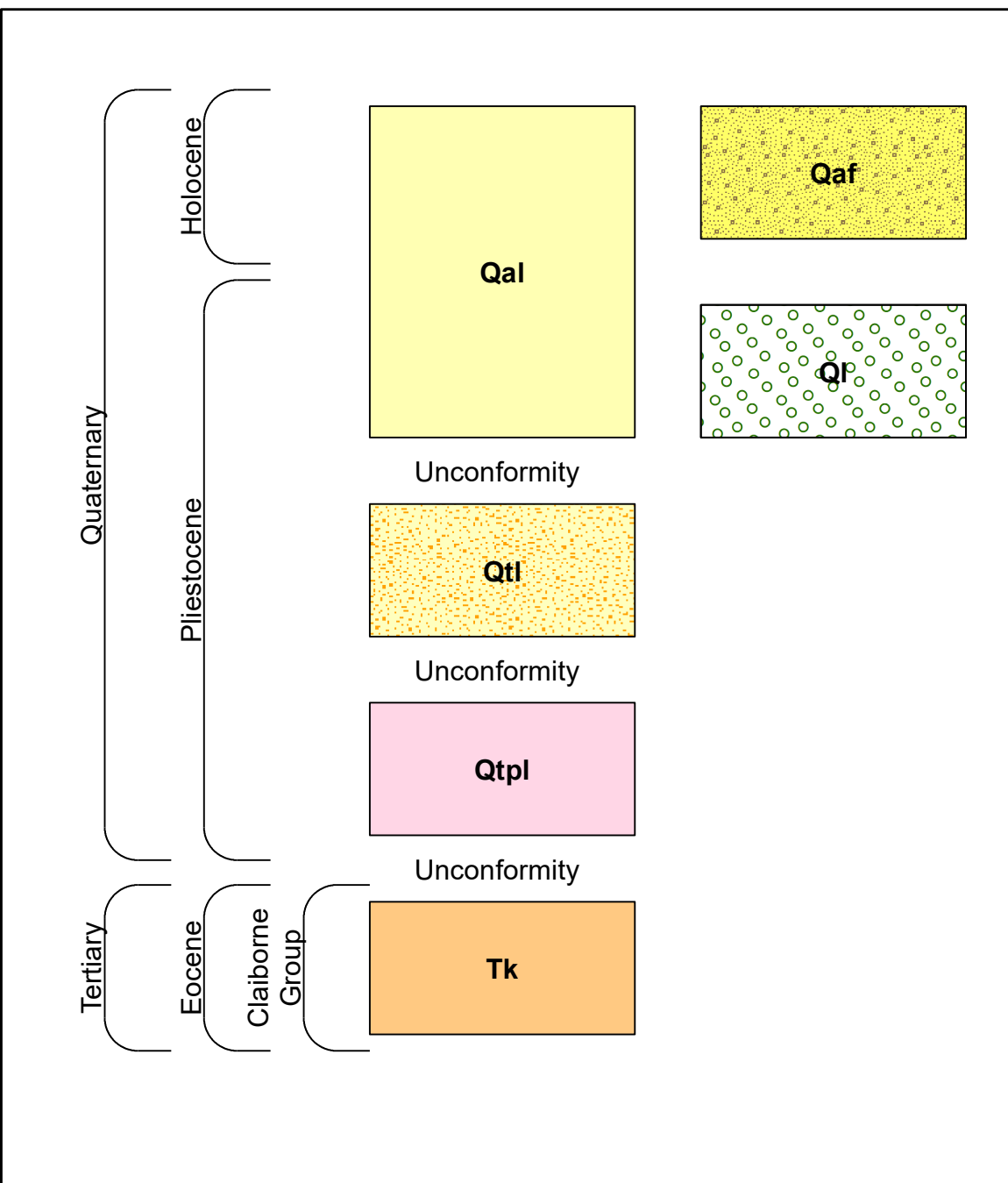


Correlation of Map Units



Descriptions of Map Units

ALLUVIUM

Sand, yellow- to brownish-white in color, fine- to coarse-grained, subrounded to rounded, predominately quartzose, silty, clayey; humus lenses common; floodplain deposits are heavily loess-derived, channel deposits are predominately graveliferous derived from terrace deposits. The sands and gravels of the Mississippi River Valley Alluvium contain a distinct suite of igneous and metamorphic constituents different than that of the stream alluvium derived from the adjacent bluffs.

HOLOCENE ALLUVIAL FANS

Alternating silts, sands, and gravels. Coarsest at the apex of the fan, fining laterally (radially) from the apex of the fan, interfingering with adjacent fans and the alluvium of the Mississippi River.

