

Illinois State Geological Survey  
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# Shaded Relief of Lee County, Illinois

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1999

State of Illinois  
Department of Natural Resources

### Explanation

Relief is defined as the difference between the maximum and minimum elevations in surface topography within a geographic area. It does not depict absolute elevation; instead, relief represents the local variation in elevation. A shaded relief map depicts an artificially illuminated topographic surface. For this map, the simulated light source used to shade the surface was positioned at an azimuth of 315 degrees (northwest) and an inclination of 45 degrees. Lower elevations are shaded green and higher elevations are shaded red. Northwest facing slopes (toward the illumination source) of the same elevation are depicted with a lighter shade than slopes facing southeast, away from the illumination source. Lower slopes are represented with gradual color changes and steeper slopes with abrupt color changes. Landform shading may also be influenced by the shadows of nearby landforms of higher elevation.

Although a shaded relief map does not depict absolute elevation, the variation in elevation can be used to more easily identify and interpret landforms. Several landforms are readily identifiable from the *Shaded Relief of Lee County*:

- Green River Lowland.** The Green River Lowland is a low lying, poorly-drained outwash plain containing sand ridges and dunes (Leighton et al., 1948) trending east-west through the middle portion of Lee County along the Green River (Inset A). The lowland becomes very broad in the western portion of Lee County where the lowest land surface elevations in the county are found (less than 650 feet above mean sea level or MSL).
- Bloomington Moraine** One of the most prominent topographic features in Lee County is the broad moranic ridge of the Bloomington Moraine which extends along the southern and eastern edge of the county (Inset B). The Bloomington moraine consists of thick glacial till with the crest having an approximate elevation of 900 to 950 feet above MSL.
- Temperance Hill.** Located slightly north of the center of Lee County is an east-west trending ridge with elevations of greater 850 feet above MSL (Inset B). This ridge, called Temperance Hill, is the remnant of an Illinoian age moraine (Berg, et al., 1985).
- Drainage Pattern.** The local relief in the northwest portion of the map accentuates a pattern of dendritic drainage. Dendritic drainage typically forms in areas of uniformly resistant, gently sloping near-surface bedrock (Ritter, 1966).

The northwestern and north-central portion of the county lie within the Rock River Hill Country (Inset A). This area is typically underlain by a thin veneer of glacial drift overlying bedrock. Consequently, the topography of the Rock River Hill Country is determined primarily by the bedrock surface (Leighton et al., 1948).

This map was compiled from Digital Raster Graphic (DRG) files of 7.5-minute topographic quadrangles from the United States Geological Survey. The information shown on this map was used to create additional maps depicting shaded relief, drift thickness and bedrock surface topography.

### Acknowledgments

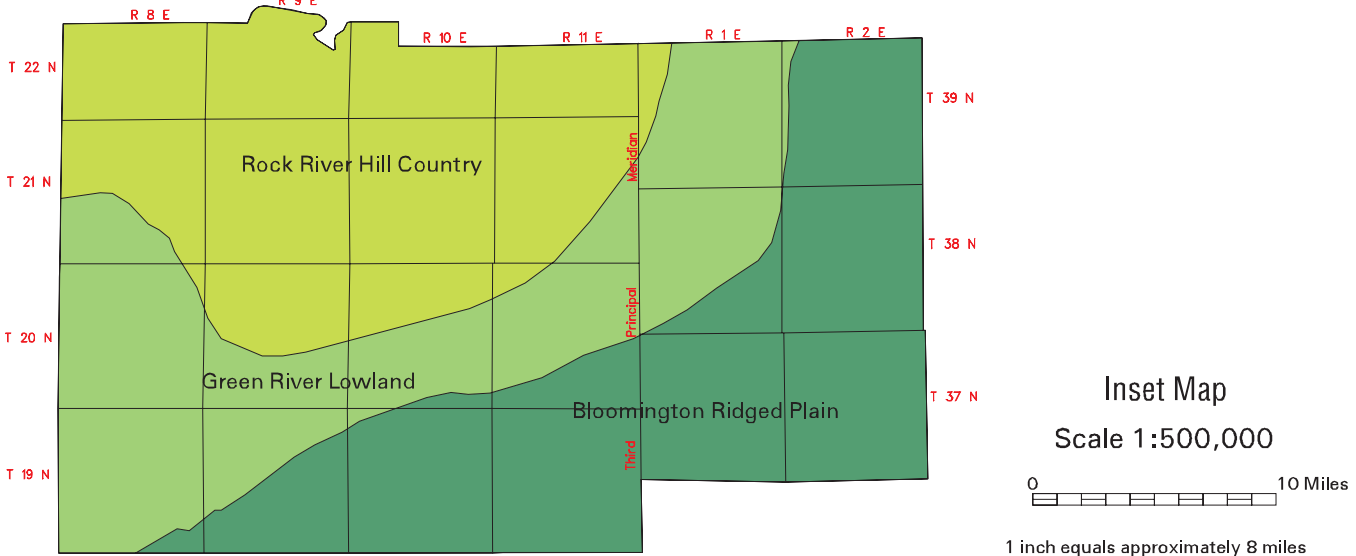
Digital data for this map were compiled by Christopher Blakley, Christopher C. Goldsmith, and Joseph Schoen. Robert J. Kumm was the principal investigator for this project. Digital cartography by Matthew H. Riggs.

