

# 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  
Summer Field Trip*

*August 11, 2012, 9:00 AM  
Meeting location:  
Park and Ride, Plainfield, VT*

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*With people scattered for the summer it was not possible to obtain all regular items for this issue of the GMG. We will be back to normal publishing in the Fall. - RKD*

## **ADVANCEMENT OF SCIENCE COMMITTEE REPORT**

Awards given at the Vermont Geological Society **Spring Meeting** April 28, 2012

### **Best Talks:**

1. Nicole Shufelt (UVM graduate student), PHOSPHORUS MOVEMENT AND REDOX FRONT MIGRATION AT THE SEDIMENT WATER INTERFACE IN SEDIMENT CORES (MISSISQUOI BAY, LAKE CHAMPLAIN).
2. Alyssa Anderson (Middlebury College undergraduate), Doll Award for best undergraduate talk, LOW-TEMPERATURE THERMOCHRONOLGY AND THE TOPOGRAPHIC EVOLUTION OF THE WHITE MOUNTAINS, NEW HAMPSHIRE.
3. Emily McDonald (Middlebury College undergraduate), AN ANALYSIS OF RADIONUCLIDES IN THE CLARENDON SPRINGS FORMATION:IMPLICATIONS FOR WATER QUALITY IN HIGHGATE, VT (Vermont Geology Society Research Grant recipient).

### **Summer Field Trip**

The summer field trip for the Vermont Geological Society will be run on Saturday August 11 and is entitled:

“Rocks, Dirt, and Plants: Integrating Geology and Plant Ecology”. This trip will examine the close relationship that exists between bedrock and surficial geology and plant ecology. We will have five stops that will accent these relationships.

Please RSVP to Jon Kim @ [jon.kim@state.vt.us](mailto:jon.kim@state.vt.us) if you plan to attend.

The trip leaders are:

Jon Kim- Vermont Geological Survey

George Springston- Norwich University

Eric Sorenson and Everett Marshall- Natural Heritage Inventory, Vermont Fish and Wildlife Department

Meet at 9:00 am on Saturday August 11 at the Park and Ride in Plainfield.

See next page for Directions.

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**Directions:**

- Turn off of Route 2 at the flashing light in Plainfield (a right if you are coming from the west and a left if from the east)
- Bear left onto the Main Street Extension (Positive Pie Pizza will be on your left)
- Turn left after ~250 meters into the Plainfield Park and Ride lot

**Student Research Grants**

The fall grant deadline is October 1<sup>st</sup>. For consideration, all applications must be postmarked by October 1, 2012. Address: Jon Kim, Vermont Geological Survey, 103 South Main Street, Logue Cottage, Waterbury, Vermont 05671-2420

For information about this program and the research grant form:

<http://www.uvm.org/vtgeologicalsociety/grantpolicy.html>

**VERMONT STATE GEOLOGIST'S REPORT****State Geologists Report, July 2012 (Summer)****More on New State Bedrock Map**

The VT State Geologist was asked to speak at the annual meeting of the Association of American State Geologist in Austin Texas on June 12. For a session on the "National Cooperative Geologic Mapping Program – Twenty Years and Counting" he presented "Successes with State Geologic Maps" and related the 30 year cooperative effort between Vermont, USGS, UVM and other academics; complex metamorphic geology at 1:100,000 and post plate tectonics representation; USGS printing and digital file representation; 50 years since the last map and 150 years since the first; and viewing the map convinced administration for State House presentation with the Governor.

**Highgate Radionuclide Study**

On May 24, Middlebury College Student Emily McDonald presented to the Health Department an ANALYSIS OF RADIONUCLIDES IN THE CLARENDON SPRINGS FORMATION: IMPLICATIONS FOR GROUNDWATER COMPOSITION IN NORTHWESTERN VERMONT. The Vermont Geological Survey has been working with Middlebury College to focus on extending our knowledge of naturally occurring radioactivity in Vermont bedrock. Of the first 16 samples collected (analysis funded by the Health Dept.), 25 % contain elevated gross alpha (between 5 to 19 pCi/L) in the study area.

**Brandon Class II Groundwater Designation:** The State Geologist attended a ceremony on May 8, 2012 with the Governor and ANR Secretary Markowitz honoring Brandon's accomplishment. The Vermont Geological Survey partnered with Brandon to produce a modern surficial geologic map (author Dave DeSimone) for the Town. The map, geologic interpretations, and cross sections are integral parts of the science that went into the designation put together by Eric Hansen (then a hydrogeologist with Vermont Rural Water). No. R-327. House concurrent resolution congratulating Brandon Fire District #1 Superintendent Ray Counter and the Brandon Fire District #1 Prudential Committee on the district's designation as a Class II water system,

mentions the Vermont Geological Survey and the funds obtained “to map the surface geology and produce maps for groundwater resources”.

#### Northeastern States Emergency Consortium (NESEC)

The Northeast State Geologists met on May 16<sup>th</sup> in Brunswick, Maine to discuss further ways and funding to collect shear wave velocity measurements in support of seismic hazard mapping. The meeting chaired by the VT State Geologist also included a presentation on work sponsored by the Vermont Geological Survey in the Burlington/Colchester area (presented by Mandar Dewoolkar, John Lens of UVM and George Springston of Norwich University) to show how these measurements can be used to develop seismic amplification hazard maps. The group also heard about landslide hazard assessment and USGS landslide hazard alerts triggered by larger precipitation events. Fluvial geomorphic studies were discussed from New Hampshire and Massachusetts. On May 17, the Maine and Vermont State Geologist presented to the full NESEC Board made up of the Directors of Emergency Management from the eight states.

Senator Leahy Signs Earthquake Monitoring Letter: Led by Senator Collins of Maine, four other Senators (VT, Conn, and two Senators from Mass) signed a letter to Marcia McNutt, Director of the USGS, with concerns about the loss of New England Seismic Network services previously provided by Weston Observatory of Boston College. The main topics are: reporting threshold; archiving of events; and access to seismologists. NESEC and the New England State Geologists are discussing these issues with USGS through the USGS Associate Director for Hazards, David Applegate, William Leith and John Filson

## **ANNOUNCEMENTS**

Field trips: The Summer field trip is being held on August 11. Please see the details in the report of the Advancement of Science Committee, above. And, please RSVP Jon Kim if you will be attending.

The Society is always looking for field trips, so please contact any Executive Officer if you have an idea.

## **VERMONT GEOLOGICAL SOCIETY CALENDAR**

- August 11: VGS Summer Field Trip; "Rocks, Dirt and Plants: Integrating Geology and Plant Ecology. Details in the Advancement of Science Committee's report, above.
- October 1: Student Research Grant Program applications due, to Jon Kim. Please see the website for format information. All applications must be postmarked by October 1, to: Jon Kim, Vermont Geological Survey, 103 South Main Street, Logue Cottage, Waterbury, Vermont 05671-2420  
Jon can be reached at the phone and email listed below.
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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.

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| Jon Kim      | (802) 241-3469 | jon.kim@state.vt.us |

#### **Chairs of the Permanent Committees**

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**Vermont Geological Society**  
**Department of Geology and Environmental Science**  
**Norwich University**  
**Northfield, VT 05663**

*ADDRESS CHANGE?*

*Please send it to the Treasurer at the above address*

**Vermont Geological Society**  
**Summer Field Trip**  
**August 11, 2012, 9:00 AM**  
**Park and Ride, Plainfield, VT**