



Granite State Geologist

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In This Issue:

- *Dr. Maria Luisa Crawford AWG Distinguished Lecturer Visit*
- *NHDES WMD Regulatory Update: RCMP*
- *MINERALOGY 101: What is Danburite?*
- *NHGS Groundwater Levels – March and April 2007*
- *Call for Nominations GSNH BOD for 2007-2008*
- *GSNH Summer Field Trip – July 14th, 2007*

Message from the President - Julie Spencer, ENSR, GSNH President 2006-2007

It is hard to believe that we were fighting snow during our last meeting, but there we were on April 12, 2007 in the cold and snow at the Cat 'n Fiddle in Concord. There were 40 intrepid geologists and geology enthusiasts who gathered for our spring meeting featuring Dr. Maria Luisa Crawford from the Department of Geology at Bryn Mawr College. Dr. Crawford's topic was "How do Magmas Influence Mountain Building?" We learned how melt and deformation affect and enhance each other in the process of orogenesis. Dr. Crawford's lecture was sponsored by the Association for Women Geoscientists Distinguished Lecturer Program. At the end of the lecture Dr. Crawford was presented with our customary speaker's gift, a plaque which includes a piece of the Conway Granite.

After the presentation we held our customary mineral raffle. Don Cederquist won a danburite crystal from San Luis Potosi, Mexico and Vinnie Della Russo won a calcite crystal from Bound Brook, New Jersey. Both minerals were donated by Greg Kirby. Congratulations to the winners and thank you to Greg for his mineral donation!

As before, we were able to provide other venues for our distinguished lecturer to visit. On April 11 Dr. Crawford spoke before a group of students and professors at Keene State College and on April 13 she lectured again on the Geosciences Network (GEON): Resources for Geoscientists as part of the New Hampshire Geological Survey Lunchtime Lecture Series. It is very gratifying to be able to share our speakers with a wider audience within the geologic community of New Hampshire. I would like to thank Jutta Hager for reaching out to the educators and other organizations to set up the other talks that Dr. Crawford presented and for taking care of the logistics of her visit.

Wally Bothner reported on the success of the 2007 Northeast Section Meeting of the Geological Society of America held in March at UNH. There were 882 attendees over the course of the meeting and 450 papers were submitted. Wally brought some spare posters from the meeting to share with the membership including a wonderful reproduction of William Smith's "Geological Map of England and Wales and Part of Scotland" from 1815.

This issue of the newsletter includes the announcement for the summer field trip. Last year's trip had a phenomenal response and I hope that we have another strong turnout for our July 14, 2007 trip. Carl Koteff will lead us as we visit a number of locations in the Hopkinton quadrangle which was recently mapped as part of the NH Geological Survey surficial mapping program. Carl spoke at our April 2006 dinner meeting and this is his second time leading a field trip for GSNH. The trip he has planned for us in July promises to be a fun and educational day! I look forward to seeing everyone at the field trip!

Distinguished Lecture Series Visit - Submitted By Jutta Hager, Hager GeoScience

On Wednesday evening, April 11th: Dr. Maria Luisa Crawford gave a presentation at Keene State College Science Center to over 100 participants, of whom approximately 50% were female students in the following classes: Rock Structure, Introductory Geology, and Physical Geology. Keene State faculty stated *"The upper level students loved it, AND, I saw 3 or 4 of the intro level students leaving with "wow" expressions on their faces. It's good for them to hear something like this to broaden their horizons."* The following evening, Thursday April 12, Dr. Crawford gave a second presentation about her work in Alaska to 40 members (20% of whom were women) to the Geological Society of New Hampshire (GSNH) at the Spring Dinner Meeting at the Cat-n-Fiddle in Concord. Despite an unexpected mid-April snowstorm (only in New England!) attendance was lower than usual but still a good size. The following day on Friday, April 13, Dr. Crawford spoke again at the New Hampshire Geological Survey (NHGS) Lunchtime Lecture to a crowd of 36 (of which 11 were women) at the offices of the DES in Concord. Her topic was GEON: Resources for Geoscientists. Everyone agreed that the topic was very interesting and quite necessary for the future.

