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NEW YORK GLACIOGRAM

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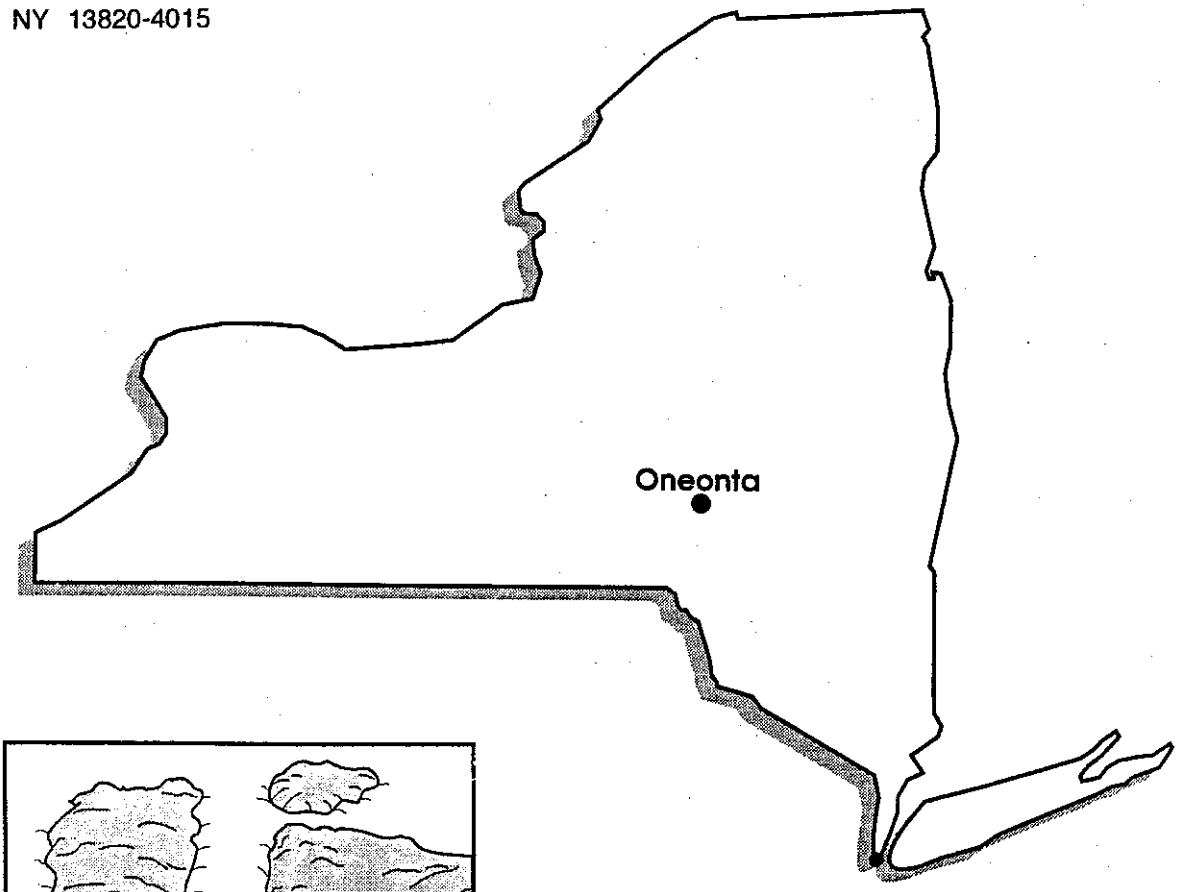

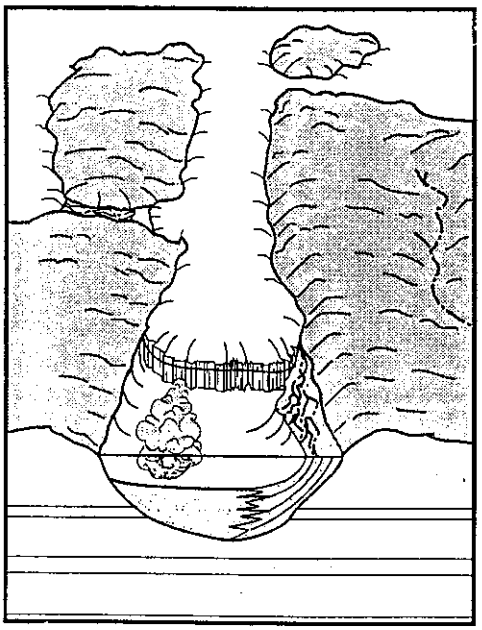

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EDITORIAL POLICY

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

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INVITATION FROM THE EDITOR

As you may know, the **Glaciogram** contains volunteered notes and project summaries. As the title implies, past issues have contained entries weighted toward Glacial Geology. Perhaps it's time to expand the coverage to also include topics that may be closely related to glacial geology, such as limnology, palynology, soil science, ground water geology, environmental geology, etc., but to date have not yet been included. Should your area of interest fall within this broader realm, please consider having your work included in the spring edition by forwarding a brief (300-500 words or less) summary at your convenience. Easily duplicated, simple, line diagrams and map figures (sorry, no photos) may also be submitted. Please pass this invitation on to friends and colleagues who may wish to share their work or be placed on the mailing list.

