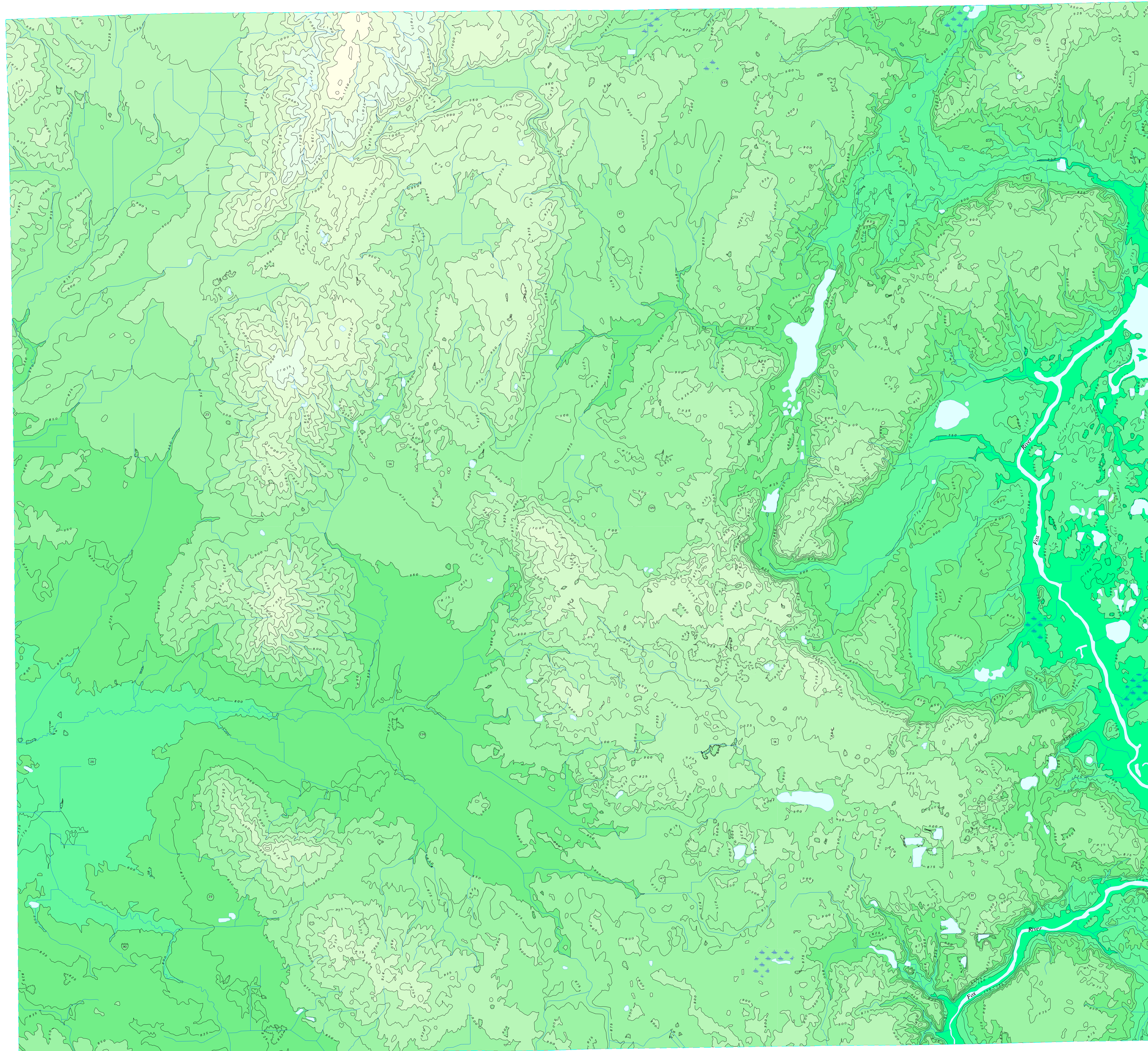
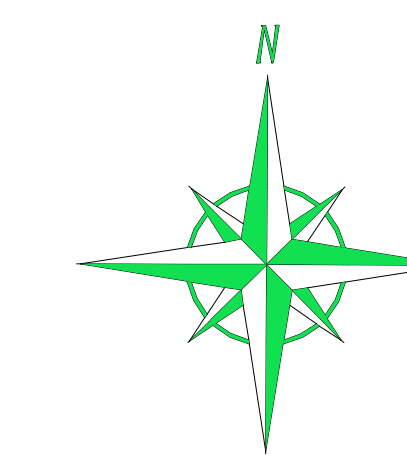
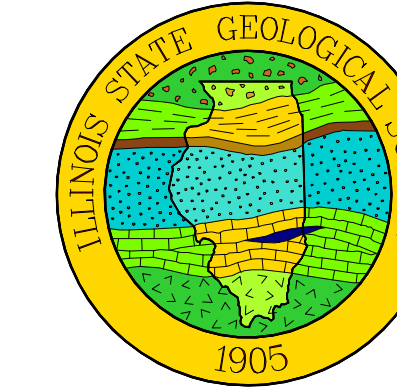


