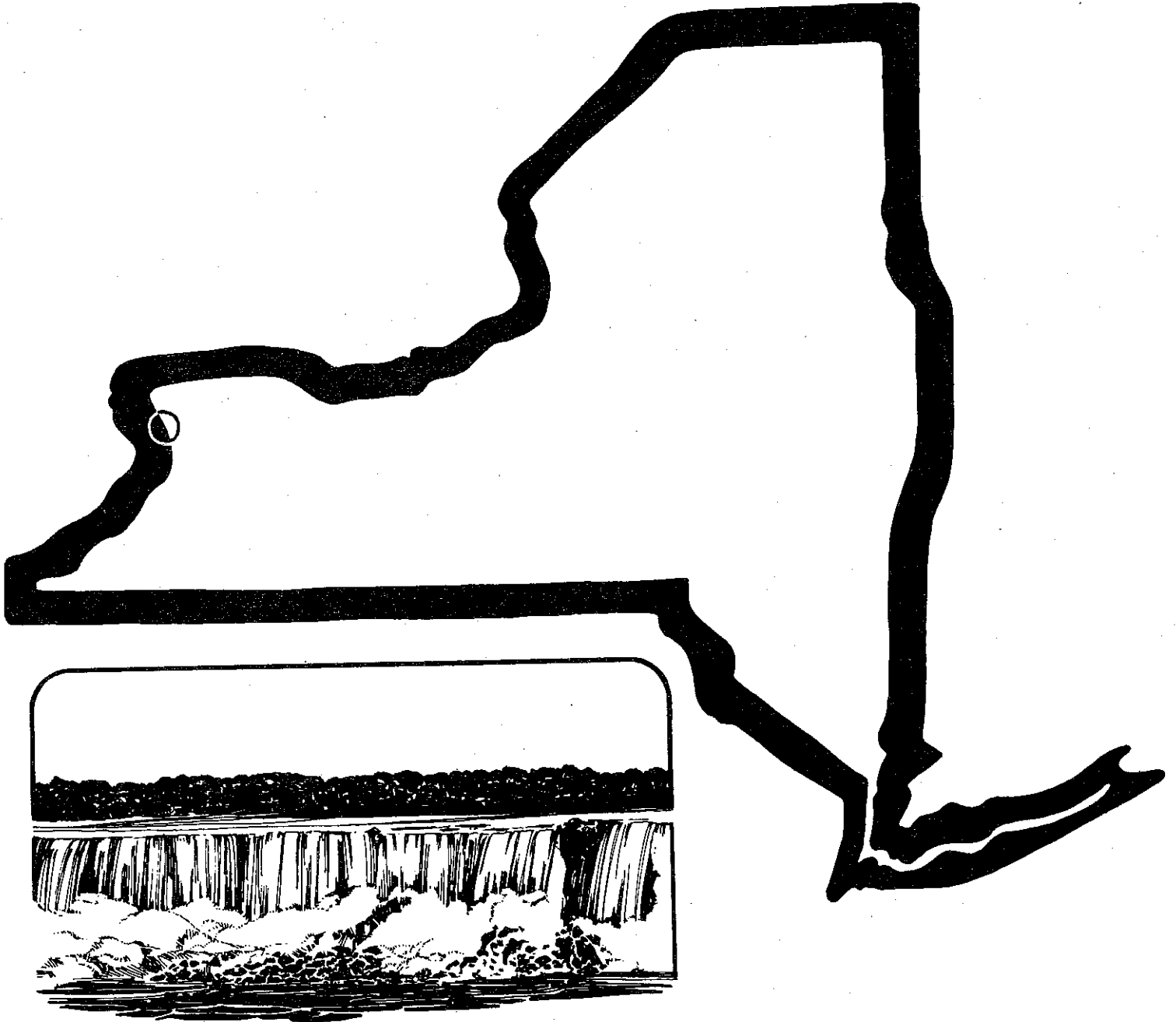


P. F. KARRON

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NEW YORK GLACIOGRAM



DEPARTMENT OF GEOLOGICAL SCIENCES

State University of New York at Buffalo

Buffalo, New York 14226

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

Ray Bryant - Agronomy, Cornell University

SOILS DEVELOPED IN SEDIMENTS FROM LATE-QUATERNARY
WATER BODIES IN NORTHERN NEW YORK

J. Kern and R. B. Bryant¹

Extensive areas of soils in northern New York have formed in parent materials deposited in late-Quaternary water bodies. In previous studies, distinctions among these lacustrine, marine, and brackish water deposits have relied on the identification of fossils and continuous shoreline features; however, evidence of this kind is not always present. The morphology, mineralogy, and chemistry of a number of soils were characterized to determine whether differences in soil properties were attributable to the depositional environment and if soil characterization data are useful criteria for differentiating among soils developed in these deposits. X-ray diffraction was used to characterize clay-sized components. Standard soil characterization procedures were used to characterize soil chemical and physical properties. Marine and lacustrine soils were found to have similar mineralogies, dominated by vermiculite, illite, kaolinite, and interstratified clay minerals with lesser amounts of smectite, chlorite and clay-sized quartz, feldspars, and amphiboles. Although Na^+ content in the soil solum was not significantly different among lacustrine, marine, and brackish soils, a regular increase in Na^+ content with depth is characteristic of marine soils. K^+ represents a significantly larger proportion of the exchangeable bases in marine soils than lacustrine. Soluble salts were also present in greater amounts in marine soils. Soils formed in brackish water deposits have intermediate chemistry compared to lacustrine and marine. The clay mineralogy is similar among the soils in this study, but differences in carbonate contents reflect local sediment sources and bedrock composition in the area rather than differences in the depositional environment. Chemical differences between lacustrine and marine soils do reflect the chemistry of the depositional environments and soil characterization data are useful for distinguishing among these parent materials. The data support a westward influence of the Champlain Sea beyond where marine fossils have been found to date. The area appears to be contiguous with and transitional to freshwater drainage from the Ontario Basin. The data also support the presence of a brackish water phase in the St. Lawrence Valley, and a water plane for this late Champlain Sea phase is postulated. The water plane defining this boundary is at 91 meters near Ogdensburg, NY and has a shoreline gradient (N 63°E) of 0.240 m/km.