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CONTRIBUTORS

64th annual reunion of the North Eastern Friends of the Pleistocene
June 1-3, 2001, along the north shore of the middle St. Lawrence Estuary, between Québec City and Tadoussac

Stratigraphy of the Pleistocene units on land and below the St. Lawrence Estuary, and deglaciation pattern in Charlevoix

The trip conference will focus on the new glacial, marine, estuarine and fluvial units discovered in the middle estuary area, either on natural exposures, man made sections, or on drilling cores and by seismostratigraphy. These units record two pre-Illinoian major episodes, the Illinoian Glaciation, the marine invasion (Guettard Sea) related to the Illinoian-Sangamonian transition (6/5 transition), and the climatic optimum of the Sangamonian (substage 5e). An intermediate estuarine-fluvial-glaciolacustrine-glacial sequence indicates an early upper Pleistocene climatic deterioration and glaciation. Fluvial sediments and peat record an interstadial event (St. Pierre Sediments Event) followed by the classical Wisconsinan glaciation. The post-glacial sea-level regional curve will be presented. Laterally to the St. Lawrence main corridor, the small Saint-Tite basin record a detailed sequence of short lived glaciolacustrine and fluvial events intercalated between Wisconsinan glacial phases. We will look at the landscape related to the Charlevoix Astroblem inherited from the Devonian. We will examine the glacial striations pattern, the eastern extent of the Saint-Narcisse Moraine, 14C ages, units and forms related to the regional deglaciation. The calving bay ice retreat model will be challenged. Sequence analysis will be applied to the seismic units observed at the mouth of the Saguenay and at the head of the deep Laurentian Trough downstream Tadoussac. The St. Lawrence Estuary is the new frontier of Pleistocene stratigraphic studies in Québec.

The trip leaders include:

Najat Bhiry [najat.bhiry@cen.ulaval.ca] and Jean-Claude Dionne: Centre d'Études Nordiques
Université Laval Ste Foy QC G1K 7P4 Canada
Martine Clet (M2C-CNRS, Caen, France)
Bernard Long (INRS-Géoressources)
Serge Occhietti [occhietti.serge@uqam.ca] (UQAM)
Jehan Rondot (Astroblème Exploration)

(site available by March www.geo.uqam.ca/fop2001/fop2001.htm)

Schedule

Friday, June 1st,	6:00-7:35 pm Registration and ice breaking Hotel Quartier
	7:45 pm Supper at La Tyrolienne (close to the hotel)
Saturday, June 2d:	7:45 am Leaving hotel (8 am Université Laval)
	7:45 am-6:00 pm Field trip
	Banquet, meeting, night at Les Voitures d'Eau Hotel, Ile aux Coudres.
Sunday, June 3d:	7:45 am Leaving hotel
	12:00 am Arrival at Tadoussac
	12:00 am- 2:30 pm Field trip or whale watching
	5:00 pm Back at Québec City (Vehicles with limited number of seats may leave at 12:00 am and arrive at 2:30 pm)

The GEOTOP and the Département de géographie of Université du Québec à Montréal (UQAM), and the Centre d'Études Nordiques of the Université Laval are the hosts of the 64th annual reunion of the North eastern FOP. The FOP Field Conference is led jointly with an AQQUA (Association québécoise pour l'étude du Quaternaire) informal field trip.

64th annual reunion of the Northeast Friends of the Pleistocene
June 1-3, 2001, along the north shore of the middle St. Lawrence Estuary

Stratigraphy of the Pleistocene units on land and below the St. Lawrence Estuary, and deglaciation pattern in Charlevoix

REGISTRATION (register by May 1st. After that date, rooms may not be available. The optional night on Sunday June 3d at the Hotel Quartier, after the fieldtrip, should be confirmed as soon as possible.)

Name(s):

Complete postal address - **Institution or personal address:**
- **City**
- **State or province:**
- **Zip or code:**
- **email:**

FEES

All included: registration, guidebook, breakfasts, lunches, snacks, banquet at Ile aux Coudres, bus, hotel and supper in Québec City (Friday night June 1) and at Ile aux Coudres (Saturday night June 2):

One person : 240 US$ *or 360 C$*....._____
or
Two persons : 420 US$ *or 630C$* ....._____

Optional Sunday night in Hotel Quartier (1 or 2 persons, continental breakfast)(*as soon as possible*): 75 US$ *or 105 C$*....._____

Total payment enclosed (check payable to FOP2001): _____

Do you want to have a whale watching trip?
(about 30 US$) Yes or No....._____
Do you want to return to Québec City Sunday at 2:30 pm?..._____

Send the registration form and the payment to: Najat Bhiry FOP, Centre d'Etudes Nordiques, Université Laval, STE FOY, QC, G1K 7P4, CANADA

NB: Cars can be parked at the University Laval (about 7$ a day)
Weather is very variable (sun, rain, fog, snow, frost).

