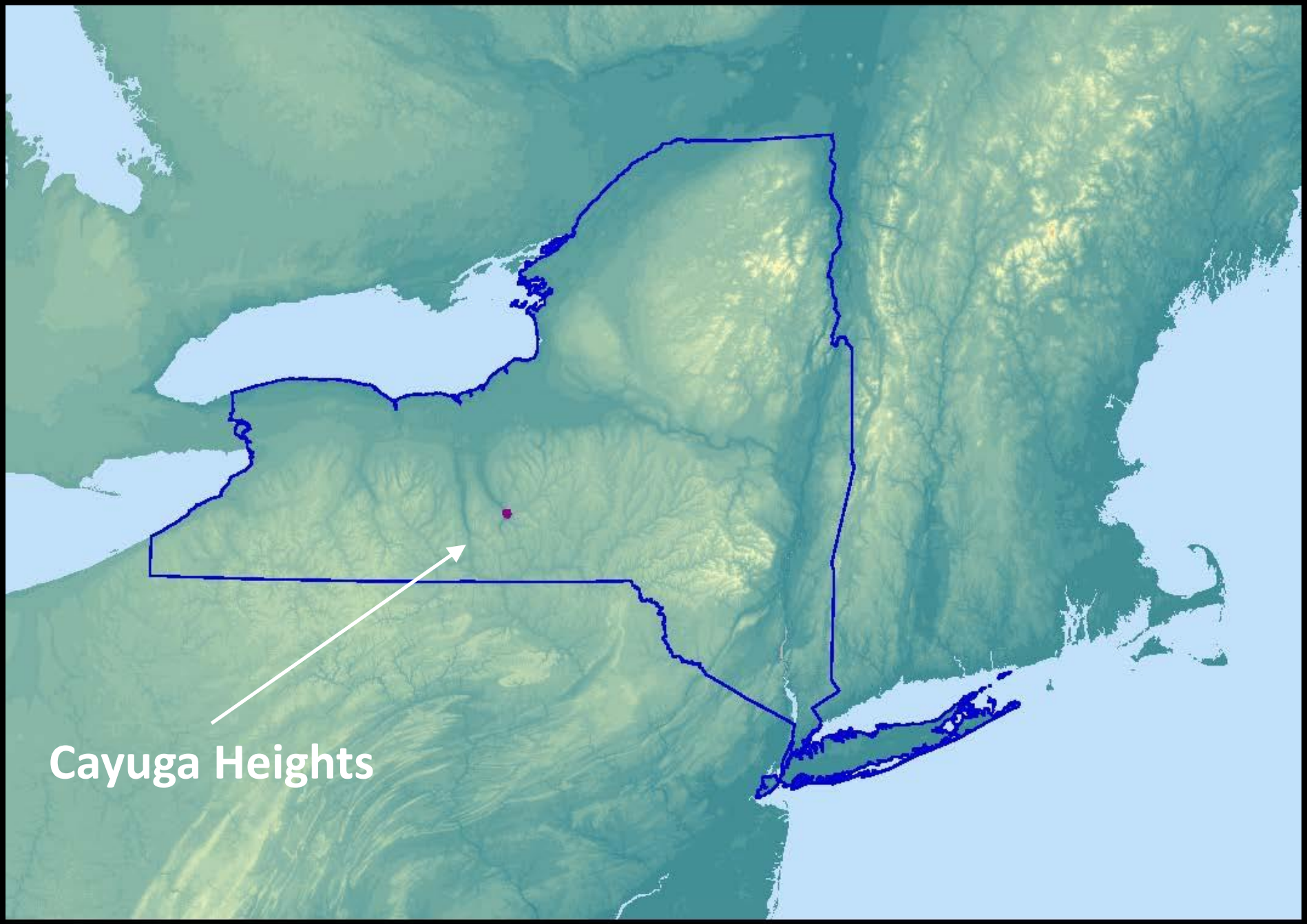
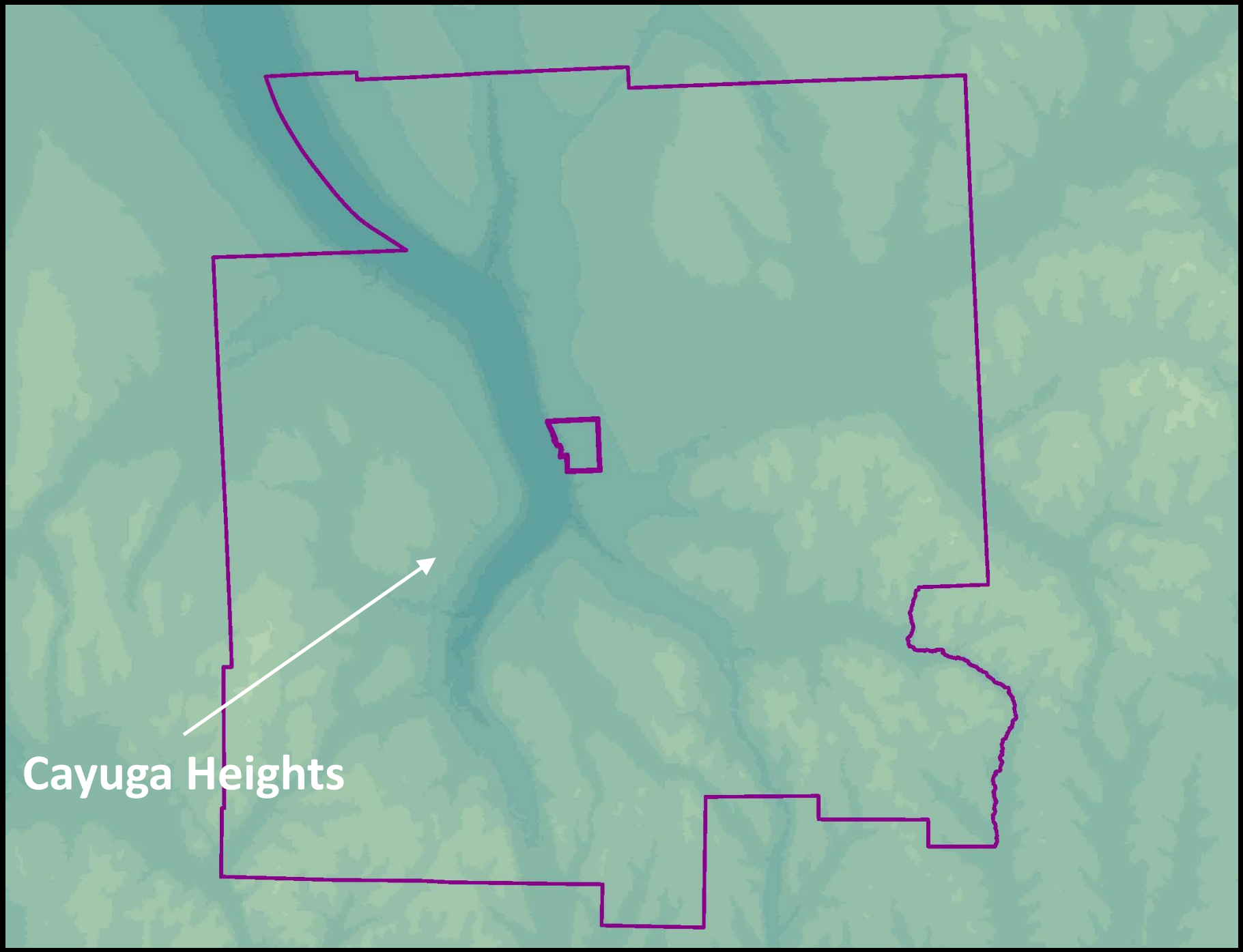
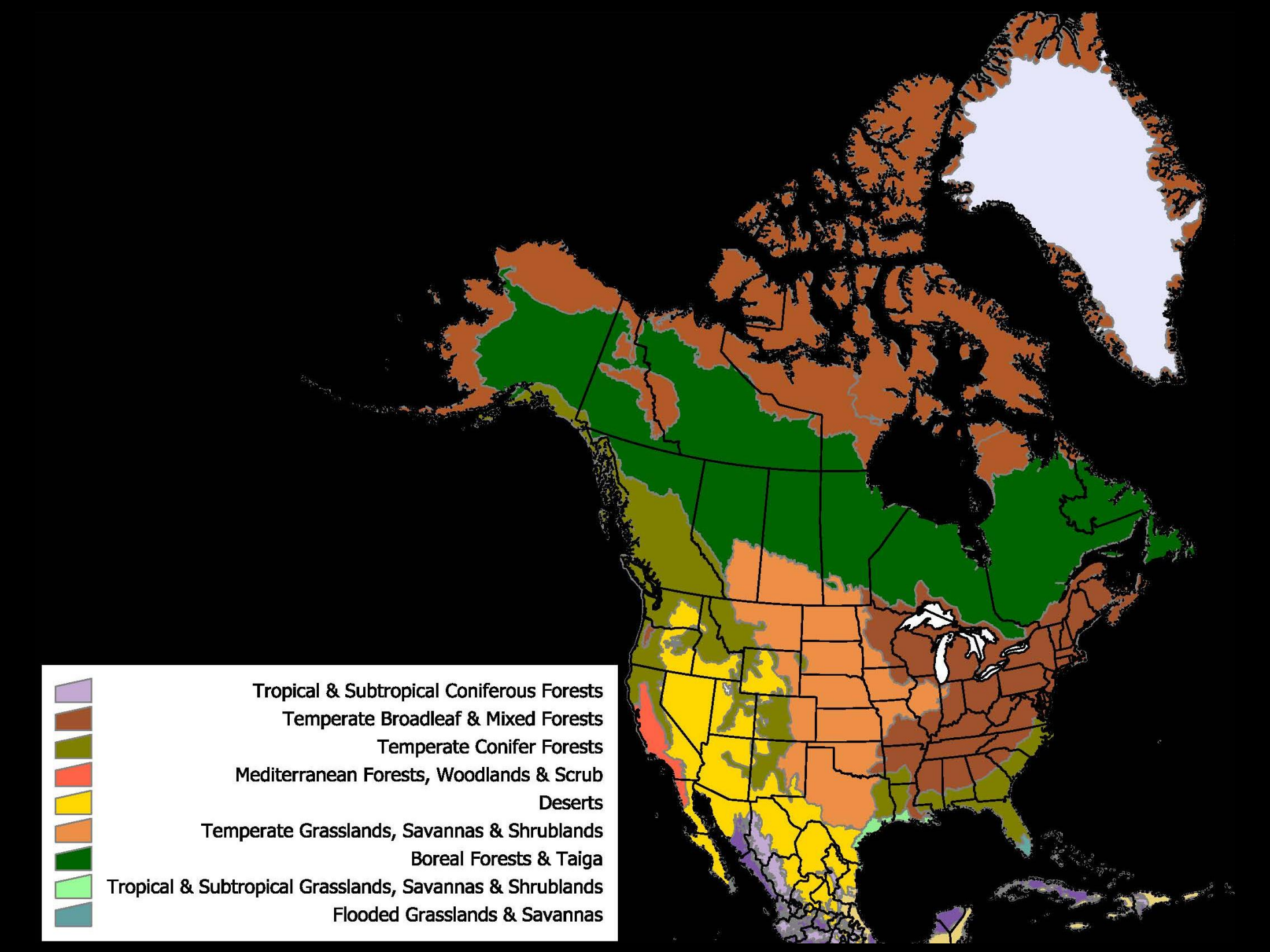
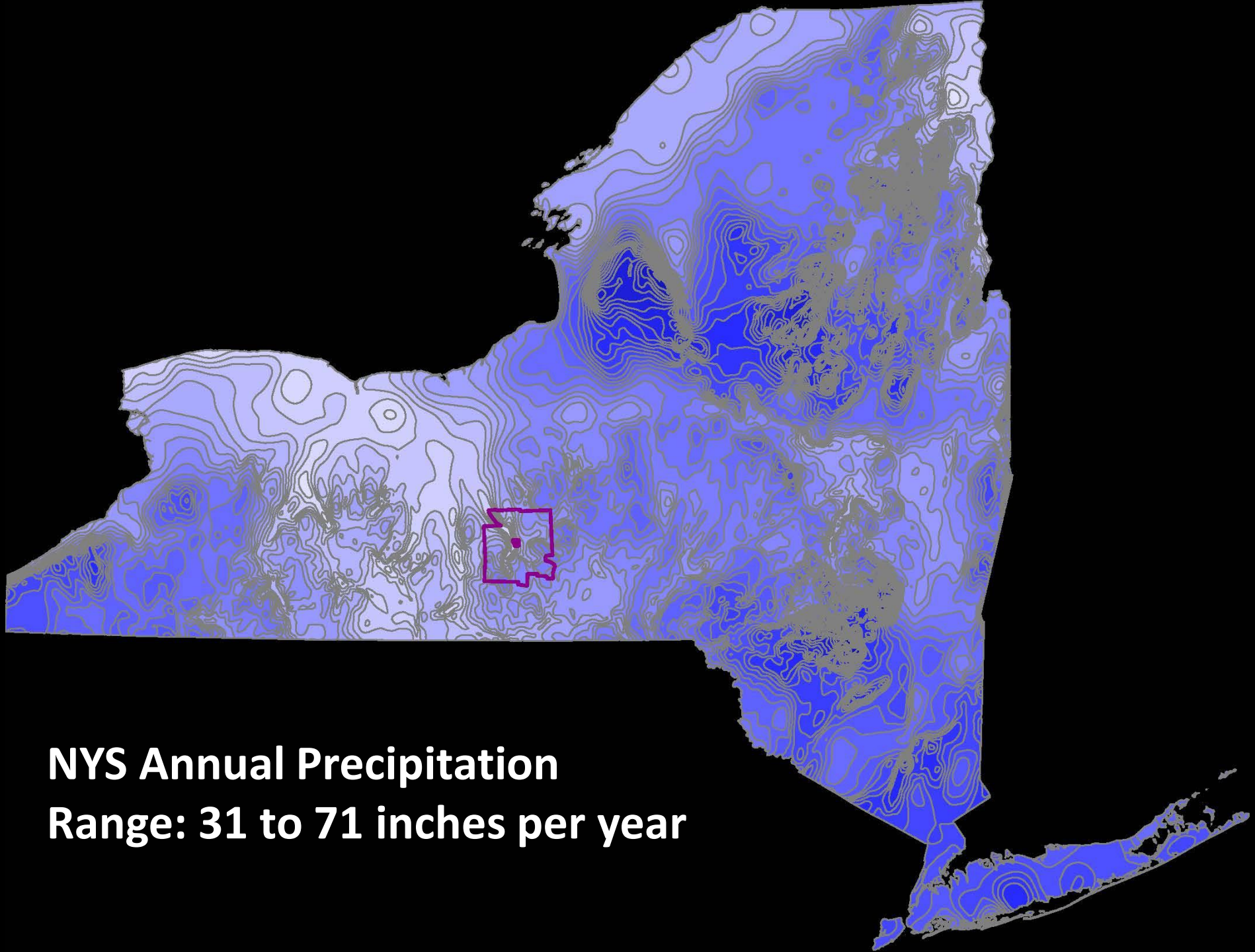
Village of Cayuga Heights
Natural Systems and Landscape

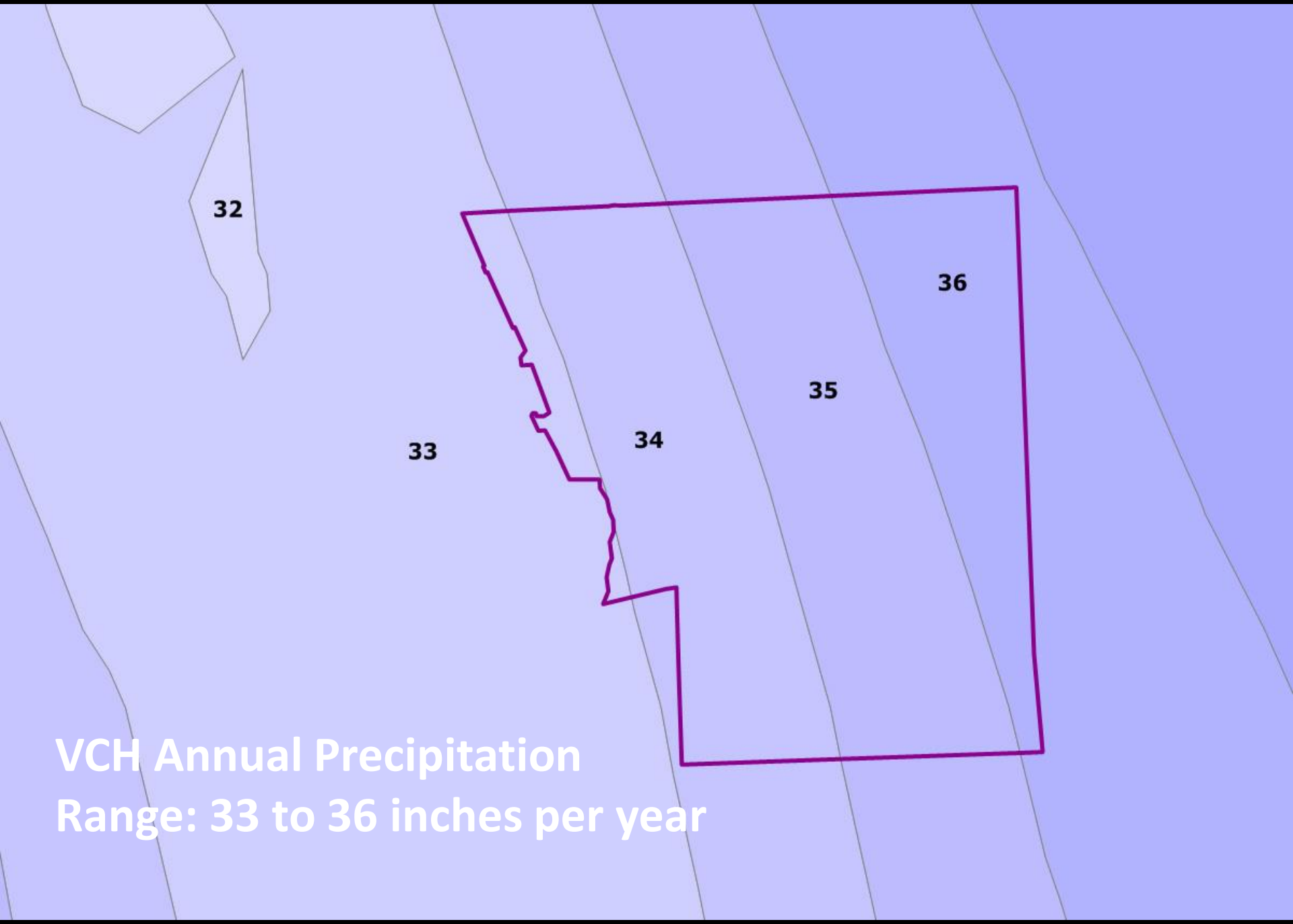

Cayuga Heights


Cayuga Heights

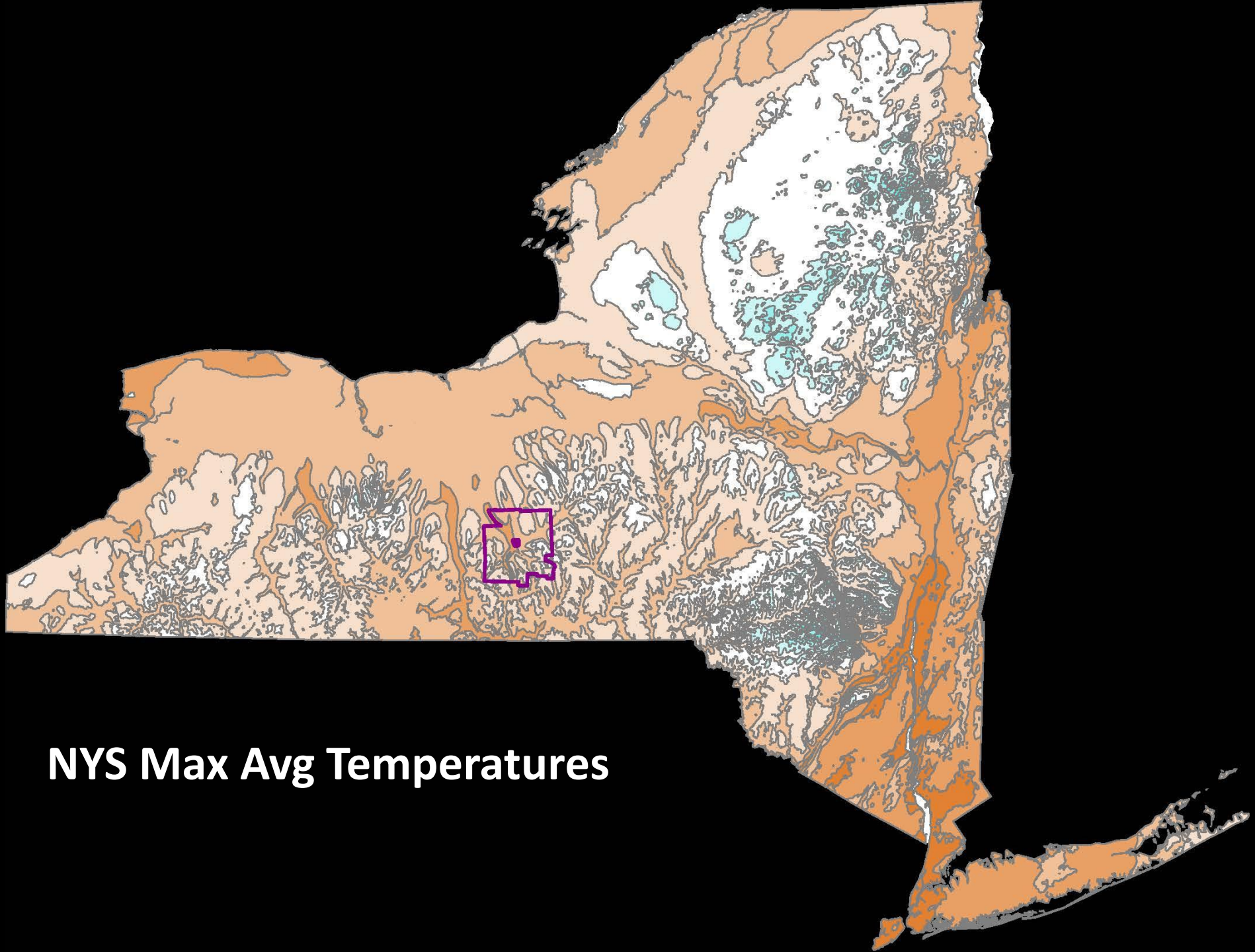

Cayuga Heights
Ithaca (City)
Ithaca (Town)

