

SINKHOLE DISTRIBUTION AND DENSITY OF RENAULT QUADRANGLE MONROE COUNTY, ILLINOIS

Illinois Department of Natural Resources
ILLINOIS STATE GEOLOGICAL SURVEY
William W. Shilts, Chief

Illinois Geologic Quadrangle Map
IGQ Renault-SD

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2008

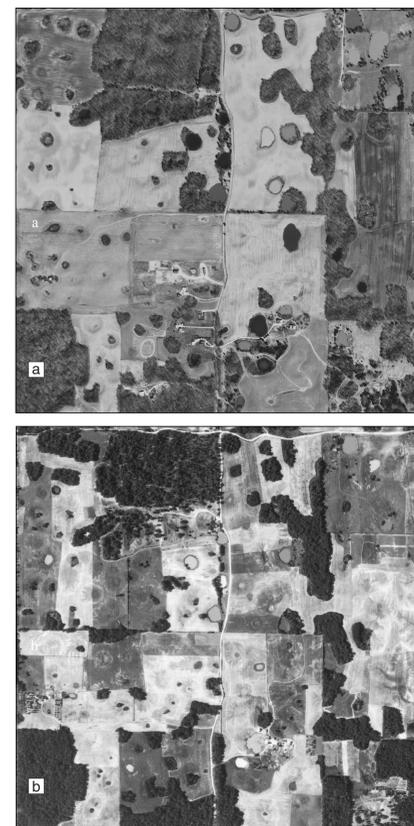
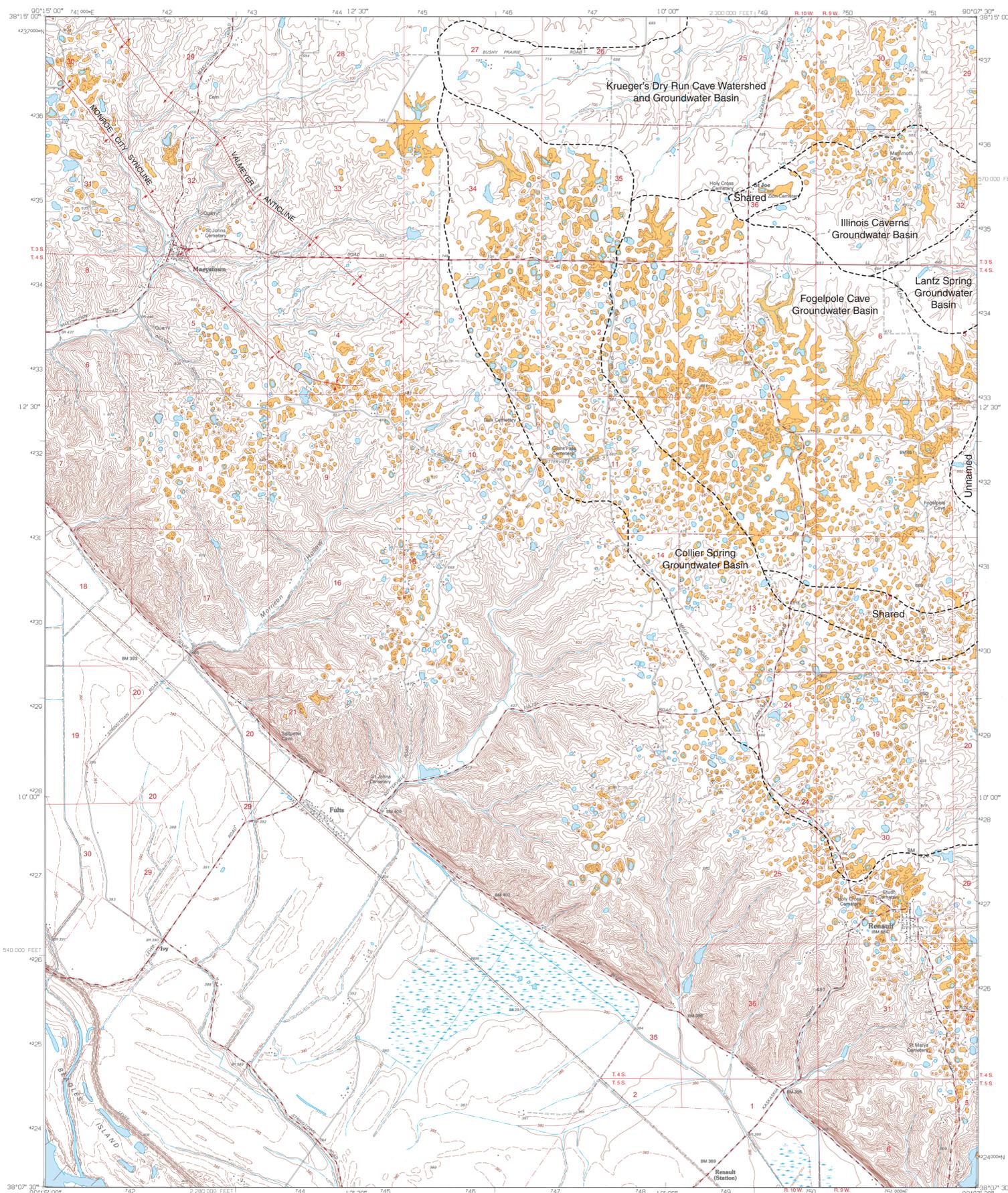


