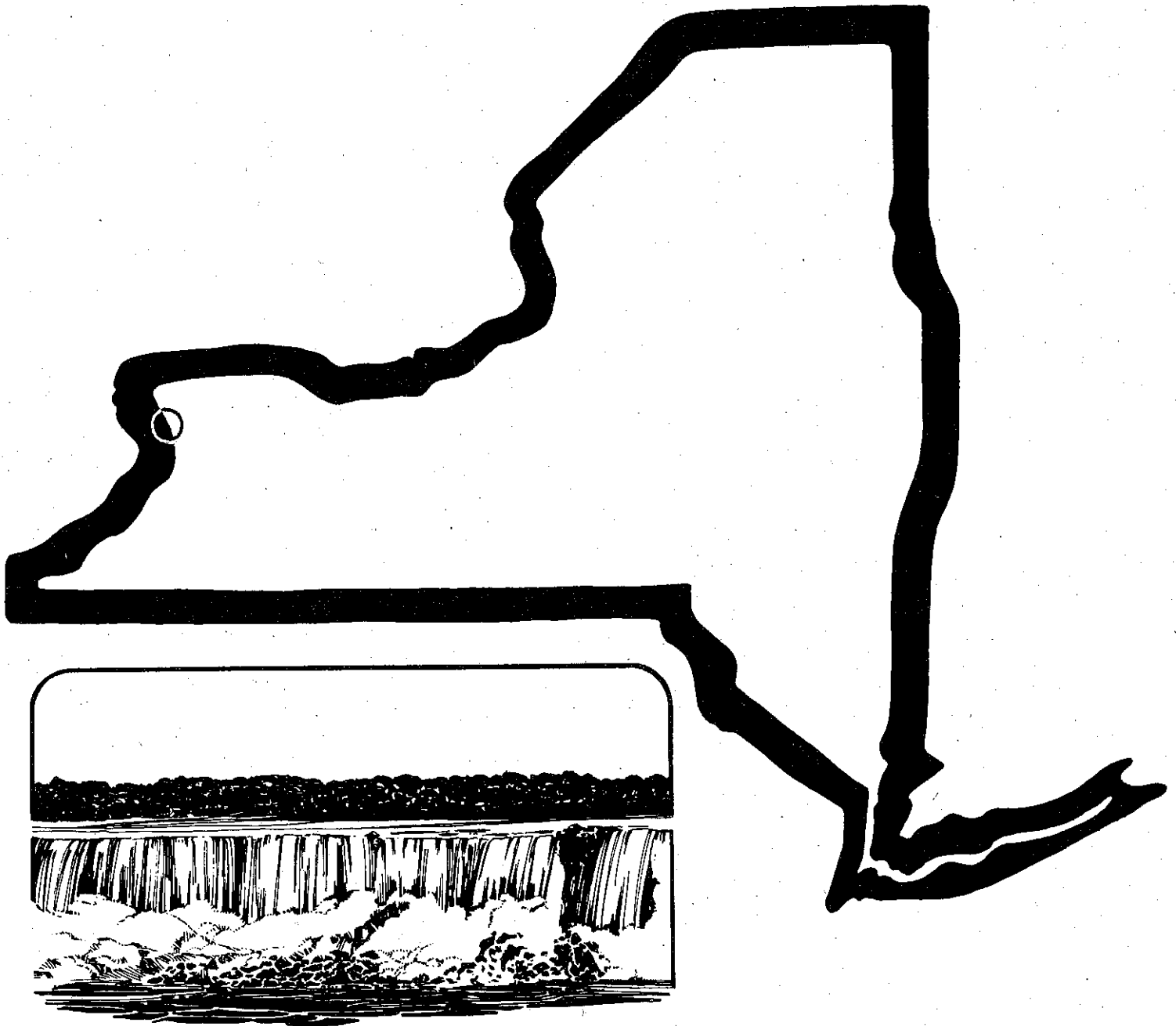


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NEW YORK GLACIOGRAM

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EDITORIAL POLICY

The GLACIOGRAM is intended to be a collection of informal notes concentrated on Quaternary work relating to New York either directly or indirectly. It is not a formal publication and is not circulated to libraries, nor to individuals not engaged in Quaternary research. The information included is often of a preliminary and tentative nature and as such should not be quoted and certainly not without communication with appropriate authors. It is suggested that reference to information in the GLACIOGRAM be identified merely as informal communication.

