THE MAINE GEOLOGIST

NEWSLETTER OF THE GEOLOGICAL SOCIETY OF MAINE

October, 2006
Volume 32
Number 3

THE PRESIDENT'S MESSAGE

As my term as President nears its end, I want to thank the officers and directors of the organization for providing guidance and support for successful meetings and summer field trips during my tenure. It has been an interesting and fun term, especially having the first spring meeting hosted at the University of Maine at Presque Isle. That reminds me that according to our roster of host institutions, the spring meeting in 2007 is to be hosted by the University of Maine at Farmington. You can find the roster noted in the June 2005 GSM website newsletter archive. That also reminds me to thank Mike Lerley, webmaster of our website, for his efforts helping me keep the website current. For those who I can't remember are due my thanks, I dispense them with sincere apologies.

For those of you who missed it, the GSM summer field trip was a gem with great weather. If you ever are in the Flagstaff Lake region, I heartily endorse camping at the Cathedral Pines Campground; it is a great place, clean, quiet, and with a very accommodating staff. We began Saturday with trip leader Chris Gerbi examining early Ordovician age rocks of the Chain Lakes massif. The rocks of the massif are shown on the 1985 Bedrock Geologic Map of Maine as Precambrian in age; geochronology work since that time has shown that they are younger, formed during the early Paleozoic as part of the Taconian or Notre Dame arc system that collided with the Laurentian passive margin to commence the Appalachian orogeny.

Later in the day we examined large boulders with a range of diatexitic textures, formed by the melting of pre-existing rock under low pressure. Discussion focused on the type of tectonic setting where these rocks may have been formed, possibly including subduction of a spreading ridge. This was followed by a stop at the contact between the Chain Lakes massif and the Boil Mountain Complex, a heterogeneous mix of metamorphosed ultramafic rocks, gabbro, and diorite. Discussion at the outcrop centered on the nature of the contact; whether it is structural, intrusive, or something else. Tracing the contact over a short distance left the group with the impression that the contact here was intrusive and undeformed. That impression is at odds with an earlier interpretation that the Boil Mountain Complex represents part of an ophiolite sequence. Our final stop was at an exposure of volcanic rocks of the Jim Pond Formation, where pillow lavas can be seen along Route 27.

Upon return to the campground, Bob Johnston managed an old-fashioned cookout with burgers and sausage with all the fixin's. While not having a quorum for an official business meeting, several of the officers present discussed options for themes for the fall meeting (you will find an announcement about the meeting elsewhere in the newsletter).

We began Sunday examining mafic igneous rocks in the Devonian age Flagstaff Lake Complex off of Route 16; the outcrop we visited is a broad pavement with varied textures and mineralogical compositions within the rock. Unfortunately, someone had sampled the surface with a diamond saw, collecting rock for thin section or other analyses, leaving the outcrop surface despoiled. With little effort a sample could have been taken at an adjacent location, leaving the large surface unmarred for future geologists and students to examine.

We ended our summer field trip with a stop at an outcrop of the Lower Devonian age Carrabassett Formation near the location of the "butterfly fold" (also dubbed the "femme fatale of Carrabassett tectonics" by Gary Boone). A pelitic turbidite sequence, the Carrabassett is dominantly massive in appearance over much of its distribution, but the section here is well bedded with interbedded pelite and quartz sandstone. Some of the quartz layers display a zone of necking, or boudinage structure.

The society expresses thanks to Chris Gerbi for a fun and informative trip, which he led as a dry run for the 2006 NEIGC hosted the weekend of September 29th through October 1st by the University of Maine at Farmington. Chris is currently at the geology department at Norwich University in Vermont (cgerbi@norwich.edu).

Tom Weddle, President (2004-2006)
<Thomas.K.Weddle@maine.gov>

THE EDITOR'S MESSAGE:

I am pleased to be able to fill in for Dan Belknap while he is on sabbatical during the current academic year. Please send any items from individuals, schools or organizations for inclusion in the Newsletter to my e-mail address. **Remember that the date on your mailing address refers to when your current dues run out**. Please help the Society by paying up to date or beyond, and most especially, making good on any arrears.

Thanks.

Charlotte Lehmann, Interim Newsletter Editor (2006 - present) <clehmann@bates.edu>

(207) 786-6485, FAX: 207-786-8334

GSM WEBSITE: www.gsmmaine.org

The GSM website contains copies of present and archived Newsletters, a calendar of events, and other items of interest to the Society, including the updated Bylaws. There are many important links to geology items in Maine and elsewhere. There is a page on Maine geology and the Photo of the Month. Let us know what you think.

