The Quaternary sediment thickness map and bedrock topographic map shown here provide a regional overview and are intended to resemble their present configurations. As continental ice sheets receded and the Pleistocene ended, erosion and deposition of sediment (for example, the Mississippi River) were rerouted because their older drainage courses became blocked with glacial sediment. 

**Map of Quaternary Sediment Thickness**
Quaternary Sediment Thickness and Bedrock Topography of the Glaciated United States East of the Rocky Mountains

By
David R. Soller and Christopher P. Goehry
2016

**REFERENCES**


**SOURCE DATA AND METHODS**


Bathymetric data for Lake Michigan were derived from the U.S. Hydrographic Office Chart of the Oceans, http://www.gebco.net/data_and_products/gridded_bathymetry_data/gebco_30_second_grid/). Resolution of data both horizontally and vertically was improved by densifying, or increasing, the resolution of the digital elevation model (DEM). For example, the DEM used to create a 1:1,000,000 scale map of bedrock topography along the eastern United States was densified from 500 m (about 0.5 km) to 125 m (about 0.13 km) with the use of the TopoGrid tool in the ArcGIS software package (ESRI 2010). The result was a more detailed and accurate representation of the bedrock topography. The DEM used to create a 1:1,000,000 scale map of Quaternary sediment thickness along the eastern United States was densified from 500 m (about 0.5 km) to 125 m (about 0.13 km) with the use of the TopoGrid tool in the ArcGIS software package (ESRI 2010). The result was a more detailed and accurate representation of the Quaternary sediment thickness.

**LATERAL SURFACE TOPOGRAPHY AND BATHYMETRY**

The source data for this map were obtained from a wide variety of sources. The national land surface elevation data were obtained from the National Elevation Dataset (NED). These data were then merged with the arcsecond satellite-based Shuttle Radar Topography Mission (SRTM) data to improve coverage and resolution. The data were then subjected to a rigorous quality assurance (QA) protocol to ensure that the data met the Purdue University Science Data Center (DCC) QA standards. The result was a digital elevation model (DEM) that was used to create the map. The DEM was then used to create a map of lateral surface topography using the ArcGIS software package (ESRI 2010). The result was a more detailed and accurate representation of the lateral surface topography.

**MAP OF QUATERNARY SEDIMENT THICKNESS**

The source data for this map were obtained from a wide variety of sources. The national land surface elevation data were obtained from the National Elevation Dataset (NED). These data were then merged with the arcsecond satellite-based Shuttle Radar Topography Mission (SRTM) data to improve coverage and resolution. The data were then subjected to a rigorous quality assurance (QA) protocol to ensure that the data met the Purdue University Science Data Center (DCC) QA standards. The result was a digital elevation model (DEM) that was used to create the map. The DEM was then used to create a map of Quaternary sediment thickness using the ArcGIS software package (ESRI 2010). The result was a more detailed and accurate representation of the Quaternary sediment thickness.

**REFERENCES**


**SOURCE DATA AND METHODS**


Bathymetric data for Lake Michigan were derived from the U.S. Hydrographic Office Chart of the Oceans, http://www.gebco.net/data_and_products/gridded_bathymetry_data/gebco_30_second_grid/). Resolution of data both horizontally and vertically was improved by densifying, or increasing, the resolution of the digital elevation model (DEM). For example, the DEM used to create a 1:1,000,000 scale map of bedrock topography along the eastern United States was densified from 500 m (about 0.5 km) to 125 m (about 0.13 km) with the use of the TopoGrid tool in the ArcGIS software package (ESRI 2010). The result was a more detailed and accurate representation of the bedrock topography. The DEM used to create a 1:1,000,000 scale map of Quaternary sediment thickness along the eastern United States was densified from 500 m (about 0.5 km) to 125 m (about 0.13 km) with the use of the TopoGrid tool in the ArcGIS software package (ESRI 2010). The result was a more detailed and accurate representation of the Quaternary sediment thickness.