

2. Basin Delineation

2.1 Study Basins

The study area (Figure 2-1) consists of six study basins that are the major composite river basins designated by Georgia EPD for assessment of surface water availability. Study basins are delineated based on hydrologic, topographic, water resource development, water use, and other important considerations in regional planning. Study basin designations are as follows:

ACF – Apalachicola-Chattahoochee-Flint River Basin

ACT – Alabama-Coosa-Tallapoosa River Basin

OOA –Oconee-Ocmulgee-Altamaha River Basin

OSSS – Ochlockonee, Suwannee, Satilla, and St. Mary's River Basins

SO – Savannah and Ogeechee River Basins

TN – Tennessee River Basin

Synopsis of Surface Water Availability Assessment

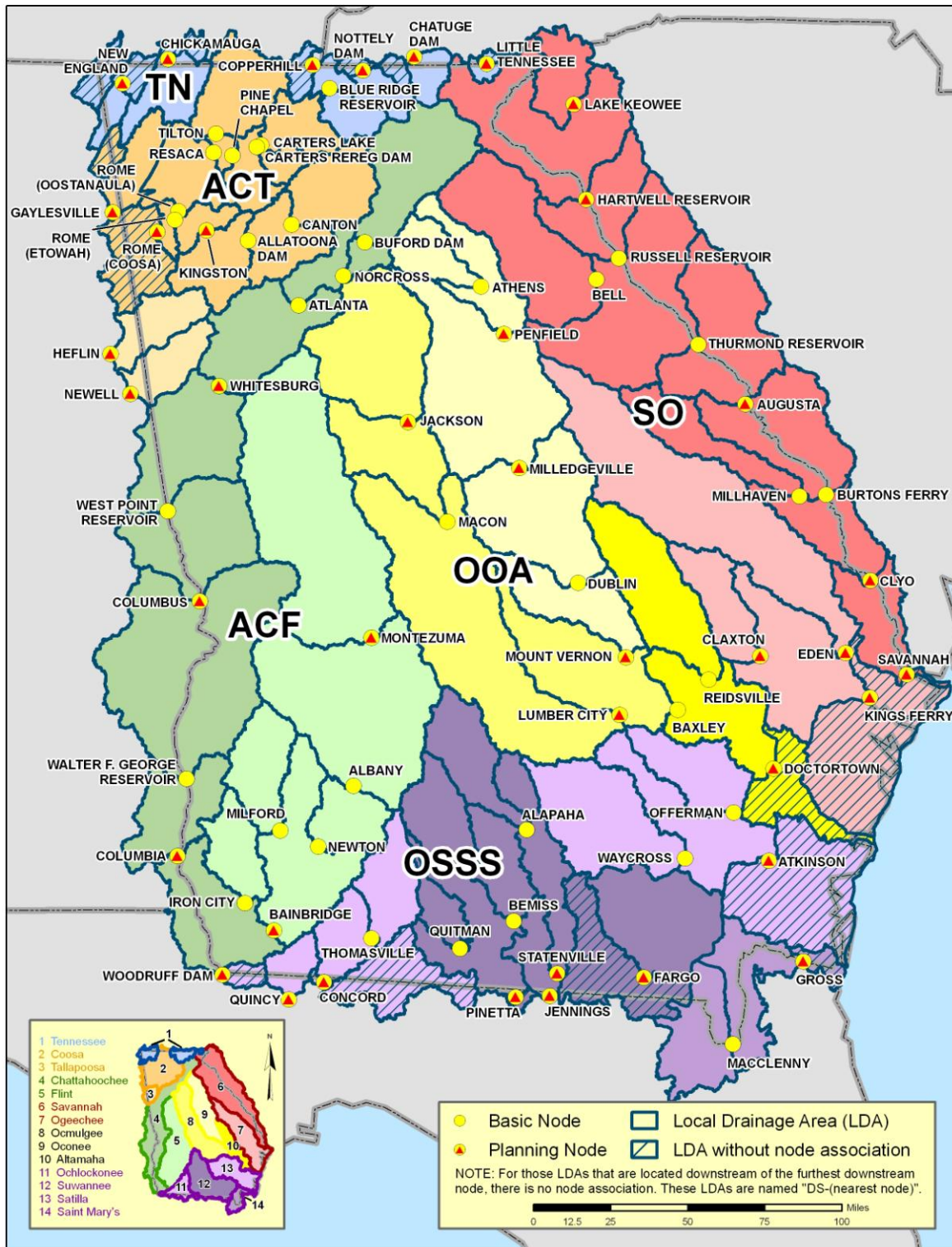


Figure 2-1 Study Basins and Nodes

Hyphenated river basin names listed above indicate linked river systems formed by the confluence of major tributary rivers, e.g., Apalachicola River formed by the confluence of the Chattahoochee and Flint rivers. Hydraulically unconnected study basin names are not hyphenated, e.g., Savannah and Ogeechee. This naming convention is followed even if the downstream river confluence falls outside of Georgia, as is the case for the Alabama River in the ACT study basin. Because this study does not extend into neighboring states, no planning nodes are located on the Alabama River.

The next level of delineation is the river basin, defined as individual river or major tributary watersheds within study basins (e.g., Chattahoochee River basin and Savannah River basin in the ACF and SO study basins, respectively). Basic and planning nodes are locations of interest on major rivers, planning nodes delineating sub-basins. Sub-basins are therefore defined as watersheds or local drainage areas between planning nodes, or total drainage area in the case of headwater planning nodes.

2.2 Basic and Planning Nodes

Basic nodes are locations of interest on rivers or major tributary streams where unimpaired flows are derived. In most instances, basic nodes are located at or near U.S. Geological Survey (USGS) stream gages or at dams. With some exceptions (Russell Dam on the Savannah River, W.F. George Dam on the Chattahoochee River), the nearest downstream gage location is preferred to the dam site for basic nodes (e.g., the Chattahoochee Gage instead of Jim Woodruff Dam on the Apalachicola River). Ideally, basic nodes are located at gages with records of suitable length for direct determination or fill-in of the 1939 to 2007 period of record.

Planning nodes are basic nodes where assessments of surface water availability are performed; one or more basic nodes may be interspersed between planning nodes. An exception to the planning-basic node correspondence is a virtual planning node located at or near the most downstream Georgia location (in some cases outside of Georgia) on rivers for which no observed stream flow data are available. Planning nodes are located where possible to avoid separation of major utility withdrawals and returns and to avoid separation of planning regions and municipalities served by multiple water utilities (e.g., North Georgia Metropolitan Water District upstream of Whitesburg, the Chattahoochee River).

Local drainage areas (LDAs) are watersheds between basic nodes or the total drainage area above the most upstream basic node. Reaches are river or tributary segments with their contributing local drainage areas, that lie between adjacent nodes (basic or planning) or above the most upstream node (basic or planning); reaches are designated by the name of downstream node.