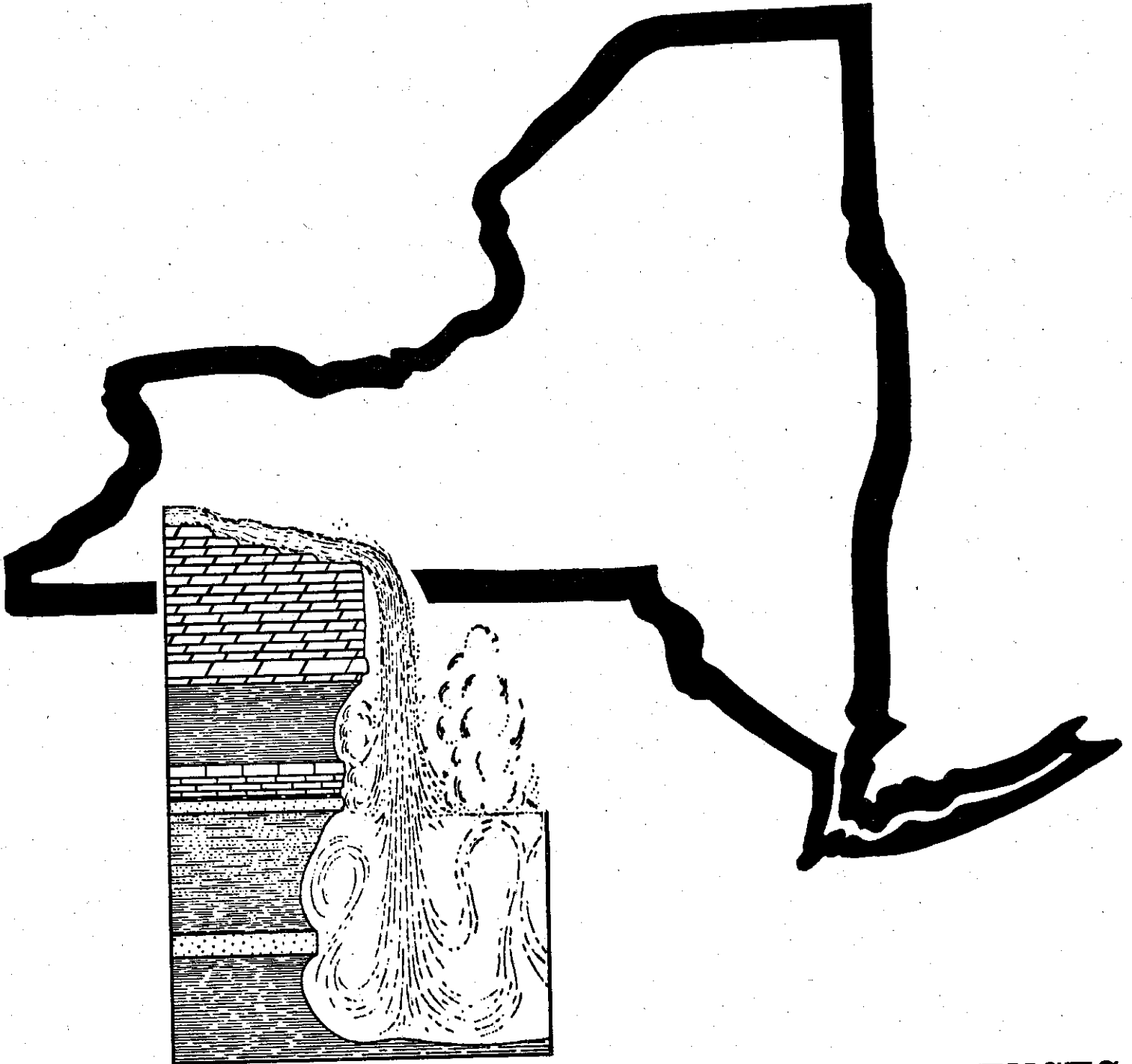


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NEW YORK GLACIOGRAM



DEPARTMENT OF GEOLOGICAL SCIENCES

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

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. One of the charter contributors [Muller, v. 6(1)] has suggested that reference to information in the GLACIOGRAM be identified merely as informal communication.

