

Description of Map Units

QUATERNARY SYSTEM

HOLOCENE

Ha **alluvium, undifferentiated**—Deposits of gray, brown-gray, and brown sandy mud and pale yellow-brown sand along perennial streams and their tributaries; the former flowing southward, incising the uplands plain and emptying into coastal swamps. The coarse fraction is dominated by fine to coarse sand size quartz with trace amounts of iron oxides, dark silicates, and chert; feldspar is present in minute mounts. The presence of coarse sand and granule size lithic and quartz fragments in Tickfaw, Blood, Natabany, and Yellow Waters River sand deposits suggests contribution from the (Pleistocene) Citronelle formation exposed north of the quadrangle.

Along incised reaches, muddy deposits occur as accumulations on older active terraces, reworked during high stage stream flow. Active sand deposits are mainly restricted to shifting and migrating point- and mid-stream bars. Alluvium along coastal swamp reaches forms levees and fan-like deposits over the Hammond platform, blending laterally with coastal swamp sediment (Hcs). Alluvial mud and sandy mud within ephemeral tributaries is primarily of local origin. Thickness < 4 m

Hcs **coastal swamp**—Active deposits of brown-gray, brown, and dark brown mud and sandy mud in (near) sea-level swamp, south-central and southeastern portion of the quadrangle. Coarse fraction consists of fine to medium sand size quartz with trace amounts of fine iron oxides, dark silicates, and scarce chert. Components are derived in-situ from underlying Hammond, re-worked from local alluvial deposits, and imported and redistributed by stream and tidal currents, with incorporation of organic material from local and regional biomes. Thickness < 1 m.

PLEISTOCENE

Psl **small stream levee deposits**—Sandy mud and muddy sand deposits in positive relief, sinuous branching but abandoned fluvial landforms generally bearing southward atop the Hammond surface and truncated and denuded by modern streams and drainages. Mud dominant deposits occur in shades of gray and brownish gray with speckles, streaks, and mottling of pedogenic rust. Sand-rich deposits display shades of dark red to brown-red. Coarse fraction consists of fine to coarse quartz with trace amounts iron oxides, dark silicates, and fragments of chert and sedimentary and metamorphic lithics; kaolinite dominates the clay fraction; montmorillonite is lacking or absent. The presence of fine gravel (granule) size component of sedimentary and metamorphic lithics and red-stained quartz in individual deposits suggests contribution from the Citronelle formation exposed north of the quadrangle. Thickness < 2 m.