AGI 2007 Earth Science Week Theme Announced – "Pulse of Earth Science"

The American Geological Institute (AGI) has announced that the theme for Earth Science Week 2007 will be "The Pulse of Earth Science", which this year will be held October 14 - 20, Earth Science Week 2007, which marks the tenth annual Earth Science Week, will promote public and professional awareness of the status of earth science in education and society. Among its many objectives, AGI hopes that the week will enable professionals to promote recent advances in earth science education nationwide and highlight several international research and outreach efforts in the geosciences. This year also marks the start of the International Polar Year (IPY) and the International Year of Planet Earth (IYPE), of which AGI is a Founding Partner. These two major initiatives will generate geoscience research and awareness integral to earth science's impact on society, making it central to this year's Earth Science Week. In addition to IPY and IYPE, Earth Science Week will coincide with the International Heliophysical Year (IHY) and the International Electronic Geophysical Year (eGY).

AGI hosts Earth Science Week annually in cooperation with its sponsors as a service to the public and the geoscience community. Each year, local groups, educators, and interested individuals organize celebratory events. Earth Science Week offers the public opportunities to discover the earth sciences and engage in responsible stewardship of the Earth. Earth Science Week is supported by the U.S. Geological Survey, the AAPG Foundation, and other geoscience organizations. To learn more about this week, ways to become involved, and to link to related

international science years, please go to the Earth Science Week website at: <http://www.earthsciweek.org>.

April Snow Emergency – GSNH Board of Directors

The GSNH Board of Directors declared a “Snow Emergency” for the Spring 2007 Dinner Meeting, held at the Cat ‘n Fiddle Restaurant in Concord, on Thursday, April 12, 2007. The extreme weather prevented several who had pre-registered and pre-paid from being able to safely travel to the event. Thus we returned checks to anyone who pre-paid and were unable to attend. We also suspended our policy to require payment from those who pre-registered and did not attend the meeting. This Snow Emergency is a one-time forgiveness for payment, because the extreme weather prevented members and guests from safely attending. Some members were disappointed that the meeting was not postponed due to the weather. The event could not have easily been postponed, because our speaker, Dr. Crawford, and her husband had already driven to New Hampshire from Pennsylvania. Postponement would have required coordinating another date with Dr. Crawford and the restaurant on short notice.

NHDES Regulatory Update: New from the Waste Management Division

DES has recently updated the Risk Characterization Management Policy (RCMP) and Related Materials section online to include: 1) Revised RCMP Soil Values, S-1, S-2 and S-3 (See Appendix E); and, 2) Revised Appendices A-E detailing how the new soil values were calculated <http://www.des.state.nh.us/orcb/doclist/pdf/rcmp.pdf>. The RCMP text and explanation of the RCMP have been taken off-line and will be revised at a later date. The new S-1 values represent the most up to date soil remediation criteria for use at contaminated sites. Several S-1 values are different than the values listing in the recently adopted rules Env-Or 600 Contaminated Site Management. As a result, DES will be initiating rulemaking to revise the soil remediation criteria in Env-Or 600 to match the newly posted S-1 values. Please contact your DES project manager if you have any questions regarding the above.

NHGS Groundwater Levels for March and April 2007 - Submitted by Genevieve Al-Egaily, NH Geologic Survey

Ground-water level measurements for March 2007 were collected by NHGS staff members Genevieve Al-Egaily from March 21 - 23rd. The statewide average ground-water level showed a 0.12-foot increase from last month. When compared with March 2006, statewide average ground-water level decreased 0.50 feet.