Parker E. Calkin

Thomas M. Berg - Pennsylvania Geological Survey

This has been a good year. I was able to spend more than 2 months doing field work in Pike County, and the East Lawn Research Center was operational again. George Crowl joined me for the month of July and we examined just about every decent exposure of till in Pike County. We found that my aerial photograph interpretive mapping of the surficial geology is reasonable. Pike County has a thin veneer (less than 2 m) of till almost everywhere, but thicker till deposits are common. We concluded that it is possible to distinguish two bedrock-related Woodfordian tills in Pike County, and these will probably be given rock-stratigraphic names in the Pike County report. We had numerous arguments about the origin of various boulder accumulations. I have previously attributed most boulder accumulations occurring within the Late Wisconsinan glaciated area to periglacial activity (1972, GSA Abst. w/Prog. v. 4, no. 1, p. 43), but we now conclude that many of these accumulations result from deposition by ice and in some cases may be a form of matrix-face "till."

"The Late Wisconsinan glacial border in north-central and northeastern Pennsylvania," by Crowl and Sevon is now in the editorial mill and will be published early in 1980 as PA Survey Bull. G 70. In the report we recommend the use of the term "Olean" in a rock-stratigraphic sense for all Late Wisconsinan drift in Pennsylvania. We also recommend use of local names where appropriate (as in Pike County). A forthcoming mapping report by Wells and Bucek for the Mountoursville area (Lycoming County) will formally define rock stratigraphic names for tills of three different ages. The Survey staff is currently wrestling with the problems of mixed terminology created by the use of formal rock-stratigraphic names for some units while continuing to use such terms as alluvium, boulder colluvium, shale-chip rubble, outwash, ice-contact stratified drift, etc. Our present course will be to continue with mixed terminology. The terminology problem has considerable implication to Survey personnel because all mapping projects include both bedrock and surficial geology.

The new bedrock map nears completion and publication is anticipated around June, 1980. The map and the structure cross sections represent a significant advance in understanding of Pennsylvania geology. In addition, the map will make a colorful display on anyone's wall.

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Arthur L. Bloom - Geology, Cornell University

No work lately in New York State. The research in the New Hebrides is going very well, with lots of earthquake-related uplift. Jim Clark will give a good paper at the San Diego GSA meeting about the deglacial chronology of the Laurentide ice as defined by postglacial uplift.

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James E. Bugh - Geology, SUNY College at Cortland

All of my recent work has been directed towards slope stability.

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Donald H. Cadwell - Glacial Geologist, New York State Geological Survey

I have returned to New York State to work with the State Survey and undertake the ambitious program of preparing the remainder of the Glacial Map of New York. I would like everyone to know a little about our plans for completing the map.

The mapping is to be done during the next four years, which will require a major effort by all involved. Both large and small scale mapping will be done, depending upon the specific region involved. Many isolated areas have already been completed, but there is plenty of room for anyone who wants to become involved in this program.

Anyone who wants more information and/or to become involved with our mapping program should contact me as soon as possible. We are hoping to begin this program in the spring of 1980.

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Parker E. Calkin - Geology, SUNY Buffalo

Sabbatical studies at INSTAAR, U. of Colorado provided a chance to catch up on writing and some of my work with Ph.D. candidate Jim Ellis on Brooks Range cirque glaciers and glaciation is now in press with Arctic and Alpine Research. The INSTAAR people have also helped out with some laboratory studies on the Gowanda Hospital site (south of Buffalo) so that John Barnes, Ernie Muller, and I have more to go on in our description of the buried soil there. This is one of my high priority work projects. Graduate student Lynn (Doyle) Ellis is now finishing up her modeling of gravity and seismic data over the buried Allegheny River valley in Cattaraugus Valley. Unfortunately, offshore geophysical studies to compliment the land work could not be arranged for this past summer. Graduate Dick Geier has finished his thesis on the "Glacial Stratigraphy and Bluff Recession Along the Lake Erie Coast in New York State." Surprisingly, no one has undertaken such a continuous study of the bluffs since the work of James Hall. I am presently planning to do some studies of the late Wisconsin glaciation along the Maine/Quebec border with Hal Borns and Ph.D. student Pierrette Turcotte-Roy.

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Donald R. Coates - Geology, SUNY Binghamton

Two of my Ph.D. students will finish their dissertations in spring 1980, Richard Caprio and Robb Gillespie. Both are doing glacial studies in south-central New York. Rick is doing a quantitative analysis of tills, and Robb is mapping tills and also determining quantitative differences.

