Introduction

The purpose of this study is to map the bedrock topography of Cayuga County, New York, by utilizing LiDAR elevation data and surficial geologic mapping. The goal is to provide a detailed map of the bedrock surface geometry, which can be used for various geological and environmental applications. This includes understanding the subsurface geology, locating potential groundwater sources, and identifying areas prone to landslides or other geologic hazards.

Methods

The LiDAR elevation data was collected using a helicopter-borne system. The data was then processed using a combination of photogrammetry and digital elevation model (DEM) methods. The LiDAR data was interpolated to create a high-resolution DEM, which was then used to create a contour map of the bedrock surface.

Results

The bedrock surface is characterized by a series of ridges and valleys. The ridges are typically associated with the outer margins of the ice sheets that once covered the area. The valleys are often associated with former river channels. The bedrock surface is generally flat in the central part of the county, but becomes more rugged near the edges.

Conclusions

The bedrock topography of Cayuga County is complex and varied. The results of this study can be used to better understand the subsurface geology of the area, which is important for various applications such as groundwater management, mineral exploration, and environmental planning.

References


Kozlowski, A.L., Bird, B.C., and Leone, J.R., 2018, Bedrock Topography of Seneca County, New York, New York State Museum, Map and Chart Series, No. 82.


