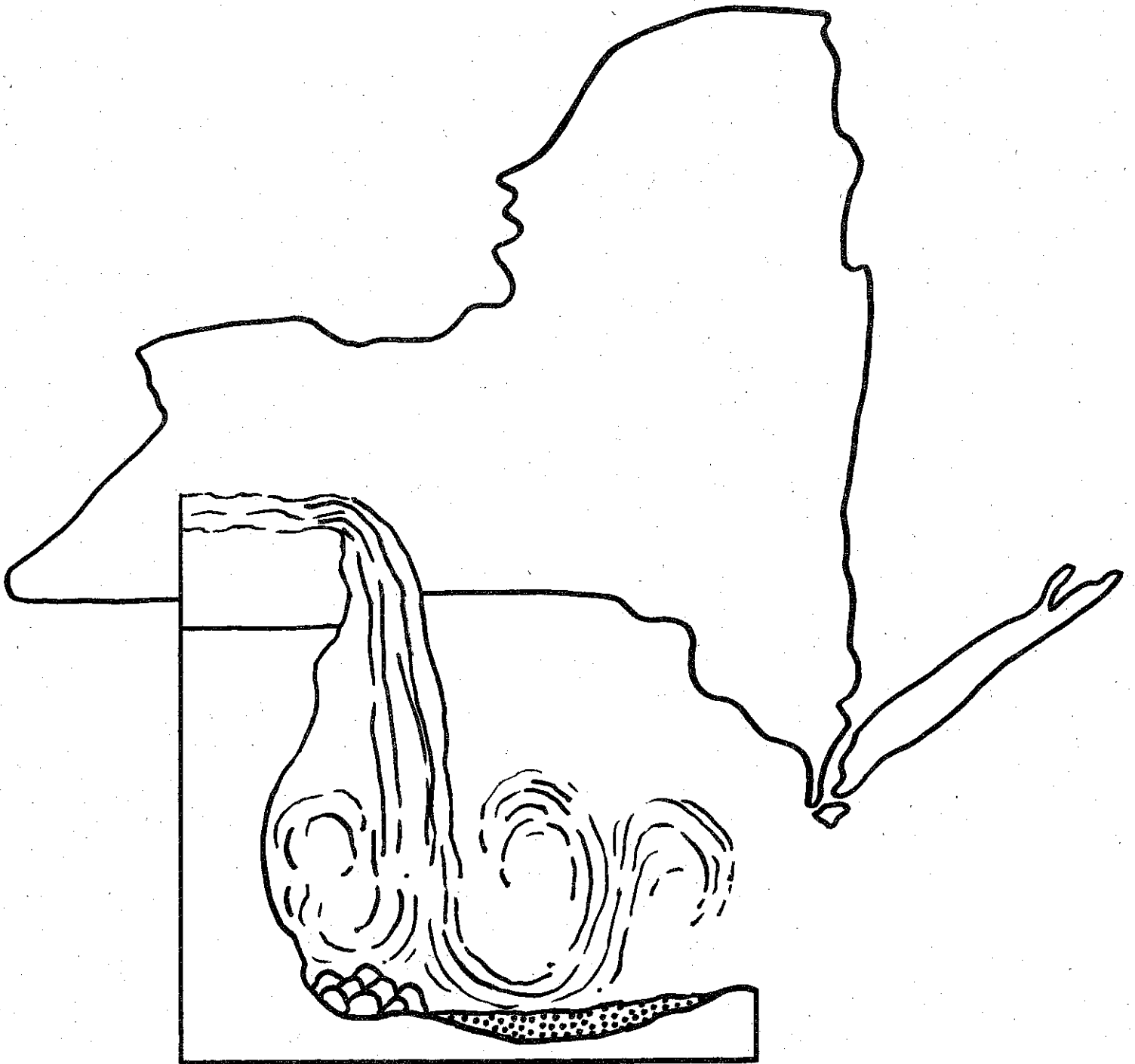


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NEW YORK GLACIOGRAM



DEPARTMENT OF GEOLOGICAL SCIENCES

State University of New York at Buffalo
Buffalo, New York 14207

It is more than obvious that the Glaciogram is coming to you very late this time - even though the cover has an April date (a monument to good intentions) it is now late May and even the Friends meeting is now in the past. We at Buffalo are now able to add to the now legendary travails of publishing a non-publication. Before committing ourselves to relieving Don Coates of his editorial burden we in turn received a commitment from the University to furnish secretarial help. (We have only a single departmental typist to handle the typing for a dozen prolific staff members). Unfortunately, someone took a typist away from our Provost and he had to renig on his commitment to us. The long and the short of the situation is that we owe a debt of gratitude to Sue Richardson, the secretary in the Geology Library, who volunteered to help us in our hour of need.

We must now ask your help in advising us what to do with the funds we have been accumulating! Our call for contributions has been well received and has resulted in two ample issues of the Glaciogram. However, it has also resulted in enough misunderstanding for 11 people to have contributed a grand total of \$13.00 in cash and checks. Please - no more! We don't even know what to do with the cash on hand?? Parker has suggested establishing an endowment and using the interest as a scholarship fund for the sons and daughters of glaciologists killed in cravasses on the Calkin Glacier (yes, it really exists). What is your pleasure?

Finally, may I remind you once again, that anyone not returning the tear sheet on the call will be dropped from the mailing list. This is a necessary procedure to keep the mailing list current and down to a managable size.

The editors apologize for crediting the National Enquirer article in v. 7, No. 2 to George Banino: O.T. Maide was the discerning reader.

G.G.C.

Arthur Bloom

"In June, my family and I leave for a year in the South Pacific. Until November, I will be a Fulbright Senior Research Scholar in the Department of Geography, James Cook University of North Queensland, P.O. Box 999, Douglas, Townsville 4810, Queensland, Australia. I will participate in the Royal Society-Universities of Queensland Great Barrier Reef expedition. We hope to learn more of the Quaternary history of the GBR. Later, I'll be in Canberra with the ANU Research School of Pacific Studies, and of course, at the INQUA Congress.