¹Graduate Research Assistant and Assistant Professor, Dep. of Agronomy, Cornell University, Ithaca, N.Y., 14853, respectively.

Donald H. Cadwell - New York State Geological Survey, Albany.

I want to announce that New York State Museum Bulletin 455 has been completed and is ready for distribution. This volume contains papers presented in the "Pleistocene Time-, Rock-, and Morpho-Stratigraphy of Eastern New York" symposium at the 1983 NE GSA at Kiamesha Lake. This is a collection of 10 papers that discuss the style of Wisconsinan deglaciation between the Terminal Moraine in New York and New Jersey and the Mohawk Valley in New York.

I would also like to let everyone know that the Surficial Geologic Map of the Finger Lakes Sheet has been published, thanks to the generosity of New York State Electric and Gas Corporation and John Bardgett. This map will be listed in our list of publications as Map and Chart # 40.

The progress of preparation of the Hudson-Mohawk Sheet for publication is proceeding ahead of schedule. We anticipate that this sheet should be ready for distribution by June 1987.

Finally, we will be conducting the review of the Niagara Sheet during next summer. We are going to republish this sheet to guarantee the same mapping units as the rest of the State.

Parker E. Calkin Geology, SUNY at Buffalo

I have little new to report; most of the exciting Quaternary experiences of the past months are reported on in this issue by other participants (e.g. Glacier Bay trip with Dick Goldthwait- see Dreimanis and also Muller; AMQUA Meeting on Glacier Margins at Urbana, Illinois - a great one; Smith Symposium on the Byron paleontological site organized by Dick Laub - see N. Miller and also E. Muller). Art Bloom and Allan Randall both organized great field trips as part of the NYSGA 58th Annual Meeting at Ithaca (Oct. 10-16). Art's trip was titled Geomorphology of the Cayuga Lake Basin while Allan's was on Ice Readvance in the Valley of Fivemile Creek, Stuben County, New York and the Effect of the Resulting Deposits on Postglacial Streamflow. As you can imagine Allan's was a longer trip to go with the title.

Grad student David Froehlich is still getting into the mapping of the Black River Valley and adjacent area to the east (see Dineen this issue).

As for my life outside of New York, I've continued work initiated two years ago on the Holocene Glaciation of the western Seward Peninsula. Unfortunately some earlier reports have been found to be in error and the Holocene is very limited so we are working on Wisconsin drifts as well as Holocene.

Peter U. Clark - Geological Sciences, University of Illinois, Chicago

Allen Melcer is completing his M.S. thesis on the sedimentology of four late Pleistocene glacialacustrine deltas (near Canton, Potsdam, Malone, and Burke). We have submitted an abstract reporting on this work for the 1987 Northeastern GSA in Pittsburgh, PA.

Cliff Brady mapped the surficial geology of four 7.5' quadrangles in the northwestern Adirondacks (the Star Lake-Edwards area) for his M.S. thesis. He has identified recessional positions of the ice sheet and will relate these to the northward encroachment of Lake Iroquois. We will core several kettle lakes this winter in order to obtain basal radiocarbon dates relating to deglaciation. Finally, Cliff will be constructing a sedimentation model for the ice-marginal environment based on exposures in moraines (predominantly stratified sediments).

A paper (Subglacial sediment dispersal patterns and till composition), which is an outgrowth of my research on till stratigraphy in the St. Lawrence Lowland, has been accepted for publication in the Journal of Geology and will appear sometime in 1987.

Activities outside of New York include continued work on the glacial history of Labrador and calculating paleotemperatures in the Mississippi Valley by measuring amino acid ratios on terrestrial gastropods collected from Peoria Loess (supported by NSF).

I continue to be involved with many consulting projects and the majority of them involve glacial deposits and landforms. Although the work is "mission-oriented" it affords an unusual opportunity to obtain a very strong data base that might otherwise not be achieved. For example two weeks ago I completed a project that involved writing a 132 page report, but to do the work required the emplacement of 31 wells that ranged from 10 ft to 159 ft. The site was on a "till shadow hill" so I now have the best sampling program of what materials are like in this environmental setting. Once the report is released to the public domain I will provide further information.

On another project I am developing a case history of what occurs when a construction firm was not alerted to the presence of lake sediments and as a result lost more than \$700,000 in cost over-runs that had not been part of the contract. The interesting part is, I had mapped the area more than 20 years ago but my report was not made available to the construction firm.

The article I co-wrote with David Ozsvath for Don Cadwell's NYS Museum Bulletin 455 has now been published and is titled "Woodfordian Stratigraphy in the Western Catskill Mountains". (1986) p. 109-120.

