
Alabama has some of the most diverse geology in the world. With this diversity comes a rich assemblage of natural resources including flora and fauna, minerals, oil and gas, coal, and water. Estimates indicate that Alabama has about 500 trillion gallons of groundwater contained in more than 25 aquifers. This abundant supply of groundwater provides about 40 percent of Alabama’s public water supply and most of our agricultural irrigation. Groundwater is also responsible for base flows that sustain streams and aquatic habitats during drought. Treatment costs, environmental concerns, regulatory requirements, and effects of climate are causing water supply systems, industries, and agricultural interests to consider increased development of groundwater sources. With these demands comes the need for effective water resource planning, management, and policy.

During the past 10 years, drought, periodic water shortages, and economic growth in Alabama has alerted water supply systems, agricultural interests, local governments, and state agencies to the need for plans to secure future water supplies. A major part of this planning process includes scientific and engineering data concerning water source availability and development. Large amounts of data are being collected in order to understand the intricacies of water resource management, while laying a foundation for water resource planning and policy development. Our past has been impacted by a general lack of understanding of many vital hydrogeologic systems and complacency to develop basic state-wide water management plans and policies that would provide a framework for the protection and prudent development of our water resources. However, current initiatives by Governor Robert Bentley and the Permanent Joint Legislative Committee on Water Policy and Management have led to a number actions related to Alabama water resource planning, including establishment of the Alabama Water Agencies Working Group and state-wide surface-water and groundwater assessments. The combination of accurate comprehensive scientific data and effective water policy are essential to Alabama’s economic development and the quality of life desired by our citizens.

For many years, the Geological Survey of Alabama has been the primary state agency responsible for water resources research. Mandates from the Governor and Legislature have led to an ongoing scientific assessment of groundwater resources by the GSA Groundwater Assessment Program. This assessment will provide data for development of prudent water resource management plans and policy as well as a framework for the efficient development of groundwater sources. This assessment includes 15 hydrogeologic elements that form a comprehensive evaluation of groundwater availability and sustainability. State-wide water management and policy, based on sound science is an essential part of securing Alabama’s water future.

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