New York State Museum & Science Service
Dr. Jennifer Saunders, Director

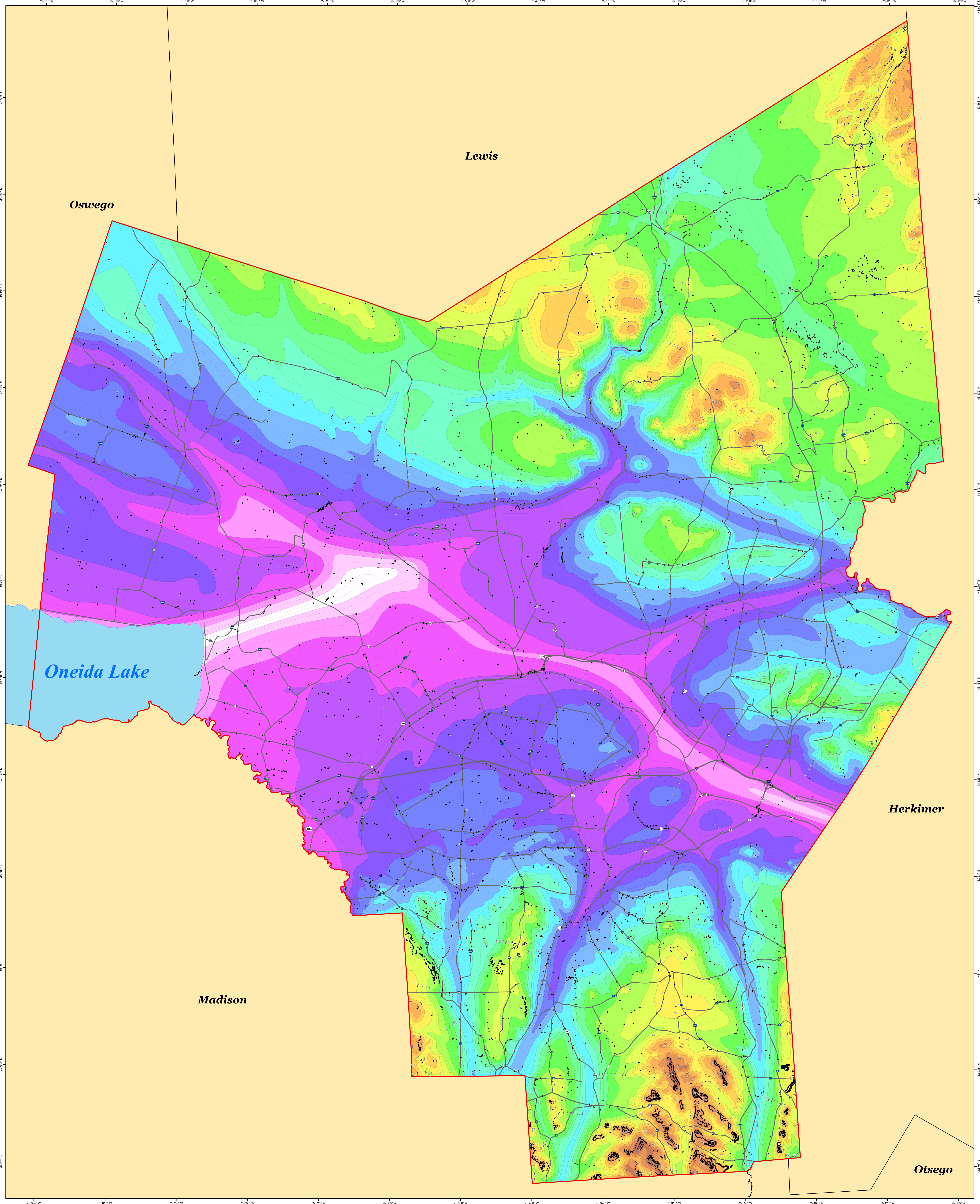
NYSGS NEW YORK State Museum

New York State Geological Survey
Dr. Andrew L. Kozlowski, Mapping Program Director

BEDROCK TOPOGRAPHY OF ONEIDA COUNTY, NEW YORK

Hailey M. Forgeng and Sean P. Grasing

2026



SCALE 1:100,000

Kilometers: 0, 2.5, 5, 10, 15, 20
Meters: 0, 10,000, 20,000
Miles: 0, 1, 2, 4, 6, 8
Feet: 0, 6,250, 12,500, 25,000, 37,500, 50,000

Digital Data and Cartography by H. Forgeng, S. Grasing and K. Backhaus, 2022-26

Universal Transverse Mercator, Zone 18 N North American Datum of 1983

Geographic and hydrography data obtained from the NYSGIS Clearinghouse:
(https://gis.ny.gov/)

NOTICE

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Introduction

Beginning in 2019, under the guidance and funding provided by the United States Geological Survey - Great Lakes Geological Mapping Coalition (award G20AC00418), the New York State Museum - Geological Survey began a statewide effort to conduct geologic mapping of bedrock elevations throughout New York. Oneida County, in the Mohawk Valley region of New York, is in the physiographic provinces of the Allegheny Plateau, Central Lowlands, Tug Hill Plateau, Black River Valley, Adirondack Uplands and Mohawk River Valley. The county is adjacent to Oswego, Lewis, Otsego, Madison, and Herkimer counties. Oneida County contains the eastern half of Oneida Lake within its border. Surficial and subsurface bedrock point data and maps were compiled from publicly available sources, vetted, and organized into a comprehensive geospatial database. A technical workflow was developed to categorize the overall geology and differentiate between the underlying bedrock and overlying unconsolidated sediments. The resulting bedrock elevation map provides a detailed representation of bedrock topography across Oneida County. This map is useful for various applications, including geological studies, engineering and construction, natural resource management (such as water or mineral resources), and environmental studies.