LOW TERRACE DEPOSITS

Stream Terrace. Sand, orange to tan colored, fine- to coarse-grained, predominately quartzose, cross-bedded to massive; graveliferous, pea-to cobble-size, predominantly chert and milky quartz; silt, tan to brown, loess-derived; clay, kaolinitic, pink to white, generally occurring as discontinuous lenses.

LOESS

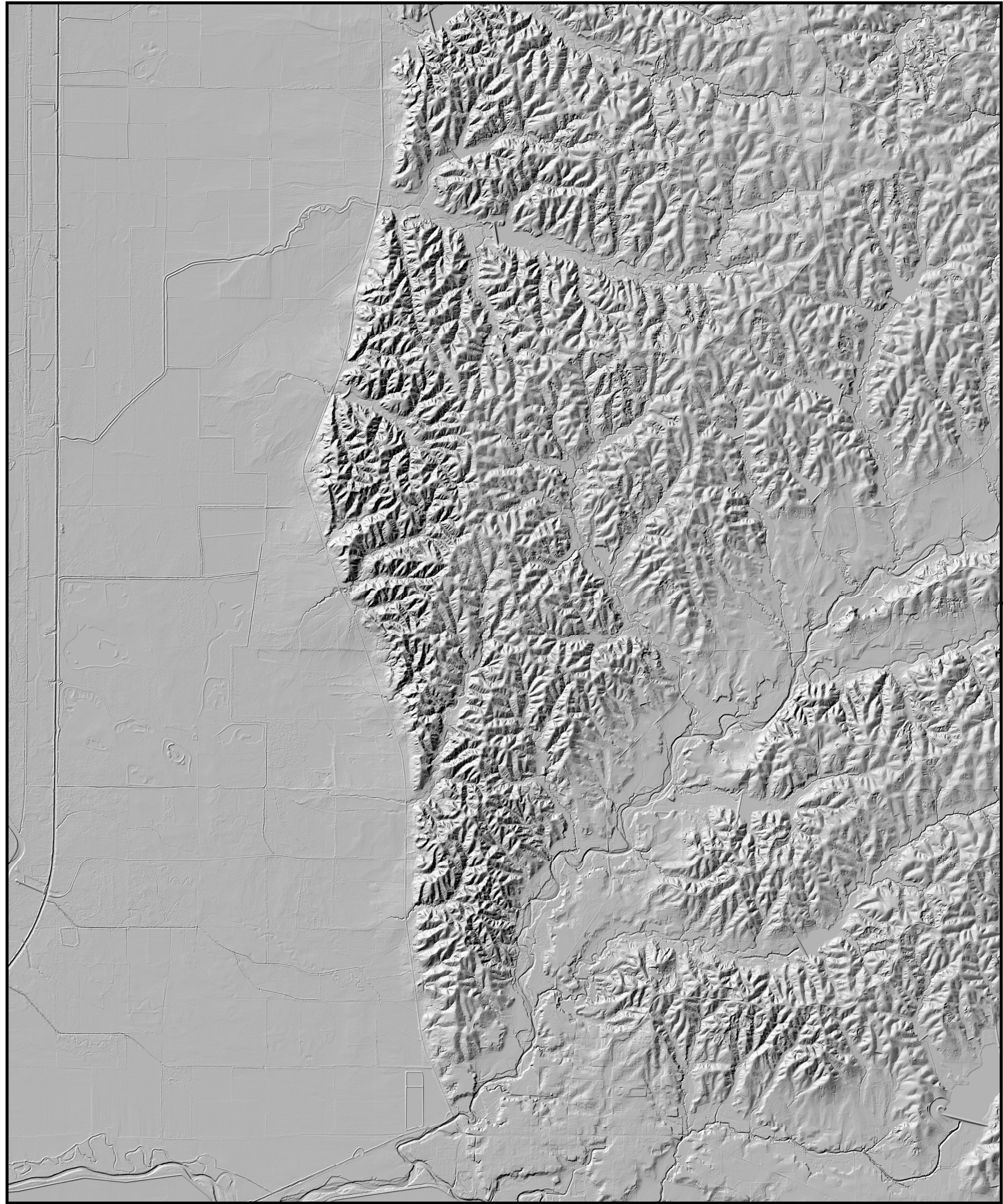
Silt, buff to tan, pale yellow, gray-green in anoxic conditions, weathers brown to red; quartzose to feldspathic. Loess is an Eolian deposit derived from glacial outwash. Loess is typically calcareous with dolomite and calcite; the upper portion of the loess is deeply weathered, leached/noncalcareous, clayey, and is commonly referred to as "brown loam." Loess deposits unconformably blanket the eroded pre-loess topography with substantial local variation in thickness. In places, weathered loess contains secondary deposits of calcareous concretions such as loess dolls and root casts. Loess can be locally and sparingly fossiliferous, commonly containing tests and steinkerns of pulmonate gastropods and less commonly containing fossils of Pleistocene Vertebrates.

