



THE GREEN MOUNTAIN GEOLOGIST
 VERMONT GEOLOGICAL SOCIETY
 DEPARTMENT OF GEOLOGY
 UNIVERSITY OF VERMONT
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Executive Committee

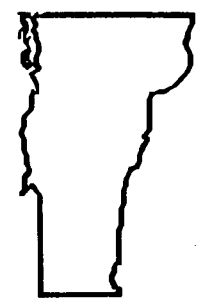
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THE GREEN MOUNTAIN GEOLOGIST



QUARTERLY NEWSLETTER OF THE VERMONT GEOLOGICAL SOCIETY

SUMMER 1996 VOLUME 23 NUMBER 3

*The Vermont Geological Society
 Summer Field Trip*

Bedrock Geology of the pre-Silurian Cover Sequence in the Rochester Quadrangle and Vicinity Saturday July 20

*Leader: Greg Walsh (U.S.G.S.)
 Meet at the Rochester Village Green, Route 100
 See inside for details.*

TABLE OF CONTENTS

President's Letter	2
Summer Field Trip	3
Vermont Geological Society Business and News	4
State Geologist's Report	7
Call for Papers: Sinkhole Conference	9
Overseas Scholarships	10
Seminars, Meetings, and Field Trips	11

PRESIDENT'S LETTER

Geologic research is at a juncture when some of the traditional areas are being de-emphasized because integrated approaches to problem solving are driving the agenda. For example, mining geology today places much focus on mitigating the impacts of extraction using information from a number of disciplines.

The reason that geologic surveys began operations were to uncover the mineral resources of states and the nation. Private sector geologists made their living finding the exact location of deposits with the aid of regional scale maps provided by the State Surveys or the USGS. All this still exists and should continue, but other areas have come to dominate the scene. Environmental geology with its interest in solving water related problems comes to mind.

Even the nature of geology as it relates to biology is a growing area. In the recent Federal reorganization, the National Biological Service became a Division within the US Geological Survey. Despite some political reasons for this reorganization, the Secretary of Interior, Bruce Babbitt, is reported to have a grand vision that integrates scientific research for the benefit of the Nation. This is a real opportunity for the science of geology to show its utility in understanding the nature and location of ecosystems, such as identifying the geologic parent materials on which soils are formed. Waters moving through the subsurface and overland pick up chemical constituents and deliver naturally derived water chemistry to points of discharge. Aquatic ecosystems depend on this natural water quality for sustenance.

From June 16th to June 21, the Montpelier and Rutland papers ran a front page series on ecosystems and how Vermont may manage for ecosystem health in the future. The ecosystem concept has hit the mainstream attended by broad public interest. Ecosystems takes into account the physical and chemical world that support biological processes. Geology represents an important layer of information in understanding the physical basis for biological systems.

With this in mind, we hope to dedicate the next issue to articles that illuminate the connection between geology and biology. If you have done any research in this area or know of articles that deserve a reprint, please submit for the next *GMG*. Perhaps we can help facilitate the role geology plays in designing ways to maintain the health of biological systems that reside on earth materials and in aqueous environments.

Sincerely,
Larry Becker

SUMMER FIELD TRIP

Bedrock Geology of the pre-Silurian Cover Sequence in the Rochester Quadrangle and Vicinity

Saturday July 20

Leader: Greg Walsh (U.S.G.S.)

Meeting Time: 8:30 AM

Meeting Place: Rochester Village Green, Route 100

This field trip will focus on the stratigraphy and structural geology of the region. Stops at abandoned granite and talc workings will relate the historical significance of the bedrock geology to the region. Handouts will be available on the day of the field trip. Members wishing to review recently published maps of the area should consult the below two references.

Bring a lunch and water!

Background Information:

Walsh, G.J., and Falta, C.K., 1996, Preliminary bedrock geologic map of the Rochester quadrangle, Rutland, Windsor, and Addison counties, Vermont: U.S. Geological Survey Open-File Report 96-25, scale 1:24,000, two sheets (34" x 44", black and white).

Available from:
USGS Lakewood ESIC
Box 25046, Building B10
Denver Federal Center, MS 504
Denver, CO 80225
(303) 202-4210

Walsh, G.J., and Falta, C.K., 1996, Digital bedrock geologic map of the Rochester quadrangle, Vermont: U.S. Geological Survey Open-File Report 96-33, scale 1:24,000, two sheets (30" x 33", part A) and two 3.5" diskettes (part B).

Available from:
Vermont Geological Survey
103 South Main Street, Center Building
Waterbury, VT 05671-0301
(802) 241-3488

For More Information:
Contact Greg Walsh in Woodstock, Vermont: (802) 457-2572.