Webmaster, Mike Lerley mike@rentageekme.com

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Geological Society of Maine Fall Meeting

Date/Time: October 27th (Friday), 2 p.m. to 8 p.m.
Place: Poland Spring Golf Course Clubhouse,
41 Ricker Road (off Rt. 26), Poland, ME
This year's meeting is being hosted by Tom Brennan of the Perrier Group/Poland Spring.
******If you are planning to attend, please contact Clifford R. Lippitt ASAP by e-mail:** <clippitt@swcole.com>**. (so we can get a head count for dinner)******

2 p.m. to 4:20 p.m. Mini-Symposium –
Practical Applications of Geology
2:00 – Elizabeth A. L. Champeon (S. W. Cole Engineering, Inc.): *Alaska's Inland Passage: From Glacier Bay to the Misty Fjords*
2:35 – Stephen Dickson, (Maine Geological Survey): *From Holocene to Anthropocene on the Coast of Maine: Geological Consequences and Hazards*
3:10 – Dorothy Richter (Hagar Richter Geosciences): *Surface & Borehole Shear Wave Velocity Measurement and Interpretation*
3:45 – AmyJean McKeown (EPA OWSER): *Louisiana Coastal Environment*
4:20 p.m. to 5 p.m. Business Meeting
5 p.m. to 6 p.m. Social Hour
6 p.m. to 7 p.m. Dinner – complimentary meal, provided by Poland Spring
7 p.m. to 8 p.m. Keynote Address – Joe Kelley (UMaine): *The Birth, Death and Re-Birth of the Mississippi River Delta: How Can People Live Here?* An explanation of the late Holocene geological history of deltaic growth, then the later 20th Century destruction of the delta focusing on the impact of Hurricane Katrina and post-Katrina plans.

The museum at Poland Spring has agreed to be open for tours by appointment, with notification on or before October 20, 2006. Interested parties should contact Cliff Lippitt <>. With sufficient interest, tours will be scheduled for between noon and 2:00 p.m. on Friday, October 27, 2006.

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THE STATE GEOLOGIST'S MESSAGE

What I did this Summer: Important Contributions by Student Interns

Over the years I have talked in this column about many programs at the Maine Geological Survey and the staff that make the programs work. Near the close of this very busy field season, I realize that I have probably not given appropriate recognition to the contributions to the field programs made by our summer interns. Each summer, we have had a number of interns carry out some tasks that have been essential to the success of our field programs. Here's what they did this summer:

Aquifer mapping: Our focus this summer was the nearly inaccessible terrain between Jackman and Stratton, extending from near The Forks in the southeast to the Quebec border. The objective of this effort was to map the distribution of the sand and gravel aquifers in this area that, in spite of its remoteness, may not be immune to development (e.g. see the Plum Creek plan for the Moosehead Lake area). William (Tex) O'Brien and Jason Choquette both came to us from UM Farmington and were assigned the seismic refraction task in the program. Jason and Tex conducted 90 twelve-channel seismic refraction lines in remote areas for the project, spanning a total distance of 21,000 linear feet. Often besieged by mosquitoes and black flies, they tirelessly carried out this effort in good humor. Six of the assigned seismic lines could only be accessed by canoe and by foot and they used a hand cart to transport all necessary equipment to conduct the surveys a distance of over 2.5 miles from the nearest vehicle accessible road. Maps for this project will be available from the Maine Geological Survey in spring 2007. Gentlemen, thanks for the outstanding effort!

Ground water sampling: As part of an effort with Columbia University to better understand the connections between geology and ground water quality, we carried out a sampling program in towns around Augusta. This is part of a much larger global effort by researchers at Columbia to understand the factors that control arsenic concentrations in ground water. Heidi Cheek from St. Joseph's College and Hilary Thibodeau from UM Machias sampled more than 650 residential wells in the area. Juggling sample bottles and various sampling apparatus, they collected samples for a suite of major and trace metals, some for extended suites, and also for radon. In addition, they measured temperature, specific conductance, pH, and dissolved oxygen in the field. While keeping their

eyes on the crushing schedule that required 12-14 samples per day, they none-the-less took the time to adeptly explain the program to inquisitive homeowners. Over the next few months we will get the analyses from Columbia and consider how they relate to bedrock geology, before moving to a new field area next summer. Ladies, we could not have done it without you and thanks for the excellent public relations!

Most often we get our interns through the Margaret Chase Smith Government Intern Program administered by the University of Maine, but sometimes we hire them directly. Any students interested in the program for summer 2007, when we will need at least two interns, should contact the Margaret Chase Smith Center at UM in late winter.

