WATER USE AND POWER GENERATION IN GEORGIA

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The Georgia Water-Use Program has been effective in collecting, compiling and dissem-inating water-use data for the principal water users in the State. This poster session will present information from the Georgia Water Use Data System (GWUDS) to illustrate how water is used in Georgia by Physiographic Province, with emphasis on power generation.

The Physiographic Provinces play an important role in the distribution of water use throughout Georgia. With an annual average of 50 inches of precipitation statewide, there is an abundant supply of water to replenish the lakes and streams and ground-water table. In the Valley and Ridge province, which includes the Appalachian Ridge, water is obtained from both ground-water and surface-water sources. Most of the water in the Piedmont and Blue Ridge provinces, is primarily supplied by surface water. In the Coastal Plain, the ground-water aquifers are the principal sources of water.

In 1985, an estimated 5.4 billion gallons of freshwater was withdrawn each day in Georgia. Although water withdrawals vary with user, the largest amounts were for power generation. Withdrawals of surface water totaled 4.4 billions gallons per day of which 75 percent was used for cooling purposes at thermoelectric plants. An additional 40 billion gallons per day was used in-stream to generate hydroelectric power.

There has been a steady increase in hydroelectric and thermoelectric power generation since 1950. However, in recent years hydroelectric power generation has been curtailed because of drought conditions and below-normal reservoir levels. Withdrawals for thermoelectric power in Georgia declined by about 25% from 1980 to 1985 or nearly 1.1 billion gallons per day.

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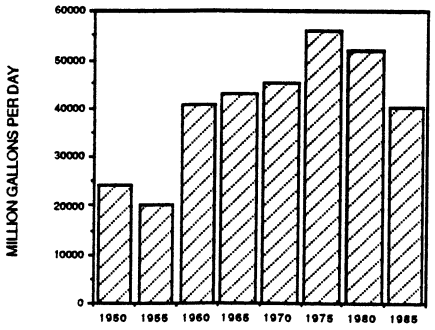
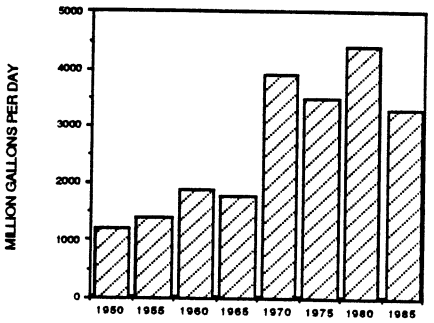


Surface water use for hydroelectric power generation in Georgia, 1950-85



Surface water withdrawals for thermoelectric power generation in Georgia, 1950-85