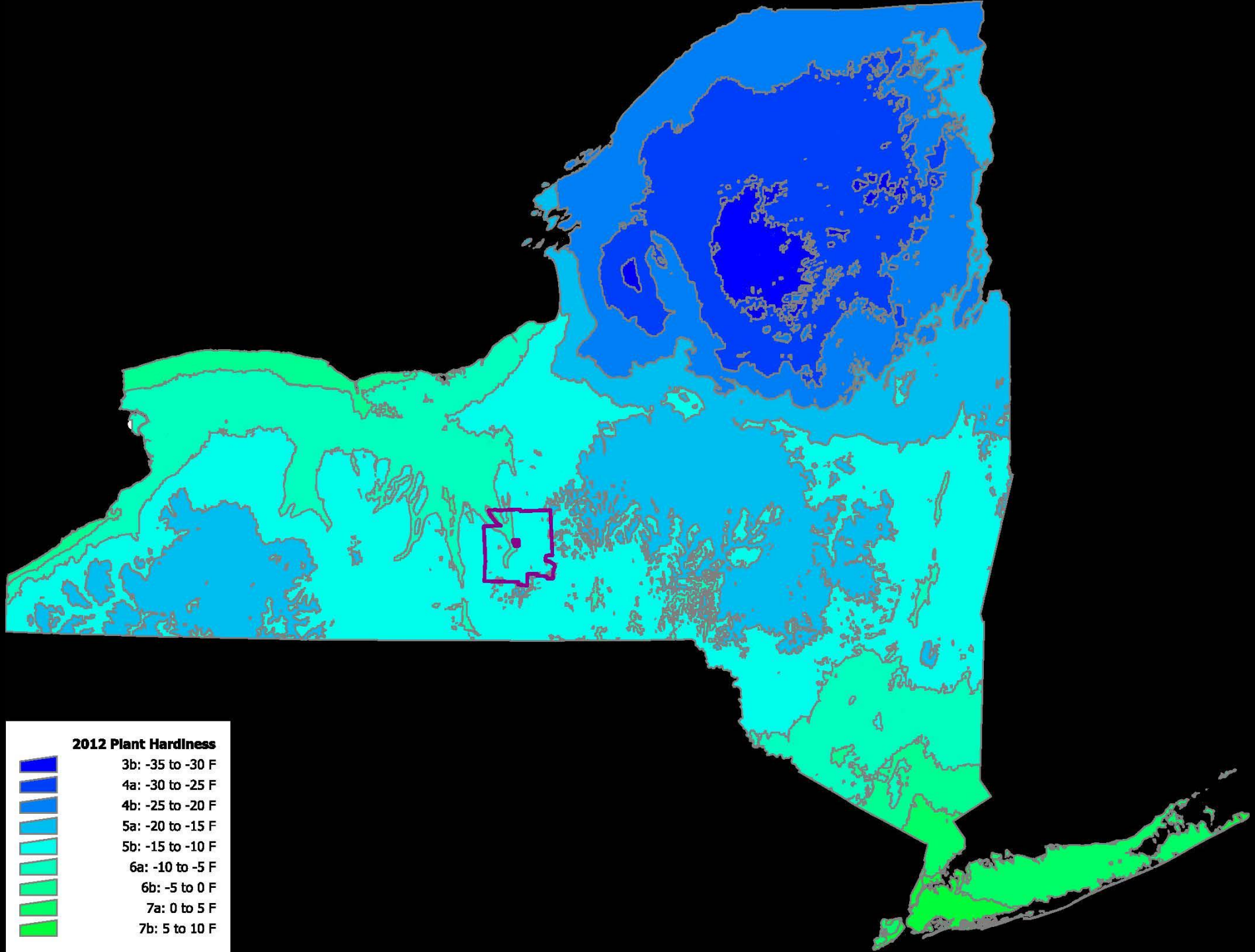

Tropical & Subtropical Coniferous Forests
Temperate Broadleaf & Mixed Forests
Temperate Conifer Forests
Mediterranean Forests, Woodlands & Scrub
Deserts
Temperate Grasslands, Savannas & Shrublands
Boreal Forests & Taiga
Tropical & Subtropical Grasslands, Savannas & Shrublands
Flooded Grasslands & Savannas

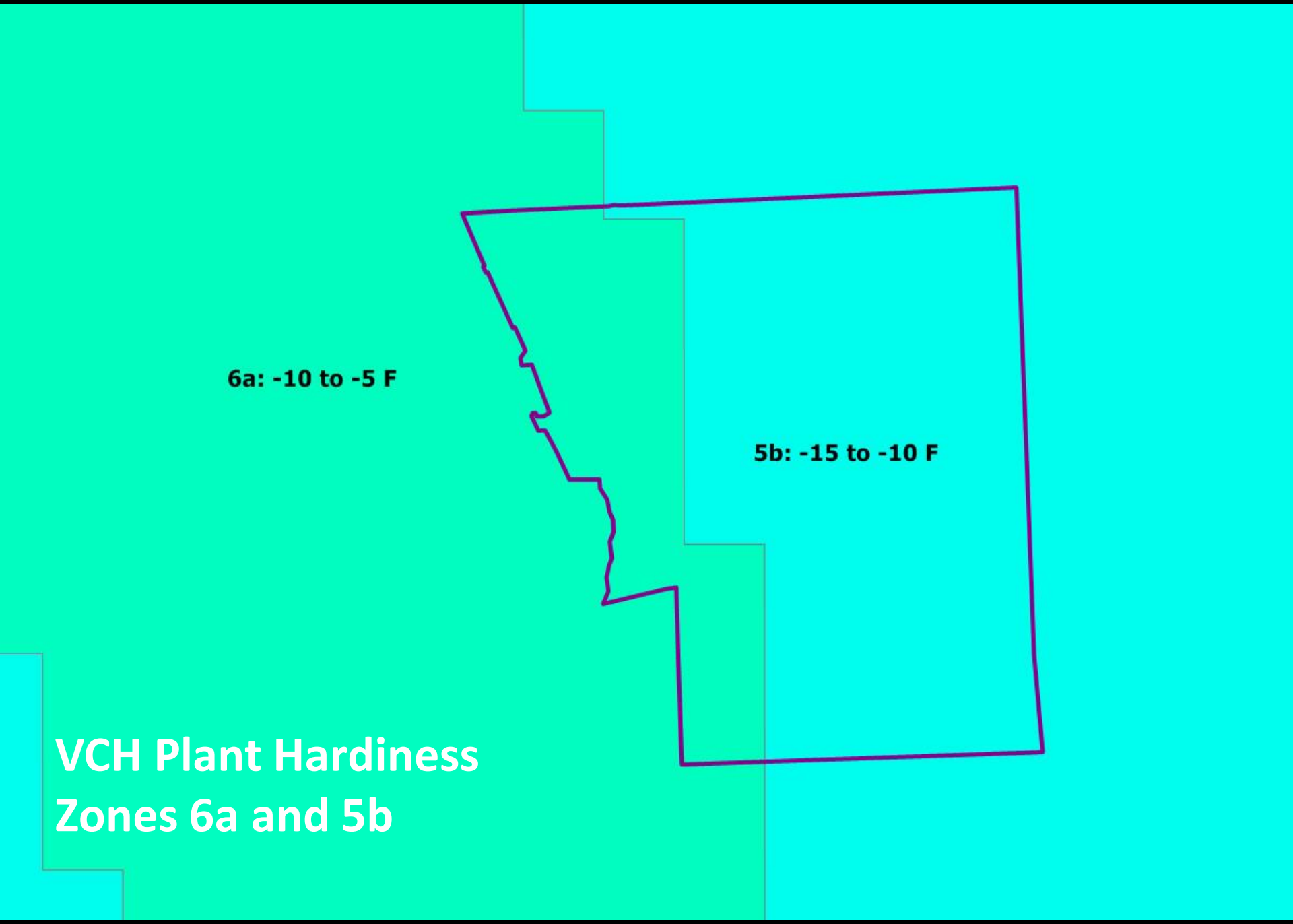

NYS Annual Precipitation
Range: 31 to 71 inches per year



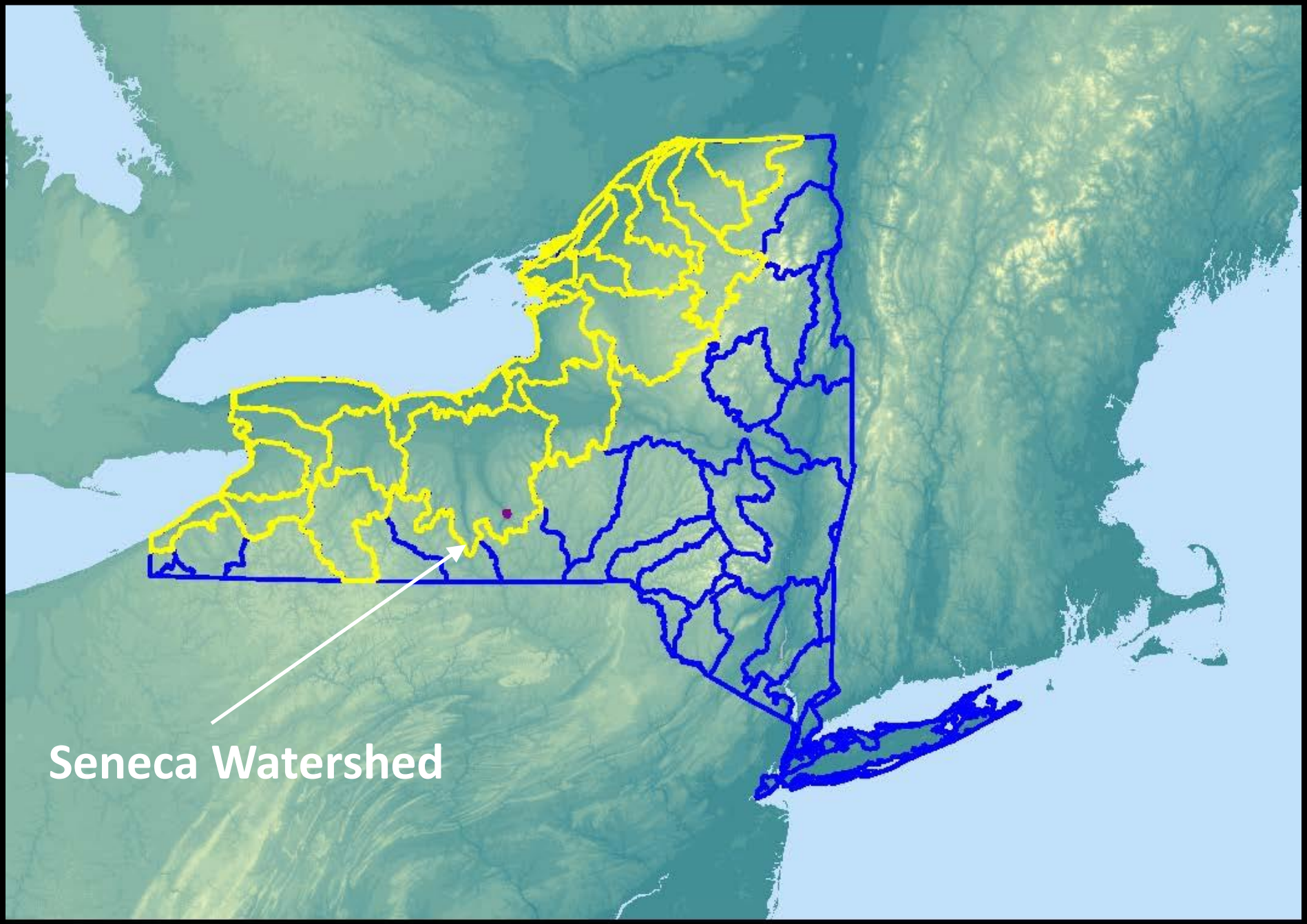
VCH Annual Precipitation
Range: 33 to 36 inches per year

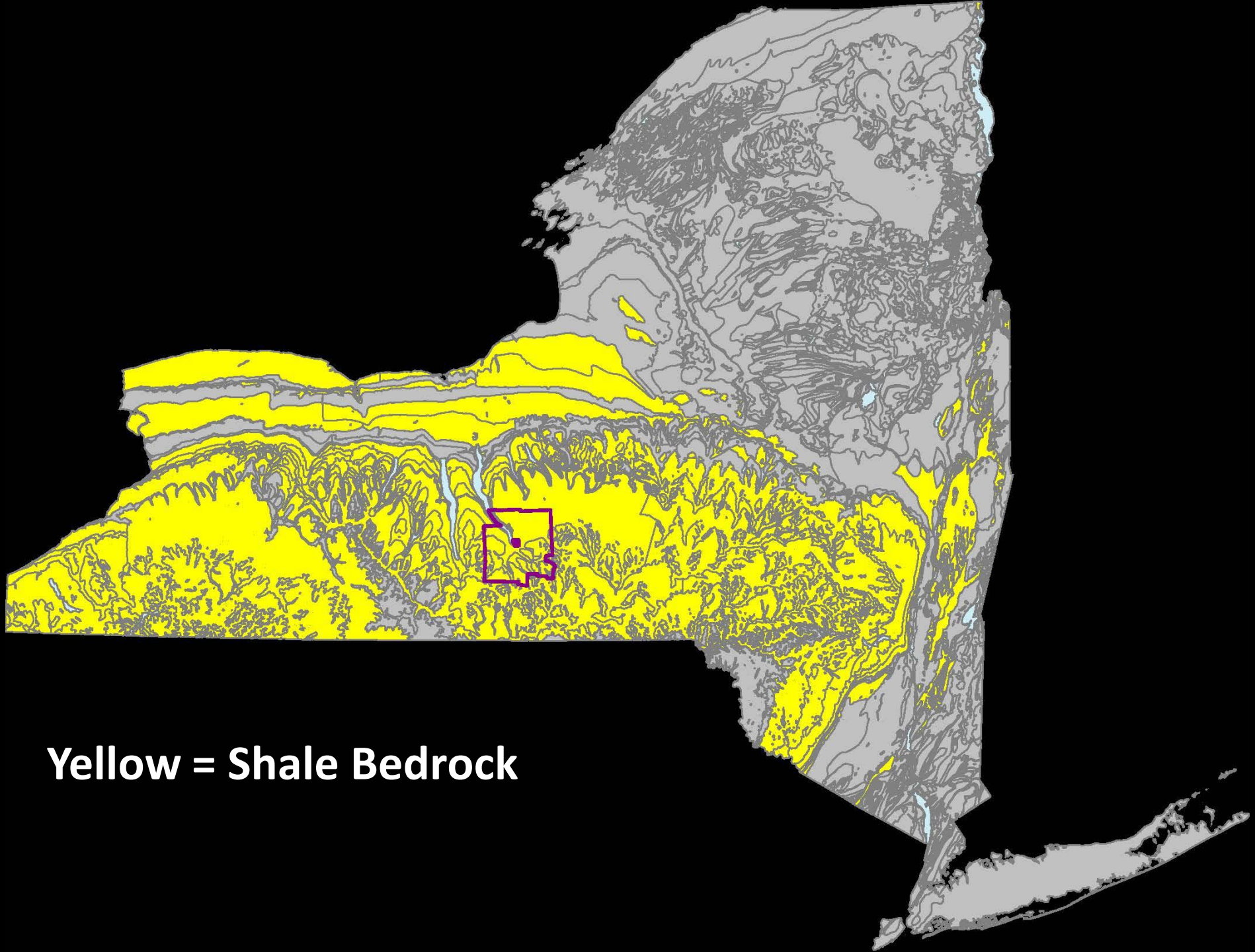

NYS Max Avg Temperatures

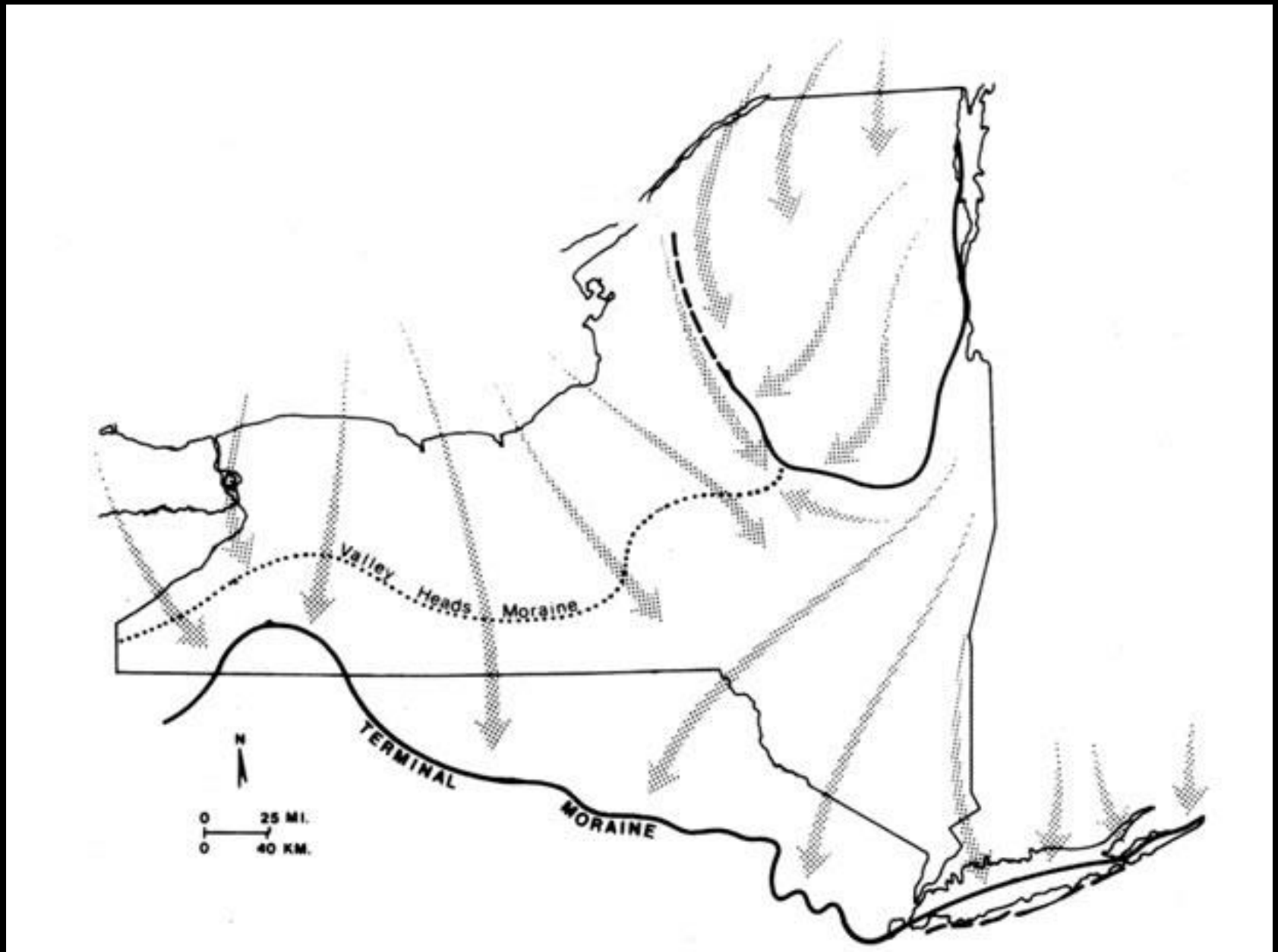

2012 Plant Hardiness
3b: -35 to -30 F
4a: -30 to -25 F
4b: -25 to -20 F
5a: -20 to -15 F
5b: -15 to -10 F
6a: -10 to -5 F
6b: -5 to 0 F
7a: 0 to 5 F
7b: 5 to 10 F