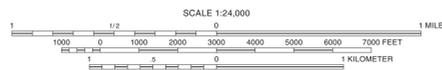
Figure 1 Aerial photographs of a particularly karstified section of the Renault Quadrangle, taken over half a century apart, show how agricultural activities have changed the terrain. Figure 1a is derived from a U.S. Geological Survey Digital Orthophoto Quarter Quadrangle (DOQQ) produced from aerial photography acquired on March 6, 2005, showing Section 2, T4S, R10W. Figure 1b is from a digitized U.S. Department of Agriculture aerial photograph taken on July 13, 1940, and illustrates the same one-square-mile area. Comparison of these two images reveals a number of changes that have occurred on the landscape during the 65-year interval. The 2005 image shows sinkholes that have been remediated using stand pipes and then later filled in to increase cropland area. It is interesting to note that because of the early, leaf-off acquisition date of the 2005 image, sinkholes can be discriminated within many of the wooded areas. In comparison, subtle, near-surface circular patterns diagnostic of sinkholes are quite apparent in the 1940 image in many of the agricultural fields on this image. Note how these distinctive patterns have largely been erased in the 2005 image because of decades of use with modern, large-scale farming equipment and further obscured by the widespread adoption of conservation tillage methods. Scale 1:12,000.

- Symbols**
- Sinkhole areas
 - Groundwater basin/watershed boundary
 - Anticline
 - Syncline

Base map compiled by Illinois State Geological Survey from digital data provided by the United States Geological Survey. Topography compiled from imagery dated 1968. Revised and updated from imagery dated 1993. PLS and survey control current as of 1970. Contours and elevations current as of 1968. Map edited 1996.

North American Datum of 1983 (NAD 83)
Projection: Transverse Mercator
10,000-foot ticks: Illinois State Plane Coordinate system, west zone (Transverse Mercator)
1,000-meter ticks: Universal Transverse Mercator grid system, zone 15

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BASE MAP CONTOUR INTERVAL 20 FEET
SUPPLEMENTARY CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

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Geology based on field work by S.V. Panno, J.C. Angel, D.O. Nelson, C.P. Weibel, and J.A. Devera, 2000.

Digital cartography by J. Domier, D. Nelson, S. Geegan, and S. Radil, Illinois State Geological Survey.

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4	5	
6	7	8

ADJOINING QUADRANGLES
1 Valmeyer
2 Waterloo
3 Paderborn
4 Selma
5 Ames
6 Danby, MO
7 Bloomdale
8 Prairie du Rocher



Primary highway, hard surface		Light-duty road, hard or improved surface	
Secondary highway, hard surface		Unimproved road	