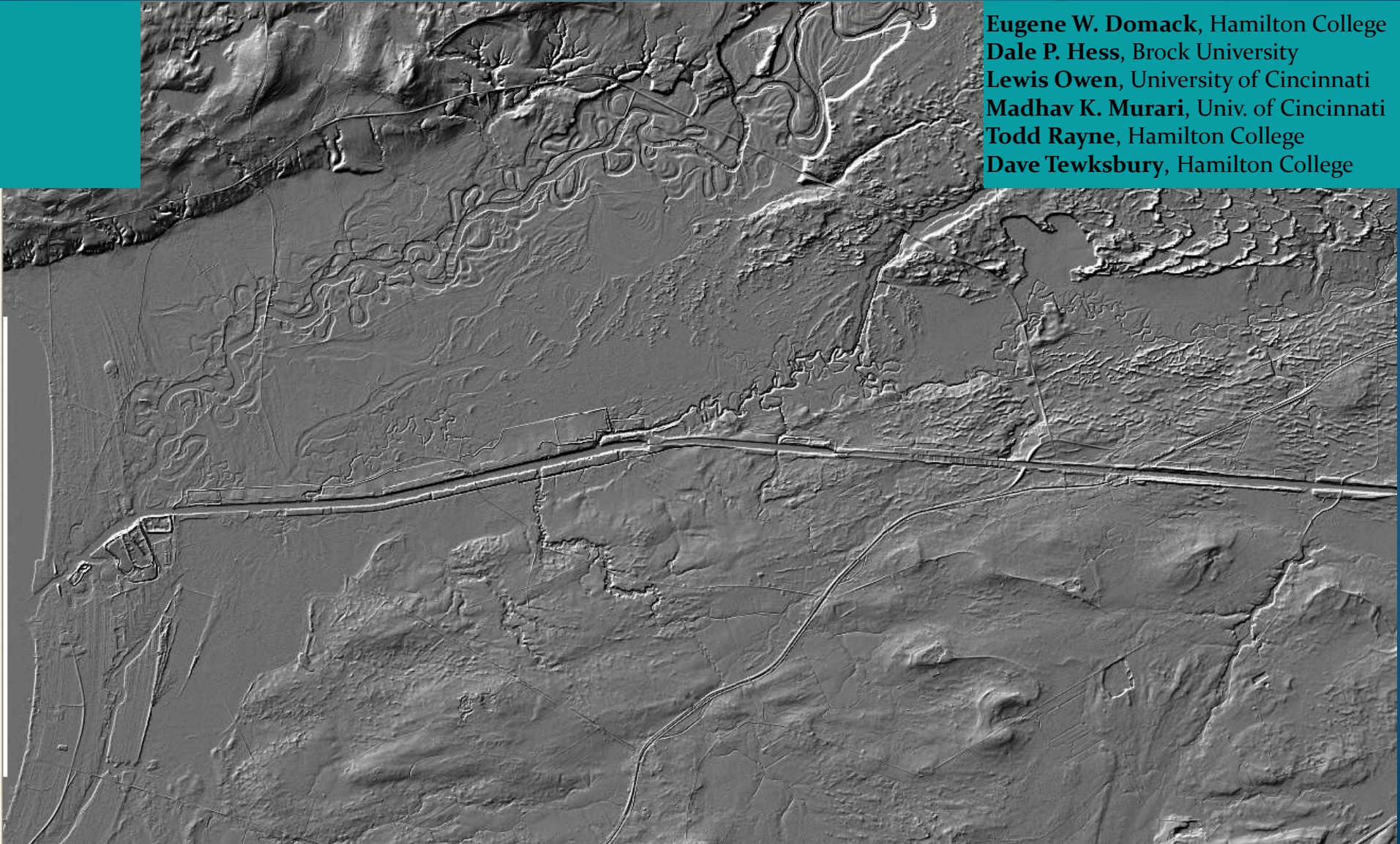
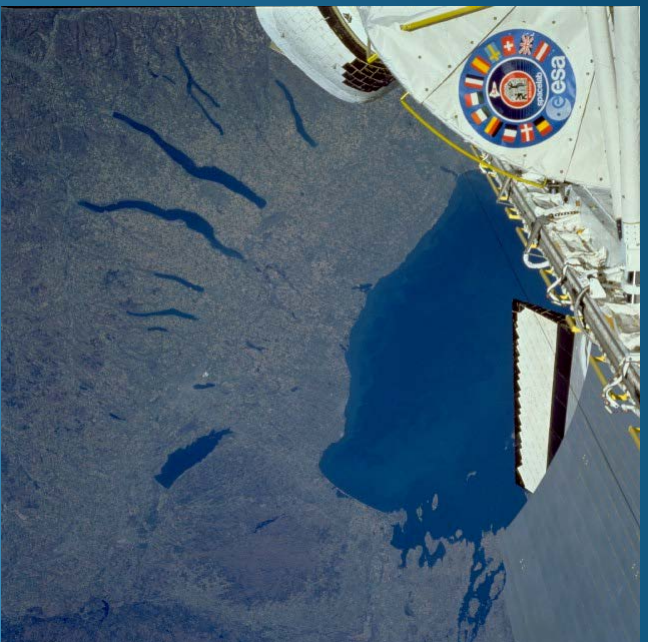


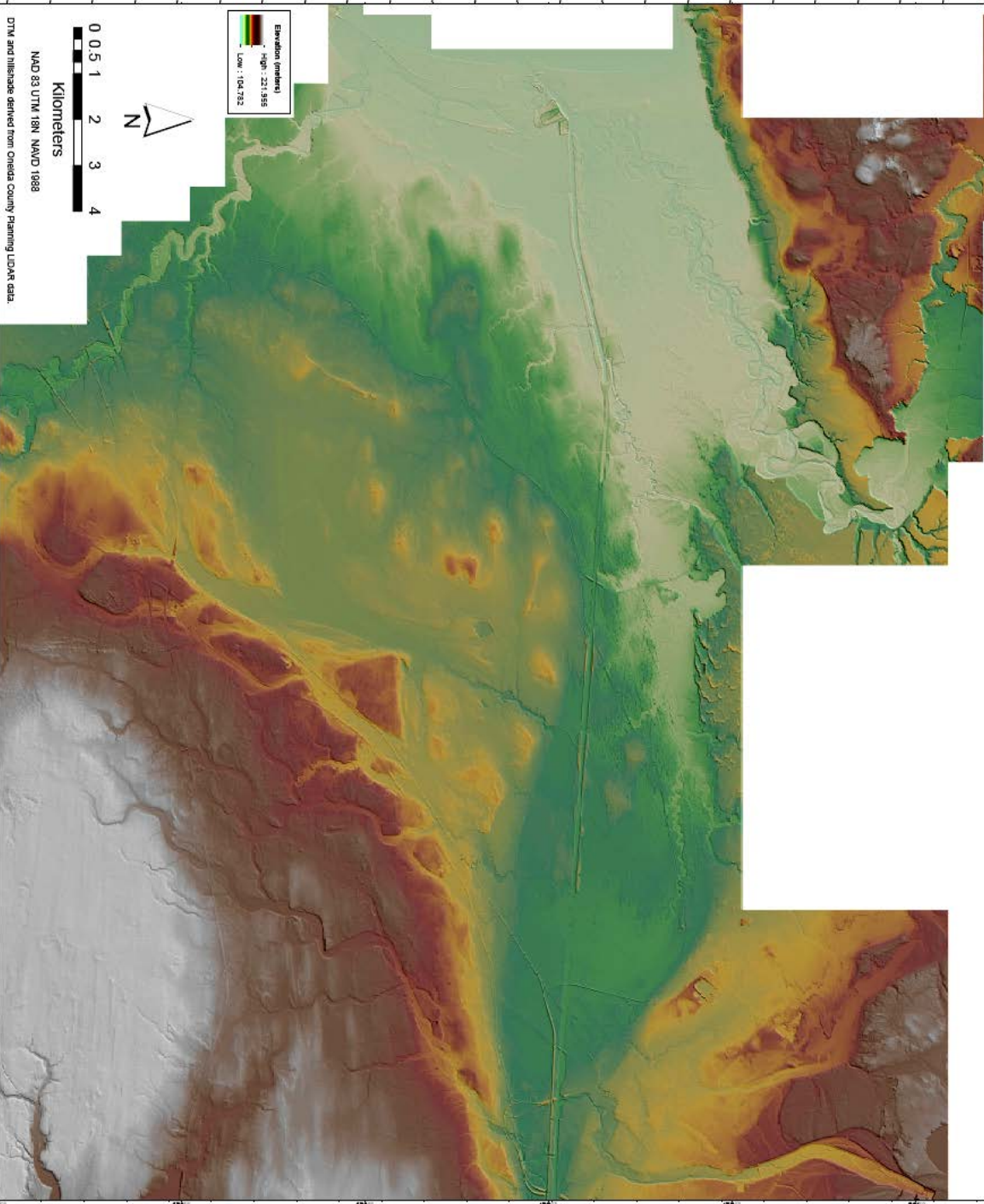
NYSGA Field Trip A2: Glacial History of Oneida Lake Basin: September 29th, 2012

Eugene W. Domack, Hamilton College
Dale P. Hess, Brock University
Lewis Owen, University of Cincinnati
Madhav K. Murari, Univ. of Cincinnati
Todd Rayne, Hamilton College
Dave Tewksbury, Hamilton College





LIDAR Elevation Data for Area Between Oneida Lake and Rome New York



Elevation (meters)
High : 221,955
Low : 104,782



0 0.5 1 2 3 4
Kilometers

NAD 83 UTM 18N NAD 1983

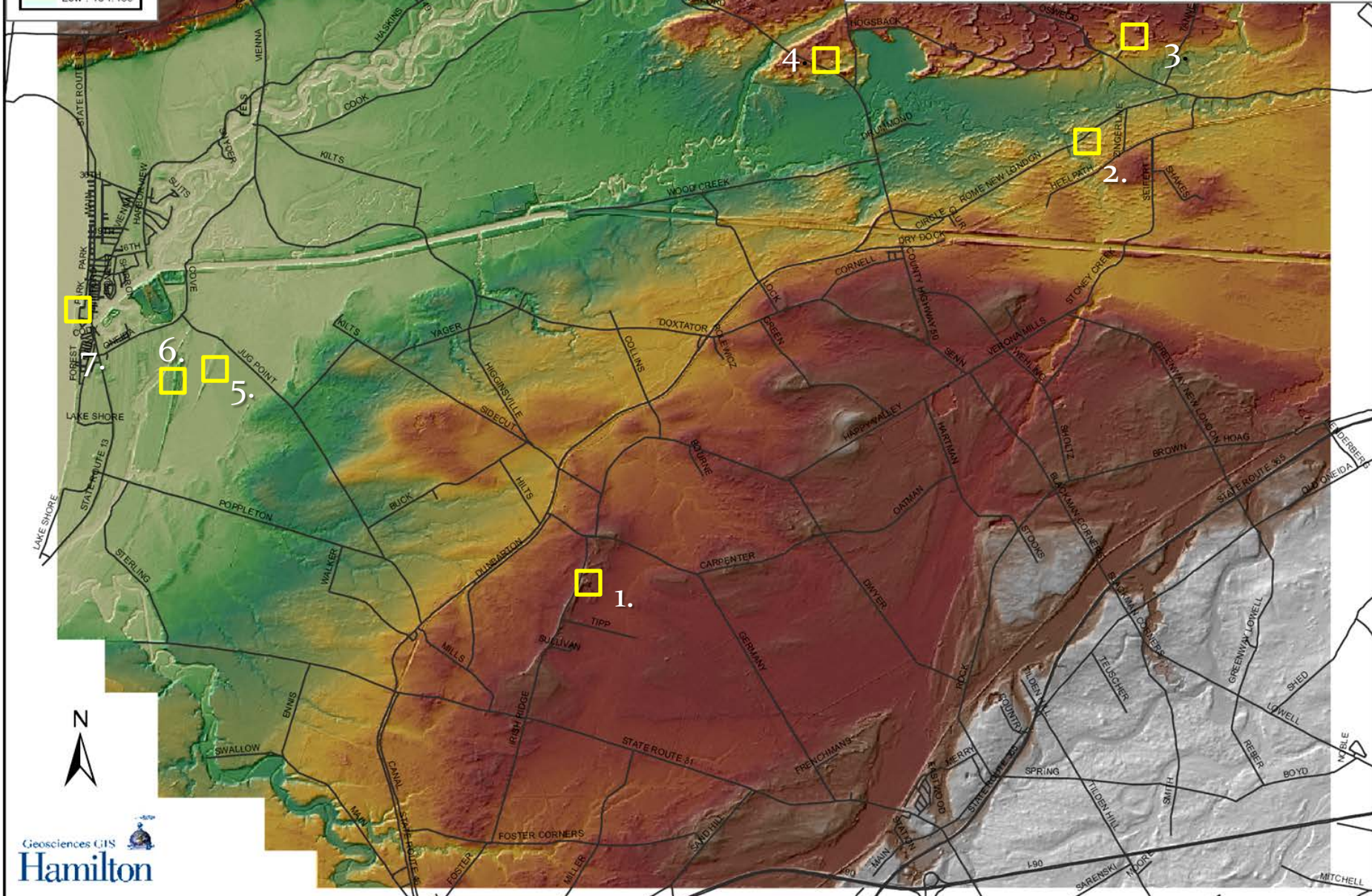
DTM and hillshade derived from Onida County Planning LIDAR data.

