

# SURFICIAL GEOLOGY OF DUTCHESS COUNTY, NEW YORK

Donald H. Cadwell

Supported in part by the U.S Geological Survey's  
National Cooperative Geologic Mapping Program STATEMAP award G22AC00366  
1983-1995

## DESCRIPTION OF MAP UNITS

### Holocene

- Af**
- Artificial Fill (Af)**  
Surficial sediment composed of coarse/fine and or crushed rock anthropogenically transported and used for construction purposes.
- Ha**
- Stratified silt, sand and gravel (Ha)**  
Sorted and stratified silt, sand, and gravel, deposited by rivers and streams. May include cobbles and boulders. Inferred as post-glacial alluvium and includes modern channel, over-bank and fan deposits.
- Hw**
- Wetland Deposit (Hw)**  
Peat, muck, marl, silt, clay or sand deposited in association with wetland environments. Various sediments can be present at transitional boundaries from one facies to another.

### Pleistocene

- Plsc**
- Silt and Clay (Plsc)**  
Stratified, fine-grained sediment consisting of fine sand, silt and clay size particles. Inferred to be deposited in mid-shore to deepwater settings of glacial lakes. May include marl, rythmites, and varves.
- Ps**
- Stratified Sand (Ps)**  
Well-sorted and stratified sand, deposited by fluvial, lacustrine or eolian processes. Inferred as deposits associated with distal glacial environments.
- Psg**
- Stratified sand and gravel (Psg)**  
Well-sorted and stratified sand and gravel. May include cobbles and boulders. Inferred to be delta, fan or lag deposits in glacial channels or near former ice margins.
- Pics**
- Cobbles to Sand (Pics)**  
Stratified, ice contact deposits, variable coarse-grained sediment consisting of boulders to sand size particles. Inferred to be deposited along an ice margin. May include interbedded coarse lenses of gravel and clast-supported diamicton (flow till).
- Pd**
- Diamicton (Pd)**  
An admixture of unsorted sediment ranging from clay to boulders. Generally matrix-supported, massive and clast-rich.
- Pdcs**
- Diamicton (Pdcs)**  
An admixture of unsorted sediment ranging from clay to boulders. Generally clast-supported, massive and clast-rich.
- Pdor**
- Thin Diamicton over Rock (Pdor)**  
Predominantly matrix- or clast- supported diamicton that is less than 2 to 3 meters thick overlying bedrock. In some areas there may be bedrock outcrops but are very small and localized, otherwise surrounded by diamicton.