Gregory Pope, Earth & Environmental Studies, Montclair State University, phone 973-655-7385; popeg@mail.montclair.edu

1) We've been doing a little work on the geomorphology of New Jersey's Watchung Mountains, inspired by Scott Stanford's work at New Jersey Geological Survey and Larry Davis' (University of New Haven) work using undergraduates. I published a chapter on The Watchungs in the Association of American Geographers 97th Meeting guidebook, From the Hudson to the Hamptons: Snapshots of the New York Metropolitan Area. The chapter is "The Watchungs: A Physical Presence in New Jersey's Natural and Human Landscape". More importantly, students from my undergraduate Geomorphology class are presented a poster on wind and water gaps of the Watchung Mountains at the Northeast GSA in March. It relates to some old landscape theories, but also ties in (a little) to drainage of Glacial Lake Passaic. Here's the title and authors, the abstract is attached as a document below:

A re-interpretation of Watchung Mountain wind and water gaps, Northern New Jersey. D'Alessandro, Matt; DaSilva, Mike; Harclerode, Austin; Kelly, Yakeen; Mazanec, Mike; Melendez, Belkys; Morse, Sarita Amy; Nakajuku,Takeshi; Nikolis, George; Patel, Kesha; Reynard, Jennifer; Sieradzki, Brett; Stroehle, Carolin; and Pope, Gregory A., all Montclair State University

2) Patricia Beyer (at Bloomsburg University, PA) and I organized a geological-historical field trip of Central Park for the 97th AAG Meeting in New York City. The field trip guidebook, "Cultural Stones of Central Park: Outcrops, Arches, and Statues" featured local geology (including glacial and post-glacial geomorphology) and a survey of local building stone.

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Robert Titus, Hartwick College, Oneonta, NY 13820

I have recently been focused on the North/South Lakes State Park area. I am mapping the several glacial spillways that can be seen in the vicinity. I am also mapping the ledges that were plucked into the wall of Manitou by the passage of the ice, and also the several local alluvial fans. All this will be fodder for Kaatskill Life magazine articles. I also plan glacial articles for the Woodstock Times and the Greenville Press. The second edition of my "The Catskills in the Ice Age" is being prepared for publication by Purple Mountain Press.

John D. Halfman, Dept. of Geoscience, Program Coordinator, Environmental Studies
Hobart and William Smith Colleges, Geneva, NY 14456; voice: (315) 781-3918
fax: (315) 781-3860; halfman@HWS.EDU

Two items of importance were just presented at the recent NE GSA that should be included in the upcoming Glaciogram.

The HWS Data Logger and Hydrological Field Studies. Co-workers: Tim Riley & Brooks McKinney. The HWS Data Logger System is a small, inexpensive, microprocessor-based device that detects, digitizes, and stores up to 4000 voltage output from a sensor as an 8-bit value. The logger sample period can be preset during initialization. Recent laboratory and field tests are presented that are designed to test the accuracy, precision and suitability of this versatile system in fluvial and lacustrine settings. Circuit diagrams, part lists, manuals, circuit board layouts, interface and microchip software, and other essential items will be published shortly (http://www.hws.edu/ACA/depts/geo/Logger/logger.html) so that any educator can download this information and build her/his own data logger to use for K-12 and college level educational and/or research pursuits. Tim has worked on the field feasibility of the data logger for his honors project.

An Abrupt Climatic Transition at the Mid-Holocene. Co-workers: Micah Nicolo & Leah Joseph Micah is currently analyzing high-resolution seismic profiles and piston cores of sediment collected aboard the research vessel HWS Explorer to further investigate our suspected mid-Holocene climate change as part of his senior year honors project. The seismic profiles delineate a map of Holocene sediment thickness that focuses on a comparison of early and late Holocene sediment section characteristics and amounts. The sediment cores are described and analyzed for magnetic susceptibility, water content, bulk carbonate, and total organic carbon (TOC) to assess the relative truncation of early and late Holocene sections. Preliminary data indicate that early Holocene sediment are significantly more truncated than the late Holocene sediment in the shallow-water portions of the lake. Such truncation suggests that atmospheric circulation changed to a more dynamic environmental system in the Finger Lakes region of North Eastern United States during the mid-Holocene. This dynamic climatic transition may be due to a southward shift in the Jet Stream at this time. Leah is Don Woodrow's sabbatical replacement.