One of my current writing tasks is to complete my chapter on "GLACIAL DEPOSITS" for the DNAG volume on Engineering Geology for the Geological Society of America. Anyone that has a good case history on the use of glacial analysis for an understanding of the deposits in engineering geology should write me.

Arthur Bozza completed his M.A. thesis titled "Application of Groundwater Flow Modeling Techniques to the Nitrogen Contamination Problem at Olean, New York". The host materials that were studied in the investigation were primarily outwash deposits.

Tim Pagano has completed his manuscript toward his M.A. on a comparison study of differences in streamflow regimes of north vs south-flowing streams. His study supports the idea that the character of the valley fill sediments comprised of glacial deposits controls baseflow conditions.

Doug Chichester is nearing completion of his M.A. manuscript on a quantitative geomorphic comparison of glacial and non-glacial terrane in western New York and northwestern Pennsylvania.

Greg Wiles is doing his M.A. thesis on the problem of deglaciation in the southern Catskills. In this area which extends east from Liberty, NY, he has discovered at least three different style of deglaciation. He also reviewed the problem of flow direction of the ice lobes.

Greg Chin is concentrating on the hydrogeology aspects of landfills and waste disposal sites in Broome County. Because all sites are in glacial materials he is analyzing the character of the sediments towards determinations of their hydraulic conductivity and other groundwater properties.

One of my new PhD. students in Mingqin Yang from Canton, China. He is now embarked on obtaining the necessary background material and bibliography for his dissertation area in eastern China. The problem he will address is whether the Lu Shan Mountains were glaciated during the Quaternary. I will go to China in May and June to assess the nature of the required work and determine its scope. This will be my first of at least two trips to China and I am greatly looking forward to these opportunities.

Robert J. Dineen - New York Geological Survey

This summer was spent mapping in the Schroon River Valley. I've reconvinced myself that a long, narrow lake or series of lakes occupied the Schroon-Hudson basins from Underwood to Corinth. The spillway control for the lake(s) was at South Corinth, through the upper Kayderosseras Valley. The Spiers Falls section of the Hudson Valley was blocked by ice.

The lake(s) received meltwater from the Hidden Valley ice margin, the Bouquet River basin through the Underwood-New Russia water gap, and the east branch of the Ausable River via the Chapel Pond-Underwood Valley. Catastrophic floods apparently flushed through the Chapel Pond Valley, as suggested by a magnificent imbricated boulder bar that lies north of Route 73 between the intersection of 73 and 9 and Chapel Pond.

Work on the Adirondack Sheet is proceeding. Don Pair (Syracuse University) finished over ten 7-1/2 minute quads in the western St. Lawrence Valley. Joe Gurrieri and Laurie Musiker (Geraghty and Miller) have finished 1.5 15 minute maps in the northern High Peaks; Dave Froehlich (SUNY-Buffalo) has completed two 7-1/2 minute quads in the Black River Valley; Cliff Brady (University of Illinois-Chicago) has completed two 7-1/2 minute quads west of Cranberry Lake.

Needless to say, a lot of work needs to be done to complete the Adirondack Sheet. If you are interested, contact me at (518) 473-8056.

Aleksis Dreimanis - Geology, University of Western Ontario

The Lake Erie sections mentioned in the last New York Glaciogram (v. 21, No. 1, p. 2) were re-examined again, and a report on **'Complex subglacial sedimentation of Catfish Creek Drift at Bradtville, Ontario'**, jointly with J. Hamilton and P. Kelly, was presented at the INQUA 1986 Symposium on Tills and Endmoraines in Amsterdam, on September 7 and, in expanded form, also at seminars of the Faculty of Geography, State University of Latvia in Riga on September 19, and at the Quaternary Institute of the University of Stockholm on September 25.

Last summer and fall I learned a great deal about glacial sedimentation and glacial tectonics from field discussions at workshops and excursions first at Glacier Bay, Alaska, June 7-15, later on at the INQUA 1986 excursion on tills and endmoraines in The Netherlands and N.W. Germany, September 8-14, then at the Field Symposium of Glacigenic Deposits in S.W. Parts of the Scandinavian Icesheet, in N.W. Germany and Denmark, September 26-October 1, and finally at the Field Meeting of the INQUA Working Group on

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Glacial Tectonics on Island Mon in Denmark, October 3-5. At each of these field conferences some time was spent also on discussions on problems related to the genetic classification of tills.

A description of "The Port Talbot interstadial site, S.W. Ontario" is in press, in the Geol. Soc. America Centennial Field Guide - N.E. Section, 1986.

In 1986/87 I am teaching the Glacial Geology graduate course on selected topics in glacial sedimentation and glacial tectonics, and another joint field project with students was started along the Lake Erie cliffs.

Robert Fakundiny - New York Geological Survey

My present interest is mapping anorthosite bodies within the Marcy Massif of the Adirondack High Peaks Region. Several geomorphological observations appear to hold throughout the massif: land forms, including cirque morphology, that are developed on basement rock are directly controlled by composition, texture and geometry of the basement rock bodies; straight valleys are locations of brittle-fracture faults; ductile shear zones either may or may not influence topography; all higher peaks appear to be protected by a mantle of layered, older, host-carapace rock; steep cliffs occur in later intrusive laccolithic anorthosite bodies where these have retained their protective mantling carapace; low, rounded mountains are intrusive anorthosites that have lost their mantle protection and have undergone more rapid erosion than their steep sided neighbors.