### References

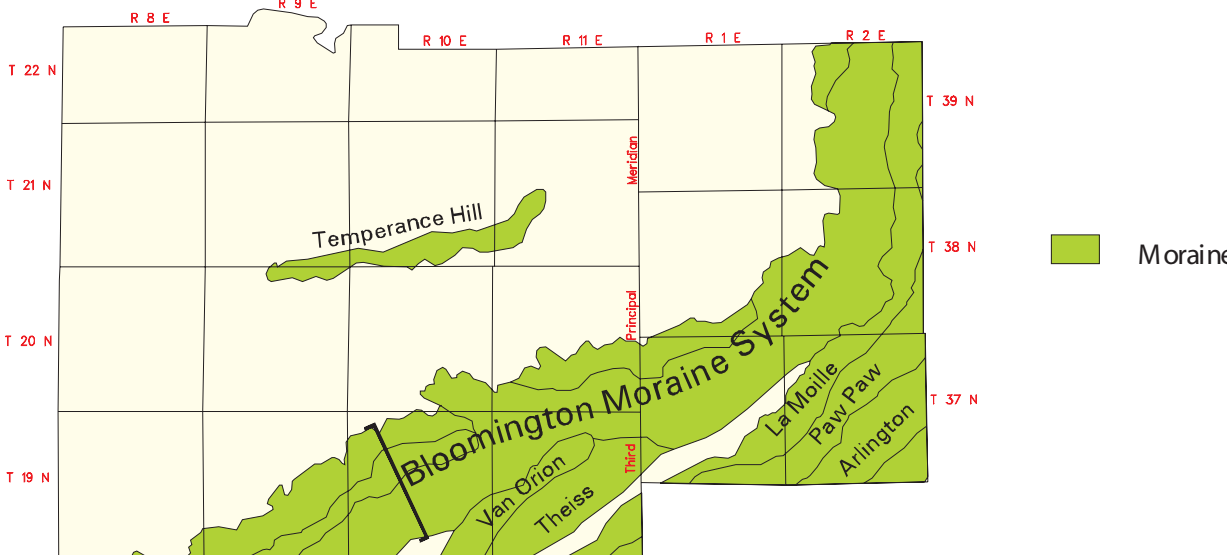
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Leighton, M.M., G.E. Ekblaw, and C.L. Horberg, 1948, Physiographic Divisions of Illinois, Illinois State Geological Survey Report of Investigations 129, 33p.  
Ritter, D.F., 1986, Process Geomorphology, William C. Brown Publishers. pp. 155.

- Municipality
- Surface Water
- US Highway
- State Highway
- Interstate Highway
- Other Roads
- Railroad
- Streams

**Inset A. Physiographic Divisions of Lee County, Illinois**  
modified from Leighton et al., (1948)



**Inset B. Glacial Moraines of Lee County, Illinois**  
modified from Willman and Frye, (1970)



This map was prepared by the Illinois State Geological Survey, in cooperation with the Illinois Department of Commerce and Community Affairs and the Lee County Board. It is part of a suite of maps created to assist local government 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.