If this doesn't seem relevant to the New York Quaternary, you should know that we have a convincing cluster of U-series dates at about 40,000 BP from New Guinea reefs, as well as confirmation of the Barbados reef ages at about 60k, 85k, 105k, and 120k. Somehow, I'm going to work the Fernbank, NY site into the New Guinea reef story. Meanwhile, keep those letters and reprints coming".

Harold Borns, Jr.

I will be starting a two-year study this summer aimed at documenting in far greater detail than presently exists, the chronology and extent of a major oscillation of the receding Late Wisconsin Ice Sheet primarily in Maine, and in parts of New Brunswick and Quebec.

I have been able to identify the bare framework of this oscillation in eastern Maine and within the limits of C¹⁴ dates and stratigraphy it seems to be the correlative of the oscillation encompassing the post Cary recession, the Port Huron readvance, and the post Port Huron recession of the Great Lakes region.

The purpose of this research is to provide the type and amount of detailed data that are required for evaluating paleoclimatic changes in approximately the last 15,000 years. Such details is necessary for making proper comparisons with, and extending the paleoclimatological implications of, records obtained from deep-sea sediments, oxygen-isotope variations in the Greenland Ice Sheet, and Holocene alpine glacial variations.

The research will be supported by the National Science Foundation.

James Bugh

Since January, I have been using applied glacial geology with John Fauth and John Harsh in a study of a potential site for the Cortland County sanitary landfill.

We have initiated a drilling program to determine the nature of the overburden and its thickness, bedrock topography, groundwater level and direction of subsurface water movement. The overburden at the site is Olean till but, of greater significance, it buries a pre-Wisconsinan drainage network such that the groundwater divides are distinctly different from the surface drainage divides. As the glacial geologist on the project, I was not totally surprised with this finding. This one aspect alone demonstrates the need for an interdisciplinary approach to environmental impact studies.

Later this month, Steve Rossello, one of our students involved in the project, will present our initial findings at the 27th Annual Eastern College Science Conference held at Pennsylvania State University.

