

**POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER
IN GEORGIA, AND ADJACENT PARTS OF ALABAMA, FLORIDA,
AND SOUTH CAROLINA, MAY-JUNE 1990**

By Michael F. Peck

U.S. GEOLOGICAL SURVEY

Open-File Report 91-206

Prepared in cooperation with

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
GEORGIA GEOLOGIC SURVEY
CHATHAM COUNTY
GLYNN COUNTY
CITY OF BRUNSWICK
CITY OF VALDOSTA
CITY OF ALBANY
WATER, GAS, AND LIGHT COMMISSION



Doraville, Georgia

1991

U.S. DEPARTMENT OF THE INTERIOR
MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY
Dallas L. Peck, Director

For additional information
write to:

District Chief
U.S. Geological Survey, WRD
6481 Peachtree Industrial Blvd.
Suite B
Doraville, GA 30360

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Federal Center, Bldg. 810
Box 25425
Denver, CO 80225

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ILLUSTRATION

Figure 1.--Potentiometric surface of the Upper Floridan aquifer in Georgia, and adjacent areas of Alabama, Florida, and South Carolina, May-June, 1990	3
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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). In Georgia, about 655 million gallons of water per day is pumped from the Upper Floridan aquifer, mostly for agricultural and industrial use (Pierce and Kundell, 1990).

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 Georgia, and adjacent parts of Alabama, Florida, and South Carolina.

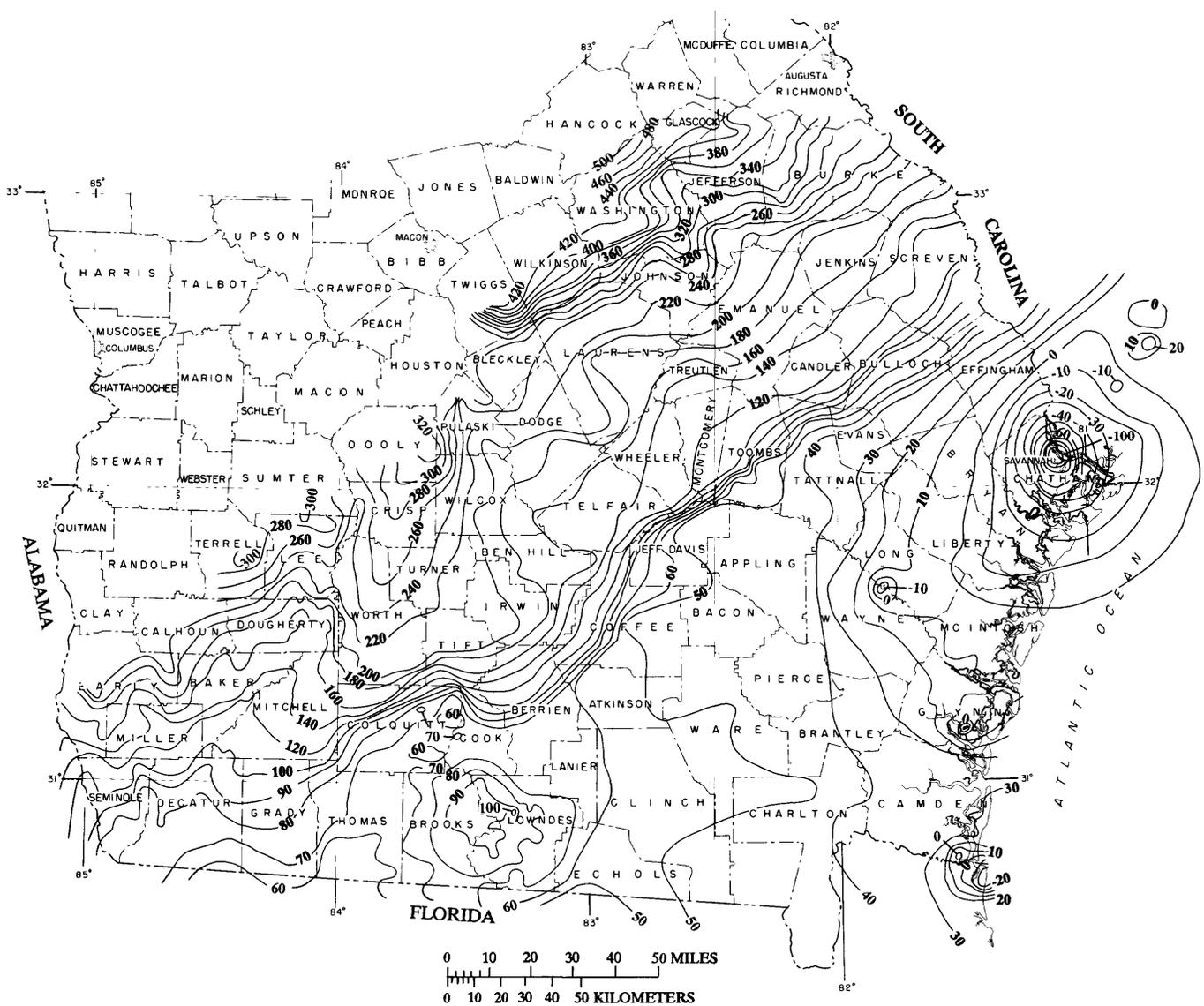
The Upper Floridan underlies most of the Coastal Plain physiographic province in Georgia. The Upper Floridan is confined, except where rocks comprising the aquifer crop out at land surface. In some areas, the potentiometric surface is high enough to produce flowing wells.

Water-level and water-pressure measurements in more than 1,070 wells in Georgia and adjacent parts of Alabama, South Carolina, and Florida during May 9 to June 3, 1990, were used to construct the potentiometric surface of the Upper Floridan aquifer (fig. 1). The potentiometric surface was mapped by determining the altitude of water levels in a network of wells (fig. 1), and is shown on the map by contours that connect points of equal altitude.

Maps showing the potentiometric surface of the Upper Floridan aquifer in Georgia, and adjacent states of Alabama, Florida, and South Carolina, are prepared periodically by the U.S. Geological Survey, in cooperation with the Georgia Department of Natural Resources, Environmental Protection Division, Georgia Geologic Survey; Chatham County; Glynn County; the cities of Brunswick and Valdosta; and the Albany Water, Gas, and Light Commission. These maps are published in an annual report entitled, "Ground-Water Conditions in Georgia, 19XX."

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- 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.
- Pierce, R.R. and Kundell, J.E., 1990, Georgia water supply and use; *in* Carr, J.E., Chase, E.B., Paulson, R.W., and Moody, D.W., *ed*; National Water Summary, 1987, Hydrologic events and water supply and use: U.S. Geological Survey Water-Supply Paper 2350, p. 215-222.



EXPLANATION

— 50 — POTENTIOMETRIC CONTOUR--Shows altitude at which water level would have stood in tightly cased wells. Dashed where approximately located. Hachures indicate depressions. Contour interval 10 feet below the 100-foot contour; 20 feet above the 100-foot contour. Datum is sea level

Figure 1.--Potentiometric surface of the Upper Floridan aquifer in Georgia, and adjacent areas of Alabama, Florida, and South Carolina, May-June, 1990.