Surface Topography of McHenry County, Illinois

Compiled by
Melisa M. McLean, Maureen D. Kelly and Christopher S. McGarry
 1995



Contour interval 25 feet	••• Elevation above mean sea level
Greater than 1,150	— Contour line
1,100 - 1,150	- - - Township line
1,050 - 1,100	▬ Interstate highway
1,000 - 1,050	▬ U.S. highway
950 - 1,000	▬ State highway
900 - 950	▬ Other roads
850 - 900	▬ Railroad
800 - 850	▬ Streams
750 - 800	▬ Surface water
Less than 750	▬ Marsh or swamp
▬ Depression	

This surface topography map was produced by the Illinois State Geological Survey (ISGS) as part of a geologic mapping program in McHenry County, Illinois. Surface topography of the county was compiled in order to produce maps showing the thickness of Quaternary deposits in each 7.5-minute quadrangle encompassing the county. These maps are currently in production. In cooperation with the U.S. Geological Survey (USGS), digital topographic lines in USGS digital line graph (DLG) format were prepared for all the 7.5-minute quadrangles encompassing McHenry County. DLG files are available from the USGS National Digital Cartographic Database.

Surface Topography
 The surface topography of McHenry County, Illinois is shown on this map. Elevation of the ground surface ranges from more than 1,175 feet above mean sea level (msl) in the northwest central portion of the county to less than 725 feet above msl in the east central portion of the county. The most prominent features on the map are end moraines that formed near the western margin of the Laurentide Ice Sheet between about 25,000 to 17,000 years ago during the last glacial episode (Wisconsin). These end moraines represent ice margins of the Marquette, Livingston and Woodstock phases of advancement and readvancement of the Lake Michigan Lobe, a lobe of the ice sheet that flowed into Illinois from the Lake Michigan basin (Hansel and Johnson, 1992) (see inset map below).

Methodology
 Digital topographic lines for the 3 easternmost 7.5-minute quadrangles encompassing McHenry County were available in the ISGS database in geographic information system software format (Arc/Info). The USGS provided the ISGS with scanned images of the topographic lines for the remaining 12 quadrangles encompassing the county. Using Arc/Info, version 6.1, the linework was edited and elevation values were assigned to each line according to USGS digital line graph standards.

Because the USGS 7.5-minute topographic quadrangles were mapped at different contour intervals, contouring software, Interactive Surface Modeling, version 7.1 (Dynamic Graphics, Inc., 1991) was used to create a preliminary county-wide surface topography map. To produce a map that best represented the ground surface topography in the county, the preliminary contour lines were edited and errant polygons were eliminated.

Public Land Survey boundaries were digitized from USGS 7.5-minute quadrangle maps. Hydrography, roads and railways were obtained from USGS 1981 1:100,000 digital line graph data. Due to the Lambert conformal conic projection, the orientation of the map is slightly skewed. Public Land Survey lines in this part of the state do not run true north-south or east-west.

References Cited
 Dynamic Graphics, Inc., 1991. Interactive Surface Modeling User's Guide. Dynamic Graphics, Inc., Alameda, CA, 419 p.
 Hansel, A. K. and W. H. Johnson, 1992. Fluctuations of the Lake Michigan lobe during the late Wisconsin subepisode. Illinois State Geological Survey Reprint 1993-F. (Reprinted from *Sveriges Geologiska Undersokning, Series Ca 81*, pp. 133-144, 1992.)
 Willman, H. B. and J. C. Frye, 1970. Woodfordian Moraines of Illinois. Illinois State Geological Survey Bulletin 94, plate 1.

Acknowledgments
 Digital data for this map were compiled by Melisa M. McLean, Maureen D. Kelly, Christopher S. McGarry, Mary R. Greenpool, Mary J. Mushrush and Paul C. Jahn. This map is one of a series of maps prepared for the county through a program funded in part by the Illinois Department of Natural Resources, the McHenry County Board of Health and the U.S. Geological Survey.

Arc/Info is a trademark of Environmental Systems Research Institute, Inc. Interactive Surface Modeling is a trademark of Dynamic Graphics, Inc. The use of trade names does not constitute an endorsement of these products by the ISGS.

Late Wisconsin End Moraines in McHenry County, Illinois
 after Willman and Frye 1970 and Hansel and Johnson 1992

