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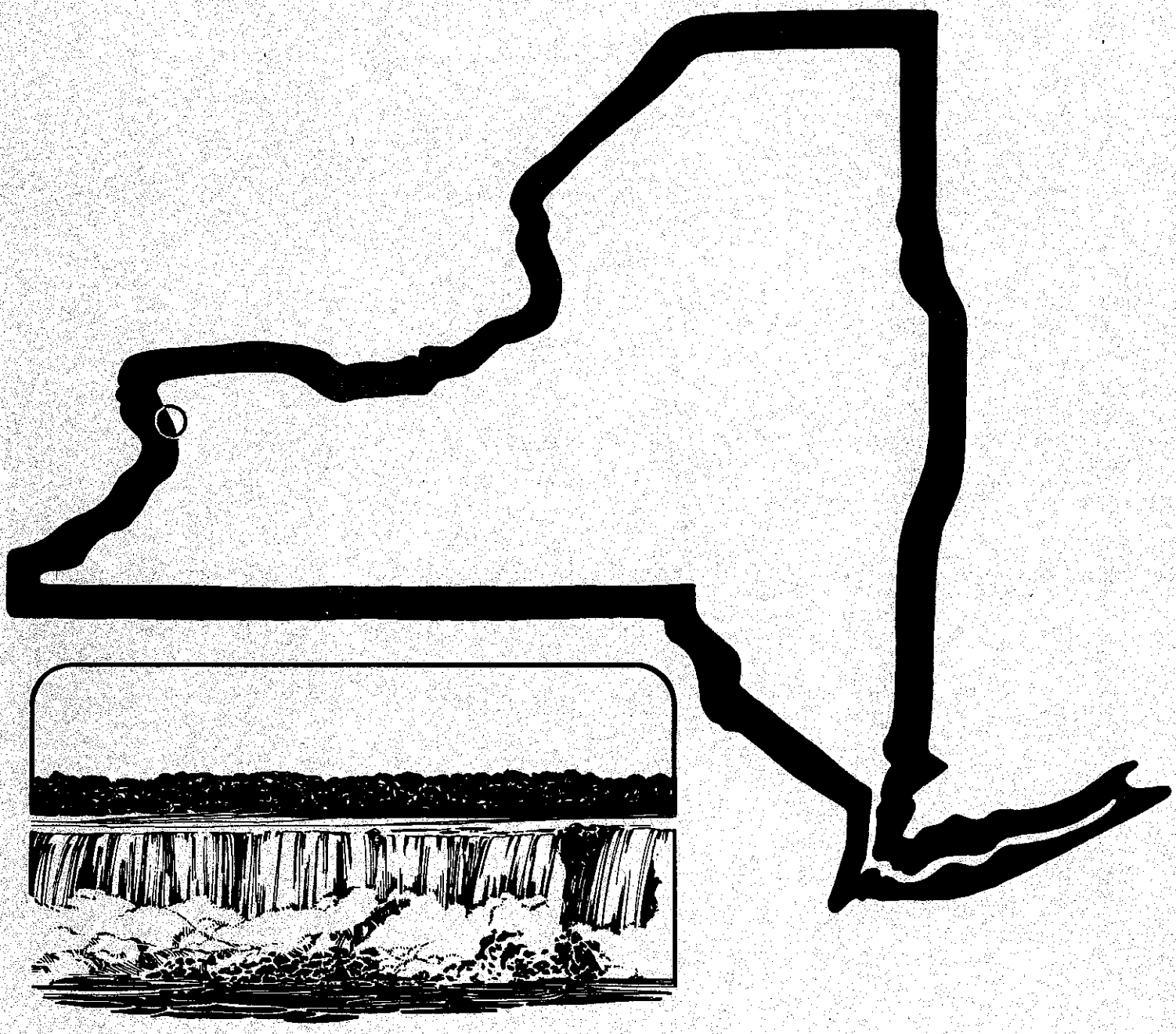
NEW YORK GLACIOGRAM



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. One of the charter contributors (Muller, v. 6(1)) has suggested that reference to information in the GLACIOGRAM be identified merely as informal communication; we agree with this suggestion.

