

Hydrology - SCWRC Report 167

Ground-Water Resources of South Carolina's Coastal Plain – 1988

An Overview

By
Roy Newcome, Jr.
1989

ABSTRACT

Two-thirds of South Carolina, comprising 28 counties, is in the Atlantic Coastal Plain. Sediments of Cretaceous age and younger thicken from zero at the Fall Line to about 4,000 feet at the State's southern extremity. These sediments, which lie on crystalline bedrock, contain an abundance of ground water. About 200 million gallons per day currently is pumped from wells. Saline water, trapped in the sediments when they were deposited, has been flushed out and replaced by freshwater to a maximum depth of 2,000 feet in an area about 40 miles inland from the southern part of the coastline. Along the coast the base of freshwater is as shallow as sea level on the islands, but as much as 1,800 feet below sea level in Berkeley County.

Most of the freshwater is in the Cretaceous aquifers and the Floridan aquifer (Eocene). Both systems contain prolific aquifers that support more than 200 wells yielding 1,000 gallons per minute or more. Much larger yields are available in many places, although not all of the area has the same potential.

Many sand aquifers in the Cretaceous section yield water that is soft and remarkably low in mineral content; some of it approaches rainwater in the concentration of dissolved solids. Water from the Floridan aquifer is mostly from limestone; consequently it is hard and more mineralized than water in most of the older aquifers.

The southwestern part of South Carolina appears to have the greatest potential for development of large supplies of good water. The eastern extremity of the State can support much additional development, but less than the other parts of the Coastal Plain. The greatest use of ground water is in the Myrtle Beach and Beaufort areas, and they have been designated capacity use areas for the purposes of conservation and regulation.

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