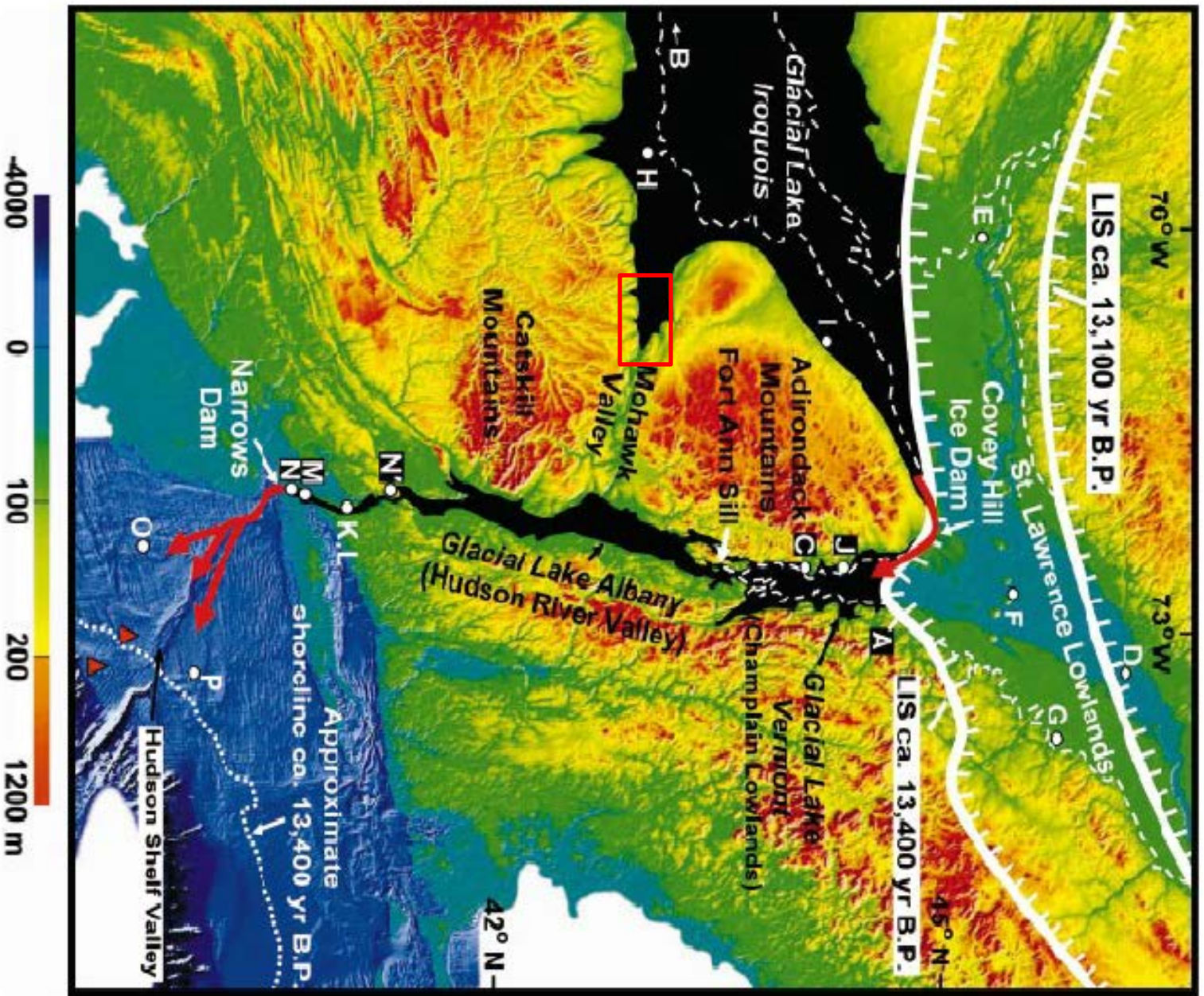
Oneida Lake Shoreline - Rome Sand Plains Area

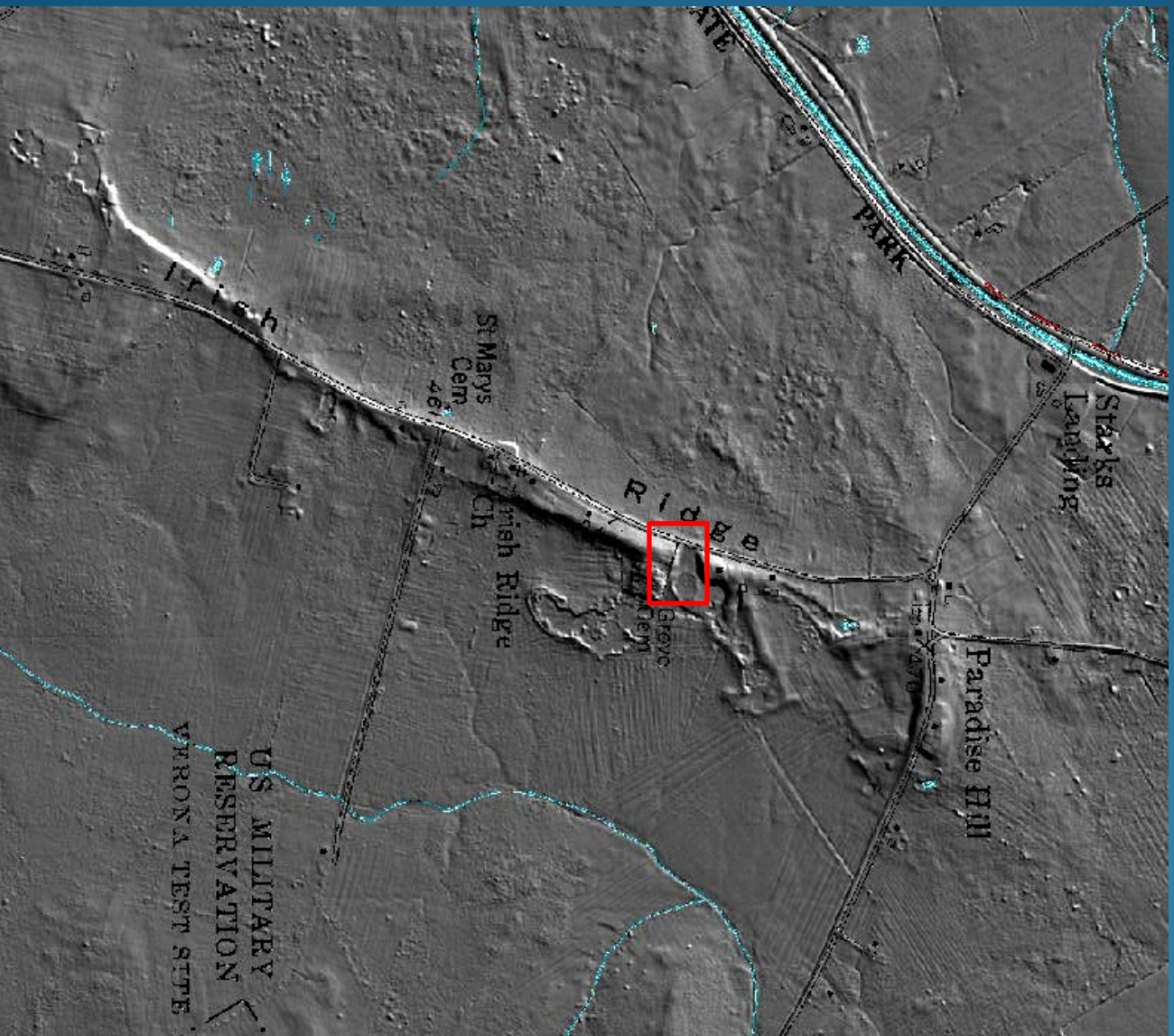


Oneida County Planning Office LiDAR data
NAD 1983 UTM 18 N

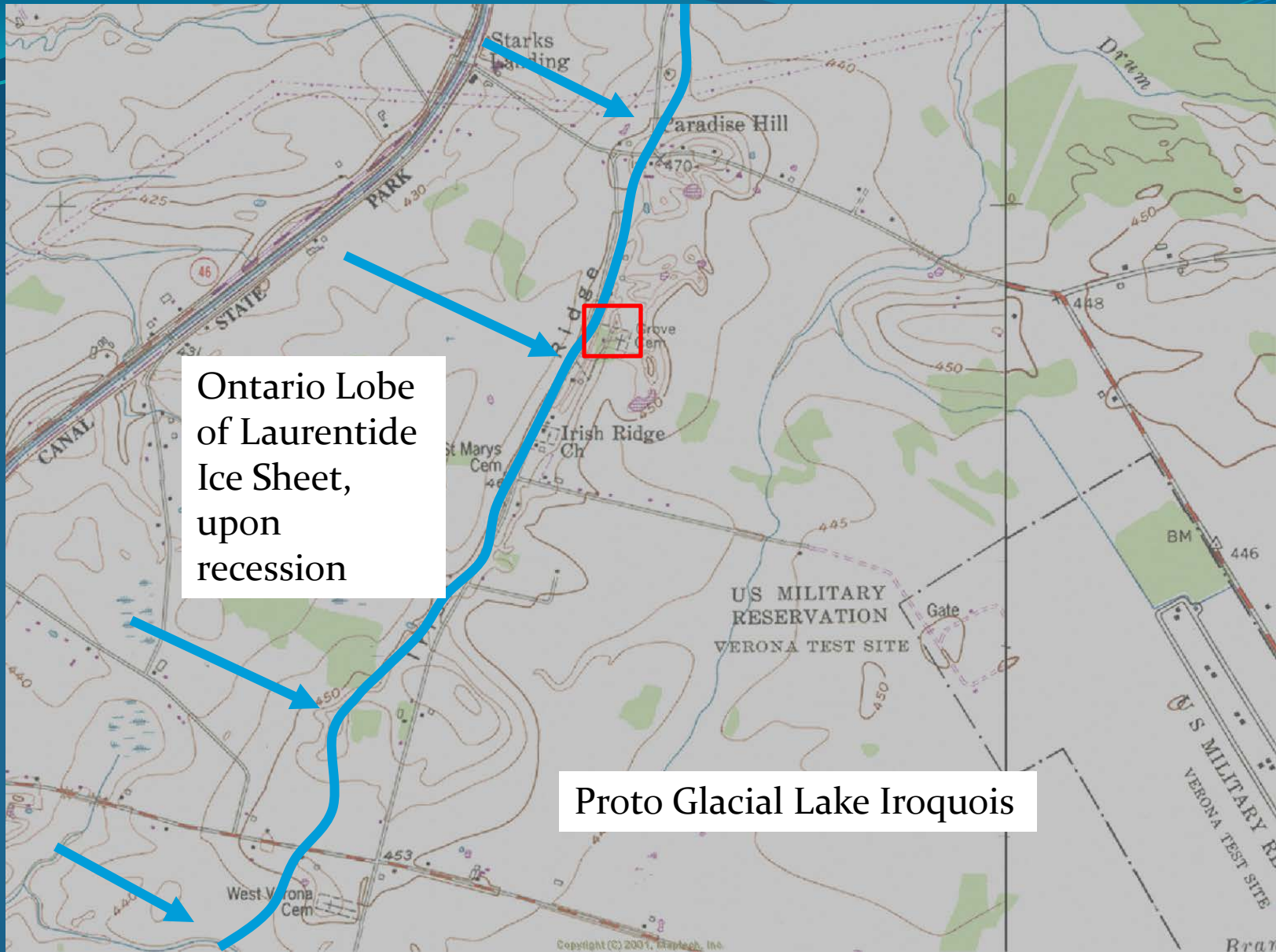
— Oneida_Mod8
elevation
meters
High : 195.316
Low : 104.489