Parker E. Calkin

Thomas M. Berg - Pennsylvania Geological Survey

Mapping of surficial materials in Pennsylvania continues at a steady pace. Bill Sevon has finished the surficial map of Pike Co., and that will be published as part of the county report. John Way is nearly finished with mapping of the Washingtonville and Millville quadrangles (Montour and Coluumbia Counties) which include Woodfordian, Altonian and Illinoian glacial deposits. Jon Inners is about half finished with mapping of the Allenwood and Milton quadrangles (Union and Northumberland Counties); a variety of Illinoian deposits has been recognized. George Crowl finished mapping the surficial geology of the Jersey Shore quadrangle. His report is in review at present. The Atlas Report on the Bloomsburg and Mifflinville quadrangles by Jon Inners should be released in June of 1982. Inners mapped Woodfordian, Altonian and Illinoian deposits in this area, and also recognized the presence of some relatively thick loess deposits.

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Robert F. Black - Geology, University of Connecticut

Paper presented to regional GSA, NE and SE sections, 1982, on "Origin of pseudo-ice-wedge casts of Connecticut" and journal article is in preparation. Preparation underway for field trips in Connecticut on glacial geology for NEIGC-1982. Joe Gurrieri is continuing field studies on glacial geology in NW Adirondack Mountains. Gary Kjelleren is starting M.S. studies in NW Vermont, and Laurie Musiker in Connecticut on glacial geology.

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James E. Bugh - Geology, SUNY Cortland

Two student internships in resource evaluation, one with the Department of Environmental Conservation and the other with the Cortland County Planning Department, are providing students at SUNY Cortland with practical experience in mapping surficial geology and laboratory analysis of aggregate for highway construction. Both internships arose from the controversy over mining of aggregates and the preservation of farmland in the glaciated Appalachian Plateau.

Field geology will be offered this year at the Brauer Geological Research Station by the College at Cortland for a consortium of SUNY institutions. One significant aspect of this field program is the time given to mapping of the Pleistocene deposits in the Guilderland area and field trips along the Hudson led by Donald Cadwell and Robert Dineen of the New York Geological Survey.

I received a grant from the Society of the Sigma Xi to host (April 13) a Science and Society Symposium on solid waste disposal in central New York. Dr. John Fauth, Chairman, Department of Geology at SUNY Cortland, presented a paper on the Geologic Constraints for Waste Disposal. I spoke on Weather and the Future of Sanitary Landfills and emphasized the role of acid rain on the presence of dissolved solids in leachates.

Parker E. Calkin - Geology, SUNY Buffalo

I have been busy organizing the meetings and field trips for the combined New York State Geological Association field conference and Eastern Section American Association of Petroleum Geologists technical conference to be held at Buffalo between 6 and 10 October this year. The first announcement and list of field trips are appended; by the time you get this note, it will probably be too late to submit papers. Note that there will be several trips of interest to Quaternary scientists. Ernie Muller has consented to help Tom Drexhage with the trip along the Ontario coast (No. 5) on Sunday when I will be running trip 3 with Tom Wilkinson. A final announcement will be sent out in July with registration and hotel information. Drop me a postcard with your address if you wish to receive notice and have not sent in the preliminary forms.

In case some of you have missed many previous announcements:

A. The Seventh Bienial conference of AMQUA (American Quaternary Association) will convene at the University of Washington, Seattle, Washington, June 28-30, 1982. It will be preceded and followed by a number of field trips in Washington. The central theme of the meeting will be "Character and Timing of Rapid Environmental and Climatic Change". Contact:

American Quaternary Assoc.
1982 Conference
Quaternary Research Center, AK-60
Univ. of Washington
Seattle, WA 98195

Tel. Donna Gardner
(206) 543-1166

B. IX INQUA Conference, Moscow, 1-9 August, 1982

C. Eleventh International Congress on Sedimentology will be held at McMaster University, Ontario, Canada - August 22-28, 1982. A number of field trips accompany the meetings - both before and after the Congress. Among the many symposia of interest to glacial geomorphologists are: Glacial Marine Sedimentation, Behaviour of Glaciers as Deduced from Till Facies and Interpretation of Grain Size Distributions. Contact:

IAS Congress 1982
Dept. of Geology
McMaster University, Hamilton, Ontario L8S 4M1

I am also preparing to leave for field work in Alaska - Holocene Glaciation of the Brooks Range where I will have four students. I plan to attend the INQUA Congress in Moscow in August and will hope to see some of you there.

