QUaternary Deposits

DESCRIPTION

This map shows general geologic and surficial deposits and the scientific and technical qualifications of the data sources. This map is not meant to be enlarged.

The geologic interpretations are based on prior studies by the Illinois State Geological Survey, additional mapping by mainstream cartographers, current findings by the Illinois Department of Transportation, and the Illinois Height Modernization Program (http://www.isgs.illinois.edu/nsdihome/). Map information is derived from data provided by the United States Census Bureau. Shaded relief from LiDAR digital elevation data.

Cartography by Jane E. Johnshoy Domier. LiDAR shaded relief by Donald E. Luman.

QUATERNARY DEPOSITS

Holocene alluvium;essentially continuous across the county. Included are Holocene alluvium and flood deposits in river valleys and periodic deposits in floodplains, outwash plains, and dunes. In the alluvial valleys, deposits ranged from fine sand with silt to clay; in the floodplains, deposits ranged from sand and gravel to clay; and at low elevations near the floodplains, deposits were mostly silt. Holocene alluvium includes deposits from the Illinois River and tributaries and the Des Plaines River. Holocene outwash is clayey; yellowish brown to gray; leached; and lacustrine deposits are yellowish brown to gray; leached.

Wisconsin Episode deposits include Recent deposits, Wisconsin Episode glacial deposits, Wisconsin Episode till, Wisconsin Episode outwash, Wisconsin Episode lake deposits, and Wisconsin Episode moraine deposits. Wisconsin Episode deposits are generally thin, ranging from a few meters to a few tens of meters in thickness except for the upper 1 to 2 meters (3 to 6 feet) thick in coastal areas. The deposits are yellowish brown to gray, fine grain, and contain fragments of the Wisconsin Episode parent materials.

Galena Group deposits include deposits from the Galena Group, which is a bedrock formation comprised of sandstone, siltstone, and shale. The Galena Group is exposed in the northwest part of the county near the Mississippi River.

Cahokia Formation deposits include deposits from the Cahokia Formation, which is a bedrock formation comprised of sandstone, siltstone, and shale. The Cahokia Formation is exposed in the southwest part of the county near the Mississippi River.

Henry Formation deposits include deposits from the Henry Formation, which is a bedrock formation comprised of sandstone, siltstone, and shale. The Henry Formation is exposed in the northeast part of the county near the Mississippi River.

Galena Group crop width.

Cahokia Formation crop width.

Henry Formation crop width.

INTERPRETATION

The surficial deposits are the result of both natural and human processes. Natural processes include wind, water, and ice, while human processes include tillage, construction, and road building. The surficial deposits are classified into three categories: Holocene alluvium, Wisconsin Episode deposits, and Galena Group deposits. The Holocene alluvium is the most recent deposit and is the result of natural processes. The Wisconsin Episode deposits are the result of both natural and human processes, while the Galena Group deposits are the result of natural processes alone.

The Wisconsin Episode deposits are divided into two subcategories: Recent deposits and Wisconsin Episode deposits. The Recent deposits are generally thin, ranging from a few meters to a few tens of meters in thickness except for the upper 1 to 2 meters (3 to 6 feet) thick in coastal areas. The Wisconsin Episode deposits are generally thin, ranging from a few meters to a few tens of meters in thickness except for the upper 1 to 2 meters (3 to 6 feet) thick in coastal areas. The Galena Group deposits are generally thin, ranging from a few meters to a few tens of meters in thickness except for the upper 1 to 2 meters (3 to 6 feet) thick in coastal areas.