Bedrock Topography of Carroll County, Illinois

Illinois State Geological Survey
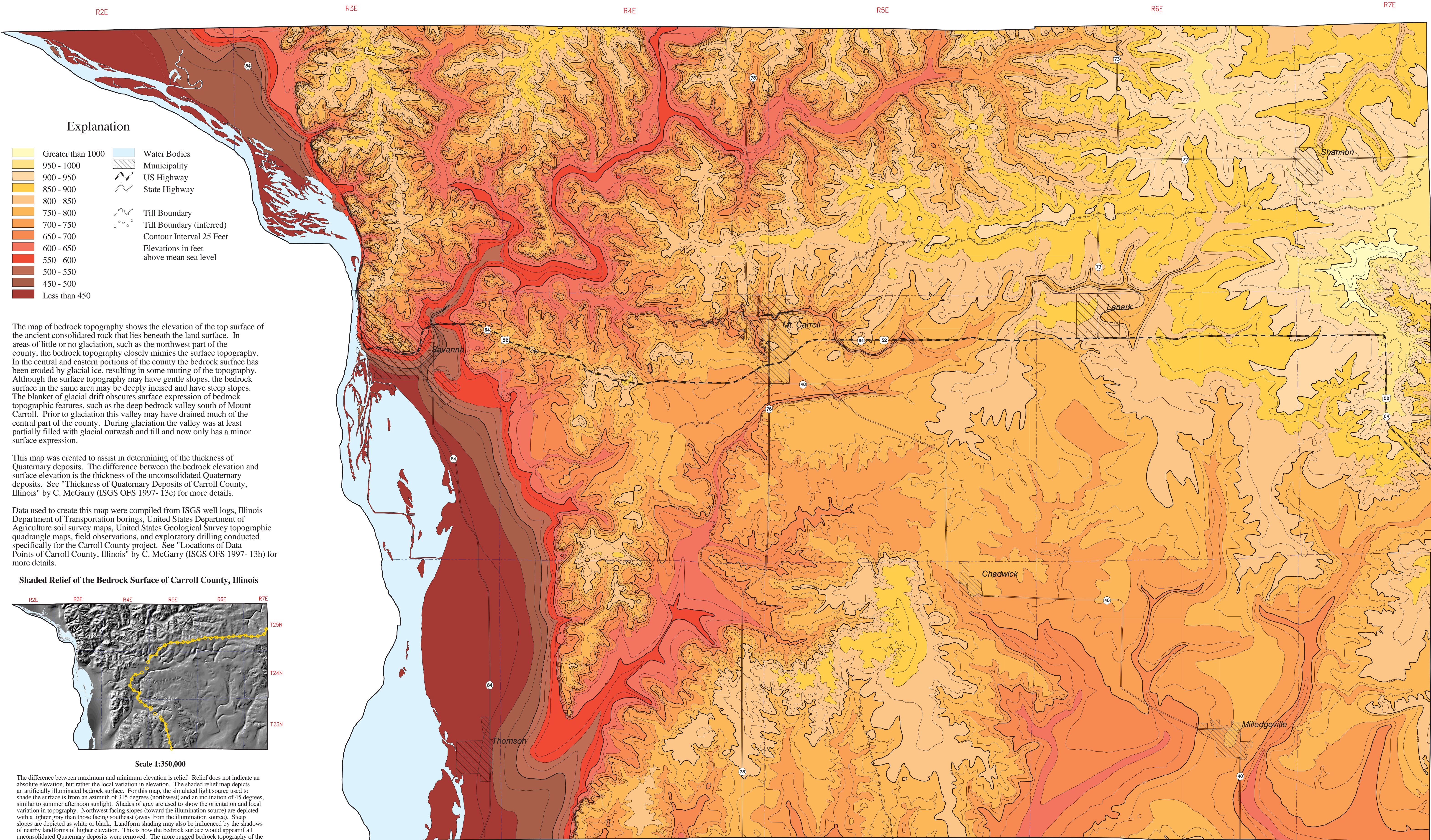
William W. Shilts, Chief

Champaign

Christopher S. McGarry

1997

State of Illinois

Department of Natural Resources

Explanation

Greater than 1000	Water Bodies
950 - 1000	Municipality
900 - 950	US Highway
850 - 900	State Highway
800 - 850	
750 - 800	Till Boundary
700 - 750	Till Boundary (inferred)
650 - 700	Contour Interval 25 Feet
600 - 650	Elevations in feet
550 - 600	above mean sea level
500 - 550	
450 - 500	
Less than 450	

The map of bedrock topography shows the elevation of the top surface of the ancient consolidated rock that lies beneath the land surface. In areas of little or no glaciation, such as the northwest part of the county, the bedrock topography closely mimics the surface topography. In the central and eastern portions of the county the bedrock surface has been eroded by glacial ice, resulting in some muting of the topography. Although the surface topography may have gentle slopes, the bedrock surface in the same area may be deeply incised and have steep slopes. The blanket of glacial drift obscures surface expression of bedrock topographic features, such as the deep bedrock valley south of Mount Carroll. Prior to glaciation this valley may have drained much of the central part of the county. During glaciation the valley was at least partially filled with glacial outwash and till and now only has a minor surface expression.

