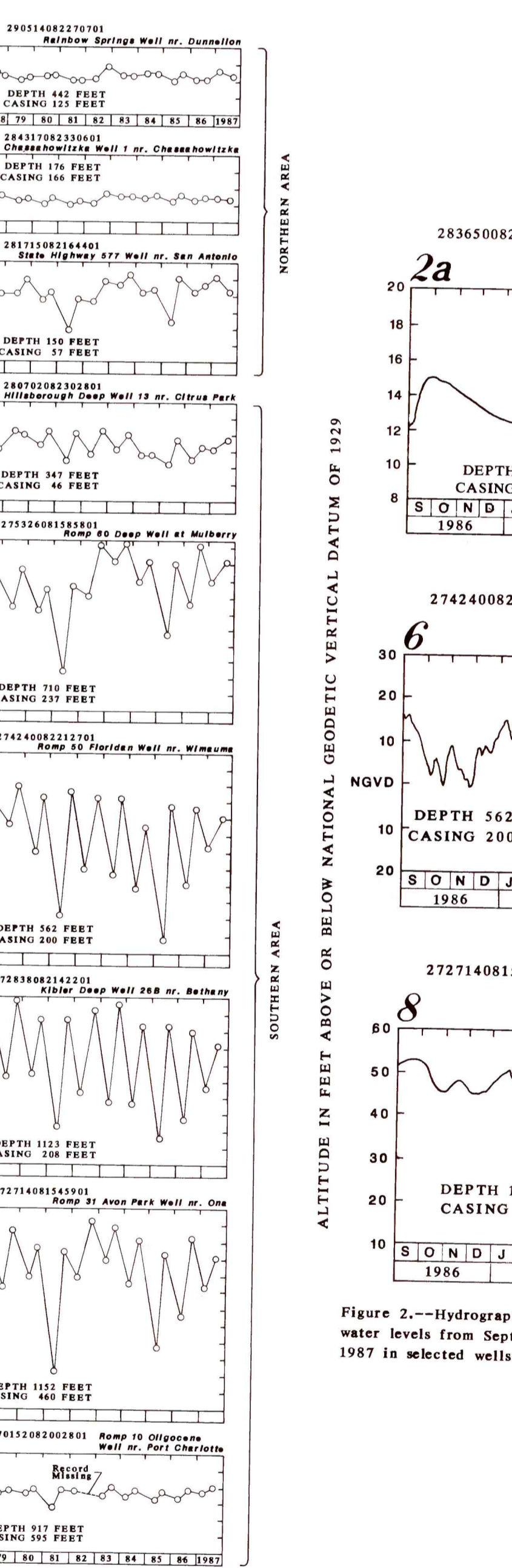


Figure 2.--Hydrographs showing maximum daily water levels from September 1986 to September 1987 in selected wells

EXPLANATION

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

OBSERVATION WELLS--Large number identifies hydrograph (figs. 1 and 2). Small number is altitude of water level in feet above or below (-) NGVD.

BOUNDARY OF THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

BOUNDARY OF WATER MANAGEMENT BASIN

NOTE: The potentiometric contours are generalized to portray synoptically the head in a dynamic hydrologic system taking due account of the variations in hydrogeologic conditions such as differing depths of wells, nonsimultaneous measurements of water levels, variable effects of pumping, and changing climate influence. The potentiometric contours thus may not conform exactly with individual measurements of water level.