GEOLOGIC MAP of the MISSISSIPPI GULF COAST

Jackson, Harrison, and Hancock Counties

Open-File Report 355

2025

Geology by

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This geologic map was funded by the State of Mississippi and the United States Geological Survey's National Cooperative Geologic Mapping Program.

Correlation of Map Units

Quaternary	Holocene		Qbi			
			Qaf	Qd	Qal	Qcc
		Unconformity				
	Pleistocene	Coastal Terraces	Qtpc	Qtbrc	Qtghc	
		Unconformity				
		River Terraces	Qtwr	Qtbpr	Qthur	Qthr	Qtmr
		Unconformity				
Tertiary	Pliocene		Tgf			
		Unconformity				
	Miocene	Grand Gulf Group	Tp			

Descriptions of Map Units

Barrier Islands (Holocene)
Sand, transported by longshore currents. Winnowed, laminated, with occurrences of heavy minerals. See Bulletin 93 for more information on heavy minerals present.

Alluvium Fans (Holocene to Pleistocene)
Sand, yellow to brownish-white, fine- to coarse-grained, subrounded to rounded, predominantly quartzose; silty to clayey; humus lenses common; silicified wood common.

Dunes (Holocene to Pleistocene)
Well sorted, medium- to coarse-grained frosted quartz sand deposited by wind action with a gradual windward slope.

Alluvium (Holocene to Pleistocene)
Floodplain sand, silt, gravel, and clay. The Pascagoula River and Pearl River are major coastal streams with alluvial thicknesses exceeding 60 feet.

Cut-off Channels (Holocene to Pleistocene)
Carbonaceous clay, silty to lignitic, brown to black; includes oxbow lakes and clay plugs of abandoned meander courses.

Coastal Terraces (Pleistocene)
Sand, orange to tan, fine- to coarse-grained, predominantly quartzose, cross-bedded to massive; clay, kaolinitic, pink to white, generally occurring as discontinuous lenses. Ferruginous sandstone and pyroluisite common at the basal contact with the underlying Graham Ferry Formation.

Pamlico
Approximate terrace geomorphic surface at 25 feet msl.

Big Ridge
Approximate terrace geomorphic surface at 50 feet msl.

Good Hope
Approximate terrace geomorphic surface at 100 feet msl.

River Terraces (Pleistocene)
Fluvial fining-upward sequence of tan to khaki floodplain silts; sand, orange to tan, fine- to coarse-grained, predominantly quartzose, cross-bedded to massive; gravel, pea-sized, predominantly leached to chalky brown, gray, and white chert and milky quartz; clay, kaolinitic, pink to white, generally occurring as discontinuous lenses. Ferruginous sandstone and pyroluisite common at the basal contact with the underlying Graham Ferry and Pascagoula formations.

Wade
Approximate terrace geomorphic surface at 50 feet msl.

Big Point
Approximate terrace geomorphic surface at 70 feet msl.

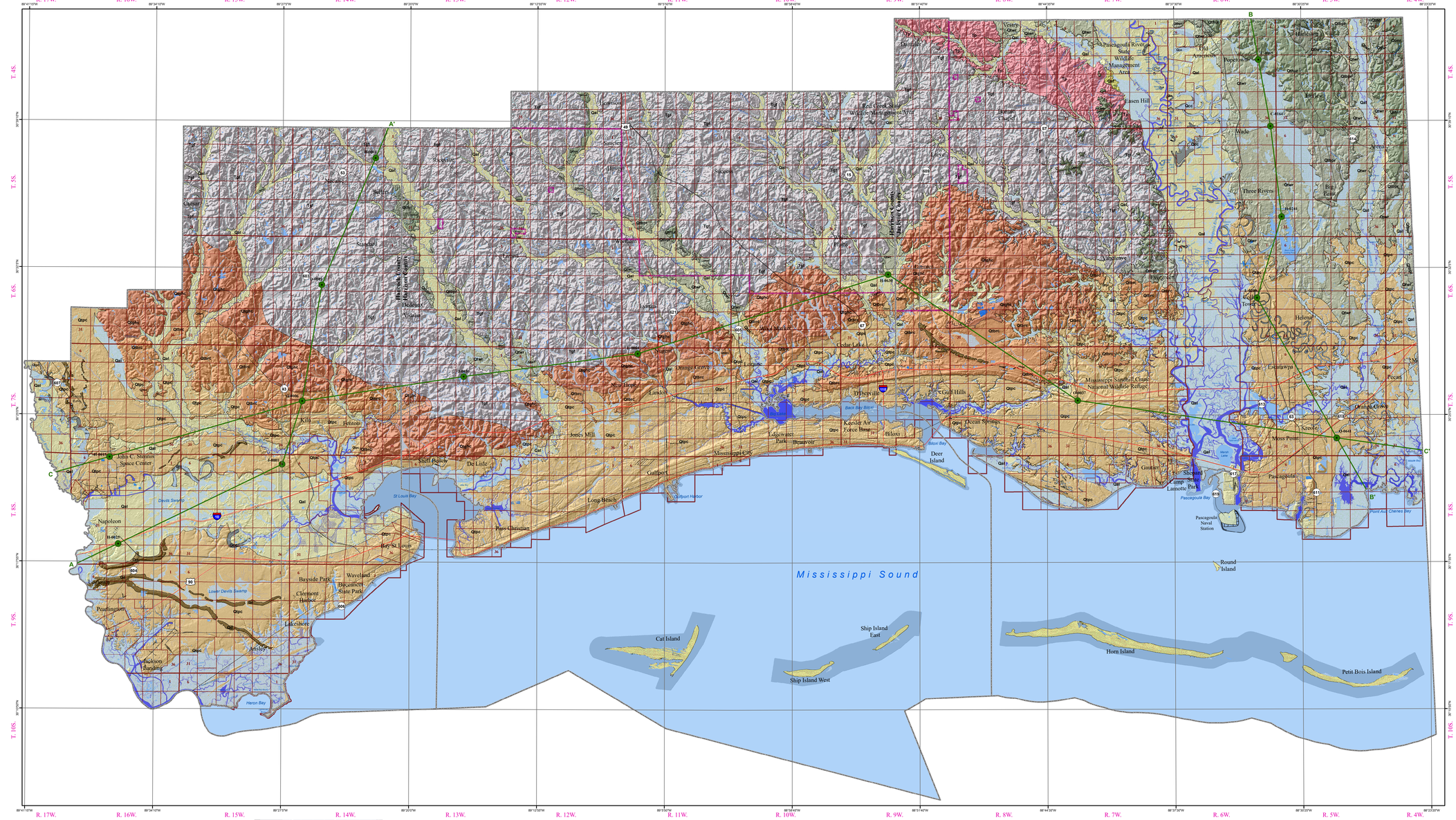
Hurley
Approximate terrace geomorphic surface at 100 feet msl.

