

# AGRICULTURAL WATER CONSERVATION IN THE LOWER FLINT RIVER BASIN

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**Abstract.** The Lower Flint River Basin is one of the most ecologically rich river systems in Georgia. The Flint River Basin Program is a conservation partnership between the Flint River Soil and Water Conservation District, the USDA Natural Resources Conservation Service and The Nature Conservancy. The objective of the program is to help farmers conserve water.

The irrigation water management practices supported by the program include irrigation retrofits, variable rate irrigation (VRI), remote soil moisture monitoring and conservation tillage. Since 2003, these practices have conserved more than 10 billion gallons of water.

In 2004, the program assisted in the deployment of 22 VRI systems in south Georgia. VRI conserves water by mapping crop acres and defining irrigation patterns according to soil type, slope and hydrology. In 2005, the program deployed an 100 square mile wireless broadband telemetry network to provide connectivity to 17 center pivot irrigation systems covering 2,467 crop acres. The network supplied each farm with Internet access to monitor pivot activity via omni-directional cameras mounted to the boom and schedule irrigation based on real-time soil moisture readings recorded by wireless sensors in the field.

In 2008, the program received a Strategic Agricultural Initiative grant from US EPA to implement a new sod based rotation conservation practice on working farms. Sod based rotation incorporates rotations of perennial warm season grasses into row crop systems. The benefits of this practice include water conservation, carbon sequestration and reductions in the use of agricultural inputs such as fertilizers, pesticides and fuel.