

October, 2009 Volume 35 Number 3

Geological Society of Maine 2009 Fall Meeting

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Thursday, Nov. 5

This year's fall meeting will be held Thursday, November 5 at the University of Maine at Farmington. The meeting will be in conjunction with a special event on campus, the UMF Forum on Climate. On November 5, two eminent climate scientists will present on campus, Paul Mayewski from UM and Bill Ruddiman from UVA. Dr. Mayewski will present at noon, Dr. Ruddiman will present at 4, and then both will participate in an evening panel discussion at 7. Our GSM speakers, business meeting, and social events will take place during the traditional mid-afternoon and dinner time. Talks at the fall meeting traditionally come from the non-academic membership of GSM. Please contact Julia Daly if you are interested in presenting during the afternoon session of talks! We are eager to put together an interesting slate of speakers.

We hope that GSM members who are able will join us for Dr. Mayewski's noontime presentation, and that many of you will stay for the evening panel discussion. We are certain that the geologic community will ask insightful questions. This should be a lively discussion!

Date: Thursday, November 5

Location: University of Maine at Farmington.

Tentative schedule:

12:00-1:00 Paul Mayewski, UM, "Climate Change: Perspectives, Surprises, Opportunities", Lincoln Auditorium, Roberts Hall

1:30–3:30 GSM Talks, Thomas Auditorium, Ricker/Preble Science buildings

3:30–4:00 Break/transit across campus

4:00-5:00 Bill Ruddiman, UVA, "Did Early Farming Prevent a New Ice Age? The Answer: Yes!"

5:00–5:30 Business meeting (location TBA)

5:30-7:00 Social hour and dinner

7:00 PM Panel discussion with Drs. Mayewski and

Ruddiman, Lincoln Auditorium, Roberts Hall Details on parking, dinner arrangements, and afternoon speakers will be posted on the web site.

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PLEASE CHECK THE DATE ON YOUR ADDRESS LABEL – THIS IS THE DATE TO WHICH YOUR DUES ARE PAID UP. MEMBERS MORE THAN TWO YEARS IN ARREARS WILL BE DROPPED FROM THE MAILING LIST.

#### THE PRESIDENT'S MESSAGE

I owe a tremendous thank you to Spike Berry, who led this year's summer trip with the help of Doug Reusch, Tom Weddle, and contributions from Woody Thompson. After a rainy summer, we couldn't have asked for a more beautiful reprieve from the wet to camp at Camden Hills State Park. We enjoyed two fantastic days in the park and the Camden area, with memorable walks through the woods to field-sites, and a stunning lunch-time overlook of Penobscot Bay from the top of Mt. Battie on Saturday. Spike did an outstanding job of laying out a trip that sampled a complex local geology in an understandable way, and generated good discussion on the outcrop. Highlights included examining multiple outcrops of the Mt. Battie quartzite on a series of walks from the summit, the fascinating structures in the Beauchamp Formation, and the multiple striations site in Warren. We had a great crowd camping, and many who were able to join us for one day or the other. Please read Martha's writeup for a full description and some photos from the trip. It was great to see so many people turn out!

The fall meeting this year will be hosted Thursday, November 5, at UMF. We have enjoyed the hospitality of Poland Spring for many years for our fall meetings and appreciate their long-term support of the organization. The meeting was changed this year to take advantage of presentations by two nationally known climate change scientists,

Paul Mayewski and Bill Ruddiman. They will present individually during the day, and will participate together in an evening forum. Both address the question of the influence of humans on climate, but from different perspectives, promising a lively evening panel discussion. I hope that you will have interesting and challenging questions for them! Please see the meeting announcement for details of GSM activities that day. I am still interested in finding speakers to present in the technical session; please get in touch by email if you're interested in speaking.

Looking forward, the University of Maine will be hosting the spring meeting. As always, please be certain to stay current with your dues.

Julia Daly, President (2009-2010) dalyj@maine.edu

#### THE EDITOR'S MESSAGE:

You all are probably aware that we've been having some problems with updating of the website, and the long delay entailed in getting the hard copy of the Newsletter from the printing stage to your doorstep, mainly due to the bulk mailing rate going as a much lower postal priority. We're working on improving this turn-around time. Those of you who submit for this newsletter: your prompt attention to getting your items in would also help a lot!

Please send items of interest for the News from the Campuses and Member News columns, or other things you'd like to share.

Please check the date on your address label – members more than two years in arrears will be dropped from the mailing list. Send dues to Rob Peale (see address on the last page).

