

**THE GREEN MOUNTAIN GEOLOGIST**  
 VERMONT GEOLOGICAL SOCIETY  
 DEPARTMENT OF GEOLOGY, UNIVERSITY OF VERMONT  
 BURLINGTON, VERMONT 05405-0122

The GREEN MOUNTAIN GEOLOGIST is published quarterly by the Vermont Geological Society, a non-profit educational corporation.

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**ADDRESS CHANGE?**

Please send it to the Treasurer at the above address.

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# THE GREEN MOUNTAIN GEOLOGIST



QUARTERLY NEWSLETTER OF THE VERMONT GEOLOGICAL SOCIETY

FALL 2003

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*The Vermont Geological Society's  
 Annual Meeting & Fall Field Trip  
 October 25, 2003*

**TABLE OF CONTENTS**

PRESIDENT'S LETTER	2
VGS ANNUAL MEETING & ELECTIONS	3
STATE GEOLOGIST'S REPORT	4
EDUCATION REPORT	5
ADVANCEMENT OF SCIENCE COMMITTEE	8
VGS TREASURER'S REPORT	8
ABSENTEE BALLOT	10

## PRESIDENT'S LETTER

Hello all-

This is my last message to you as President of VGS, and in true outgoing style I am writing it at the last minute. Tim Grover will be taking over as President (having had a full year to observe me in action), and Rick Dunn of Norwich University has agreed to be nominated for the Vice-Presidency.

Our summer field trip was just great – thanks so much to Jonathan Kim and Peter Thompson for introducing us to the issue of radioactivity in groundwater in the Colchester area. Peter Ryan has been overseeing studies of radioactivity in groundwater in the Middlebury area, and I hope to do some similar work in and around Clarendon (home of the Clarendon Springs Formation, the likely culprit). This issue shows how important an understanding of geology is to the greater good of society, in this case in the arena of public health.

If you have students working on senior theses and projects, please have them consider presenting their results at the spring meeting. This is an excellent forum for students to practice presenting their own research without the pressure of regional or national meetings, and gives them a handy deadline that comes *before* the end of the spring semester. It is also a terrific way to find out what folks are doing at the different educational institutions in Vermont.

Our fall field trip, Annual Meeting and elections will be held on October 25 in the Pomfret-Quechee area (details elsewhere in this publication). The meeting is open to all.

I hope to see you later this month!

Sincerely,

Helen Mango  
Department of Natural Sciences, Castleton State College  
Castleton, VT 05735  
(802) 468-1478; [helen.mango@castleton.edu](mailto:helen.mango@castleton.edu)

## FALL FIELD TRIP, ANNUAL MEETING &amp; ELECTIONS

Saturday, October 25, 2003

FIELD TRIP:

Time: 9:30 am – 3:30 pm

Location: Rt. 14 in West Hartford where the bridge crosses the White River (there is a small store here for folks who forget to pack a lunch....)

If you are coming from the north on Interstate 89, exit at Sharon (Exit 2) and take Rt. 14 south to West Hartford. If you are coming from other directions on different roads, bring your gazeteer!

The VGS fall field trip will examine the various lithofacies of the Waits River, Standing Pond, and Gile Mountain Formations in the Pomfret Dome area. The rocks in this area were metamorphosed under garnet- through kyanite-zone P-T conditions and show evidence for multiple phases of deformation.

ANNUAL MEETING AND ELECTION OF OFFICERS:

The VGS Annual Meeting will take place in Quechee immediately following the trip. We will meet at 3:30 pm in the parking lot on the south side of the road just east of Quechee Gorge. From there we will caravan to a local restaurant for the Annual Meeting and Election of Officers.