Grounding line ridges, asymmetric with fans building out to east



Ontario Lobe
of Laurentide
Ice Sheet,
upon
recession

Proto Glacial Lake Iroquois

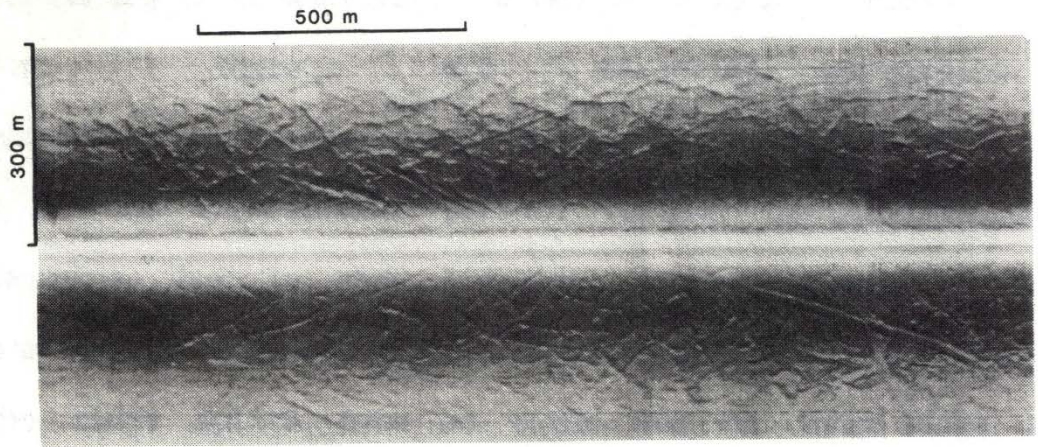
Property of: Sue Whalen
4996 Rome New London Road
Rome, New York 13440



Cored with massive, compact diamicton
in exposures of smaller ridges.
Basal crevasse infills, following late stage
surge of Ontario Lobe?



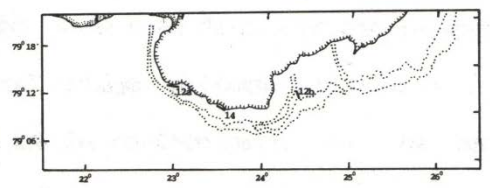
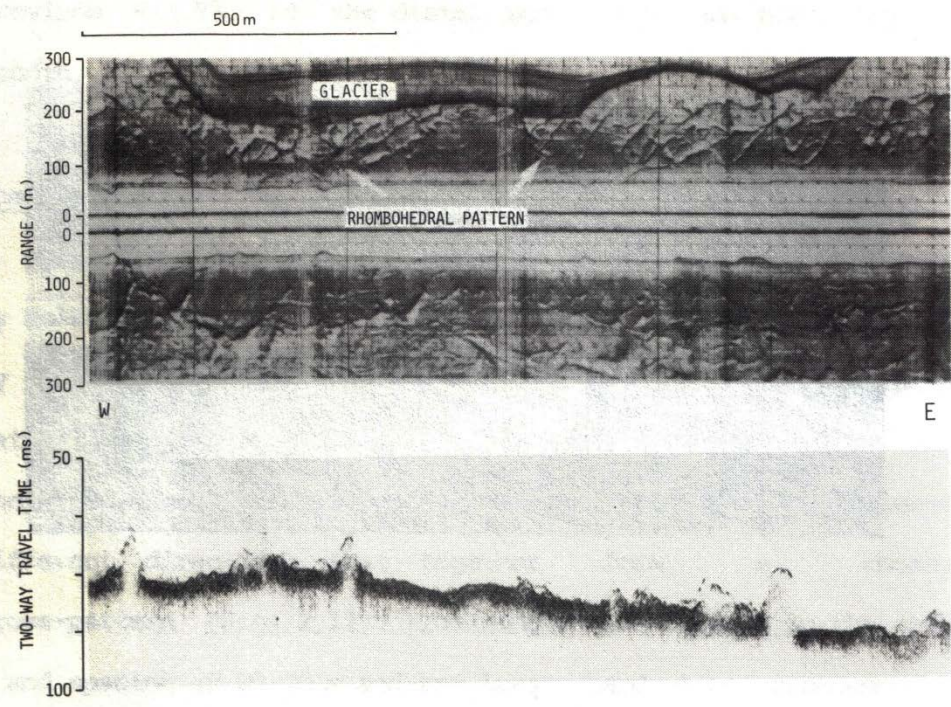
B)



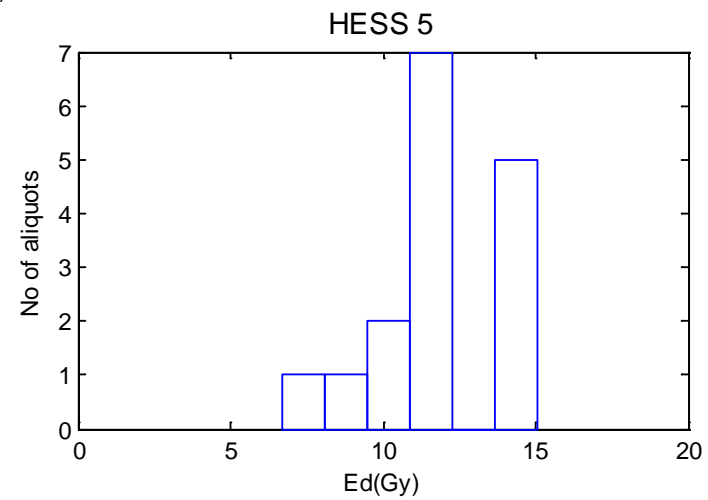
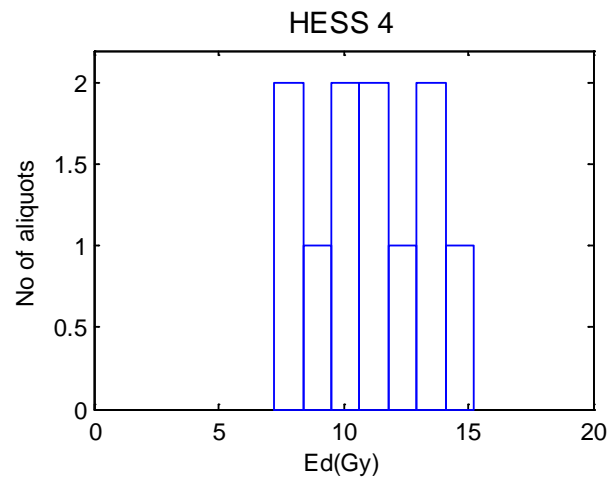
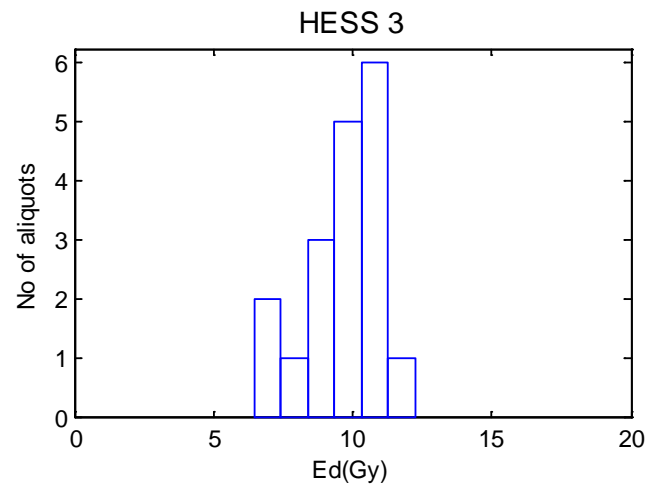
Marine, surge moraines
off Svalbard, Nordaustlandet
Brasvalbreen

Anders Solheim, 1985
Marine Geology

A)