CALL FOR PAPERS AND FIRST ANNOUNCEMENT

1982 Annual Meetings

11th
Eastern Section
American Association of
Petroleum Geologists

Technical Conference
October 6 - 8
1982

54th
New York State
Geological Association

Field Conference
October 8 - 10
1982

Buffalo Marriott Inn
1340 Millersport Highway
Amherst, New York

The Department of Geological Sciences, State University of New York at Buffalo with the cooperation of the State University College, Buffalo Museum of Science, and Schoellkopf Geological Museum will be host for the eastern sectional meetings of AAPG and NYSGA in 1982 with headquarters at the Buffalo Marriott Inn. Technical and poster sessions of the AAPG will be held on Thursday and Friday (October 7 & 8) to be followed by one full day of field trips on Saturday and at least one half day of trips on Sunday sponsored by the NYSGA (see enclosed information).

This preliminary announcement will be followed by a Final Announcement of both meetings (with schedules and registration forms) by mid-August. However, non members of Eastern Section AAPG must respond to this announcement to ensure final notification. This is the only call for abstracts for the AAPG conference.

Space for exhibitors for the AAPG meeting will be provided. Prospective exhibitors should request information from: Dr. Charles J. Cazeau, NYSGA Exhibit Coordinator, Dept. of Geological Sciences, State Univ. of New York, Buffalo, New York 14226.

TENTATIVE SCHEDULE OF FIELD TRIPS

SATURDAY TRIPS - OCTOBER 9, 1982

1. THE MOSCOW - GENESEE CONTACT IN WESTERN NEW YORK: EVIDENCE FOR A REGIONAL EROSIVE BEVELING DURING THE LATE MIDDLE DEVONIAN. Carlton E. Brett, Univ. of Rochester and Gordon C. Baird, Field Museum of Natural History, Chicago.

   This trip will examine detailed features of the unconformable contact between Middle Devonian (Givetian) Moscow and the Upper Devonian (Frasnian) Genesee formations at several localities from southwestern to northeastern Erie County.

2. ONONDAGA AND BOIS BLANC CARBONATE FACIES, NIAGARA PENINSULA, ONTARIO AND NEW YORK. Don L. Kissling, Robertson Research (US), Houston, and/or Mary Rose Cassa, Gulf Research, Pittsburgh.

Most of this trip will be in Ontario, Canada where we will examine aspects of the stratigraphic relationships and carbonate facies (including small bioherms) of the lower Onondaga and the Bois Blanc formations. The trip will include several stops of which most will be in quarries.

3. EURYPTERIDS, STRATIGRAPHY, LATE SILURIAN-EARLY DEVONIAN, WESTERN NEW YORK AND ONTARIO, CANADA. Samuel J. Ciurca, Jr., Rochester, N.Y.

The Bertie Group of eurypterid bearing waterlimes has been carefully traced from Western New York into Ontario, Canada. Some sections in that interval and some Post-Bertie rock will be examined.

4. GLACIAL GEOLOGY OF THE ERIE LOWLAND AND ADJOINING ALLEGHENY PLATEAU, NORTHWESTERN NEW YORK. Parker E. Calkin, SUNY at Buffalo.

Major end moraines, kames, deltas, outwash plains and glaciolocustrine strand lines critical to the Late Wisconsin glacial chronology of the eastern Great Lakes will be visited. In addition, some important stratigraphic exposures will be examined including the classic Early through Late Wisconsin deposits at the Gowanda Hospital Interstadial site.

5. RECENT OIL AND GAS EXPLORATION AND DEVELOPMENT PROGRAMS IN SOUTHWESTERN NEW YORK STATE. Peter J. R. Buttner, Environmental Management Bu., N.Y.S., Parks & Rec., Albany, Hyler Gray, Allegheny State Park, Salamanca, Manfred P. Wolff, Hofstra University, N.Y.

During the last several years there has been a sharp increase in drilling for oil and gas in the southwestern region of New York State. This trip will provide introduction to some of these current exploration and development programs. Regional stratigraphy, sedimentology, petroleum geology and environmental management will be considered at various stops at some of the old and new hydrocarbon fields of region.

6. GEOLOGIC AND ENGINEERING HISTORY OF PRESQUE ISLE PENINSULA, PENNSYLVANIA. Jean Pope and Richard J. Gorecki, U.S. Army Corps of Engineers, Buffalo District.

We will examine the erosional and depositional zones of a major compound recurved sand spit along the southern shore of Lake Erie. Presque Isle exhibits evidence of its geologic evolution and over 150 years of coastal engineering efforts at stabilizing the peninsula.

SUNDAY TRIPS - OCTOBER 10, 1982

1. STRATIGRAPHIC AND FACIES VARIATION OF THE ROCHESTER SHALE (CLINTON GROUP) ALONG NIAGARA GORGE. Carlton E. Brett, Univ. of Rochester.