Richard A. Young, Department of Geological Sciences,SUNY-Geneseo, Geneseo, NY; Young@geneseo.edu

Grand Canyon Symposium

I chaired a 7-day conference on the Origin and Evolution of the Colorado River in Arizona at Grand Canyon National Park from June 5-12, including pre-and post-meeting field trips (co-hosted by the USGS, Flagstaff, SUNY, Geneseo and Grand Canyon National Park). The 100 participants have submitted approximately 39 manuscripts that are in the process of being reviewed and will be published in the Grand Canyon Association Monograph series. Many of the extended abstracts, discussions, regional maps, and data tables relating to the conference can all be viewed at the temporary web site: http://wwwflag.wr.usgs.gov/GCSymposium/

The main thrust of new information, generated since the last such Grand Canyon symposium was held in 1964, involve recent studies of the late Tertiary structural and geomorphic development of the Basin and Range province, as well as new work relating to erosion rates on the Colorado Plateau during Quaternary time. Several studies utilize the recently expanding methods of exposure age (cosmogenic) dating and fission track analyses. The topics may be of general interest to Quaternary geologists and to persons familiar with the long standing controversy over the age of the Grand Canyon. The conference papers tend to support a late Tertiary-Quaternary age for much of the Canyon, in contrast to the Laramide uplift of the Plateau. Cosmogenic and radiometric dating studies suggest that Quaternary erosion rates in the region were very high, and that portions of the Colorado River system seem to have formed relatively rapidly.

Information concerning the focus of the meeting also appeared as the cover article for Science Magazine (September 30th) and in Geotimes (August 2000).

Genesee Valley Mid-Wisconsin Site

Funding is being sought to continue work on the 35,000-year-old glacial drift exposures at the Elam pit in northern Livingston County (see recent abstract by R.A. Young on Elam Site for NE GSA Burlington, VT meeting). In addition, well drilling has provided wood samples for 14C dating from a depth of 85-88 feet on the north edge of a moraine 9 miles southwest of the Elam site. This wood is from the subsurface in the vicinity of a series of small moraines located between the Niagara and Alden moraines (Muller, Quaternary Geology of NY, Niagara Sheet, 1st ed., 1977). The site is approximately one mile west of York, Livingston County. These samples are currently being dated at the University of Arizona AMS Facility. It remains to be seen whether these dates will add to the Middle Wisconsin story exposed near Scottsville (Elam Pit), or improve our scanty chronology about the late Wisconsin ice margin.

New Zealand Quaternary Studies

The Geological Sciences upper-level geology majors from Geneseo spent most of the month of January accompanied by 4 faculty in the South Island, NZ. Extended field trips to several active fault terranes related to the Alpine fault provided interesting perspectives on tectonics and geomorphology. Wood samples were located in sediments at the base of the lowest Pleistocene terrace adjacent to the active Kekerengu fault (Kaikoura region). A faculty/student Directed Study is attempting to relate 14C dates from these samples to the Quaternary geomorphology or tectonic history in the region. The samples appear to come from localized lacustrine sediments within a fluvial terrace sequence, possibly linked to local fault disruption of the drainage.

Genesee Valley Deep Well Log Study

Samples and boring logs from 3 new wells drilled to bedrock along the Genesee Valley axis between Geneseo and Fowlerville are being studied in order to provide a more complete interpretation of the older glacial stratigraphy. This portion of the Genesee Valley was dewatered by the Akzo-Nobel mine collapse between 1994 and 1996, but only limited Quaternary stratigraphic information has ever been obtained from the subsurface. Seven deep wells now have been completed over a 14-mile reach of the valley, all related to studies for the mine collapse and related groundwater issues. Not surprisingly, the wells indicate a gross heterogeneity in the glacial stratigraphy. However, deep groundwater zones appear to be hydraulically connected throughout the study area. Gross groundwater deterioration is occurring during the ongoing recovery and adjustment of water levels to pre-collapse conditions.

* *

Aleksis Dreimanis, Department of Earth Sciences, University of Western Ontario, London ON N6A 5B7 CANADA

Last October I collected some samples of the Middle Wisconsinan Tyrconnell Formation on the North shore of Lake Erie at Bradtville, Ontario for OSL age determination and submitted them to Mishell Lamothe at Montreal. During the winter, I continued participation at some Latvian Quaternary research projects by e-mail and fax.

Kirsten Menking, Department of Geology and Geography, Vassar College, Poughkeepsie, NY 12604; (845) 437-5545 (office phone); (845) 437-7577 (fax); kimenking@vassar.edu

I am studying the Shawangunk Mountains and their Sky Lakes to determine the timing and rates of ecosystem establishment after continental glaciation. I am combining cosmogenic radionuclide exposure ages on the bedrock surrounding the lakes with radiocarbon dates on the onset of organic deposition in each lake to determine how long it took for this newly deglaciated terrain to acquire a vegetative cover and aquatic ecosystems.