We are proving that mapping of basement rock units is greatly aided by air photo interpretation. Units can be traced across poorly accessible terrain and the areal extent of structural features, such as faults and joint patterns, can be mapped.

Many new mylonite zones have been identified on air photos. The new USGS side looking radar images of the Adirondacks at 1:250,000 reveals a major set of long, straight, parallel topographic lineaments trending NW across the entire dome. A preliminary paper on trans-Adirondack structural features, determined from regional, remotely sensed data (including 1600 air photos) and local, detailed mapping is in press in the 6th International Basement Tectonics Conference Journal.

P. Jay Fleisher - Geology, SUC, Oneonta

Last spring I followed-up on my work with dead-ice sink sedimentation by carefully reviewing well logs and test borings to determine if glacial landforms and underlying stratigraphy were consistent, thereby testing for drift unconformities. I hoped to follow up on the suggestion of MacNish and Randall (1972) for single stade stratigraphy. From the data available to me it appears they are right, but a few anomolous situations were found that indicate topo-stratigraphic unconformities do exist in some valleys oriented perpendicular to ice flow and where incised valley meanders of high relief exist. With the bulk of the data favoring single stade deposition, I am inclined to think the "unconformities" are related to depositional conditions associated with dead-ice and not multiple stades.

Following a month in Colorado with students on a field trip summer school course, I enjoyed a geologic holiday viewing the glacial terrain of Denmark until mid-July. Upon returning to central New York, Don Cadwell handed me 84 quadrangles, a set of car keys, and instructions to field check an area from Utica to the Vermont border, and from Glens Falls to Kingston! Needless to say, I had time for just a cursory look at part of the area before fall semester obligations brought me back to Oneonta where I've been trapped ever since.

Jane L. Forsyth - Bowling Green State University, Ohio

Jane Forsyth says she really has nothing to report, most of her time this last year having been occupied by lecturing to non-geological organizations and writing reports. However, she has been doing a little research on the geological/topographical basis for the irregular distribution of prairie areas in the very flat region of northwestern Ohio. Preliminary results suggest that the areas of prairie (interpreted by botanists on the basis of scattered remnants of prairie vegetation), here in the eastern end of Transeau's Prairie Peninsula, generally occurred in the lower, less well drained sites. This follows Sears' distinction between "wet prairies" and "dry prairies", wet prairies being far more common, not only here but throughout Ohio. But why? Why should prairie-type species occur more commonly on wet, poorly drained sites, while forest trees occupied the higher, dryer places? Might it be because tree seedlings can't endure standing water in the spring, which does not bother later-season prairie species? Or? I would welcome any insight into this.

Steve Hicock - Geology, University of Western Ontario

Below is a brief report of my recent research activities in southern Ontario. Over the summer field season I collected samples of black shale clasts from various tills along the north shore of Lake Erie and the east shore of Lake Huron. This was a pilot study to relate X-ray fluorescence geochemistry (major oxides and trace elements) of shale clasts in till to their bedrock sources in order to relate lobal affinities of the tills and determine lobal boundaries in southern Ontario. So far Huron samples clearly indicate Kettle Point Formation and Huron Lobe affinity, and Erie samples the Marcellus Formation and Erie lobe, as expected. In future Ontario and Georgian Bay area tills will be sampled, then the interlobate areas, which will be the real test of this new method.

Stratigraphic and genesis revisions of drift along the north shore of Lake Erie near Bratville are still in progress with A. Dreimanis and two graduate students. It now appears that the Dunwich drift is of earliest Nissouri stadial age (not middle Wisconsinan), with Huron lobe affinity, whereas the Catfish Creek Drift at Bratville was formed by the Erie lobe (as before), immediately following Dunwich deposition.

Other work deals with till genesis and gold exploration north of Lake Superior, however, this is quite removed from New York State.

Edward Hinchey - Geology, Syracuse University

This summer we launched the R/V ALEXANDER WINCHELL in honor of the "father of the Mississippi period", who was also the first geology department chairman and chancellor at Syracuse University. The research vessel is a 20' pontoon boat with a 50hp outboard motor that has been modified for the collection of seismic data, shallow cores, and general limnological sample collection. It is trailerable and well suited for work on the Finger Lakes. We "broke-in" the new boat this summer when we initiated a 3 year NSF funded research program investigating the seismic stratigraphy, paleolimnology, and basic sedimentological processes of the Finger Lakes.

We had a very successful summer, collecting ~650km of high resolution seismic reflection profiles from 7 of the 11 Finger Lakes. The Uniboom system employed in the survey is designed to fire at 300joules; however, we increased its power output to 500-1000joules and were capable of penetrating the entire sediment column to bedrock throughout the lakes. Preliminary results will be presented as a poster display at the NE-GSA section meeting in Pittsburgh, March 1987.

This spring we plan to initiate geophysical investigations in collaboration with Don Woodrow of Hobart and William Smith Colleges, and John Ladd of Lamont-Donerty Geological Observatory. Don will be working with us on the cause of the acoustically impenetrable zones found in some of the basins. Specifically we will address the role of oxygen and seasonal overturn as a possible control mechanism of its extent and intensity. Wide angle reflection experiments will be conducted with the help of John Ladd to determine the compressional wave velocity of subsurface units needed to transform vertical incidence reflection profile time sections into depth sections. We are very excited about our work on the lakes and would welcome any/all comments or suggestions.