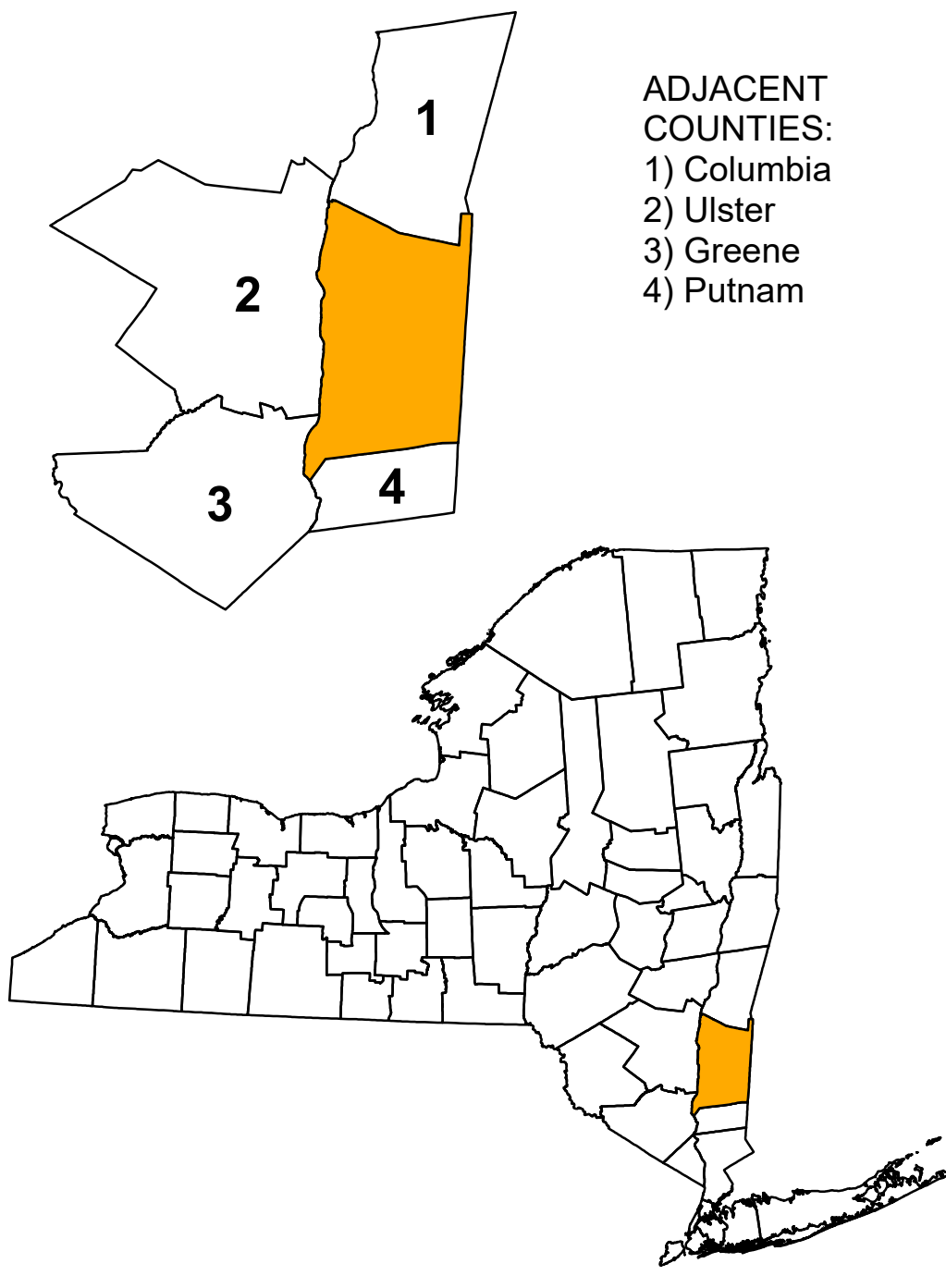
### Pre-Pleistocene

- Br**
- Bedrock (Br)**  
Non-glacially derived, hard rock, Paleozoic in age. May be covered up to a meter in diamicton, sand and gravel, or sand and clay in areas marked as Br.