The Niagara Gorge provides a rare north-south cross section of Silurian rocks. This trip focuses on facies changes within the medial Silurian Rochester Shale along the seven mile gorge section.

2. DEVONIAN BLACK SHALES OF WESTER NEW YORK. Douglas Patchen, West Virginia Geological and Economic Survey.

This trip will visit several classic outcrops of Devonian black shales. The stratigraphy and lithology at the surface will be discussed and, via maps and well logs, projected to the southwest into the subsurface.

3. GLACIAL AND ENGINEERING GEOLOGY ASPECTS OF THE NIAGARA FALLS AND GORGE. Parker E. Calkin, SUNY at Buffalo and Thomas Wilkinson, Corps of Engineers, Buffalo.

This trip will examine 1) development of the Falls and Gorge in the context of Pleistocene glaciation of the area and 2) geological engineering projects with emphasis on the Preservation and Enhancement Study of the Falls. Stops will all be on the American side and include the Falls itself, the buried St. Davids Gorge at the Whirlpool, and the Robert Moses Power Project with views of the Gorge mouth at Lewiston, Glacial Lake Iroquois plain, and Lockport Gulf spillway.

4. FLUVIAL PROCESSES IN THE WEST VALLEY AREA. Jon C. Boothroyd, Univ. of Rhode Island.

This trip will highlight the detailed fluvial system and erosion studies undertaken recently in the Buttermilk Creek drainage basin near the Western New York Nuclear Service Center and low-level radio active waste disposal site.

5. QUATERNARY STRATIGRAPHY AND BLUFF EROSION, WESTERN LAKE ONTARIO, NEW YORK. Thomas F. Drexhage, Acres American and Parker E. Calkin, SUNY at Buffalo.

The field trip will start out with two quick stops at Niagara Falls (largely for those who may wish to see them but do not want the field trip 3) and then will make several stops along the Lake Ontario bluffs with return through an area of extensive esker and moraine ridges north of Batavia.

For general information on either AAPG or NYSGS conferences contact:

Parker E. Calkin, General Conferences Chm.
Department of Geological Sciences
State University of New York
4240 Ridge Lea Road
Buffalo, New York 14226
(Tel. 716/831-3051)

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Donald R. Coates - Geology, SUNY Binghamton

Miss Amy Altman completed here M.A. degree during the 1981 Fall semester. I enclose a copy of her abstract. Although the study was largely in the field of planning and water development, thie site was a glaciated terrane in eastern Long Island.

David Ozsvath continues mapping in the Catskills on his Ph.D. dissertation and Matt Gubitosa is also mapping in the Catskills on him M.S. thesis.

My own work has largely been the use of glaciation processes on consulting projects. The following are typical projects, completed or underway:

1. A lawsuit that involved recognition of glacial materials and their engineering characteristics. I provided testimony for Broome County against a contractor who constructed one of the P.L. 566 dams.

2. A lawsuit about an oil spill and movement of the petroleum in glacial materials.

3. Providing the Town of Vestal information on a lawsuit where a chemical company apparently ruined a well by hydrocarbon contaming and other pollutants.

4. Currently directing a project to trace a pollution plume that may be threatening Town of Vestal wells. At least 11 monitoring wells will be instablled. The drilling is all in glacial valley fill sediments.

5. Another project involves the search for two large production wells in the Town of Vestal. At least 12 exploration wells will be drilled in the hope of finding wells that can yield about 1,000 gallons per minute. The aquifer is glacial valley fill.

6. Directing the study and the cleanup of gasoline that leaked from an underground storage tank, in Binghamton. The materials are glacial. At this site nine monitoring wells were installed to determine the extent of the migration. The cleanup is currently underway.

7. The newest project is to provide consulting services for another oil spill near Rosendale, N.Y. Again the site is on glacial materials.

The point to be made about all these projects is the importance of knowing the character of glacial sediments, because they influence the project design and the solution to the problems.

* *

Edward B. Evenson - Geology, Lehigh University

During the past two years, we have completed (or nearly completed) two investigations which should be of interest to Quaternary geologists in New York State and adjacent regions.

The recently submitted M.S. thesis of Jack Ridge (now a Ph.D. candidate at Syracuse University) entitled "The Surficial Geology of the Great Valley in Northampton Co., PA and Warren Co., NJ" involved "sequence mapping" (many thanks to Carl Koteff for his help and direction) of the deposits north of the Terminal Moraine. Multiple ice marginal positions were documented for the Late Wisconsinan (Woodfordian) retreat from the Terminal Moraine.

