

Hydrology - SCDNR Open-File Report 6

Water Level Measurements Used in the Construction of the 1998 Potentiometric Map for the Floridan Aquifer and Tertiary Sand Aquifer in South Carolina

By
Brenda L. Hockensmith
2000

ABSTRACT

The Floridan aquifer system is the source of water for many public, industrial, and agricultural supplies in much of the southern Coastal Plain of South Carolina. In order to monitor the health of this vital resource, the Department of Natural Resources periodically measures the static (nonpumping) water level in selected wells. From these measurements is constructed a potentiometric map that shows: (1) the height, relative to sea level, to which artesian pressure will force the water; (2) the direction in which the water in the aquifer flows; (3) the effect of pumping; and (4) the net changes that have occurred compared to previously constructed maps.

Water levels with 1/10th foot accuracy are for wells that have been leveled to benchmarks. The remaining data are interpolated from land surface datum on topographic maps. Corrections were made for tidally influenced wells when their tidal-efficiency was known (primarily Beaufort, Jasper, and Colleton Counties), using methods derived by Gawne (1997).

The potentiometric map that has been constructed from the measurements presented in the following pages is being published as South Carolina Department of Natural Resources Report 23.

Copies of this report are available in the SCDNR's Columbia office.