

October, 1999

Volume 25  
Number 3

## *25'th Anniversary Volume*

### **The President's Message**

It's incredible that almost a year has passed since I assumed the presidency of GSM. We are entering into this year's fourth quarter, well into our Jubilee year and I wish to express my thanks to the membership who overwhelmingly answered the call and contributed to the GSM 25'th. Bob Johnson reminded me (gleefully) that my administration and I were elected to serve a two-year or biennial term. I therefore propose that our 25'th anniversary be designated a biennial event and will continue into the year 2000!

The Jubilee highlights for 1999 are:

- (1) the de-velopment and implementation of our new and expanding ("according to geologic time") Web Site-www.gsmmaine.org/;
- (2) a well represented spring meeting hosted by the University of Maine at the Bryand Global Sciences Center highlighted student papers from UM, USM, MGS, Colby, and Bowdoin, with Student Awards given to students at Bowdoin and UM;
- (3) GSM co-hosted with UM, and supported by NSF, the July Northern Appalachian-Quebec-to-Maine-coast transect for earth science teachers led by Doug Reusch;
- (4) The appointment of Art Hussey of Bowdoin College as GSM Historian;
- (5) The gracious contribution of \$100 annually by the Maine Mineral Symposium, Inc. to the Walter A. Anderson fund for educational activities-many thanks to Woody Thompson and his "Symposium" colleagues!;
- (6) The outstanding Baxter Park and vicinity summer field trip complete with "Boom House" hospitality, lodging and traditional woods camp dinner hosted and by " himself" our intrepid Boston University leader Dee Caldwell and spouse Marvin;
- (7) A draft "Field Guide to the Northern Appalachians- Quebec City to the Gulf of Maine" by Doug Reusch of UM submitted to me in fulfillment for GSM support for the earth science teachers summer field trip--this will make a great Jubilee publication!;
- (8) a joint GSM/MGS Geology Workshop (Oct.14) organized by Bob Marvinney(MGS) and Joe

Kelley (UM) for Earth Science Week at UMA in Augusta;

- (9) On the economic scene, Poland Spring Bottling Co., Inc. will host our fall meeting at their new building on the grounds of the restored historic 19th century well house – many thanks to Kristin Tardif and Denise Lemieux of Poland Spring.

On a note of sadness, I sent a remembrance and condolences on behalf of GSM to Jane Gates and family on the recent passing of our dear friend, colleague, and GSM past president, Ollie Gates. Dick Gilman at Fredonia with remembrances from myself and others will submit a written memorial in celebration of Ollie Gates. Bob Marvinney (MGS) has acquired Ollie's maps and notes (Vinalhaven, etc.) and is in this process of preparing them in digital format, etc. We will join with the Maine Geological Survey and present his work at a memorial poster session for Ollie at the NEGSA meeting in New Brunswick, N.J. this spring.

At the risk of getting ahead of myself (it's usually the other way around), Peter Lea and Art Hussey have offered to host our year 2000 spring meeting. Also, our ubiquitous Bob Marvinney has negotiated with the Maine Bureau of Public Lands to acquire the Bigelow Lodge as a residence and headquarters for our year 2000 GSM summer field meeting.

See you at the workshop(10/14) and fall meeting (11/5)!

Walt Anderson, President  
<WAAGEO@aol.com

### **The Editor's Message:**

I had just returned from a field trip in August when I received the news of Ollie Gates' passing. I am so sorry that his time with us in body is over, but I am sure his spirit and memory will live on. I can't think about Ollie without seeing that wonderful smile, his great sense of humor, and his wife Jane, another geologist and GSM member, by his side. They both have been wonderful members of the Geological Society of Maine, and of the Maine geology community in general. I count it a privilege to

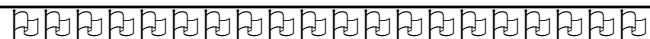
have known Ollie, to have worked with him on projects such as the Nuclear Regulatory Commission - Maine Geological Survey project in eastern Maine, and to have had so many wonderful interactions at GSM meetings and field trips. His experience in practical field geology, and his wisdom in governing the needs of the GSM have been strong contributions to us all. This issue of the newsletter is dedicated to Olcott Gates, past President of GSM and treasure of the geologic community.