Other than legal work and Geology Source reports for DOT that deal with glacial deposits, my other work has taken a hiatus for work on my Environmental Geology text which John Wily will publish in 1980. It contains many passages of glacial relevance to the discipline.

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George H. Crowl - Geology, Ohio Wesleyan University

George Crowl's and Bill Sevon's report on the Late Wisconsinan glacial border in north-central and north-eastern Pennsylvania will probably appear as a Bulletin of the Pennsylvania Geological Survey about January, 1980.

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Robert J. Dineen - New York State Geological Survey

I've begun a study of geomagnetic curves from selected localities in the "varved" clays of Lake Albany. Dr. William Brennan (SUC at Geneseo) and I will be sampling the clay sections between Saratoga Lake and Hudson, New York. Brennan will do the geomagnetic analysis. I hope to be able to establish the relative ages of different sections of clay using geomagnetic evidence in order to test the gamma-ray and geomorphic correlations that have been made to date. The clay sections are also helping me in the study of Lake Albany environments.

I have almost completed the field mapping of the Coxsackie 15-minute quadrangle. I hope to have the maps for the Albany 15-minute quadrangle ready for publication by mid-1980.

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Aleksis Dreimanis - Geology, University of Western Ontario

Last summer was spent mainly travelling and learning from others. The travels began with a lecture tour and field trips in Wisconsin and Illinois, and ended with the Vistulian field conference in Poland, with various other

parts of Canada, U.S., Scandinavia, Czechoslovakia (mainly conferences and/or field trips) in between. Glacial deposits, their origin and application in search for bed-rock ore deposits, and the stratigraphy of last glaciations were main topics of interest.

Latest publication - 'The problems of waterlain till' tills that are found more and more often, also in the State of New York, has just appeared in "Moraines and Varves" the Proceedings of the 1978 meeting of the INQUA-Commission on Genesis and Lithology of Quaternary Deposits held in Switzerland. This volume (441 p.) contains over 40 papers and may be ordered for reduced price (S.Fr. 45) from its editor, Dr. Ch. Schülchter, Institute of Foundation Engineering, ETH-Hönggerberg, Ch-8093, Zurich, Switzerland, not later than January 31, 1980 (full price is S.Fr. 69).

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Rhodes Fairbridge - Geology, Columbia University

Rhodes Fairbridge is currently president of the INQUA Neotectonics Commission and this year made several trips in that connection, generally joint operations with the INQUA Shorelines and Holocene commissions, or IGCP 61.

March 21-April 17 was spent with a trip to Europe: seminars in Paris, Bordeaux, Marseille, field trips in Italy (Genoa, Orbetello, Monte Circeo, Naples, Palermo) and in Tunisia (Djerba, Monastir, Tunis, Bizerte).

May 17-28: Field trip to inspect periglacial features of Appalachian valley and ridge belt in Pennsylvania to northern Virginia (with Hanna Bremer, Cologne).

June 14-25: Field trip to Hudson Bay (with C. Hillaire-Marcel and INQUA people) to embrace the 315 m glacio-isostatic uplift area with the 185 beachridge "staircase" that dates back to 8300 B.P. An astronomic-climatic cycle of about 45 years proposed.

June 28-July 4: Finland, U.N. Conference on Nuclear Waste Disposal; gave talk on neotectonic instability. Matt Seppala arranged field trip to Salpausselha moraines.

July 5-July 8: Sweden. Arne Philip accompanied on field trip to highest European glacioisostatic uplift area on 285 m. This is different from Hudson Bay, in that beaches are poorer, but uplifted deltas (with varves and pollen data) are beautifully preserved.

July 9-July 15: Norwich, England. Conference on Climate and History (org. by Hubert Lamb). Highlight was Swiss dendrochronology, from trees buried and preserved in glaciers or moraines, a series that may compliment the California bristle-cone pine series.

We are now trying to convert radiocarbon-dated climatic data to sidereal time for correlation with astronomic cycles.

