



QUARTERLY NEWSLETTER OF THE VERMONT GEOLOGICAL SOCIETY

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

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TABLE OF CONTENTS

PRESIDENT'S LETTER.....2
TREASURER'S REPORT3
ADVANCEMENT OF SCIENCE REPORT.....3
VERMONT STATE GEOLOGIST'S REPORT4
CALENDAR6
ANNOUNCEMENTS 7
EXECUTIVE COMMITTEE7

PRESIDENT'S LETTER

One of my favorite geology professors and mentors, Bruce Selleck of Colgate University, passed away suddenly at the end of July. He and I had planned to get together for a field trip in the Champlain Valley this past field season. When I went to the memorial service this past October, the hundreds of former students present made it clear how many lives and careers he had influenced.

Bruce's classes were always hands-on and field-based and he treated everyone like they were the only student in the class. Although we were always amazed at how much geology Bruce knew, we were most grateful for how great a teacher and friend he was. It was during the 12-week summer Colgate field camp in 1980 that I became hooked on geology, largely because of Bruce.



Bruce Selleck (orange shirt) in teaching mode at a field trip in the Potsdam Sandstone in northern New

With much gratitude, we accept the resignation of Dave Westerman as VGS Treasurer at the end of the year. If anyone is interested in this position, please let me know as soon as you can. We need to have elections soon.

Respectfully Submitted,
Jon Kim, VGS President

TREASURER'S REPORT

Finances: The Society is in sound financial health, maintaining a relatively steady-state as regards income and expenses.

Expenses:

\$343.28	spring meeting expenses
\$300.00	First Prize, Best Paper and Charles Doll Award Winner: Jessica Chen, Middlebury College
\$200.00	Second Prize, Best Paper, Elijah Orlando, Middlebury College
\$100.00	Third Prize, Best Paper, Matt Barr, Middlebury College
\$1,000.00	Research Award, \$1,000, Jennifer Cooper Boemmels: <i>Exploring Cretaceous Magmatism of the New England Quebec (NEQ) Igneous Province: A Geochronological and Structural Approach</i>

Income:

\$85.00	Dues
\$80.00	Student Research Fund Contributions from Jon Kim and George Springston

Balance: Our current balance as of November 1, 2017 is \$9,647.50

New Members:

None

Respectfully submitted,
David S. Westerman, Treasurer

ADVANCEMENT OF SCIENCE COMMITTEE REPORT

The Executive Committee decided to raise the maximum award per research grant to \$1000 from \$700, provided that the funds are available.

One application for the Vermont Geological Society Research Grant Program by the October 1st deadline. George Springston and I reviewed it and felt that it should be awarded the full amount asked for.

Name: Jennifer Cooper Boemmels, Ph.D. student, University of Connecticut
Address: 11 Oakwood Drive, North Haven, CT 06473
Email: Jennifer.cooper@uconn.edu
Title: Exploring Cretaceous Magmatism of the New England Quebec (NEQ) Igneous Province: A Geochronological and Structural Approach
Amount Requested: \$1000

Over the past ~ten years, the general pattern has been for VGS to receive multiple research grant applications in the fall (October 1st deadline) and none in the spring (April 1st deadline). One of the problems for the spring deadline is that student interns have not yet been selected for summer field work

and, even if they were, they do not have enough background to write a grant application. I know this from my work with Middlebury College and UVM interns, as they do not start working with me until July 1st, the beginning of the new Vermont state fiscal year. I suggest that we consider moving this second deadline into the summer. Another idea is to decide in advance how much VGS will spend on research grants for the coming year and have rolling submissions and evaluations until the pre-determined amount is exhausted; this system is used by the Billings Fund, which is run by the New England Intercollegiate Geological Conference (NEIGC).

We need volunteers to lead field trips for the summer and fall of 2018.

