The Upper Floridan aquifer is a highly permeable unit of carbonate rock extending beneath most of Florida and parts of southern Alabama, Georgia, and South Carolina. The high permeability is due in large part to the widening of fractures that developed over time and the formation of conduits within the aquifer through dissolution of the limestone. This process has also produced numerous karstic features such as springs, collapsed streams, and sinkholes in northern Florida. These dissolution features, whether expressed at the surface or not, greatly influence the direction of groundwater flow in the Ichetucknee Springshed adjacent to the Ichetucknee River. Ground water generally flows southwestward in the springshed and discharges to the Ichetucknee or Santa Fe Rivers, or to the springs along those rivers. This map depicts the September 9-10, 2003 potentiometric surface of the Upper Floridan aquifer based on 94 water-level measurements made by the Suwannee River Water Management District. Ground-water levels in this watershed fluctuate in response to precipitation and due to the high degree of interconnection between the surface-water system and the aquifer.