Harleston
Approximate terrace geomorphic surface at 130 feet msl.

Movella
Approximate terrace geomorphic surface at 150 feet msl.

Graham Ferry Formation (Pliocene)
Sand, dark greenish-gray, yellow to tan, micaceous and glauconitic (exclusively in the fine-grained sands), fine- to coarse-grained, predominantly quartzose, cross-bedded to massive; laminar to thinly bedded quartz pea gravels in the coarser fraction. Weathers to orange, purple, red, pink, with reddish-brown pebbly ironstone residuum. Clay, green, gray, brown; weathers mottled purple to pink and white to reddish-brown, silty to sandy, locally lignitic. The unconformable contact between the Pascagoula and Graham Ferry formations is projected using subsurface mapping of the Glendon Limestone and the thickness of the section between the Glendon Limestone (-2450 msl) and the type locality of the Graham Ferry Formation on the west bank of the Pascagoula River at Wade to Vancleave Road Sec. 37 T. 5S R.7N.

Pascagoula Formation (Miocene)
Shallow marine to intertidal deposits, containing the marker fossil, *Rangia johnsoni*. Clay, green, gray, brown, and white; locally lignitic, locally calcareous and fossiliferous. Weathers mottled purple to pink and white to reddish-brown, silty to fine-sandy. Sand, dark greenish-gray and glauconitic, micaceous, locally lignitic, fine- to coarse-grained, predominantly quartzose; silicified wood is common.



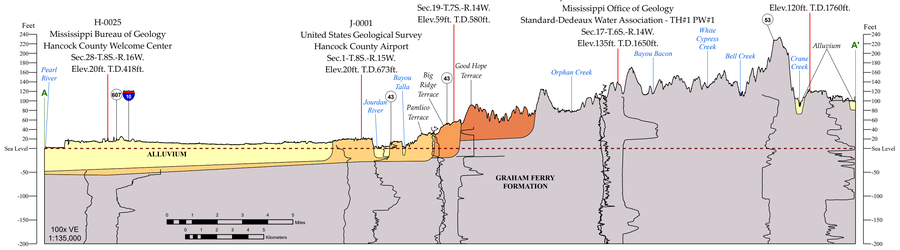
Base Map produced by the Mississippi Geological Survey
Coordinate System: NAD 1983 UTM Zone 16N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter
Declination: NOAA World Magnetic Model, March 26, 2025, estimated Magnetic North declination for Biloxi (88°53'13"W, 30°23'34"N) is 2° 16' W ± 0° 21' changing by 0° 5'W per year.
Borehole data from Mississippi Office of Geology.
Basemap data sourced from https://maris.mississippi.edu/.
Bare-earth hill shade model generated using LiDAR data with a vertical exaggeration factor of Z=100 from mosaic by Brad Segrest.

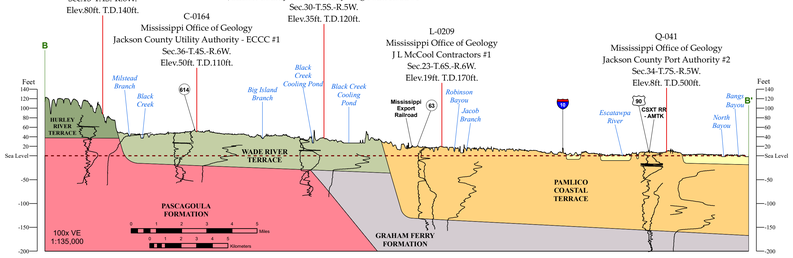
MDOT Centerlines
- Federal Roads
- State Highways
- Railroads

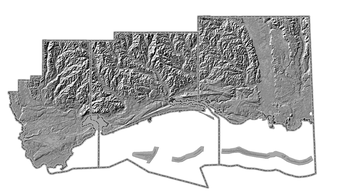
Public Land Survey System
- Sections
- Townships

National Hydrography Dataset Symbols
- Lake/Pond
- Reservoir
- Wetland
- Stream/River
- Inundation Area (Not Controlled)
- Inundation Area (Controlled)
- Connector
- Canal/Ditch
- Intermittent Stream
- Perennial Stream
- Artificial Path

Geologic Map Symbols
- Surface Mine
- Testhole Location
- Unconformable Contact
- Line of Section
- National Forest Boundary
- County Boundary
- City Boundary







Geologic maps are only a guide to current understanding and do not eliminate the need for detailed investigations of specific sites for specific purposes. The views and conclusions contained in this Open-File Report are those of the geologists and should not be interpreted as representing the official policies, either expressed or implied, of the State of Mississippi or of the United States Government.