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Joe Caggiano

Three tills occur within the Belchertown, Mass. quadrangle. Three facies of the slightly silty, very fine sandy upper till have been mapped. These facies reflect the mineralogy of the local source rock and are distinguished on the mineralogically controlled color of the matrix. Well-indurated, stone-poor, highly weathered, silt and clay rich lower till occurs at the base of one section and has been exposed in two temporary excavations. A reddish-brown, stone-poor, well-indurated silt and clay rich till which occurs in drumlins in the Connecticut Valley and on the north slope of the Holyoke Range may be a Connecticut Valley facies of the lower till derived from Triassic rocks. It may also represent a deposit of the last glacier which incorporated red lacustrine deposits in the Connecticut Valley.

Thirty one till samples were analyzed for texture using sieve and hydrometer methods. Plots of the data on a sand-silt-clay ternary diagram indicate separate fields for upper and lower till. Texturally, drumlin till more closely resembles lower till. Upper till generally contains 6-10% clay, with slightly higher clay content in the valley facies derived from the matrix of the Triassic arkosic conglomerate. Compared with published data, upper till of New England generally has 6-8% clay; lower till generally has greater than 15% clay. The texture of upper till is more variable than that of lower till and seems to closely reflect underlying bedrock. Lower till is texturally more homogenous, but derived from the same bedrock as upper till. Incorporation of a thick, preglacial saprolite may account for the textural similarity of lower till and its higher clay content. Deeply weathered bedrock under till has been reported from several localities in New England.

Whether upper and lower till from one locality are correlative with upper and lower till elsewhere in New England is an unresolved problem. Through usage, these two field terms have come to imply an unestablished regional correlation and synthesis. Perhaps it is time to employ formation names for New England tills, as has been done in the midwest.

On the environmental side, uncontrolled development has led and will lead to contamination of surface and groundwater by sewage and road salt. A group of students in the Geology Department have been collecting water samples and documenting the degradation of water quality.

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Donald Coates

This has been a very hectic year! We started the year with our Third Annual Geomorphology Symposium, and end the year with hosting the 36th Annual Meeting of the Friends of the Pleistocene, in May. I was able to beat our former records for publishing the symposium proceedings volume, COASTAL GEOMORPHOLOGY, but only because of the tireless help of our great British friend, Cuchlaine A.M. King. This 1972-1973 academic year has been a real treat because we jointly offered two courses, Coastal Geomorphology in the fall, and Glacial Geomorphology in the spring. She has been an invaluable ally and colleague, and we are co-authoring a number of items as a result of her stay... all in glacial geomorphology, viz. quantitative aspects of, drumlins in N.Y.-Wisc; cirques and quasi-cirques, England and U.S. "drumlolds in Southern N.Y. etc....".

The new regulations sponsored by N.Y.S. Department of transportation concerning filing of reports by geologists for sand and gravel operations on State contracts is certainly providing a boon to friends of glaciers. We, at Binghamton, are doing several and have turned others down since we can't make more hours in the day. Another glacial activity of mine concerns work with the New York State Attorney General on condemnation claims that involve assessment of quantity and quality of sand and gravel appropriated from owners during construction of new highways. I am currently working on four cases along the Susquehanna valley west of Nichols, New York. Thus, I think glacial geologists do have many opportunities to perform service in the interest of the general public.

A current project has been to put the finishing touches on a status report which I call "Glacial Geology of the Binghamton-Western Catskill Region". I have felt the handicap for several years of the paucity of published reports of this area. By the absence of a report that synthesizes our work and of a field guide, my university classes have suffered, my NSF Institutes have felt the need, and the trips I give for local high schools and teachers have been slighted.