I am also measuring carbon content, C/N ratios, and stable isotopes of carbon to document the ecologic evolution of each lake's watershed throughout the late Pleistocene and Holocene.

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Ernest H. Muller, 874 Livingston Avenue, Syracuse, NY 13210-2936, ehmuller@mailbox.syr.edu

Been watching this winter's snows with more than usual interest. Right now (3/22/01), another eight inches are needed to give Syracuse a new all-time high. More seriously, my recent glaciologic attention has been divided between western New York and Bering Glacier's forefield in Alaska.

In New York, my interest in the Hiscock site, 15 miles northeast of Batavia, was whetted last month at Northeast GSA in Burlington, VT. There, Warren Allmon et al. reported on mastodon and mammoth remains from a kettle east of Watkins Glen. Along with bones recovered almost simultaneously near Hyde Park, these remains are now on display in Ithaca's Paleontological Research Institution. These new finds add considerable interest in the Hiscock Site, the subject of twelve years investigation and a conference this Fall in organization by Richard Laub at the Buffalo Museum of Science.

In Alaska, working with Jay Fleisher and Matt Lachniet, my current interests continue in Late Pleistocene and Holocene history recorded in the forefield of Bering Glacier. With the good fortune of having observed Bering Glacier during its 1993-95 surge we seek criteria in microstructure of deformed till that may help in recognizing prehistoric surge activity.

Duane Braun 400 East Second Street, Bloomsburg University, Bloomsburg, PA 17815-1301; dbraun@husky.bloomu.edu

In the Glaciogram about a year ago I mentioned the bedrock rapids on the Delaware River at Skinners Falls NY - PA as a likely place for the old Susquehanna - Delaware divide. I hypothesized that the bedrock channel there, the only bedrock reach upstream of Foul Rift in the Great Valley, was the incompletely breached divide at the head of the original Delaware drainage. Glacial deposits bury the foot of the slope on the PA side of the valley and may hide a deeper bedrock gorge. This last fall we did seismic refraction work at the site and discovered that there is a buried bedrock gorge about 30 meters deep. That is the typical depth to bedrock in wells in the Delaware valley both upstream and downstream of the site. The river has just caught the side of the pre-Late Wisconsinan valley in its current episode of down-cutting. So the existence of the "inner gorge" doesn't support my contention that the site is the incompletely breached divide. But from other landform evidence, like the distribution of barbed tributaries, I still think the site represents the head of the original Delaware drainage.

This summer we're mapping the glacial deposits of nine 7.5' quads. from Tunkhannock, PA (Great bends of the Susquehanna River) to Carbondale , PA (northern end of the northern Anthracite coal field).

Patrick M. Colgan, Department of Geology, Northeastern University, 14 Holmes Hall, Boston, MA 02115; phone 617-373-4381, pcolgan@lynx.neu.edu

I have submitted a paper to Geology outlining why I think the drumlin till in Boston Harbor, Massachusetts is early Wisconsin in age. About 90 amino-acid analyses on fossil Mercenaria shells done by Darrell Kaufman (of Northern Arizona University), together with non-finite radiocarbon dates, and subsequent correlation to shells found at Sankaty Head, Nantucket, indicate that the shells in the drumlin till are stage 5 in age. This eliminates the possibility that the till is Illinoian as proposed by Newman et al. (1990, Quaternary Research, v. 9, p. 333-343). The deep weathering profile (~10 m) developed in the drumlin till suggests that it is not late Wisconsin in age. Additionally, the drumlin till is overlain by a late Wisconsin till in Boston Harbor. If our hypothesis is correct this suggests an extensive Laurentide Ice Sheet in eastern North America during stage 4. At the last GSA NE meeting in Burlington, VT, an undergraduate (Alice Orton) and I also presented our findings that marine microfossils including benthic foraminifera and ostracodes are abundant in the drumlin till. This suggests that much of the material in the till is shallow marine in origin. In the future I hope to obtain radiocarbon dates on the foraminifera (I expect them to be non-finite) and examine the microfossils to determine paleoenvironments in Boston Harbor before the last glaciation. I will be co-leading a Boston Harbor Islands field trip at the GSA meeting in Boston this fall. We intend to examine fossil bearing exposures of the drumlin till and discuss the possibility of an early Wisconsin (stage 4) advance into New England.

As part of a another project (southern Laurentide Ice Sheet Project, SLIP) with Dave Mickelson and his students at the University of Wisconsin I have been compiling information about the distribution of glacial landforms and sediments from Maine to the Dakotas including information in New York (see abstract below). We are also using a numerical model to examine bed conditions in several lobes of the ice sheet. We are currently completing a book chapter where we discuss the differences in glacial landforms and sediments in different regions of the northern U.S.

Orton, A., and Colgan, P.M., 2001, Microfossils in the drumlin till of Boston Harbor, Massachusetts: GSA Abstract with Programs, v. 33, no. 1.