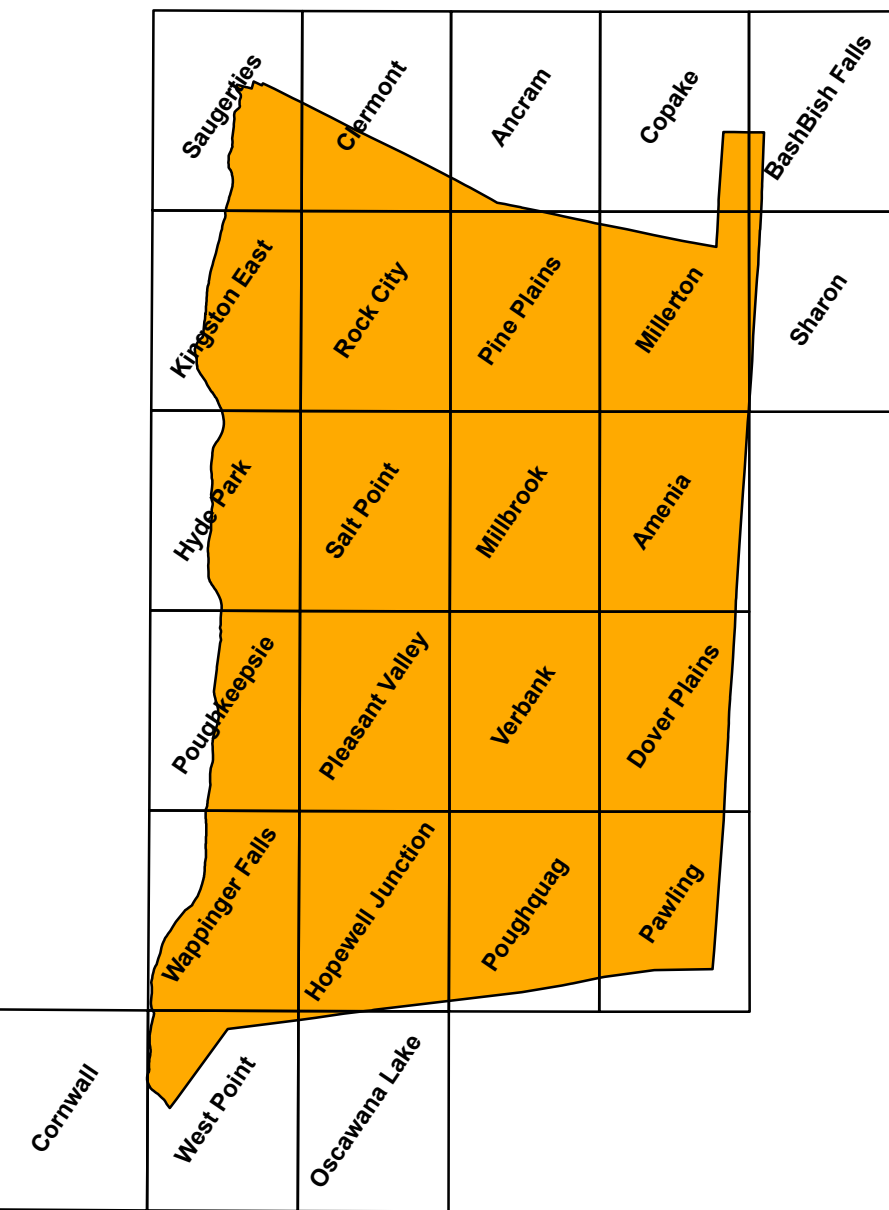
## GEOGRAPHIC SYMBOLS

- County, Federal or State Route
- Interstate
- Railroad
- Stream
- Water Body

## COUNTY LOCATION

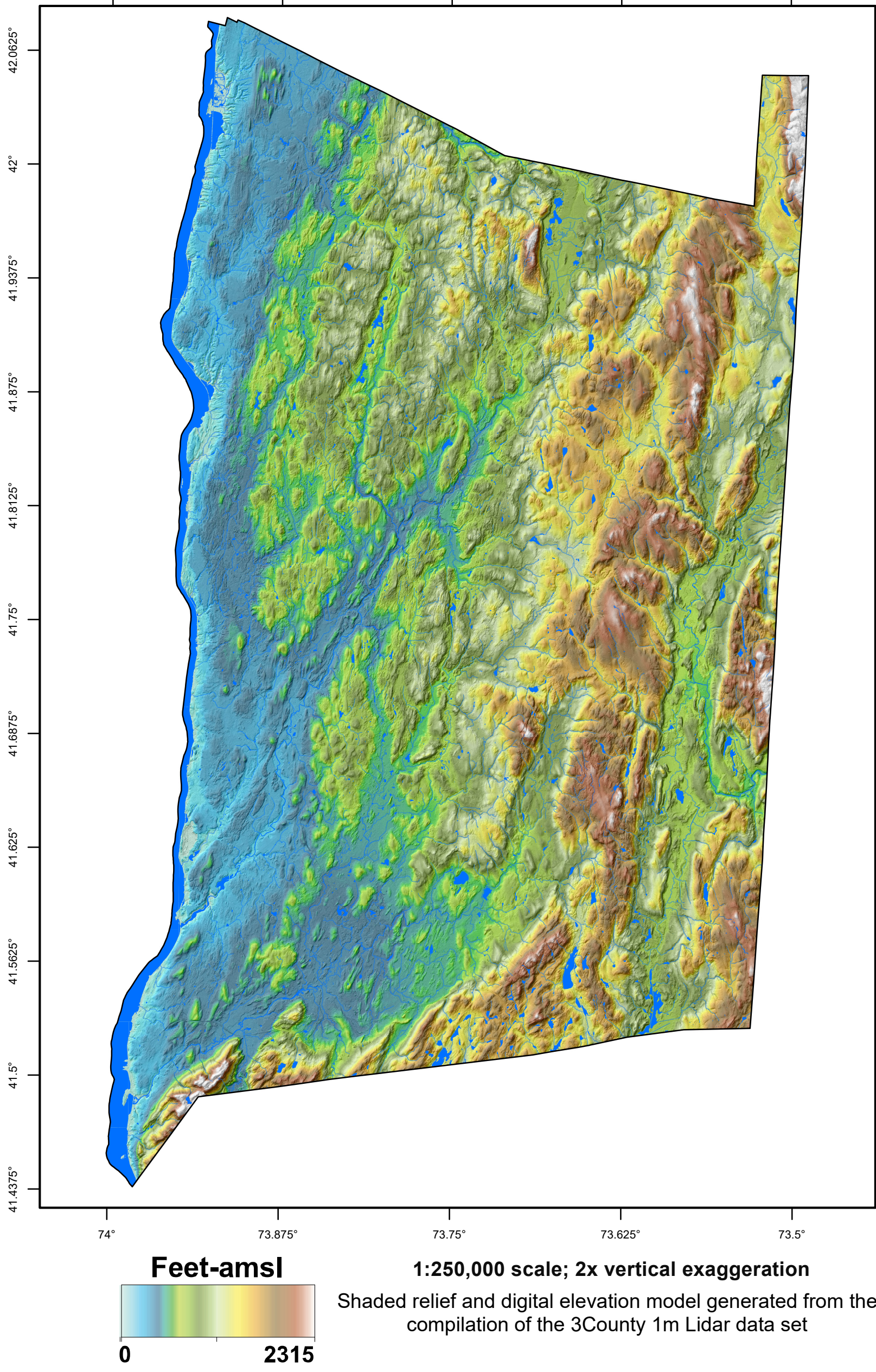


## QUADRANGLES WITHIN



USGS 7.5-Minute Quadrangles  
within Dutchess County, New York

## SHADED RELIEF and ELEVATION MAP



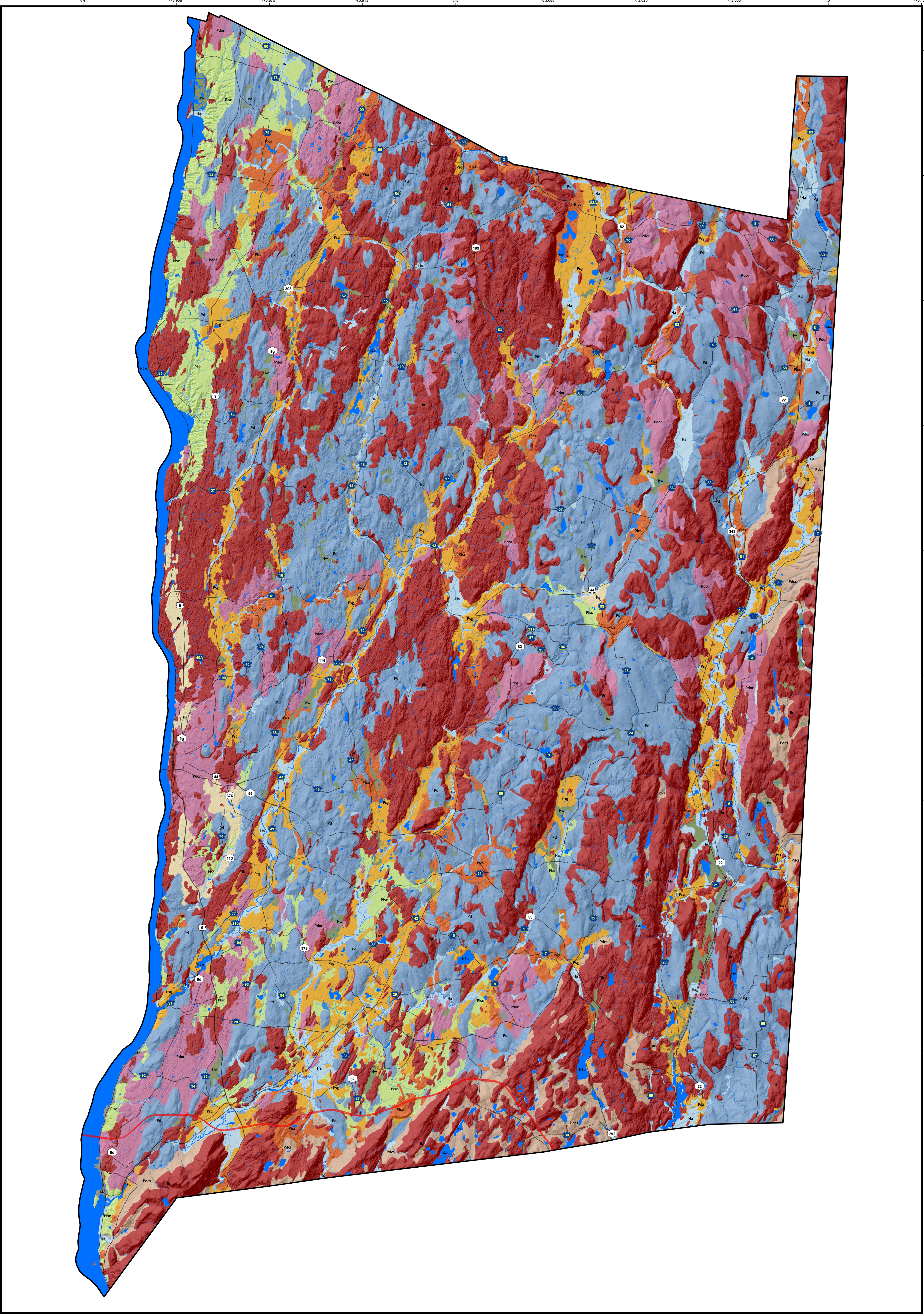
This map is a compilation of the surficial geologic mapping completed in the 1990's for the New York State Emergency Management Organization. Geology was mapped by Donald Cadwell. Cartography and digital data of the county wide product generated with contributions from Donald Cadwell, David Gerrard, Janet Marchese, and Karl Seckhaus.

The final product of this Columbia County surficial geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program. A award number G22AC00366 in the year 2023. Individual Quadrangles were also funded in part by the USGS National Cooperative Geologic Mapping Program.

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Donald H. Cadwell  
2023



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

Hydrology, and planimetry layers from the  
New York State DOT Raster Quadrangle datasets for Dutchess County  
(<https://gis.ny.gov/gisdata/inventories/member.cfm?OrganizationID=1103>)

Geographic data layers from 2019 TIGERLine  
datasets for transportation from the U.S. Census Bureau  
(<https://www.census.gov/geographies/index.php>)

Shaded relief from 3County 1m Lidar and  
hydrography data sets from the NYSGS Clearinghouse  
(<http://gis.ny.gov/elevation/index.cfm>)

Geologic mapping by D. Cadwell, 1983-1995  
Digital data and cartography, O. Gerhard and K. Seckhaus, 1995-99, 2023

SCALE 1:100,000

2 1 0 2 Kilometers 4 6 8  
2000 1000 0 2000 Meters 4000 6000 8000

2 1 0 2 Miles 4 6 8  
5000 2500 0 5000 10000 15000 20000 25000 30000 35000 40000 45000 50000  
Feet