Thus, this report was conceived as largely an in-house document for local use and distribution, and to fill our own needs. Also when we agreed to host the Friends of the Pleistocene this spring we thought such an assembly of papers might prove useful as a starting point for discussion. Contained in this report are four articles and descriptions of two field trips. Contributing authors include Don Cadwell, Cuchlaine King, Jim Kirkland, Allan Randall, and myself. The articles discuss the glacial stratigraphy of the area and the glacial geology and periglacial features. Much new information is presented on such topics as: 1.) the unique concavo-convex landforms of the Great Bend area 2.) glacial and deglacial chronology 3.) development of cols, troughs, and meltwater features 4.) unusual style of glacial erosion, both in uplands and in valleys. In addition several new hypotheses are advanced as explanation for some of the anomalous landforms and drainage patterns such as: 1.) evolution of marginal rivers to the Laurentide ice sheet, such as the Cohocton-Chemung-Susquehanna system 2.) possibility of glacial surges in the Great Bend area 3.) massive rotational landsliding of certain topographic elements. We have also found some puzzling humic-soil charcoal? sites buried under till and colluvium. One charcoal site gave a radiocarbon date of 280 ± 130 yrs B.P. near the Blatchley locale (Windsor 7 1/2 minute USGS topo map). For those of you with ideas on such matters please let us know. If anyone is interested in our thoughts they occur in the 80-page report previously mentioned (Contribution No. 2 Publications in Geomorphology, \$2.50 non-profit cost).

The coming summer is probably over-committed with a variety of many projects. The two most time-consuming will be continuation of our 5-year study (this is year No. 2) of the south shore of Long Island, and the writing and editing of the last book in the trilogy I am doing for Dowden, Hutchinson and Ross Publishers, on the general theme of environmental geomorphology and landscape conservation. This last volume concerns urban areas. The strictly glacial work during the summer will largely be a continuation of Appalachian Plateau studies with emphasis on the peculiar "drumlolds" that occur in north-south valleys, and additional studies on till fabrics.

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Gordon Connally

As many of you know already, Parker Calkin, Joe Hartshorn, and I have submitted a proposal to G.S.A. for a Penrose Conference on Pleistocene Stratigraphy in the Northeast. The original proposal was not accepted because of structural problems, however, we are intending to resubmit a modified proposal and anticipate its acceptance in time for the planned for date of late February 1973. This meeting of 60 glacial geologists, sedimentologists, and coastal plain stratigraphers will last about 5 days and will feature 11 key speakers that have

consented to attend. My latest activities have been focused on environmental geology in the Erie Co. area and on a new project in Teacapan, Sinaloa, Mexico. Parker and I are joining a joint archeology-geology team from SUNY/Buffalo during June and early July to help evaluate the coastal geomorphology (Parker) and stream terrace stratigraphy (me) in the vicinity of Teacapan and the Rio Acaponeta that furnishes the bulk of the sediment to the shoreline. Chuck Cazeau has spent three years on this project doing sedimentological studies and directing numerous geology theses in the area.

The Glens Falls quadrangle and vicinity map has been printed and the manuscript should be in Albany by the time the Glaciogram reaches you. We also hope to publish the Moraine Map of New York on next year's budget. In Pennsylvania, the Saylorsburg quadrangle work will be completed in July and hopefully will be in press sometime next fall. Jack Epstein and I gave a paper on Regional Deglacial Sequences in Northeastern Pennsylvania at the Northeast Section meeting in Allentown. We hope to be working in the mid-Delaware Valley from now on. Finally, I think the Mount Mansfield quadrangle is now in press with the Vermont Survey.

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George Crowl

I spent much of last summer tracing the Late Wisconsinan glacial border west from Benton to Loyalsock Creek north of Montoursville. The work is about half done, thanks to "Agnes". Early Wisconsinan (?) drift appears west of Benton and is wide-spread in the vicinity of the Loyalsock. The Early Wisconsinan (?) is correctly labelled at this point; a day's field trip in the area with Ed Ciolkosz and other soil scientists during Spring Vacation produced a lot of questions and arguments.

Jon Sanger, a botanist here at Ohio Wesleyan, and I are beginning a study of lakes and fens in the border zone. We hope to date the basal deposits and work out the post glacial history of the area from organic deposits at these sites.

Hopefully, I will do more field work this summer if I can get the money. Many others are in the same predicament.