Parker E. Calkin

Parker E. Calkin - Department of Geology, University at Buffalo

As part of the joint AMQUA/CANQUA Meetings at Waterloo in June, Peter Barnett (Ontario Geological Survey) and I are conducting a field trip focusing on the Glacial Geology of the Eastern Lake Erie Basin. Guidebooks are available (with other field trips) through organizers (Paul Karrow and others) at the Dept. of Earth Sciences, University of Waterloo, Ontario.

Graduate student Andrew Smith has completed a Masters Thesis on the Stratigraphy of Niagara County. He used something on the order of 450 boring logs to depict the stratigraphy both above and below the Niagara Escarpment. Whereas two till units are identified north of the Escarpment, only one till can be distinguished in borings south of the Escarpment within the County. However, multiple tills are recorded farther south in the Buffalo area in borings and exposures.

Graduate student Eric Pefley continues to examine the pollen from deep borings (wash samples) in the Conewango (Buried Allegheny) Valley of southwestern New York (GSA Abstracts with Programs 22 (2)). Survey of 18 borings suggests that there are atleast 15 distinct stratigraphic units that can be traced through a reach of 9 km or more. Deciduous pollen at about 150 to 160 m depth could be Sangamon. If so, there appears to be some evidence of glacial horizons above that may include early as well as late Wisconsin diamictons. Very speculative at this time.

Donald R. Coates - SUNY at Binghamton

This has been a different kind of year because I have just become part of the Emeriti group. I still continue with some students and am involved with teaching occasional short courses at the University. For example, my PhD student Mingqin Yang will be spending his third field season this summer on his dissertation "Origin and Development of the Valley Heads Moraine". We welcome all advice, suggestions, help, ideas and contributions from each and everyone. He will complete his doctorate in May 1991.

My consulting firm, Coates & Associates, INC. keeps me on the go full scale. Most of our work is now hydrogeology related, but this invariably involves glacial geology. One of my more interesting projects is a two year contract to do the hydrogeology of the Northern Shawangunk Mountains. Primary porosity of most bedrock units is exceptionally low, and it is the secondary porosity of near-surface joints and other fracture systems that provide avenues for water movement. Many of these openings have been enhanced and greatly dialated by postglacial unloading. Varying thicknesses of drift also play an important role in the ability of precipitation to enter into the groundwater system.

Work on four different landfills, and proposed landfills, always involves the mapping and decipherment of the glacial stratigraphy. For example the two-till, ablation-lodgement till types north of Utica were crucial entities in determining the appropriateness of siting landfills in that area.

North of Albany some of the NYS-DOT salt stockpiles have impacted a number of wells. Movement of the contamination saline plume first involved the substrate of dune sands. Thereafter transport of the salty groundwater encountered Glacial Lake Albany beds and eventually moved into the bedrock. The mapping of these units is important in the litigation process.

Two lawsuits are currently underway where underground gasoline-leaked storage tanks have impacted adjacent homeowner wells. In each case the contaminated groundwater moved in glaciofluvial sediments. However, these units consisted of both highly permeable sands and gravels in addition to very tight silt-clay members. Flow nets through such dissimilar strata can provide some complex relations.

David DeSimone - Department of Geology, Williams College

This opening paragraph is directed towards those of you who are working in modern glacial environments such as the Antarctic, Greenland, Alaska, or elsewhere. Please contact me if you need an extra hand at any time in the future. My current schedule at Williams College leaves me with more than six free weeks from mid-December to the end of January in addition to the "usual" field season. I'd welcome an opportunity to visit one of the above environments if schedules mesh and details can be worked out.