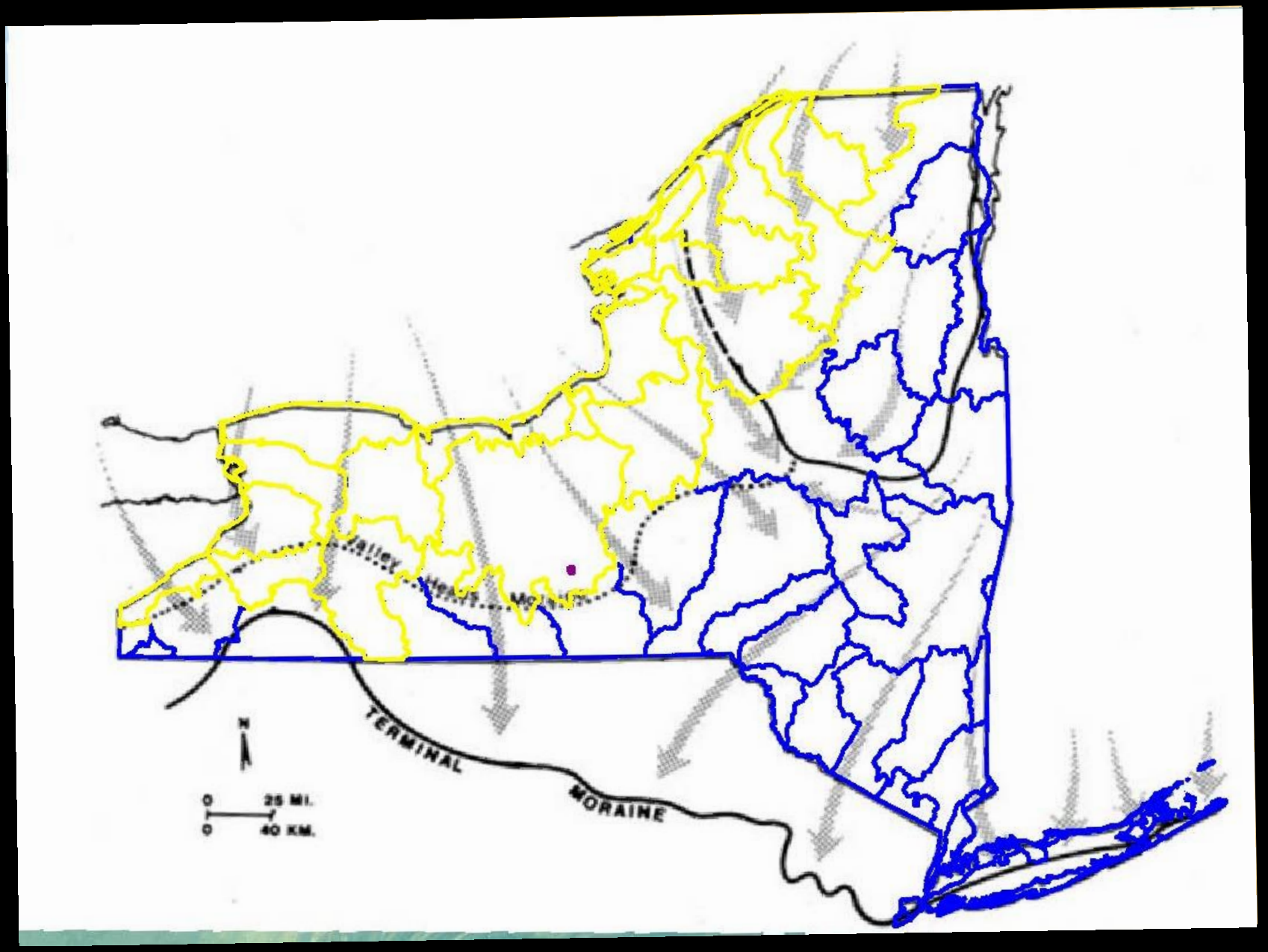


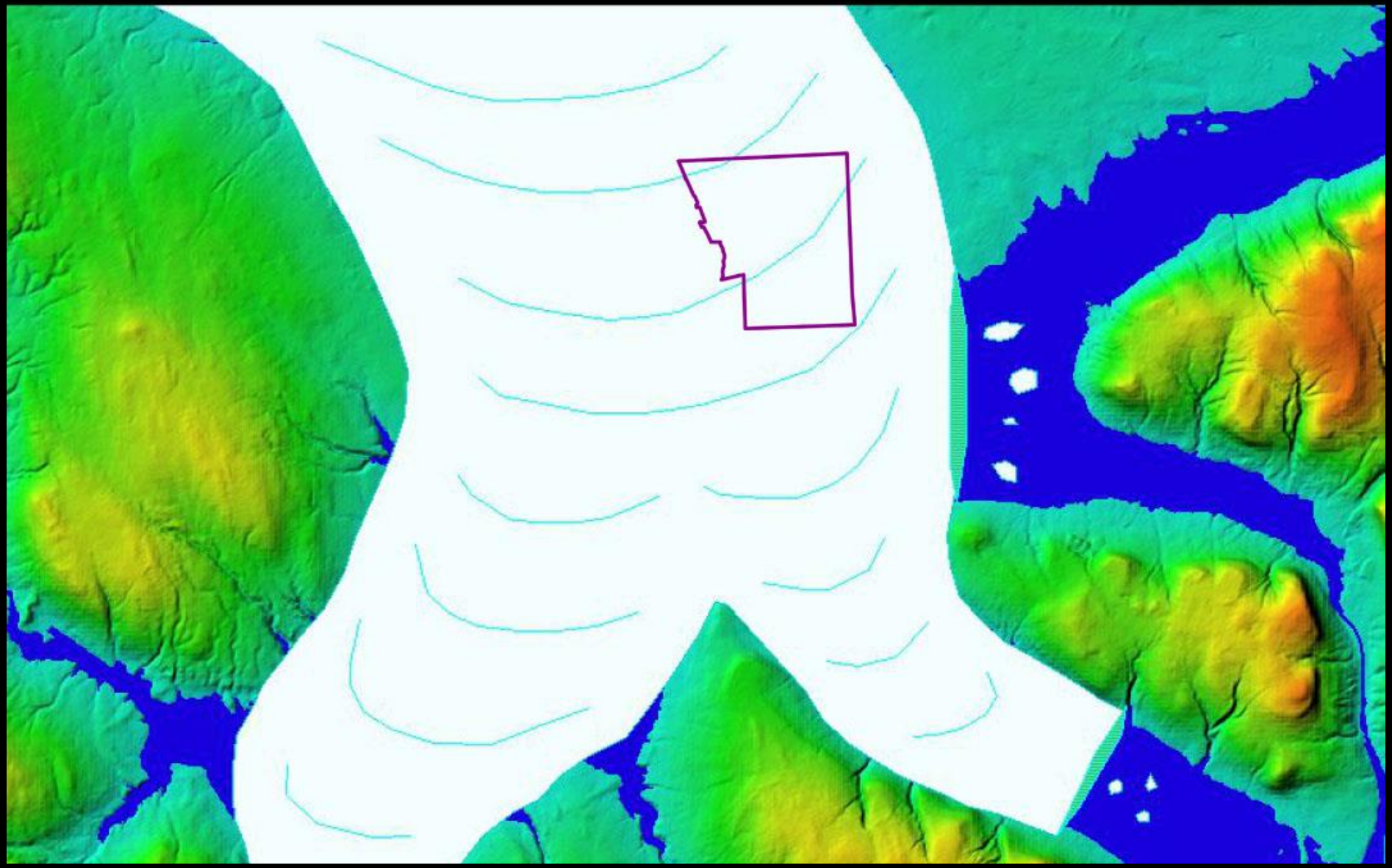
VCH Plant Hardiness Zones 6a and 5b


Seneca Watershed

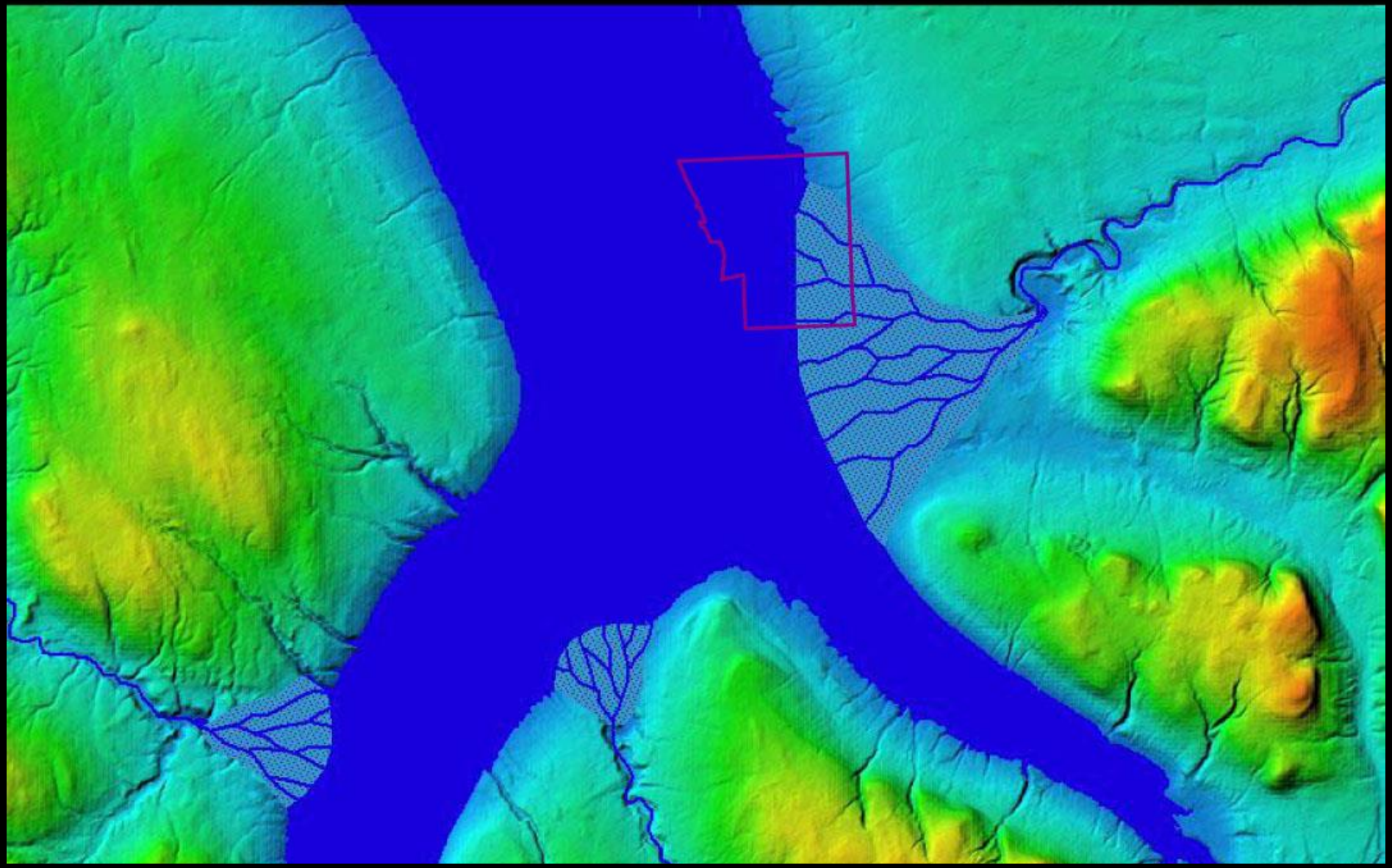

Yellow = Shale Bedrock


Valley Heads Moraine
TERMINAL MORAINE
N
0 25 MI.
0 40 KM.

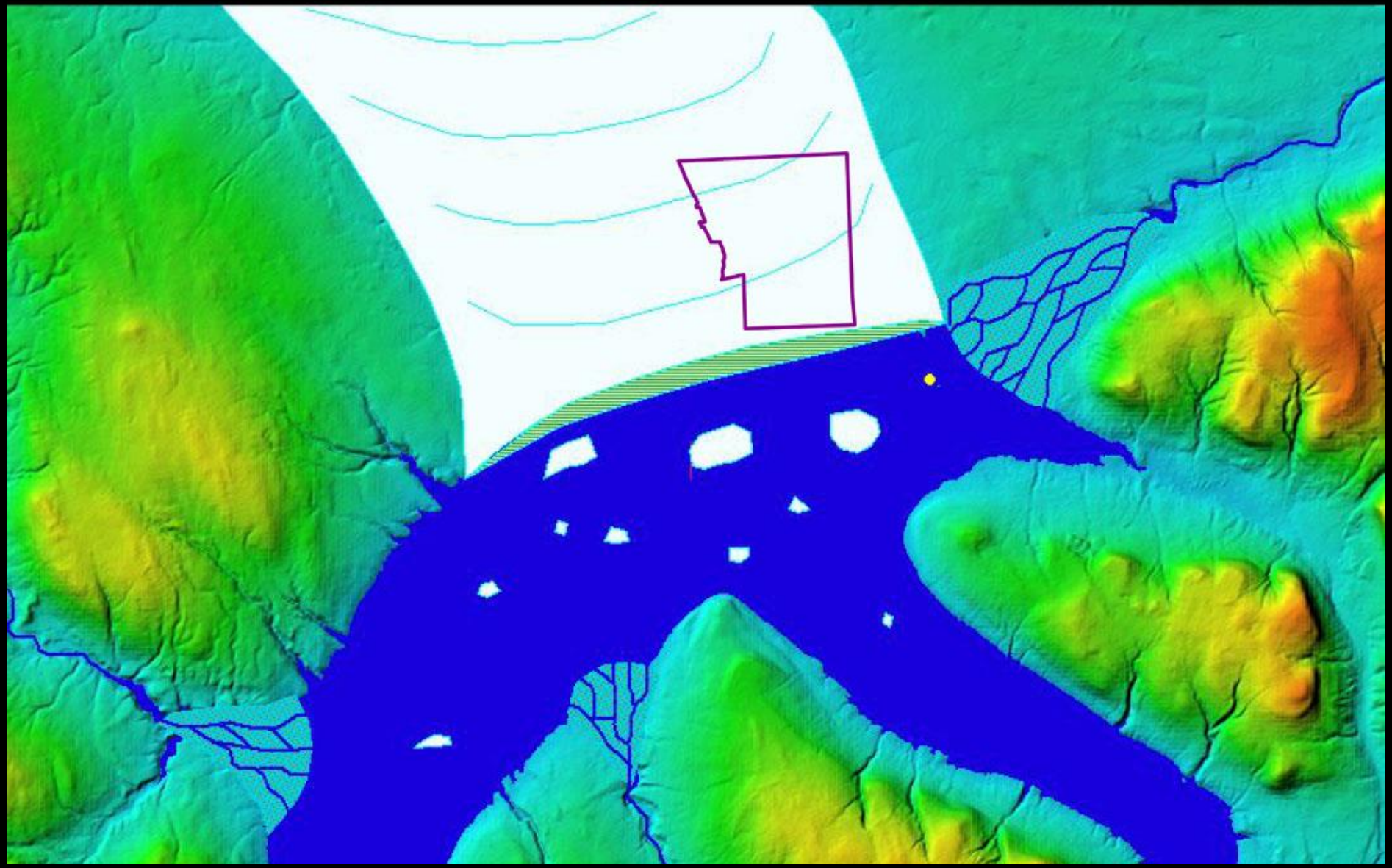

Valley
TERMINAL
MORAINE
N
0 25 MI.
0 40 KM.



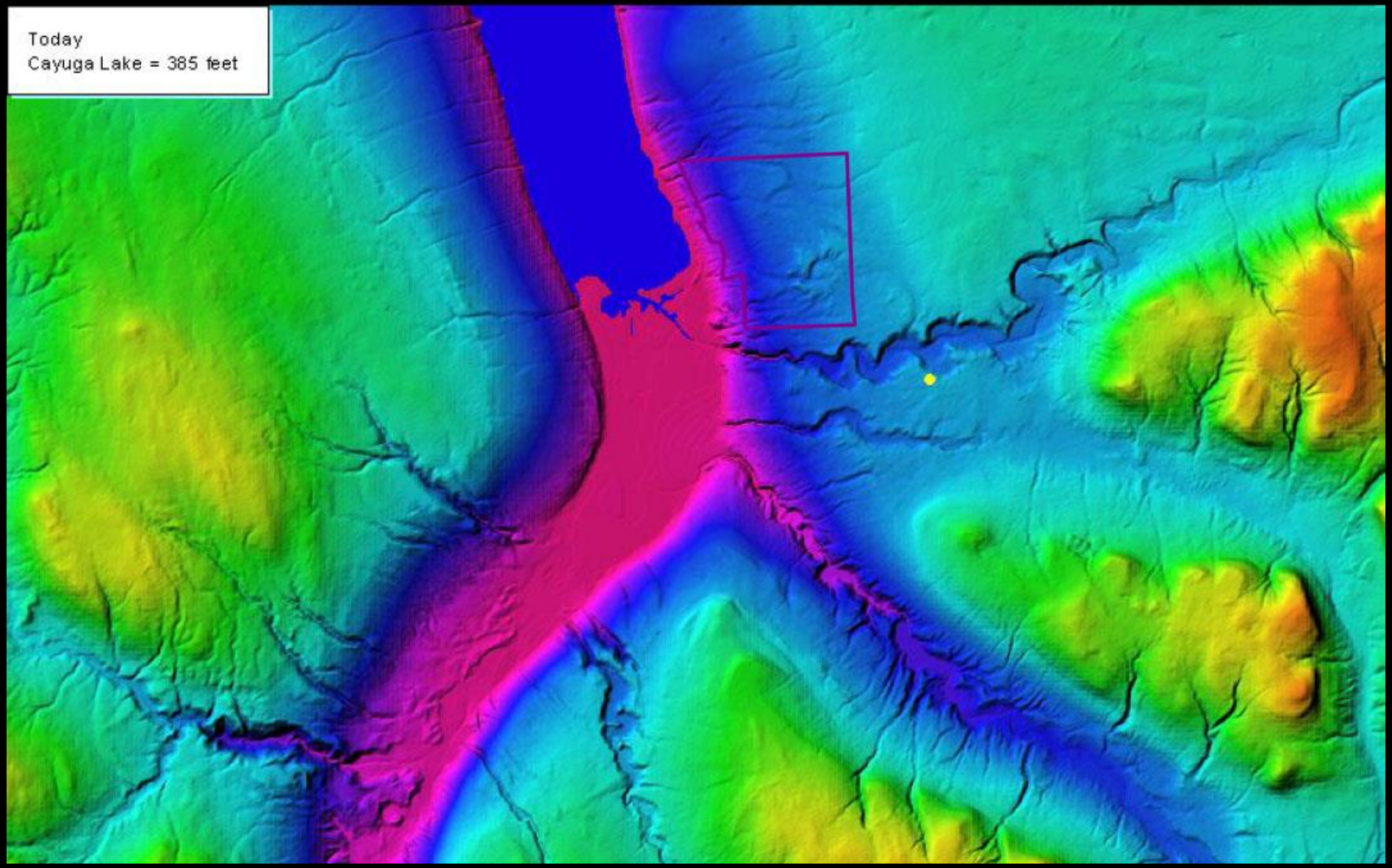
Valley Heads Moraine – Elevation 1060’



Glacial Lake Ithaca – Elevation 980’

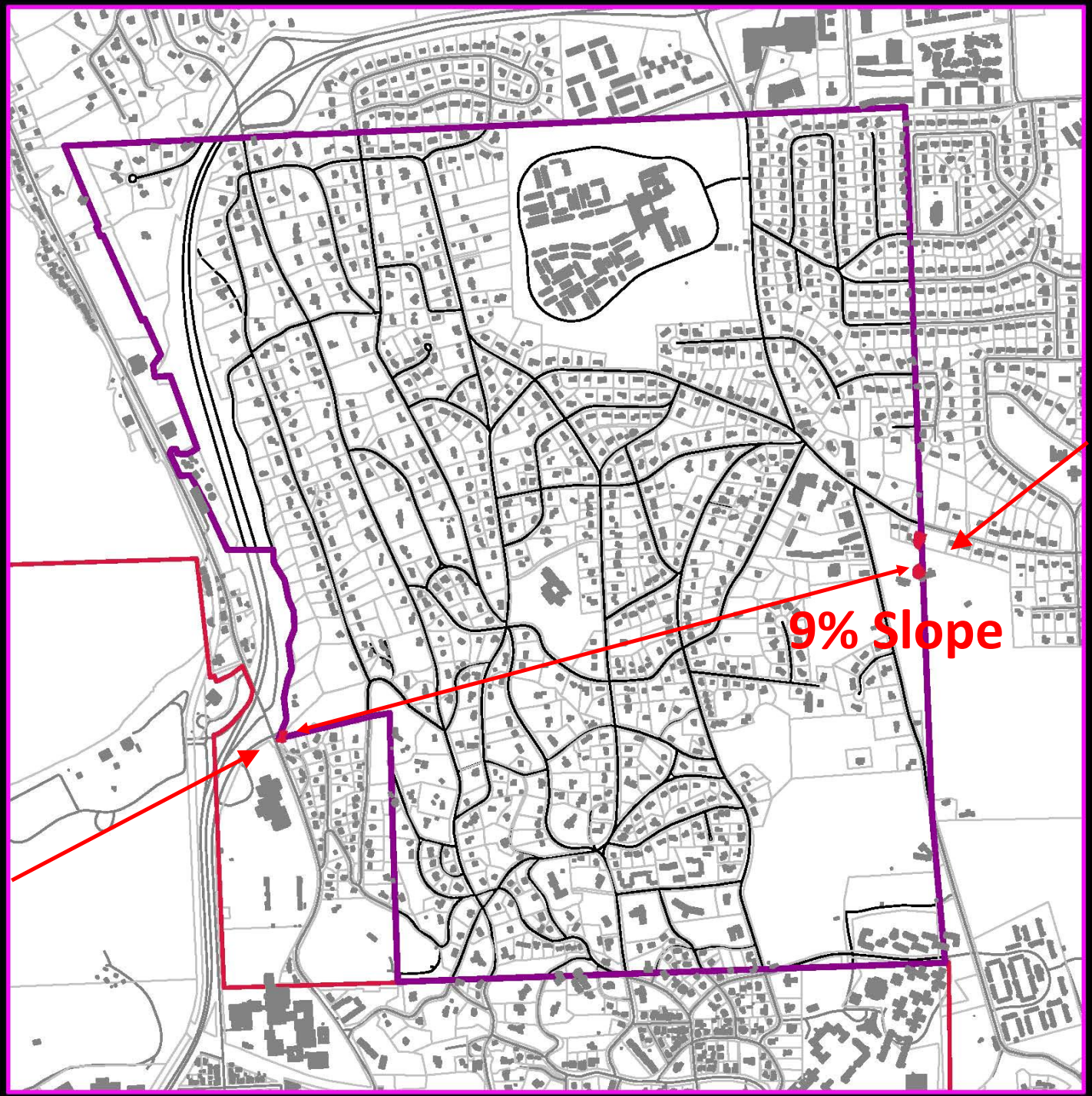


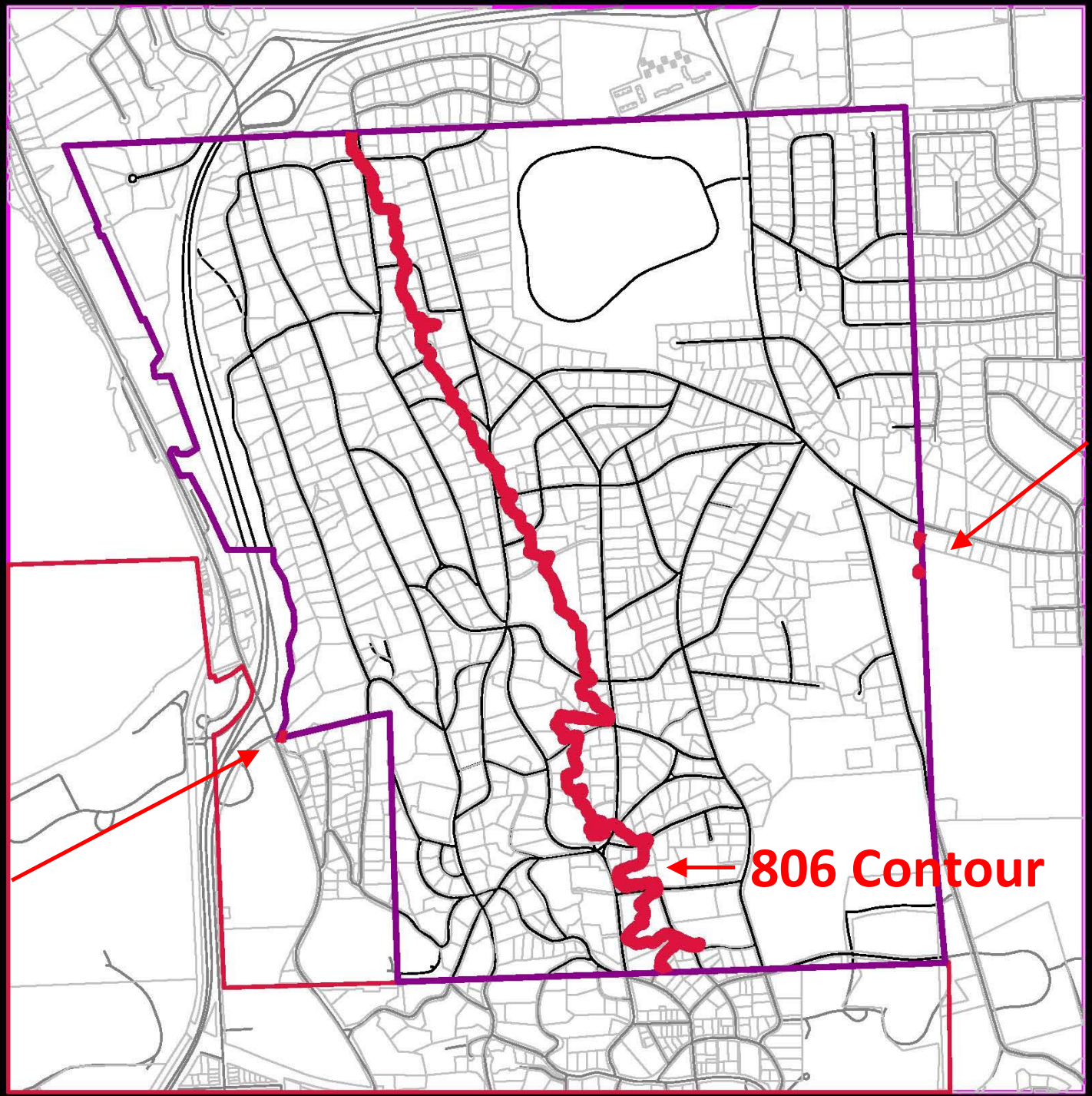
Glacial Lake Newbury – Elevation 900’

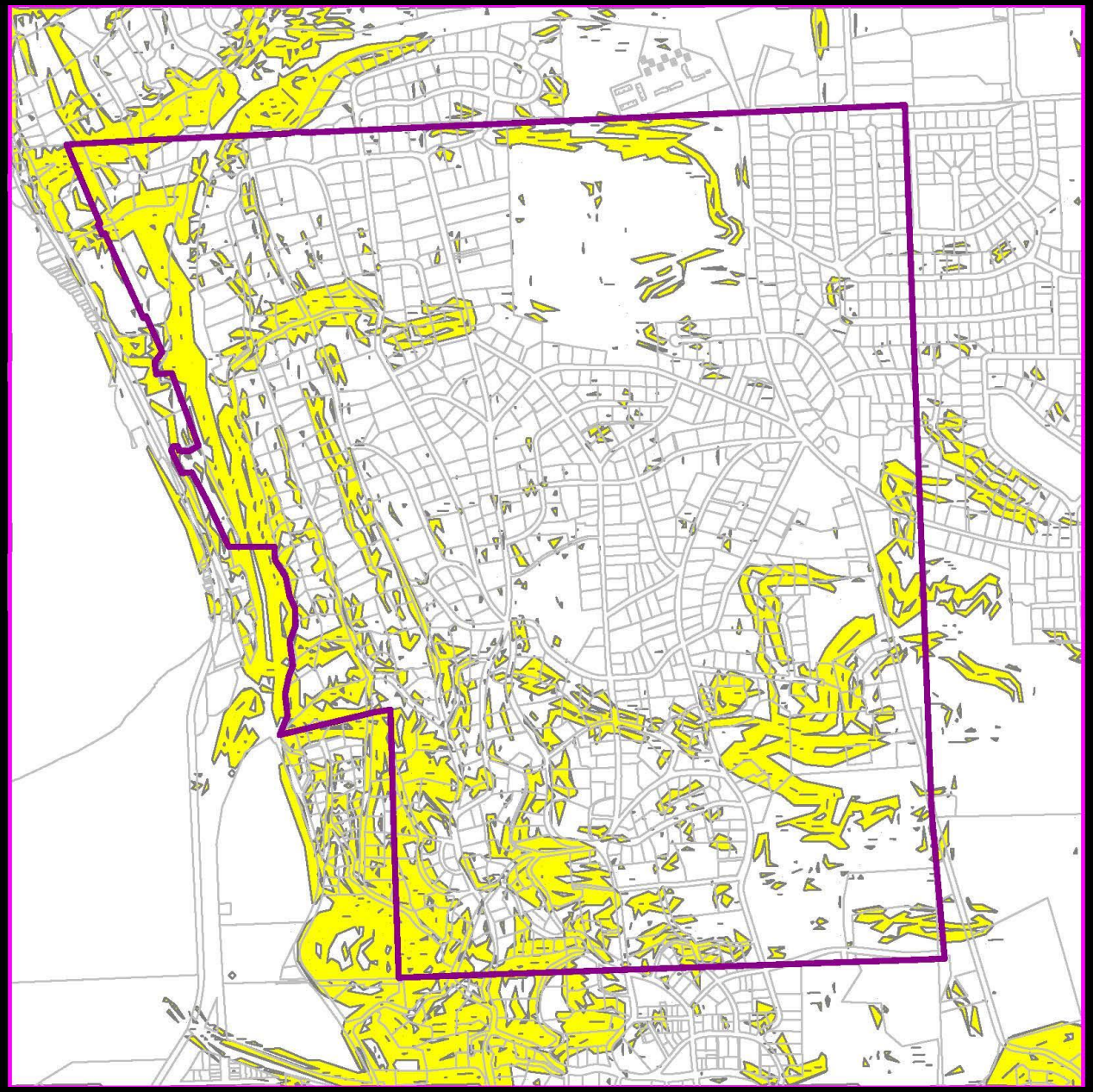


Modern Cayuga Lake – Elevation 385’