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Kernan Davis

Engineering Geologists of New York State Department of Environmental Conservation are looking for a valley bottom deposit that is highly pervious, minimum size: 20 metres, saturated, 15 hectares extent, in hydraulic connection with a stream whose minimum low flow is about 10 cfs, discharging into Lake Ontario (excluding the Watersheds of the Genesee

and Oswego Rivers). The objective is to find an aquifer system which can supply a fish hatchery, whose water needs run about 8,000 gpm. This need can be met by a combined system of surface, ground and recycled water. The aquifer will be used as a reservoir, filter and heat sink. Consistent temperature, chemical quality and purity of water are important, as is a direct, safe run for the fish, from the hatchery site to the lake. If you know of such an aquifer system, please contact:

New York State Department of Environmental Conservation
 50 Wolf Road, Albany, New York, 12201 - Room 418
 ATTN: F.E. Van Alstyne, Asst. Engineering Geologist

DEC Engineering Geologists are also cooperating with the Environmental Quality Research Unit of DEC in its study of the phosphorous adsorption capacity of sands and soils. This is related to the problem of phosphate enrichment of lake waters by septic systems in the watershed feeding the various lakes. If anyone would like to suggest an area to be included in this sampling and testing program, send details to the attention of Dr. T.J. Tofflemire, Senior Research Scientist, Room 414, same address as above.

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Aleksis Dreimanis

Though recently I have not been doing any new work in New York State, last year a paper based upon the experiences of previous years was presented at the International Geological Congress and published in Section 12 of its proceedings, outlining a new time stratigraphic classification and presenting correlation of rock stratigraphic units in Lake Ontario and Erie basins, and St. Lawrence Lowland, and general correlations with selected areas elsewhere. This paper is: A. Dreimanis and P.F. Karrow, 1972, Glacial history of the Great Lakes-St. Lawrence Region, the Classification of the Wisconsin(an) Stage, and its correlatives.

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Dunn Geoscience Corporation

Most of the recent glacial geologic activity at Dunn Geoscience Corporation has been the delineation of buried glacial or pre-glacial bedrock channels by shallow seismic refraction. In some cases, earlier major water courses of the Hudson-Mohawk system were filled with permeable sand and gravel during the Pleistocene and now may be good groundwater reservoirs. Exploration and elevation work for economic sand and gravel deposits continues.

Was last November's clipping from the National Enquirer fact or fancy? Note the abstract of the Szucs & Jakab paper from the North-Central GSA 1973 Annual Meeting, p. 356.

 Ken Fahnestock

I am continuing my interest in the glacial geology and buried topography of western New York. Steve Keller is working on a MS thesis on the suitability of glacial deposits around Mayville, New York for the living filter sewage disposal method. Mike Wilson will complete under the direction of DN "Mike" Peterson, a thesis on the buried topography and valley development of the Walnut Creek drainage near Forestville. He has utilized geophysical methods as well as water well records and surficial geology on this problem.

I am also planning to return to the glacial geology of the Colorado Front Range this summer.

Robert Fakundiny

I'm preparing a map showing all available surficial geology reference sources and their area coverage for New York.

J. Fleisher

I anticipate spending most of July and August in the field locally working in the area from Oneonta north to Cooperstown, including the Otego, Upper Susquehanna, and Cherry Valley drainages. Most attention will be directed toward the deglacial history and features of periglacial significance. Several interesting localities were found last fall and this spring that suggest some potential in determining the degree of periglacial activity and how it correlates with the glacial chronology.

Hopefully, by the time this issue appears Don Cadwell will be well on his way to organizing the first informal field conference of what appears to be "friends of the ice wedge casts" (or whatever those bedrock kinks are that generated some discussion in Allentown).

Jane Forsyth

Jane Forsyth is still working, from time to time, on the relation of plants and geologic substrates (a paper on a cinquefoil occurring mainly with the glacial boundary, a second thistle (Carduus nutans) paper, and a survey of the physical characteristics of the areas of wet prairie near Bowling Green are all in preparation) and on the early post-glacial, pre-Maumee lakes near Lima in western Ohio. One of her main time-consuming duties, that of Editor of the

Ohio Journal of Science, is about to be handed over to someone else (Dr. David K. Webb, Assistant Chief of the Ohio Geological Survey) and she will welcome the extra time and freedom. In addition, this summer, she is planning to take part in a birding (fjording) tour of Scandinavia with her mother, a tour being run by Florida Audubon.