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Jane L. Forsyth - Geology, Bowling Green State University

Research has again been limited this year. One problem that has been on my agenda is the nature of the geologic and geographic conditions that permitted development of many small stands of prairie in my part of Wood County, Ohio. It appears that these were wet praires, occurring in places in these terribly flat lake plains where it was too wet for trees. The species reported are swamp-type plants and generally have widespread distributions, not western ones (as implied by much of Ohio's literature).

Graduate students have also been working in this area under me. One (Jack Tintera) studied the karst features of the northeast-oriented Devonian Columbus Limestone cuesta north of Bellevue, and was able to locate over 200 small sinkholes, all aligned or associated with solution-widened joints oriented toward the northeast on the dip slope side of the cuesta and toward the northwest near the cuesta crest. Another (Don Guy), working on the origin

of Sand Point, a south-extending spit opposite Cedar Point near Sandusky, has shown that this is indeed a bay bar, apparently developed by reverse eddy currents along that shore. A third (Jack Klotz), just starting work on the terraces of the Maumee River in Ohio, has already recognized very restricted remnants of a very high-level terrace, and also identified one and possibly two lower levels of terrace, but the reasons for their formation, along a stream draining northeastward into Lake Erie (no outwash here, and only a postglacially rising lake level), are still unclear.

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Richard P. Goldthwait - Geology, Ohio State University

Dick Goldthwait and Dave Mickelson are completing a paper and article with appropriate field work on using Alaskan Neoglacial observations as a model for Wisconsin deglaciation of the White Mountains in New Hampshire. These should be equally applicable in the Adirondacks. The Ohio part of the Quaternary Map of U.S. (U.S.G.S.) has occupied much of my time lately - a revised Ohio Glacial map could result if we get the funding, too.

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Paul F. Karrow - Earth Sciences, University of Waterloo,
Ontario

Peter Clark mapped the Quaternary deposits of the Malone N.Y. 15' quadrangle during the summer for his M.Sc. thesis topic. He is extending observations on deltas and shorelines, both marine and freshwater, by reconnaissance into areas to the east and west and at the time of writing is still in the field. There will be various lab analyses of till samples in the hope of clarifying the Malone-Fort Covington relationships. There are few data available at present on the characteristics of these tills. Project completion is forecast for spring 1980.

Bill Fitzgerald mapped the Wallaceburg area, near Lake St. Clair, for the Ontario Geological Survey this summer. Shore and delta features relating to Grassmere, Lundy, early Lake St. Clair and other lake levels have been identified. Bill's M.Sc. thesis on Minesing swamp, south of Georgian

Bay involves pollen and mollusc assemblages from Lake Algonquin and Nipissing. Field and lab work are nearing completion.

Ed Sado's mapping of the Lucan area, north of London, is essentially completed and final lab analyses of tills are expected soon. This M.Sc. thesis project should be completed in the spring of 1980.

Richard Hebda, Biology Dept., is working on the palynology of several Ontario sites. His M.Sc. student, Barry Warner, is studying bogs near the Lake Algonquin shoreline on Manitoulin Island. Bogs in the Waterloo moraine are also under study.

Paul Karrow is doing stratigraphic study of buried valley fills near Fergus and Rockwood with joint effort by John Greenhouse using electrologging and other geophysical methods. Cores from the Fergus valley have yielded interstadial pollen from below several tills. Stratigraphic coring with the Department's drill rig is also under way near the Don Brickyard in Toronto with the aim of clarifying Middle Wisconsinan relationships.

Additional fossil sites in Algonquin and Nipissing sediments were studied and mollusc collections made between Sarnia and Barrie. A core was recovered from thick Algonquin sediments near Port Elgin; Richard Hebda will study the pollen from the core along with one obtained earlier from Algonquin sediments near Kincardine.

Jeff Turner, post-doc fellow with Peter Fritz and Paul Karrow is examining the carbon isotope relationships in lakes attempting to assess the "old carbon effect" in radiocarbon dating of lacustrine sediments and their contained fossils.

Brenda Hann, post-doc fellow with Paul Karrow is analyzing cladoceran faunas from the Don and Scarborough Formations (Toronto Interglacial).

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I. Peter Martini - Land Resource of Science, University of Guelph, Ontario

Two research projects of mine may be of interest to readers of New York Glaciogram.

