

POTENTIOMETRIC SURFACE OF THE
UPPER FLORIDAN AQUIFER,
IN THE VALDOSTA AREA, GEORGIA,
OCTOBER, 1990

U.S. GEOLOGICAL SURVEY



Prepared in cooperation with
CITY OF VALDOSTA, GEORGIA

Open-File Report 91-207

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U.S. DEPARTMENT OF THE INTERIOR

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CONVERSION FACTOR

<i>Multiply inch-pound unit</i>	<i>by</i>	<i>to obtain metric units</i>
	Flow	
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m ³ /s)

VERTICAL DATUM

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 "Mean Sea Level of 1929."

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ABSTRACT

The Floridan aquifer system consists of limestone, dolomite, and calcareous sand; and is one of the most productive ground-water reservoirs in the United States. Regionally, the Floridan aquifer system has been divided into the Upper and the Lower Floridan aquifers (Miller, 1986). The Upper Floridan aquifer is semiconfined to unconfined in areas of karst topography, such as the Valdosta area (Krause, 1979).

A potentiometric surface shows the level to which water would rise in tightly-cased wells that fully penetrate an aquifer. This report shows the potentiometric surface of the Upper Floridan aquifer in the area of Valdosta, Lowndes County, Georgia.

The Floridan aquifer system in Lowndes County supplies more than 23 million gallons of water per day for irrigation, industrial, public, and rural-domestic supply (Trent and others, 1990). Most of the water withdrawn is from the Upper Floridan aquifer, and the remaining from the Lower Floridan aquifer.

Water-level measurements in 89 wells during October 10-12, 1990, were used to construct the potentiometric surface of the Upper Floridan aquifer. In many of these wells, the water levels were the lowest ever measured or recorded by the U.S. Geological Survey. Decreased recharge to the Upper Floridan aquifer because of low rainfall during the period April through October 1990, may have contributed to substantial water-level declines in the Valdosta area.

Maps of the potentiometric surface of the Upper Floridan aquifer in the Valdosta area, Georgia, are prepared annually by the U.S. Geological Survey, in cooperation with the city of Valdosta; and published in an annual report entitled "Ground-Water Conditions in Georgia, 19XX."

REFERENCES

- Krause, R.E., 1979, Geohydrology of Brooks, Lowndes, and western Echols Counties, Georgia: U.S. Geological Survey, Water-Resources Investigations Report 78-117, 48 p.
- Miller, J.A., 1986, Hydrogeologic framework of the Floridan aquifer system in Florida, and parts of Georgia, South Carolina, and Alabama: U.S. Geological Survey Professional Paper 1403-B, 91 p.
- Trent, V.P., Fanning, J.L., and Doonan, G.A., 1990, Water use in Georgia by county for 1987: Georgia Geologic Survey Information Circular 85, 112 p.

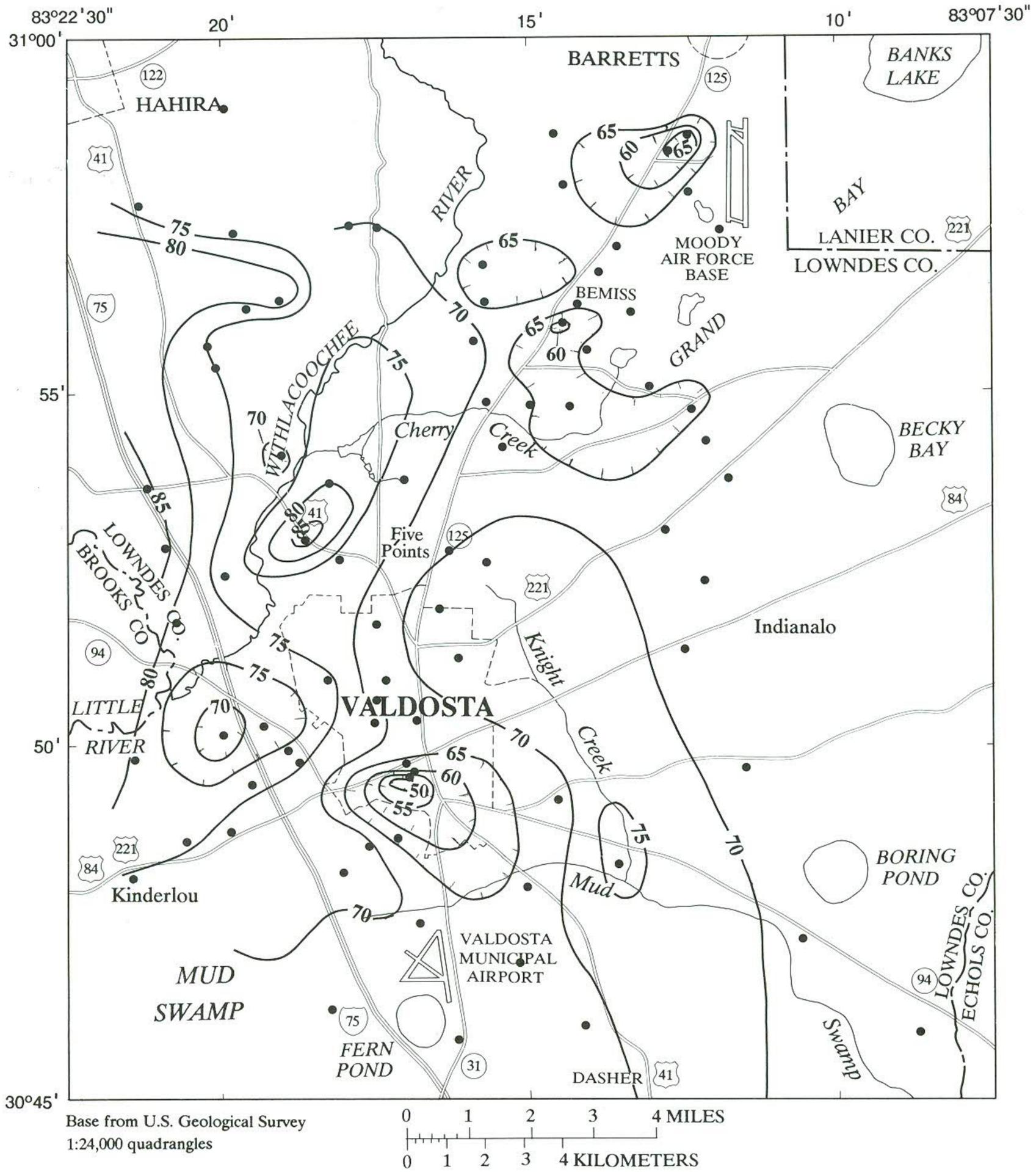


Figure 1.--Potentiometric surface of the Upper Floridan aquifer, in the Valdosta area, Georgia, October 1990.