Graduate students working on projects include Mr. Michael Echelbarger, who is surveying the glacial geology of Seneca County (northwest Ohio), Mr. Gary Ochsenbein, who is studying the origin of the Carter Caves, Kentucky, and Mrs. Bonnie Betz Gilbert (don't direct this one), who is studying a South Bass Island (Lake Erie) woodlot in relation to both biologic and abiotic (geologic) factors. Beth Evans Schooler's work on the Lake Erie late Pleistocene beaches in Pennsylvania, completed several years ago as a master's thesis, is soon to appear as a publication of the Pennsylvania Geological Survey.

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Paul Karrow

The summer of 1973 will be spent mapping the St. Mary's area for the Ontario Division of Mines. Preparation of a Memoir for the Geological Survey of Canada on the Stratford-Conestogo area, mapped 1965-68, is underway and a paper on till nomenclature and stratigraphy in southern Ontario is ready for journal submission.

New research projects in our department are: Peter Barnett (for M.Sc.) is studying tills (Wentworth and Halton?) of the Niagara Peninsula, and Ed Frey (for M.Sc.) is studying coarse Precambrian clasts in tills in southwestern Ontario as provenance indicators. In Biology: B.A. Sreenivasa (post-doctoral) is completing pollen study of Hoffstetter Lake near Waterloo, and is about to begin study of the midges of the Toronto interglacial, and Brenda Hahn (research assistant) is studying cladocera of the Toronto interglacial.

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James Kirkland

A piece of black spruce yielding a 11, 110 _ 87 yrs. B.P. date has been obtained from a site in the Western Catskills. The wood was collected 1/2 mi. over the divide between the East and West Branches Delaware River in the center of the valley of Carcass Brook (Readburn 7 1/2 min. topographic map). The wood is part of a 4 to 6 in. wood and peat layer and is underlain by at least 2 ft. of silty gray clay. It is overlain by 4 to 6 ft. of colluvium. Walter Newman was kind enough to look at the pollen stating "Its a Spruce-Pine forest with some Fir. The pollen concentration is so high that it must be Boreal Forest. Its certainly "A Pollen Zone" with some Tundra representatives".

The section not only demonstrates the extreme mobility of slopes in this area during post-glacial time but also suggests that slope movement on a large scale continued for a considerable time after deglaciation.

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Walter S. Newman

Robert Matarese, an undergraduate student, discovered a one-foot thick peaty silt lenses between two tills one mile southwest of Montauk Point last fall. The lens contained wood which yielded a C-14 date of 38,800 ⁺⁵⁶⁰⁰ ₋₃₂₀₀ years B.P. Mary Whiting, another of our undergraduates, found a boreal pollen spectrum in the silt adhering to the wood while silt above and below the wood showed largely NAP spectra. The lower till exposed in the bluff is classic laminated Montauk Till. The till above the lens is a loose brown clayey till. The section is described by Perlmutter and DeLuca in their 1963 U.S. Geological Survey Water-Supply Paper 1613-B. The lens appears to represent a mid-Wisconsin Interstade and suggests the Montauk Till is pre-Late Wisconsin, a position long argued by Cliff Kaye. If so, earlier Wisconsin glaciation was as extensive as Late Wisconsin ice along this segment of the Laurentide Ice Front.

