Introduction

This drift thickness map depicts the location of biology-governed drift thickness values, and contains three data at 25-foot contour intervals. Drift is the surficial material of Quaternary age (approximately 2.6 million to less than 100,000 years old) that includes primarily unconsolidated deposits of glacial origin. These deposits include sand, silt, and clay loam and loam deposits, gravel, and till. Drift thickness is determined by subtracting the bedrock surface elevations from ground surface elevations. There are 407 data points in the Naperville Quadrangle (Fineberg and Curry 2013). The locations of these data points (each verified by a state survey scientist or qualified engineer) were interpolated from a DEM derived from the Du Page County LiDAR using ArcGIS (Inverse Distance Weighted) tool in ArcMap. The grid was contoured at 25-foot intervals on the final thickness map and then smoothed to create the final map.

Data

Bedrock Elevations

Mean sea level (MSL) elevations of the bedrock surface were interpolated from exhaustive stream cross sections (Heigold 1990), logs of water well drillers, engineering test borings (e.g., Landmark and Kompton 1971), and descources of Illinois State Geological Survey, Illinois Geological Quadrangle Map, Du Page County, Illinois: Illinois State Geological Survey, Environmental Geology 136, p. 43–49.

Surface Elevations

The locations of contours of near-surface, engineering borings, stratigraphic, and geomorphic evidence of Late Wisconsinan glacial deposits was used by airport geophysical exploration and USGS. The location and elevation of the stream channel was determined from a topographic map by Heigold (1998).

Mapping Methodology

The drift thickness map was made using ArcGIS 9.3 software. The drift thickness was determined by subtracting the bedrock surface elevations from ground surface elevations. There are 407 data points in the Naperville Quadrangle (Fineberg and Curry 2013). The drilling drift is determined by performing two sets of linear regressions (Inverse Distance Weighted) and then smoothing to create the final map. The drill cores were performed in the northern Illinois region of the Illinois State Geological Survey, Environmental Geology 136, p. 43–49.

Acknowledgments

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References