High
Point
948
Feet
Low
Point
396
Feet

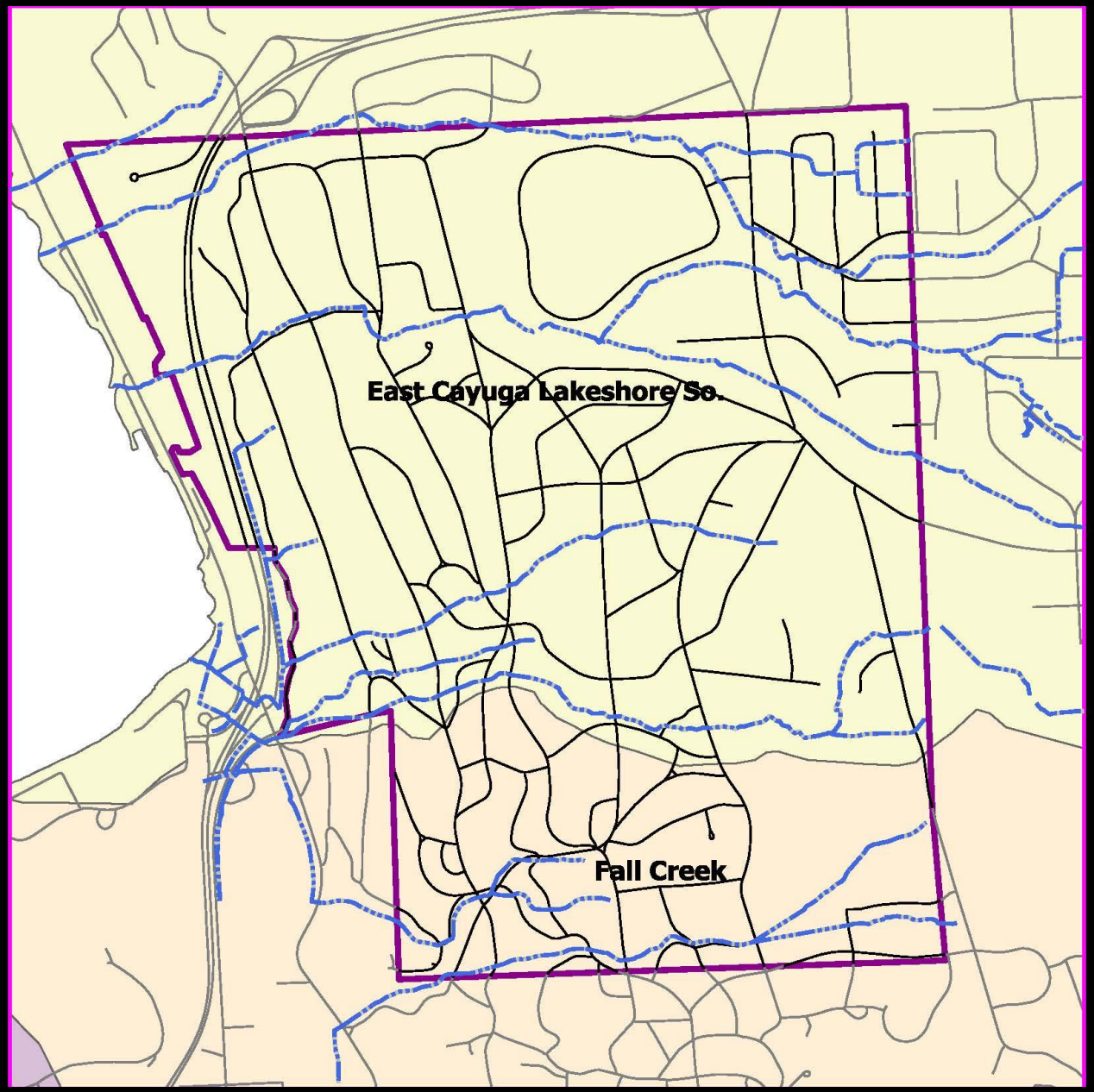

High
Point
948
Feet
9% Slope
Low
Point
396
Feet


High
Point
948
Feet
Low
Point
396
Feet
806 Contour

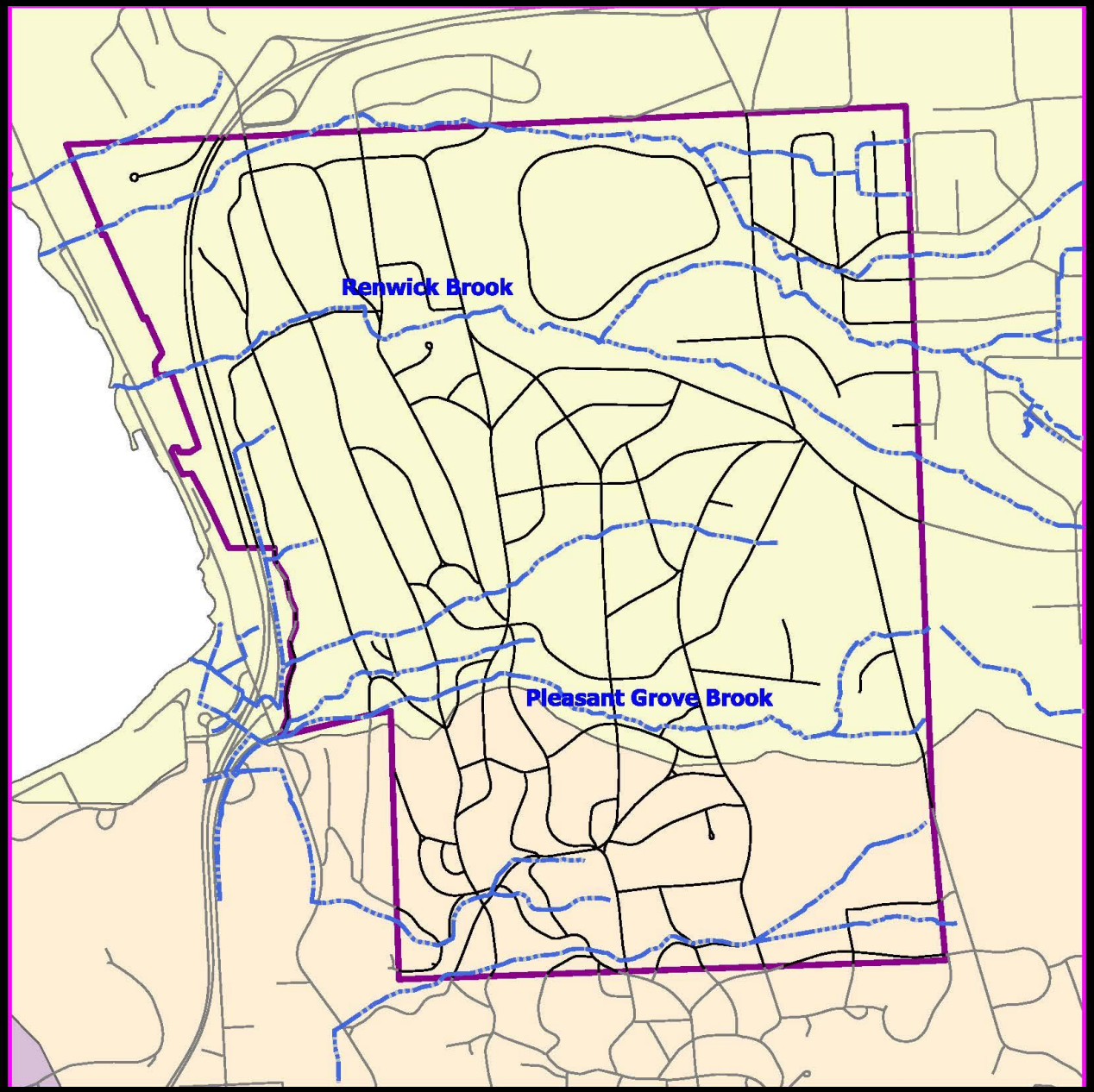


≥ 10% Slope

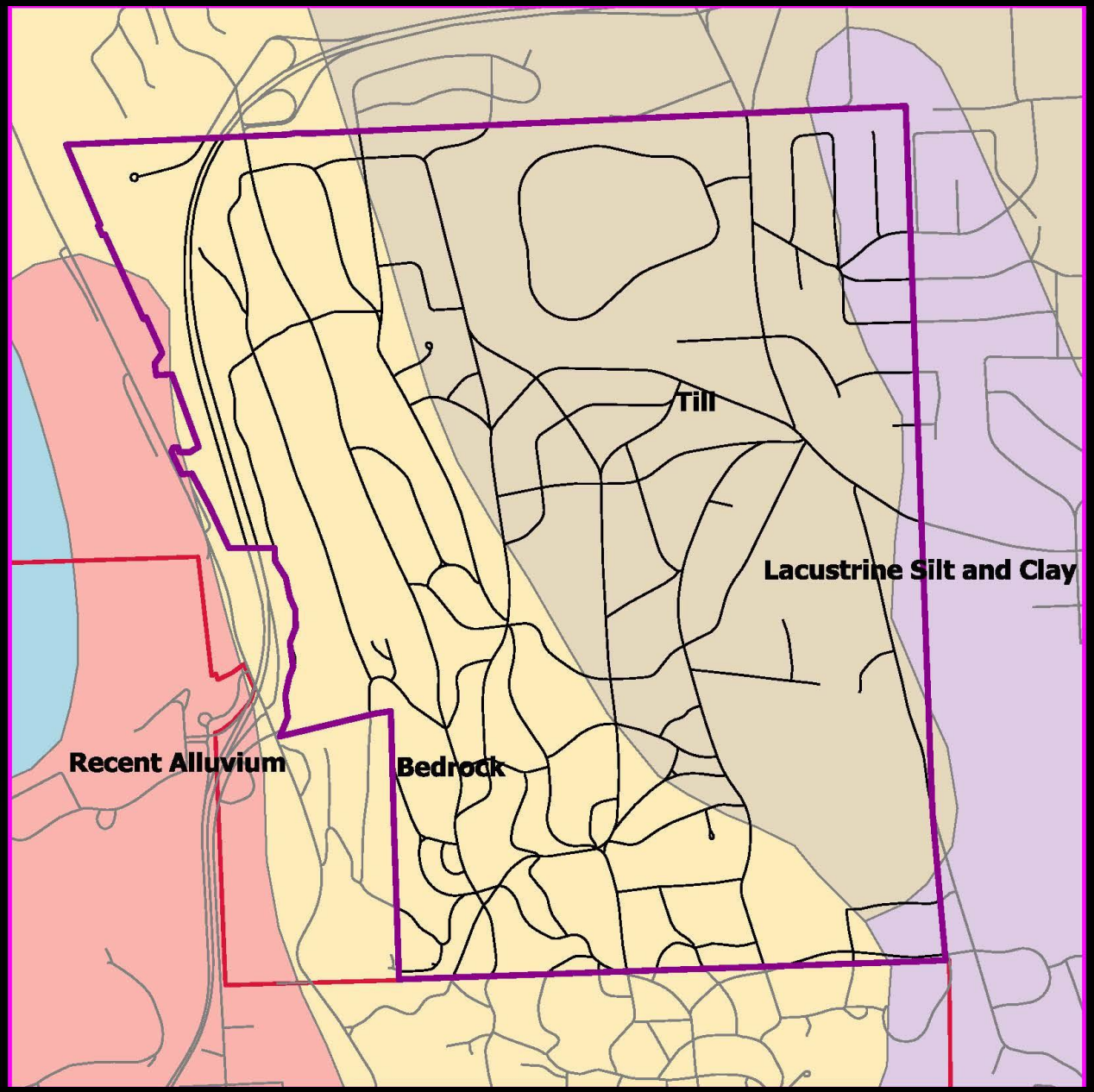
Orange: 15 to 25% Slope Red ≥ 25% Slope



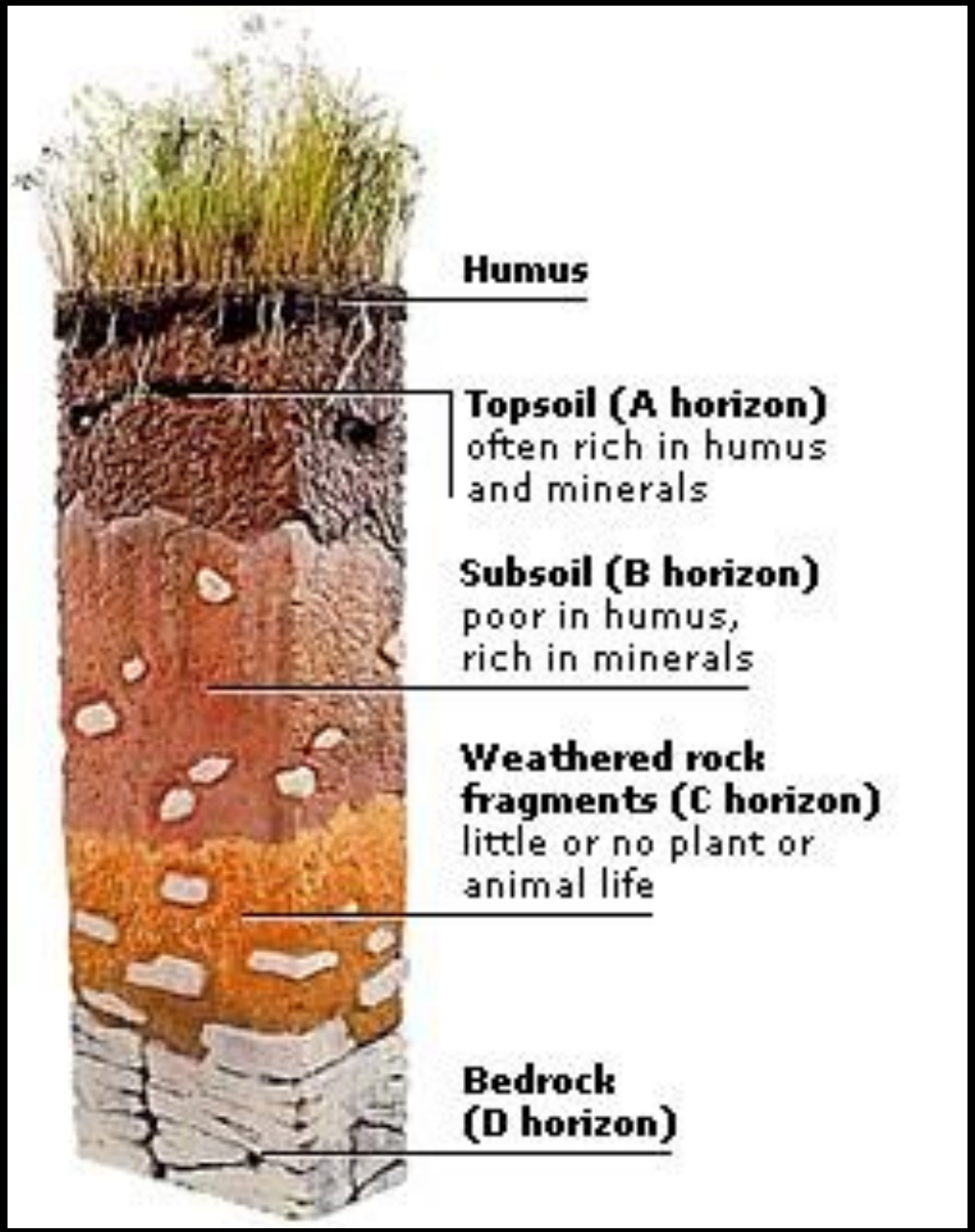
Watersheds



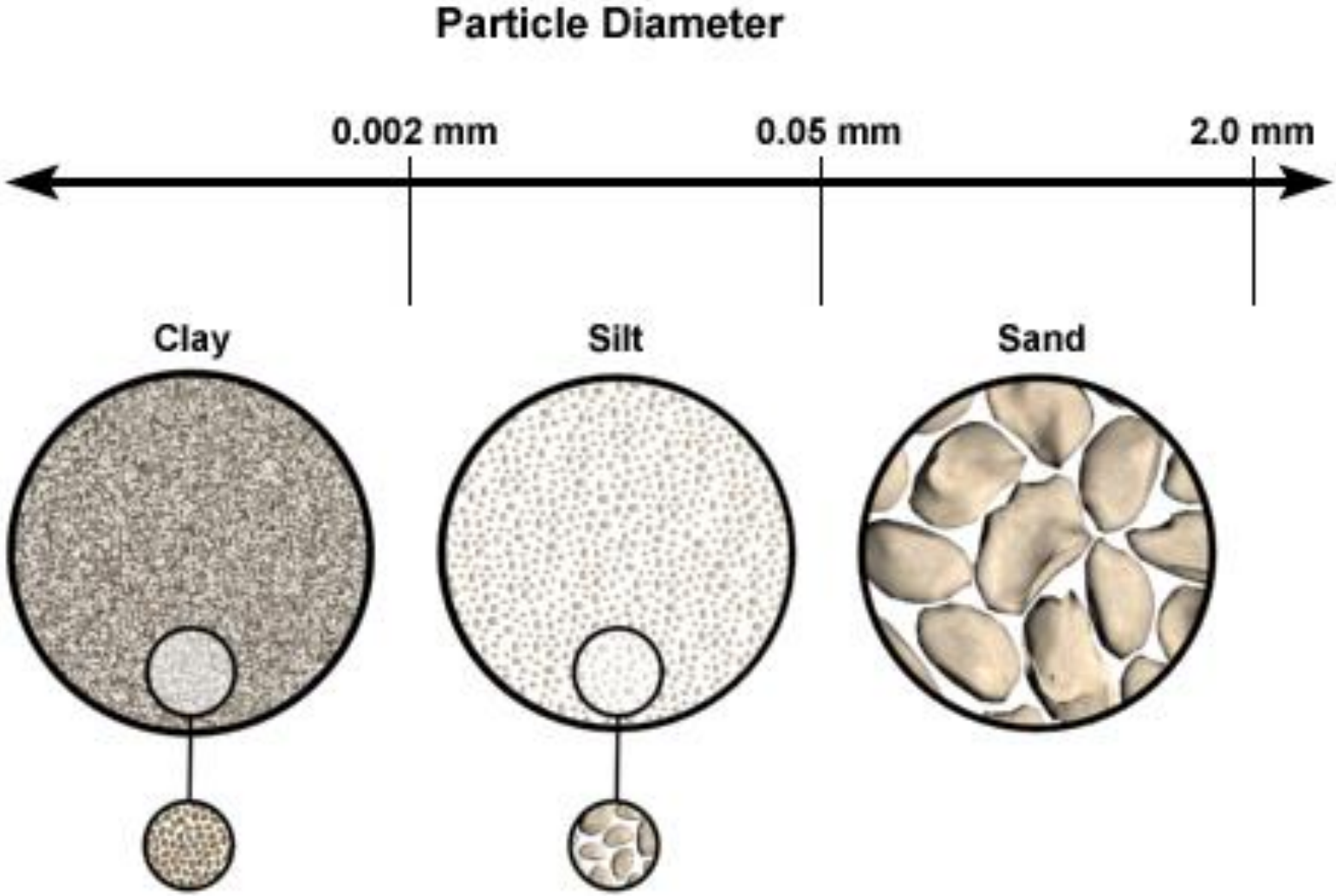
Streams



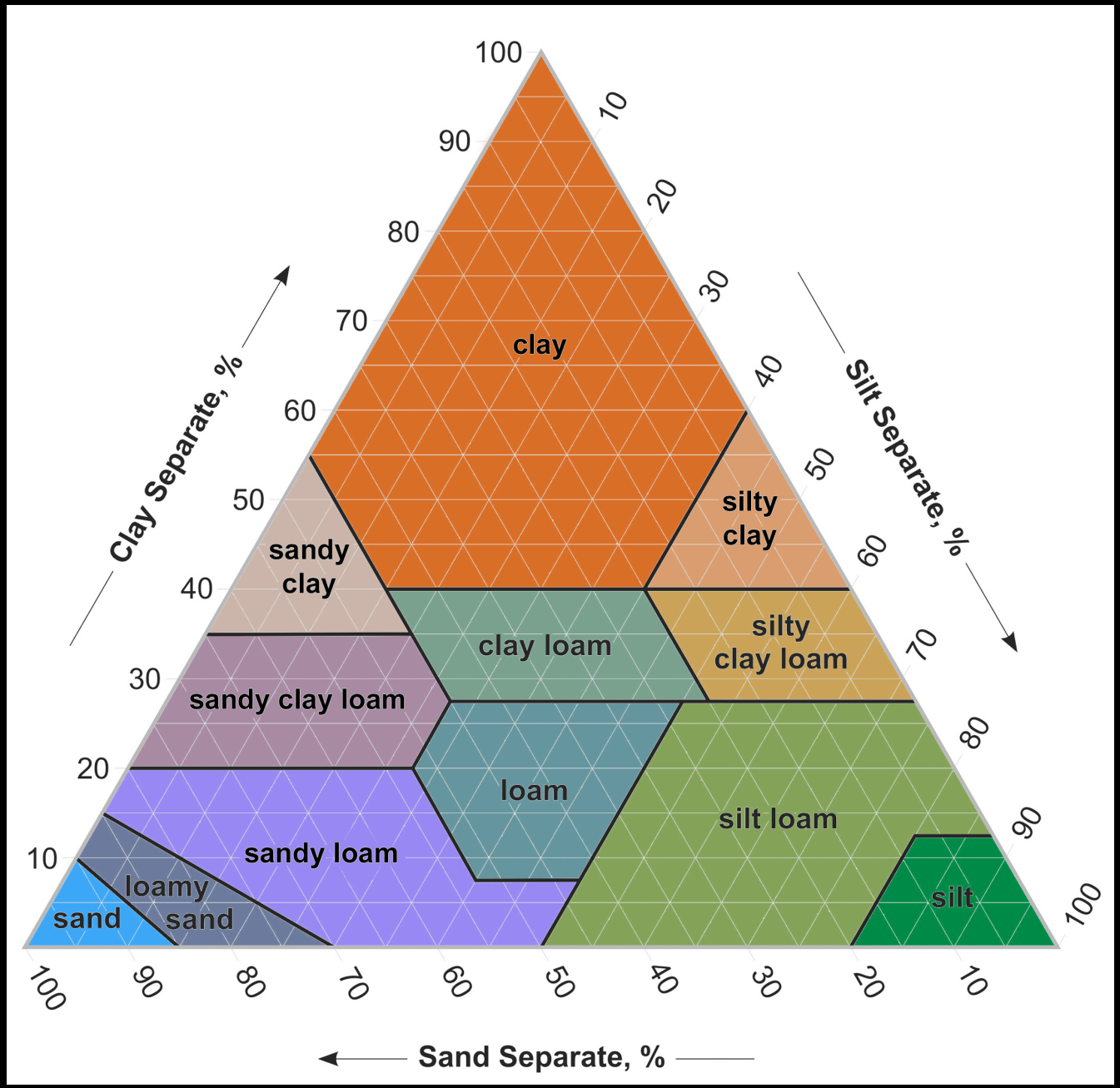
Surficial Geology



Soil Horizons



Soil Particle Size



Soil Texture

Soil structure

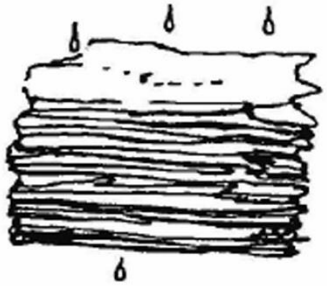
Single grain

Rapid

Blocky

Moderate-slow

Platy



Slow-very slow

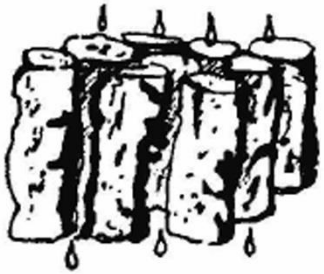
Infiltration rate

Soil structure

Granular

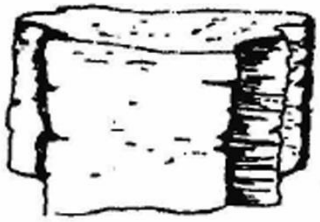
Rapid-moderate

Prismatic



Moderate-slow
(when wetted)

