

Location of cross-section traverses. End moraines, a significant topographic feature on the cross sections, are shown for reference. Moraines are from a smaller scale map by Willman and Frye (1970).

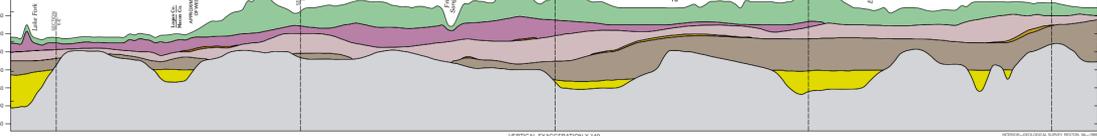
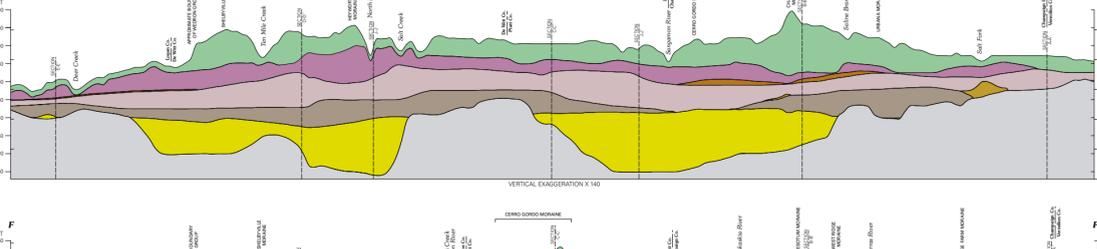
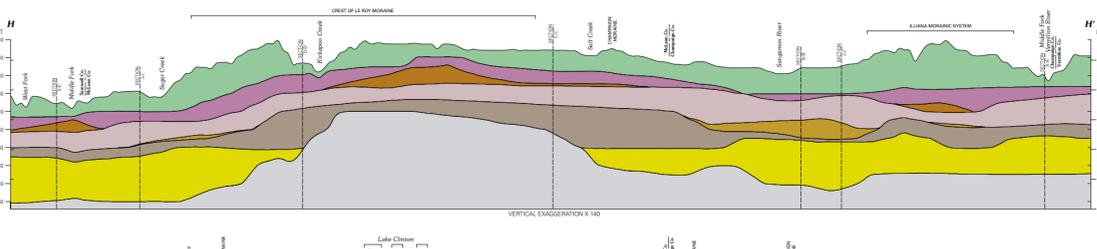
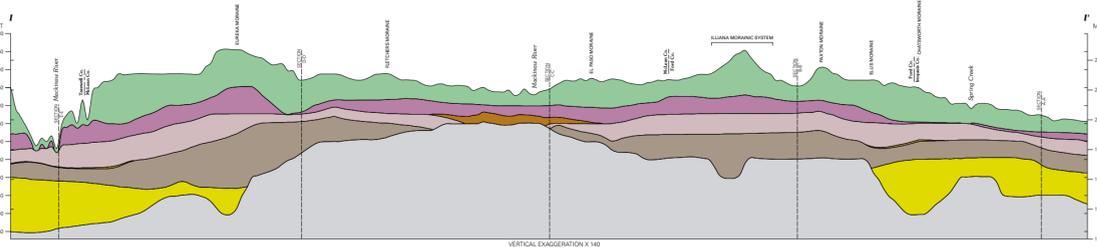
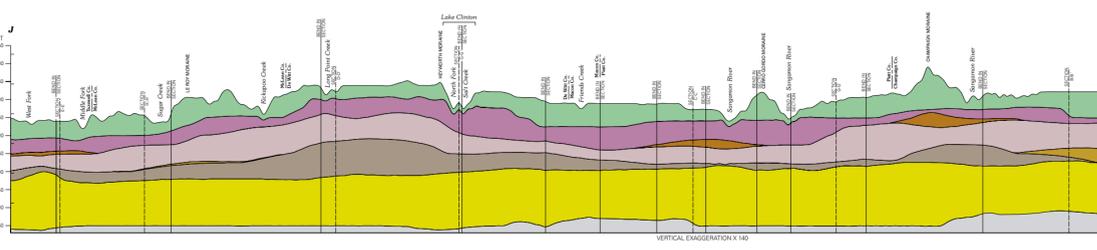
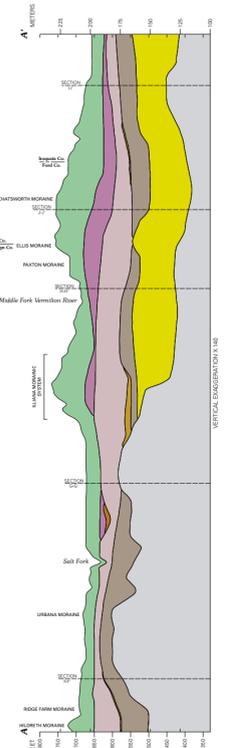
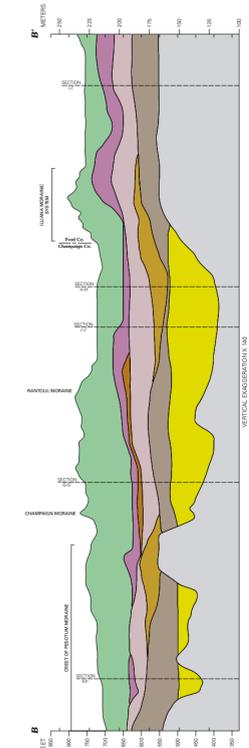
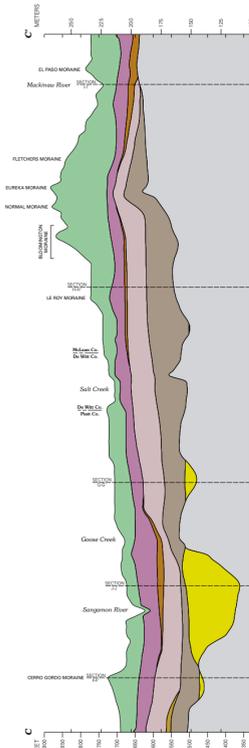
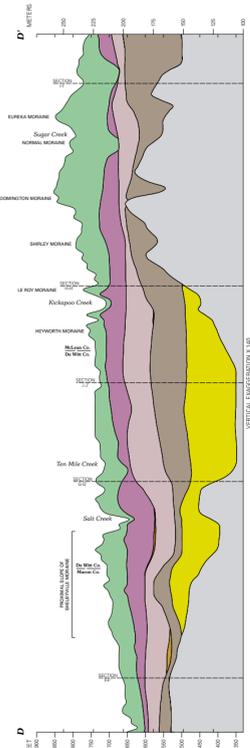
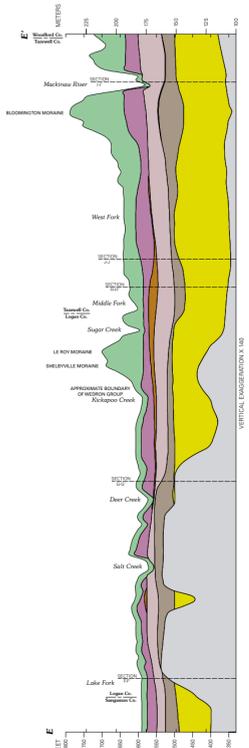