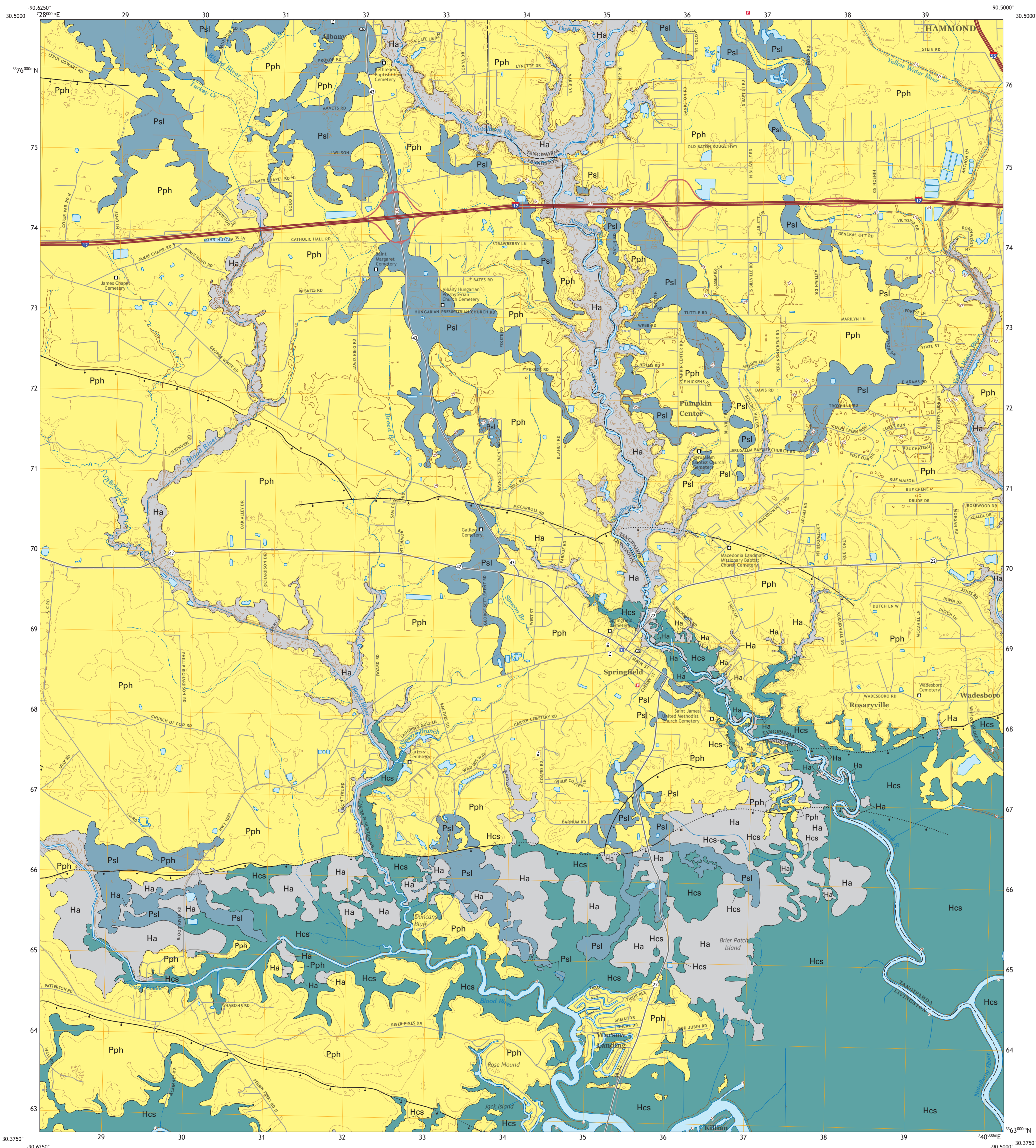
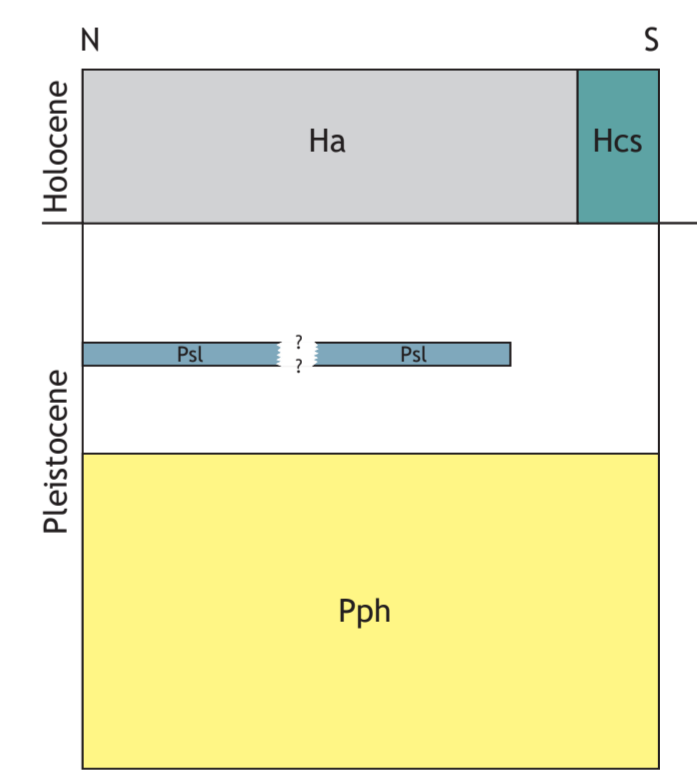
PRAIRIE ALLOGROUP

Pph **Hammond (allo-) formation**—Sequence of sandy clay-mud to silt-mud and sand intervals decimeters to meters thick form the principal lithosome platform of the entire quadrangle. Clay component is dominated by kaolinite with lesser vermiculite, illite, and montmorillonite; silt - sand fraction is mainly quartz with trace amounts of coarse silt size crystals of iron oxides and dark silicates.

Fresh (damp) color varies from medium to light gray and light brown gray with speckle, streaks, and mottling of orange-yellow to dark orange-red pedogenic rust. Secondary goethite occurs as soft sub-centimeter nodules that harden upon exposure to the atmosphere. Dry exposure surfaces typically display bright, pale shades of brownish-yellow to yellow-orange and reddish gray. Large area exposures of scrapes and borrow pits erode in groove-and-fin relief; crude vertical piping appears in weathered bluff exposures. Thickness < 30 m.

