

Description of Map Units

QUATERNARY SYSTEM

HOLOCENE

- Ha** Alluvium—Nonconsolidated mud flooring ravines and bayous in northeastern map area. Dark brown and black humus-rich clay of Mississippi River flood stage mingled with light brown, rust-brown, and reddish brown silty mud and fine sand lag deposits sourced from nearby loess terraces.
- Haf** Alluvial fan—Nonconsolidated mud deposited at mouth of Bayou Baton Rouge into the modern Mississippi River flood plain. Composition is primarily derived from upland loess deposits but may include darker, organic mud of Mississippi River flood stage.
- Hmac** Abandoned channel deposits of the Mississippi River meander belt 1—Deposits occupy isolated arcuate topographic depressions interpreted as abandoned sectors of the Mississippi River channel. A mixture of fine grained sediment emplaced prior to and during sector abandonment, during flood stage of the shifted channel by battere channel transfer, and by redistribution of silt bank sediment. Medium and dark brown silty mud with fine sand, and dark brown silty mud with dark gray clay. Silt and sand fraction dominated by quartz and feldspars with ~5% light and dark micas, dark silicates, magnetite, rock fragments (schist and chert).
- Hmd** Distributary channel deposits of the Mississippi River meander belt 1—Silty mud levee and crevasse deposits of distributary channels historically or currently originating from the main Mississippi River. Tiger Bayou and Grand Bayou: medium - dark brown silty and fine sandy mud; coarse fraction dominated by quartz and feldspar with accessory (~2%) amounts of light and dark micas and lesser mafic silicates, iron oxides, and schist and phyllite lithics. Thickness < 3 m.
- Hmc** Crevasse and crevasse complex deposits of the Mississippi River meander belt 1 Lebate and plane-shaped deposit of sediment funneled by one or more incised channels radiating from the main river channel, most commonly situated along the downstream sector of a meander cut-bank. Medium brown silty and fine sandy mud, coarse fraction of quartz and feldspar with ~5% light and dark micas, other dark silicates, and iron oxides. Distal facies of Hmc1 in southwest Walls quadrangle hosts carbonized wood fragments.
- Hml** Levee overbank flood deposits of the Mississippi River meander belt 1 Widespread apron that parallels and thins away from the main channel and lacks geomorphic expression of individual feeder channels. Medium brown silty and fine sandy mud. Coarse fraction of quartz and feldspar with ~5% light and dark micas, other dark silicates, and iron oxides.
- Hmpb** Point bar deposits of the Mississippi River meander belt 1—Ridge-and-swale landform, interpreted as continuous deposition at channel point bars, typically with arcuate shape of variable curvature; may be mantled or concealed by subsequent flood stage deposits. Older point bar deposits in the map area typically consist of medium to dark brown silty mud with fine sand dominated by quartz and feldspars with magnetite and trace (<1%) light and dark micas, dark silicates, and fragments of schist and chert. Active point bar deposits are medium - light brown sand composed of ~0.2 grains quartz, feldspars, fragments of chert, quartzite, schist/phyllite, and basalt?, with lesser amounts of micas and iron oxides.
- Hb** Backswamp deposits—Mud in topographically low areas situated between inactive and active meander belts, composed of clay settled from slow moving or calm flood stage water. Dark steel gray clay with less than 0.1% silt fraction. Backswamp depo-centers likely include sediment from multiple meander belts and therefore are not assigned to a specific episode.

PLEISTOCENE

- Plp** Peoria Loess—Upland regional scale mantling of light buff to light gray silt with clay and fine sand that lacks discernible bedding structures. Light and medium buff color in weathered exposure, medium to dark brown and rusty brown in soil with coarse breccia texture due to bioturbation. Dominant silt and sand components are quartz and feldspar with trace amounts of iron oxides, dark silicates, and light mica. Secondary goethite occurs as concentrations of 2 - 3 mm soft nodules that harden upon exposure. Vertical bluffs with decimeter columnar jointing and piping structures and low angle slopes with thin-and-proove erosion are diagnostic. Contact with underlying Sicily Island loess is marked by discontinuous lag gravel of cm size goethite nodules, by lenses of thin and medium bedded mud and sand, and by lenses of coarse white sand with eolian cross-bedding. Limited to the northeast corner of the map area. Thickness: 4 - 15 m.
- Pls** Sicily Island Loess—Light buff, yellow, orange, and reddish brown mud dominated by clay with lesser silt and fine sand. Silt and sand components are mainly quartz and feldspar with trace amounts of iron oxides, dark silicates, and chert. Two to three millimeter soft goethite nodules harden upon exposure. Erodes as rounded slopes in northeast uplands area of the quadrangle. Sedimentary structures at contact with overlying Peoria and sticky, slippery, and highly plastic clay are diagnostic field characteristics. Base not exposed, thickness > 7 m.