If you are unable to attend the Annual Meeting, please send in the enclosed absentee ballot by October 24, 2003. Ballots should be sent to Dave West, Dept. of Geology, Middlebury College, Middlebury, VT

Nominees for offices are:

President-	Tim Grover
Vice-President-	Rick Dunn
Secretary-	Dave West
Treasurer-	Steve Howe

New and returning Board Members are:

Board- Helen Mango, Ray Coish, Kristen Underwood

Advancement of Science- Steve Howe

Education Committee - Christine Massey

Membership – Stephen Wright

Public Issues- Larry Becker

Publications- David West

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## STATE GEOLOGIST'S REPORT

### Groundwater

The Vermont Geological Survey is working on a number of groundwater related issues. The Agency of Natural Resources is aware of geology and the Vermont Survey's role in solving groundwater supply and protection problems. Some of the following work results directly or indirectly from the "Report on the Status of Groundwater and Aquifer Mapping in the State of Vermont" that the Vermont Survey coauthored with the Water Supply Division of DEC and transferred to the legislature in January 2003.

### Well Location Work

The State Geologist is discussing with Regional Planning Commissions (RPC) the possibility of locating water wells to improve positional accuracy. Discussions are underway with the Bennington Regional Planning Commission about conducting location work. In May, the State Geologist presented information on groundwater in Woodstock for the Conservation Commission. Woodstock has now contacted the Two-Rivers Ottauquechee RPC to pursue Vermont Municipal Planning Grant funds to locate water wells and data in their town.

### Nitrates near a Large Farm

A September 11, 2003 public meeting was held in East Montpelier to explain the Vermont Survey study plan for understanding the source of nitrates in domestic wells near a large farm operation. The EPA funded study requires an EPA approved quality assurance plan. Comments have been received from EPA on the plan. We hope to finalize the plan in October.

### Radionuclides – Fate and Transport

The State Geologist will perform science oversight for Vermont on a University of New Hampshire (UNH) study that looks at the fate and transport of naturally- occurring radionuclides from filter backwash systems into wastewater disposal systems. To kick off the study, the New England Interstate Water Pollution Control Commission moderated a conference call between Vermont, the New England States, EPA and the New England Water Treatment Technology Center at UNH.

Respectfully,

Larry Becker

State Geologist and Chair, Public Issues Committee

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## EDUCATION REPORT

Earth Science Week 2003 is the week of Oct. 12-18, 2003. Check out the list of activities and the Governor's Proclamation at the State Geologist's website: <http://www.anr.state.vt.us/geology/vgshmpg.htm>.

The UVM Perkins Geology Museum is working on two digital image archives. The museum collections will soon be available on-line. Secondly, the next phase of the Landscape Change Project is underway with the coordination of Jens Hilke (656-1374). He is working with Vermont students, teachers, historical societies and towns to add historic/modern image pairs to this second image database. If you have historic photographs of Vermont physical landscapes, please contact Jens.

The JASON Project is now coordinated through the Perkins Museum. The award-winning JASON curriculum is a multi-disciplinary, multi-media program for grades 4-9 students that focuses predominantly on science and research. This year students and teachers are visiting Panama virtually with "JASON XV: Rainforests at the Crossroads." JASON curricula typically have a strong geology component. The next

professional development training for teachers is Oct. 24, 2003 at UVM. Contact Christine Massey for more information (656-1344).

A list of Vermont Geology Outreach Centers is being compiled by Robert Pye of the VT Marble Museum (800-427-1396). He is creating a brochure for tourism purposes called "Vermont Rocks." Included will be listings for museums, quarry visitors centers, ferry lines, and state agencies. If you know of a geologic "center of information" in Vermont, please contact him.

Sincerely,

Christine Massey

### SPRING MEETING STUDENT AWARDS

Congratulations to the students who received awards at our Spring 2003 Meeting:

1<sup>st</sup> Place Graduate Student Award (\$75):

Eric Butler, University of Vermont

1<sup>st</sup> Place Undergraduate and Doll Award (\$75):

Heather Beal, Middlebury College

2<sup>nd</sup> Place Undergraduate Award (\$50):

Jeremy Shakun, Middlebury College

3<sup>rd</sup> Place Undergraduate Award (\$25):

Brian McCurdy, Middlebury College

The Charles G. Doll Award, given for the top undergraduate student presentation, is a plaque with the student's name and school engraved on it that is kept at the student's school until the following year's Spring Meeting.