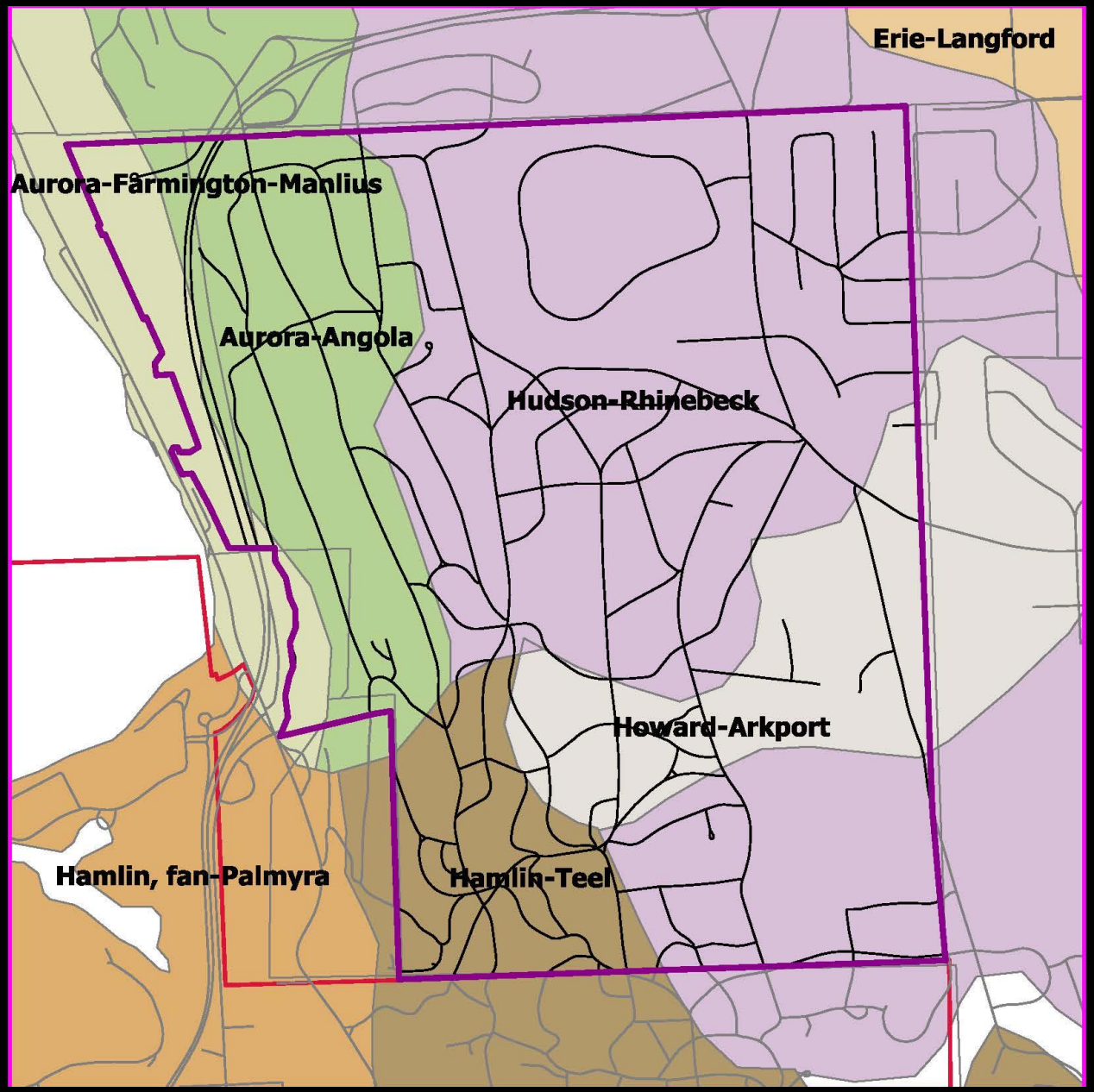
Massive



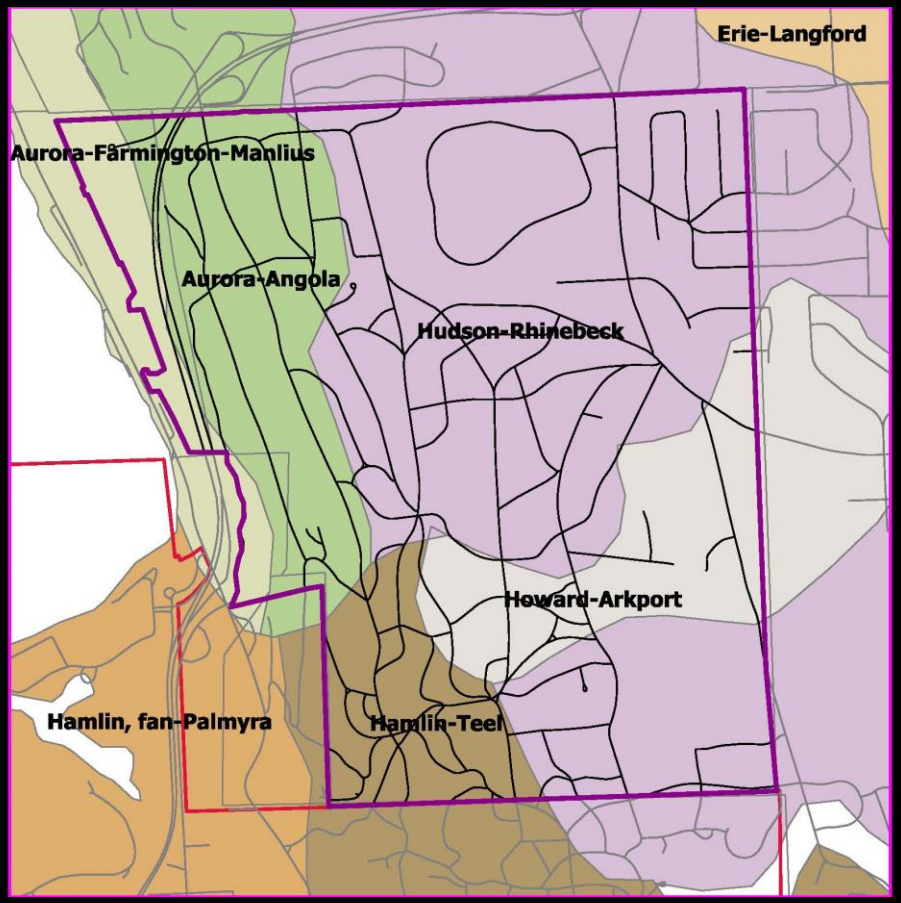
Very slow

Infiltration rate

Soil Structure



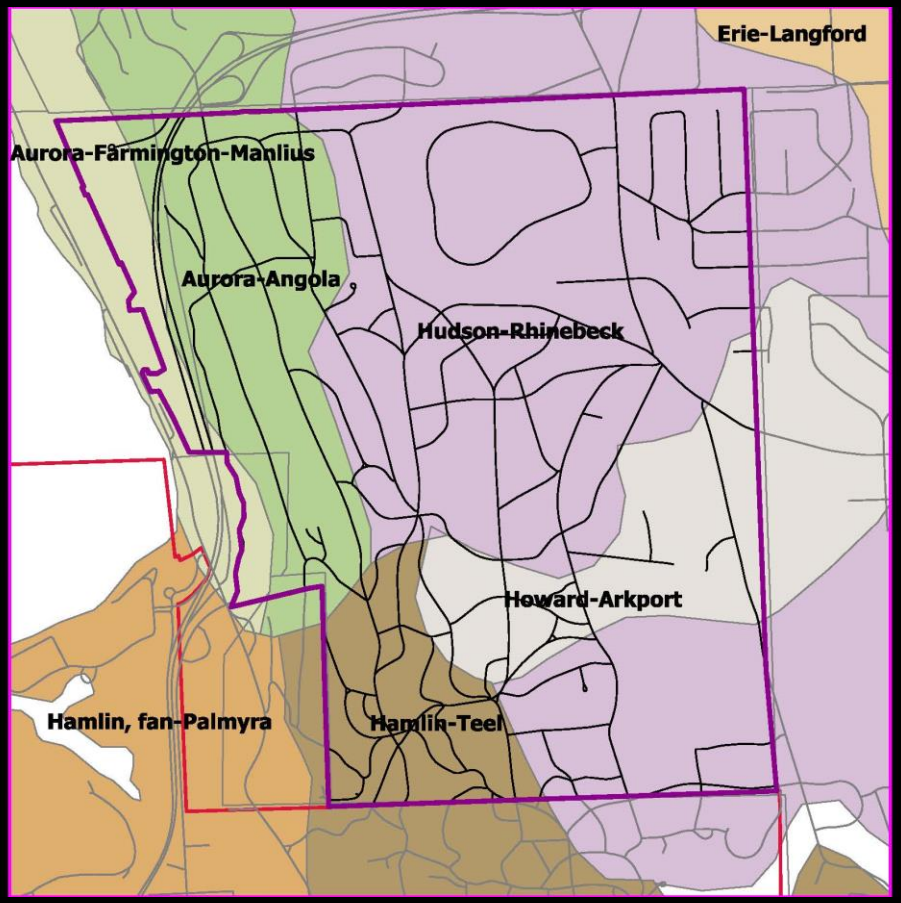
Soil Associations



Hudson-Rhinebeck

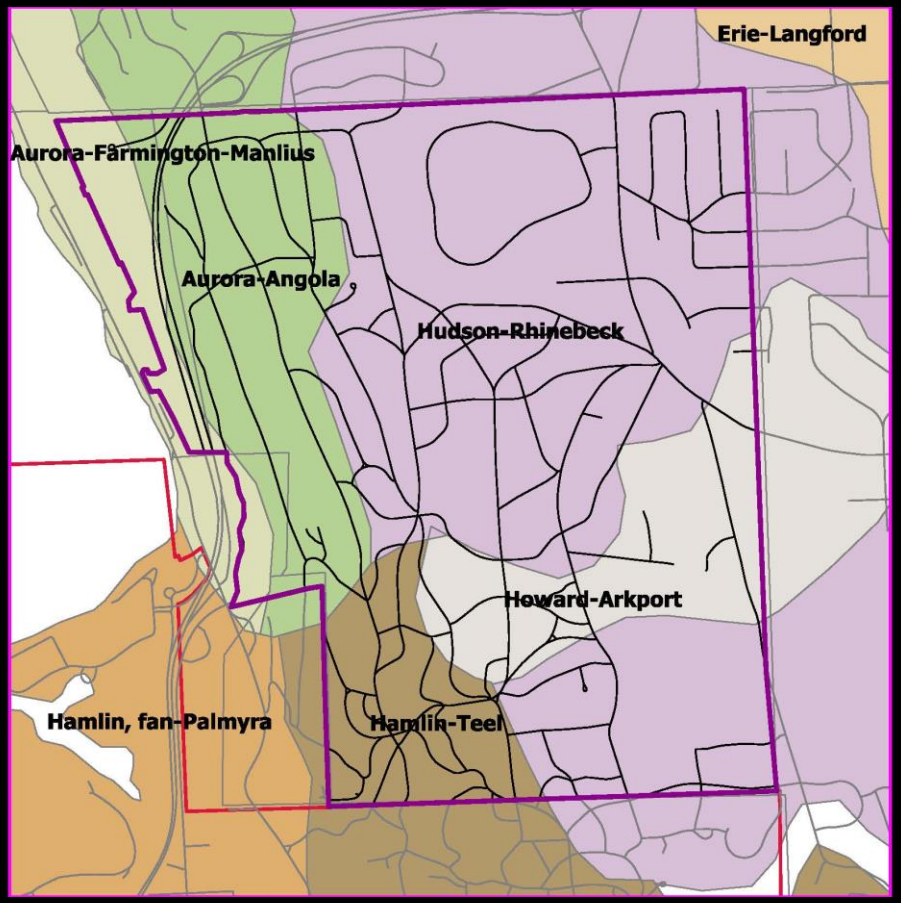
Moderately well-drained and somewhat poorly drained fine textured, high-lime soils in clayey, glacial lake deposits

Subsoils are generally higher in clay content than the surface soil



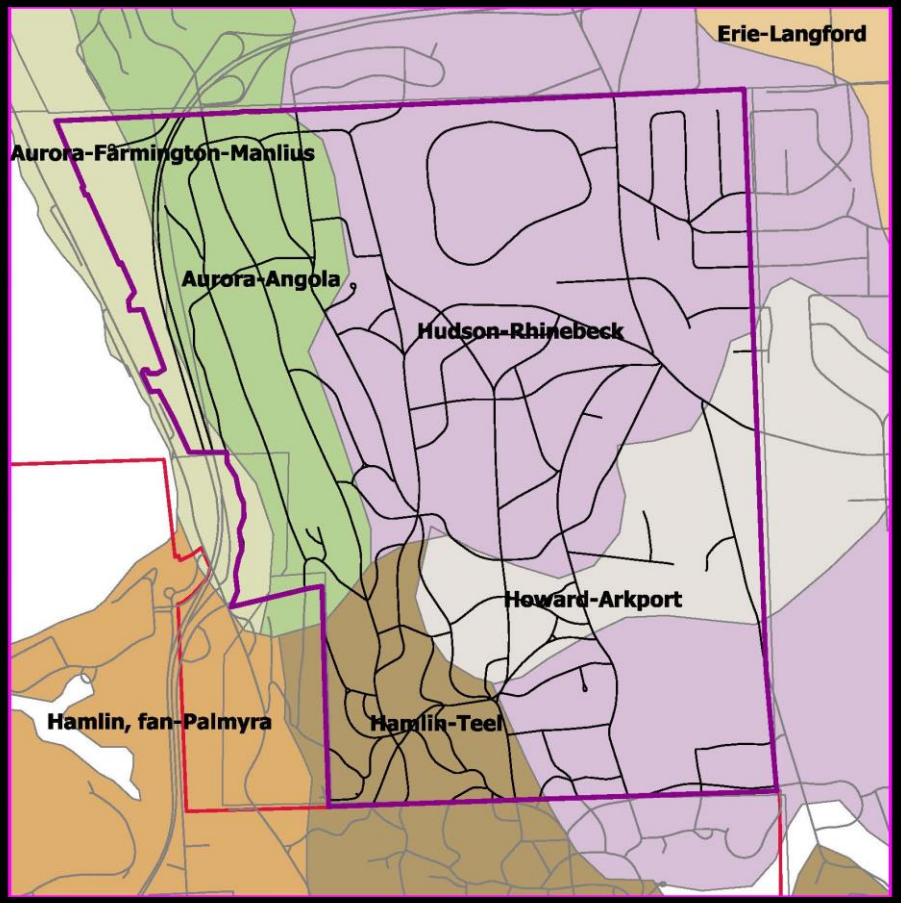
Howard-Arkport

Moderately well-drained soils having a medium-textured to moderately coarse textured subsoil



Aurora-Angola

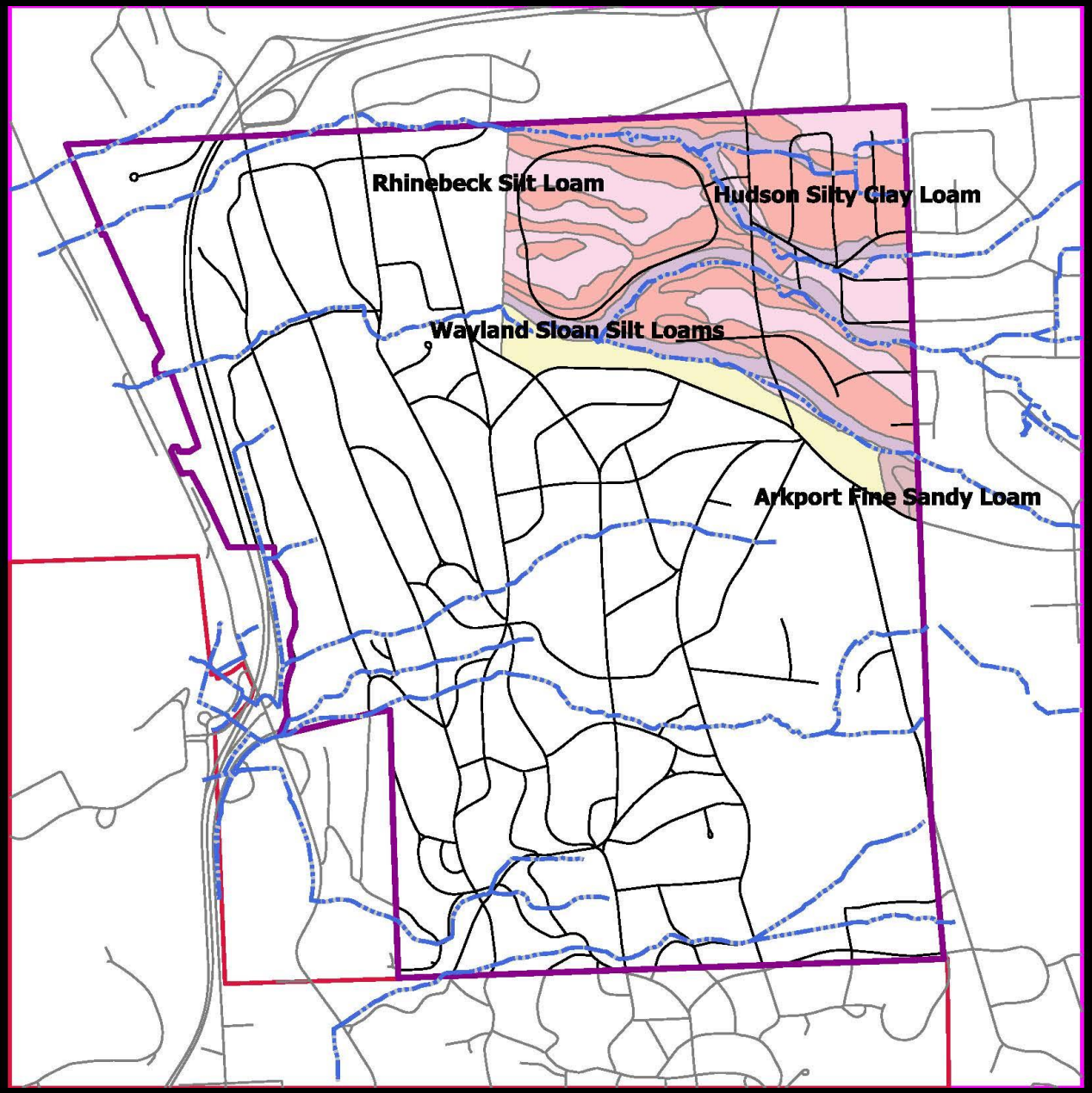
Medium-lime, silt-loams developed, moderately well-drained



Hamlin-Teel

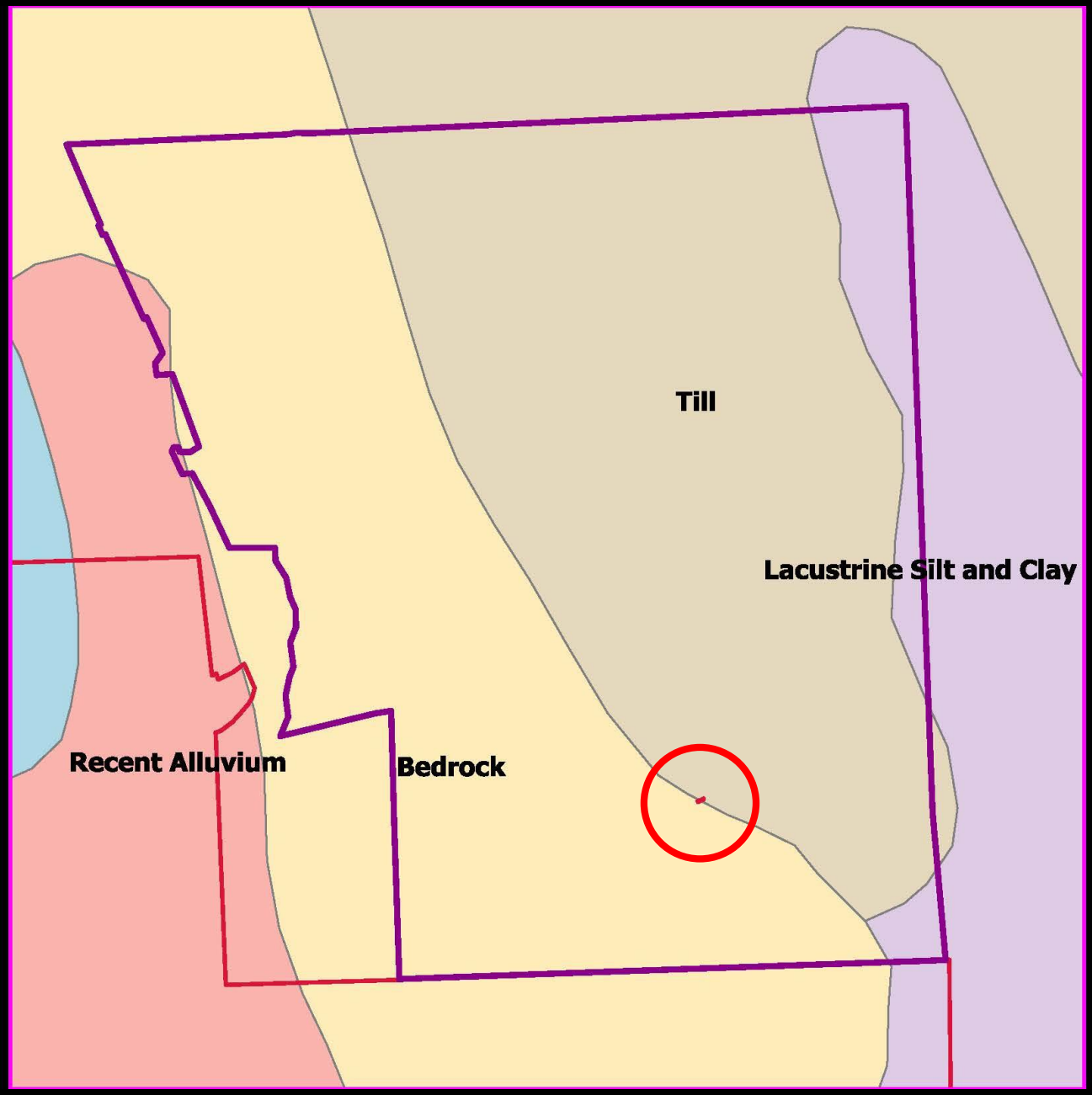
Moderately well-drained, medium textured soils