Paul F. Karrow - Geology, Waterloo University, Ontario

In May and June mapping of the Brampton area (west of Toronto) continued. A preliminary map of the west half was submitted for publication (later this year?). A nested set of three deltas was found in the Credit Valley formed in Lake Peel, which existed between Lundy and Iroquois. Preliminary examination of Peel features is included in the Smith Symposium paper Barry Warner and I presented at Buffalo. Lake Peel was short-lived and generally formed only deltas and no shorelines.

Barry Warner, Alan Morgan and I finalized a note on plant and insect remains in a Nipissing-age site in the southeastern Superior basin and a manuscript on the Clarksburg interstadial site is nearly completed (by the same three authors). Two papers on stream valley terraces related to Huron basin lakes appeared in the Journal of Great Lakes Research and G.S.A. Bulletin.

The Ontario Geological Survey released by open file the long-delayed report on the Stratford-Conestogo area originally mapped 1965-68 but with later additions.

Andy Bajc completed his M.Sc. thesis on molluscan faunas in the northeastern Superior basin and is starting a Ph.D. mapping project at Fort Frances where he will deal with glacial history and Lake Agassiz events. Meanwhile Peter Barnett is completing his Ph.D. thesis on Lake Erie bluff stratigraphy.

With John Greenhouse, our new geophysicist Chairman, a new hole has been continuously-cored and geophysically logged to bedrock at 170 feet on our campus. We are hoping to encounter more of the interstadial beds.

P.S. The fate of the Don Valley Brickyard remains uncertain. Hearings were held in May, July, and August on expropriation of the property as floodland. Some announcement of a final decision on expropriation is expected soon.

Norton G. Miller - Biological Survey, New York State Museum

In connection with paleobotanical and paleontological studies now underway at the Hiscock Site near Byron, Genesee County, New York, we have raised sediment cores from Divers's Lake and from the Bergen-Byron Swamp. Both sites are also in Genesee County. These cores promise to provide new palynological data and radiocarbon dates that should be useful both regionally and in the interpretation of pollen and plant macrofossil data from the Hiscock Site. Dave Steadman, Rich Futyma, and I, all of the State Museum, are collaborating on this work. An extensive series of radiocarbon dates from the Hiscock Site establish the late Pleistocene age of basal inorganic sediments, which include bones of the California Condor and pollen and plant macrofossil evidence of spruce-jack pine woodland, and also that a hiatus in the deposition of the peat is present. This spans most of mid-Holocene time (i.e., from ca. 8800-800 y B.P.).

Alan Morgan - Earth Sciences, University of Waterloo, Ontario

The countdown to INQUA '87 (to be held at the Congress Centre, Ottawa, Canada, from July 31 to August 9, 1987) is now in its final year. I would like to bring you all up to date on the status of the XII th. Congress. I've concentrated on sections which might help some of the readers realise that crucial events will be happening in the next few months. If you do not respond in time, some of you will be disappointed.

First, all readers who responded to the First Circular of the Congress (issued November 1984), SHOULD HAVE RECEIVED the Second (and Final) Circular (issued August 1986), and mailed in the first half of September, 1986. If you DO NOT have the second circular write immediately and directly to:

Mrs. Huguette Lacoste, Executive Secretary, XII INQUA Congress,
National Research Council of Canada,
OTTAWA, Ontario, Canada, K1A 0R6.

If you are really late, call, or telex the following numbers:

(613) 993-9009 (telephone) or 053-3145 (telex).

Beside basic information, the Second Circular contains;

- 1). Two ABSTRACT SUBMISSION forms (in the English and French sections).
- 2). An ACCOMMODATION RESERVATION form.
- 3). A PRE-/POST CONGRESS EXCURSION form.
- 4). A REGISTRATION form.

Deadlines for some of these items are early in 1987. For example the deadline for RECEIPT OF ABSTRACTS (in Ottawa) is JANUARY 15, 1987. The original and two photocopies of the finished abstract are required. Send all documents, unfolded, by airmail to the Executive Secretary. Receipt of all abstracts will be acknowledged. This acknowledgement does not constitute a guarantee that your contribution has been accepted. All contributors will be informed of the time and date of their presentation, and whether it is to be an oral or poster presentation by March 31, 1987.

The deposit for FIELD EXCURSIONS is also due in Ottawa on JANUARY 15, 1987.

The dates and times for most Symposia, Special Sessions, General Sessions and Poster Sessions have now been finalised by the Programme Committee and full details are given in the Second Circular.

Registration for the Congress will commence Thursday, July 30, 1987, and the technical programme will begin on Friday, July 31. The General Assembly and Opening Reception will take place in the afternoon and evening of Saturday, August 1. There is a Social Evening on August 4; the Congress Banquet is on the evening of Friday, August 7. The Final Assembly is Sunday afternoon, August 9. International Council Meetings will be held on the afternoons of August 1, 3, 6 and 8. Wednesday, August 5, is a free day although optional scientific field trips and social events are available.

The leaders of Commissions, Subcommissions, and Working Groups are

responsible for the organisation of all of these meetings. If they have not already done so, they must inform the Secretary-General of the Congress as soon as possible of requests for the use of rooms, projectors and other facilities. I.G.C.P. meetings are scheduled for the evening of August 2.

