

# SHADED RELIEF MAP OF TAZEWELL COUNTY, ILLINOIS

Patrick D. Johnstone and Christopher S. McGarry

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Relief is the difference between maximum and minimum elevation in surface topography. Relief does not indicate absolute elevations, but rather local variations in elevation. A shaded relief map depicts an artificially illuminated topographic surface, and is an effective way to display a landscape.

For this map, a topographic surface was created from data compiled for the map "Surface Topography of Tazewell County, Illinois" (ISGS OFS-2003-0g). Topographic data were collected from U.S. Geological Survey's Digital Line Graph and Digital Raster Graph files. A vertical exaggeration of 10 times was applied to increase the contrast and make landforms easier to identify. The simulated light source used to shade the surface was positioned at azimuth 315 (northwest) at an inclination of 45 degrees above the horizon. Northwest-facing slopes are depicted with a lighter shade, while those facing southwest appear darker. Higher contrasts indicate steeper slopes. A color mask was applied to show elevation, with higher elevations represented by red and the lowest areas represented by the darkest shades of green.

A shaded relief map creates an optical illusion in which topographic features illuminated from "above" appear to stand out from the page, while features in shadow appear to shrink away. This causes the map reader's eyes to see the topography as if it were a 3-dimensional surface. The landscape is more recognizable and landforms more easily interpreted with this type of map than with other topographic representations.

The landscape of Tazewell County includes several major features that are readily identifiable from this shaded relief map:

**A** The wide, flat, low-lying floodplain of the Illinois River makes up the western edge of the county.

**B** The eastern part of the county is dominated by the relatively low relief of the Wisconsinan tillplain. Here the most recent glaciers eroded the pre-glacial surface and deposited a thick layer of sediments.

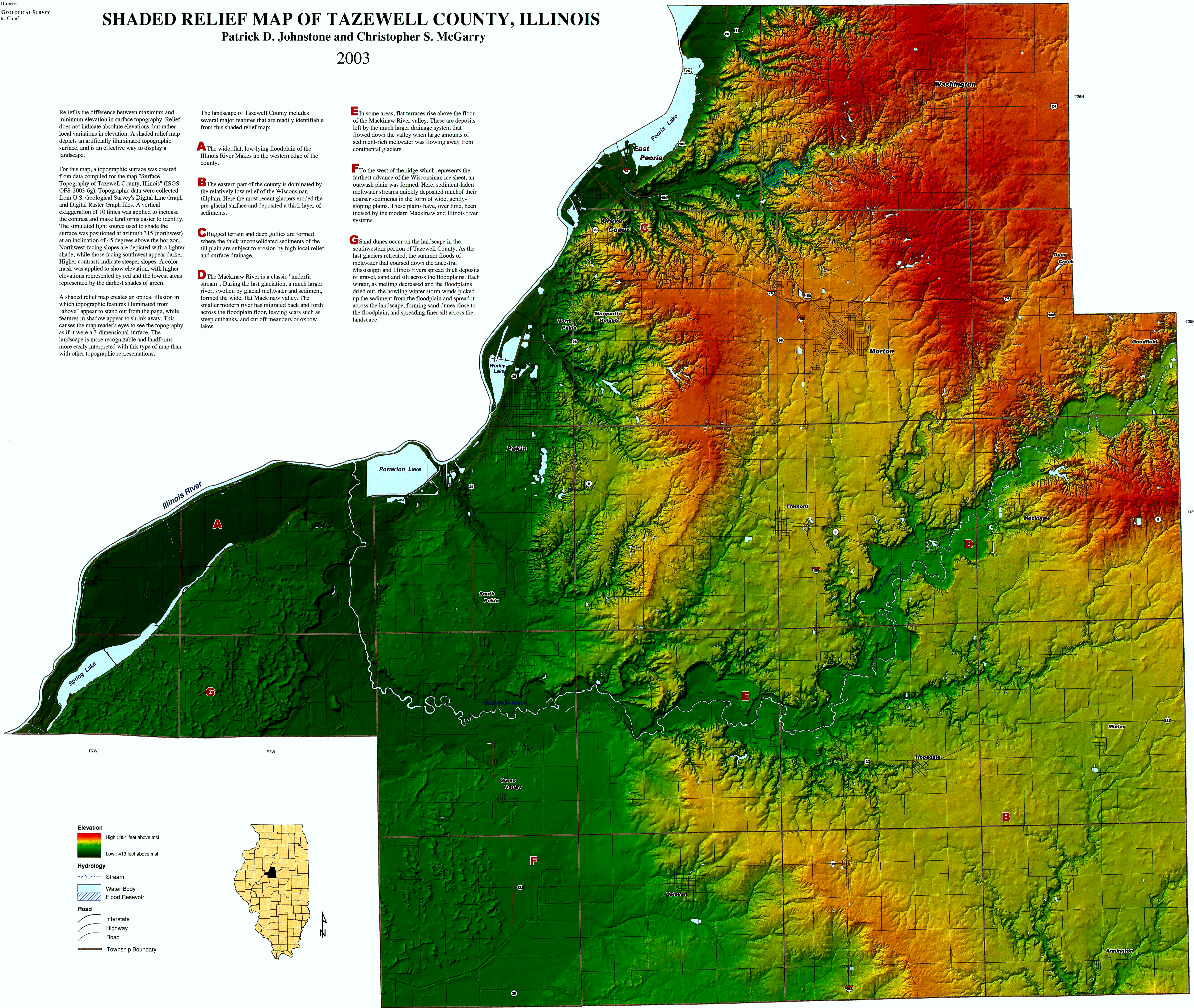
**C** Rugged terrain and deep gullies are formed where the thick unconsolidated sediments of the till plain are subject to erosion by high local relief and surface drainage.