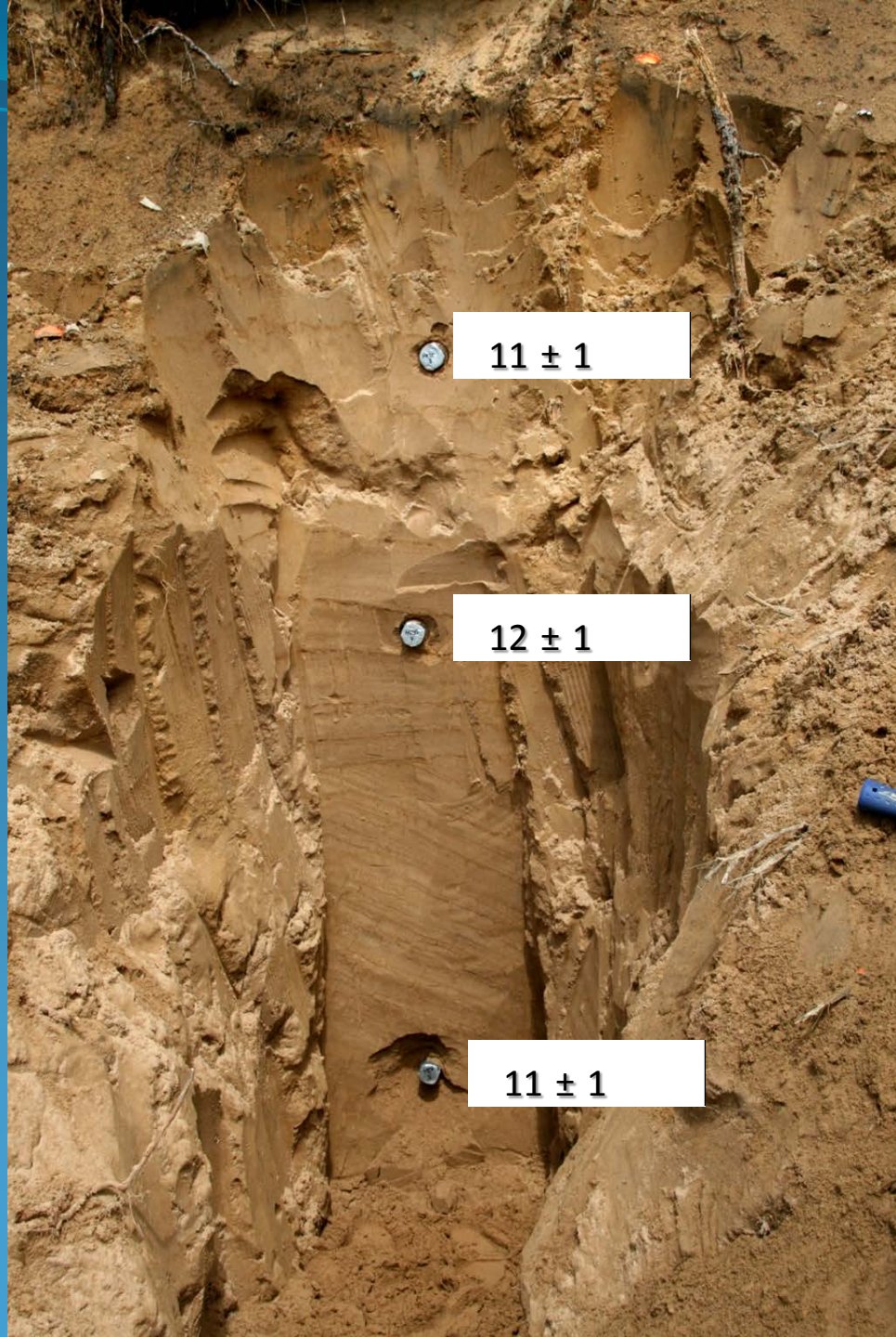


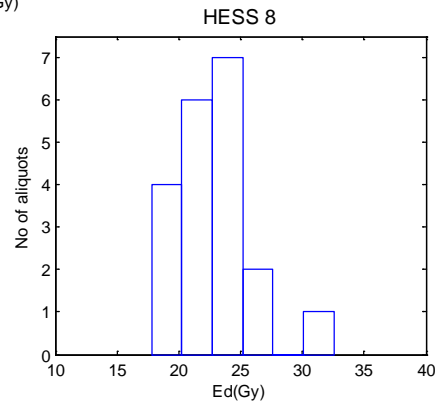
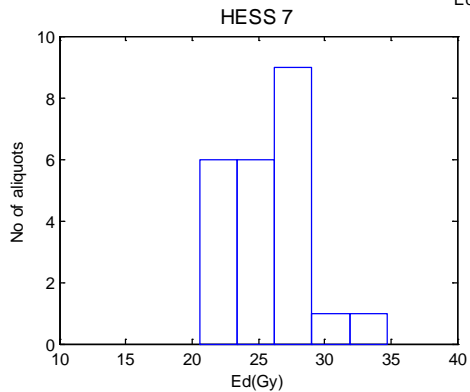
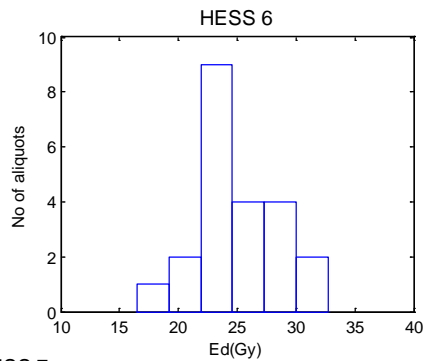
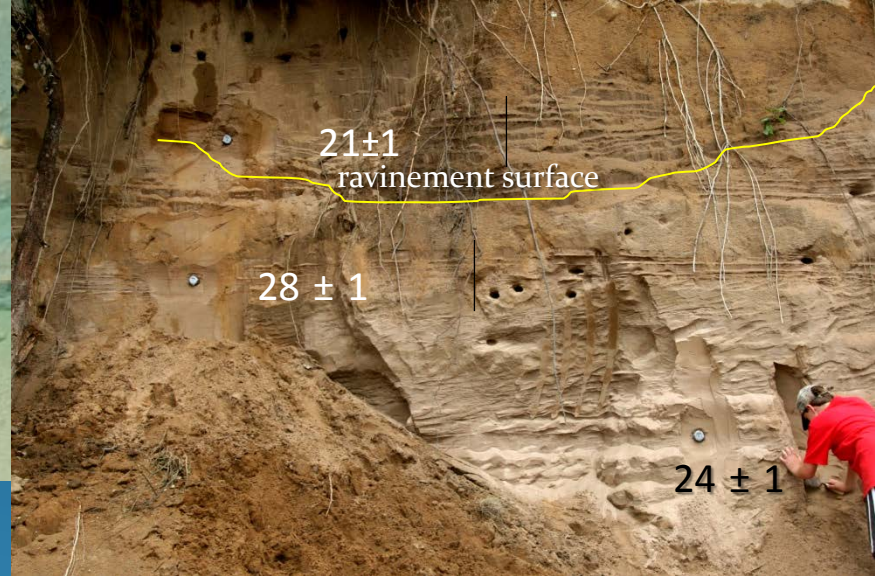
Side scan sonograms and 3.5 kHz echogram from the rhombohedral ridge pattern of the surge zone.



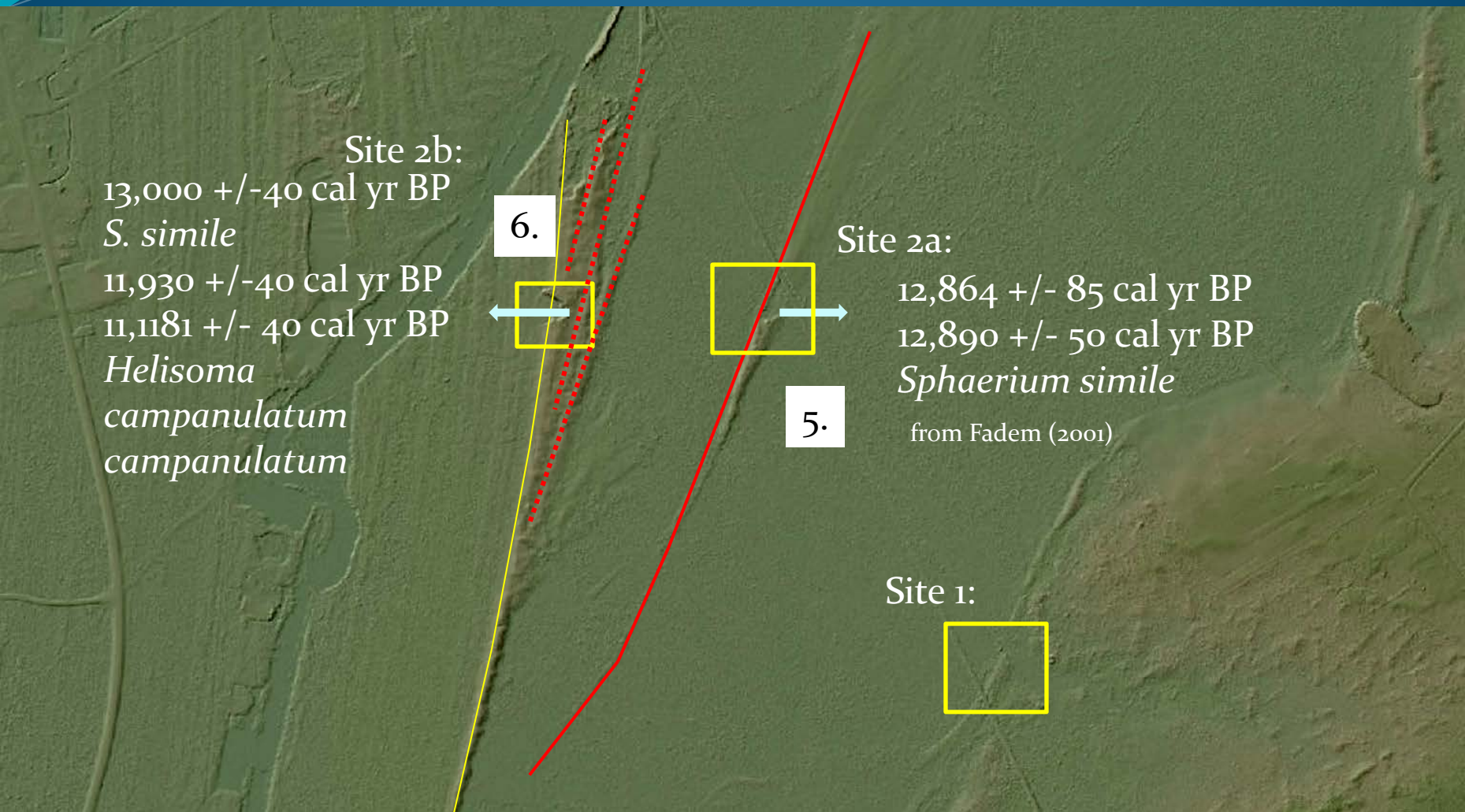


Site 3: Rome Sand Plains,
shooting range





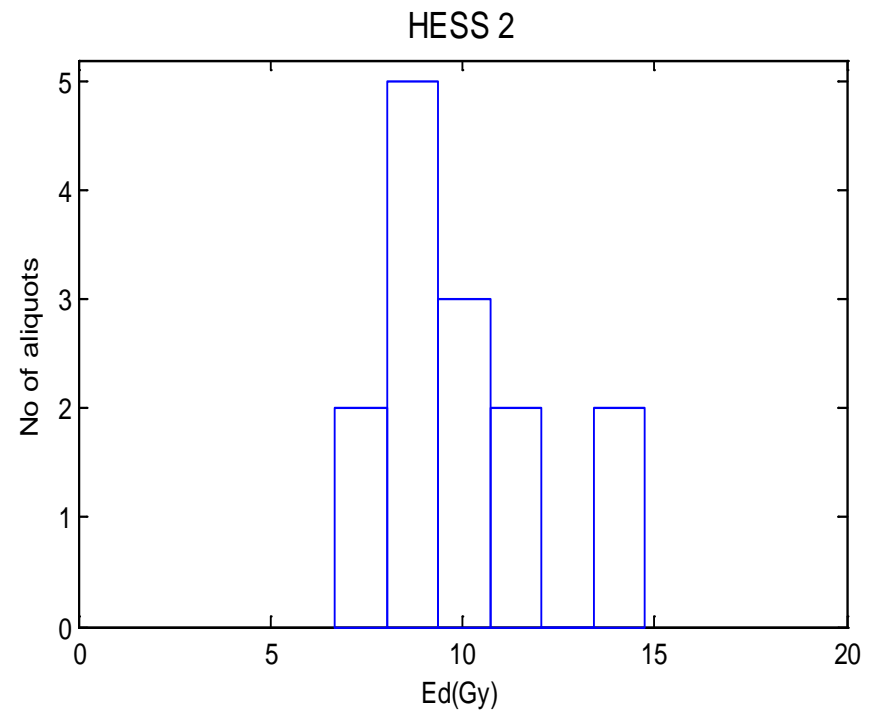
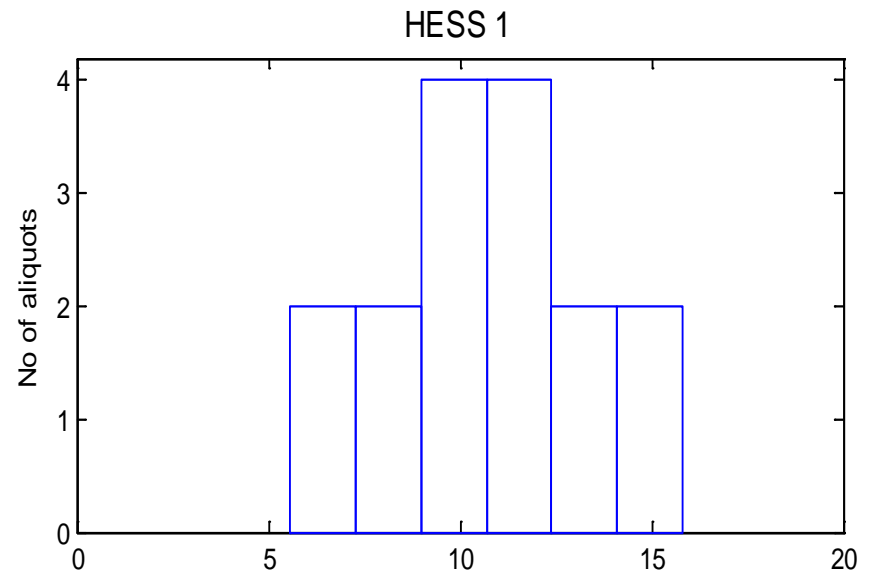
Property of Mr. Alan King
4505 Route 49, Blossvale, New
York

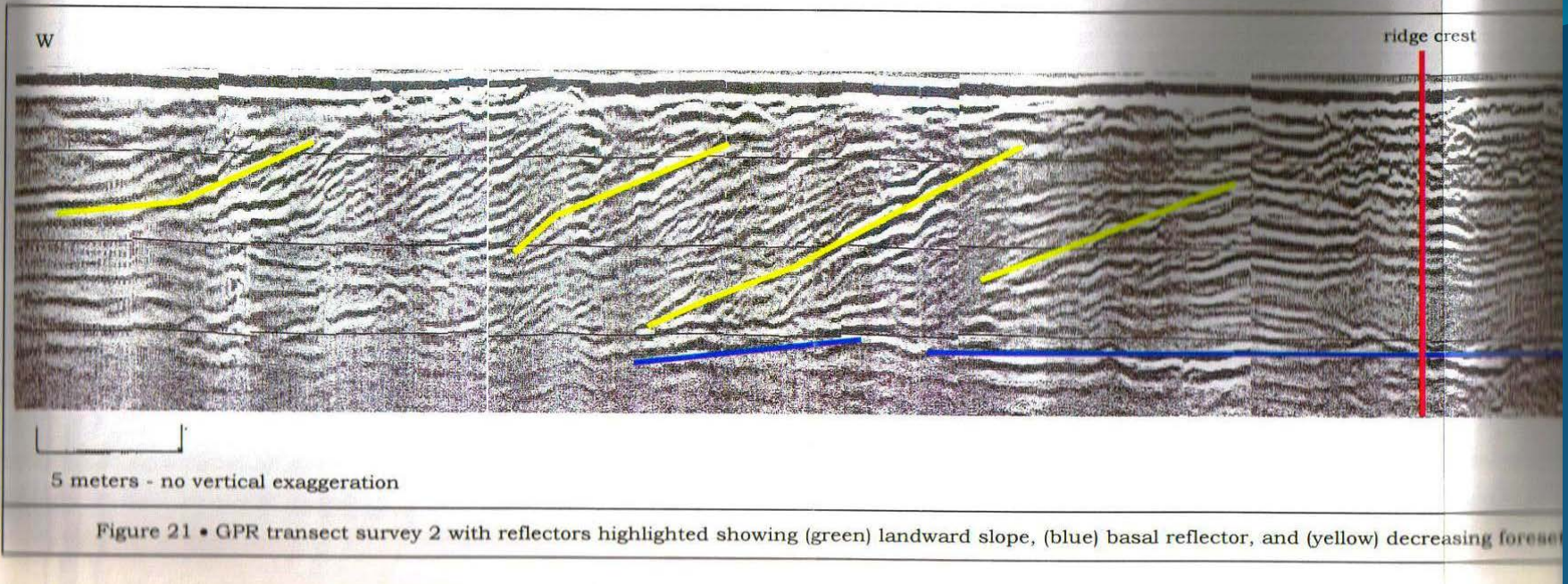


Sites 1 and 2a,b: Beach Ridges, south of Sylvan Beach, Verona Beach St. Park. Our Field stops here are 5. and 6.