Figure 17—Cross sections along nine straight-line traverses and along one traverse (section J-J') that follows the Mahomet Bedrock Valley (along the thalweg in the valley axis, connecting the deepest points along the valley). Cross sections were compiled from the three-dimensional model of stratigraphic units based on the elevation maps shown in figure 14 (sheet 2). Difficulties were encountered in mapping the stratigraphic unit comprising the Weldon and Mason Groups and Cahokia Formation, especially in the southwestern part of the study area, where these sediments are thin or absent. To integrate this unit with the upper Glasford Formation, which is in places exposed, required assigning the Weldon and Mason Groups and Cahokia Formation a minimum thickness of 15 ft (see discussion on sheet 1 under "An internally consistent geologic model and set of maps," fourth paragraph). This permitted a smooth integration of the Weldon and Mason Group surface with the upper Glasford Formation surface across the area. The assumption of a minimum thickness also affects areas where modern streams have incised Glasford Formation and older deposits; there, the top of the older deposits in these valleys has been effectively lowered by 15 ft, providing a minimum 15-foot thickness of Cahokia Formation allium in the riverbeds. The presence of Cahokia Formation allium is reasonable and is generally supported by field observations. However, as a consequence of the assumed minimum 15-foot thickness, thin surficial deposits also are shown along valley margins where they may not actually occur; in such places, modern erosion has locally exposed upper Glasford Formation and older deposits.

- EXPLANATION OF STRATIGRAPHIC UNITS**
- Weldon and Mason Groups, including Cahokia Formation (Weldon and Mason Episodes). This unit is assigned a minimum thickness of 15 ft.
 - Upper Glasford Formation (Illinoian Episode)
 - Upper Glasford basal sand
 - Lower Glasford Formation (Illinoian Episode)
 - Lower Glasford basal sand
 - Upper Banner Formation (pre-Illinoian Episode)
 - Middle Banner Formation—mostly Mahomet Sand Member (pre-Illinoian Episode)
 - Bedrock (undifferentiated)

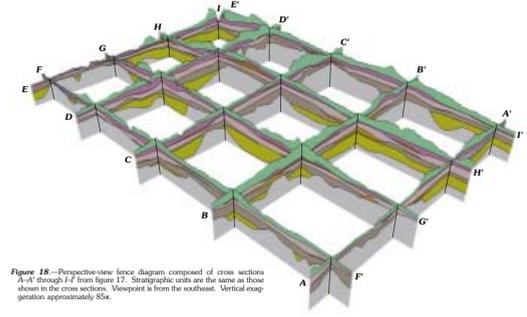


Figure 18—Perspective-view fence diagram composed of cross sections A-A' through J-J' from figure 17. Stratigraphic units are the same as those shown in the cross sections. Viewpoint is from the southwest. Vertical exaggeration approximately 55x.