The 1990 field season will see a continuation of my surficial mapping and environmental geology inventorying for the State of Vermont. The Bennington and Vermont portions of the Hoosick Falls (NY-VT) 1:24,000 quads will be mapped. A student here at Williams is plotting all available water well and test boring data as part of what may become a senior thesis. The Pounal and North Pounal quads were completed recently and the map and text should be published later this year by the Vermont Geological Survey.

Detailed mapping at 1:12,000 and hydrogeological investigations will continue for the Towns of New Lebanon, NY and Pounal, VT, contingent upon funding. Finally, I may venture- for fun, but not profit- back into the southeastern Adirondacks later in the field season.

Aleksis Dreimanis and Steve Hicock - Department of Geology, The University of Western Ontario

Aleksis is marking the last of the field-lab reports from students in the graduate glacial course. This year the field site was an interesting section in Medway Creek valley in the interlobate area where the Huron and Erie lobes were pushing each other.

In early March he enjoyed the GSA NE section annual meeting at Syracuse and the abundance of interesting Quaternary papers presented there. His paper was on the striking difference in ice-marginal landforms and facies along the St. Thomas moraine, depending on water depth along the edge of the Erie lobe that terminated in Lake Maumee during its oscillating retreat. While a morainic till ridge capped by crevasse fillings was formed in shallow water, the moraine is represented by two low grounding-line ridges in deeper water, covered by flat-lying waterlain sediments, mainly diamictons. This summer Aleksis will continue to investigate the glacial facies of the Erie Lobe and its meltwaters.

Steve graduated two Masters students last Fall who completed theses on Late Wisconsinan subglacial facies along the north shore of Lake Erie and glacial dispersal of kaolinite and Paleozoic bedrock in southwestern-most Ontario. He will present his ideas on subglacial depositional boulder pavements in Vancouver, then on deformation till and rapid Late Wisconsinan glacial flow in eastern Great Lakes at CANQUA/AMQUA in Waterloo. This summer he will continue to research boulder pavements, and take a close look at till fissility.

Books and journals for the Baltic universities and academies:

Last Fall Aleksis visited the Faculty of Geography at the Latvian University in Riga, where the granting of a degree in geology has been re-established after a 40-year interruption, as well as the Institute of Geology at the Estonian Academy of Sciences at Tallinn. Aleksis noticed a striking shortage of Western scientific journals and books, because of difficulties in ordering them by paying in rubles. A similar situation exists in

Vilnius, Lithuania, and at other Baltic scientific institutions.

If any Glaciogram readers are willing to donate sets of geology or geography journals, or scientific books, published during the last 10-12 years for the scientific institutions in Estonia, Latvia, and Lithuania, please let Aleksis know by listing the journals/books that you are considering to donate and to which institutions you would like them sent. In the meantime he will work out logistics including where the books/journals are to be sent for inclusion in bulk shipment of books to the Baltic countries. He will personally provide the details if you are interested in this cause.

Edward B. Evenson - Department of Geology, Lehigh University

I'd like to report that the Lehigh group is once again active in New York state. Doug Stahman, of our department, is finishing up his work on the Weedsport drumlin field under the direction of Ed Evenson (Lehigh), Dan Lawson (CRREL), and John Menzies (Brock). Doug is in the second draft stage and has made some very interesting discoveries. His work centers on the drumlin-flute transition zone just north of the Cayuga trough. Doug has discovered three zones: normal, spoon-shaped drumlins (northern zone), complex drumlins (central zone) and mega flutes (southern zone). In the transition zone, flutes start to develop on the backs of the normal drumlins and finally erase them into flutes. We initially suspected that till composition might be related to the shape change but that can now clearly be shown not to be the case--till matrix grain size is nearly identical over the entire area. Something else must be responsible for the shape change! Watch this space for further developments.

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Paul F. Karrow - Department of Geology, University of Waterloo

Your news request came the day before my departure for field work and is being answered from Manitoulin Island. I am here with summer assistant Kent Holden surveying raised shorelines of the Lake Algonquin-Nipissing sequence, which continues work begun in 1988 and continued in 1989. We come early to survey before leaves are out, bugs are numerous, and tourists arrive, but hopefully after snow is gone. There is more snow still left this year and some roads still too wet for access. We are now working in the Manitoulin Indian Reserve at the east end of the Island. During reconnaissance today, we found another popup (bedrock stress relief ridge), which is a side interest related to neotectonics (yes, that's Quaternary geology too!). For more on popups see the GSA St. Louis abstract with Owen White and Paul Finamore. This year, we are on Manitoulin for a couple of weeks, followed by a few days of till sampling in northwestern Ontario and northwestern Quebec in pursuit of Shield drift carbonate.