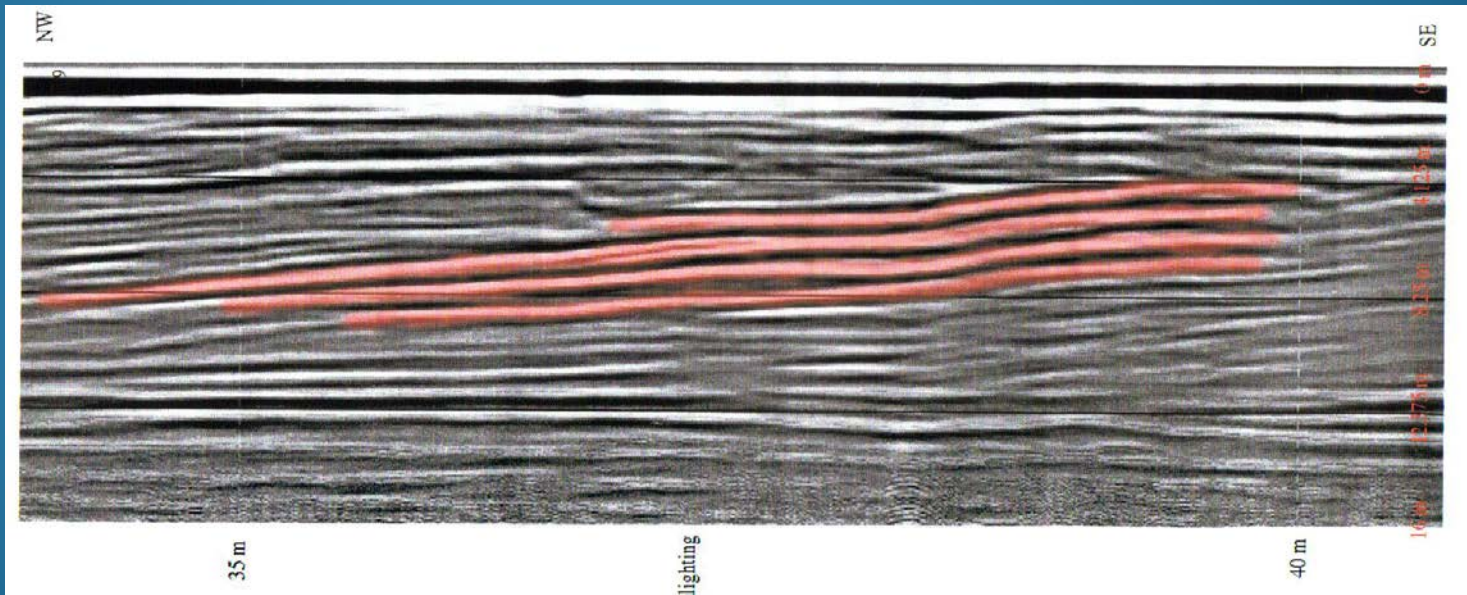
Site 1:

Sample	Wt mean(Ka)	Mean(ka)
HESS 1	16 ± 1	15 ± 1
HESS 2	11 ± 1	12 ± 1

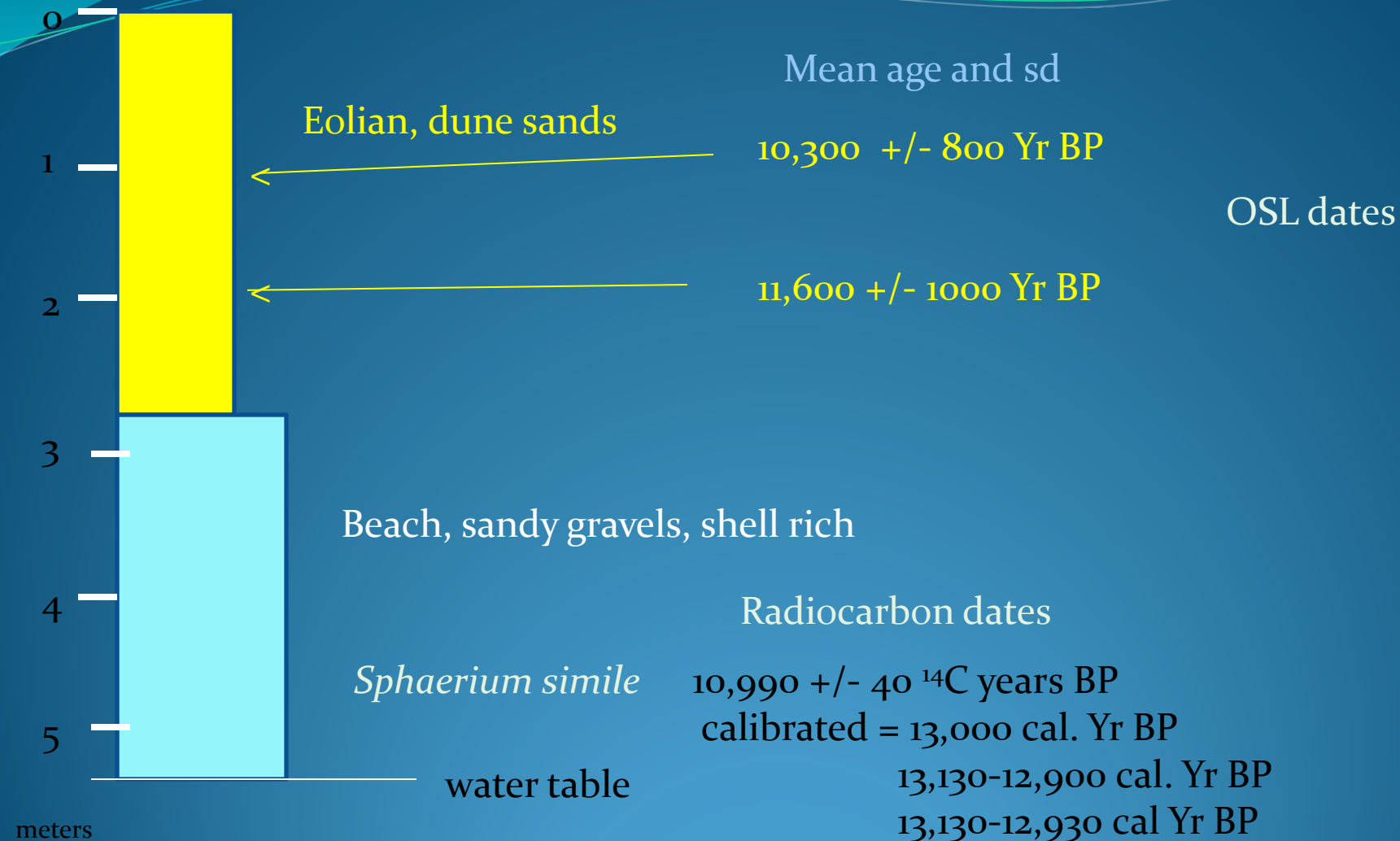




Examples of Ground Penetrating Radar Lines for Stop 5 (above) and west of Stop 6 (below).
 From Fadem, 2001.



Stop 6. Site 2: Gun Range, Verona Beach State Park

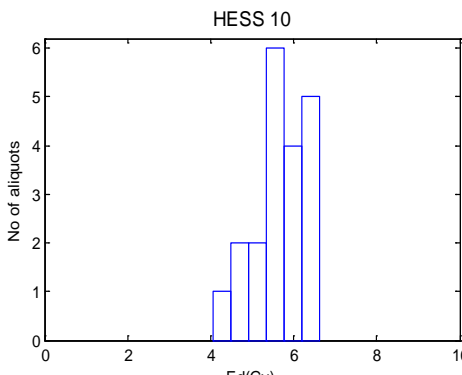
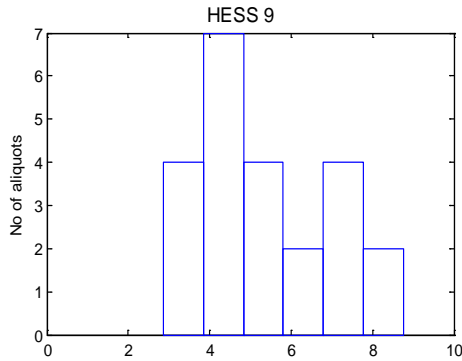


$\delta^{13}\text{C} = -10.1\text{‰}$ on carbonate

from Fadem (2001)



Site 3: beach ridges, north of Sylvan Beach





Fish Creek

Oneida Lake

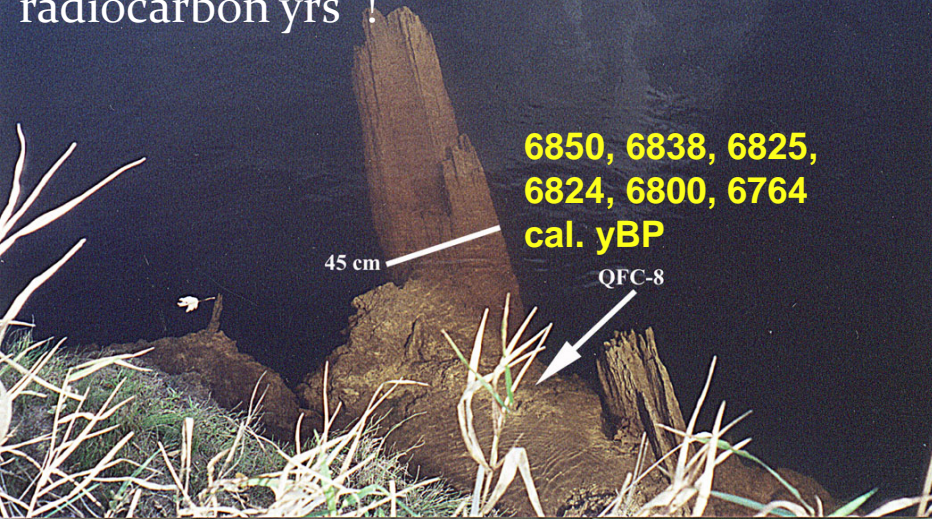
New York State Barge Canal

Oneida Creek

Radiocarbon ages for unit QFC-8

Fish Creek site 2A

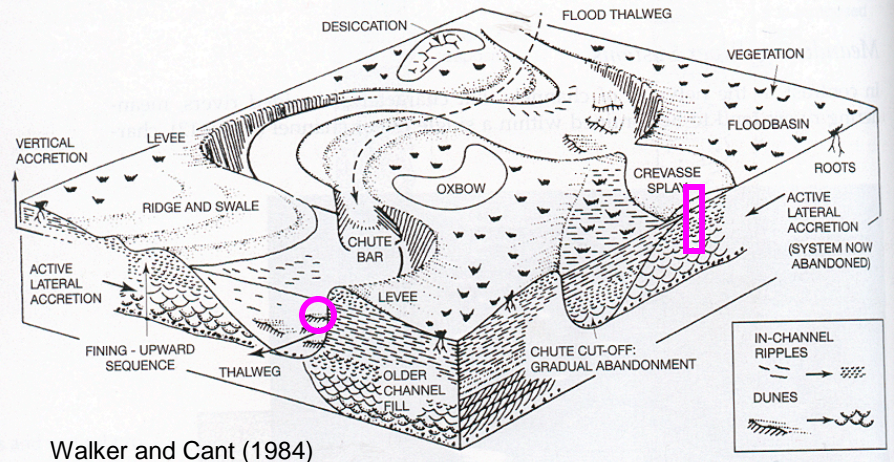
Oldest fossil trees dated to 9,000 radiocarbon yrs !