VERMONT GEOLOGICAL SOCIETY BUSINESS AND NEWS

New Members

We would like to welcome the following new members to the Vermont Geological Society:

Regular Members:

Christopher Covell	Rutland
Brian McNeice	Brattleboro
Alice Blout	Rutland

Associate Members

Robert Alcott	Middlebury
Carol Lacy	Burlington
Cassie Major	Plainfield
Barbara Henning	Middlegrove, NY

Student Members

G. Scott Applegate	Middlebury College
Darren Locke	Norwich University
Phillip Thomas	The Schoolhouse
Todd Martin	UVM
Shannon Foster	Castleton State College

Institutional Members

MIT Libraries	Cambridge, MA
SUNY Albany Library	Albany, NY

Treasurer's Report

The financial condition of the Society remains strong. Please see the attached financial reports as of May 22, 1996 [not reproduced here]. A summary of these reports follows:

Checking Balance @ 5/22/96	\$5,036.01
Excess of Income over Expense 01/01/96 - 5/22/96	\$1,040.78

Sixteen new applications for membership have been received since our last meeting on January 18, 1996 (see above). I recommend that the listed applicants be considered for approval to membership in the Vermont Geological Society by the Executive Committee.

All major bills currently known to me have been paid.

Respectfully Submitted,
Allan Carpenter, Treasurer

Executive Committee Meeting Minutes

May 23, 1996, Middlebury

Present: Larry Becker, Allan Carpenter, Jeff Pelton, Kent Koptiuch, Bruce Cox, Eric Lapp, Stephen Wright

- 1) The Minutes of the March 2, 1996 Executive Committee Meeting were read and approved with the correction that V.G.S. Campus Representatives had been designated at a meeting last year.
- 2) Green Mountain Geologist: A) Deadline for submission of articles for the summer *GMG* is June 20th. B) *GMG* thematic focus—Discussion took place on the integration of geology and other sciences (Larry commented on the National Biological Service as a division of the USGS; others mentioned examples of flora and fauna affected by geologic materials and processes). Phil Jones, Public Issues Chair, will be asked to provide a summary of the past legislative session for the summer *GMG*. C) Stephen will produce the Summer *GMG*, and Kent and Stephen will work together to publish the fall issue.
- 3) Summer Field Trip: Greg Walsh has offered to lead a trip focusing on the bedrock geology in the Rochester Quadrangle. Tentative date set as July 20th. Once confirmed, Stephen will print and mail post cards to members. Eric suggested that the trip emphasize new findings/interpretations since Greg is contributing to the new State Geologic Map.
- 4) Fall Field Trip: Stephen Wright and UVM graduate students will lead a trip in areas including Huntington, Richmond, Bolton, Underhill, and Lake Mansfield. Tentative date: October 19th. Larry will locate a restaurant suitable for the fall meeting following the field trip.
- 5) 1996-1997 Executive Officer Slate: Kent Koptiuch volunteered to serve as interim Vice President until the Fall Election. Kent and Bruce Cox offered to serve again on the Board of Directors. Tania Bacchus (Johnson State College) was suggested as a possible nominee for Vice President for next year. Eric will contact Nominating Committee Chair Shelley Snyder to see if she has come up with other possible nominations.
- 6) Treasurer's Report: Allan reported the following for the period 1/1/96 through 5/22/96: Income: \$2,102.53; Expenses: 1,061.75; Total Checking Account Balance: \$5,036.01. There have been 14 new applications for membership. The Treasurer's Report was approved.
- 7) Membership: Allan reported that 30 '95 members have not renewed for '96. He will send out reminder notices to these individuals. It was the consensus that the Treasurer send out reminder notices no later than 3 months after the renewal due date. Allan and Stephen will update the membership list prior to the summer mailings. They will attempt to send the updated membership directory with the Summer *GMG*. Kent remarked that Ron Parker had compiled a list of 250 geologists in the state who were not VGS members. Larry will work with Kent to send membership applications to this group. VGS on-campus representatives are: UVM—Stephen Wright; Castleton—Helen Mango;

Johnson—Tania Bacchus; Norwich—Dave Westerman; Middlebury—none; Lyndon—Bud Ebbott. Role of the on-campus representatives is to make personal contact with geology students; circulate issues of the Green Mountain Geologist, membership applications, publication list. It was moved and approved that the Spring Meeting Student Presentation Awards be raised: 1st Prize from \$70 to \$150; 2nd Prize from \$35 to \$75.