Less than 18% clay in the particle size

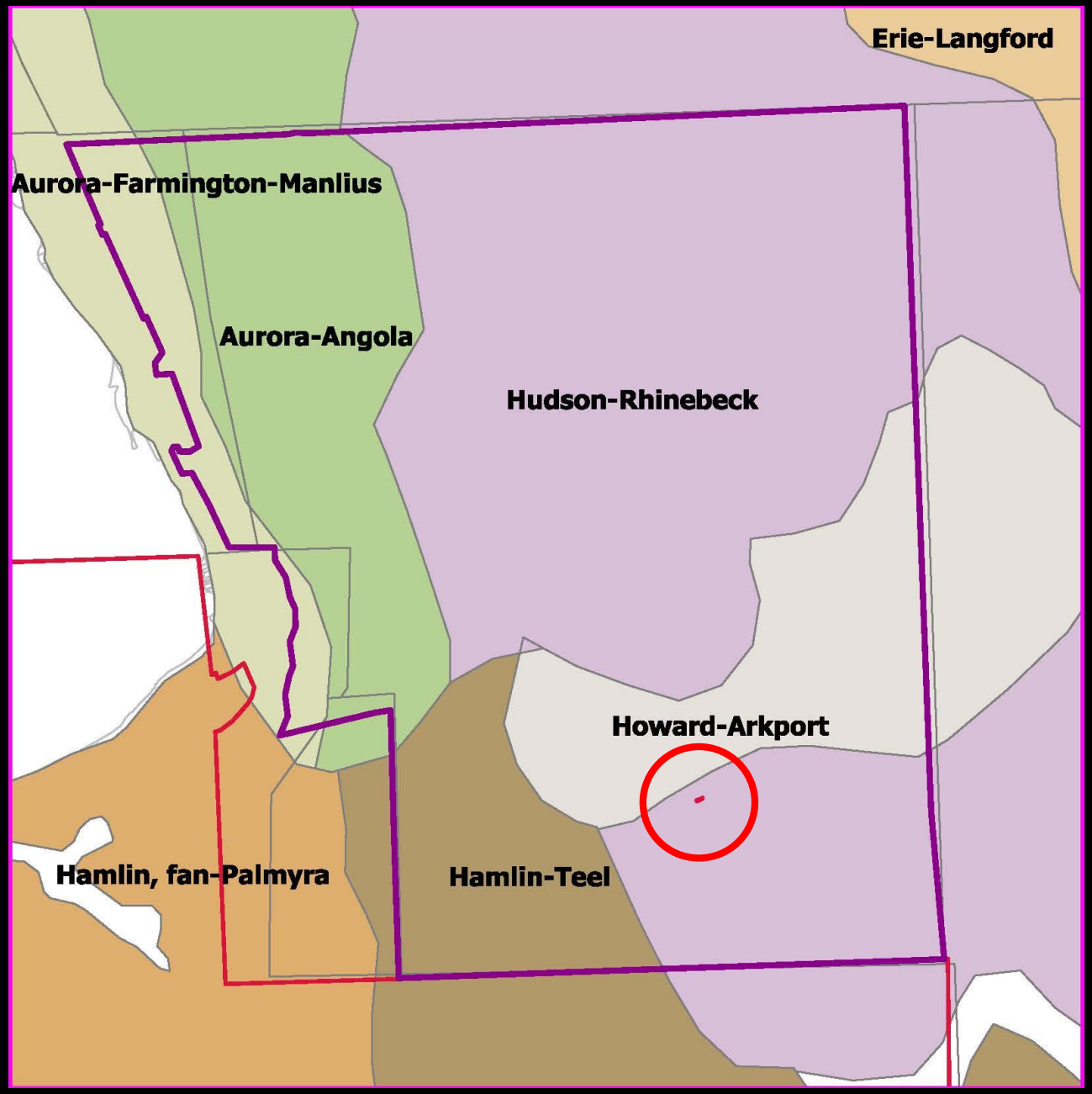


1965 Soil Survey

200 Oak Hill Rd



200 Oak Hill Rd



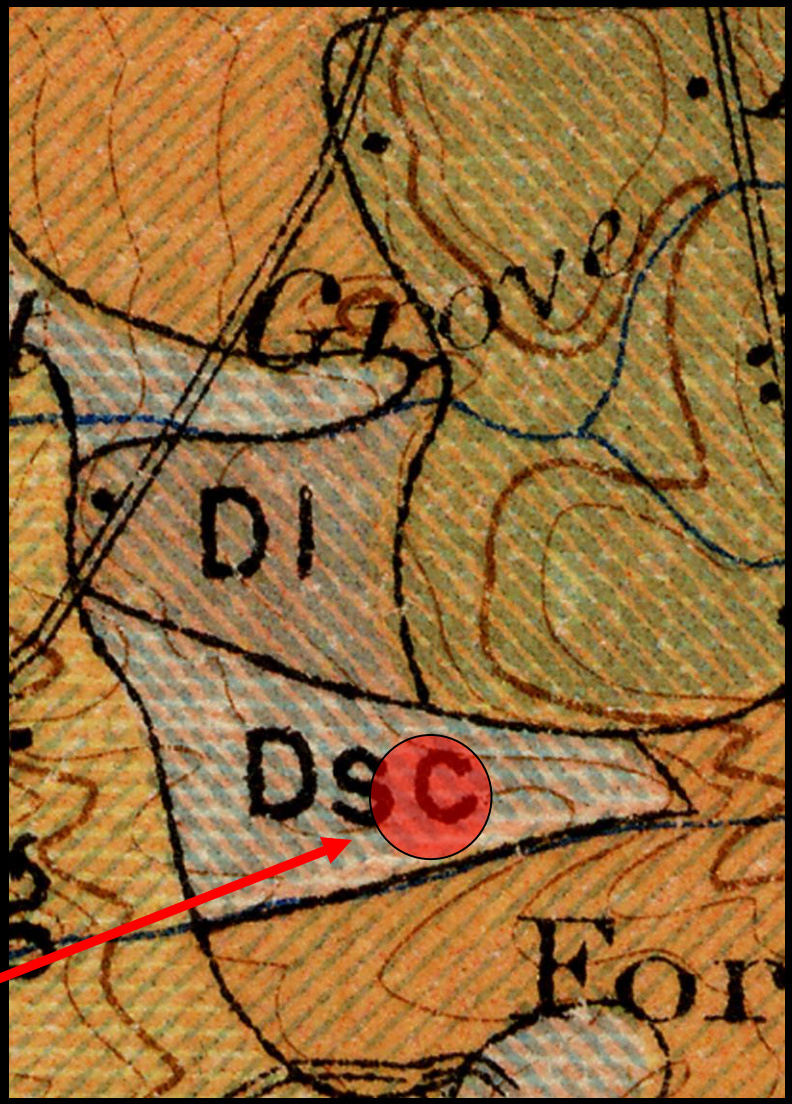
200 Oak Hill Rd

3 Foot Deep Front Lawn Hole

3 Foot Deep Front Lawn Hole

DSC -- Dunkirk Stony Clay

Dunkirk soils consist of material from the glaciated uplands which, at the end of the glacial period, were washed down in temporary lakes and ponds and redeposited as glacial lake or stream terraces.



Hole Site

1920 Soil Survey

1909

Stream Disappears From Map Thanks To Triphammer And Storm Drain System

No Remnants Of Riparian Corridor

1969

Channelization

3 Foot Deep Front Lawn Hole

FIELD NUMBER 17976 CALS ANALYTICAL LABORATORY REPORT DATE 03/26/03

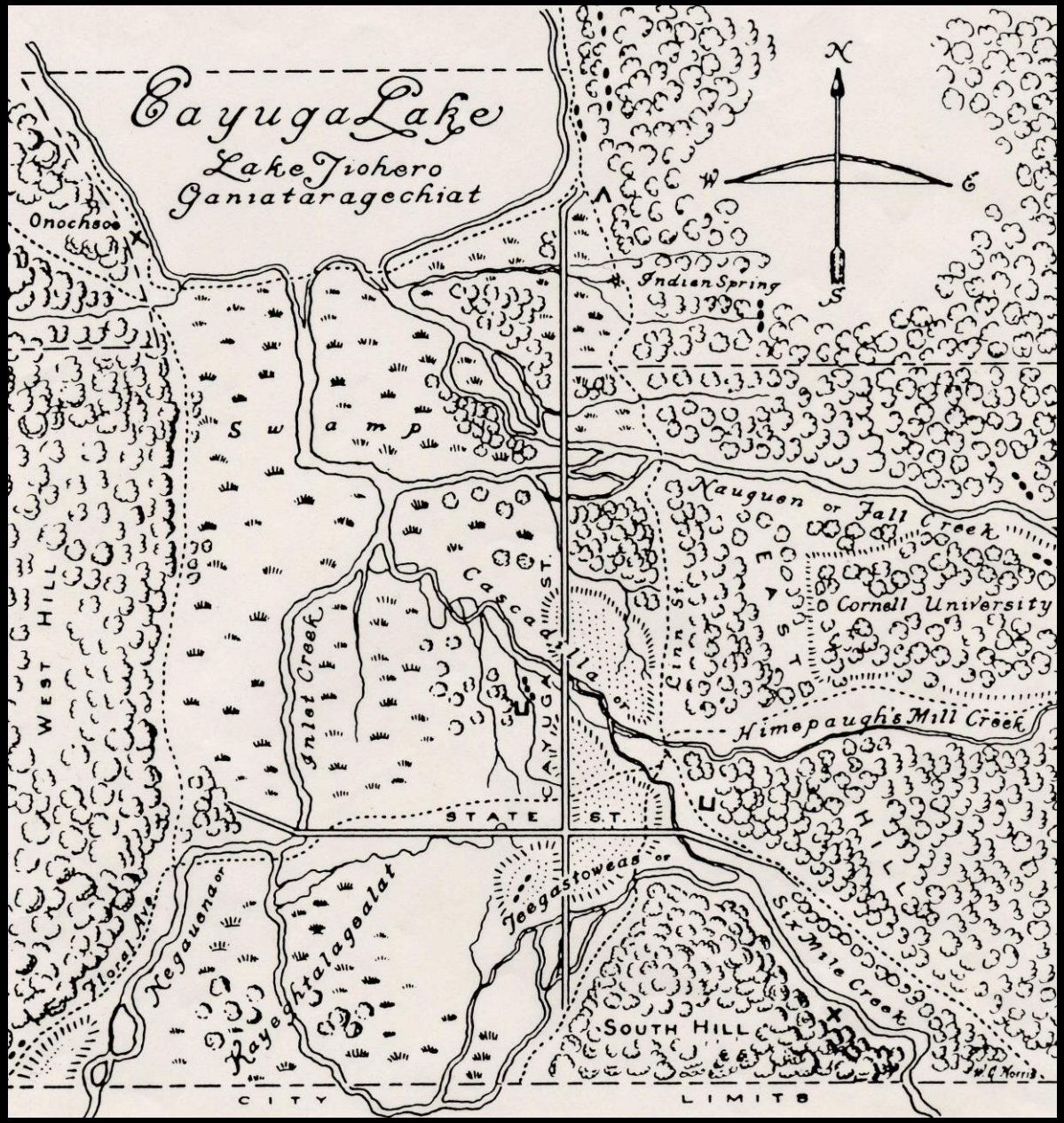
**** IF PRESENT, 0.0 VALUES ARE AT OR BELOW DETECTION LIMITS, BLANK VALUES INDICATE ANALYSIS NOT DETERMINED ****

(RESULTS COMPUTED FOR OVEN DRY (110 C) SOIL WEIGHT UNLESS MOISTURE % IS NOT AVAILABLE)

SAMPLE IDENTITY		Bottorn	Top	Palmer
Moisture content	%	1.811	2.046	4.901
P, available	mg/Kg	1.4	3.7	0.5
K, available	mg/Kg	19	32	42
Mg, available	mg/Kg	246.4	723.7	312.2
Ca, available	mg/Kg	1352	9574	2794
Fe, available	mg/Kg	0.9	8.5	0.9
Al, available	mg/Kg	13.6	27.7	15.7
Mn, available	mg/Kg	71.4	51.1	3.1
Zn, available	mg/Kg	0.26	0.98	0.27
CU, available	mg/Kg	0.1	1.9	0.7
pH in water	pH	7.27	7.46	7.13
Exchange Acidity	cmol/Kg			
LOI, (Organic Matter)	%	3.08	2.87	4.10
NO3, available	mg/Kg	0.00	0.00	0.00

Impact Of Cultivation: Large amounts of Phosphorus (P) and Calcium (Ca) In Soil From Top Of Hole

Soil From Bottom Of Hole More Closely Approximates Soil From Oak Hill/Palmer Woods (pH, P, Fe)



Historic Forest pre-1790

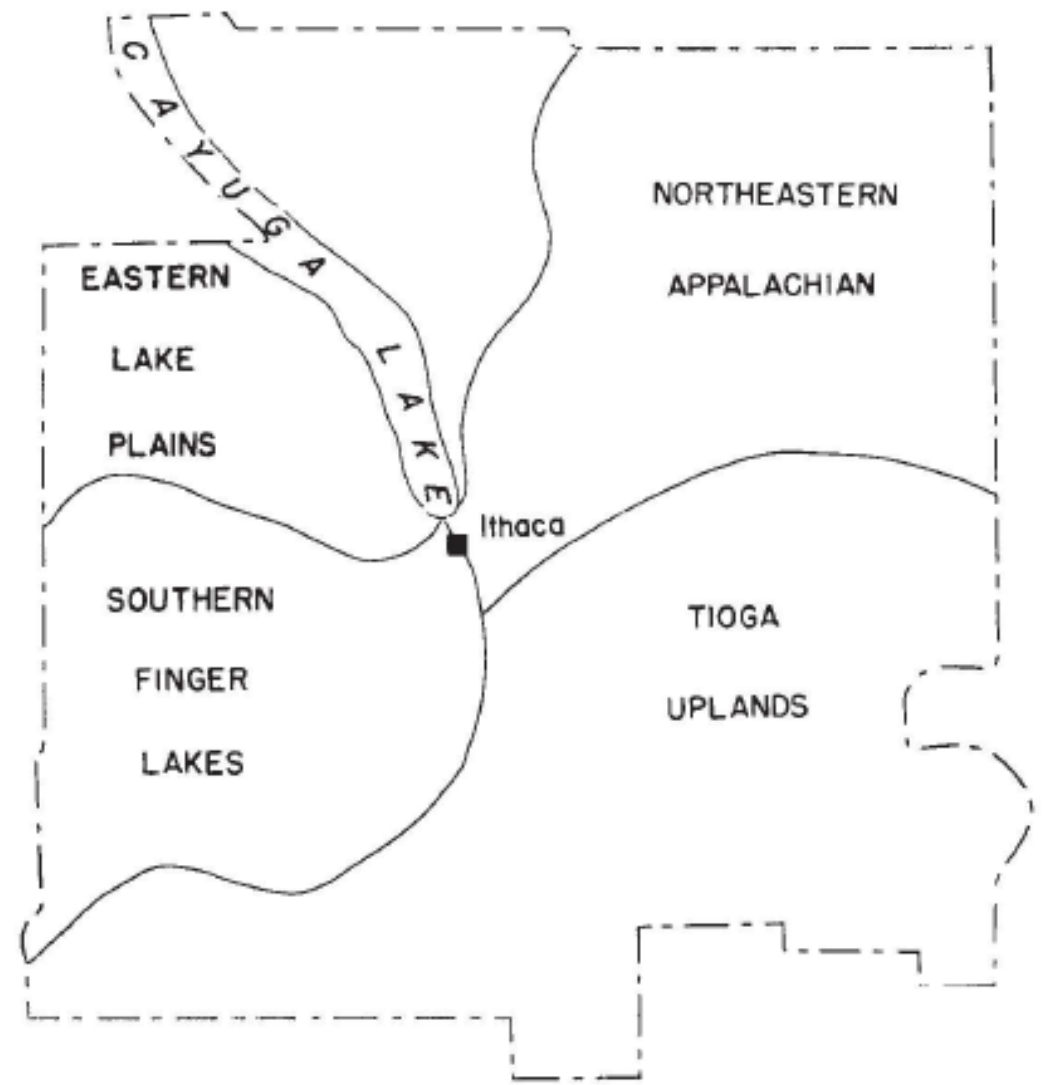
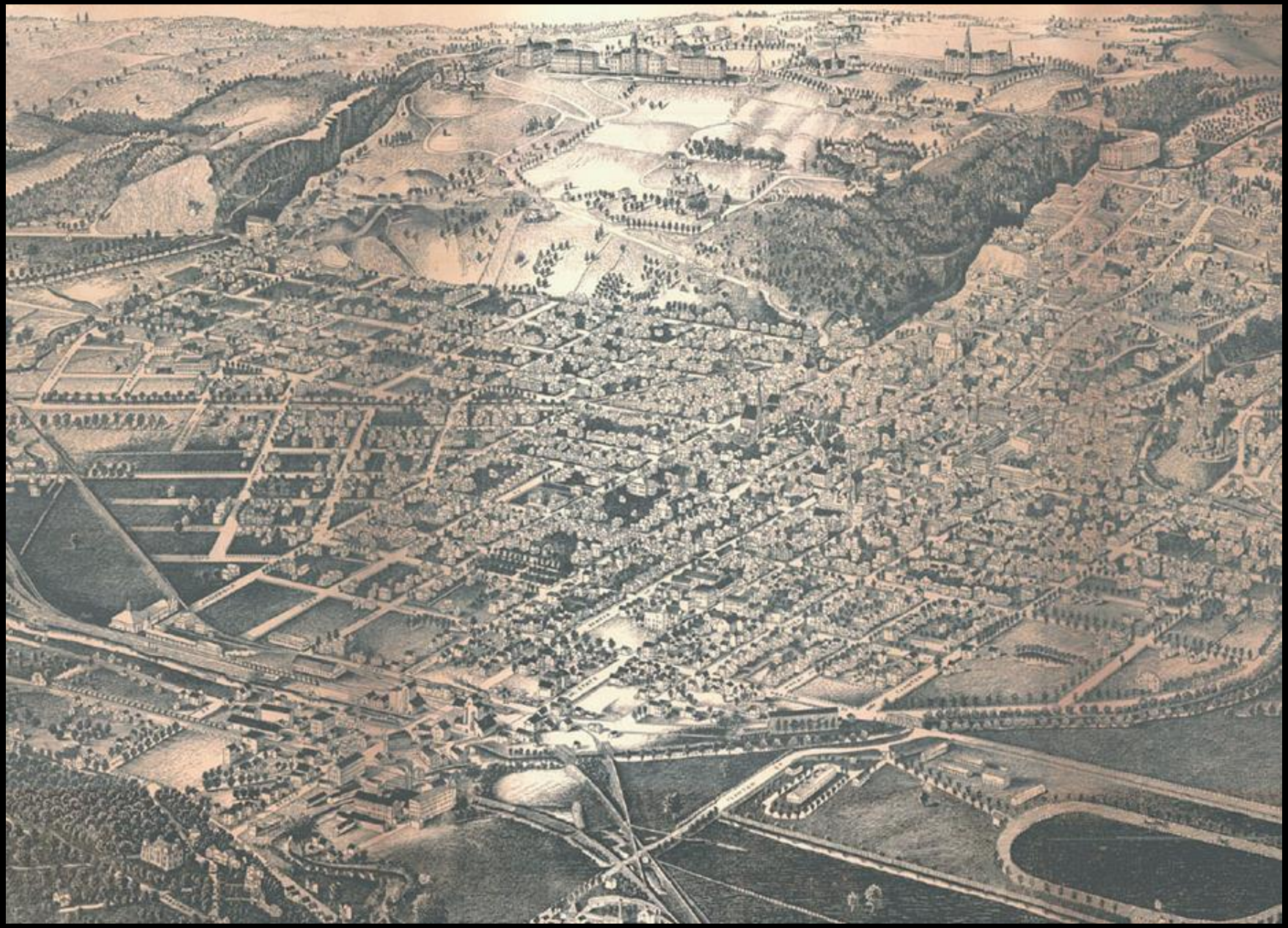


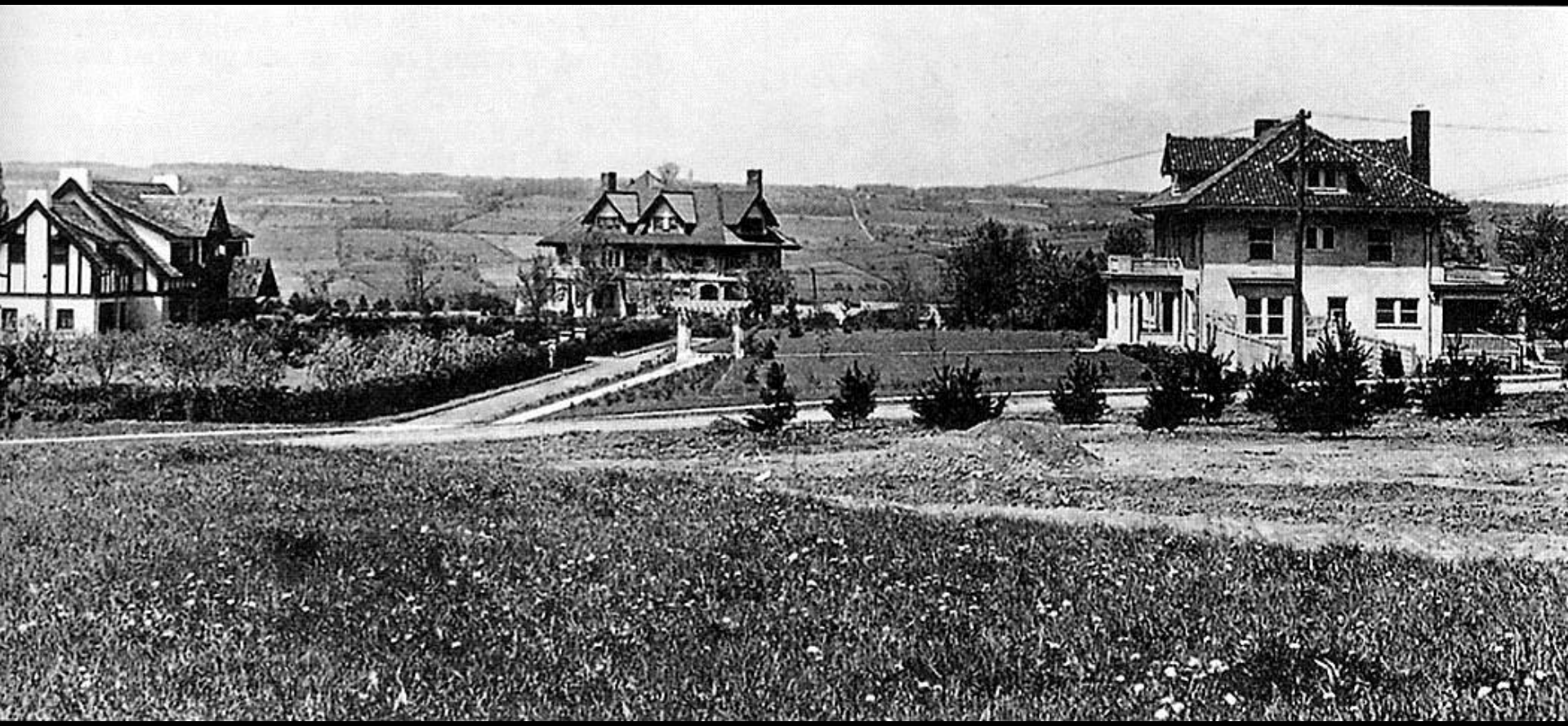
Figure 16.—Woodland regions in Tompkins County.