6850, 6838, 6825,
6824, 6800, 6764
cal. yBP

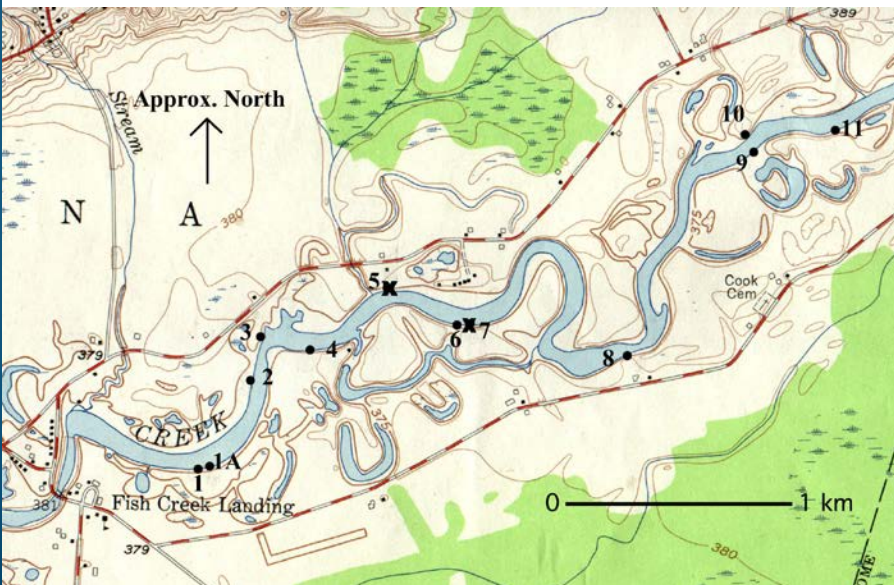
Features of a Meandering System

$Q \propto \text{meander width}$

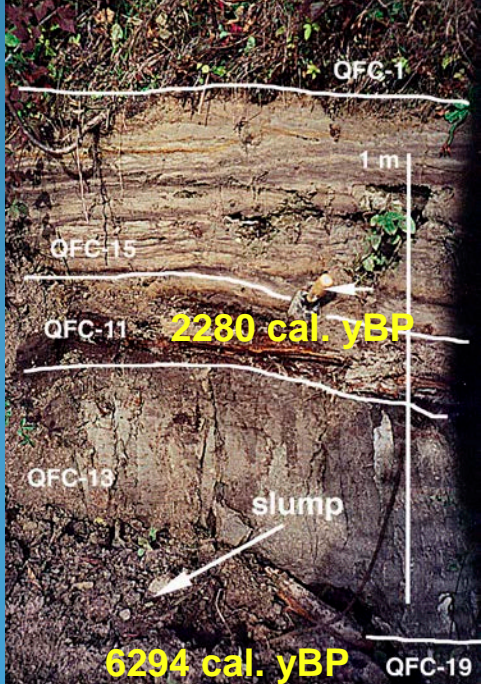


Walker and Cant (1984)

