

THE GREEN MOUNTAIN GEOLOGIST



QUARTERLY NEWSLETTER OF THE VERMONT GEOLOGICAL SOCIETY

VGS Website: <http://www.uvm.org/vtgeologicalsociety/>

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*The Vermont Geological Society's
Fall Field Trip & Annual Meeting*

*Exploring the Role of Magma Batch Size on Emplacement Styles,
Craftsbury to Northfield, Vermont*

October 25, 2008

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FALL FIELD TRIP

TITLE: Exploring the Role of Magma Batch Size on Emplacement Styles

LEADER: David S. Westerman, Norwich University

DATE AND TIME: Saturday, October 25, 2008; 9:00 AM – 3:30 PM

STARTING POINT: We will meet at the Montpelier Park and Ride lot on Dog River Road just west of Memorial Drive near Exit 8 (Montpelier) off of I-89.

DESCRIPTION: This trip will examine a series of granitic and intermediate intrusions between Craftsbury and Northfield, exploring the hypothesis that the size of a magma batch influences what type of magma trap is exploited during its emplacement—small batches exploit small isoclinal structures associated with faulting and isoclinal folding, while large batches exploit formation-scale subhorizontal nappe patterns. Several quarries will be visited as part of the trip as we work our way south to the Northfield area.

ANNUAL MEETING AND ELECTION

The Annual Meeting will be held after the Fall Field Trip at 4:00 PM at the Rustic Lounge and Sports Bar, 451 Vermont Route 12N, Northfield Falls, Vermont. Telephone: (802) 485-6363 or (800) 371-2012. Website: <http://www.rustic-inn.com/>

The Annual Meeting will consist of an Executive Committee Meeting, followed by the Society's Election of four Officers, three Directors, and one Permanent Committee Chair. The ballot is included at the end of this issue. Members unable to attend the Annual Meeting should send their voted ballots to David West, Dept. of Geology, Middlebury College, Middlebury, VT 05753 no later than October 22, 2008.

PRESIDENT'S LETTER

[Unavailable at publication time]

SUMMER MEETING MINUTES

No Executive Committee Meeting was held following the Society's Summer Field Trip to the Williston, Vermont area on August 9, 2008.

TREASURER'S REPORT

The financial condition of the Society continues to be very strong. As of September 21, 2008, the checking account balance was \$6,834.20. To my knowledge, there are no outstanding bills. A financial statement for the period 9/1/07-9/21/08 is indicated below.

The Society has two student members, both of whom received free membership for one year as an additional benefit of having been awarded Research Grants. Despite some unusual expenses, income exceeded expenses during this 12-month period, primarily due to the return of an entire Research Grant award by a student from the University of Vermont who subsequently decided not to pursue a degree in the geosciences and the return of a significant unused portion of an award by a student from Harvard University. The *Green Mountain Geologist* was printed this year at no cost to the Society due to the generosity of the Department of Geology at Middlebury College. Although several additional copies of volume 6 of *Vermont Geology* were printed at no cost to the Society, a modest binding expense was incurred. The Society's checking account finally ran out of its old checks and I had new ones printed. The relatively large expense to reimburse the VGS Lecturer is a testament to the popularity of Jon Kim's presentations, which necessitated his travel to several locations well outside the State of Vermont. Finally, the Spring Meeting refreshment expense was disappointingly high due to the involvement of Middlebury College's food service provider.

The following members have been approved for membership in the Society since the last report: Peter Adams, Burlington, Vermont and Christine DeLeo, Saint Johnsbury, Vermont.

The 2009 membership renewal and directory information form will be mailed out to all members by December 31, 2008. The deadline for renewal will be January 31, 2009.

Respectfully submitted,
Stephen S. Howe, Treasurer

Income and Expenses
9/1/07-9/21/08

INCOME		
Total Dues		\$1,600.00
Member	\$1,290.00	
Family	\$220.00	
Student	\$0.00	
Institution	\$90.00	
Student Research Grant Contributions		\$555.00
<i>Vermont Geology</i> Sales		\$65.00
TOTAL INCOME		\$2,220.00

EXPENSES

<i>Green Mountain Geologist</i> Printing	\$0.00
Postage	\$131.35
Office Supplies	\$16.20
New Check Printing	\$22.05
<i>Vermont Geology</i> Volume 6 Binding	\$17.15
Post Office Box Rental (to 8/1/09)	\$58.00
VGS Lecturer Reimbursement	\$401.19
Fall Meeting Refreshments	\$34.58
Winter Meeting Refreshments	\$0.00
Spring Meeting Refreshments	\$130.50
Awards	\$595.00
Research Grants	\$370.00
Spring Meeting Student Talks	\$225.00
TOTAL EXPENSES	\$1,406.02
TOTAL INCOME – TOTAL EXPENSES	\$813.98

ADVANCEMENT OF SCIENCE COMMITTEE REPORT

The Committee will recommend several dates in early March 2009 for the Society's next Winter Meeting.