In addition, Jim Cotter (Ph.D. candidate Lehigh) in a cooperative study involving myself, Les Sirkin (Adelphi U.), Bill Sevon (PA Survey) and Bob Stuckenrath (Smithsonian Inst.) has come up with some very interesting information bearing on the timing of deglaciation from the "Terminal Moraine" in this area. Two cores recovered from Francis Lake, Warren Co., NJ have produced bottom dates of 18,390 yrs. B.P. and 18,570 yrs. B.P. Dates up the column of 16,480 yrs. B.P., 13,510 yrs. B.P., and 11,220 yrs. B.P. have also been obtained from this post-glacially formed lake. Detailed Palynologic analysis of these cores is now being completed. These studies suggest an 18-19,000 yrs. B.P. age for retreat from the "Terminal Moraine" and cast doubt on recent theories which argued for a much younger age.

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Jay Fleisher - Geology, SUC Oneonta

Toward the end of last summer and on into the fall I put together a Resource Inventory for the City of Oneonta. This report supplements two others in a series of local studies dealing with the application of geologic information for land - use planning. Fortunately, the city government sees the value of this kind of reference material and is willing to fund the work.

I am in the processes of updating my Quaternary map of the upper Susquehanna for the state wide effort Dan Cadwell is directing. I hope to wrap it up before the fall semester begins.

Bill Starna and I will co-convene a symposium relating the topics of archaeology and geology at the 1983 Northeastern Section of the Geological Society of America. The meeting is scheduled for March 23-25 at the Concord Hotel in Kiamesha Lake.

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Jane L. Forsyth - Geology, Bowling Green State University

Research by Jane Forsyth and some of her graduate students in northwest Ohio has revealed the presence of a number of old lake and lake-drainage features, related to various late retreatal positions of the ice margin, in places where the Glacial Map of Ohio shows only ground moraine and end moraine (as an author of that map, I write this with a red face!). Many of these drainage features were first identified by soils surveys, surveys that have also been helpful in establishing minimum extents of some of the features.

Already reported (based on work by Forsyth) are two pre-Maumee I lakes in Allen County near Lima. Now (based on an incomplete thesis by Val House) we have four different lakes, with a number of different erosional outlets, in Wyandot County, near Upper Sandusky, together with two eskers, some sand dunes, and a kettled delta, all of which lie south of the Defiance Moraine. Drainage channels are present in Hancock County (Findlay) in between Allen and Wyandot Counties, but field work suggests that the obvious, simple, armchair interpretation anticipated for these features before field work was done (by Forsyth) was not correct, so considerable field work lies ahead, interpretation being complicated by channels locally unmarked by alluvium and no deeper than a couple of feet.

Also of interest is the Oak Openings sand of western Lucas County (and also southeastern Michigan), which is uniformly fine-grained, with sorting and skewing characteristics (based on Friedman) that imply wind-deposition, although the feature lies along the margin of some of the Maumee ice-dammed lakes. A study of this sand in Lucas County (1980 thesis by Mike Grube), with reconnaissance north into Michigan, suggests that sand with

wind-type skewness may well be rehandled by waves. Some sand in north Maumee Bay, at the west end of Lake Erie, appears to have originated in this Oak Openings Sand and been washed into the Bay by post-lake streams (based on 1977 thesis by Larry Graves).

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Paul F. Karrow - Geology, University of Waterloo

This year there has been a marked increase in applications for grad work in Quaternary studies. Although the new students' research topics have not yet been selected their numbers will more than double the number now here and will include work in paleoentomology, stable isotopes, stratigraphy, and geomorphology.

Projects previously described for my grad students John Coakley, (Ph.D) Jim Richard, (M.Sc.) and Paul Finamore (M.Sc.) will continue with further field work this summer at Long Point, Timmins, and Kirkfield respectively.

I have a busy meeting season coming up with papers to be given on Algonquin shorelines at North Central GSA and Great Lakes Research, and two at GAC in Winnipeg (IGCP review of the Great Lakes region, and the Waterloo Interstadial). We recently got an accelerator ^{14}C date of Middle Wisconsinan age for the Waterloo interstadial.

In May I will map St. Josephs Island (NW Lake Huron) for the Ontario Geological Survey, and in June attend AMQUA. Much of the summer I hope to be able to spend on writing to reduce the fearsome backlog.