Measured section locations

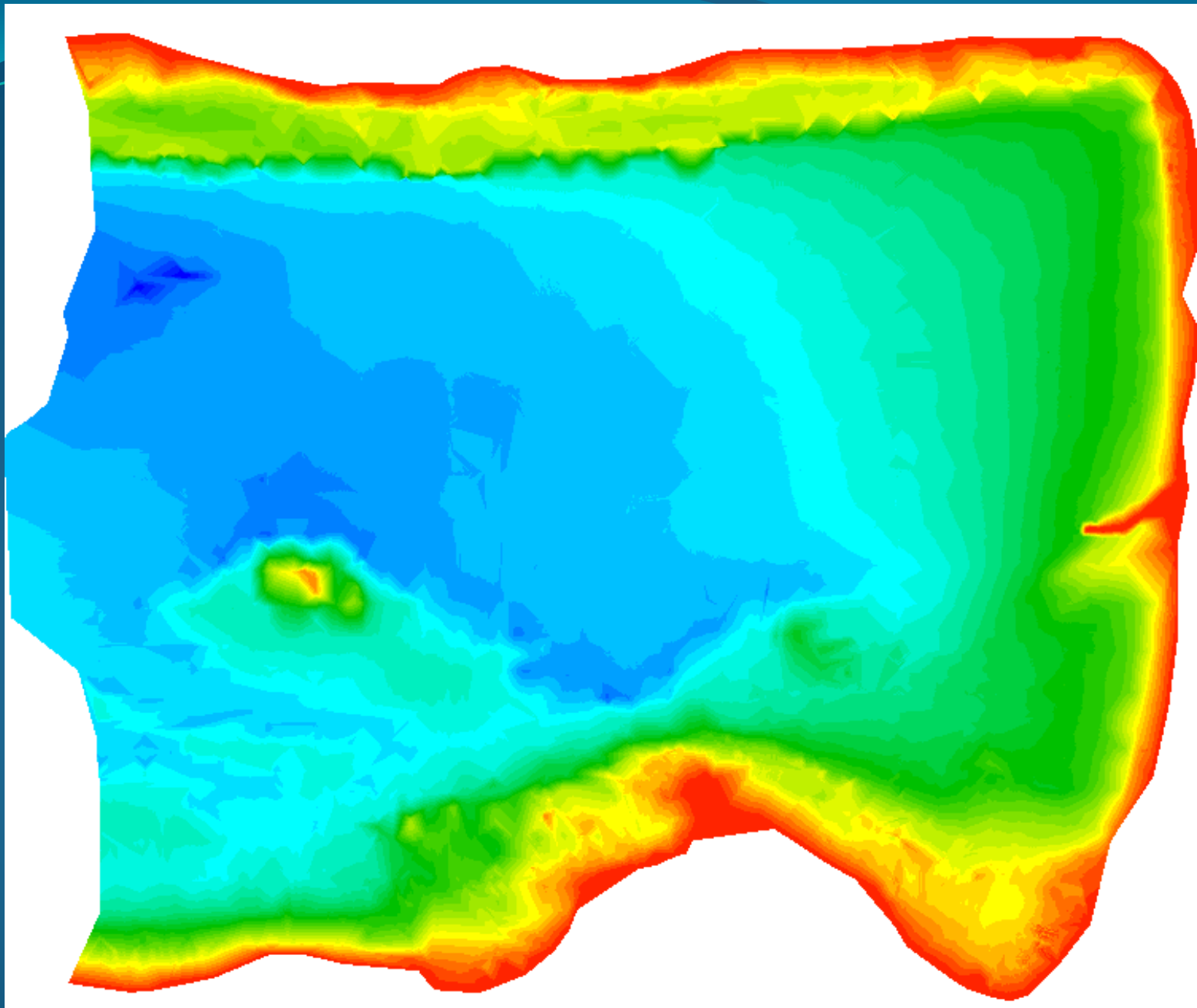


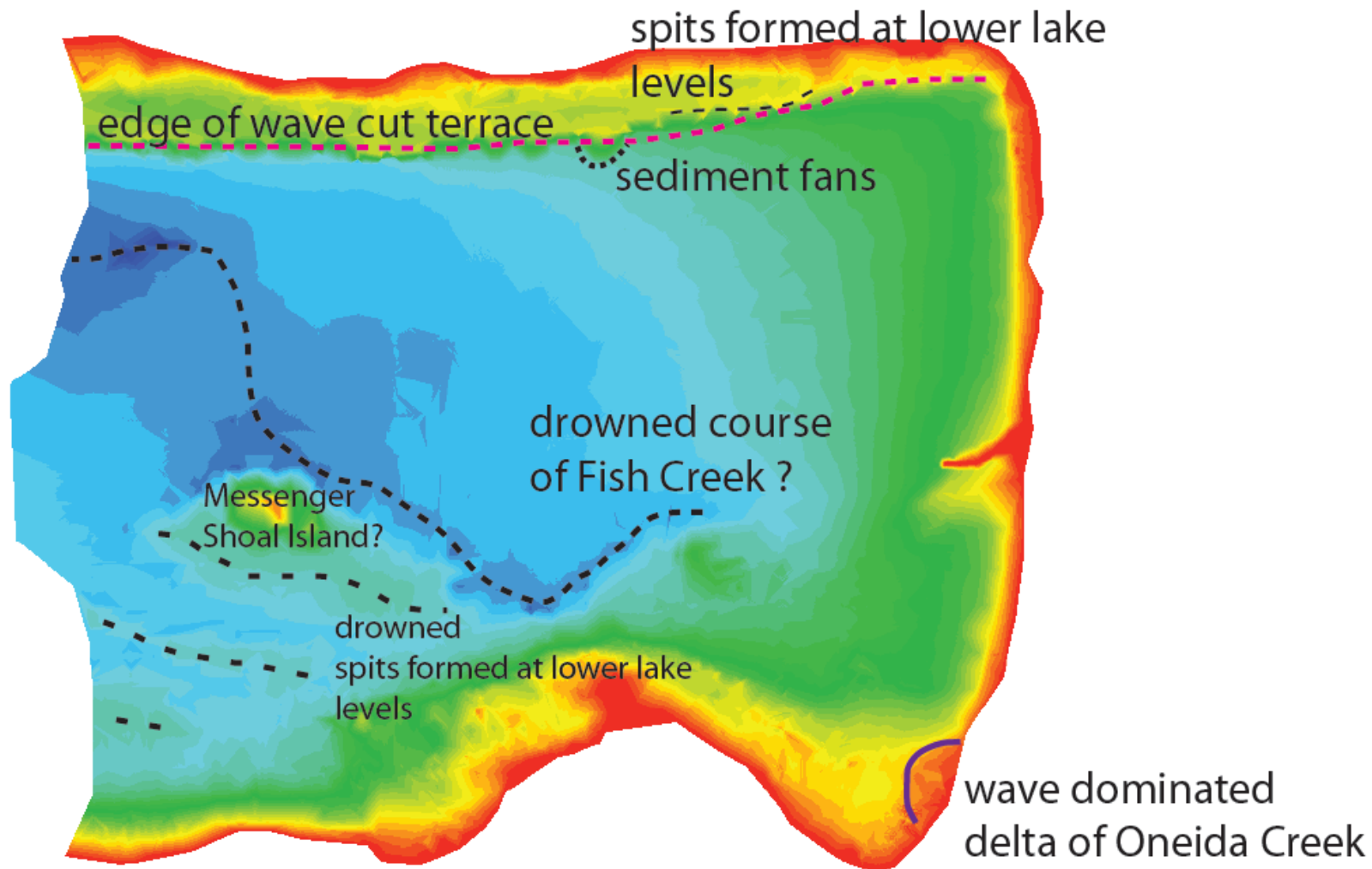
Fish Creek site 5D



Site 5D: Key units

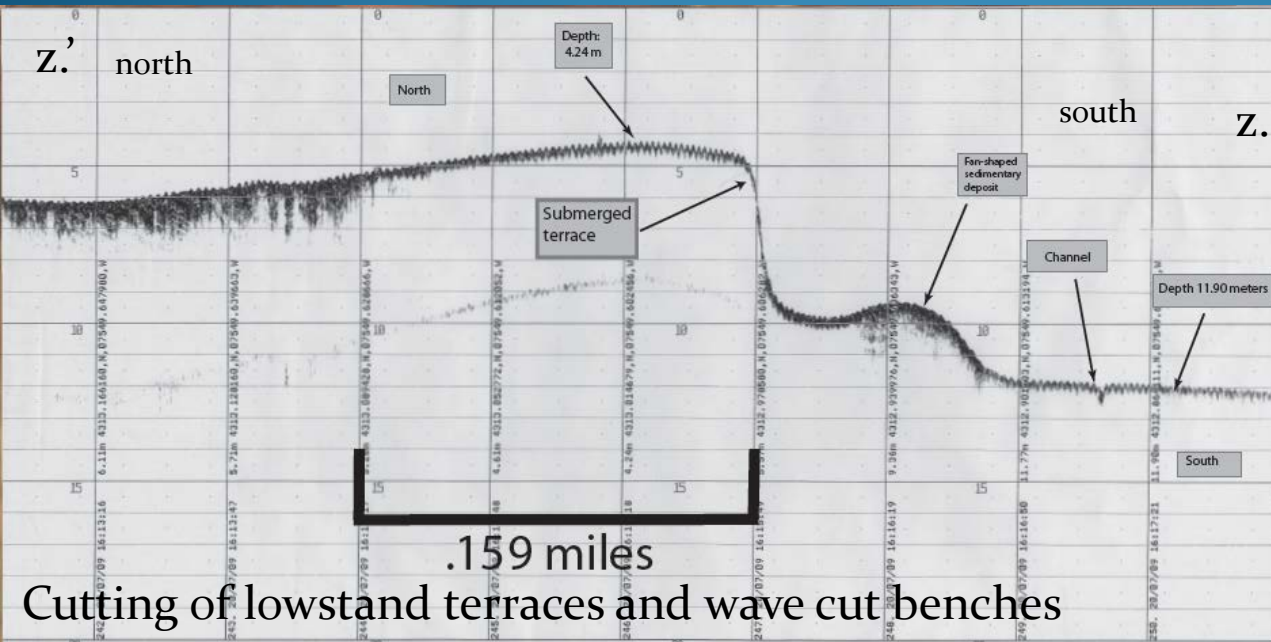
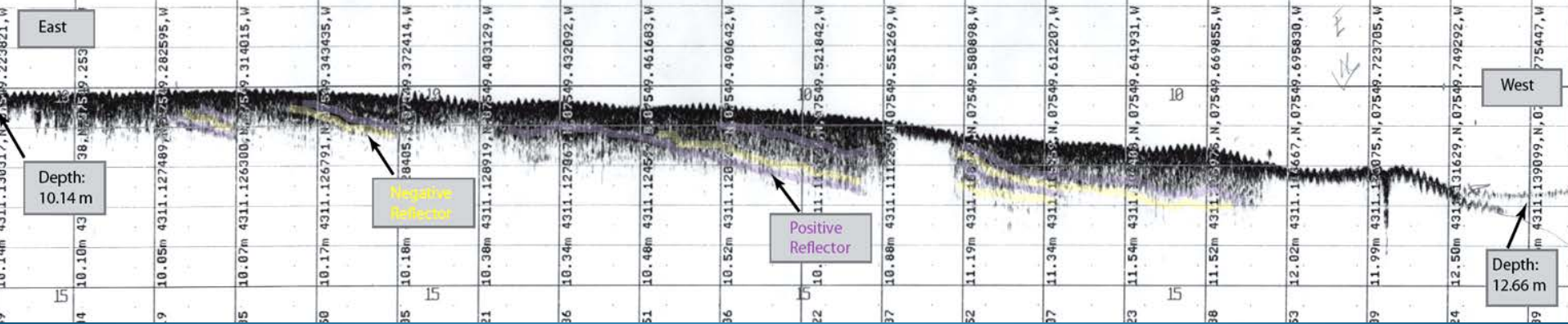
- Unit QFC-15: cross laminated sand and silt with current ripple drifts, dipping SW
- Unit QFC-11: laterally continuous peat unit
- Unit QFC-19: peat/ muck unit



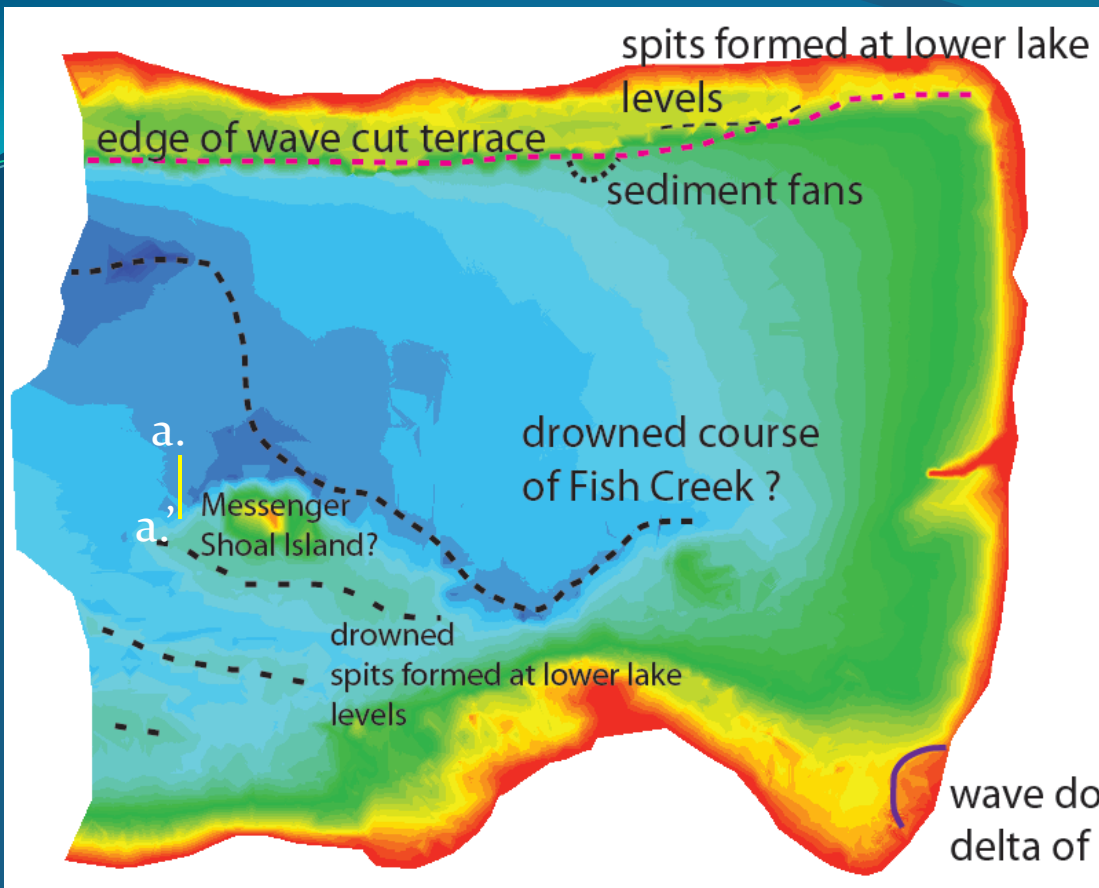


Interpretation of bottom features based upon preliminary assessment of seismic reflection data collected in summer of 2009.

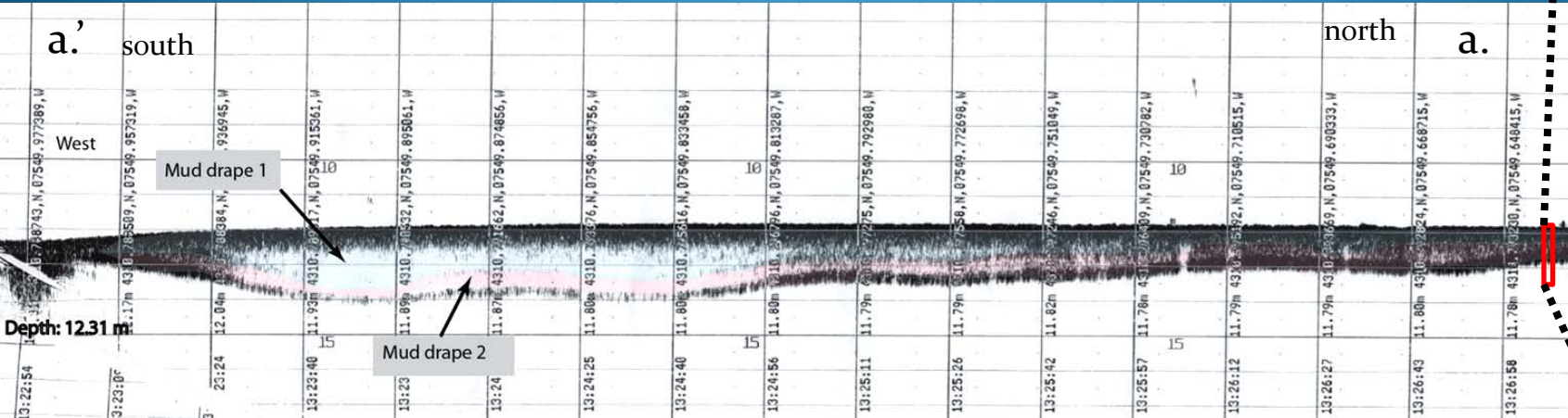
Lowstand progradation of spits off of emergent islands



Cutting of lowstand terraces and wave cut benches



Submergence of clay rich facies into modern gyttja

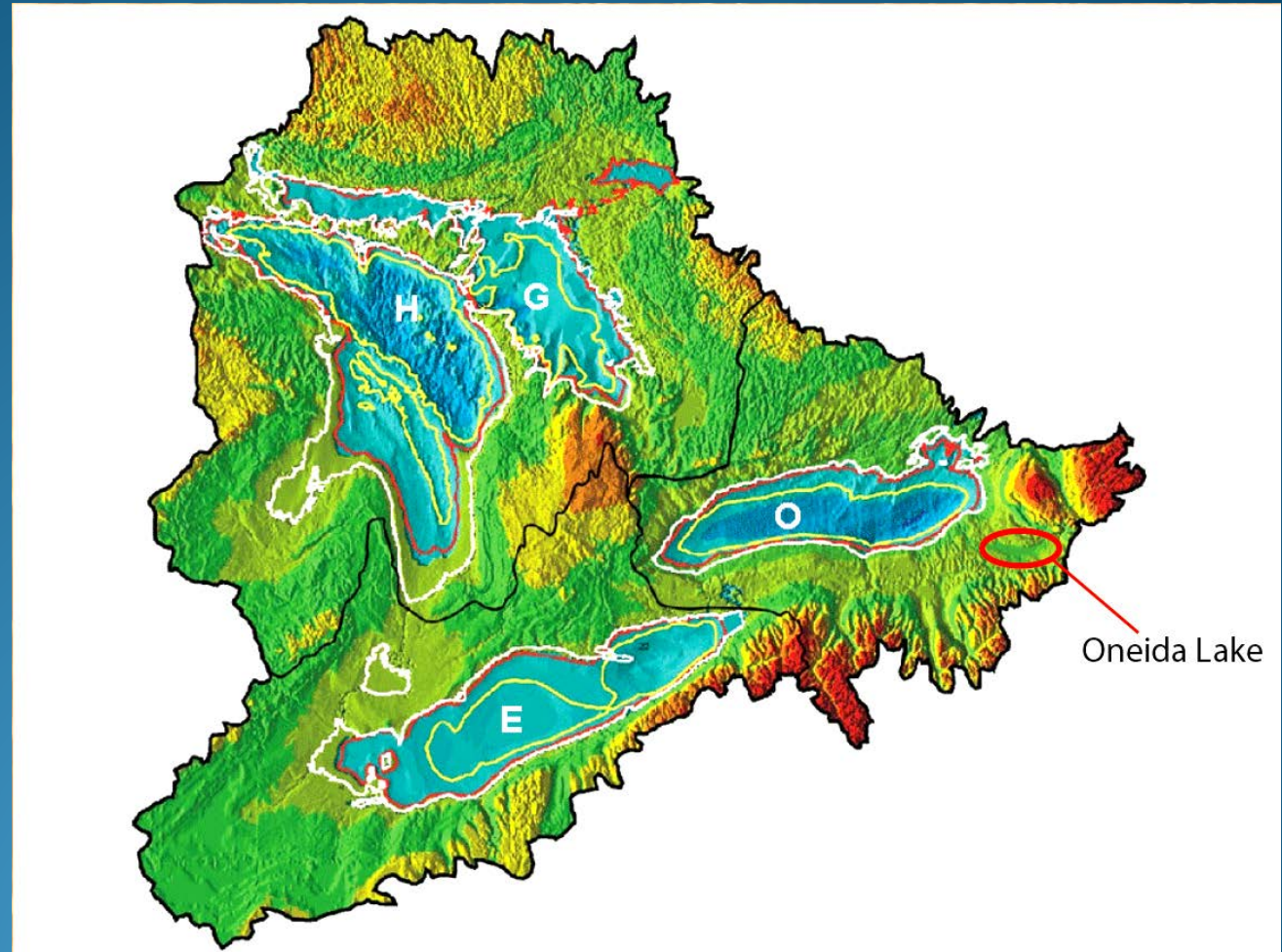


Water Levels in the Great Lakes: A Cross-border Problem

Mike Lewis, Steve Blasco, et al.