Colgan, P.M., Cutler, P.M., Mickelson, D.M., and LaBlanc, K.J., 2000, Glacial landform-sediment assemblages along the southern margin of the Laurentide Ice Sheet: implications for ice-lobe behavior and subglacial conditions: GSA Abstracts with Programs, v. 32, no. 7, p. A-20.

Cutler, P.M., Colgan, P.M., Mickelson, D.M., and MacAyeal, D.R., 2000, Influence of the Great Lakes on the mass balance of the southern Laurentide Ice sheet: GSA Abstracts with Programs, v. 32, no. 7, p. A-330.

Cutler, P.M., MacAyeal, D.R., Mickelson, D.M., Parizek, B., and Colgan, P.M., 2000, A numerical investigation of ice-flow permafrost interaction around the southern the Laurentide Ice Sheet: J. of Glaciology, v. 46 (153), p. 311-325.

Neil Pederson, Graduate Research Assistant, Tree-Ring Laboratory, Lamont-Doherty Earth Observatory, Columbia University, 61 Route 9W, Palisades, NY 10964; phone: (845) 365-8783; FAX: (845) 365-8152; adk@ldeo.columbia.edu

A website, where results will be posted, is: http://www.ldeo.columbia.edu/~adk/dis/

My dissertation study will derive the climate factors most important to the radial tree-growth of southern temperate tree species at or near their northern limit over the past 100-125 years in the Hudson Valley, NY. It will also determine how these relationships cluster into plant functional types (PFTs). Derivation of realistic PFTs should reduce the number of variables used in Global Circulation Models and improve forecasts of the potential climate change impact on vegetation. A comparative study will also be made of several boreal species. The results will give a better understanding of the potential impacts of climate change on the composition and competitive balance. This long-term study will indicate how trees in upland and wetland ecosystems respond to natural change. Determination of these effects will help anticipate anthropogenic impacts on forested ecosystems.

Initial climate response results of range limit white spruce (Picea glauca; age range 100-181 yrs old) and black tupelo (Nyssa sylvatica; 389 to 553 yrs old) populations shows that warming of the last half of the 20th century significantly impacted growth of both species. During the last half of the 20th century, warm summer temperatures became significantly, negatively correlated with white spruce growth. Black tupelo growth became strongly negatively correlated to a warm previous summer in the latter half of the 20th century after being predominately positively correlated with monthly temperatures during the first half of the century. The initial findings suggest that: 1) increasing temperatures may become more important to boreal species like white spruce and 2) slow growing black tupelo has a complex growth strategy that requires more ecophysiological study.

Peter Knuepfer, Dept. of Geological Sciences and Environmental Studies, Binghamton University, Binghamton, NY, 13902-6000; phone 607-777-2389; fax 607-777-2288; email knuepfr@binghamton.edu

Our studies of proglacial lake sequences in the Finger Lakes and the Champlain Basin continue, though of course with the passage of winter our field work has been limited. Steve Hensler (M.A. student) is trying to wrap up his work on the southern Cayuga trough, which we summarized in v. 35 (2) of the Glaciogram. A job intrudes on completion at this time, but I presented some of Steve's work in March at the Northeastern Section GSA in Burlington. We highlighted the development of high-level local lakes impounded west of Cayuga Trough south of Ithaca during early phases of ice retreat from the Valley Heads moraines. These lakes were small and the ice margin almost certainly was proximal, and large, thick deltas were deposited by tributaries draining into them (such as upper Enfield Creek), likely due to abundant sediment supply throughout upland areas immediately after ice retreat. A second M.A. student, Cindy Pettit, will shortly begin similar work re-examining the post-LGM pro-glacial lake history in the Seneca trough. Here we expect that at least part of the story will be less complicated, as Lake Seneca/Newberry was impounded by a stable outlet at Horseheads, NY, that remained intact during much of the retreat phase from the Valley Heads position.

John Rayburn (Ph.D. student) continues to work on calculations of water-volume changes that were produced by lake-level drops in the Champlain basin during deglaciation. He presented a preliminary calculation at the Burlington meeting that suggests that the drop from the Coveville to Fort Ann levels in Lake Vermont would have sent significant rapid discharge down the Hudson River. He's currently compiling DEM data and constructing mode ls to evaluate the effect of the shift in drainage from the Hudson to the St. Lawrence at the time of the drop from Fort Ann to the Champlain Sea. Field work will continue this summer, focused on more complete coverage of the freshwater lake phases and careful evaluation of lake outlets to better constrain the calculations.

G. Gordon Connally, 12 University Avenue, Buffalo, NY. 14214; Research Associate, New York State Museum, Albany, NY

As you can see from the above, I have a brand new paper association with the New York State Museum. I will be working closely with Don Cadwell, and other NYSGS geologists, on a couple of projects this summer. As Don will describe, we are going to attempt to retrieve a series of short cores in the vicinity of the Rosendale, Luzerne, and Bridgeport readvances. Don is interested in the lithotectonics while I will concentrate of varve chronology. So we can compare with the very convincing work in the Connecticut Valley, I will be "interning" with Jack Ridge in May or June to learn how he handles his varve cores.