In March and April, John Greenhouse and I began a new program of drilling across the Waterloo interlobate moraine to try to establish the subsurface stratigraphy with continuously cored holes and downhole geophysical logging. We were able to take advantage of a rotasonic rig from Winnipeg. So far we have drilled 3 holes (120, 80, and 300 feet) fully cored in about five days; this would have taken several weeks of coring with split spoon. Earlier in the

winter, the same rig cored to 407 feet (three days work) in the Beaver Valley (without reaching rock) to provide subsurface stratigraphy at the Kimberley interstadial site, under study with Bern Feenstra of the Ontario Ministry of Northern Development and Mines. This site features inclusions of fossiliferous sand (terrestrial molluscs only) in till. The site is about 10 miles south of the Clarksburg site, near Georgian Bay, but seems unrelated to it. Access to this drilling is a great advantage here in southern Ontario where nearly all the surface mapping has been completed (at 1:50000 scale) and subsurface stratigraphic information is much needed.

M.Sc. student Andy Heath is analysing lake cores from two sites in the Sudbury area as part of his study of the lake history of the area. He had previously surveyed deltas built into lower Algonquin lakes about 10,000 years ago. Andy plans to complete his thesis this summer. Concurrently, Andy Bajc is writing his Ph.D. thesis on the Fort Frances area in northwestern Ontario. That work was supported by 70 rotasonic holes in 1988 and 1989, revealing Cretaceous sandstone outliers in bedrock depressions and a multiple till and lacustrine sequence overlying.

Joint study with Barry Warner here and Barry Miller of Kent State University continues on samples from the Fernbank site, near Ithaca, New York. A poster at the forthcoming AMQUA meeting at Waterloo will summarize findings on the plants and molluscs.

Years of accumulated samples from the Woodbridge cut, northwest of Toronto, are at long last being processed for fossils. Samples of the "Scarborough" unit yield plants, while the "Don" unit has yielded plants, molluscs, ostracodes, insects, and a few microvertebrates. Samples from a continuously-cored hole drilled at the site in fall 1987 have been analyzed for pollen by Jock McAndrews, Royal Ontario Museum. A multi-authored paper is planned after completion of analyses.

We look forward to seeing most of you here at Waterloo in June at the AMQUA/CANQUA meeting. More progress reports will be available at that time.

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Ernest H. Muller - Department of Geology, Syracuse University

After my first free-wheeling semester in retirement last fall, I took on the teaching of a University College course this past term. This fall, again, Wanda and I hope to be footloose. The price of such irresponsibility includes a move from the office which I have enjoyed since Heroy Geology Lab was first opened. No doubt it is salutary to move every 20 years or so.

For the records, I can still be reached either at 204 Heroy Geology Lab., Syracuse NY 13244-1070, (315-443-2672) or, at home, 874 Livingston Ave., Syracuse, 13210 (315-478-5827).

In May Wanda and I anticipate extending the Friends of the Pleistocene field conference in Halifax to make a first-time visit to Newfoundland.

In June, if all goes well, I hope to return to Bering Glacier with Jay Fleisher and Austin Post to observe changes in the proglacial lake system which we noted in process at the end of last season, and to try to pin down a bit of the chronology of Holocene glacial fluctuation.

More locally, I expect to work in the Tug Hill in connection with the NYSGS mapping of the Adirondack 1:250,000 sheet. Several individuals, among them Russ Kaiser, Jim Street, Frank Wright, Dick Jordan and Tom Chambers, have mapped parts of the area. Nevertheless, because of forest cover, sportsman's clubs, poor accessibility and lack of exposure, many problems in field remain to be resolved.