1. Quaternary Geology of Newcastle Bluffs, north shore of Lake Ontario.

This work is being done in collaboration between I. Peter Martini (sedimentology, glacial geology) and M. Brookfield (stratigraphy, sedimentology) of the University of Guelph, Ontario, and H. Gwinn (glacial geology and sedimentology of tills) of Sherbrooke University, Quebec. Exposed sections of glacial and glacio-lacustrine sequences were measured between Port Hope, Ontario and Newcastle. Bundles of layers were visually and lithologically correlated laterally throughout the bluffs. Because of highly variable composition of the upper part of the section which has been heavily dissected by locally readvancing tongues of glaciers, some of the correlations are not terribly satisfactory. The research is at a point where a reasonable stratigraphic framework has been established and detailed analysis has been initiated of vertical and lateral variations in sedimentary environments of pro-glacial lakes and of behavior of local glacial advances and retreats.

2. A second research project, perhaps slightly removed from New York, but still of considerable interest for northwestern America, is our five year research project on the Ecology of Ontario coasts of James/Hudson Bay.

The project is now in its third year. The coast of James Bay from the Quebec border to Cape Henrietta Maria has been visited and numerous transects have been surveyed and sampled in detail from the low tide marks to the upper part of marshes. Several sites were studied inland as for soil development and sediment distribution. Estuarine conditions are being studied in detail on the Attawapiskat River. The study has a multidisciplinary approach and involves the University of Guelph and several Federal Agencies. A geologist-sedimentologist is working together with a pedologist, a botanist and a wild-life biologist to try and elucidate the history of the rapidly emerging shore and characterize the coastal ecology particularly

as it pertains to breeding and feeding habitats of migratory shorebirds and waterfouls. The analysis of Pleistocene sediments exposed along some coasts; of ancient marine deposits of the early post-glacial Tyrrell sea that covered this land approximately 7000 years ago; and of coastal features that are still forming under the influence of marine and sea-ice agents, and are preserved and visible in the raised land, is unravelling the evolution of one of the largest wetlands of this world: The Hudson Bay Lowland. Preliminary reports dealing with sediments and soils studied in 1977 and 1978 have been prepared as Tech. Memo 78-1 and 79-1 (150-160 pages each) of the Department of Land Resource Science, University of Guelph. The reports are available at reproduction cost.

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J. Menzies - Geography, Brock University, St. Catherines, Ontario

This summer's field season has been spent continuing work on Lake Ontario bluff sediments west of St. Catherines. Geochemical and Palaeomagnetic analyses has begun, the latter being carried out with the aid of Bill Pearce, at Erindale College. The till is extremely high in magnetic mineral content and good results are anticipated. Whether any polar excursions will be found, the time period looked at being right, I wait and see!

Also work began on the Caledonia/Cayuga drumlin field using an NSERC research grant. A drilling program through the drumlins at two sites has begun; this work will extend into 1980.

Finally I have found a major lack of data exist pertaining to subglacial temperatures but within the detritus at the base itself. This discovery came about due to my interest in the influence of freezing fronts within this debris.

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Alan and Anne Morgan - Earth Science, University of Waterloo,
Ontario

Anne and I have been away from Waterloo on sabbatical for much of the past year, hence little of our news pertains to research activities in the southern Ontario and New York area. However, you may be interested to hear what we did do.

We spent a few weeks tracing a somewhat circuitous route to Colorado via; North Dakota where we called on Allan Ashworth and Don Schwert (an ex-Waterloo Ph.D. student); Edmonton, AMQUA; Jasper and Banff areas (where it rained); Glacier Park and Yellowstone (where it snowed) and finally to Boulder, where we enjoyed the sunshine and the warm reception at INSTAAR. For almost two months we collected beetles on the alpine tundra and in the boreal zone, and had discussions with John Andrews and Harvey Nichols about our joint research in the Canadian Arctic. Also we spent some time with Scott Elias who is a doctoral candidate in the fossil beetle field.