Open Water, Inundated Area, Wetland

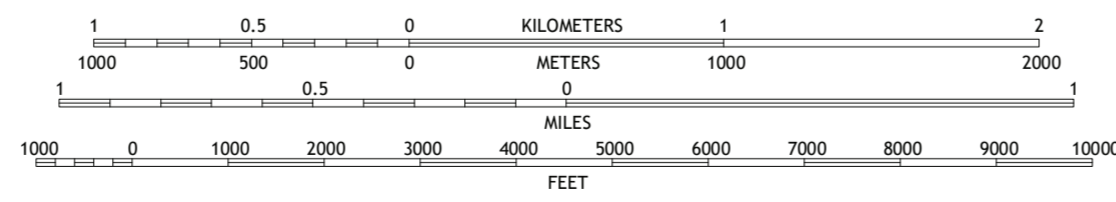
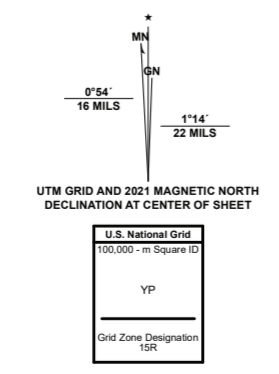
- Normal fault**—Identify and existence certain, location accurate. Ball and bar on downthrown block.
- Concealed fault**—Identify and existence certain, location concealed. Ball and bar on downthrown block.
- Streams**
- Contact**—includes inferred contacts.
- Topographic Contours**



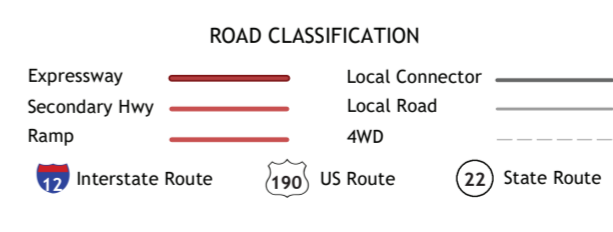
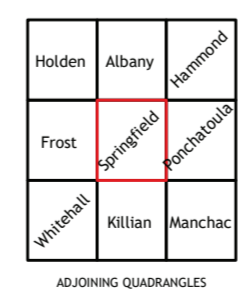
Produced and published by the Louisiana Geological Survey
3079 Energy, Coast & Environment Building, Louisiana State University
Baton Rouge, LA 70803 • 225/578-5320 • www.lsu.edu/lgs/

This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under STATEMAP award number G23AS00050. 2023. LGS acknowledges the invaluable assistance of Weyerhaeuser the Company, property owners and managers, and hunting clubs.

Copyright © 2024 by the Louisiana Geological Survey
Geology: Marty Horn
GIS Compilation/Cartography: Robert L. Paulsell



SCALE 1:24,000
CONTOUR INTERVAL 5 FEET
CONTOUR SMOOTHNESS = MEDIUM
NORTH AMERICAN DATUM OF 1983 (NAD 83)
WORLD GEODETIC SYSTEM 1984 (WGS 84)
UNIVERSAL TRANSVERSE MERCATOR PROJECTION, ZONE 15
NORTH AMERICAN VERTICAL DATUM OF 1988



Base Map.....United States Geological Survey, 2024
Data provided by The National Map (TNM), is the best available at the time of map generation, and includes data content from supporting themes of Elevation, Hydrography, Geographic Names, Transportation, Structures, and Land Cover. Boundaries.....LaDOTD, 2007
Wetlands.....FWS National Wetlands Inventory 2021

This research is supported by the U. S. Geological Survey, National Cooperative Geologic Mapping Program. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U. S. Government or the state of Louisiana. This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.

This map has been carefully prepared from the best existing sources available at the time of preparation. However, the Louisiana Geological Survey and Louisiana State University do not assume responsibility or liability for any reliance thereon. This information is provided with the understanding that it is not guaranteed to be correct or complete, and conclusions drawn from such data are the sole responsibility of the user. These geologic quadrangles are intended for use at the scale of 1:24,000. A detailed on-the-ground survey and analysis of a specific site may differ from these maps.

Geologic Map of the Springfield 7.5 Minute Quadrangle,
Livingston and Tangipahoa Parishes, LA