This map was created to assist in determining of the thickness of Quaternary deposits. The difference between the bedrock elevation and surface elevation is the thickness of the unconsolidated Quaternary deposits. See "Thickness of Quaternary Deposits of Carroll County, Illinois" by C. McGarry (ISGS OFS 1997- 13c) for more details.

Data used to create this map were compiled from ISGS well logs, Illinois Department of Transportation borings, United States Department of Agriculture soil survey maps, United States Geological Survey topographic quadrangle maps, field observations, and exploratory drilling conducted specifically for the Carroll County project. See "Locations of Data Points of Carroll County, Illinois" by C. McGarry (ISGS OFS 1997-13h) for more details.

Shaded Relief of the Bedrock Surface of Carroll County, Illinois
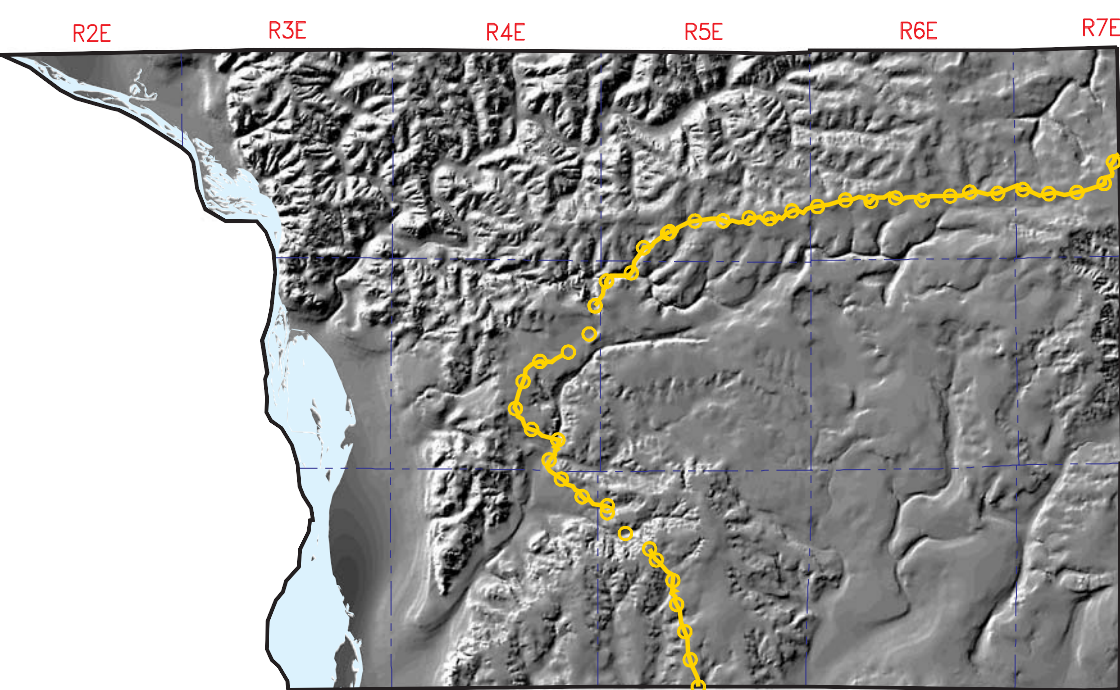
Scale 1:350,000

The difference between maximum and minimum elevation is relief. Relief does not indicate an absolute elevation, but rather the local variation in elevation. The shaded relief map depicts an artificially illuminated bedrock surface. For this map, the simulated light source used to shade the surface is from an azimuth of 315 degrees (northwest) and an inclination of 45 degrees, similar to summer afternoon sunlight. Shades of gray are used to show the orientation and local variation in topography. Northwest facing slopes (toward the illumination source) are depicted with a lighter gray than those facing southeast (away from the illumination source). Steep slopes are depicted as white or black. Landform shading may also be influenced by the shadows of nearby landforms of higher elevation. This is how the bedrock surface would appear if all unconsolidated Quaternary deposits were removed. The more rugged bedrock topography of the unglaciated northern and western portions of the county contrast dramatically with the flat, glaciated area in the southern an eastern part of the county.

This map was prepared by the Illinois State Geological Survey, in cooperation with the Illinois Department of Commerce and Community Affairs and the Carroll County Board. It is part of a suite of maps created to assist county officials in addressing geologic questions concerning capable sites for landfill development. Maps produced for this study are intended for regional land use planning purposes. More detailed mapping is needed for site specific considerations. This map has been reviewed for scientific accuracy and has been edited to meet the quality standards of maps in the ISGS Map Series.

Shannon

Lanark

Mt. Carroll

Savanna

Chadwick

Milledgeville

Thomson

Scale 1:62,500

1 inch equals approximately 1 mile

Lambert Conformal Conic Projection

R2E R3E R4E R5E R6E R7E

T25N T24N T23N