

**Description of Map Units**

QUATERNARY SYSTEM

HOLOCENE

**Ha** **Alluvium**—Undifferentiated deposits of small upland streams: unconsolidated alluvial deposits of minor streams and creeks filling valleys incised into older deposits, with textures varying from gravely sand to sandy mud.

PLEISTOCENE

PRAIRIE ALLOGROUP

**Pph** **Hammond alloformation**—Deposits of middle to late Wisconsin coastal-plain streams in the Florida Parishes of southeastern Louisiana. In the area encompassing Waldheim quadrangle it consists of very fine to medium sand, in places clayey or with silty clay interbeds, and is grayish with yellowish, brownish, and/or reddish mottles.

**Ppi** **Irene alloformation**—Alluvial and colluvial deposits of the middle Pleistocene courses of Florida Parishes streams in southeastern Louisiana. Texture ranges from silty clay to coarse sand, with fining-upward sequences common. In the area encompassing Waldheim quadrangle it consists of very fine to medium sand, silt, and silty clay, and is grayish with yellowish, brownish, and/or reddish mottles. The unit is blanketed by less than 1 m of loess, or loess-derived colluvium.

TERTIARY SYSTEM

PLIOCENE

UPLAND ALLOGROUP

**Puc** **Citronelle Formation**—Deeply dissected alluvial deposits of Pliocene streams originating from nonglacial sources in the Florida Parishes of southwestern Louisiana. Correlates with the Willis Formation in southwestern Louisiana. In the area encompassing the Waldheim quadrangle, the Citronelle Formation consists of clayey very fine to coarse sand, with gravely sand to sandy gravel (comprising chert, quartz, and/or light-colored mud), reddish to reddish brown with grayish to yellowish to brownish mottles, with occasional thin beds of pale red mud and purple clay, and is blanketed by less than 1 m of Sicily Island Loess. In places it includes abundant tree root casts and ironstone. Less-weathered exposures of Citronelle may show large-scale cross beds with light-grayish, whitish-weathering grains and sparse mica concentrated on cross beds; horizontal bedding; and mud rip-up clasts.

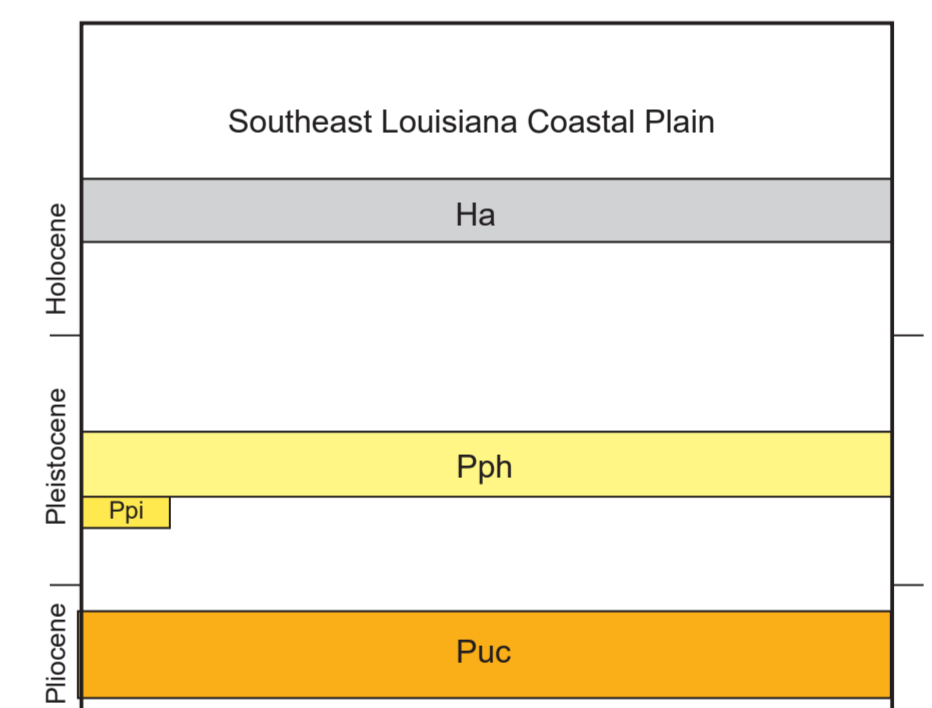
**Open Water, Inundated Area, Swamp**

**Streams**

**Contact**—includes inferred contacts.

**Topographic Contours**

**Correlation of Map Units**



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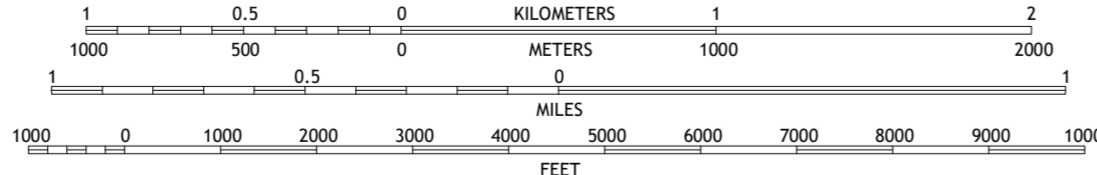
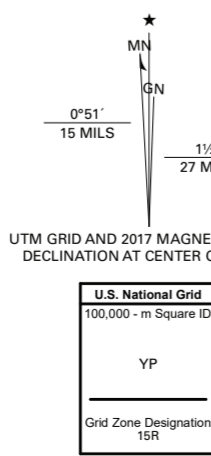
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Geology: Richard P. McCulloh and Paul V. Heinrich

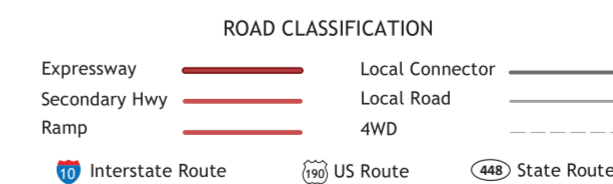
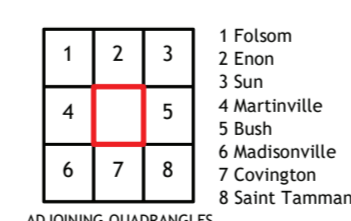
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Cartography: Robert L. Paulsell and Lisa Pond



SCALE 1:24,000

Base map from U.S. Geological Survey 1:24,000 GeoPDF  
National Geospatial Program US Topo Product Standard, 2011.  
Universal Transverse Mercator Projection, Zone 15  
North American Datum 1983 (NAD 83)  
Contour Interval 5 Feet  
National Geodetic Vertical Datum 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

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**Geologic Map of the Waldheim 7.5 minute quadrangle  
St. Tammany Parish, Louisiana**