New York State Museum & Science Service

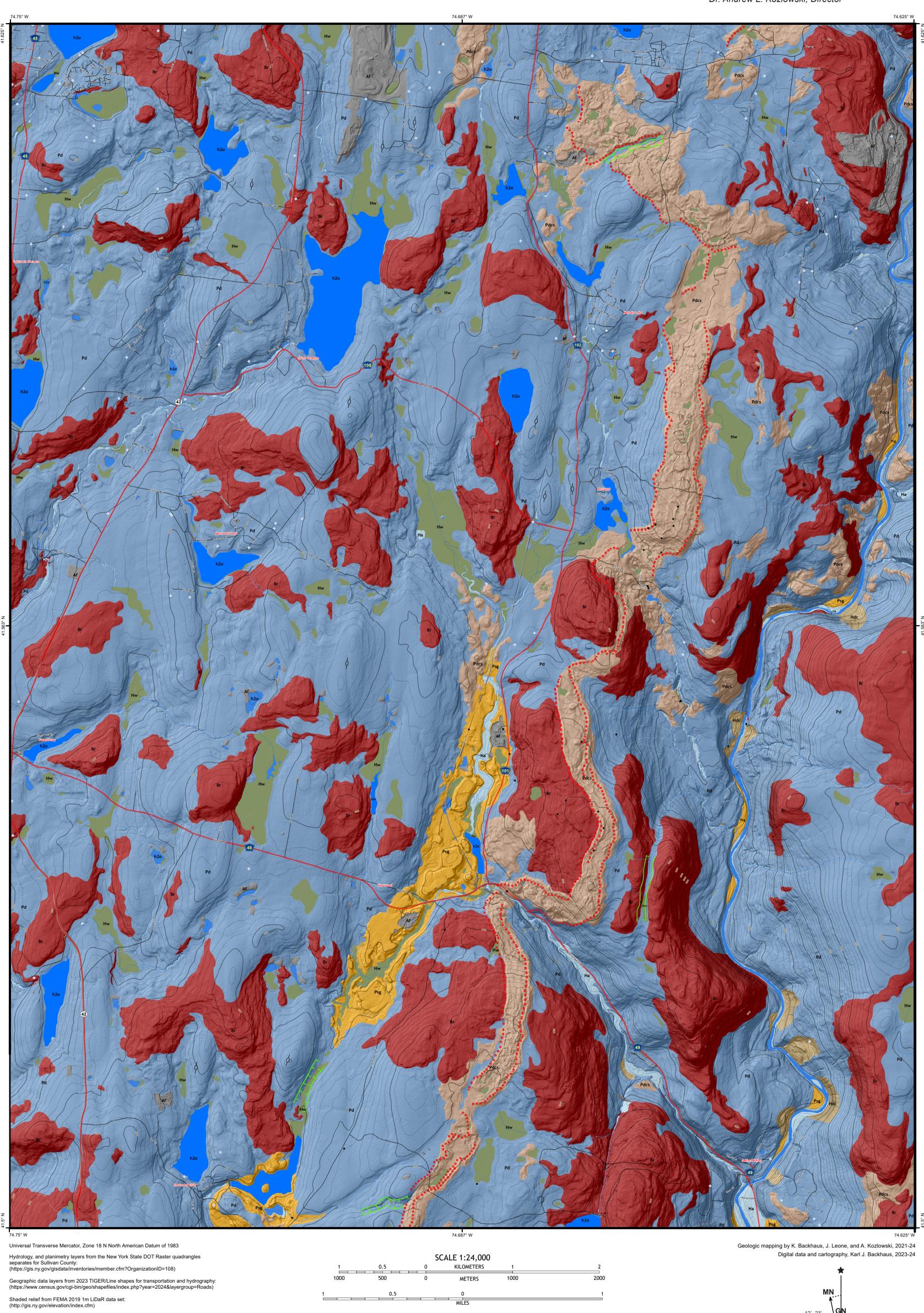
Magnetic declination from the NOAA online Declination Calculator