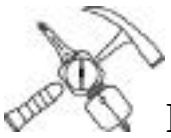
Robert G. Marvinney, Maine State Geologist:
<Robert.G.Marvinney@state.me.us>

GSM MEMBER NEWS

I was pleased to see an article in the September 2006 issue of *The Country Courier*, a Turner Publishing paper, entitled "The Famous Eskers of Buckfield". A photo by journalist Bill Van Tassel shows our own **Tom Weddle** explaining how eskers formed to those assembled for the field trip organized by the Western Foothills Land Trust.
(Charlotte Lehmann)

Please send member news to:

Carolyn Lepage, Member News Correspondent (1996-present) <clepagegeo@aol.com> or
PO Box 1195, Auburn, ME 04211-1195 or
Fax: (207)-777-1370; Phone: (207)-777-1049



NEIGC 2006

The **New England Intercollegiate Geological Conference** (**NEIGC**) will be hosted by the University of Maine at Farmington, September 29th to October 1st, 2006. We will be based at the lodge at the Saddleback ski resort just outside Rangeley. The meeting will follow the usual format with field trips on each of the three days, reception on the Friday evening and banquet Saturday night. This will be a very special NEIGC as we will be honoring **Professor Charlie Guidotti** and his work in western Maine.

Registration information and updates are posted on the NEIGC website <http://neigc.org/NEIGC>.
David Gibson (dgibson@maine.edu),
Julia Daly (dalyj@maine.edu),
Doug Reusch (resusch@maine.edu),
Tom Eastler (eastler@maine.edu)

GSM SECRETARY'S REPORT

Editor's Note: As stated by Tom in his message, a quorum was not present at the Summer Field Trip and therefore no official business was conducted.

(GSM Summer Field Trip to Flagstaff Lake region was led by Chris Gerbi, on the left. Photo submitted by Liz Champeon.)

GSM 25 Years Ago

Annual GSM Meeting - 1981

On the evening of August 1, 1981, about a dozen hearty souls were present around a campfire at Wavus Camps in Jefferson, Maine, when Bob Gerber called the Annual Meeting of the society to order. Bob started off by thanking Dave Westerman for the use of the faculties and thanking Carol White for the preparation and editing of the Guidebook for Fieldtrips 6, 7 and 8. …. One of the most rapid election proceedings in the Society's history produced the following results:

President:	Bob Gerber
Vice-President:	Florence Hoar
Treasurer:	Fred Beck
Secretary:	Archie Berry
Director:	John Tewey
Newsletter Editor:	Dave Westerman
Postal Chairman:	Pete Garrett

GSM TREASURER'S REPORT

The Society currently has 316 members, distributed as follows:

Students:	52	Associates:	30
Regular:	230	Institutional:	4
TOTAL:	316		

Total Paid Up: 79 (25.0 %)

Previous Balance: Funds as of May 31, 2006

Anderson Fund Savings	$ 418.31
Anderson Fund CD	$ 5,253.71
Education Fund Savings	$ 804.63
General Fund Savings	$ 3,466.46
General Fund CD	$ 5,028.08
General Fund Checking	$ 401.00
Total Funds	**$ 15,372.19**

Receipts 06/01/06-08/31/06

Dues	$ 486.00
Interest	$ 126.52
Anderson Fund Donations	$ 40.00
Other Donations	$ 0.00
Publication Sales	$ 0.00
Receipts Subtotal	$ 652.52

Expenses 06/01/06-08/31/06

Newsletters	$ 556.21
Honoraria	$ 0.00
Anderson Awards	$ 0.00
Meeting Expenses	$ 161.86
Donations	$ 500.00
Postage	$ 13.40
Webste	$ 149.95
Refunds	$ 0.00
Expenses Subtotal	$ 1,381.42

Funds as of August 31, 2006

Anderson Fund Savings	$ 459.31
Anderson Fund CD	$ 5,310.40
Education Fund Savings	$ 806.65
General Fund Savings	$ 26.03
General Fund CD	$ 5,082.34
General Fund Checking	$ 0.00
Total Funds	**$ 14,643.29**
Net gain or loss:	($ 728.90)

Respectfully submitted, Rob N. Peale, Treasurer (2004 - present) Rob.N.Peale@maine.gov

NEWS FROM THE COLLEGES AND UNIVERSITIES

Editor's Note: My sources in the Upper Midwest indicate a serious shortage of exploration geologists, which is affecting the development of mineral resources, currently experiencing a boom. Please encourage your students to consider mining and mineral exploration as a career option.

GEOLOGICAL SOCIETY OF AMERICA
Northeastern Section Meeting
March 11-14, 2007
Durham, New Hampshire

Symposium Honoring Father Jim Skehan, S.J.
Walter A. Anderson waageo@verizon.net
and Chris Hepburn hepburn@bc.edu

TITLE: Rev. James W. Skehan, S.J.: Geologist, Teacher, Mentor, Priest: A Jesuit Journey.