Dan Belknap, Newsletter Editor (1998 – present) < belknap@maine.edu > (207) 581-2159, FAX: -2202

#### **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

#### THE STATE GEOLOGIST'S MESSAGE

Over the past several months, I have been working with staff of the Department's Submerged Lands program and from other state agencies and the University of Maine to meet a December 15 deadline to identify at least one offshore site in state waters where industry might test wind technology. In June 2009 the Maine Legislature unanimously passed a Testing bill. "An Act To Facilitate Demonstration of Renewable Ocean Energy Technology," that set in place the schedule and criteria for site selection. The goal of this effort is to provide at least one location in state waters (to 3 miles offshore) where the University and industry can test the next generation of wind turbines - those that will float in deep water. On October 15, the University of Maine announced their success with the Department of Energy's renewable energy program that netted \$8 million for testing various turbine components in the Gulf of Maine.

Wind in the Gulf of Maine is a substantial, renewable energy resource, with potential capacity measured in many gigawatts. Currently, there is only one full-scale test turbine in the world (in the North Sea) floating in deep water. If Maine can attract industry to our test locations, there may be a big opportunity later on to capture the jobs that will come with commercial wind farms deployed farther offshore in the Gulf of Maine.

In July, our team went through a basic mapping exercise that identified seven "planning areas" that meet the basic requirements set forth in statute within state waters, with very good wind resource, having deep water (greater than 60 meters) for testing floating technology, and that avoid obvious obstructions like navigational channels, shipwrecks, dump sites, etc. Through August, we convened about a dozen small meetings centered on each of these planning areas and focused mostly on fishermen's In September, we held five public concerns. meetings from Machias to Wells to get broader public input, concerns, and comments about the planning areas. These meetings provided a wealth of information on the human uses and natural resource needs of the planning areas.

By the time you read this, we will have used information from the meetings, plus copious digital datasets to select several draft sites that we think will minimize the impacts on human uses and the ecology of the ocean by wind testing. A formal 30-day public

comment period, which will close in late November, began with the release of the draft sites. When that period closes, we will use information from those comments to revise our draft sites for final release on December 15. With that accomplished, the University of Maine and their industry partners can begin the real work of advancing Maine as major player in the future of renewable wind power.

Robert G. Marvinney, Maine State Geologist: <Robert.G.Marvinney@maine.gov>

#### **GSM MEMBER NEWS**

**Kevin McCartney** is on a research sabbatical this semester to the University of Nebraska at Lincoln, where he is studying Cretaceous silicoflagellates, beginning with samples from Arctic Canada and moving from there to other localities. In his first two weeks he thinks he has already found several new species. He will return in late March.

Please send member news to:

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

### GSM SECRETARY'S REPORT

## Summer Field Trip, August 8-9, 2009 Camden Hills Region

The GSM summer meeting consisted of a field trip in the Camden Hills area, and was led by Henry (Spike) Berry (Maine Geological Survey), Doug Reusch (U. Maine Farmington), Tom Weddle (Maine Geological Survey) with stops and interpretation contributed by Woody Thompson, although he could not be present. Accommodations were at the Camden Hills State Park group campsite. At least 43 people attended the field trip. The weather was excellent. No formal business was conducted. Following is a brief description of the field trip.

On Saturday we scrambled down to the boulder beach at the state park shoreline to see many local and far-traveled rocks, including chiastolite schist and fossiliferous sandstone in a winnowed glacial deposit. On our way to the top of Mt. Battie, we took in an elevated marine shoreline. During the day, we made our way through the Megunticook Sequence with stops in the Penobscot Formation, the three members of the Battie Quartzite, and the Megunticook Formation. The quintessential lunch

stop was at the summit of Mt. Battie where we pondered glacial striations trending in a puzzling array of directions, and took in the fantastic views, from Camden Harbor to Cadillac, Isle Au Haut, and Matinicus. Saturday evening dinner was catered at the picnic shelter at the State Park, compliments of GSM.

Sunday's field trip was in the Rockport Sequence and included a stop along the shoreline in the Beauchamp Point Formation, the Coombs Limestone, the Rockport Quartzite and the Simonton Corners Formation. The Rockport Marine Park, one of the



Spike Berry and Walter Anderson

stops, displays three of these formations, along with historic lime kilns. Panels describing the operations and history of the kilns, and associated railroad, and shipping, made this a very interesting stop. After lunch, we looked at geomorphology at Chickawaukie Pond, regional structural geology of the Rockland limestone belt, and a clean quarry exposure of glaciated Benner Hill Formation through the courtesy of Mr. Dwight Overlock. The end of the day turned decidedly glacial with a multiple striation locality at Warren Station near cross-cutting moraines We concluded with the (readvance or surge?). triumphant ascent of the classic Waldoboro Moraine



GSM President Julia Daly with Bridget and Maria

at the very locality depicted in Plate XXV of George H. Stone's classic 1899 USGS Monograph 34. As usual, people began to head home during the afternoon, but there were still 9 cars and 14 participants who stayed to 5 pm for the full option.