(https://www.ngdc.noaa.gov/geomag/calculators/magcalc.shtml#declination)

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

222 MILS

**UTM GRID AND 2023 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET** 



# SURFICIAL GEOLOGY OF THE HARTWOOD 7.5-MINUTE QUADRANGLE, SULLIVAN COUNTY, NEW YORK

CONTOUR INTERVAL: 10 FEET

Andrew L. Kozlowski and Karl J. Backhaus

# SURFICIAL GEOLOGY OF THE HARTWOOD 7.5-MINUTE QUADRANGLE, SULLIVAN COUNTY, NEW YORK

Karl J. Backhaus and Andrew L. Kozlowski

Supported in part by the U.S Geological Survey's National Cooperative Geologic Mapping Program Great Lakes Mapping Coalition Award Number G23AC00590

#### **DESCRIPTION OF MAP UNITS**

# Holocene

## **Artifical fill (Af)**

This unit is generally comprised of coarse-to-fine materials, such as large cement mounds and/or crushed rock, which have been anthropogenically transported and used for construction purposes.

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.

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.

Diamict colluvium (Hdc)

Stratified silt, sand, and gravel (Ha)

Unsorted and unstratified deposit of gravel, sand, silt, and clay, with boulders/cobbles possible. Described as a mass-wasting deposit at the base of steep hillslopes and cliffs that was formed as part of a slump or hillslope failure.

### Pleistocene

Plsc

#### Silt and clay (Plsc)

Stratified, fine-grained sediment consisting of fine sand, silt, and clay-size particles. Inferred to have been deposited in mid-shore to deep water settings of glacial lakes. May include marl, rhythmites, and varves.

Stratified sand (Ps)

Well-sorted and -stratified sand deposited by fluvial, lacustrine, or eolian processes. Inferred to be deposits associated with distal glacial environments.

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.

**Matrix-supported diamicton (Pd)** 

An admixture of unsorted sediment ranging from clay to boulders. Generally matrix-supported, massive and clast-rich.

Clast-supported diamicton (Pdcs)

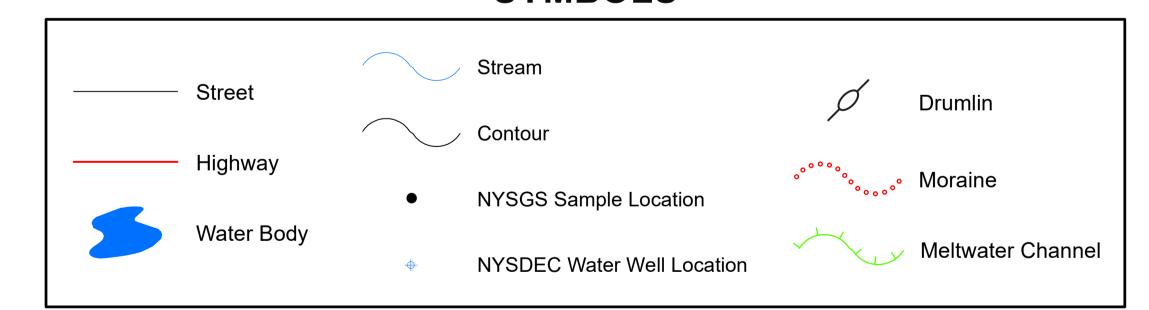
An admixture of unsorted sediment ranging from clay to boulders. Generally clast-supported, massive and clast-rich.