MEMBERSHIP COSTS (All fees are quoted in CANADIAN dollars).

There are four different categories of membership for the XII Congress.

UNTIL APRIL 30, 1987. AFTER MAY 1, 1987.

PARTICIPATING MEMBER (Professional).

CATEGORY A: \$ 225.00 \$ 275.00

STUDENT MEMBER (Bone fide student).

CATEGORY B: \$ 120.00 \$ 130.00

ATTENDING MEMBER (Accompanying as a spouse or guest).

CATEGORY C: \$ 50.00 \$ 60.00

ASSOCIATING MEMBER (Non-attending).

CATEGORY D: \$ 40.00 \$ 40.00

STATISTICAL UPDATE

Readers might be interested in the proposed number of participants. Based upon the replies to the First Circular, the number of persons hoping to attend has gone from 1077 (September 1, 1985) to 1591 (September 27, 1986). Of these, 861 hope to give oral presentations, 307 poster presentations, and at least 183 will present data either orally, or by poster.

POTENTIAL MEMBERS HOPING TO ATTEND THE XII INQUA CONGRESS

COUNTRY	NUMBER	COUNTRY	NUMBER	COUNTRY	NUMBER
ALGERIA	1 (---)	ARGENTINA	12 (5)	AUSTRALIA	22 (16)
AUSTRIA	2 (2)	BANGLADASH	1 (---)	BELGIUM	19 (14)
BENIN	1 (---)	BOLIVIA	2 (1)	BOTSWANA	2 (1)
BRAZIL	17 (10)	BULGARIA	6 (4)	CANADA	276 (231)
CHINA	35 (16)	COLOMBIA	1 (1)	CONGO (REP.)	1 (1)
CUBA	3 (2)	CZECHOSLOVAKIA	12 (8)	GERMANY (D.D.R.)	5 (1)
GERMANY (F.R.G.)	51 (38)	DENMARK	7 (6)	EGYPT	1 (1)
ETHIOPIA	1 (1)	FIJI	1 (---)	FINLAND	24 (17)
FRANCE	89 (51)	FRENCH GUIANA	1 (1)	GREECE	3 (2)
HUNGARY	11 (5)	INDIA	20 (6)	INDONESIA	3 (2)
IRAN	4 (4)	IRELAND	5 (5)	ISRAEL	26 (13)
ITALY	35 (26)	JAMAICA	1 (1)	JAPAN	43 (31)
JORDAN	1 (1)	KOREA (REP.)	4 (2)	KOREA (SOUTH)	3 (2)
LIBERIA	1 (1)	MALAYSIA	1 (1)	MAROC	1 (---)
MEXICO	3 (1)	MONACO (PRIN.)	1 (1)	NETHERLANDS	25 (18)
NEW CALEDONIA	1 (1)	NEW ZEALAND	19 (13)	NIGERIA	4 (1)
NORWAY	24 (17)	PAKISTAN	1 (1)	PAPUA NEW GUINEA	2 (1)
POLAND	44 (31)	PORTUGAL	5 (1)	ROMANIA	2 (2)
SAUDI ARABIA	1 (---)	SENEGAL	5 (1)	SOUTH AFRICA	7 (4)

SPAIN	22 (12)	SRI LANKA	1 (1)	SWEDEN	25 (17)
SWITZERLAND	11 (8)	SYRIA	1 (1)	THAILAND	1 (---)
TRANSKEI (REP.)	1 (1)	TUNISIA	4 (---)	TURKEY	1 (1)
U.K.	120 (92)	U.S.A.	386 (324)	U.S.S.R.	114 (58)
VENEZUELA	4 (2)	VIETNAM	2 (---)	YUGOSLAVIA	1 (1)
ZAIRE	2 (1)				

Countries represented = 73; Number on list = 1517.

Generation dates; 15/October/1986; for comparison () = 15/September/1985.

EXCURSIONS

The following list outlines the current status of excursions. Prospective participants should check details in the Second Circular since there have been minor changes in costs and routes. The Organising Committee has asked me to emphasize that all costs are designated in CANADIAN dollars.

PRE-CONGRESS (A) AND POST-CONGRESS (C) FIELD TRIPS

NUMBER	APPROXIMATE GEOGRAPHICAL ROUTE	COST	# OF PARTICIPANTS
A1	Bylot Island	\$4,000	20
C2	Southern Baffin Island	\$3,000	20
A3 / C3	Atlantic Provinces	\$1,000	50 / 50
C4	Gaspe and the Lower St. Lawrence Vall.	\$ 725	42
C5	St. Lawrence Valley, S. Appalachians	\$ 500	40
C6	Montreal and Anticosti (Karst)	CANCELLED	-----
A7 / C7	Glaciation, deglaciation in S. Quebec	\$ 500	30 / 30
A8 / C8	Glaciomarine stratigraphy; Ottawa Reg.	\$ 100	40 / 40
A9 / C9	Mineral industry N.E. Ontario	CANCELLED	-----
C10	S.E. Hudson Bay	\$1,650	30
A11	S. Ontario (C11 - Cancelled)	\$ 600	40
C12	N. shore of Superior (A12 - Cancelled)	\$ 600	40
C13	Transect, Winnipeg-Churchill-Calgary.	\$1,900	40
A14	Central Canada	CANCELLED	-----
A15	Ottawa-Saskatoon-Lethbridge	CANCELLED	-----
C16	S. Rocky Mtns. and Foothills (A16-Canc.)	\$1,600	90
C17	(Combined with C13)	CANCELLED	-----
A18	S.W. Cordillera	\$ 800	43
C19	Coastal S.W. British Columbia	CANCELLED	-----
A20	Quaternary Research in the Yukon	\$1,500	40
A20b	Yukon including Old Crow	\$2,800	20
A21	N.W. Arctic Canada	CANCELLED	-----
A22	Coppermine River	\$1,650	18
A23/ C23	Loess of the Mississippi Valley	CANCELLED	-----
A24	Quaternary of NW. Alta., NE. B.C.	\$1,400	18
C25	Drumlins and Erosion marks; SE. Ont.	\$ 125	24