Geological Survey of Canada

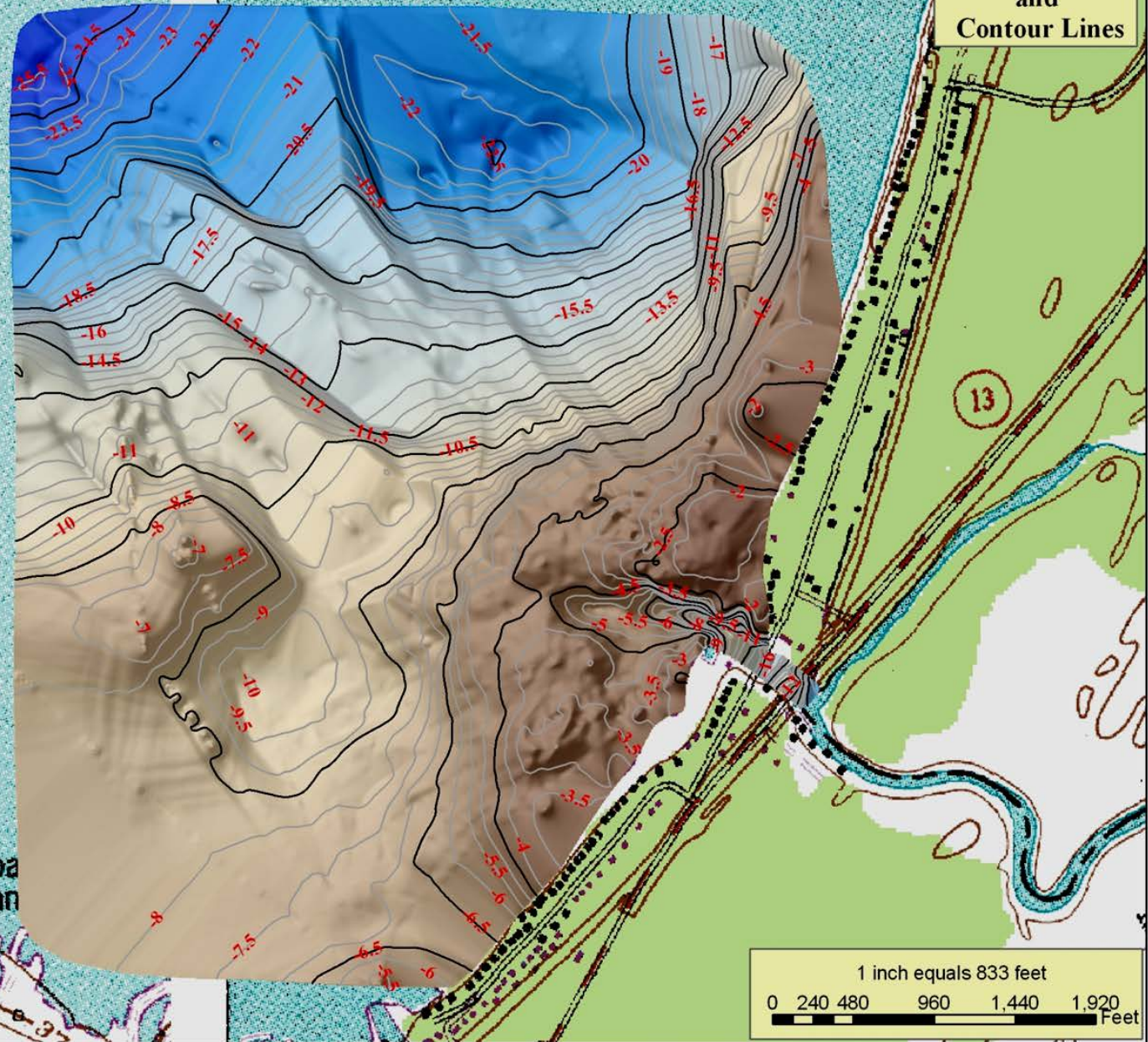
Basin wide
lowstand
~9,000 yr BP



after 9000 cal BP

http://sst.rncan.gc.ca/ercc-rrcc/theme1/t9_e.php

Depth Grid and Contour Lines



Legend
Depth Grid
Value

High	-1.639867
Low	-25.530100

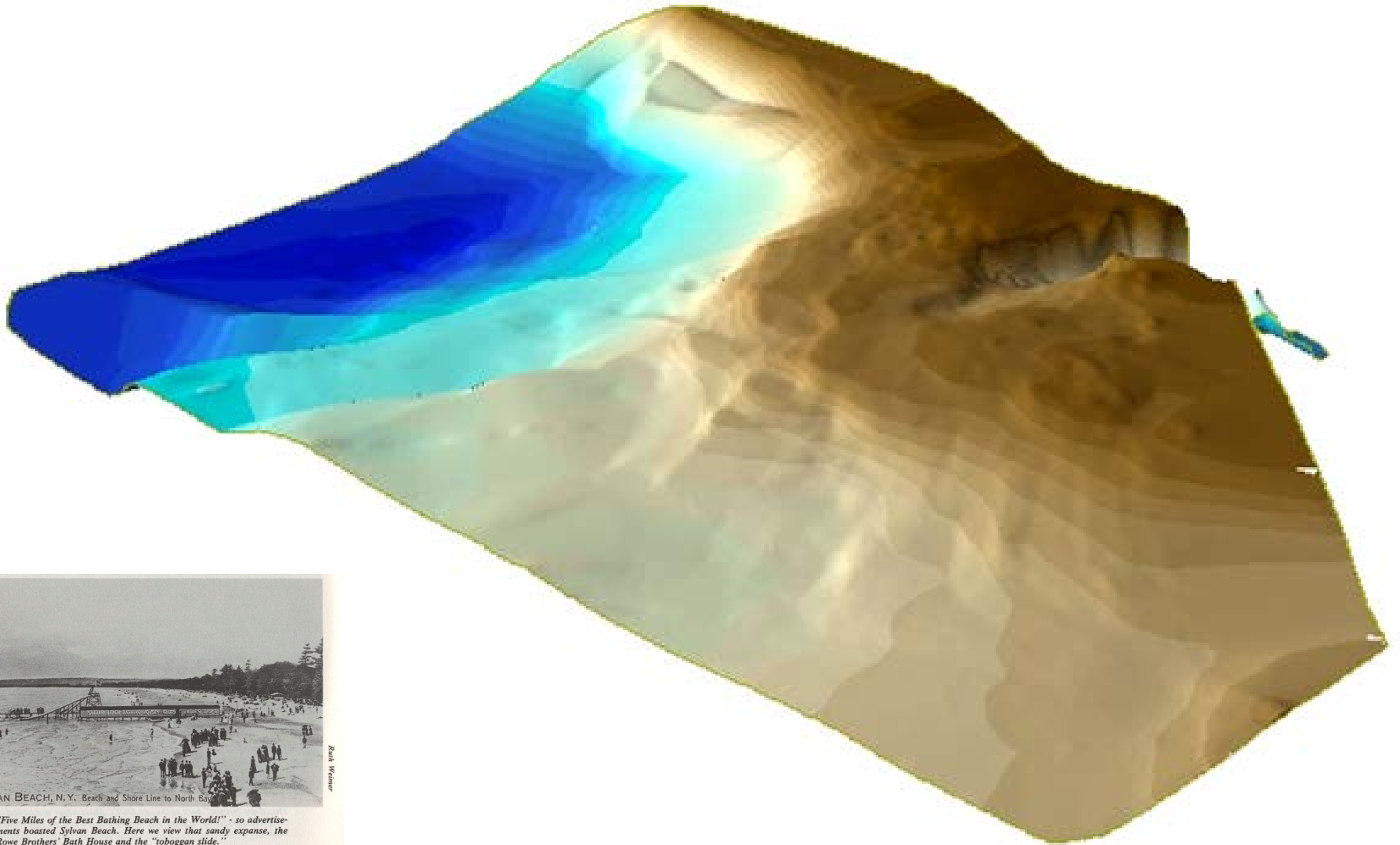
1 inch equals 833 feet

0 240 480 960 1,440 1,920 Feet

Boa
Ran

13

Oblique view of wave dominated delta of Oneida Creek



Bath House

SYLVAN BEACH, N. Y. "Beach" and Shore Line to North Bay

"Five Miles of the Best Bathing Beach in the World!" - so advertisements boasted Sylvan Beach. Here we view that sandy expanse, the Rowe Brothers' Bath House and the "toboggan slide."

Thanks to:

Katy Arnold

Cynthia Fadem

Eizabeth Hiscott

Jennifer Cleary

Manique Talia-Murray

Teddy Clemens

Stacy Ng

Rebecca Straw

And

Bruce Wegter

Scott Ingmire

NYS-DEC

CNYRPPDB

Anne Saltman



2009/07/23

Radiocarbon Dates from Faden, (2001)

Table 4 • Shell sample radiocarbon dates (referenced to 1950 AD).

Sample Code	Shell Type	Site	Provenience	$\delta^{13}C_{perm}$	RC Age BP	Cal Age BP	1 σ Range (Intercepts)	1 σ Range (Probability)
OL-0	<i>Sphaerium simile</i>	1A	beach sand	-9.5‰	10730 ± 85	12864	12938-12644	12942-12641
OL-3	<i>S. simile</i>	1A	beach sand	-10.2‰	10800 ± 50	12889	12960-12659	12975-12672
OL-10	pulmonate (sp. unknown)	1B	dune sand	-15.5‰	150 ± 30			
OL-23	<i>S. simile</i>	2	beach sand	-10.1‰	10990 ± 40	12995	13129-12897	13133-12934
OL-28	<i>Helisoma campanulatum</i>	2	beach sand	-6.7‰	10200 ± 40	11930, 11804, 11768	12113-11701	12075-11695
OL-29	<i>H. c. campanulatum</i>	2	beach sand	-6.9‰	9760 ± 40	11181	11199-11168	11201-11165

OSL Result of Oneida lake

Sample Details			Dose(Gy)		Dose Rate(Gy/ka)	Age(ka)	
Sample	Alt(m)	Depth(cm)	Wt_mean	Mean	Dose Rate	Wt mean	Mean
HESS 1	118	94	11.4 ± 0.1	10.6 ± 0.7	0.71 ± 0.05	16 ± 1	15 ± 1
HESS 2	118	109	9.6 ± 0.2	9.8 ± 0.7	0.84 ± 0.05	11 ± 1	12 ± 1
HESS 3	126	132	9.6 ± 0.1	9.7 ± 0.7	0.87 ± 0.05	11 ± 1	11 ± 1
HESS 4	126	191	9.3 ± 0.1	11.1 ± 0.8	0.96 ± 0.05	10 ± 1	12 ± 1
HESS 5	126	295	11.1 ± 0.1	12.0 ± 0.7	1.07 ± 0.06	10 ± 1	11 ± 1
HESS 6	87	215	23.1 ± 0.1	25.0 ± 0.6	1.21 ± 0.06	19 ± 1	21 ± 1
HESS 7	87	320	24.4 ± 0.1	25.9 ± 0.6	0.91 ± 0.05	27 ± 1	28 ± 1
HESS 8	87	420	22.9 ± 0.1	23.2 ± 0.6	0.96 ± 0.05	24 ± 1	24 ± 1
HESS 9	59	30	5.1 ± 0.1	5.4 ± 0.6	0.39 ± 0.04	13 ± 1	14 ± 2
HESS 10	59	100	5.71 ± 0.0	5.7 ± 0.6	0.71 ± 0.05	8 ± 1	8 ± 1