- 8) VGS Student Research Grant Awards: Applications were never circulated in March/April. Stephen will update the application form and Grant Description and circulate this to faculty at Vermont schools. Kent and Rolfe Stanley will evaluate proposals that are submitted. The motion was made and approved to award up to a total \$1,500 for the summer grant. Another round of the Research Grant will take place in the fall—in a more timely manner than this spring.
- 9) Questionnaire: Eric submitted written thoughts for a questionnaire to survey VGS members about "what they want the Society to be." Bruce will help Eric—they will try to have something formalized by the end of the year.
- 10) Homepage: It was moved and approved that the VGS investigate establishing an Internet Homepage on which to post our Publications List, Events List, News, etc. In the Fall GMG a first step will be made to query members to see if there is someone with a computer and the time to produce and host such a site. If not, a second step would be to see if it is possible to contract for these services.
- 11) VGS and Teachers: Discussion took place about how the be of help to teachers. Maintenance of field trip files was suggested. Larry and Shelley Snyder will work on this.
- 12) Cataloguing of "Sensitive" Geologic Sites: Kent will find a statement from New York State on criteria they use to evaluate critical environmental areas. Perhaps the VGS could provide a reference service for Town conservation commissions with regard to geologic sites.
- 13) Next Meeting: The Executive Committee will meet during the Summer Field Trip if there is a quorum; otherwise, a date will be set in the fall.

Respectfully Submitted,
Jeff Pelton

Nominating Committee Report

The Nominating Committee presents the following slate of officers for next year:

- | | |
|----------------|-----------------|
| President | Dave Westerman |
| Vice President | Tania Bacchus |
| Secretary | Jeff Pelton |
| Treasurer | Allan Carpenter |
| Board: | Larry Becker |
| | Kent Koptiuch |
| | Bruce Cox |

Respectfully Submitted
Erik Lapp and Shelley Snyder

STATE GEOLOGIST'S REPORT

Laurence R. Becker
Vermont State Geologist

Check us out on the World Wide Web at:

<http://www.state.vt.us/anr/geology/vgshmpg.htm>

You will find information on the what the Vermont Geological Survey does, its history, and our development of digital products towards a new State bedrock geologic map. The primary use will be to access our publications list for ordering by phone or mail. I would like to thank Laura Cadmus for the fine job of construction on what is her first web page design. The USGS has an equivalent page that introduces the Vermont project. Their address is:

<http://geology.usgs.gov/gmapeast/vtp/vermont.html>

Using STATEMAP grant monies and contract funds appropriated by the legislature there are ten contract mappers out this summer working in Northern Vermont supported by the Vermont Survey. Their field work is designed to solve key geologic problems to facilitate a compilation of the Northern Vermont map sheet by July 1997. All three of Vermont's Congressional delegation have been contacted about support for reauthorization of the National Geological Mapping Act. STATEMAP and EDMAP (supports graduate and undergraduate students) are part of this legislative package. Representative Sanders has signed on as a cosponsor in the House. Senator Jeffords supported the Act in 1992 and has written that he presumes he will support it this time around. In the House the legislation is HR 3198 and in the Senate S 1731.

Many of the bills that had some direct or indirect connection to Vermont geology died in committee this year. A revision of the well drillers licensing law did pass the legislature and goes into effect this July. A report on the granite industry was never completed.

The consultant presented draft final results for the Missisquoi Bay Hydrodynamic Study on March 28. There are differences in circulation and sediment transport patterns, and phosphorous concentrations with and without the Route 78 causeway, but they are small. One interesting finding is that as river flow decreases, the effect of the causeway increases. This unexpected finding may need further attention.

The Vermont Geological Survey is developing a cooperative agreement with Weston Observatory of Boston College for the placement of a seismometer in the basement of the Waterbury Complex. Although the risk of damaging earthquakes is lower in Vermont than in many parts of the country, there is, nevertheless, some degree of risk. The seismometer and the relationship with Weston will enable better reporting and interpretation of earthquake data from events that affect Vermont.

This office usually receives calls concerning events that are felt in Vermont and the relationship with Weston will help the Geological Survey answer such calls. In the less likely scenario of a damaging event, a data set will be available from Central Vermont for interpretation and use in planning for future events. Even though Vermont is in a lower risk zone, key structures such as bridges, dams, and some buildings are designed to withstand seismic activity. The State Emergency Management Division will soon release a study, reviewed by this office, that better defines the potential risk in Vermont.

CALL FOR PAPERS: SINKHOLES & ENGINEERING/ENVIRONMENTAL IMPACTS OF KARST CONFERENCE

The Sixth Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst will be held April 6-9, 1997, in Springfield, MO., gateway to the Ozark Mountains. Dr. John Mylroie, well known specialist in tropical island karst and infamous raconteur, will be the keynote speaker. An optional field trip on Sunday will be led by Dr. Ken Thompson of SWMSU. The field trip will examine the environmental and engineering issues of developing man's infrastructure in a karst terrane.