Although our application for funds for the work on the Mt. Kisco Quadrangle got short circuited once again, I still intend to revisit Westchester County this summer. Last summer's field work was precluded by Les' death. There are still many joint Connally and Sirkin ideas that need to be clarified in print, but I am not quite sure how to proceed. Much of my field work in Westchester County depends on earlier work by Les while mapping for the New York State map project. I guess that I will start with Sirkin, Connally, and Cadwell (1989) and go from there.

At the NEGSA in Burlington, Warren Allmon from PRI in Ithaca delivered a paper comparing mastodon finds from the Valley Heads Moraine near Watkins Glen and from the Hyde Park Moraine north of Poughkeepsie. In a rather condescending tone, he indicated that the Hyde Park Moraine certainly wasn't very obvious in the field, or words to that effect. Hmmm! To quote myself from Connally and Sirkin (1986, p. 56) it was "... named ... for an area of bold constructional topography ... with 170 feet of relief." I admit that 170 feet pales in comparison to the Valley Heads Moraine, but still ---. Maybe I should go stick a bleeding mastodon tusk on top so they can find the bleeding moraine! There was a map on page 58!

Finally, our Pleistocene room at NEGSA was a great improvement on the modified DC-10 design (3 seats on either side of the aisle) we used to be assigned. Yet, all 90 seats were continually filled, and at the beginning of the afternoon, there were 50 standees. Perhaps its a compliment to our perceived stamina -- or to our good manners and lack of complaint -- but that was nonsense. In the limnology sessions there were 160 seats and I never counted more than 78 persons attending. A plea for the aging and fragile friends.

J. Mark Erickson, Department of Geology, Brown Hall, St. Lawrence University, Canton, NY 13617-1475; meri@music.stlawu.edu; 315-229-5851; fax: 315-379-5804

The Hiscock Site in Byron is to be the subject of Smith Symposium II on October 14 & 15, 2001 at the Buffalo Museum of Science. Hiscock Pleistocene and Holocene deposits contain a rich fauna of fossil oribatid mites that reflect paleo-habitat conditions at the site. I have been studying fossil oribatids for several years. With former students Douglas Jennings and Richard Platt, he will describe oribatid mite biofacies from the site that reflect local changes in postglacial climate which likely have regional implications. Oribatids are minute arthropods that dwell in both terrestrial and aquatic environments. They preserve well in biogenic sediment and often are more abundant than fossil beetles. The Hiscock Site studies are a continuation of our research to learn the applications for fossil oribatid mites.

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David Franzi, Center for Earth and Environmental Science, Plattsburgh State University of New York, 101 Broad Street, Plattsburgh, NY 12901; 518-564-4033 (off) 518-564-5267 (fax); david.franzi@plattsburgh.edu; http://faculty.plattsburgh.edu/david.franzi

We enter the summer 2001 field season on the second year of our undergraduate research program at Altona Flat Rock. The research involves an interdisciplinary study of ecosystem-level processes and disturbance impacts in the Altona Flat Rock pine barrens. If this year's application rate for undergraduate research fellowships is an indication, we should have another productive and exciting field season on "The Rock". If any Glaciogram readers have students who would like to participate in this program they should contact me directly.

Don Bogucki (Plattsburgh State University), Ray Curran (Adirondack Park Agency), and I have begun work on a landform and wetland characterization for the Lake Champlain watershed in northeastern New York. The Adirondack Park Agency has been inventorying park wetlands for many years, but this will be the first attempt to integrate geology and physiography into the analysis. We have received information and much encouragement from Bill Sevon (Pa Geological Survey) and will use his recently published landform inventory of Pennsylvania as a model.

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Bluff Recession at Lakeside Beach State Park, Orleans County

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Previous studies of Lake Ontario bluff recession were based on airphoto interpretation of erosion rates over tens of years along large sections of shoreline, many kilometers long. To understand the processes that result in the correlations that have been documented by these studies among recession rate, bluff morphology and hydrological processes, a detailed study of processes and bluff evolution at a single site is being conducted.

The objective of this research is to understand the physical processes that control recession rates for a specific site. To do this, we selected a site at Lakeside Beach State Park, Orleans County. This area is ideal because part of the shoreline possesses a protective structure, in the form of quarried rock placed along and abutted to the shoreline, called rip-rap, providing a control section where wave-induced processes are minimized. Two sub-sites, one in the unprotected section and one in the protected section, were laid out and were monitored for 12 months. Monitoring included: erosion pins to record the fluctuations in soil movement across the bluff face, soil thermometers to record soil temperatures at various depths across the bluff face, rain gauges and thermometers to record precipitation and air temperature, and a photographic recording of the profile of each sub-site from various vantage points. Historical and modern data for the site and surrounding area were also collected. These data include lake level, precipitation, wind speed and direction, and wave height.