Northeastern Appalachian: sugar maple, beech, black cherry, white ash, basswood, and hemlock



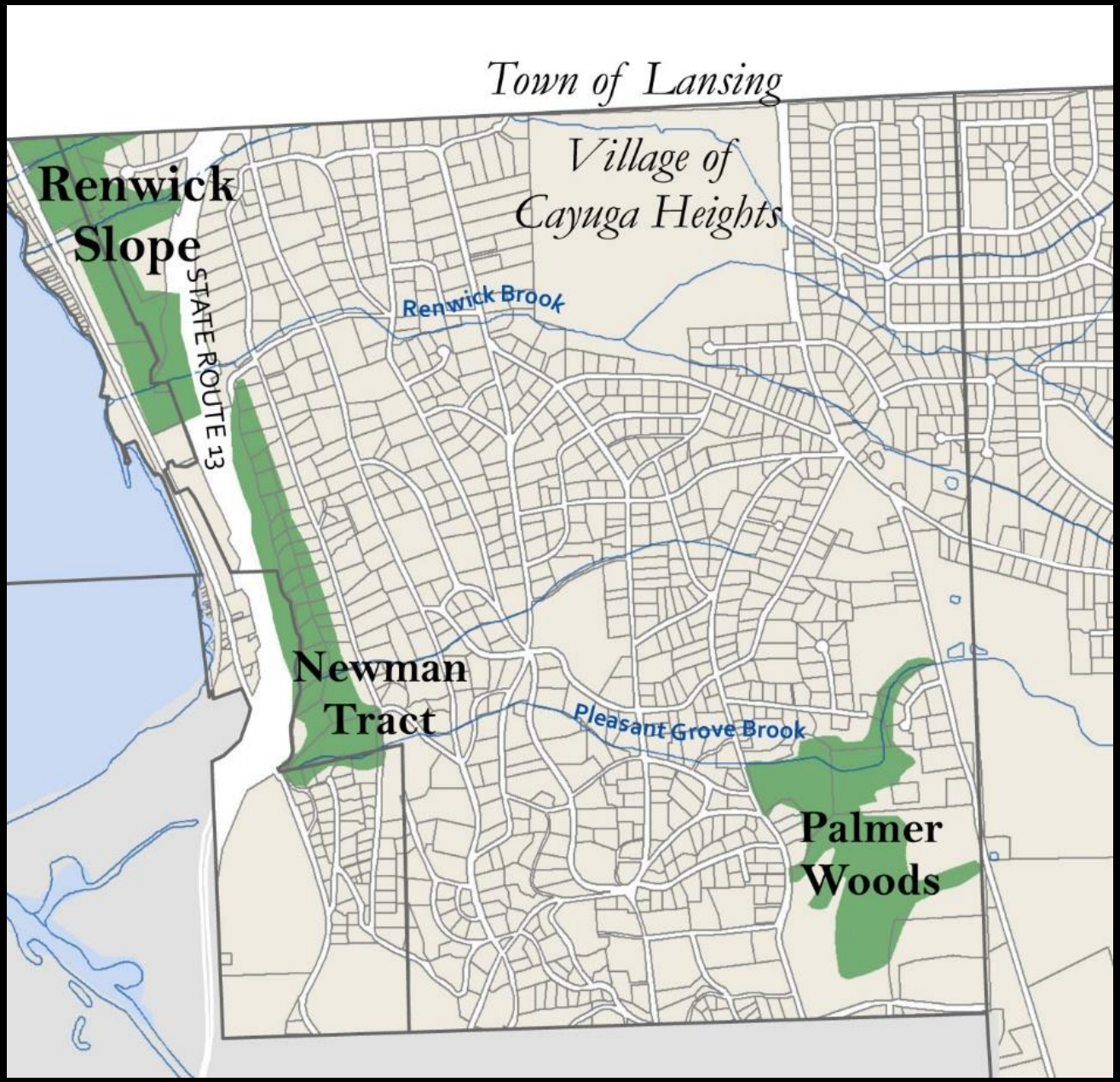
1882 Ithaca Birdseye

1882 Ithaca Birdseye



Parkway and Highland 1916

Canopy Cover

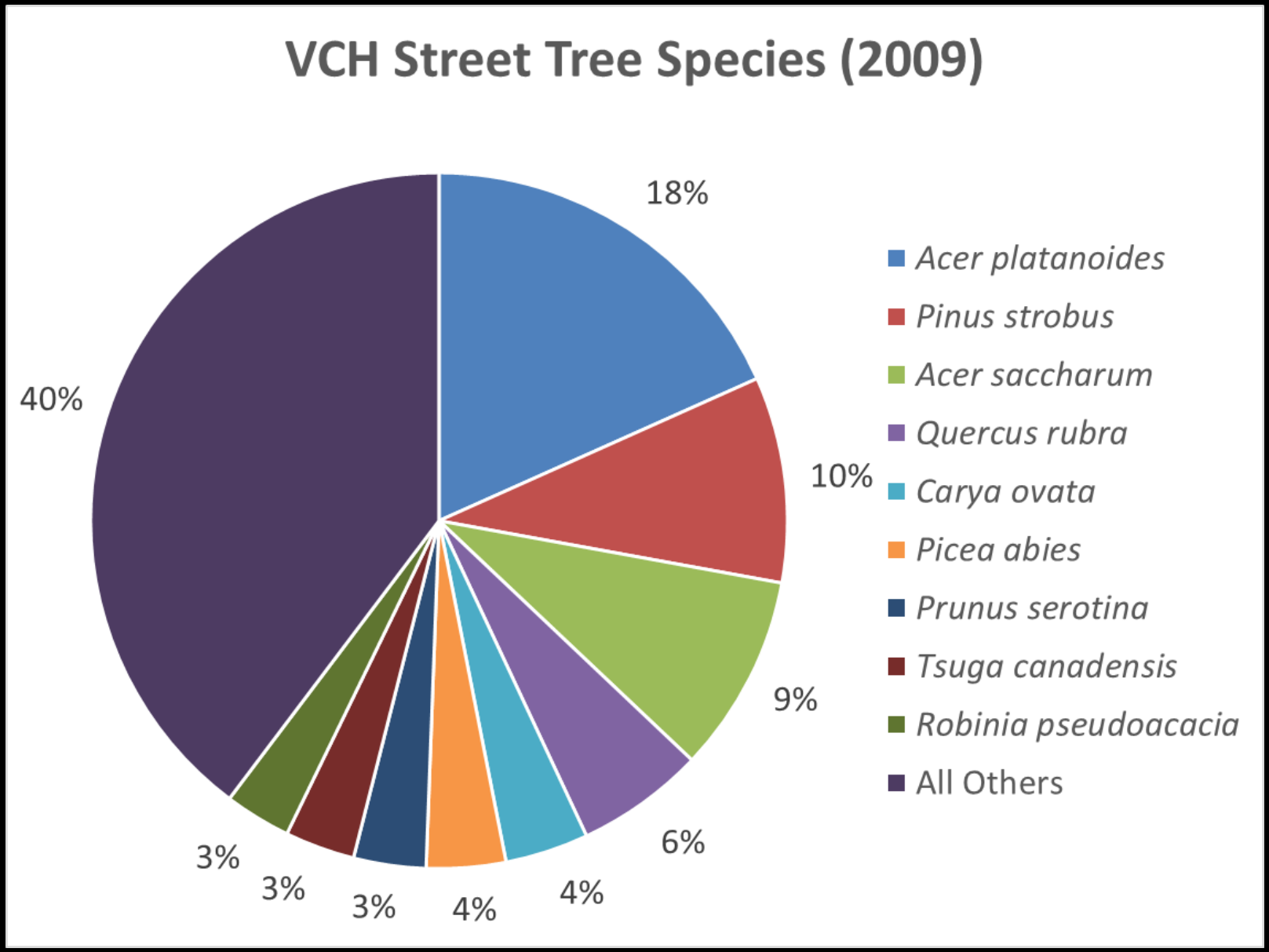


VCH UNAs (Unique Natural Areas)

1938 Aerial

Newman Tract

Cayuga Heights Street Trees 2013


VCH Street Tree Species (2009)
18%
10%
9%
6%
4%
4%
3%
3%
3%
40%
Acer platanoides
Pinus strobus
Acer saccharum
Quercus rubra
Carya ovata
Picea abies
Prunus serotina
Tsuga canadensis
Robinia pseudoacacia
All Others

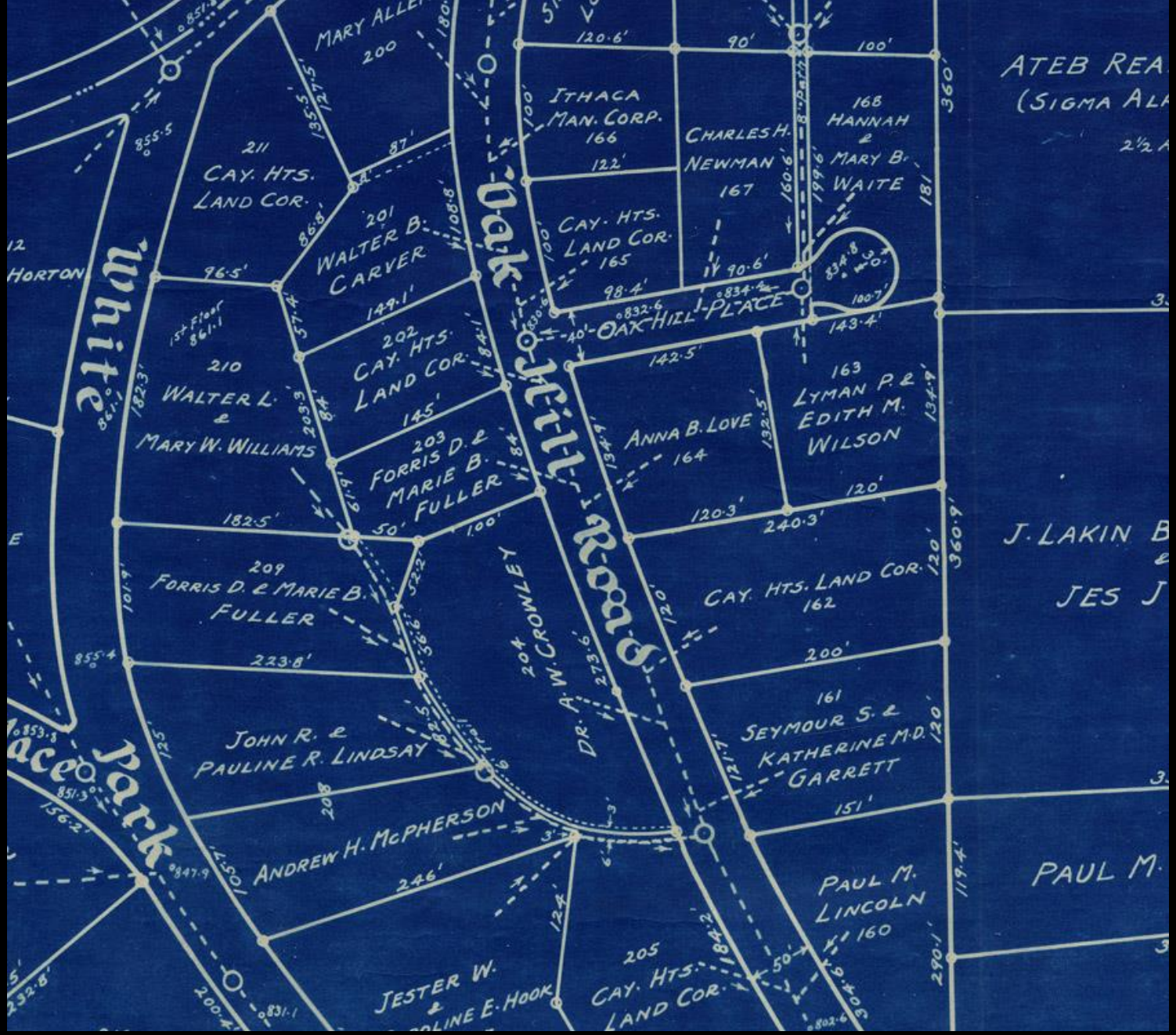
Norway Maple (orange) Sugar Maple (blue)

Eastern White Pine (pink)

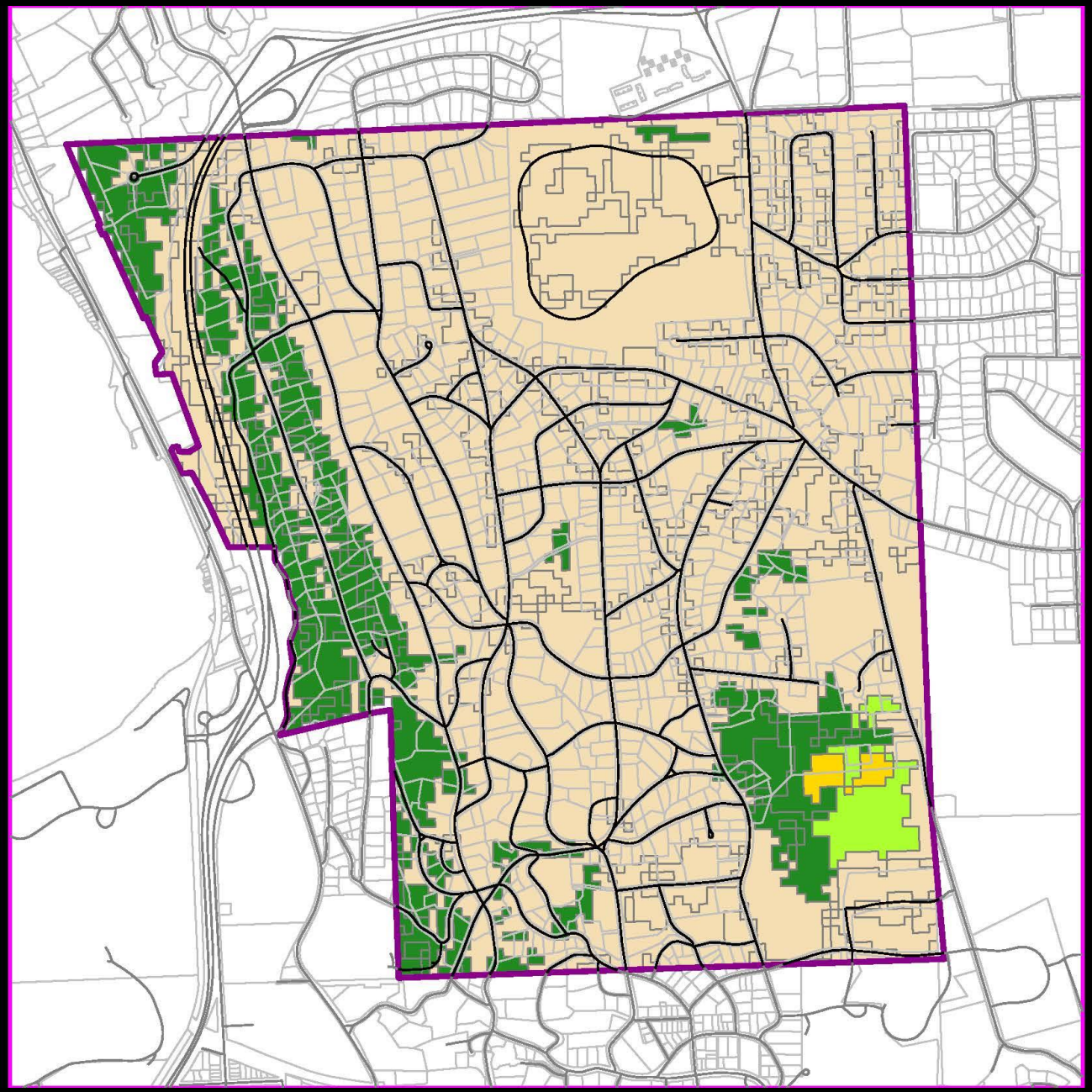
Riverside IL – Olmsted-Vaux Plan

Curvilinear Streets Following Contours

"We should recommend the general adoption, in the design of your roads, of gracefully curved lines, generous spaces, and the absence of sharp corners, the idea being to suggest and imply leisure, contemplativeness and happy tranquility."

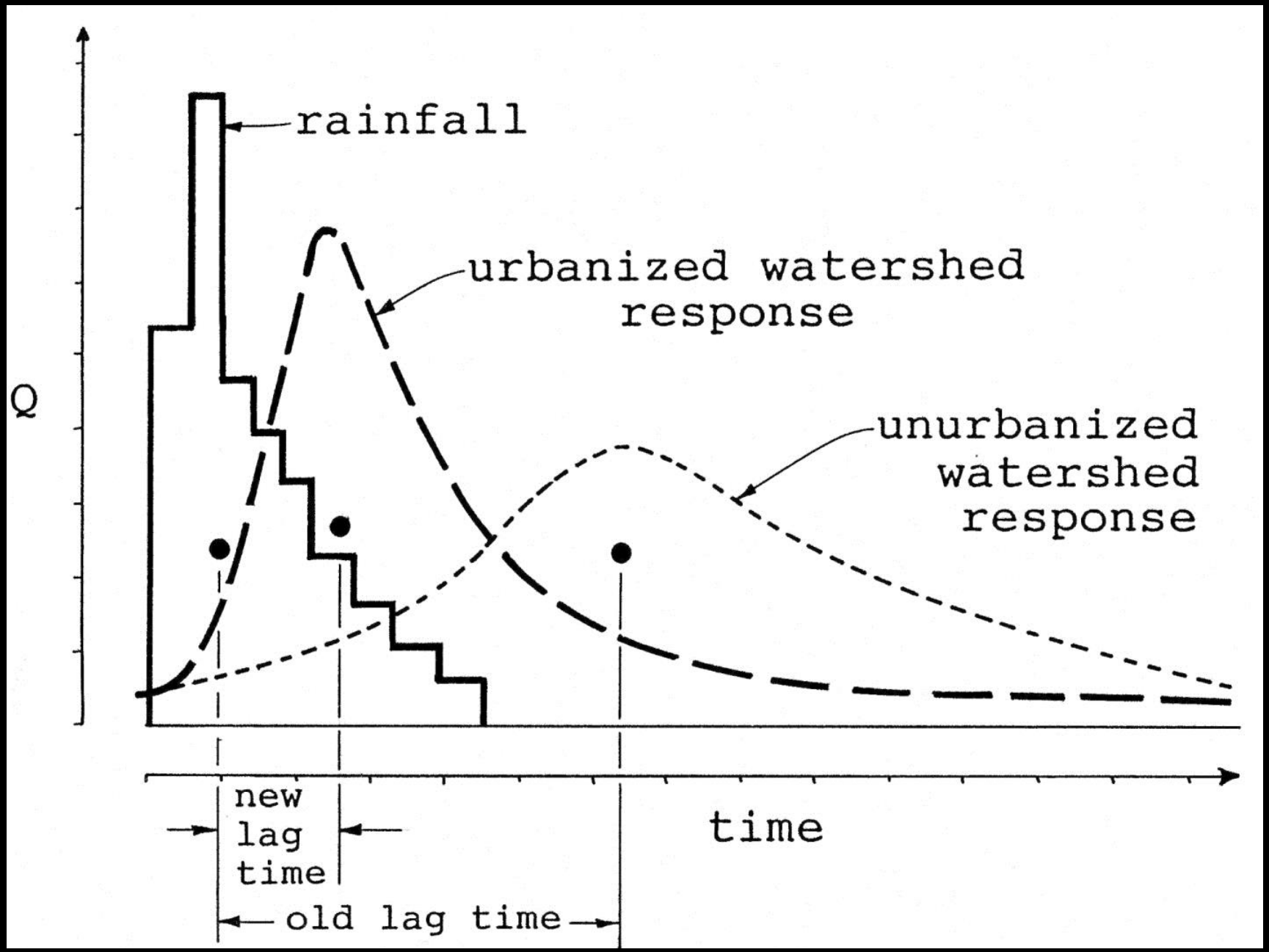


Sewer Map 1929



Land Use Land Cover

Impervious Surface

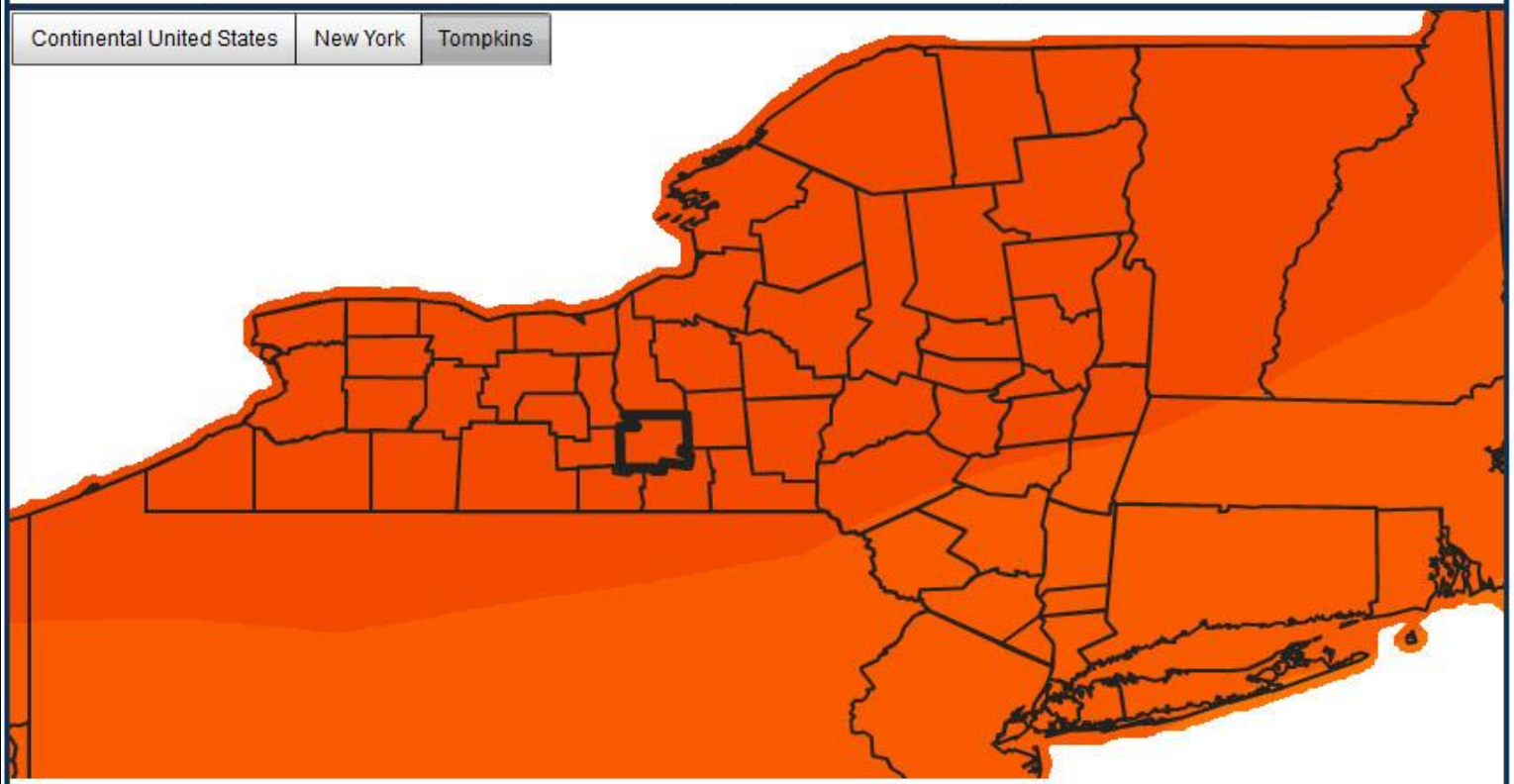


Impervious Surface and Storm Water Runoff

Residential Rain Garden

Time Period : Annual Mean | Model : Mean Model | Variable : Max Temperature | Region Type : State/Counties | Region : Tompkins