Dan Belknap, Newsletter Editor  
<belknap@maine.edu>

## GSM Web Site

[www.gsmmaine.org](http://www.gsmmaine.org)

Wayne A. Power, Webmaster, UMF  
<wpower@maine.maine.edu>



### **GSM FALL MEETING Friday, Nov. 5, 1999**

Host: Poland Spring Bottling Co., Inc., Poland Spring, Me.

Location: On Rt. #26 at Historic Spring House on Ricker Hill (see DeLorme Atlas Map #5)

Time: 3:00 PM

#### Agenda:

3:00-3:45: Poland Spring Bottling Co.-  
The Resource/Stewardship/Operation.  
Kristin Tardif, Geologist and Resource Manager;  
Jack Donahue, President, Atlantic Geoscience,  
Inc.

4:00-4:45: Water Education for Teachers,  
Kristin Tardif and Walter A. Anderson

5:00-5:45: Business Meeting- Important!!

6:00-7:00: DINNER -  
Host - Poland Spring Bottling Co.

7:15-8:00: Planning/Siting/Constructing a Bottled  
Water Facility - Hollis, Me.,  
Kristin Tardif, Geologist and Resource Manager,  
Poland Spring and  
Jack Donahue, Pres., Atlantic Geoscience, Inc.



## GSM SUMMER FIELD MEETING

### 25th "Jubilee" Anniversary

Chesuncook Dam Boom House

Dee Caldwell- Host & Leader

July 23, 24, 25, 1999

On July 23rd a hardy assortment of approximately 32 geologists, family, and friends gathered at various strategic locals in Northern Maine at Shin Pond, Trout Brook and the West Branch in anticipation at the two day GSM field trip hosted and led by our pre-eminent and long-term colleague, Dee Caldwell of Boston University.

Early on the 24th (Sat.), the group assembled at Shin Pond and proceeded in a westward direction towards the northern entrance of Baxter Park. Several stops along the way included outcrop stops on the Matagamon sandstone and the Traveler rhyolite with comprehensive overview of the geology of the area complete with detailed descriptions and current research. (Dee is a renaissance geologist – his knowledge of bedrock geology is only exceeded by his familiarity with the Quaternary).

Passing through the Baxter Park gate we were joined by three park rangers eager to learn more about the geology of the park; Meg Ounsworth, Keith Smith, and Loren Goode. GSM extends its gratitude and appreciation to Jean Hoekwater, Resource Ranger and Buzz Caverly, Park Director for their hospitality and accommodating our visit to the Park.

The group embarked on what Dee described in his trip guide as: a South Branch Brook "Wade" of 2.5 miles and 3.5 hours. The so-called "wade" may be more accurately described as swimming, immersion, cascading, floating, sliding, bouldering, hopping, climbing, etc. Dee seemed to enjoy this exercise - I believe he visualized the African Queen, with his Humphry Caldwell Bogart dragging the lot of us behind - sans Gordon's Gin which appeared later at the Boom House. The So. Branch Brook transect revealed a succession of exposures of Traveler Rhyolite, basal & pebble conglomerates with black chert nodules (Prototaxites), grading into Trout Brook sandstones and shales. In addition to Dee's running commentary and Marvin's expert botanical indentifications, we had the added advantage of the expert fossil indentifications described by Bill Forbes, another longstanding GSM member.

The GSM field troupe arrived at the Rip Dam Boom House on Chesuncook Lake in time for a convivial social hour followed by a sumptuous "woods camp dinner" of steak, baked beans, vegetable, salad and rolls served up by Dee and Marvin. A very short business meeting covered GSM plans for the fall Earth Science Week Workshop.

The morning of the 25'th (Sun.) was begun with stacks of blueberry pancakes and sausage

swimming in maple syrup with lots of juice and coffee all of which reinforced the field participants for the extended field trip to the Greenfield area where Dee continued his knowledgeable presentations at outcrops of the Moxie pluton and the Carrabassett formation. The trip concluded at about noon and all enthusiastically applauded Dee and Marvin for a very professional and congenial field meeting – this trip was a highlight of the GSM Jubilee year!! Thanks again Dee and Marvin!