Father Jim, as he is known to one and all around the world, has had a long, distinguished and varied career extending for over half a century. This symposium is to recognize and commemorate his many contributions, particularly those to the geology of the northern Appalachians. He was one of the first to recognize the importance of plate tectonics in understanding this mountain belt and its differentiation into terranes, including the extent of the Avalon terrane into SE New England. We hope his colleagues, former students and many friends will join in celebrating Father Jim's career by contributing modern work or summaries from areas of Father Jim's interests tinged, perhaps with personal recol-lections of this unique individual. The announcement is now posted on:

http://www.geosociety.org/sectdiv/northe/07nemtg.htm

Hard copy is in the September issue of GEOLOGY TODAY.

PLEASE SPREAD THE WORD FAR AND WIDE
ABSTRACT DEADLINE IS DECEMBER 5, 2006

Photos from the summer field trip, by Liz Champeon:

MEMBERSHIP DUES STATEMENT

The GEOLOGICAL SOCIETY OF MAINE, INC. (often referred to as **GSM**) is a non-profit corporation established as an educational Society to advance the professional improvement of its members; to inform its members and others of current and planned geological programs in Maine; to encourage continuing social contact and dialog among geologists working in Maine; and to further public awareness and understanding of the geology of the State of Maine; and of the modem geological processes which affect the Maine landscape and the human environment.

The Society holds three meetings each year, in the late fall (Annual Meeting), early spring, and mid-summer (usually field trips). A newsletter, ***The Maine Geologist***, is published for all members three times a year. The Society year runs from August 1 to July 31. Annual dues and gift or fund contributions to the Society are tax deductible. There are three classes of memberships:

$12.00 REGULAR MEMBER	Graduate geologists, or equivalent, with one year of practice in geology, or with an advanced degree.	***PLEASE NOTE NEW FEE SCHEDULE AS OF August 1, 2003***
$12.00 INSTITUTIONAL MEMBER	Libraries, societies, agencies, businesses with interests in or practicing geology and related disciplines.	
$10.00 ASSOCIATE MEMBER	Any person or organization desirous of association with the Society.	
$ 5.00 STUDENT MEMBER	Persons currently enrolled as college or university students.	

THE GEOLOGICAL SOCIETY OF MAINE ANNUAL RENEWAL / APPLICATION FOR MEMBERSHIP

Regular Member	$12.00	$__________	Name ____________________________________	**Make checks payable to:**
Institutional Members	$12.00	$__________		Geological Society of Maine
Associate Member	$10.00	$__________	Address ____________________________________	Rob Peale, Treasurer
Student Member	$ 5.00	$__________		Maine Dept. Enviromental Protection,
Contributions to GSM		$__________	____________________________________	
(please write gift or fund on check)				State House Station 17
TOTAL ENCLOSED		$__________	____________________________________	Augusta, ME 04333-0017

Email Address____________________________________

(GSM funds include the Walter Anderson Fund___, the Education Fund___, and discretionary gifts___as noted by contributor)

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2006/2007 SOCIETY YEAR BEGINS AUGUST 1 - PLEASE SEND DUES TO TREASURER.
The DATE on your mailing address refers to PAID UP DUES DATE

THE GEOLOGICAL SOCIETY OF MAINE
c/o Daniel F. Belknap, Newsletter Editor
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111 Bryand Global Sciences Center
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THE MAINE GEOLOGIST is the Newsletter of the Geological Society of Maine, published three times a year, in mid-winter, summer, and early fall, for members and associates.

Return Service Requested

Correspondence about **membership** in the Society, **publications** and **dues** should be mailed to:
Rob Peale, Department of Environmental Protection
State House Station 17, Augusta, ME 04333-0017 <rob.n.peale@maine.gov>

Items for inclusion in the **Newsletter** may be directed to:
Daniel F. Belknap, Dept. Earth Sciences, University of Maine,
Orono, ME 04469-5790 <belknap@maine.edu>

President	Tom Weddle,	Maine Geological Survey
Vice President	Cliff Lippitt,	S.W. Cole, Inc.
Secretary	Martha Mixon	Acadia Environmental
Treasurer	Rob Peale,	Maine Dept. Environmental Protection
Newsletter Editor	Dan Belknap,	University of Maine
Directors	Dave Gibson (02-06),	University of Maine, Farmington
	Liz Champeon (04-08),	S.W. Cole, Inc.
	Lisa Churchill-Dickson (05-09),	Registered Professional Geologist