DON PAIR-----GEOLOGY DEPARTMENT, SYRACUSE UNIVERISTY

Research is continuing on the glacial history, flow patterns and subglacial conditions, and paleomagnetism in the western Adirondack borderland. Results of this research were presented at the St. Louis and Syracuse GSA meetings and a paper (with Cyril Rodrigues, U. of Windsor) is in its final stages of completion. Last summer and Fall found me expanding surficial mapping efforts eastward towards Cranberry Lake onto the Adirondack flank and south to study the Black River Valley Sand Plains. I've benefited greatly from conversations in the field and office with J.S. Street (SLU) and J. Gurrieri (Conn. DEC) concerning these fascinating areas. These efforts were part of my role this past Fall in assisting Don Cadwell (NYSGS) in the final push towards compilation and completion of the Adirondack Surficial Sheet.

The Spring semester was filled with 108 Environmental Geology students who kept me busy and challenged. I also had a great opportunity to interact with visiting Professor Bob Ridky (Maryland) who taught Geomorphology and indoctrinated me in new and exciting numerical sides of glacial geology. The coming year will find me wrapping up dissertation papers and defending, and looking forward to the publication of the Adirondack Sheet. I will also attempt to follow the tough acts of Ernie Muller and Bob Ridky in my temporary appointment for the academic year to teach Geomorphology, Environmental Geology, a section of Introductory Geology, and possibly Glacial Geology while the department decides on permanent staffing positions.

William D. Sevon, Pennsylvania Geological Survey

Much of my time in 1989 was taken up with the IGC meeting in Washington, D.C. and the Geomorphology Symposium in Carlisle, PA. The Symposium was excellent and the published papers, available in a hardback edition "Appalachian Geomorphology" published by Elsevier and in Geomorphology, v. 2, no. 1-3, provide lots of food for thought and should stimulate some new research.

Work on glacial deposits by members of the Survey is slow at the moment. I am working on a simplified surficial map for Warren County to support a groundwater study there. My main mapping project is in the York 1:100,000 sheet which is in the Piedmont of southern Lancaster and York Counties. The project is a cooperative with the Maryland Geological Survey and should produce an interesting surficial map a few years down the line. There is lots of saprolite, alluvium, and colluvium. The age of the saprolite is still a focus of discussion, but the alluvium and colluvium are probably mainly Pleistocene deposits.

Since Tom Berg went to Ohio to become state geologist, Jon Inners has become chief of the Survey's geologic mapping division and his work on pre-Wisconsinan deposits in the Anthracite region is on hold. Helen Delano continues her study of bluff erosion around Erie. Michael Moore is starting a groundwater study of Presque Isle.

Plans are underway to have Duane Braun, Bloomsburg University, add some of his ice-margin position information (GSA Abstracts with Programs, v. 21, no. 2, p. 6) to the two 1:100,000 sheets I mapped in northcentral PA. We also hope that Duane will be able to finish the glacial mapping north of the Late Wisconsinan border in the eastern part of the state during the next couple of years.

John P. Szabo - Department of Geology, The University of Akron

Jim Matz and I are finishing up some reconnaissance work on the heavy minerals in the Titusville Till and its equivalents in Ohio. Data from sections suggest a gradual shift in the source area of pre-Wisconsinan ice in western Ohio. The amounts of total heavy minerals generally increase toward western Ohio. Additionally, epidote and opaques increase toward the west. Trilinear plots of garnet, epidote, and amphibole show mixing of Erie-Ontario lobe components with those of the Huron-Georgian Bay lobe. The mixing is analagous to the mixing of two groundwaters of different chemical compositions. Data were compared between and within sections. Lithofacies affect the total amounts of heavies in some sections. Data at Mt. Gilead confirms the western source area of one of the units at that section.

John Hofer will be examining the mineralogy of the diamicts from vibracores in Lake Erie in attempt to detect a shift in source area of ice in western Ohio. Christine Wilson is working on the age of kames over a buried valley parallel to the present Cuyahoga Valley. It is likely that this valley may contain the outwash not found in the Cuyahoga Valley associated with Late Wisconsinan advances.

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