Walt Anderson

### **Teacher's Workshop**

About 100 people attended the day-long GSM/MGS Workshop, "The Geology of Maine" on October 14. Most of the attendees were teachers from secondary and high schools; several brought students. Pres. Walt Anderson did an excellent job keeping the day on schedule as Bob Marvinney discussed bedrock geology, Woody Thompson covered surficial geology, Joe Kelley discussed the coastal zone, and Andy Tolman gave an overview of Maine groundwater. Patti Millette finished off the day with a discussion of how she organizes her entire earth science unit around a fieldtrip to collect data and samples from an outcrop. The attendees enthusiastically participated and are eager to absorb as much of this information as we can give them. It would be worthwhile to consider organizing some future workshops around a field location where participants can study geology on the outcrop. Note that most of teachers learned of the workshop through the e-mail messages we posted to the Maine\_science list server. This is a terrific method for reaching this group.

Bob Marvinney

### **Message from the State Geologist**

The Maine Geological Survey has spent the better part of the last year gearing up for our new "on-demand" plotting system, which we will use for all our future map publications. Such a method of delivering our products to our customers is a natural outgrowth of the use of GIS technology in automating many of our map production steps.

Plotter technology has improved tremendously in the last few years, which enables us to move to the on-demand system. Bob Tucker and Marc Loiselle tirelessly researched different options to address our needs for a plotter that is fast, uses UV-stable inks (to prevent fade), and has a bulk ink supply (so that a series of plots can be run nightly). Our Encad plotter arrived in May and, after much

testing for the optimal settings for our maps, is now in production. All our open-file maps will now be produced in easily readable color for only a few dollars more than the old black-line maps.

Previously color maps could only be produced by expensive offset printing methods with the requirement that thousands of maps be printed to keep the cost per copy reasonable. With printed maps we are required to store thousands of copies. At the rate we are selling some of the older printed maps, we have a 500-year supply! We have now formatted several hundred new aquifer and surficial geology maps with more to come in the next year. Visit us in Augusta to see the new plotter and maps.

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

### **GSM Member News**

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**Olcott Gates**, 80, died July 27 at his home in Wiscasset, Maine.

Ollie was born in New York City, a son of Dorothy Olcott Elsmith and Frederick L. Gates. He attended Exeter Academy and Harvard College. During World War II he served in the Coast Guard as commander of a trawler in the North Atlantic. Working along the coast of Greenland deepened his interest in geology, begun through his wife, Jane Hooper Gates, a geology instructor at Vassar College.

After the war he was captain of the research vessel Atlantis of the Oceanographic Institute at Woods Hole, Mass. He later attended graduate school at the University of Colorado and Johns Hopkins University in Baltimore, where he studied geology. While teaching at Johns Hopkins, he did field work in the Aleutian Islands, Alaska and in Nevada.

For two years Ollie was a Peace Corps administrator in Ghana, West Africa. He returned to serve as chairman of the geology department at New York State University, Fredonia.

He worked for the Maine Geological Survey for 45 years mapping the downeast coast of Maine and most recently, North Haven and Vinalhaven islands. He contributed a chapter on the geology of the Maine coast to Roger Duncan's "A Cruising Guide to the New England Coast."

Ollie enjoyed sailing, and spent his spare time designing and building small boats and making improvements to the many sailboats he owned throughout the years. He was a resident of Wiscasset for more than 20 years and was active in town meetings. He was also a member of the

Wiscasset Yacht Club and St. Philips Episcopal Church.

Surviving are his wife of Wiscasset; one son, Frederick L. Gates of Arlington, Mass.; three daughters, Catharine H. and Alice Hooper Gates, both of Bath, and Elizabeth Shaw of Appleton; two sisters, Deborah Senft and Barbara Burwell, both of Woods Hole; and five grandchildren.

*(Modified from obituary printed in Portland Press Herald)*

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### **New Maine Geological Survey Employee.**

As of 9/9/99, Mitchell Perry Dickson is the MGS's newest employee, weighing in at 6 lbs 1 oz and measuring 18" long. Mitchell is the proud owner of **Steve** and **Lisa Dickson**. Both mother and son are healthy and doing fine. Dad is still adjusting.