At the start of November we moved on to Seattle to work in the Quaternary Research Centre at the University of Washington. This was a wonderful opportunity to interact with professional colleagues who specialize in other areas of Pleistocene research. We had made interesting conversations with Estella Leopold, Stephen Porter and Link Washburn as well as with other departmental members in QRC and the departments of geology and entomology. We particularly enjoyed discussions with Dan Mann and Bob Nelson, two more doctoral candidates in the paleoecology 'oriented toward beetleology' field. Estella was particularly helpful, and without her kindness our stay in Seattle could have been considerably quieter in both the academic and social sense. Our stay in Seattle terminated in mid-December (probably much to the relief of the beetles of the coastal hinterland who were being decimated by snow-stamping, axes swinging beetle hunters, who put vast numbers into permanent hibernation) - when the star ships finally arrive and we are greeted by 2m long intelligent arthropods I often wonder which of us will be the first to go! Christmas saw us installed in a motel in Redwood City, about 30 miles south of San Francisco. We didn't know at that time it was going to be a permanent home for the next four and one half months.

Once again we had a kind reception from geologists at the USGS Menlo Park Office, particularly David Adam, Tom Hamilton, Dave Carter and John Galloway. Approximately, the next four months we spent working with the Alaskan Branch of the Survey on fossil materials from some high terraces of the lower Colville River. We finished a preliminary report on this work which indicates the same species were living in the area then as there are today. This means that a tundra (but near treeline) beetle assemblage existed in earliest Pleistocene time on the North Slope, north of the Brooks Range. There is a possibility that this fauna could be Pliocene, or even Miocene in age, which has interesting implications in respect to the arctic environment through time. Our California sojourn was interrupted by a 10 day visit to Hawaii where we attempted to check on Steve Porter's moraines on top of Mauna Kea (see September Quat. Res.). Unfortunately, our Toyota decided that it was NOT going to cooperate and ground to a standstill at the 11,600' mark on the volcano. This was VERY frustrating, particularly since the first snow patch was only a few hundred metres away, and another 2000' would have taken us to the top. I didn't realize that blood pressure also went up with altitude! We drowned our sorrows off a coral reef with a couple of pina coladas and spent the rest of the vacation looking at lava fields and cow pats - (lots of beetles in cow pats!)

Back in California we dabbled in fossil beetles from other Alaskan sites of varying ages, material from Rancho la Brea and also from the McKittrick tar seeps. Our last day in California saw us collecting beetles at Olema (epicentre for the 1906 'quake) just when San Francisco experienced its first earthquake since 1906. At this time we felt that it was time to get out, and then spent 14 days dodging gas lineups across California, Arizona and New Mexico to Texas where we met Kathy Sullivan (the earth scientist attached to the shuttle flights). From Houston we moved into Arkansas, across to Memphis (to yet another beetle site) and then north through Indiana to Port Huron and finally, Waterloo.

The summer vanished with the York University symposium and field trips to Quebec, Ottawa, the Muskokas and then in July, to Alaska. I spent five weeks moving through Anchorage to Lonely on the north coast, and then working with Tom Hamilton and Dave Carter on a series of collecting trips along the Killick, Ikpikrauak, Colville and Ikpikuk rivers. We had an extremely interesting time, collecting modern beetles, fossil beetles and looking at exposures which produced a Californian grey whale

(Sangamonian), mammoths (? Wisconsinan) and miscellaneous bones. After a short stay in Fairbanks, Bettles, and Walker Lake I returned to Toronto via Whitehorse and Edmonton. The net results of the sabbatical year was about 8 papers (some of which are now appearing) the start of a number of new sites, expansion of the Waterloo beetle collection from about 2000 to nearly 10,000 specimens, 30,000 extra miles on the car and a number of new friends in the western United States.

As you can see, we've had an uneventful year but its good to be back on familiar terrain with only local problems of the Pleistocene to worry about.

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Walter S. Newman - Earth and Environmental Sciences, Queens College

We're continuing our Holocene sea level project in the tidal marshes along the shores of the Lower Hudson Estuary. Sixty basal peat samples have already been dated while another 65 are in the process of being dated. These samples are from 13 stations crossing the Ramapo Fault Zone. As of this moment, the data appear to document regional tilting down towards the south as well as the suggestion that the Ramapo Fault Zone appears to have subsided in a graben-like manner during Holocene times. Marboro is our station farthest north while Cheesquake State Park on the south shore of Raritan Bay in New Jersey is our southern-most station. John Sperling of our Biology Department has identified marine and/or brackish water diatoms in all our basal peats.

Thanks to Dick Pardi and Marion Newman, our Radiocarbon Laboratory continues to operate successfully. Dick is now constructing three gas counters which, in addition to our present liquid scintillation counter, will appreciably add to our capacity. The C-14 Lab currently has a back-log of about 160 samples which will take about four months to completely date.

