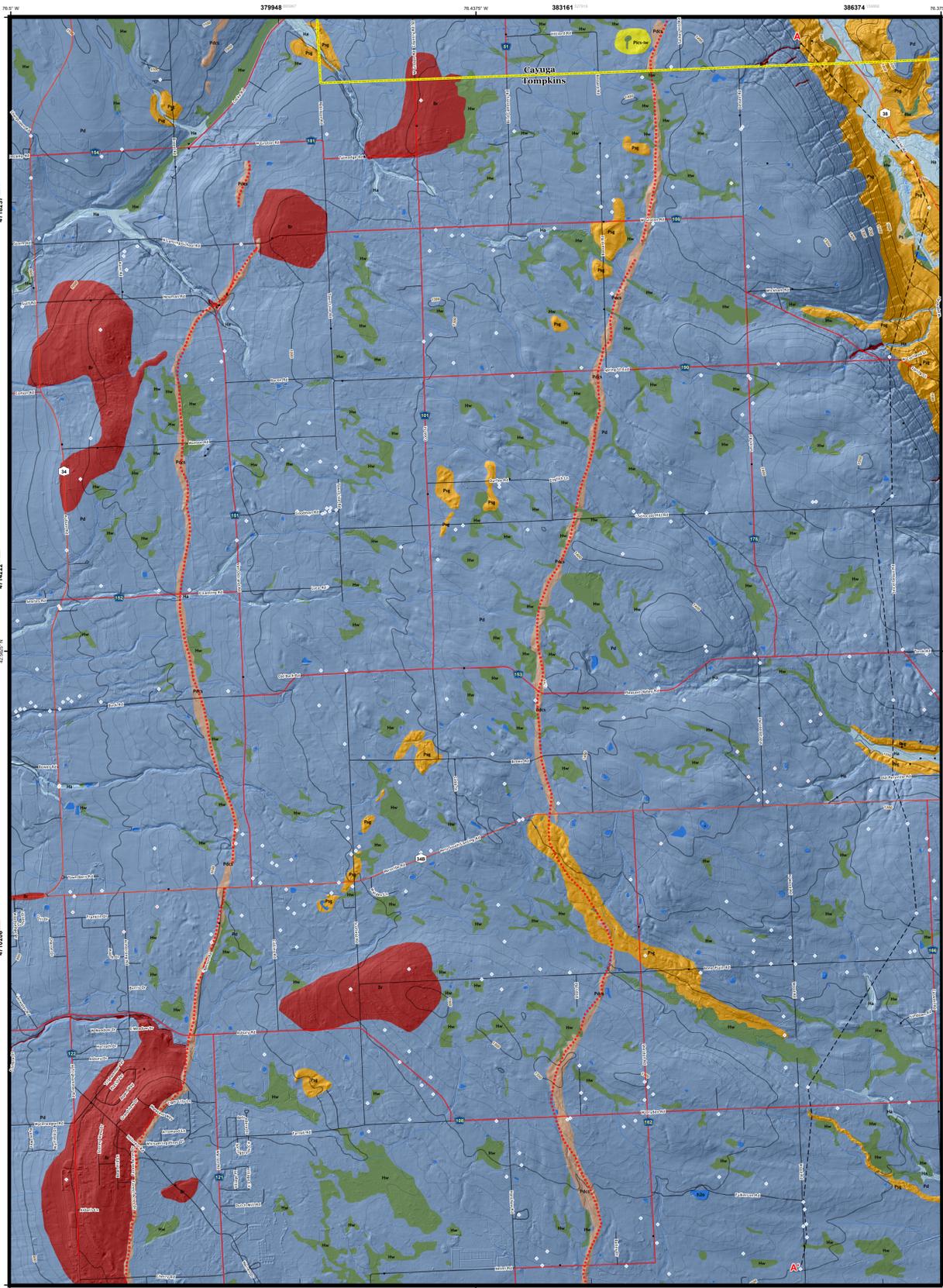


# SURFICIAL GEOLOGY OF THE WEST GROTON 7.5-MINUTE QUADRANGLE, CAYUGA AND TOMPKINS COUNTIES, NEW YORK

prepared by  
James R. Leone and Karl J. Backhaus

Supported in part by the U.S Geological Survey Cooperative Agreement Number G17AC00265  
National Cooperative Geologic Mapping Program (STATEMAP)



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

Hydrology and plianthity layers from the New York State DOT Reader Quadrangle separate for Tompkins and Cayuga Counties  
(https://gis.ny.gov/gisdata/inventories/member.cfm?OrganizationID=158)

Geographic data layers from 2017 TIGER/Line shapes for transportation and hydrography (https://www.census.gov/cgi-bin/geocoder/index.php)

Shaded relief from Cayuga County 2 m  
Lidar (http://www.cayugacounty.gov/portal/interactives.html), Tompkins County 2m Lidar 2019 and 10 m DEM (http://gis.ny.gov/elevation/index.cfm)

Magnetic declination from the NOAA online Declination Calculator:  
http://www.nmfs.gov/elevation/index.cfm

SCALE 1:24,000  
KILOMETERS  
METERS  
1 0.5 0 0.5 1  
1000 500 0 500 1000 2000

SCALE 1:24,000  
FEET  
MILES  
1 0.5 0 0.5 1  
1000 500 0 500 1000 2000

CONTOUR INTERVAL: 10 FEET

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Geologic mapping by J. Leone, and K. Backhaus, 2018  
Digital data and cartography by K. Backhaus and J. Leone, 2018.