Gordon Connally's insisting that Long Island Moraines date at 1.5×10^6 B.P. notwithstanding (see Nov. 1972 Glaciogram), we continue to uncover data supporting a 13,000 year B.P. very late Wisconsin ice advance to the north shore of western Long Island. Thanks to George Kelley's noting a peculiar topographic anomaly crossing Southwestern Connecticut from the southwest border to Middletown and additional observations on the part of some of my colleagues, it seems possible to trace a discontinuous end moraine southwest from near Middletown to the Housatonic River Valley and then a continuous feature generally southwest from Lake Zoar through New Canaan into New York State. The morainal feature continues curving south through Rye into western Long Island Sound. We think it strikes south across the Sound, its trace marked by both Hen and Chickens and Execution Rocks Shoals. We suspect its southeasternmost extent is Les Sirkin's Roslyn Till. Both Charles Baskerville and myself have previously reported evidence for such an advance in northern Queens County. Julian Soren has similar evidence from the same area. Our date under this till is 13,470 \pm 380 years B.P. while Phil Schafer and Joe Hartshorn (1965) report the Middletown readvance occurred not long before about 13,000 years B.P. Further afield, they believe the Cambridge readvance in the Boston area can be tentatively dated at 13,800 years ago. The line from Boston to New York City neatly divides pre-13,000 year B.P. C-14 dates from the more northerly area where only younger dates are encountered. There are very few exceptions to this division. Leonard Cinquemani and John Loret are working on the marine portions of the moraine while myself, Cinquemani,

Raphael Shadur, Ralph Estevez and Mary Whiting are working up data on the subaerial portions of the moraine. Looks like this roughly 13,000 year old advance followed the axis of the Hudson Valley.

Leaving myself wide open to Gordon Connally, I wildly state that this is the Port Huron equivalent moraine recently mislocated by Wright (1971) and fervently sought for by Hal Borns.

Victor Schmidt

Good weather has favored us this spring, and my students and I have been able to get into the field quite early. In scouting the Wayland-Naples area in preparation for the NYSGA meeting in the fall, we are impressed by the kame terraces, ice contacts, marginal drainage channels, and proglacial lake spillway -- in addition to the glacial troughs and Finger Lakes, and the Valley Heads moraine and outwash. The picture we get is one of good deal of stagnation, with masses of dead ice blocking drainage and depositing gravels. I'm still hoping to persuade Gordon Connally to spend a day or two in that area with me, since he has studied it more carefully than I. Any-one else interested in May or June -- or even July.

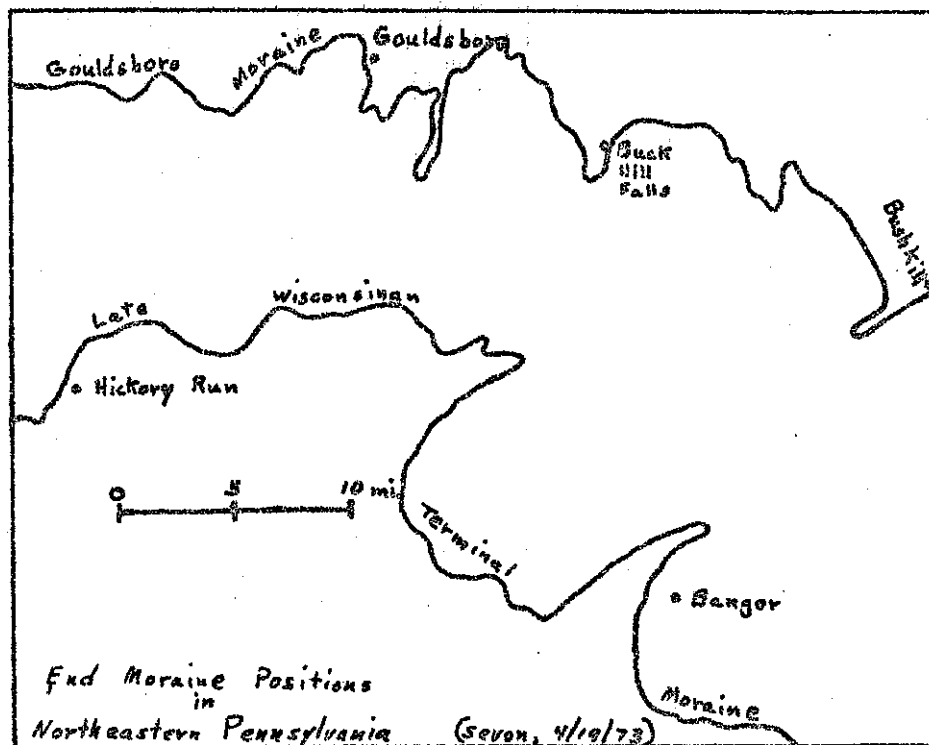
Also, my students have been studying tray samples of rhythmites (true varves, I think, including microvarves) that I collected 30 years ago in a sink near Cobleskill. Hopefully, we will have gotten back to the site by the time this issue of Glaciogram reaches you. The samples show an abrupt change from gray silt and gray clay varves, to gray silt and red-brown clay microvarves (nearly 200), and back to gray silt and gray clay varves. The location of the site suggests deposition in a bay, formed by the sink, of a proglacial lake in the Schoharie valley, possibly at the level of John Rich's Franklinton outlet into Catskill Creek. The abrupt change in varve thickness and color of the winter layers, from gray to red-brown and back to gray demands an explanation. Could the source of the red-brown clay have been Silurian red beds (Clinton, Vernon) on the south side of the Mohawk Valley, which extend eastward to near Van Hornesville? Or was it Devonian red beds to the south, in the Schoharie drainage? In any case, the students plan to present a paper on their findings at the NYSGA meeting in the fall.