Application(s) for Field Excursions must be returned to Ottawa by January 15, 1987, and an initial downpayment of CAN \$500 MUST accompany reservations for A1, C2, C10, A20a, A20b, and A22. All other Field Excursions require a CAN \$100 deposit with the reservation.

Participants are warned that adverse weather conditions, particularly

in northern Canada, may result in last moment alteration of trip schedules or cancellation of the excursion, with a refund of only that portion of the field excursion fee not already contracted to aircraft and related logistic support. Costs are based upon double occupancy accommodation. Some field excursions involve rigorous walking and climbing on unprepared terrain and geologic sections, travel by small boats, helicopter, and small aircraft, and accommodation in tents. You should ensure that you have adequate personal insurance against any event.

At least thirteen one day field excursions will be run on Wednesday, August 5, to points of scientific interest in the Ottawa area. Field trips will also be run for accompanying guests. These are as follows; Sunday, August 2: - Heritage Log Farm Tour; Thursday, August 6: - Upper Canada Village Tour; and Saturday, August 8: - Thousand Island Boat Tour.

I would like to make a special appeal to students. We have a special student rate for the Congress, and those students who can afford to come should look into the possibility of car-pooling to Ottawa. The city is within 24 hours drive of a substantial portion of eastern North America. The Congress will provide an excellent opportunity to listen to, and to interact with, scientists who are at the leading edge of their profession in Quaternary studies. It will also provide you with the chance to present your own research findings and to make personal contacts with fellow students and scientists in different areas of Quaternary research. Remember also that this is only the second time that INQUA has met in North America; it could well be another twenty years before the next meeting is held on the continent!

If you have any major concerns, I shall attempt to respond to them, or refer your letters to the appropriate committees. I am still interested in hearing if anyone is aware of individuals or groups who are not receiving our mailings. We have printed 4,500 Second Circulars, but prospective participants always seem to be missing from our mailing lists. I would be grateful if you would circulate this section of the Newsletter to as many colleagues and students as possible, and remember those deadlines!

Finally, on behalf of the Organising Committee, I would like to take this opportunity to extend a personal invitation for readers of the Glaciogram to attend the XII th. International Congress. We look forward to seeing you in Ottawa in August, 1987.

Having got the "business" section over with, a few details on the research front. Papers on fossil insect assemblages from northern Manitoba, Ontario, and New York are in press in the Canadian Journal of Earth Sciences (November issue 1986 and early 1987 respectively), and in Paleo³. The synthesis of fossil insects should be out in the DNAG volume in North America and adjacent Oceans during the last deglaciation by June of 1987. Three other papers on fossil insects have been submitted, and several more are in the final stages of preparation.

We arrived back in Canada in mid-June after completing travels in New Zealand and Australia. At Christchurch I investigated a number of insect

sites dated between 25,000 and 20,000 yr B.P. Fossil beetles were present, and I hope to finish two papers on these assemblages jointly with a New Zealand entomologist. After we got back to Waterloo I took both the children and collected at, or beyond treeline in northeastern Quebec. We found an interesting variety of beetles (most of which were living in southern Michigan, northern New York and southern Ontario between 14,000 and 12,500 years B.P.). We travelled over 400 km by open canoe across Ungava Bay, saw lots of seal, caribou, and even Beluga (white whale). The trip was really productive in many ways, but has produced yet more work. The children found one specimen not previously collected (alive) in Quebec, and last known as a fossil from the shores of the Champlain Sea at 11,050 yr. B.P. The last few weeks have been spent preparing for the Smith Symposium (now successfully completed), coping with academic work, and dealing with the small problems of INQUA. I would like to close by thanking you for the opportunity of spelling out the INQUA data one more time, and to remind readers that January 15 (less than 6, yes six, weeks away) is the first of the FINAL deadlines for the Congress.

Alan V. Morgan (Secretary-General XII INQUA Congress),
 Department of Earth Sciences, University of Waterloo, WATERLOO, ON N2L 3G1.

Marie Morisawa - Geology, SUNY at Binghamton

Current research in NY state:

Students and I are studying the at-a-station and downstream hydraulic geometry changes at five gaging stations on the Susquehanna River over the period of record. The effects of urbanization on local streams in the Binghamton area. Channel morphology of gravel-bed streams in the Binghamton area. Drainage network analysis of watersheds in the Appalachians of New York and Pennsylv. Analysis of the hydrologic behavior (discharge-area relationships) of New York watersheds on the basis of physiographic subprovinces. Tectonic/structural geomorphology of an area of the Adirondacks.

Further note: As editor of the new journal GEOMORPHOLOGY, I would encourage the submission of manuscripts (good ones) to me for publication in the journal.