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Robert G. LaFleur - Geology, Rensselaer Polytechnic Institute

I have enclosed the announcement and programs for the Thirteenth Annual Geomorphology Symposium to be held at RPI on September 25-26, 1982. Requests for additional information should be sent to:

Robert G. LaFleur
Dept. of Geology
Rensselaer Polytechnic Institute
Troy, NY 12181

13th Annual Geomorphology Symposium

Groundwater as a Geomorphic Agent

September 25-26, 1982

Rensselaer Polytechnic Institute
Troy, New York

SYMPOSIUM PROGRAM

Friday, September 24, 1982
7-9:30 p.m. Registration, get-together, Great Hall, Communications Center

Saturday, September 25, 1982
Registration/Coffee and Doughnuts
8 a.m., Room 308, Communications Center

Welcome, 8:30

Program

J.E. Foss, North Dakota State University and A.V. Segovia, University of Maryland
Rates of soil formation.

C.G. Higgins, University of California, Davis
Piping and sapping: development of landforms by groundwater outflow.

Coffee

Z. Berger, Exxon, and J. Aghassy, (deceased) University of Pittsburgh
Effect of buried structures on drainage evolution in soft sediment.

A.V. Segovia, University of Maryland, and J.E. Foss, North Dakota State University
Landforms and soils of the tropics.

Luncheon

C.R. Twidale, University of Adelaide
Role of subterranean water in landform development in tropical and subtropical regions.

W.W. Shilts, Geological Survey of Canada
Potential effects of acid rain on glaciated terrain.

Coffee

J.E. Mylroie, Murray State University
Hydrologic classification of karst landforms.

A.N. Palmer, New York State University College at Oneonta
Geomorphic interpretation of karst features.

Sunday, September 26, 1982
Coffee and Doughnuts, 8-8:30 a.m.

Program

J.J. Drake, McMaster University
Theory and model for global carbonate solution by groundwaters.

W.B. White, Pennsylvania State University
Rate processes: chemical kinetics and karst landform development.

Coffee

J.J. Cullen IV, University of Arizona and R.G. LaFleur, Rensselaer Polytechnic Institute
Theoretical considerations on simulation of karstic aquifers.

N.C. Crawford, Western Kentucky University
Karst landform development along the Cumberland Plateau escarpment of Tennessee

Luncheon

D.C. Ford, McMaster University
Karst groundwater activity and landform genesis in the modern permafrost regions of Canada.

E.H. Kastning, Jr., University of Connecticut
Hydrogeomorphic evolution of karsted plateaus in response to regional tectonism.

Coffee

D.W. Ash, Indiana State University and F.J. Woodson
Karst development on the Mitchell Plain and Crawford Upland, Indiana.

J.F. Quinlan, Western Kentucky University
Hydrogeology of groundwater basins in the Mammoth Cave region, Kentucky.

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J.P. Schafer - USGS, Reston, Virginia

Pollen grains and spores of probable early Eocene age have been found in carbonaceous material from northwestern Connecticut by Norman Frederiksen of the USGS. The material occurs as waterworn clasts in a glacial-lake delta at East Canaan, about 3 km south of the Massachusetts boundary and 17 km east of the New York boundary; it was found by W.B. Thompson and submitted by J.P. Schafer. The source deposit from which the last ice sheet derived these clasts is guessed (JPS) to occur buried in a marble valley north-northwest of the site, possibly across the boundary in Massachusetts. Similar material was found a decade ago by Walter S. Newman; it gave a ^{14}C date of 40,000 yr BP (w-2615), and he reports orally that he found some Tertiary pollen grains in one clast. This material raises the same questions about the history of the landscape as does the Brandon (Vermont) lignite, probably of Oligocene age. Either the present valleys are very old and the landscape little changed for most of Tertiary time, or, more likely, these old deposits have been lowered in geomorphic position as carbonate rocks were removed from beneath them. In this connection one may mention the little-known discovery of a boulder of silicified wood, probably of Cretaceous age, in glacial till in southwestern Connecticut, near Southbury (C.O. Dunbar and R.F. Flint, 1939, Fossil wood in the glacial drift of Connecticut: Amer. Jour. Sci., v. 237, p. 885-889).

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George W. White - Geology, University of Illinois

Ohio Geological Survey will soon publish "Glacial Geology of Northern Ohio", by G.W. White with maps, and with chapter on Lake Erie strandlines by Stanley Totten. It will be Bull. 62 or 63.

CONTRIBUTORS