FLORIDA GEOLOGICAL SURVEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

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1998

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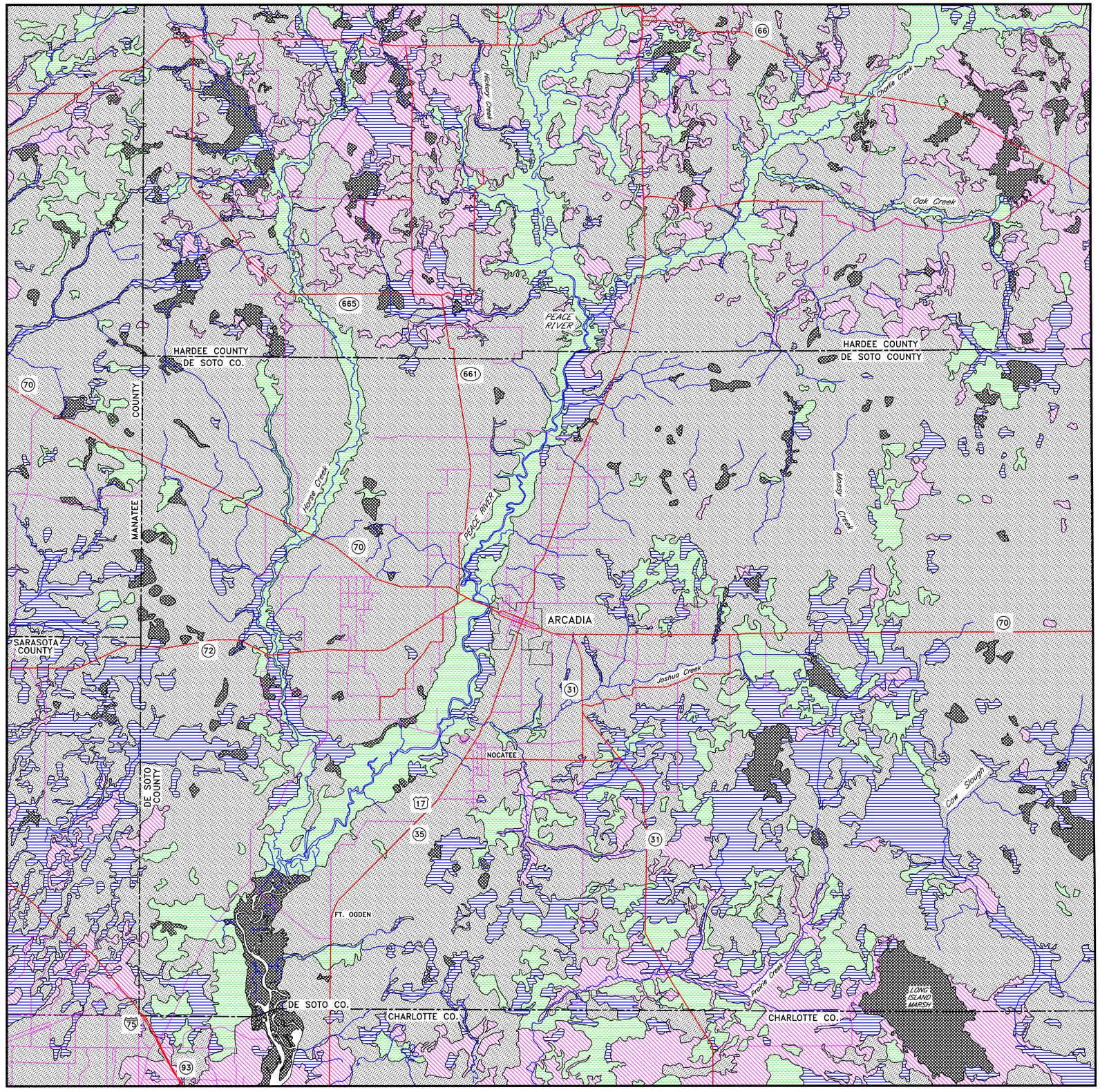
STATE GEOLOGIST AND CHIEF



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

Data utilized in creating this map was derived from a variety of sources, including United States Department of Agriculture Soil Surveys (Hyde & Huckle, 1983; Hyde et al., 1991; Henderson, 1984; Robbins, et al., 1984; and Cowherd, et al., 1989), 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 60 different soil types are recognized, depending on the county, by the United States Department of Agriculture in published soil surveys (Hyde & Huckle, 1983; Hyde et al., 1991; Henderson, 1984; Robbins, et al., 1984; and Cowherd, et al., 1989). In these soil surveys, soil types were categorized based on factors such as slope, moisture content, texture, distribution of organic matter, acidity and other physical properties. The units which appear on this map were chosen 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 soils in the map area.

Quartz sand, the most commonly occurring sediment type in the map area, generally correlates to regions of higher elevation where undifferentiated Quaternary (Qu) sediments have accumulated. 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, and heavy minerals. Although much of the area mapped as Tertiary/Quaternary undifferentiated fossiliferous sediments (TQsu) on the accompanying geologic map does contain significant amount of shell material, it is generally deeper than two meters below land surface.

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" (Hyde, et al., 1991, p. 97), occurs throughout much of the map area and is generally associated with drainage features and basins. Occurrences of loam are most prevalent where the Qu is relatively thin.

Clayey sediments with admixtures of sand and loam are predominately found within the Peace River and Horse Creek floodplains, with minor occurrences in other parts of the map area. This unit may correspond, in some areas, to Peace River Formation outcrops (see accompanying geologic map). This association is not always exclusive, however, since other geologic units within the quadrangle are known to contain clay.

The remaining units depicted on this map: sand/loam and muck, are relatively minor in areal extent. Mixtures of sand and loam are most prevalent in the area between the Peace River and Horse Creek in Hardee county, in the eastern portion of Hardee County, and in south-central DeSoto and north-central Charlotte Counties.

Muck, which is slowly decaying organic material containing varying amounts of sand and silt, has accumulated in large areas of the southern portion of the Peace River basin just above Charlotte Harbor. Several areas in southeastern DeSoto County including Tiger Bay, Sheep Pen Marsh, and Long Island Marsh also contain muck. These are generally swampy, poorly drained areas which allow organic material to accumulate.

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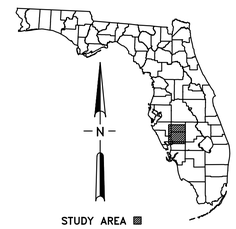
EXPLANATION

- SAND
- SAND AND LOAM
- LOAM
- LOAM/SAND/CLAY
- MUCK
- 75/70 INTERSTATE/STATE HIGHWAY
- COUNTY LINE



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

SCALE

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FGS060298
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