Continental United States | New York | Tompkins

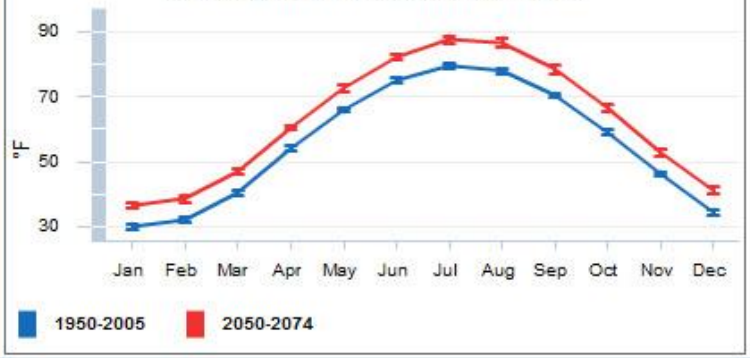


Change in Annual Mean Max Temperature (°F) 2050-2074 vs 1950-2005 (RCP8.5)

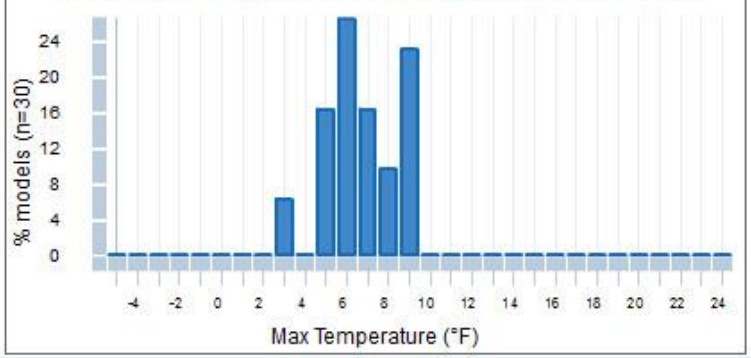
-4 -2 0 2 4 6 8 10 12 14 16 18 20 22 24

Climograph/Histogram | Time Series | Data Table | Percentile Table | Model Info | Scenario, Time Period, Units | Download Summary

Max Temperature by Month for Mean Model

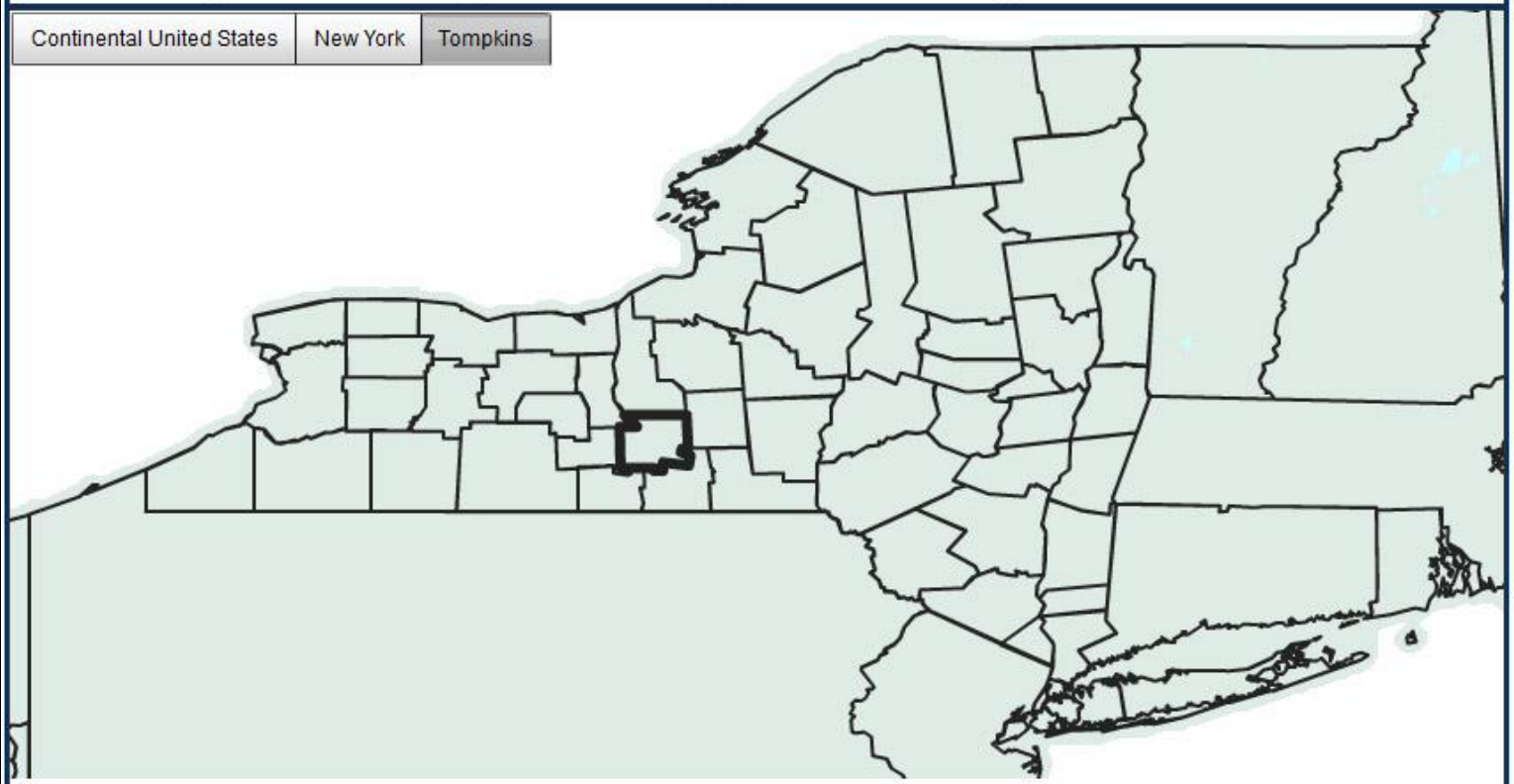


Change in Annual Mean Max Temperature Histogram for all Models



Time Period : Annual Mean | Model : Mean Model | Variable : Precipitation | Region Type : State/Counties | Region : Tompkins

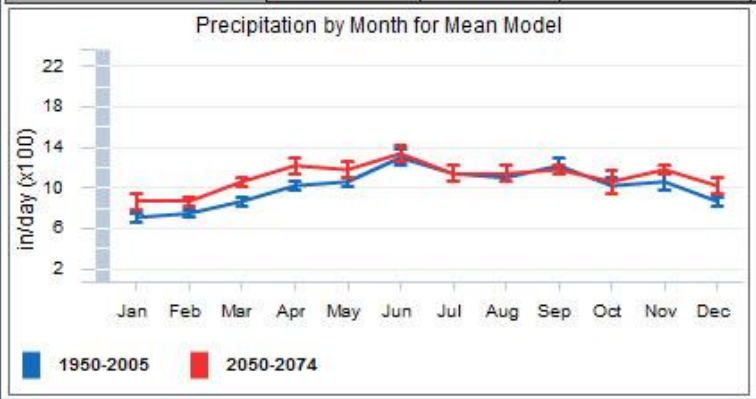
Continental United States | New York | Tompkins

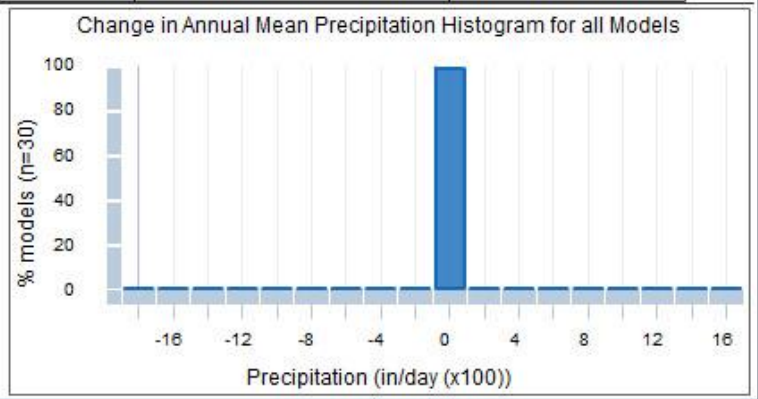


Change in Annual Mean Precipitation (in/day (x100)) 2050-2074 vs 1950-2005 (RCP8.5)

-16 -12 -8 -4 0 4 8 12 16

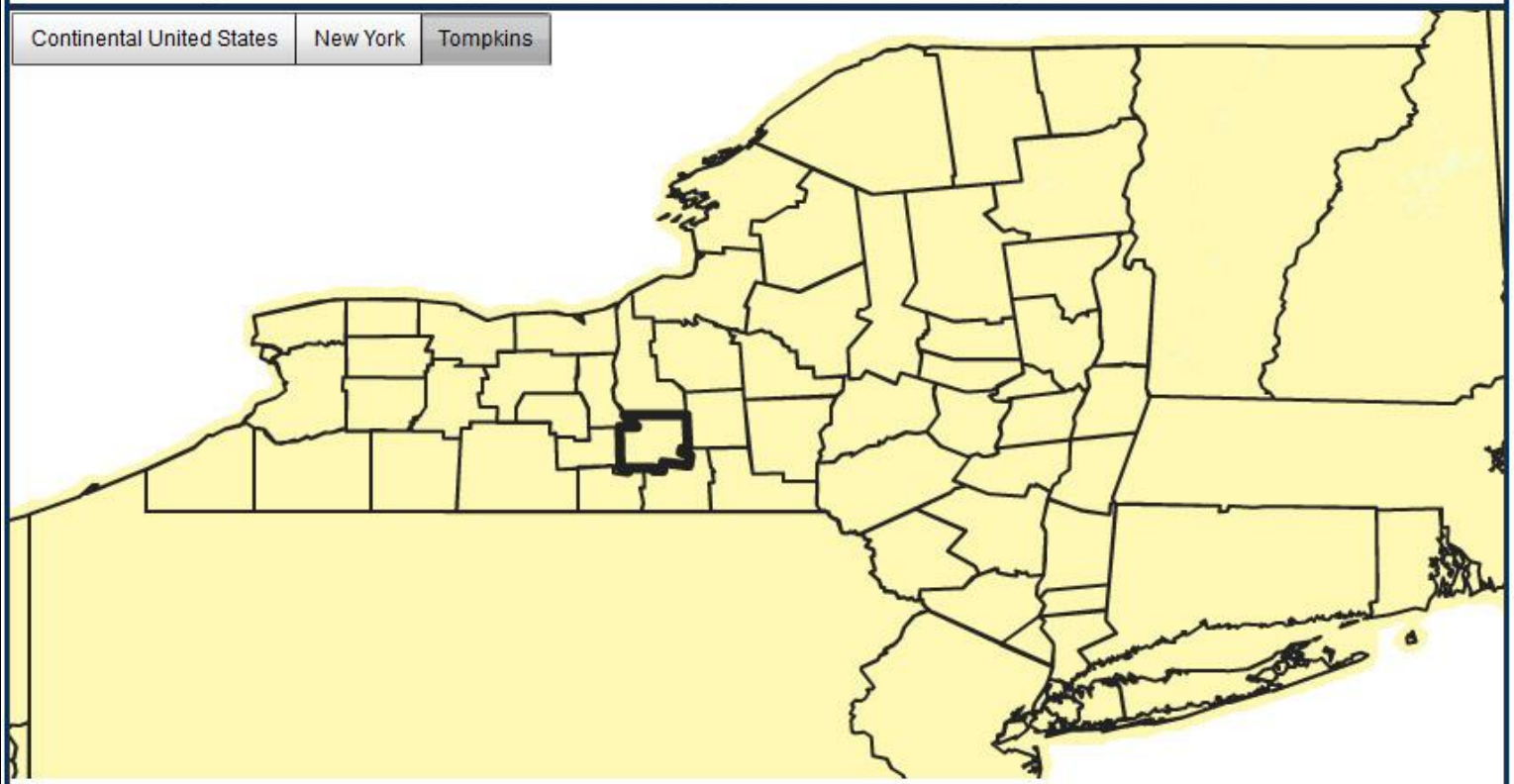
Climograph/Histogram | Time Series | Data Table | Percentile Table | Model Info | Scenario, Time Period, Units | Download Summary





Time Period : Annual Mean | Model : Mean Model | Variable : Evap. Deficit | Region Type : State/Counties | Region : Tompkins

Continental United States | New York | Tompkins



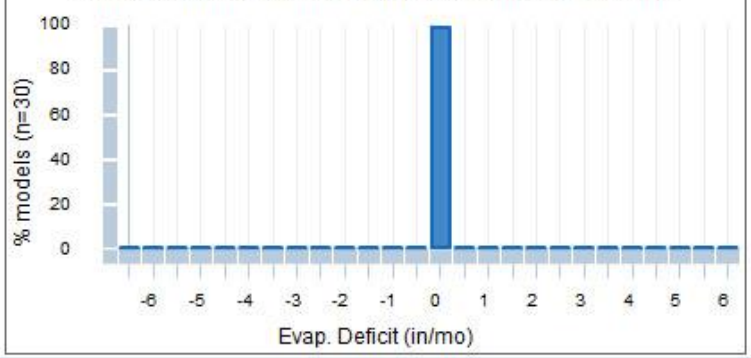
Change in Annual Mean Evap. Deficit (in/mo) 2050-2074 vs 1950-2005 (RCP8.5)

-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

Climograph/Histogram | Time Series | Data Table | Percentile Table | Model Info | Scenario, Time Period, Units | Download Summary

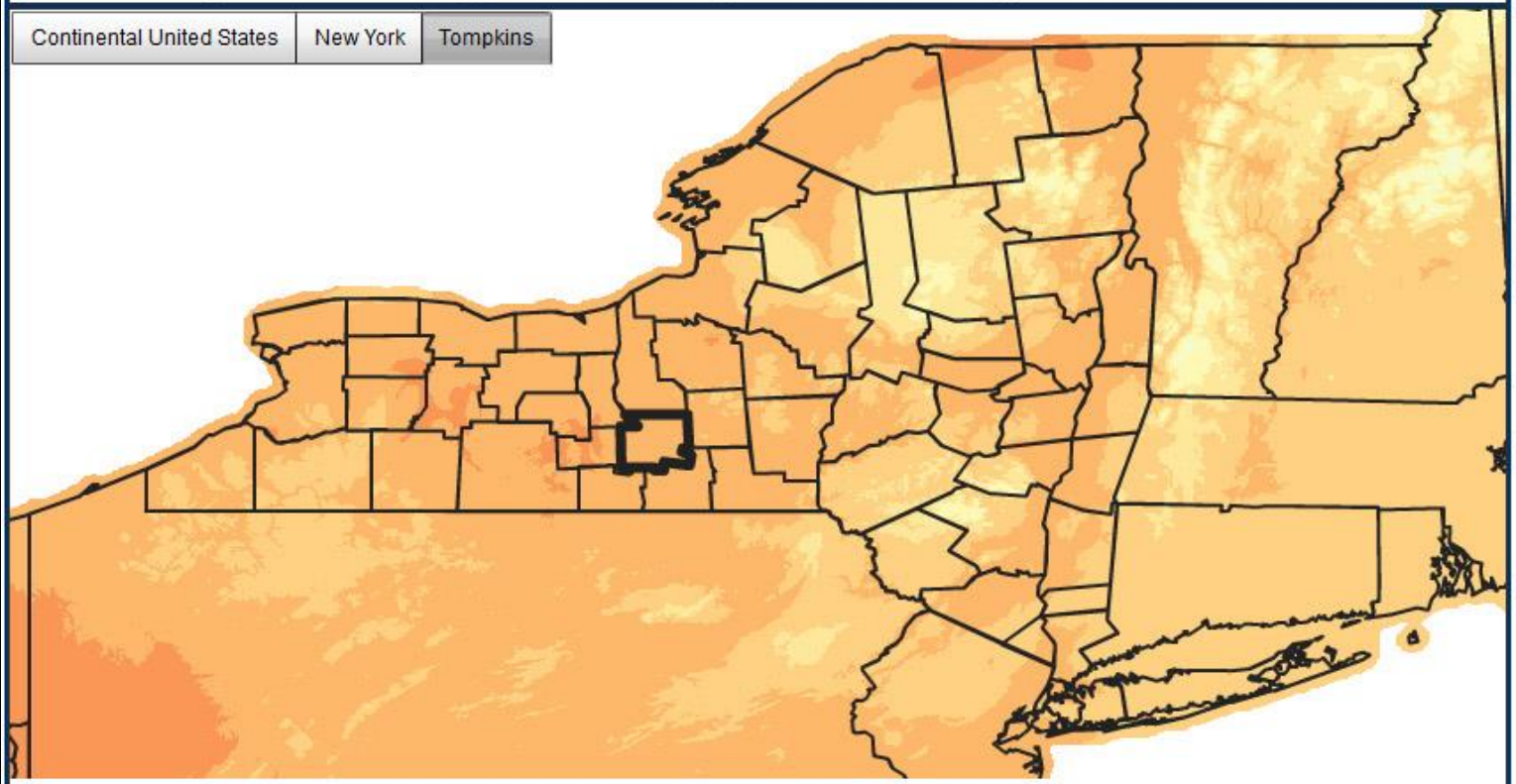
Evap. Deficit by Month for Mean Model

Change in Annual Mean Evap. Deficit Histogram for all Models



Time Period : Annual Mean | Model : Mean Model | Variable : Soil Storage | Region Type : State/Counties | Region : Tompkins

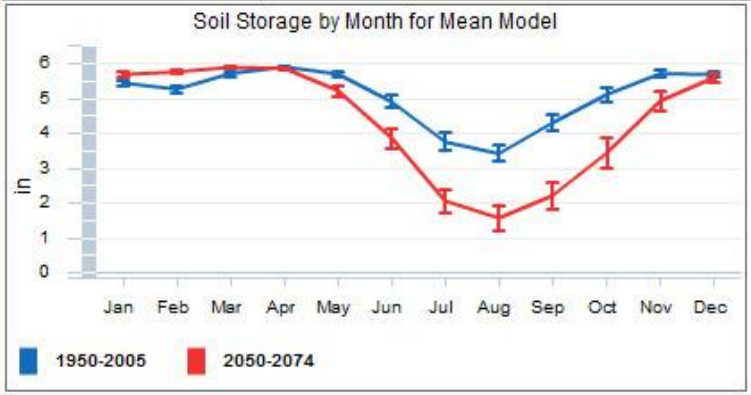
Continental United States | New York | Tompkins

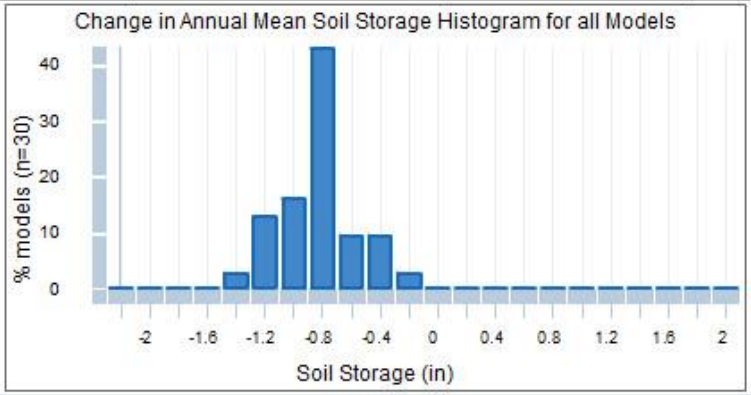


Change in Annual Mean Soil Storage (in) 2050-2074 vs 1950-2005 (RCP8.5)

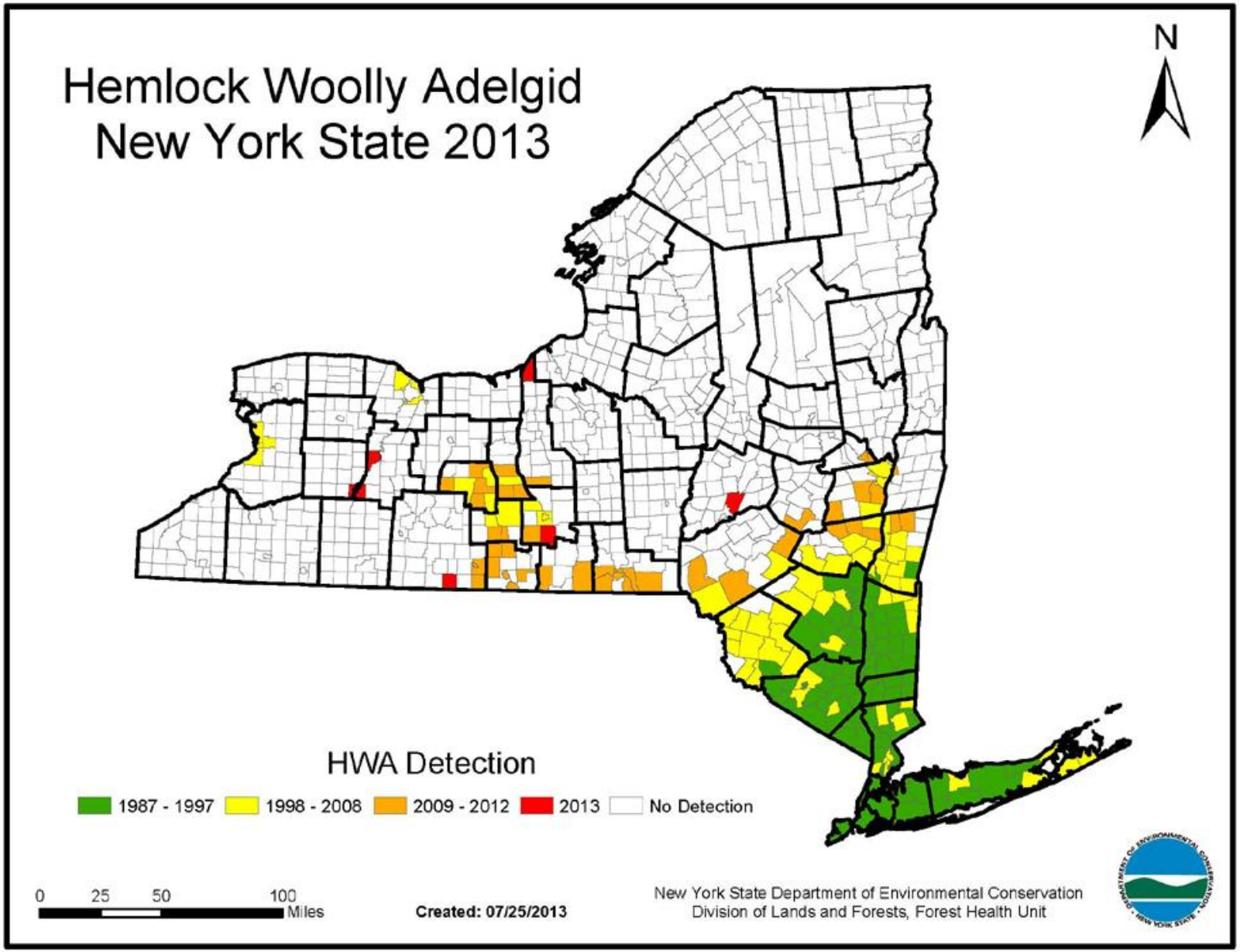
-2 -1.6 -1.2 -0.8 -0.4 0 0.4 0.8 1.2 1.6 2

Climograph/Histogram | Time Series | Data Table | Percentile Table | Model Info | Scenario, Time Period, Units | Download Summary





Hemlock Woolly Adelgid



Hemlock Woolly Adelgid

Emerald Ash Borer (EAB)

Asian Longhorned Beetle (ALB)

Asian Longhorned Beetle – Worcester, MA -- 2009

Silver Maples (*Acer saccharinum*)