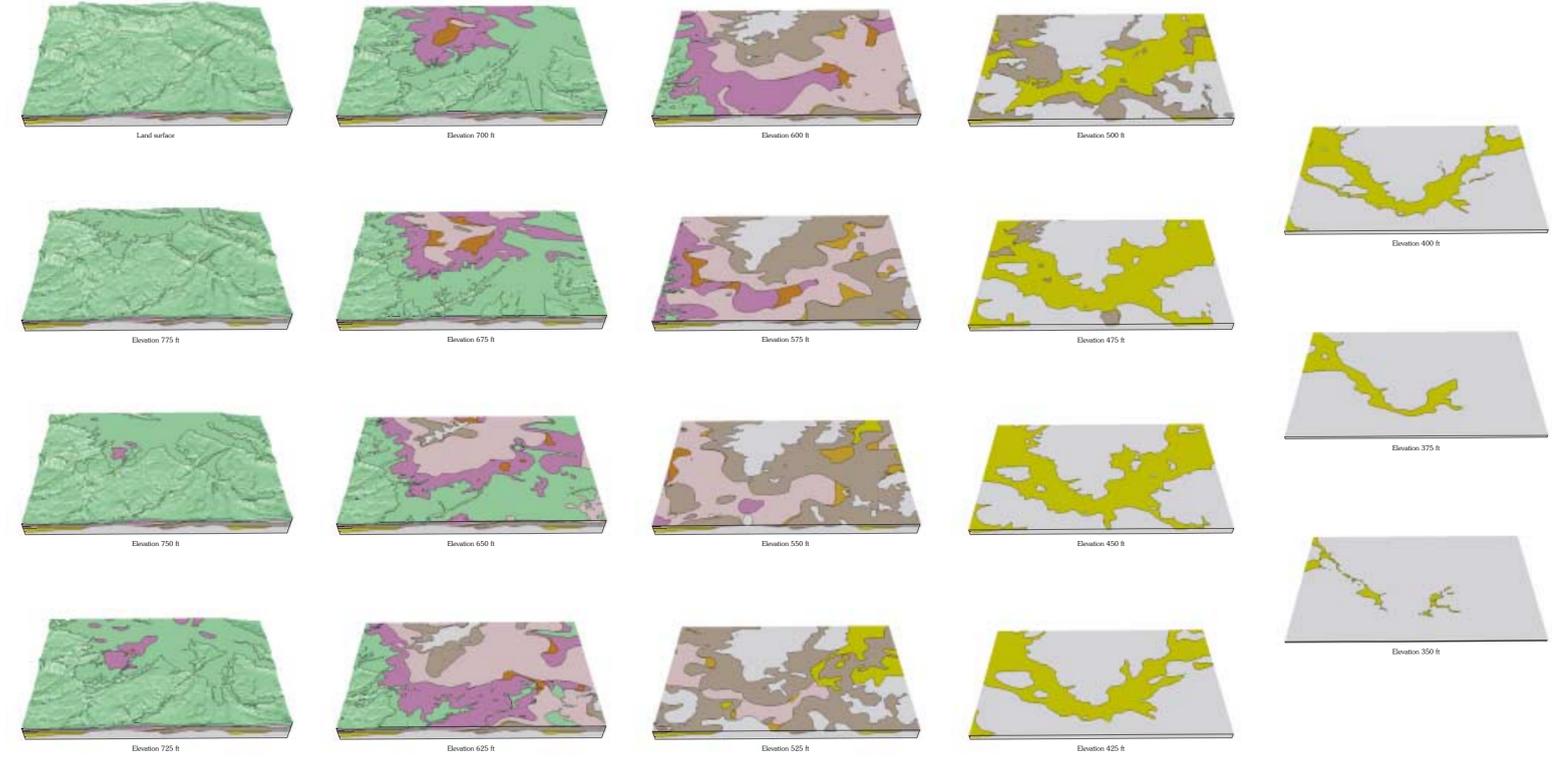


Figure 19—Horizontal "slices" through the geologic materials in the map area, showing the stratigraphic units encountered at different elevations above sea level. Viewpoint is from the south; vertical exaggeration is approximately 20x. Slices are shown from elevation 775 ft to 325 ft, in 25-foot increments. The upper left diagram shows the land surface, where elevations approach 950 ft; slices between 950 ft and 775 ft were omitted because they did not expose underlying units. Stratigraphic units are the same as those shown in the cross sections. Note in particular the gradual filling of the Mahomet Bedrock Valley, from pre-Illinoian time into the Wisconsin Episode.

THREE-DIMENSIONAL GEOLOGIC MAPS OF QUATERNARY SEDIMENTS IN EAST-CENTRAL ILLINOIS