PRE-LOESS TERRACE DEPOSITS

Pleistocene ancestral Mississippi River terrace deposit. Sand, yellow, orange, purple, red, pink, fine- to coarse-grained, predominantly quartzose, cross-bedded to massive; graveliferous, pea to large cobble sized clasts; clasts of sandstone and chert up to boulder size not uncommon. Gravels are predominately chert with lesser amounts of vein quartz, metaquartzite, agate, sandstone, and rare rhyolite clasts; clay, pink to white, generally occurring as discontinuous lenses and as rip-up clasts up to boulder size. Conglomeratic ironstone ledges are common in the basal graveliferous sands of the deposits, which unconformably overlies the Hattiesburg Formation. The base of this heavily eroded terrace is perched approximately 260 feet above MSL in elevation.

KOSCIUSKO FORMATION

Sand, gray to white, fine- to medium-grained, cross-bedded to massive with rare quartz pea gravel, locally indurated to sandstones and siltstones at the surface, predominantly quartzose with mica, and trace heavy minerals, silicified and coalified wood common. Clay, carbonaceous, brown to gray-green, weathers off-white to brown, silty to sandy, locally micaceous, locally lignitic.



Charleston Bare Earth Hillshade derived from 2009 Delta Phase I Mississippi project
1:60,000
1 inch = 5,000 feet
0 0.5 1 2 Miles

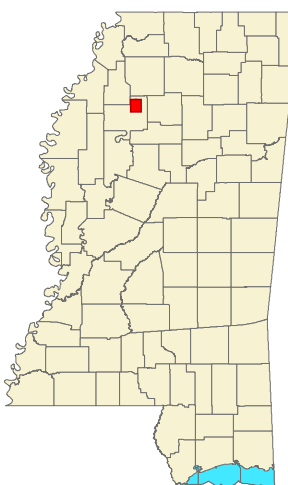
Base Map produced by the Mississippi Geological Survey
Coordinate System: NAD 83 Web Mercator Auxiliary Sphere
Projection: Mercator
Datum: NAD 83
Units: Meter
Declination: World Magnetic Model 2020 estimated Magnetic North declination in quadrangle center is 1°30' west of True North, as of January 15, 2020. Annual rate of declination change is approximately 0°5' west per year.
User: Mississippi Department of Environmental Quality (MDEQ), U.S. Army Corps of Engineers (USACE), United States Geological Survey (USGS), Natural Resources Conservation Service (NRCS), Federal Emergency Management Agency (FEMA), National Oceanic and Atmospheric Administration (NOAA), National Park Service (NPS), and Tennessee Valley Authority (TVA). Project span 2005-2017.
Hydrography: SDE derived, National Hydrography Dataset (NHD) 2020
Contours: Contours derived from (USGS) 7.5 minute topographic quadrangle mylar separate, Provisional Edition 1982, by (DAHS)
Roads: Mississippi Department of Transportation (MDOT) 2018
PLUS Boundaries: Mississippi Automated Resource Information System (MARIS) 2020
Building Footprints: Microsoft 2019
Surface Mines: MDEQ Office of Geology - Mining and Reclamation Division

Reference Scale: 1:24,000
Miles
0 0.5 1
1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000
Feet
1 0.5 1
Kilometers
Contour Interval: 20 Feet

GEOLOGIC MAP of the CHARLESTON QUADRANGLE Tallahatchie County, Mississippi 2020

Geology by
James E. Starnes, RPG and
Jonathan R. Leard, GIT

This geologic map was produced by the Mississippi Office of Geology.
MDEQ-GEOLOGY Geographic Information Systems: Daniel W. Morse
MDEQ-GEOLOGY Drillers: Archer McKenzie and Trey Magee
MDEQ-GEOLOGY Geophysical Logging: Andrew Newcomb and Paul Parrish
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.



Adjoining 7.5' Quadrangles

Crowder	Toombs	Covington
Fishback Lake	Charleston	Oakland
Tippah	Paynes	Tallahatchie