Ground-water level measurements for April 2007 were collected by NHGS staff members Genevieve Al-Egaily from April 25 - 27th. The statewide average ground-water level showed a 2.05-foot increase from last month. Increases were seen in all of the monitoring wells except for the Lisbon well, which showed a decrease of 0.11 feet. When compared with April 2006, statewide average ground-water level increased 1.48 feet.

Mineralogy 101: So What Is a Danburite? Submitted by Lee Wilder, GSNH Vice President

At the April 2007 GSNH Spring Dinner Meeting, one of the mineral raffle items was a Danburite. The minerals raffled at the recent GSNH Spring 2007 Dinner Meeting were: 1st prize, a Calcite crystal cluster from Bound Brook, NJ, 2nd prize was a single crystal of Danburite from San Luis Potosi, Mexico. Both of these specimen's were donated from the collection of Greg Kirby.

Danburite is an interesting mineral. According to Amethyst Galleries, Inc. (see: <http://www.galleries.com/minerals/silicate/danburit/danburit.htm>). Danburite (a calcium boron silicate) is not a well-known mineral but is growing in popularity. With crystals similar to topaz, Danburite offers a unique opportunity for a collector who likes perfectly transparent crystal clusters. People who admire clear quartz will like the different look of Danburite. Its diamond-shaped cross-section and wedge like termination is a contrast to quartz's hexagonal prisms and pyramidal terminations. Danburite's original locality is now buried under the city of Danbury, Connecticut.

PHYSICAL CHARACTERISTICS OF DANBURITE

- **Color** is almost always clear or white, but also can be shades of yellow, pink and brown.
- **Luster** is vitreous.
- **Transparency:** Crystals are transparent to translucent.
- **Crystal System** is orthorhombic; 2/m 2/m 2/m
- **Crystal Habits** include generally prismatic crystals with a diamond-shaped cross-section. The termination is a steeply slanted dome producing a wedge look. Crystals can be rather thin to almost acicular or up to a foot long and several inches across.
- **Cleavage** is poor in one direction, basal.
- **Fracture** is uneven to conchoidal.
- **Hardness** is 7 - 7.5
- **Specific Gravity** is approximately 3.0 (average)
- **Streak** is white or colorless.
- **Associated Minerals** are [quartz](#), [feldspars](#), [cassiterite](#), [dolomite](#), [corundum](#) variety [ruby](#), and [fluorite](#).
- **Notable Occurrences** include Danbury, Connecticut and Russell, New York, USA; Charcas, San Luis Potosi, Mexico; Kyushu Is., Japan; Mogok, Burma and Uri, Switzerland.
- **Best Field Indicators** are crystal habit, poor cleavage, hardness and associations.

Volunteers Wanted - Submitted By Julie Spencer, GSNH President

From time to time I have announced a request for volunteers to take part in some aspect of the society. A few recent requests have included taking part in committees, helping to plan the summer field trip or assisting with mineral identification for a local library. My hope is always that the membership will respond and people will step forward to assist. Unfortunately, that does not often happen and the society as a whole has come to rely on a small core group of active members to shoulder the majority of the work that we do. While that group is very faithful and dedicated to GSNH, I do not want to wear them out with constant requests. My hope is that more members will get involved with committees, will respond to the occasional request from outside the organization, and will become more active! Do not assume that there is a large response from other members and your help is not needed, because everyone's help is needed! We are limited in what we can accomplish only because there are a limited number of people to complete the tasks. Please consider joining a committee, offering to write an article for the newsletter, helping to work the door during dinner meetings, assisting with the field trip or donating something for the dinner raffle. Every contribution, no matter how big or small, is valued!

Don't Forget to Renew Your Annual GSNH Membership! – Submitted by Doug Allen, GSNH Secretary and Membership

Check your mailing label for your membership expiration date. If it says any year other than 2007, then we need to receive your renewal! You can renew at the spring dinner meeting in April or by mail. Membership forms are available at all dinner meetings and on the website: www.gsnhonline.org; click on Membership and Sponsorship to find the form. The Membership Directory will be published this year and if you'd like to be included please be sure to renew for 2007! If your membership is up to date, but your contact information has changed, please send a message to Doug Allen, the Membership Chair, at dallen@haleyaldrich.com so we can update our database.