As I noted in the Summer 2008 *Green Mountain Geologist*, I will be stepping down as Chair of the Advancement of Science Committee at the end of October. I will be overseeing the review of one final round of applications (due October 1, 2008) to the Research Grant Program before turning over the reins to a new Chair. It has been a pleasure to serve the Society as Chair for the past eight years.

Respectfully submitted
Stephen S. Howe, Chair

STATE GEOLOGIST'S REPORT

New Bedrock Geologic Map Enters Scientific Review

The State Bedrock Map of Vermont, edited by Ratcliffe, N. M., Stanley, R. S., Gale, M. H., and Thompson, P. J., entered scientific review on August 25, 2008. The map represents more than 25 years of field mapping and it references the work of over 100 geologists. The map was recently produced for review in Adobe Illustrator on 4 large sheets – northern Vermont, southern Vermont, 10 cross-sections, and the correlation and description of map units. In addition to the editors, major contributors to the one-degree sheet compilations are Hatch, N. L., Rankin, D. W., Doolan, B. L., Kim, J., Mehrtens, C. J., Walsh, G. J., Aleinikoff, J. H., and McHone, G. Many geologists from New England and Quebec have also contributed to the evolving geologic interpretations shown on the map. The map has been a project for the State of Vermont since the early 1980s and has been under the guidance of State Geologists Chuck Ratte, Diane Conrad, and Laurence Becker. Although the

map will be in review for several months, the Survey is looking forward to publication of the new map. In addition to the paper publication, the U.S. Geological Survey (USGS) will produce complete digital data for the map. Gregory Walsh of the USGS will oversee conversion of the paper copy to the digital products.

Surficial Geology (1:62,500) as a Digital Statewide Coverage

The surficial geologic maps of Vermont, mapped and compiled by the Vermont Geological Survey (VGS) from 1956-1970, were recently digitized. The data were released through the Vermont Center for Geographic Information (VCGI) at <http://www.vcgi.org/>. The VCGI and the VGS worked with VHB Pioneer Environmental Associates to digitize the original 1:62,500 scale surficial maps. In the dataset, surficial geologic features and rock outcrops are represented as polygon, line, and point features. Edge matching and inconsistencies in adjoining geologic units on the 15-minute quadrangles were resolved by referring to the 1:250,000-scale 1970 Surficial Geologic Map of Vermont by Stewart and MacClintock. VCGI provided oversight, georectification, and metadata for the project. VGS provided quality control and data review. Personnel at VHB Pioneer Environmental Associates were responsible for georectifying images, digitizing data, and edge-matching quadrangles. Stone Environmental had previously digitized 9 quadrangles. There are no intended updates to this dataset. New surficial geologic maps at a scale of 1:24,000 are being completed by the VGS and are posted through VCGI or at the VGS website.

Respectively submitted,
Laurence R. Becker, State Geologist

OMYA QUARRY OPEN HOUSE, EAST MIDDLEBURY, VERMONT

OMYA is holding its annual open house at its Middlebury Quarry on Saturday, October 18, 2008 to commemorate Earth Science Week. This large quarry produces white, high-calcium marble that is processed into fillers and extenders for the paper, plastic, and paint industries. It has also produced some very attractive salmon-colored calcite. This will be a family event that will include quarry tours, viewing quarrying equipment close-up, earth science activities, and refreshments. The event is free and will be held from 10:00 AM to 4:00 PM, with the last tour at 3:00 PM.

The road to the quarry is off the east side of US Route 7, 2.5 miles south of the *Middlebury Inn* (traveling southbound) and 1 mile north of the turnoff to the junction of Routes 125 and 116 (traveling northbound). The quarry road is between *Standard Register* and *Foster Motors*, and the green street sign is labeled *1975 Private Road*. Continue straight on this road at the first stop sign. The second stop sign is at the quarry. Please park where instructed. For further information, call Alice Blount at (802) 770-7267 from 8:00 AM to 5:00 PM, e-mail at alice.blount@omya.com, or visit the website at <http://www.omya-na.com/> and click "Enter Site" and then click on "News" at the top of the page.