## **Pre-Pleistocene**

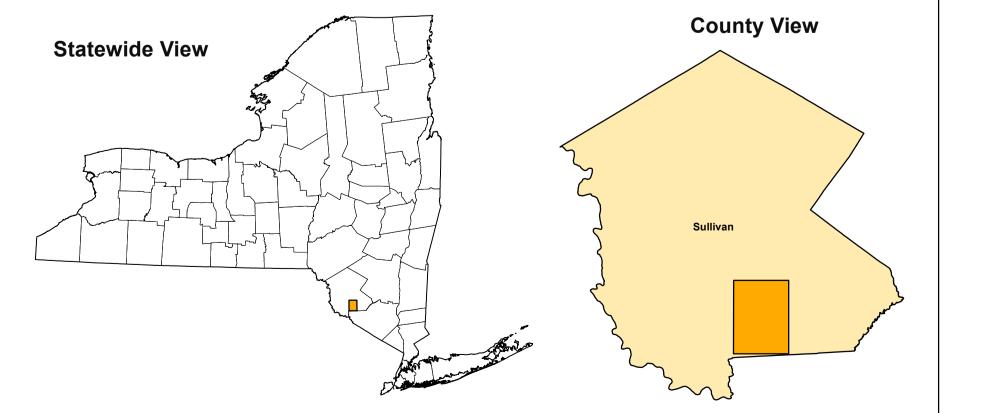
#### Bedrock (Br)

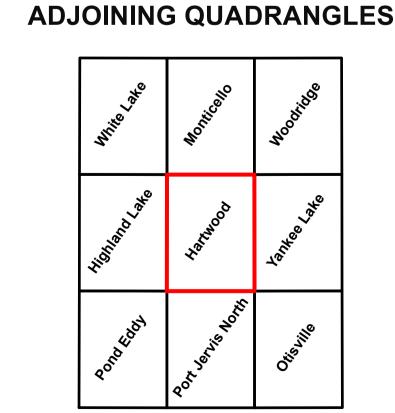
Non-glacially derived hard rock, pre-Pleistocene in age. May be covered by up to a meter with diamicton, sand and gravel, or sand and clay in areas marked as Br.

## **SYMBOLS**



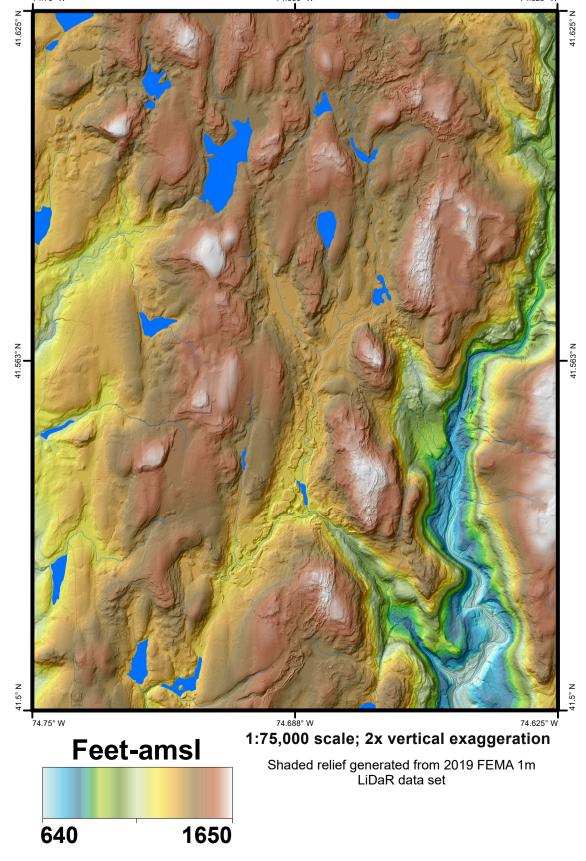
#### **QUADRANGLE LOCATION**





This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program Great Lakes Mapping Coalition award number G23AC00590 in the year 2024. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily presenting the official policies, either expressed or implied, of the U.S. Government. While every effort has been made to ensure the integrity of this digital map and the factual data upon which it is based, the New York State Education Department ("NYSED") makes no representation or warranty, expressed or implied, with respect to its accuracy, completeness, or usefulness for any particular purpose or scale. NYSED assumes no liability for damages resulting from the use of any information, apparatus, method, or process disclosed in this map and text, and urges independent site-specific verification of the information contained herein. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by

# **QUADRANGLE ELEVATION**



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