Open Water, Inundated Area, Swamp

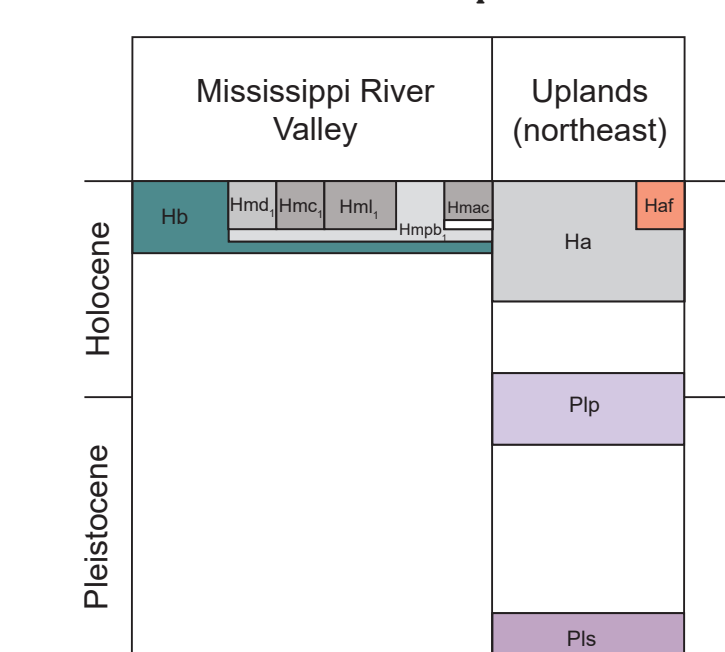
- Streams
- Contact—includes inferred contacts.
- Topographic Contours

References:

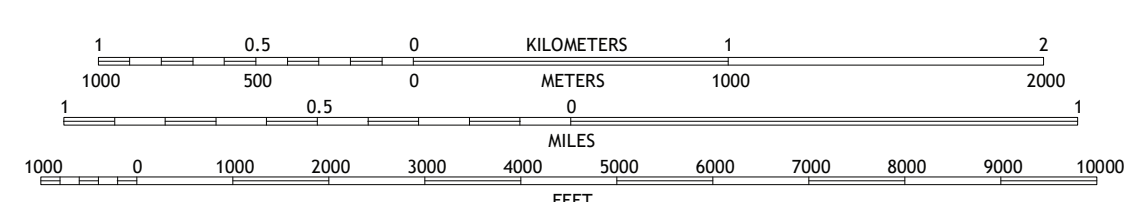
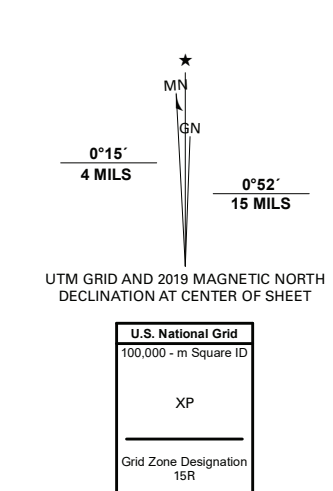
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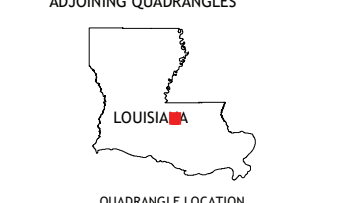
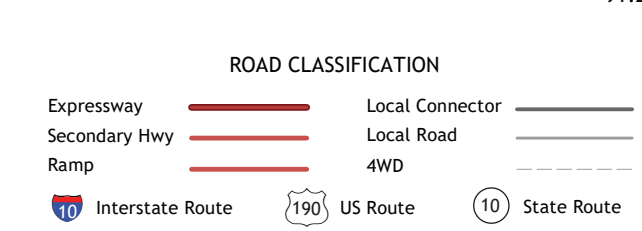
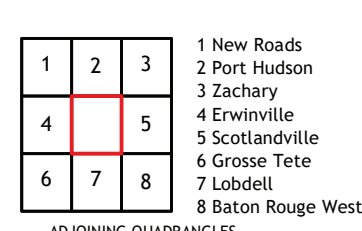
Correlation of Map Units



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 G21AC10813-00, 2021.
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SCALE 1:24,000
CONTOUR INTERVAL 5 FEET
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, 2020
Boundaries.....LaDOTD, 2007
Contours.....National Elevation Dataset, 2008 - 2011
Hydrography.....National Hydrography Dataset, 2002 - 2017
Names.....GNIS, 1980 - 2017
Roads.....U.S. Census Bureau, 2017
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 Walls 7.5' quadrangle,
E. Baton Rouge, W. Baton Rouge and Pointe Coupee Parishes, Louisiana