William Sevon and Thomas Berg

The winter months have been utilized for report writing and moving the Survey headquarters twice (to temporary quarters). In March, Sevon helped George Crowl and Jon Sangor collect some peat bog cores at various places between the Lehigh River and

Williamsport along the Late Wisconsinan margin. At the N.E. Section Geological Society of America meeting in Allentown, Sevon reported on the "Early" Wisconsinan drift mentioned in the last Glaciogram (7/2, p.3) and also presented an outrageous hypothesis about glaciation in Pennsylvania during the Mississippian.

The carbon material from the Brodheadsville outwash plain (Glaciogram, 7/2, p. 3) yielded a date of about 13,000 B.P. Berg's Brodheadsville surficial map is on open file at the Pennsylvania Survey and the final publication with report is expected to appear in early 1974. Mapping and reconnaissance to date show that the end moraine mentioned in the last Glaciogram (7/2, p.2) is a major moraine continuous at least from Bushkill to the Wyoming-Lackawanna basin near Wilkes-Barre (see map). The end moraine has good topographic development and generally comprises ice-contact stratified drift rather than till.



Plans for the summer are varied and exciting. Between April and July we plan to complete mapping in the Pocono Pines, Mt. Pocono and Skytop 7-1/2' Quadrangles, and Sevon plans to finish reconnaissance surficial mapping in the Williamsport area. In July, we start a two-year program to map the bedrock and surficial geology of Pike County, Pa. To aid our work and as a research project for the Survey, we are obtaining color aerial photography (scale 1:24,000) for the whole county. The photography was flown on March 26 and 27, 1973, on two nearly perfect days and should be of great value for the extent of photo-interpretation we plan to do. Hopefully, lots of "glacial goodies" will arise from the work.

Les Sirkin

"Would You Believe Eight "Tills" in the Harbor Hill Moraine?"

Early this semester, several of my students and I stumbled (is there any other way?) across a new exposure in the Harbor Hill moraine in western Long Island at Port Washington, where continued sand and gravel operations have revealed a sequence of about eight "tills".

These "tills" or "clay-till, flow-till, peat and oyster hash clasts" appear to be stacked in the outwash between the Montauk till and the Roslyn till (Sirkin, 1968, 1971). We (Claire Kochendorfer, Rich Reynolds, Frank DiCapua, and I) have sampled these deposits and are in the process of analyzing the sediments and fossils. Two samples, one of peat and one of wood, have been sent to Bob Stuckenrath for C14 dating. These studies should enable us to determine how many distinct layers exist, and the age of the deposits and thus the "readvance".

In correlative studies, Pat Ryan is preparing till fabrics for the Roslyn till in western Long Island and Harry Corley is working on the "Harbor Hill" moraine in northeastern Long Island. This new data, along with till fabrics on the Montauk till which is also exposed at Port Washington, will aid in developing a model for the lobate nature of deposition in the late Pleistocene ice margin (Connally and Sirkin, 1970; Sirkin, 1972), including ages and paleoenvironments. We look forward to reporting the details of this research in the near future.

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