Respectfully Submitted,
Jon Kim, Chair, Advancement of Science Committee

STATE GEOLOGIST'S REPORT

As another year comes to a close, it seems like a good opportunity to recap our year and share highlights of our work on geologic mapping, groundwater, health and hazards. If you don't know about the Vermont Geological Survey (Est. 1845), we are aka the Division of Geology in the Department of Environmental Conservation and although there are only three of us, we have built valuable partnerships which extend our reach and increase the impact of geoscience in Vermont. We are delighted to have Colin Dowe (MS UMaine) join Jon Kim and me in the Geology Division. Colin is working on water data, groundwater resources, and surficial geology and brings considerable GIS and other technical knowledge to our group.

Mapping, Hazards and Health

Basic geologic mapping is funded through the USGS STATEMAP competitive program with match provided by universities and local volunteers. We greatly appreciate the STATEMAP Advisory Committee (SMAC) and Chair, Eric Hanson, who meet annually to review projects and help prioritize projects for the coming year. The SMAC is comprised of people from state and federal government, non-profit organizations and the private sector. This year we added several new members to the SMAC which contributed to a lively discussion of possible projects. The SMAC recommended that we apply for STATEMAP funds for projects in the prioritized order: 1) surficial geology of the Richmond quadrangle to be applied to groundwater resources, 2) surficial geology of the Huntington quadrangle to be applied to hazard identification and septic siting, 3) compilation of a portion of the Montpelier one-degree sheet, and 4) surficial geology of the northern half of the Proctor quadrangle to be applied to groundwater resource planning.

In addition to STATEMAP and match providers, mapping is funded through Vermont Dept. of Public Safety and through DEC specific project work. Numerous mapping projects are in progress this fall with long term partners. George Springston of Norwich University is mapping surficial geology in the Barre East quadrangle, recently delivered a landslide hazard map for Washington County, and is mapping hazards in Chittenden County. George has been our partner for more than 20 years and has built his expertise in hazards, surficial mapping and GIS. Stephen Wright and several student interns from the University of Vermont delivered mapping projects in Weathersfield in May and are now mapping in the Bolton Mountain quadrangle. Stephen has completed multiple projects for us and I want

to acknowledge the very positive feedback we received from the Town of Weathersfield. Rounding out the surficial geology projects is the Proctor quadrangle which is being mapped by John Van Hoesen of Green Mountain College.

Bedrock mapping and groundwater analyses in Bennington are continuing with partners from Middlebury College, University of Vermont, Bennington College, SUNY Plattsburgh, USGS, EPA, DeSimone Geoscience, and UMASS. Jon Kim leads the effort for DEC and hopes to have numerous presentations on the results of their work at NEGSA in Burlington in March. Summer interns, Eric Marcus (SUNY Plattsburgh) and Will Vincett (UVM), worked with Jon on projects such as correlating radon levels in air with bedrock formations, surficial geology, and soils; analyzing the chemistry (including herbicides) of groundwater and surface water in Sutton where nitrate contamination of a public water supply is a problem; and processing fracture data for groundwater favorability map projects.

On a broader note, the National Geologic Mapping Act of 1992 is up for re-authorization in 2018. The bill was introduced in the Senate in early September by Senator Lisa Murkowski (AK) with co-sponsors from across the aisle. The bill is important for continued support of geologic mapping in the US.

Ground Water

We were successful in obtaining a 2 year grant from the USGS Water Use Data and Research Program to improve water resource data. Much of the available data in Vermont which could be used to develop availability, recharge and water budget information is in a variety of formats from spreadsheets to MS Word documents, is not in an easily accessible format, lacks geographic coordinates and is not available as geographic information system (GIS) data, and needs quality control. Although we have a full 5 year work plan, in the first two years we intend to update water well locations in the well driller database and provide additional fields to USGS, build data bases for snow-making data and for large groundwater withdrawals, and determine intake locations for a number of water systems. Work is now underway to complete the well location project for 7 counties during 2017-2019.