ANNOUNCEMENT

VERMONT GEOLOGICAL SOCIETY LECTURER PROGRAM

The goal of the Vermont Geological Society Lecturer Program is to offer local colleges, universities, and high schools the opportunity to invite a member of the VGS to speak at their institution on timely topics within the broad realm of earth and environmental sciences. The program is primarily intended to reach those departments which either do not hold a regularly scheduled seminar series or whose finances do not permit them to invite external speakers to present talks on a regular basis.

Any costs associated with the Lecturer's travel, lodging, and meals are borne entirely by the Vermont Geological Society.

Jon Kim, Ph.D., Geologist/Environmental Scientist, at the Vermont Geological Survey in Waterbury, Vermont, is our 2008 Lecturer. Jon is offering the following two lecture topics: "Nitrate Contamination of a Bedrock Aquifer in Central Vermont" and "Application of Tectonics to Groundwater Problems in Vermont." For scheduling information, see the Society's website at http://www.uvm.org/vtgeologicalsociety/lecturer_program.html. Stephen Wright, Ph.D., Department of Geology, University of Vermont, will be our 2009 Lecturer.

VERMONT GEOLOGICAL SOCIETY CALENDAR

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|-------------|--|
| 10/5-9/08 | Joint Annual Meeting and Exposition, Geological Society of America (GSA) and other societies, Houston, Texas. Meeting celebrates the International Year of Planet Earth. |
| 10/10-12/08 | New England Intercollegiate Geological Conference (NEIGC) 100 th Annual Meeting, Westfield, Massachusetts |
| 10/12-18/08 | Earth Science Week |
| 10/18/08 | OMYA Middlebury Quarry Open House |
| 11/9-12/08 | Water Workshop: Water Dynamics, Burlington, Vermont |

The **Vermont Geological Society** is a non-profit educational corporation. The **Executive Committee** of the Society is comprised of the Officers, the Board of Directors, and the Chairs of the Permanent Committees.

Officers

President	George Springston	(802) 485-2734	gsprings@norwich.edu
Vice President	John Van Hoesen	(802) 287-8387	vanhoesenj@greenmtn.edu
Secretary	David West	(802) 443-3476	dwest@middlebury.edu
Treasurer	Stephen Howe	(518) 442-5053	showe@albany.edu

Board of Directors

Richard Dunn	(802) 485-2304	rdunn@norwich.edu
Les Kanat	(802) 635-1327	les.kanat@jsc.edu
Jon Kim	(802) 241-3469	jon.kim@state.vt.us

Chairs of the Permanent Committees

Advancement of Science	Stephen Howe
Geological Education	Christine Massey
Membership	Stephen Howe
Public Issues	Laurence Becker
Publishing	Stephen Howe

VERMONT GEOLOGICAL SOCIETY BALLOT

This year, Members will be voting for four Officers, three Directors, and one Permanent Committee Chair. Associate Members, Student Members, and Honorary Members are not eligible to vote per Society Bylaws.

All existing Officers have agreed to stand for reelection. Richard Dunn has agreed to stand for election to a new two-year term on the Board of Directors, following the completion of his one-year appointment to the Board as Immediate Past President. Les Kanat and Jon Kim both stand for election to new two-year terms on the Board of Directors. Returning Permanent Committee Chairs are:

Geological Education: Christine Massey
Membership: Stephen Howe
Public Issues: Laurence Becker
Publications/Editorial: Stephen Howe

Please enter your name and address here:

Officers

President	George Springston	_____
Vice-President	John Van Hoesen	_____
Secretary	David West	_____
Treasurer	Stephen Howe	_____

Board of Directors

Richard Dunn	_____
Les Kanat	_____
Jon Kim	_____

Chair, Advancement of Science Committee

Jon Kim	_____
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Please complete this ballot and return it to David West, Dept. of Geology, Middlebury College, Middlebury, VT 05753 **no later than October 22, 2008.**

Vermont Geological Society
P.O. Box 1224
Saint Albans, VT 05478-1224

ADDRESS CHANGE?

Please send it to the Treasurer at the above address

Vermont Geological Society
Fall Field Trip
October 25, 2008, 9:00 AM

We will meet at 9:00 AM at the Montpelier Park and Ride lot on Dog River Road just west of Memorial Drive near Exit 8 (Montpelier) off of I-89. Traveling on I-89 from either the north or the south, take Exit 8 and continue north on Memorial Drive after the exit ramp. Turn left on Dog River Road. The Park and Ride is on the left side of the road.