

DELINEATING KARST FEATURES UNDERLYING LAKE SEMINOLE, SOUTHWESTERN GEORGIA, USING HISTORICAL AERIAL PHOTOGRAPHS

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Abstract. Historical aerial photographs, taken prior to impoundment of Lake Seminole in 1957, were scanned and then rectified using a geographic information system so that karst features could be delineated (Fig. 1). Fifty-three historical aerial photographic negatives were scanned at 150-lines-per-inch resolution and then rectified to U.S. Geological Survey 1:24,000 Digital Raster Graphics. Root-mean-square errors for rectification were small indicating that distortion during the recti-

fication process was minimal. Visual inspection of these photographs shows that about 227 karst features existed in the present-day lake bottom prior to impoundment. The morphology of the majority of these features is consistent with that of sinkholes. In relation to the lake, most of the karst features are located in the northern impoundment arms of the Flint and Chattahoochee Rivers on pre-existing floodplains. The features range in area from about 240 to 2.3 million square feet.

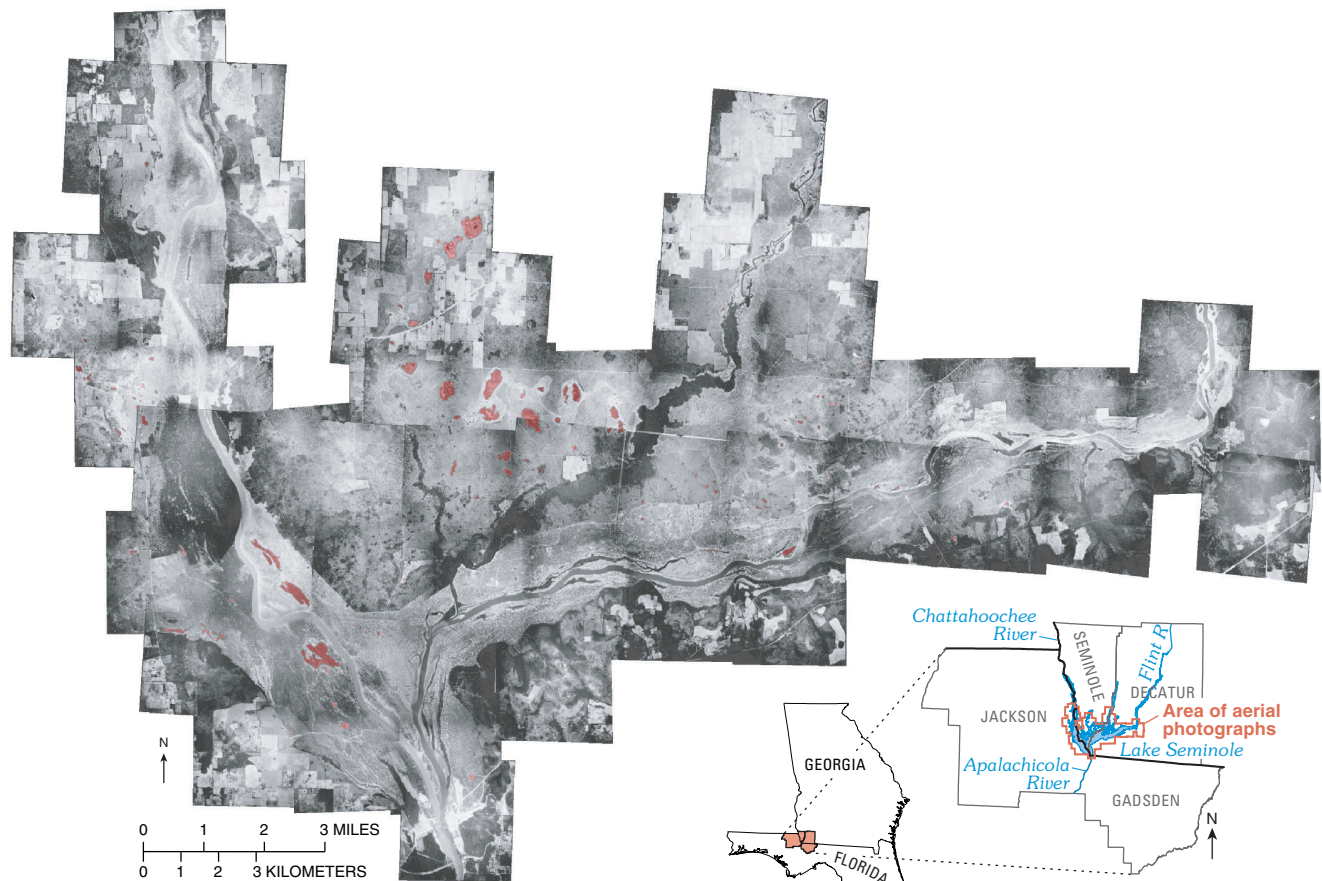


Figure 1. Mosaic of 1954 aerial photographs showing prior to impoundment topography and likely karst features (shown in red), Lake Seminole, Georgia.