The results of data analysis are showing a strong seasonal control of erosion mechanisms. The greatest amount of bluff slope erosion occurs predominantly at three times during the year. In the early winter the upper layer of soil freezes. When the unfrozen, but saturated soil beneath begins to move, large amounts of the overlying frozen soil are mobilized with it. During the midwinter thaw, some of the shallow soil thaws, becomes saturated, and then slides over the frozen soil beneath. Finally, in the early spring, with increased precipitation and snowmelt run-off, large amounts of soil on the bluff face become saturated, and there is overland flow. It is possible that the water pressure on the bluff face even exceeds lithostatic locally. The result is that the largest amounts of soil movement occur in early spring. Soon after the extensive erosion of the bluff face in early spring, lake water levels tend to increase because of the spring input. The soils transported to the beach by the spring soil movement are then removed from the shoreline system by wave action, and the bluff toe retreats.

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Research this past six months has focused on my ongoing work on late Holocene glacier and climate histories around Prince William Sound, southern Alaska. SUNY Cortland undergraduate Jim Milligan spent the fall and winter cross-dating the tree-ring samples that we collected at the tidewater-calving Nellie Juan Glacier last July. Using the kill-dates and locations of these subfossil trees allowed us to reconstruct the Little Ice Age advance of this glacier and calculate approximate rates of terminus advance down-fjord. Jim presented these results at the North-Eastern Geological Society of America meeting in Burlington in March.

The next step in this work, something I will be focussing on this coming summer, is to develop a tree-ring based reconstruction of climate for western Prince William Sound. A number of the trees killed by Nellie Juan Glacier during this advance were 500 or more years old when they were killed around AD 1600, which means that I should be able to produce a millennial-length chronology. There are very few places in Alaska where tree-ring chronologies of this length are possible and I'm hopeful for some interesting results.

Many thanks to those of you who have informed me of subfossil tree sites around New York state. As I'm not heading to Alaska this summer I'll hopefully get a chance to sample at some of these locations. To reiterate my request from the last Glaciogram, I'm interested in hearing about any logs or stumps that anyone has observed in bogs, stream or river cuts or excavations around the state. Minimum criteria for tree-ring analysis are moderate to good preservation of the wood and at least 100 growth rings. My long-term goal is to collect samples that will ultimately lead to a long tree-ring chronology for New York state.

Finally, I have two recent publications to report. If you'd like reprints please drop me an e-mail.

Barclay, D.J., Calkin, P.E. and Wiles, G.C., 2001, Holocene history of Hubbard Glacier in Yakutat Bay and Russell Fiord, southern Alaska: Geological Society of America Bulletin, v.113, p.388-402.

Calkin, P.E., Wiles, G.C. and Barclay, D.J., 2001, Holocene coastal glaciation of Alaska: Quaternary Science Reviews, v.20, p.449-461

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Field work in Alaska dominated my 2000 summer, with our 13th consecutive visit in June to Bering Glacier accompanied by colleagues Ernie Muller, Don Cadwell, Matt Lachniet, and Palmer Bailey, plus two SUNY-Oneonta students, Evan Mankoff and Mike Senglaub. Several on-going projects related to ice front processes and retreat received attention. The students concentrated on ice-contact lake bathymetry and water properties, whereas, newly-exposed foreland stratigraphy received attention by others. Progress reports in the form of abstracts may be found in the programs for the Reno Annual GSA meeting and NEGSA in Burlington.

In addition, we returned to Sheridan Glacier to add improved GPS accuracy to a 1999 ice-front map and to update our 1999 bathymetric map of Sheridan Lake at the glacier terminus. We are currently finalizing plans to continue Alaska work in 2001, with specific attention to mapping the extent of a late Pleistocene coastal ice mass fed by the Bering, Steller, and Martin River Glaciers.

In July, I joined Bob Newton, Smith College, and Bob Carson, Whitman College, to conduct a Keck Consortium field program for eleven undergraduate students. Field projects in the valleys of Mendenhall, Herbert, and Eagle Glaciers (all fed by the Juneau Ice Field) covered diverse topics, ranging from mapping landforms, meltwater discharge and geochemistry, soils, and a bathymetric map of Mendenhall Lake by an Oneonta student Monica Roth. Several Keck students presented posters at NEGSA in Burlington, and all gathered at the Goddard Space Center for a Student Research Conference this spring.

It will soon be time to apply the Alaska analogs to central New York. With motivation related to co-hosting the 2003 NYSGA meeting with Hartwick College, I anticipate a Quaternary trip dealing with styles of Laurentide retreat, landform assemblages, and well logs for the third dimension.