**Steve Pollack** is the new Chair of the Geology Department at USM, replacing outgoing Chair **Mark Swanson**. Mark recently received an NSF grant to add GPS and Total Station capabilities to the GIS lab for field studies.

Colby College also has a new department chair, **Bob Gastaldo**. See the press release below.

**Dan Belknap** is the new Department Chair of Geological Sciences at UM in Orono. Dan was also recently elected a Fellow of the Geological Society of America. He replaces **Steve Norton** after a five year stint as Chair.

**Todd Coffin** (Jacques Whitford) continues with his successful running career. For the second year in a row, Todd was the second-fastest Maine runner in the Beach to Beacon 10K. Todd also won the 1999 L. L. Bean 10K, and was featured in a story this summer in the *Maine Sunday Telegram*.

**Steve Dickson** completed his PH.D. in Oceanography from the University of Maine's School of Marine Sciences in May. His dissertation, entitled *The role of Storm-Generated Combined Flows in Shoreface and Inner Continental Shelf Sediment, Erosion, Transport, and Deposition*, was based on field work in coastal Maine. Steve continues to work at the Maine Geological Survey as a Marine Geologist.

**Art Hussey** is getting some assistance with curating the Bowdoin College Geology Department's rock and fossil collection from **Russell Shapiro**. Russell will be teaching this academic year, taking **Peter Lea**'s place while Peter is on sabbatical this semester. Art also reports that **Rachel Beane** will be working with a student on the Hurricane melange in Gary Boone's area.

**Scott E. Johnson** is the new Structural Geologist at UM. He officially starts in January, but has moved from Macquarie University in Australia with his wife Amy and more than 2 tons of rock samples.

**Dave Kendall** led another Elderhostel on the geology of coastal Maine in the Rockland area at the end of August. **Art Brownlow**, recently retired from BU, was one of the attendees. Dave heartily recommends the Elderhostel program.

**Carolyn Lepage** is recovering at home from knee surgery. The 6-week enforced idleness is a strain, but she hopes to have forestalled future problems and to be back in the field again soon.

**Bob Marvinney** (Maine Geological Survey) is now a Geological Society of America Fellow.

Acadia Environmental Technology hired **Jace Pearson** (UM, Farmington) as their new geologist.

**Don Robbins** (EnviroInvestigations and Remediation) is now a Certified Water Quality Specialist Class I, as certified by the Water Quality Association, an international body that sets standards for water supply testing and treatment. The certification covers the installation, sampling, and troubleshooting of water filtration systems for contaminants and secondary criteria.

**Tom Trainor** joined St. Germaine and Associates at their new location at 172 U.S. Route 1 in Scarborough. He will be responsible for the firm's geological investigations.

Please send member news to Carolyn Lepage at clepagegeo@aol.com or PO Box 1195, Auburn, ME 04211-1195 or by fax to 207-777-1370 or just call 207-777-1049.

### **NEW CHAIR OF GEOLOGY DEPARTMENT, COLBY COLLEGE**

Dr. **Robert A. Gastaldo** has joined the Colby Faculty as new Department Chair and the inaugural **Whipple-Coddington Professor of Geology** at the College, effective September 1st. Bob is an internationally recognized authority in Paleozoic paleo-botany with a focus on ecosystem evolution over time. As co-editor of the journal *Palaios*, he brings the editorial offices for the journal to Colby and Maine as well; he also serves on the editorial board for *The Review of Palaeobotany and Palynology*. More information is available on a special web page at Colby  
<[www.colby.edu/geology/Gastaldo.html](http://www.colby.edu/geology/Gastaldo.html)>.

Bob Nelson, Colby College <[renelson@colby.edu](mailto:renelson@colby.edu)>

## GSM Treasurer's Report

October 18, 1999

The Short Course was a great success. We had close to 100 attendees and several of them requested membership materials. The totals shown do not include the intake from Purchase Orders, which will be billed in the near future.