Special thanks to all of the field trip leaders and to GSM president Julia Daly for the arrangements.

Here are some comments received from field trip participants:

"...this is the first GSM meeting my I have attended and I was very impressed by several First of all, the setting was gorgeous, things. aesthetically and geologically, arrangements for the price and camping location were awesome! I am so happy that I was able to include my wife and kids in the excursion, too. That really made the trip more enjoyable for me. I think Spike is a terrific bundle of knowledge, and his presentations were insightful, relatable to many disciplines of geology, and well polished, a huge thanks to him and Tom Weddle

The food was also well coordinated and delicious. thanks to Julia for that



Though I really enjoyed the time spent on Mt. Battie, I think my favorite stops were right after lunch on Sunday, the lake and drumlin feature were great examples of how we can interpret classic landscapes. I also liked the quarry stop, seeing how geology relates to man's activity and resource utilization is always fascinating, and a chat with some other participants about groundwater management in settings like that was also interesting.

Regards, Chris Morrell, Geologist R.W. Gillespie & Associates"

"It was one of the best!"

"Spike was a treat. He explained things well so a non-geologist could understand; and it was well organized. The food was delicious; and the weather cooperated.

I am looking forward to the next one. Yours.

John Tinker"

Submitted by Martha Mixon with assistance from Henry Berry on trip details

mmixon@acadiaenvironmental.com

### **GSM TREASURER'S REPORT**

The Society currently has 258 members; of which 74.42 % are up to date with their dues. In keeping with policy, we will drop any members more than two years in arrears at the end of this calendar year. The present membership is distributed as follows:

| Students: | 18  | Associates:    | 20  |
|-----------|-----|----------------|-----|
| Regular:  | 213 | Institutional: | 7   |
| TOTAL:    | 258 | Total Paid Up: | 192 |

| Balance ( | On Hand | May 31. | 2009 |
|-----------|---------|---------|------|
|-----------|---------|---------|------|

| Anderson Fund Savings     | \$<br>2,985.11  |
|---------------------------|-----------------|
| Anderson Fund CD          | \$<br>5,898.95  |
| General Fund Money Market | \$<br>3,625.44  |
| General Fund Savings      | \$<br>40.65     |
| General Fund CD           | \$<br>5,635.33  |
| General Fund Checking     | \$<br>10.06     |
| Total                     | \$<br>18.195.54 |

#### Income

| Dues                    | \$<br>1,204.00 |
|-------------------------|----------------|
| Interest                | \$<br>83.20    |
| Anderson Fund Donations | \$<br>59.00    |
| Other Donations         | \$<br>0.00     |
| Publication Sales       | \$<br>0.00     |
| Checks never cashed     | \$<br>375.00   |
| Subtotal                | \$<br>1,721.20 |

#### **Expenses**

| Newsletters      | \$<br>473.04 |
|------------------|--------------|
| Honoraria        | \$<br>0.00   |
| Anderson Awards  | \$<br>0.00   |
| Other Awards     | \$<br>0.00   |
| Meeting Expenses | \$<br>411.00 |
| Donations        | \$<br>0.00   |
| Postage          | \$<br>0.00   |
| Web Site         | \$<br>0.00   |
| Refunds          | \$<br>0.00   |
| Miscellaneous    | \$<br>0.00   |
| Subtotal         | \$<br>884.04 |

#### Balance On Hand September 30, 2009

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|-------------------------------|-----|-----------|
| Anderson Fund Savings         | \$  | 3,473.47  |
| Anderson Fund CD              | \$  | 5,927.39  |
| General Fund Money Market     | \$  | 3,408.80  |
| General Fund Savings          | \$  | 525.28    |
| General Fund CD               | \$  | 5,672.76  |
| General Fund Checking         | \$  | 25.00     |
| Total                         | \$  | 19,032.70 |
| Net gain [or loss]            | \$  | 837.16    |

Respectfully submitted,

Rob N. Peale, Treasurer (2004 -present)

<Rob.N.Peale@maine.gov>

Please note that Rob Peale is coming up on 5 years as Treasurer and that if someone else wants the job he would be happy to give it up. He is certainly willing to continue if no one has a burning desire to add the job to their resumes.