Sheldon Nelson successfully defended his Master's Thesis, a pollen and neotectonic study of the Ladentown bog, astride the Ramapo Fault in Rockland County. His study disclosed a normal sequence of pollen zones with a basal NAP zone. My colleague, Dr. Robert M. Finks, was the first to note that some of the NAP taxa indicated several flooding episodes apparently confirmed by sand lenses within the section. The lowest peat in the section dated at 9.4 K.

As this date comes from the 6.25 meter level while the base of the bog is 10.9 meters, the extrapolated date for the onset of sedimentation according to the Connally-Senkin age-dating method should be 16.4K. Anyway, it appears that the Ladentown bog was probably a normal basin in the sense that its been around since the end of the last glaciation and is apparently not a sag pond.

I thoroughly enjoyed the two fine field trips at the combined NYSGA-NEIGC meeting led by Bob Dineen and Bob LaFleur. I now realize I had not really understood the Lake Albany episodes. The guides were thorough, clear and concise while the leadership was inspiring and the stops themselves most revealing. Our compliments to these gentlemen. Collected calcareous concretions at three of these stops and Dick Pardi will attempt to date them. Claude Hillaire-Marcel has had considerable success in dating similar concretions and there is some chance that they can be used to date the Lake Albany sequence. Bob Newton tells me he had one dated from Lake Hitchcock which produced a 14 K date. Sounds reasonable. We'll let you all know the outcome.

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V. K. Prest - Geological Survey of Canada

My field work has been largely in NW Ontario. I am, however, involved along with Paul Karrow in one of his Master's students thesis on the Malone area, New York. It's a really important and fascinating area.

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George W. White - Geology, University of Illinois

George White reports that the large map and text of "Glacial Geology of Ashtabula County, Ohio" by George White and Stanley Totten is now in printing by the Geological Survey of Ohio as Report of Investigation No. 112. A similar map and text on Lake County by White is in final editing. The monograph with a large map on "Glacial Geology of Northeastern Ohio" by White is in editing. (Yes, there are two editors working on these reports!) Of particular interest is Stan Totten's chapter in Ashtabula County report and a similar chapter in the NE Ohio report on "Strandlines of Lake Erie."

Based on field, map, air photo, and subsurface study of more than 4000 drilling records, a new multiphase paradigm is proposed. Stan's diagrams are particularly revealing. The tilts of cliffs and beaches are different.

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(RECEIVED IN MAY)

Douglas R. Grant - Geological Survey of Canada

You may be interested in advertising the following Quat. Excursion in GLACIOGRAM. It will be held 13-18 May 1980 in conjunction with the annual meeting Geological Association Committee in Halifax. Further details follow in September.

The title is "Glacial Deposits and Sea-level Changes in southwestern Nova Scotia" and a tentative outline of the salient features follows:

"The excursion reviews evidence in numerous coastal exposures for several Quaternary glacial and sea-level episodes. Holocene rise of sea level, due to crustal subsidence and tidal amplification is documented by datings of borings through intertidal marshes to basal forest layers. Late Wisconsinan marine overlap and regression is seen in raised beaches rising northward from zero to +45 m. Late Wisconsinan glacial expansion from an ice cap centred on Nova Scotia deposited ice flows trending across the Bay of Fundy from New Brunswick sources. A 38,000-year Middle Wisconsinan marine bed is featured in a complex of older glacio-marine deposits, and an extensive raised rock platform of presumed last interglacial age is recognized. Practical applications of this knowledge to groundwater and drift prospecting will be stressed. There will be opportunities to appreciate Indian archeology and Acadian French culture."

Leader: D. R. Grant Duration 3-4 days(350 km)=\$150

Approx. Cost (\$200 for 4+ days)

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Norman Lasca - Geology, University of Wisconsin-Milwaukee

A Quaternary Advisory Group has been appointed by the Stratigraphic Commission to solicit recommendations for changes in the North American Code of Stratigraphic Nomenclature. We have been requested to submit first drafts of proposals for the new (not merely revised) Code to the Commission's Code Committee by March of 1980.