Ernie Muller - Geology, Syracuse University

The high point of my summer field season was the field conference in Glacier Bay, Alaska, led by Dick Goldthwait and others of the Ohio State group who have been associated with him over the years. Among other participants were Parker Calkin, Jean-Claude Dionne and Vic Prest.

Spent much of August, and occasional weekends this fall, on field work in the eastern Lake Ontario and St. Lawrence Lowlands, where Don Pair and I are preparing a geologic guide to the Seaway Trail (Massena to Fair Haven) for the St. Lawrence - Eastern Ontario Commission.

In collaboration with Parker Calkin, I prepared a paper on the "Late Pleistocene and Holocene Geology of the eastern Great Lakes Region" for presentation at the Smith Symposium on "Late Pleistocene and Early Holocene Paleoecology and Archeology of the Eastern Great Lakes Region". Papers presented at this Symposium will be published as a bulletin of the Buffalo Museum of Natural History.

Enjoyed a couple of days in the St. Lawrence lowlands again with Vic Prest, Don Pair and Dave Franz. Also a day with Bob Dineen, Jim Street, Don Pair, Peter Clark and Brian Brady. ... A fall term Geomorphology field trip found mud volcanoes (see Frank Getchell's M.S. thesis, 1982) still actively flowing in an area of subsidence in Onondaga Valley 8 miles south of Syracuse.

Walter S. Newman - Geology, Queens College, CUNY

With Paul T. Gays of Marine Sciences Research Center at SUNY at Stony Brook we obtained a suite of vibracores taken from on and around Execution Rocks at the western end of Long Island Sound. These cores penetrated a transgressive beach deposit extending from sea level down to 33 meters below present sea level. The beach deposit contained extensive shell layers plus several peat deposits. We have submitted eleven samples for radiocarbon dating and hope to obtain a rather complete Holocene marine transgression curve for western Long Island Sound. Furthermore, the bore penetrated a glacial till deposit into laminated silt deposit below containing dropstones. It seems clear to us that Execution Rocks is indeed an extension of my Elmhurst Moraine which advanced into glacial Lake Flushing. One can actually discern contortions at the top of the laminated silt where it was plowed into by advancing ice. It is all very exciting and with the help of Jon Sperling and Ralph Ibe, we are now analyzing the micro paleontological content of these vibracores.

Stan Totten - Geology, Hanover College, Hanover, Indiana

Stan wishes to invite all Glaciogram readers to the following conference:

Midwest Friends of the Pleistocene Field Conference
 May 15-17, 1987 at Mansfield, Ohio
 Theme: Pre-Woodfordian stratigraphy, North-Central Ohio
 For More Information Contact:

Rick Pavy
 Ohio Geological Survey
 Fountain Square,
 Columbus, Ohio 43224

Stan and John Szabo (Akron University) will be the field leaders. It should be a good trip.

Richard B. Waitt - USGS, Vancouver, Washington

A paper titled "Evidence against post-icesheet mountain glaciation in New England" has been submitted to American Journal of Science by authors Waitt and P. Tom Davis.

R. A. Young - Geology, SUNY Geneseo

During my current Sabbatical I have been involved with the U.S. Geological Survey (William Kappel, Water Resources Division, Ithaca) in an exploratory drilling program to delineate important glacial features in the Irondequoit Creek basin near Rochester. Drilling along the axis of the buried Irondequoit Valley near the head of Irondequoit Bay has confirmed: (1) that the ice-eroded valley is somewhat deeper than previously projected with about 400 feet of bedrock relief at the latitude of the Pinnacle Hills moraine, and (2) that the glacial sediments filling the valley are extremely heterogeneous, reflecting the complex history of ice-front oscillations and postglacial incision by streams during the post-Iroquois low stands of Lake Ontario.

A compilation of older, existing boring logs for the entire bay area documents that the deep groundwater aquifer system postulated to exist in the valley is probably very restricted in extent and can be related to the obvious history of gradually rising lake stages which have created the existing bay.

The Pinnacle Hills moraine, generally shown as ending on the west side of the Irondequoit Valley, is clearly expressed in the subsurface as a 150-foot-thick buried till ridge at Browncroft Blvd. and can be projected as continuous with subdued morainal topography east of the valley.

C.F.M. Lewis | Geological Survey of Canada |

My continuing interest in the Great Lakes has quickened, following the impetus of contributing to the Karrow-Calkin GAC volume (Quaternary Evolution of the Great Lakes) with John Coakley of NWRI, Burlington, on Lake Erie history, and Thane Anderson of GSC, Ottawa, on the history of Lakes Ontario and Huron. Last May I exhibited work on the correlation of offshore and onshore Wisconsinian deposits of central Erie basin, at the GAC meeting in Ottawa, with Peter Barnett (OGS), Thane Anderson and Gordon Cameron (student). This fall Gordon started a MSc program at Dalhousie University, Halifax, and plans to extend our work to the eastern basin of Lake Erie. Dave Scott, Gordon's Dalhousie supervisor, hopes to assess the paleoecological significance of microfaunal assemblages in eastern Erie glaciolacustrine and postglacial sediments. This fall, too, Thane Anderson and I obtained evidence, in the Lake Nipissing area, of the Early Holocene Agassiz flood (Nipigon Phase) into Huron basin. We expect interesting stories to begin unfolding next year.

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