Papers are invited from engineers, geologists, hydrogeologists, geographers, planners, and all interested parties dealing with applied science and engineering in karst terrane. International contributions are especially encouraged. Due to the interest in and success of the special session on "Governmental Regulations and Permitting in Karst Terrane" at the last conference, papers are again being solicited for a session in that area. **The deadline for receipt of abstracts is August 22, 1996.** Continuing the growth and expansion of this conference series, this year we will be able to offer limited exhibition spaces for an extremely reasonable fee. Companies interested in exhibiting are encouraged to contact Dr. Beck as soon as possible, as space is limited.

Abstracts and requests for additional information should be sent to: Dr. Barry F. Beck, P. E. LaMoreaux & Associates, Inc., P.O. Box 4578, Oak Ridge, TN., 37831-4578. E-Mail: pelaor@use.usit.net. Information may also be obtained by calling (423) 483-7483.

This meeting is co-hosted by the department of Geography, Geology, and Planning at Southwest Missouri State University and P.E. LaMoreaux & Associates, Inc. and is co-sponsored by several national professional societies.

OVERSEAS POSTGRADUATE RESEARCH SCHOLARSHIPS

The Department of Employment Education Training and Youth Affairs invites applications from suitably qualified international students for scholarships to undertake Masters by Research or PhD programs tenable at The University of Western Australia. The scholarships cover tuition fees and health insurance premiums only. The University does, however, provide a living allowance of \$A14,000 per annum for most successful applicants as well as provision for thesis production costs. Travel and relocation costs are the applicant's responsibility.

The purpose of the Overseas Postgraduate Research Scholarship (OPRS) scheme is to attract top quality international postgraduate students to areas in which the University has specialized research strengths and to support Australia's research effort. Successful applicants can expect to become members of a research team working under the direction of senior researchers and in an area which has attracted external resources.

Applications are open to citizens of all overseas countries (excluding New Zealand) who are commencing full time postgraduate study in the first semester of 1997. There is no age restriction.

The allocation of awards will be restricted to students who can demonstrate that they have adequate English proficiency by providing evidence of TOEFL at 550 or above and a TWE of 4 or IELTS of 6.5 and an English Written Test of 6.

Forms are available on the World Wide Web :

<http://www.acs.uwa.edu.au/research/new/main.html>
or can be obtained from the Scholarships Office by telephone on +61 9 380 2807, by facsimile to +61 9 380 1919 or by e-mail to schols@acs.uwa.edu.au

Applications close with the Scholarships Office on Friday, 30 August, 1996. **NO LATE APPLICATIONS WILL BE ACCEPTED.** Any applications for postgraduate scholarships at The University of Western Australia must be endorsed by the Head of Department.

Margaret Edwards Senior Administrative Officer (Scholarships) Research Administration Unit The University of Western Australia NEDLANDS WA 6907
Phone (09) 380 2490 Fax: (09) 380 1919 E-mail: medwards@acs.uwa.edu.au
WWW: <http://www.acs.uwa.edu.au/research/>

SEMINARS, MEETINGS, AND FIELD TRIPS

July 20: Vermont Geological Society Summer Field Trip: *Geology of the Rochester Quadrangle and Vicinity.*

August 10: New Hampshire Geological Society Summer Field Trip to the Isle of Shoals. Contact Tim Allen for details: (603) 358-2571; E-mail: tallen@keene.edu, or check the Society's World Wide Web Page: <http://kilburn.keene.edu/EarthScience/NHGS.html>

September 26-28: New England Intercollegiate Geologic Conference, Mount Washington area. Sponsored jointly by the Department of Earth and Planetary Sciences at Harvard University, the New Hampshire Geological Society, and the Mount Washington Observatory. For more information contact Mark Van Baalan: (617) 495-3237; E-mail: [mjb@harvard.edu](mailto:mvb@harvard.edu) or look at the NEIGC homepage: <http://kilburn.keene.edu/EarthScience/NEIGC.html>

October 18-20: New York State Geological Association Meeting: "The Geology of New York City and Vicinity." Contact either Alan Benimoff [(718) 982-2835; benimoff@postbox.csi.cuny.edu] or Anderson Ohan [(718) 982-2829] or look up their World Wide Web page: <http://www.library.csi.cuny.edu/dept/as/geo/nysga.html>

October 19: Vermont Geological Society Fall Field Trip: Quaternary Geology in the Huntington, Richmond, Bolton, Underhill area; UVM sponsor.

October 28-31: Geological Society of America Annual Meeting, Denver, Colorado. For information regarding the program, field trips, short courses, housing, and registration call (800) 472-1988; E-mail: meetings@geosociety.org World Wide Web: <http://www.geosociety.org> A complete description of the meeting is contained in the June 1996 issue of *GSA Today*.