The Quaternary Advisory Group requests your viewpoints, suggestions, and recommendations with regard to all aspects of Quaternary stratigraphic concepts, principles and practice. In view of your interest and expertise, we hope you will share with us your thoughts and insights from your years of working with Quaternary problems. We welcome any specific suggestions with respect to terminology, stratigraphic principles and applications, and chronological problems and applications as they apply to the wide spectrum of Quaternary problems with which you are acquainted. Specific recommendations for definitions, changes in wording of the present (1970) Code, and possible additions or new approaches in the new Code will be most beneficial to our efforts. We are interested in your views regarding stratigraphic problems related to glaciation (glaciated and non-glaciated regions) throughout the geologic column, not merely those related to the Quaternary.

If you can provide names and addresses of colleagues who may wish to contribute information for consideration by the Quaternary Advisory Group, your assistance will be greatly appreciated. Thank you for your interest and assistance.

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Stephen A. Molello - Geological Survey of New York

Research Project Summary

The Western New York Nuclear Service Center, located at West Valley, New York and currently operated by Nuclear Fuel Services, Inc., is the only commercial nuclear fuel reprocessing plant ever to operate in the United States. The site contains several types of radioactive wastes, including "low level" solid wastes buried in trenches,

"higher level" solid wastes buried in pits, and high level liquid wastes stored in tanks. Solid wastes are buried in a dense, plastic hydrologically tight basal till of lacustrine (?) origin.

The NYS Geological Survey, funded by the US Nuclear Regulatory Commission, will be conducting a research program on the site to define the geology, hydrology, and dynamic geomorphic processes operating at and around the high level burial and liquid waste storage areas both of which are licensed by the USNRC. This study will greatly benefit from earlier work (1975-1978) at the low level burial area, also conducted by the NYSGS.

Test borings will be used to examine the shallow stratigraphy and selected holes will receive piezometer installations for groundwater monitoring. Surface water gauging/monitoring stations and portable weirs will be used to examine the pattern of channelled surface water flow leaving the site.

An analysis of geomorphic processes began as part of the earlier studies of the low level burial area. This analysis will continue, supplemented by future studies to determine the feasibility of calculating reliable denudation rates for the site and surrounding area.

The definition of site hydrology, geology, and geomorphic processes is a necessary prerequisite for a detailed pathways analysis that must be completed and evaluated as support for any of the alternatives selected for final deposition of the plant and wastes contained on the site.

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Phil Schafer - U.S.G.S., Reston, Virginia

An intensive effort to finish data collection for a map of the glacial geology of Connecticut has been carried out in the field seasons of 1978 and 1979 by USGS personnel Phil Schafer, Woodrow Thompson, Elizabeth London, Janet Stone, and William Langer. Detailed or reconnaissance surficial mapping at 1:24,000 has now been completed for all but 1 or 2% of the land area of the state. Preliminary compilation on the state base map at 1:125,000 is scheduled for mid-1980. An example of the kind of material to be included on the map has been released as U.S. Geological Survey Open-File Report 79-232, Surficial Geologic Maps of the Upper Connecticut River Basin, Connecticut, by Langer and London.

A symposium "Late Wisconsinan Glaciation of New England" will be included in the program of the North-eastern Section of the Geological Society of America, March 13-15, 1980, Philadelphia. Sixteen papers will lead geographically from Long Island (co-opted as part of New England) to Maine. The impetus for the symposium, which was organized by Grahame J. Larson of Michigan State University, came out of the current USGS programs for compilation of state maps of the glacial geology of Massachusetts and Connecticut.

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Jesse L. Craft - Geology, Kent State University

Just a short note to bring things up to date. I left the Pennsylvania Geological Survey this fall to join the faculty at Kent State University to develop the program in applied and engineering geology.

The research program on aggregate quality problems in the upper Allegheny River has been completed and is presently at the printers. It should be out around the first of the year.

I hope to have more to report in the spring newsletter.

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Kernan Davis - N.Y.S. Dept. Environmental Conservation

During the drought years, I worked in the Division of Water Resources. In the early 70's I moved into the Office of Environmental Analysis. A few years later I was in the Bureau of Energy. Now the Division of Solid Wastes, Bureau of Hazardous Wastes is my work area. I'm dealing with the cousins and brothers of Love Canal; some better, some worse. The deposits of the Pleistocene hold our future health and wealth, in more ways than one can count. I will need to draw upon your knowledge and wisdom more than ever before.

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