The Ground Water Protection Council is a national non-profit organization for the protection and management of groundwater resources. I gave a brief presentation at the Annual Forum in Boston in September and served on a panel discussion of opportunities for collaboration at the state level. We also presented with VRWA, EPA and our Drinking Water Division at regional workshops designed to help towns plan for public water supply and protect their resources. We have found a niche in providing geologic services and information to our DEC water and waste divisions and other government agencies.

Other

Please remember to attend the NEGSA in Burlington in March. It's a great opportunity to learn about all the work going on in the northeast and beyond. If you are interested in applications of geoscience to state issues, please come to our session or better yet, submit an abstract. Abstracts are due December 12.

New publications (posted on our web site):

Kim, J. J., 2017, (Draft) Preliminary Bedrock Geologic Map of the Bennington Area, Vermont: Vermont Geological Survey Open File Report VG2017-4A, scale 1:12,000.

Kim, J. J., 2017, (Draft) Preliminary Fracture Map of the Bennington Area, Vermont: Vermont Geological Survey Open File Report VG2017-4B, scale 1:12,000.

Kim, J. J., and Dowe, C. W., 2017, Derivative maps generated from water well data logs in the Bennington area, Vermont: Vermont Geological Survey Open File Report VG2017-3, 4 Plates, scale 1:12,000.

Springston, G., Landslide Inventory of Washington County, Central Vermont: Vermont Geological Survey Open File Report VG2017-7.

Springston G. and Dowe, C., Surficial Geologic Map of the Joes Pond Quadrangle, Vermont: Vermont Geological Survey Open File Report VG2017-6, scale 1:24,000.

Wright, S., Surficial Geology and Hydrogeology of the Town of Weathersfield, Vermont: Vermont Geological Survey Open File Report VG2017-5, 5 plates, scale 1:24,000.

Respectfully Submitted,
Marjorie Gale
State Geologist and Director, Vermont Geological Survey

CALENDAR

2018 Northeast Geological Society of America Annual Meeting

Date: March 18-20, 2018

Location: Burlington, VT

Web link:

https://www.geosociety.org/GSA/Events/Section_Meetings/GSA/Sections/ne/2018mtg/home.aspx

2018 Resources for Future Generations - Energy, Minerals, Water, Earth

Date: June 17-21, 2018

Location: Vancouver, Canada

Host: International Union of Geological Sciences, Geological Association of Canada, Mineralogical Assoc. of Canada, Canadian Institute of Mining, Metallurgy and Petroleum, and Canadian Federation of Earth Sciences

Web link: <http://rfg2018.org/>

90th Annual New York State Geological Association Field Conference and joint meeting with the New England Intercollegiate Geological Conference.

Date: Oct 5-8, 2018

Location: Lake George, NY

Hosts: Colgate and Castleton Universities

Web link: <http://www.nysga-online.net/>

ANNOUNCEMENTS

Dave Westerman resigned as VGS Treasurer after many years of service. If anyone is interested in this position, please let Jon Kim know as soon as possible. We need to have elections soon for VGS Officers.

VGS is seeking volunteers to lead the summer and fall 2018 field trips. Please contact Jon Kim (jon.kim@vermont.gov) if you are able to lead a trip.

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	Jon Kim	(802) 522-5401	jon.kim@vermont.gov
Vice President	Keith Klepeis	(802) 656-0247	keith.klepeis@uvm.edu
Secretary	Vacant		
Treasurer	Vacant		

Board of Directors

Les Kanat	(802) 635-1327	les.kanat@jsc.edu
George Springston	(802) 485-2734	gsprings@norwich.edu
Kristen Underwood	(802) 453-3076	southmountain@gmavt.net

Chairs of the Permanent Committees

Advancement of Science	Jon Kim	jon.kim@vermont.gov
Membership	David Westerman	westy@norwich.edu
Public Issues	Marjorie Gale	marjorie.gale@vermont.gov
Publications	Peter Gale	pete@galegeoscience.com

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ADDRESS CHANGE?

Please send it to the Treasurer at the above address