## Holocene

- 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

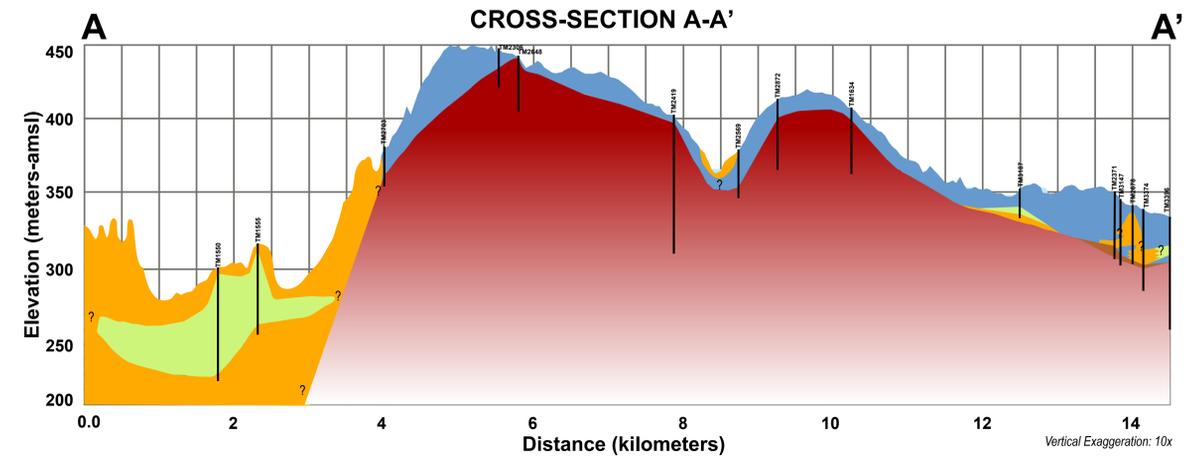
## Pleistocene

- Pics-iw** **Ice Contact Silt and Clay (Pics-iw)**  
Stratified, fine-grained sediment consisting of fine sand, silt and clay size particles. Constrained to isolated pockets, inferred to be deposited in circular depressions within or on former ice sheets.
- 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 ice margins.
- 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.

## Pre-Pleistocene

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

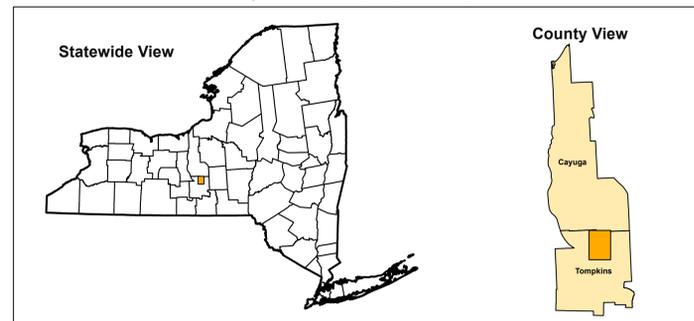
## DESCRIPTION OF MAP UNITS



## SYMBOLS

- Streets
- Highways
- County Line
- Water Bodies
- Streams
- Contours
- Cross-Section Line
- Ice Margin
- NYSGS Sample Location
- NYSDEC Water Well Location
- NYSDEC Boring Location
- NYSDEC Oil Well Location

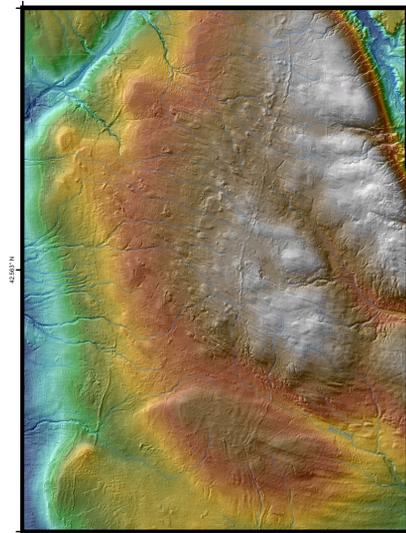
## QUADRANGLE LOCATION



## ADJOINING QUADRANGLES

Genoa	Moravia	Sempronius
Ludlowville	<b>West Groton</b>	Groton
Itasca West	Itasca East	Dryden

## QUADRANGLE ELEVATION



Feet-amsl  
825 1500

1:75,000 scale; 2x vertical exaggeration  
Shaded relief generated from 2000 Cayuga County New York NOAA Lidar and 2008 Tompkins County Soil and Water Conservation District LIDAR data sets.

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2018

## NOTICE

This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program. A award number G17AC00265 in the year 2018.

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