April Nor'Easter Results in More Flooding in the Granite State



Photo – msnbc.com April 16, 2007 – Heavy rains wash away a section of Route 4 in Nottingham, NH

Geology Teaching In Action!

Photo of Debbie McDonnel of the NH Geological Survey playing "Geopardy" with 4th grade students attending the recent Water Festival held in Rochester, NH.



Call for Nominations

The next election of the board of directors will be coming up in October 2007. Nominations are now being accepted for all positions. Those nominated will be contacted for their acceptance of the nomination and biographical information will be requested for publication with the list of nominees. The slate of candidates will be published in the fall newsletter. Please send nominations to Paul Rydel at prydel@sanbornhead.com. Nominations will be accepted until August 31, 2007.

GSNH Summer 2007 Geology Field Trip – Surficial Geology of the Hopkinton, NH 7 ½ Minute Quadrangle Saturday July 14, 2007 – Submitted by Lee Wilder

Your GSNH Board of Directors has organized a Summer 2007 Geology Field Trip with Carl Koteff. Carl will share his wealth of experience making field interpretations and mapping Quaternary (late Neogene) surficial geology. Accompany Carl as we make a number of field stops on the Hopkinton (NH) 1:24000 quadrangle. These stops were selected to demonstrate how one “reads” the surficial geology. Carl Koteff, USGS Reston office, retired, and a surficial geology mapper and advisor for the NH Geological Survey’s Mapping Program will lead this trip, accompanied by NHGS staff.

We will meet at 0900 in the parking lot behind St. Andrew’s Church Parish House on the Main Street of Hopkinton Village, NH. (Go to: <http://www.mapquest.com> Type in - Address: 354 Main Street / City: Hopkinton / State: NH). Plan for a prompt carpool departure at 0930. After a GREAT “picnic” lunch, Carl has a few geologic “surprises” as we continue to figure out the Pleistocene events for this interesting quadrangle. The trip is currently scheduled to run from 0930-1530 and would give PGs 6.0 CEU’s. CEU forms will be available at the end of the trip.

Traditionally, there is no charge for current GSNH Members on the Summer Geology Field Trip, including lunch. There will be a charge of \$10. for non-members, payable on-site at the trip sign-in, July 14th. However, everyone needs to pre-register for this trip. Please RSVP to Lee Wilder at: boslwne@tds.net (no later than 12 noon Friday July 13th) stating the name(s) of those who will be attending this Field Trip! Mark your calendar now. Plan to car pool with other participants! We look forward to seeing you on July 14th. **Note: If the weather looks like it twill be too wet for an enjoyable trip you should check: <http://www.gsnhonline.org>. The rain date for the trip will be Sunday, July 15th (same schedule). The GSNH will post trip information on that site by 7 PM the night before (i.e. Friday Eve, July 13...OMG Friday the 13th!!).**

Upcoming Events/Dates to Remember!

- **June 23-24, 2007** – GILSUM ROCK SWAP & MINERAL SHOW AT THE GILSUM ELEMENTARY SCHOOL. SAT. 8 AM to 6 PM Sun. 8 AM to 4 PM.
- **JULY 14, 2007** – GSNH SUMMER FIELD TRIP OF THE HOPKINTON, NH 7-1/2' QUADRANGLE WITH CARL KOTEFF, RAIN DATE JULY 15, 2007.
- **SEPTEMBER 29-30, 2007** – CAPITAL MINERAL CLUB'S ANNUAL GEM and MINERAL FESTIVAL, EVERETT ARENA, CONCORD, NH,
- **OCTOBER 14 -20, 2007** – AGI EARTH SCIENCE WEEK.



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