

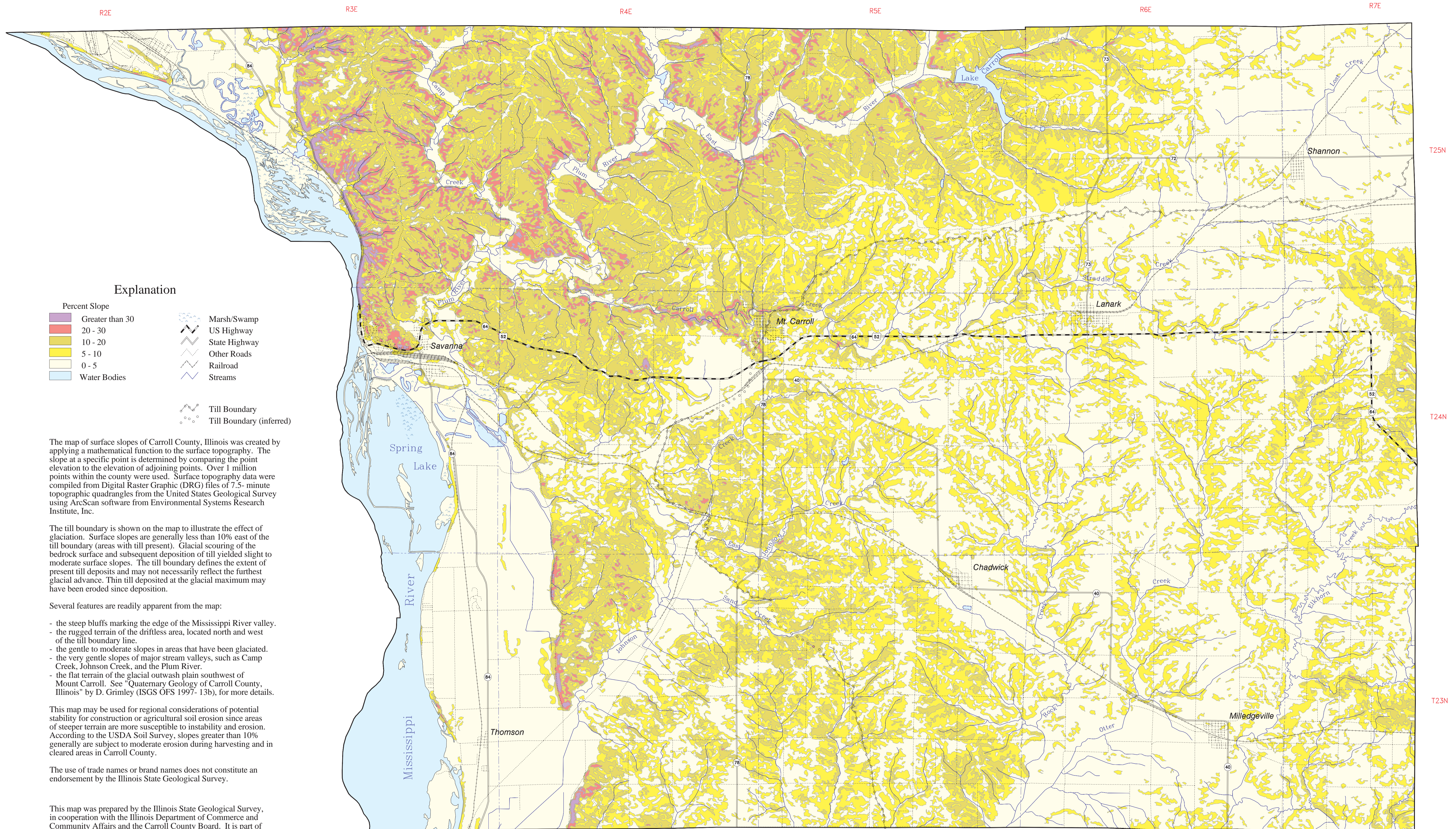
Illinois State Geological Survey
William W. Shiels, Chief
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Surface Slopes of Carroll County, Illinois

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1997

State of Illinois
Department of Natural Resources



Explanation

- | | |
|----------------------|--------------------------|
| Percent Slope | |
| Greater than 30 | Marsh/Swamp |
| 20 - 30 | US Highway |
| 10 - 20 | State Highway |
| 5 - 10 | Other Roads |
| 0 - 5 | Railroad |
| Water Bodies | Streams |
| | Till Boundary |
| | Till Boundary (inferred) |

The map of surface slopes of Carroll County, Illinois was created by applying a mathematical function to the surface topography. The slope at a specific point is determined by comparing the point elevation to the elevation of adjoining points. Over 1 million points within the county were used. Surface topography data were compiled from Digital Raster Graphic (DRG) files of 7.5-minute topographic quadrangles from the United States Geological Survey using ArcScan software from Environmental Systems Research Institute, Inc.

The till boundary is shown on the map to illustrate the effect of glaciation. Surface slopes are generally less than 10% east of the till boundary (areas with till present). Glacial scouring of the bedrock surface and subsequent deposition of till yielded slight to moderate surface slopes. The till boundary defines the extent of present till deposits and may not necessarily reflect the furthest glacial advance. Thin till deposited at the glacial maximum may have been eroded since deposition.

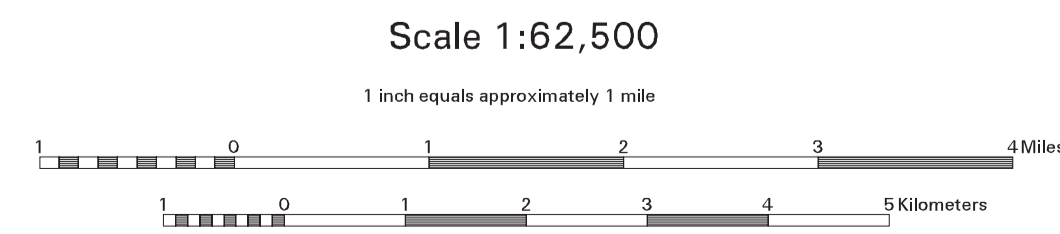
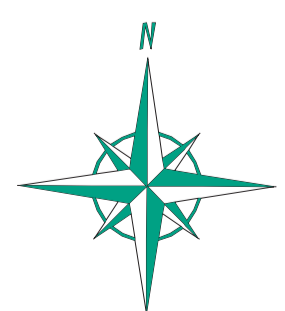
Several features are readily apparent from the map:

- the steep bluffs marking the edge of the Mississippi River valley.
- the rugged terrain of the driftless area, located north and west of the till boundary line.
- the gentle to moderate slopes in areas that have been glaciated.
- the very gentle slopes of major stream valleys, such as Camp Creek, Johnson Creek, and the Plum River.
- the flat terrain of the glacial outwash plain southwest of Mount Carroll. See "Quaternary Geology of Carroll County, Illinois" by D. Grimley (ISGS OFS 1997-13b), for more details.

This map may be used for regional considerations of potential stability for construction or agricultural soil erosion since areas of steeper terrain are more susceptible to instability and erosion. According to the USDA Soil Survey, slopes greater than 10% generally are subject to moderate erosion during harvesting and in cleared areas in Carroll County.

The use of trade names or brand names does not constitute an endorsement by the Illinois State Geological Survey.

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.



Lambert Conformal Conic Projection