### NEWS FROM THE CAMPUSES

# UMaine Department of Earth Sciences installs a new scanning electron microscope

Funded by a grant from the NSF MRI program and the Office of the Vice President for Research at UMaine, we have recently installed a new scanning electron microscope. In addition to the standard SEM imaging features, the Tescan Vega II XMU microscope allows extended low vacuum chamber pressures, permitting study of non-conductive and even wet specimens. Integrated with the electron microscope are EDAX energy dispersive spectrometry and electron backscatter diffraction systems, as well as a Gatan ChromaCL color cathodoluminescence detector. Among the materials analyzed or planned for analysis include standard thin sections, marine sediment, ice-core dust, and archaeological artifacts. Our capabilities duplicate some of those available at other institutions in the state, but a few (the color CL and integrated EDS-EBSD systems in particular) are unique to this new instrument, and we welcome outside users. For more information, contact Chris Gerbi (gerbi@umit.maine.edu) or Marty Yates (yates@maine.edu).

# **GSM 25 Years Ago**

Carol White reported on the GSM Summer Field Trip: "The annual field trip, run in the Portland and mid-coast area was a success. Saturday ... recent processes and environmental consequences, while Sunday ... bedrock sequences in the Boothbay quad. Between the two, a hardy and faithful group ate lobster in New Harbor and held a meeting at the [UMaine] Darling Center.

Joe Kelley introduced us to several receding beaches... Woody Thompson then introduced us to his famous fossil wood locality... We then visited the Gorham landslide ... with Irwin Novak, Mark Swanson and Steve Pollock... Art Hussey lead us to some impressive exposures of both metasediments and igneous rocks in the Boothbay area." More at: http://www.gsmmaine.org/newsletters/1984\_V11\_N1.pdf

#### 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:

| <ul><li>\$20.00 REGULAR MEMBER</li><li>\$20.00 INSTITUTIONAL MEMBER</li><li>\$10.00 ASSOCIATE MEMBER</li><li>\$5.00 STUDENT MEMBER</li></ul>                              | Graduate geologists, or equivalent, with one year of practice in geology, or with an advanced degree. Libraries, societies, agencies, businesses with interests in or practicing geology and related discipl Any person or organization desirous of association with the Society. Persons currently enrolled as college or university s | NEW FEE SCHEDULE AS OF February, 2008 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| THE GEOLOGICAL SOCIETY                                                                                                                                                    | OF MAINE ANNUAL RENEWAL / APPLICATION                                                                                                                                                                                                                                                                                                   | I FOR MEMBERSHIP                      |
| Regular Member \$20.00 \$                                                                                                                                                 | Address                                                                                                                                                                                                                                                                                                                                 | Geological Society of Maine           |
| (GSM funds include the Walter Ar                                                                                                                                          | Email Address, the Education Fund, and discreti                                                                                                                                                                                                                                                                                         | onary gifts as noted by contributor)  |
| 2009/2010 SOCIETY                                                                                                                                                         | or                                                                                                                                                                                                                                                                                                                                      |                                       |
| THE MAINE GEOLOGIST is the New the Geological Society of Maine, publish mid-winter, summer, and early fall, for a                                                         | ned three times a year, in                                                                                                                                                                                                                                                                                                              | Return Service Requested              |
| Rob Peale, Department of Enviro                                                                                                                                           | he Society, <b>publications</b> and <b>dues</b> should be mailed to nmental Protection ME 04333-0017 <rob.n.peale@maine.gov></rob.n.peale@maine.gov>                                                                                                                                                                                    | »:                                    |
| Items for inclusion in the <b>Newsletter</b> made Daniel F. Belknap, Dept. Earth Sciences Orono, ME 04469-5790 <a href="mailto:veltage-per-series">veltage-per-series</a> | , University of Maine,                                                                                                                                                                                                                                                                                                                  |                                       |
| President Julia Daly,<br>Vice President John Field<br>Secretary Martha Mixon,                                                                                             | UMaine Farmington<br>Field Geology Services, Farmington,<br>Acadia Environmental                                                                                                                                                                                                                                                        | ME                                    |

University of Maine

Maine Geological Survey

**SEA Consultants** 

S.W. Cole, Inc.

Maine Dept. Environmental Protection

Rob Peale,

Lisa Churchill-Dickson (05-09)

Tom Weddle (06-10)

Cliff Lippitt, (09-13)

Newsletter Editor Dan Belknap,

Treasurer

Directors