Methodology

A total of 5,482 bedrock control points were used to delineate bedrock topography in Oneida County. These points consisted of 2,750 water wells, 2,343 bedrock outcrops, 343 thruway engineering boreholes and 46 waterfall locations. These data were compiled from a variety of public sources and imported into ESRI's ArcMap 10.8 software platform. Ground surface elevations for all control points were extracted from a compilation of three separate digital elevation models (DEM) which were resampled to match a 1-meter LIDAR DEM cell size. Bedrock elevations were calculated at each location by subtracting the depth-to-bedrock from the ground surface elevation. 50-foot bedrock elevation contours were auto-generated and manually refined through a multi-step quality control process to resolve any interpolation errors. The finalized contours were converted into a 1-meter raster, using the "Topo to Raster" tool, that represents county-wide bedrock topography.

Explanation

- Data Point
- 50ft Bedrock Elevation Contour
- 100ft Bedrock Elevation Contour
- Highway
- Oneida County Line
- Adjacent County
- Water Body

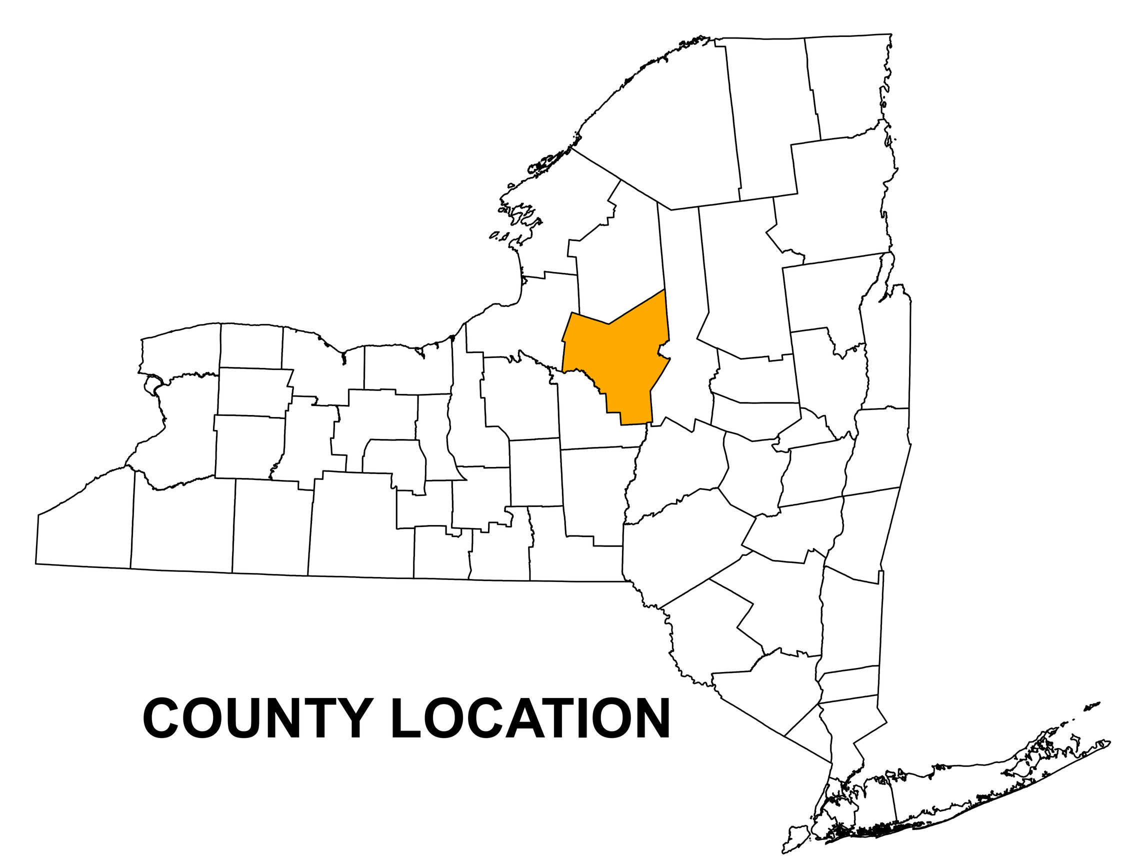
Bedrock Topography

Feet-amsl

- 0 - 100
- 100 - 200
- 200 - 300
- 300 - 400
- 400 - 500
- 500 - 600
- 600 - 700
- 700 - 800
- 800 - 900
- 900 - 1,000
- 1,000 - 1,100
- 1,100 - 1,200
- 1,200 - 1,300
- 1,300 - 1,400
- 1,400 - 1,500
- 1,500 - 1,600
- 1,600 - 1,700
- 1,700 - 1,800

Summary

The New York State Museum – Geological Survey has developed a detailed Bedrock Topography Map for Oneida County. This map represents a compilation of various surficial and subsurface bedrock data sources, analytical methods, and quality control procedures. The resulting bedrock elevations reveal a range of distinct geological features including a variety of Paleozoic bedrock erosional profiles, and evidence of past glaciation. These characteristics are likely the result of a variety of functions including bedrock stratigraphy, structural deformation, and erosional processes such as past glaciation and fluvial geomorphology. This map is significant for applications in geological research, engineering, natural resource management, and environmental studies. Continued research and work on subsurface geology will provide additional data and insight and enhance the geologic framework of bedrock geology throughout New York State.



COUNTY LOCATION

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