**D** The Mackinaw River is a classic "underfit stream". During the last glaciation, a much larger river, swollen by glacial meltwater and sediment, formed the wide, flat Mackinaw valley. The smaller modern river has migrated back and forth across the floodplain floor, leaving scars such as steep cutbanks, and cut off meanders or oxbow lakes.

**E** In some areas, flat terraces rise above the floor of the Mackinaw River valley. These are deposits left by the much larger drainage system that flowed down the valley when large amounts of sediment-rich meltwater was flowing away from continental glaciers.

**F** To the west of the ridge which represents the farthest advance of the Wisconsinan ice sheet, an outwash plain was formed. Here, sediment-laden meltwater streams quickly deposited much of their coarser sediments in the form of wide, gently-sloping plains. These plains have, over time, been incised by the modern Mackinaw and Illinois river systems.

**G** Sand dunes occur on the landscape in the southwestern portion of Tazewell County. As the last glaciers retreated, the summer floods of meltwater that coursed down the ancestral Mississippi and Illinois rivers spread thick deposits of gravel, sand and silt across the floodplains. Each winter, as melting decreased and the floodplains dried out, the howling winter storm winds picked up the sediment from the floodplain and spread it across the landscape, forming sand dunes close to the floodplain, and spreading finer silt across the landscape.



R7W R6W

**Elevation**  
 High : 851 feet above msl  
 Low : 413 feet above msl

**Hydrology**  
 Stream  
 Water Body  
 Flood Reservoir

**Road**  
 Interstate  
 Highway  
 Road  
 Township Boundary



FOR ADDITIONAL INFORMATION CONTACT:  
 Illinois State Geological Survey  
 Natural Resources Building  
 615 East Peabody Drive  
 Champaign, Illinois 61820  
 (217) 333-4747  
<http://www.isgs.uiuc.edu>  
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1:62,500  
 (1 inch equals approximately 1 mile)  
 1 0 1 2 3 4 Miles  
 1 0 1 2 3 4 5 Kilometers  
 Lambert Conformal Conic Projection

This document has been carefully reviewed and edited and meets the scientific/technical standards of the Illinois State Geological Survey. It is suited to the purposes and uses intended by its authors and presents reasonable interpretations of the elevation of the area described based on the data then available. The interpretations are based on data that may vary with respect to accuracy of geographic location, the type and quantity of data available at each location, and the scientific/technical qualifications of the data sources. This document is not meant to be enlarged. Enlarging the scale of a published map, by whatever means, does not increase the inherent accuracy of the information and the scientific interpretations it portrays.

This document provides a conceptual model of the area on which further work can be based. The large-scale (1:62,500-scale) map may be used to screen the region for potentially suitable sites for a variety of purposes, but use of this document for such screening does not eliminate the need for detailed studies to fully understand the topography of a specific site. The Illinois State Geological Survey, the Illinois Department of Natural Resources, and the State of Illinois make no guarantee, expressed or implied, regarding the correctness of the interpretations presented in this document and accept no liability for the consequences of decisions made by others on the basis of the information presented here.