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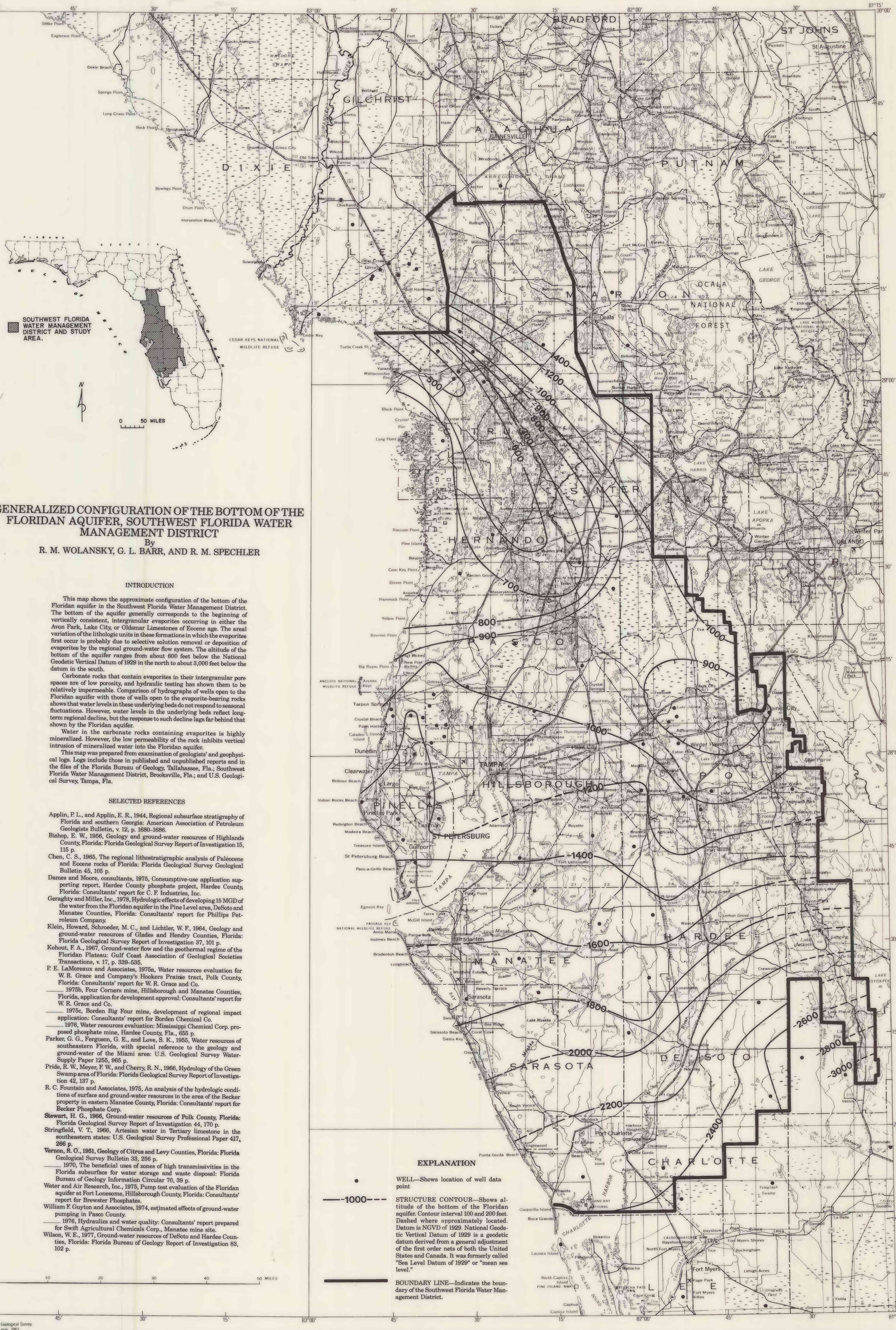

GENERALIZED CONFIGURATION OF THE BOTTOM OF THE FLORIDAN AQUIFER, SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

By
R. M. WOLANSKY, G. L. BARR, AND R. M. SPECHLER

INTRODUCTION

This map shows the approximate configuration of the bottom of the Floridan aquifer in the Southwest Florida Water Management District. The bottom of the aquifer generally corresponds to the beginning of vertically consistent, intergranular evaporites occurring in either the Avon Park, Lake City, or Oldsmar Limestones of Eocene age. The areal variation of the lithologic units in these formations in which the evaporites first occur is probably due to selective solution removal or deposition of evaporites by the regional ground-water flow system. The altitude of the bottom of the aquifer ranges from about 600 feet below the National Geodetic Vertical Datum of 1929 in the north to about 3,000 feet below the datum in the south.

Carbonate rocks that contain evaporites in their intergranular pore spaces are of low porosity, and hydraulic testing has shown them to be relatively impermeable. Comparison of hydrographs of wells open to the Floridan aquifer with those of wells open to the evaporite-bearing rocks shows that water levels in these underlying beds do not respond to seasonal fluctuations. However, water levels in the underlying beds reflect long-term regional decline, but the response to such decline lags far behind that shown by the Floridan aquifer.

Water in the carbonate rocks containing evaporites is highly mineralized. However, the low permeability of the rock inhibits vertical intrusion of mineralized water into the Floridan aquifer.

This map was prepared from examination of geologists' and geophysical logs. Logs include those in published and unpublished reports and in the files of the Florida Bureau of Geology, Tallahassee, Fla.; Southwest Florida Water Management District, Brooksville, Fla.; and U.S. Geological Survey, Tampa, Fla.

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EXPLANATION

WELL—Shows location of well data point

STRUCTURE CONTOUR—Shows altitude of the bottom of the Floridan aquifer. Contour interval 100 and 200 feet. Dashed where approximately located. Datum is NGVD of 1929. National Geodetic Vertical Datum of 1929 is a geodetic datum derived from a general adjustment of the first order nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level."

BOUNDARY LINE—Indicates the boundary of the Southwest Florida Water Management District.

0 10 20 30 40 50 MILES

Base from U.S. Geological Survey State of Florida map, 1967

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