Introduction

The Bethalto quadrangle has been the subject of numerous studies since its establishment in 1955. This study is part of the U.S. Geological Survey’s (USGS) National Map Program, which aims to provide high-quality, accurate, and timely data for the nation’s benefit. The Bethalto quadrangle, which lies in southeastern Illinois, encompasses a region of significant economic and environmental interest. The USGS provides map products and data for the Bethalto quadrangle to support various activities, including land use planning, environmental assessment, and engineering projects.

Regional Setting

The Bethalto quadrangle is located in the Illinois River Valley, a region that is characterized by its glacial history and the presence of various geologic formations. The quadrangle is underlain by glacial deposits, and the Illinois River, which flows through the area, has played a significant role in shaping the landscape.

Geologic Framework

The geology of the Bethalto quadrangle includes a variety of deposits, including glacial till, outwash, and glacial lake deposits. The Illinois Episode loess, which is a component of the Wisconsin Episode, is also present in the area. The loess deposits are typically silt loam but are altered to a heavy silt loam to silty clay loam in the upper 3 to 5 feet on slopes. Such alteration features, especially common in its upper few feet, help to distinguish the loess deposits from overlying Wisconsin Episode loess deposits. Additionally, the Cahokia Formation, which ranges in elevation from about 300 to 360 feet above sea level, is present in the southern part of the quadrangle.

Methods

The study of the Bethalto quadrangle involved the use of various geologic mapping techniques, including fieldwork, soil surveys, and the use of aerial photographs. The USGS also utilized existing data sources to construct a comprehensive geologic map of the area. This map was designed to be a valuable resource for engineers, planners, and other professionals working in the region.

Economic Resources

The Bethalto quadrangle is rich in economic resources, including minerals and water. The presence of bedrock units and surficial deposits in the area provides potential for mining activities. The map includes information on the distribution of these resources to support sustainability and development plans.

Environmental Hazards

The study also highlights environmental hazards, such as contaminated sites, which are important for developers and construction projects in the area. The USGS provides data on these hazards to help ensure the safe and sustainable development of the region.

Acknowledgments

This work was supported by the U.S. Department of the Interior, USGS, and the Illinois State Geological Survey. The authors would like to acknowledge the contributions of all those who have helped in the development of this map.