### CONGRATULATIONS!

#### 2003 OUTSTANDING EARTH SCIENCE TEACHER AWARD

The 2003 Outstanding Earth Science Teacher Award winner from the New England Section is Shelley F. Snyder, who teaches Earth Science at Mt. Abraham Union High School in Bristol, VT. In her fifteen-year teaching career she has been an energetic innovator, having her students involved in collecting field data, doing research, and integrating local environmental issues into science classes. Shelley comments that "It is well and good to learn about the rain forests, but we need to learn about the forests in our own backyard.... [If] we talk only about the faraway places, our back yards seem insignificant." In addition to her hands-on approach, she successfully includes the arts and humanities in science classes (and general education) using story-telling and drama.

Shelley is an excellent role model and mentor to beginning teachers. One of Shelley's goals is to design open-ended investigations that are challenging but not overwhelming for the students. In her classroom Shelley maintains a working river system model, complete with plants, fish, and running water. Students are interacting with the hissing cockroaches or the rock pile depending on the subject of the day. Students engage in discussion and experimentation routinely.

Shelley challenges herself academically by taking classes such as forensic anthropology and workshops like the NASA Snow and Ice investigations held at Lake Placid, N.Y. in 2001.

Shelley is a consistent presence in the Vermont Geological Society, and has been President three times. She has given many professional presentations to teachers and the public, and written grants and journal articles. Her passion for science and teaching is contagious.



### ADVANCEMENT OF SCIENCE COMMITTEE REPORT

Despite the Committee's efforts to strengthen its advertisement of the Society's Research Grant Program, no applications were received by the due date of October 1, 2003. I will recommend to the Executive Committee at the Annual Meeting that two due dates for applications of April 1, 2004 and October 1, 2004 be established and that the maximum award for each round be increased from \$500 to \$800. I will also recommend the expenditure of funds to print flyers advertising the program and to mail these flyers to earth science departments of local universities.

The Committee will recommend several dates in late February 2004 for the Society's next Winter Meeting. Members are encouraged to contact me with any suggestions they may have for a theme for the meeting.

Respectfully submitted,  
Stephen S. Howe, Chair

### TREASURER'S REPORT

The financial condition of the Society continues to be strong. As of September 30, 2003, the checking account balance was \$5,031.69. To my knowledge, there are no outstanding bills. As of January 1, 2003, the Society's checking account is no longer interest-bearing. A financial statement for the period 10/1/02-9/30/03 is indicated below.

The following member has been approved for membership in the Society since the last report: Nathan Donahue, Northfield, VT.

The 2004 membership renewal and directory information form will be mailed out to all members by December 31, 2003. The deadline for renewal will be January 31, 2004.

Respectfully submitted,  
Stephen S. Howe, Treasurer

### Treasurer's Report (continued)

Income and Expenses  
10/1/02-9/30/03

INCOME		
Total Dues		\$1,564.00
Member	\$1,200.00	
Family	\$240.00	
Student	\$24.00	
Institution	\$100.00	
Student Grant Contributions		\$392.00
Vermont Geology Sales		\$97.00
Checking Account Interest		\$2.42
<b>TOTAL INCOME</b>		<b>\$2,055.42</b>
EXPENSES		
GMG Printing		\$289.69
Postage	\$201.12	
Office Supplies		\$26.95
Telephone		\$2.72
Winter Meeting Refreshments		\$49.06
Awards	\$285.00	
Spring Meeting Student Talks	\$225.00	
Earth Science Week Posters	\$60.00	
Bank Research		\$8.50
<b>TOTAL EXPENSES</b>		<b>\$863.04</b>
<b>TOTAL INCOME - TOTAL EXPENSES</b>		<b>\$1,192.38</b>

**ABSENTEE BALLOT 2003**

Vermont Geological Society

*Please enter your name and address here:*

## Officers:

President      Tim Grover      \_\_\_\_\_

Vice-President      Rick Dunn      \_\_\_\_\_

Secretary      Dave West      \_\_\_\_\_

Treasurer      Steve Howe      \_\_\_\_\_

## Board of Directors (Select 2)

Ray Coish      \_\_\_\_\_

Kristen Underwood      \_\_\_\_\_

If you will not be attending the annual meeting, please complete the absentee ballot and return it to **David West, Dept. of Geology, Middlebury College, Middlebury, VT 05753** no later than October 24, 2003.