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# SURFICIAL SEDIMENTS OF THE EASTERN PORTION OF THE U.S.G.S. 1:100,000 SCALE ARCADIA QUADRANGLE, SOUTH-CENTRAL FLORIDA

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Surficial sediments and soils of the eastern portion of the U.S.G.S. 1:100,000 scale Arcadia quadrangle are comprised primarily of four lithologic components: quartz sand, clay, loam, and muck. Combinations of these components constitute the four sediment units represented on this map.

Data utilized in creating this map is derived from a variety of sources, including United States Department of Agriculture Soil Surveys (Carter, et al., 1989; McCollum and Pendleton, 1971; and Glades County Soil Survey, in preparation), field observations, cores and well cuttings, surface samples, and hand-augered samples. Sediment types shown on the map represent soil from within the upper two meters (6.6 feet) of land surface.

Between 40 and 50 different soil types are recognized, depending on the county, by the United States Department of Agriculture in published soil surveys (Carter, et al., 1989; McCollum and Pendleton, 1971; and Glades County Soil Survey, in preparation). In these soil surveys, soil types are categorized based on factors such as slope, moisture content, texture, distribution of organic matter, acidity and other physical properties. Sediment units on this map are delineated based primarily on lithology and represent combinations of numerous soil types. Therefore, the reader is urged to consult the soil surveys for more detailed information about specific soil types in the map area.

Quartz sand, the most commonly occurring sediment type in the map area, generally correlates to regions near the Lake Wales Ridge, where sands derived from the Tertiary Cypresshead Formation (Tc) have been eroded and re-deposited. This sand is mapped as TQuc on the accompanying geologic map. Sand derived from sources other than the Cypresshead Formation is mapped as Qu on the geologic map. These sands are generally finer grained than sands derived from the Cypresshead Formation. All of the sediment types shown on this map contain at least some quartz sand. In some areas, the unit mapped as sand may contain minor percentages of shell, phosphate sand, heavy minerals, and organic material.

Loam, defined as "soil material that contains 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand size particles" (Carter et al., 1989, p. 102), occurs throughout much of the map area and is generally associated with drainage features and basins. Occurrences of loam are most prevalent in the southeastern portion of the study area, where elevations are generally less than 10 meters (32.8 feet).

Muck, which is slowly decaying organic material containing varying amounts of sand and silt, has accumulated in large areas southeast of Lake Istokpoga. It also occurs just west of the Lake Wales Ridge in the Fisheating Creek drainage basin, and along the Kissimmee River and its floodplain. Muck generally occurs in swampy or poorly drained areas that allow organic material to accumulate. This organic material often consists of aquatic and terrestrial plant remains and minor amounts of terrigenous silts and sands. The distribution of muck in the study area delineates the general drainage pattern for this region.

The sand and loam unit consists primarily of sand mixed with up to 49 percent loam. Its occurrence throughout the map area is very similar to that of the muck and loam units. The southeastern portion of the map area, where loamy soils predominate, contains the largest portion of this unit. Generally, this sediment type represents a transition zone between loam-rich and muck-rich soils, to more sandy soils.

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EXPLANATION

SAND
SAND AND LOAM
LOAM
MUCK
INDIAN RESERVATION BOUNDARY
STATE PARK BOUNDARY
27 70 STATE/COUNTY HIGHWAY
COUNTY LINE

0 0.5 1 2 3 4 MILES
0 1 2 3 4 5 6 KILOMETERS

SCALE

COOPERATIVELY FUNDED BY THE FLORIDA GEOLOGICAL SURVEY AND THE STATEMAP COMPONENT OF THE NATIONAL GEOLOGIC MAPPING ACT, ADMINISTERED BY THE U.S.G.S., DEPARTMENT OF THE INTERIOR, UNDER ASSISTANCE AWARD NUMBER 98-HQ-AG-2053

STUDY AREA

OPEN FILE MAP SERIES NO. 88-02