I have changed our checking account to an Organizational Account, from a Business Account. This will result in the deletion of fees that we were being charged by Key Bank to the tune of as much as \$8 a month.

The Society currently has 323 members: They are distributed as follows:

Associates:	27
Institutions:	11
Regular:	267
Students:	18

Unfortunately it is easy to let your dues lapse. The dues date is shown on your mailing label.

**Balance on Hand 07/07/99 \$ 10,460.42**

Anderson Fund (Total)	\$ 4,539.63
Education Fund (Total)	\$ 719.70
Receipts Subtotal	\$ 2,209.00
Dues	\$ 448.00
Anderson fund (intr. + contr.)	\$ 0.00
Education fund	\$ 21.00
Publications	\$ 0.00
UMA Short Course (to date)	\$ 1,740.00
Expenses subtotal	\$ 364.39
Printing, mailing, stamps	\$ 0.00
Anderson Awards	\$ 0.00
Bank Charges	\$ 11.61
Spring Meeting Expenses	\$ 352.78
Website	\$ 0.00
Taxes	\$ 0.00

**Balance on Hand 10/18/99 \$ 12,305.03**

Respectfully submitted,  
Elizabeth A. Champeon, Treasurer  
<Lchampeon@aol.com>

## HOME HEATING OIL TANKS, A CONTINUING PROBLEM FOR THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION-Part I

Patricia O. Seaward,  
Maine Department of Environmental Protection

Excerpted from:

### **Above Ground Home Heating Oil Tank And Piping Upgrade Pilot Project: A Report To The Maine Fund Insurance Review Board,**

by:  
David Maxwell and George Seel, Bureau of Remediation & Waste Management, Maine Department of Environmental Protection, September 30, 1999.

On March 23, 1998, the Maine Legislature and Governor put into effect emergency legislation to address in a proactive manner the growing problem of oil pollution from heating oil supply tank and piping failures. This legislation, "An Act to Reduce Groundwater Contamination from Leaking Oil Storage Tanks" authorizes for the first time the use of funds from the Groundwater Oil Cleanup Fund for pollution prevention efforts, instead of just the after-the-fact remediation of oil discharges. This spending authorization was for two fiscal years, FY 99 and FY 2000.

### **General Condition Of Above Ground Home Heating Oil Supply Tanks And Piping:**

The cleanup of oil pollution and its effects from home heating oil supply tank and piping failures is an increasing part of the Bureau of Remediation and Waste Management's workload, resulting in significant expenditures from the Groundwater Oil Cleanup Fund. Such heating oil spills and leaks contaminated drinking water supplies, and in some cases cause indoor air pollution, both of which pose public health risks as well as nuisances.

For the time period of 1995 to 1998, inclusive, the Department had to respond to 1850 such spills. That is an average of over one per day. These spills and leaks are found statewide and are distributed similar to Maine's population. Discharges from above-ground home heating oil tanks and piping have increased dramatically.

These same heating oil spills contaminated 79 private residential drinking water supply wells while placing an additional 689 wells at significant risk of contamination. These are also conservative figures. They are based on an initial round of sampling of wells in the immediate proximity of heating oil tank failures. Follow-up investigation over time often results in additional contaminated wells being documented by water testing. The Department is currently working on 98 remediation sites caused by

home heating oil tank or piping failures that require long-term, multi-year remediation efforts, including the replacement of contaminated drinking water supplies.

There are other, very large contamination cases in coastal communities where above-ground home heating oil tank or piping failures combined with surface spills of gasoline and leaking underground tanks do contaminate large numbers of private residential wells, which are not included in these numbers.

Findings of inspections conducted of the tanks, piping and locations where work was conducted in the course of this project, verify the Department's long-standing suspicion that many heating oil tanks and piping have spills and leaks that are not reported. Consequently they do not show up in the above statistics, which significantly under represent the number of oil discharges attributable to home heating oil tank systems. Of the 885 sites where above ground heating oil supply tanks and piping were replaced, visual evidence of past or on-going leaks or spills were found at 174 (20%). None (0) of these had previously been reported to the Department as required by statute. Thirty-three (33) of these oil discharges (19%) were judged to be of a serious nature and threatened drinking water supplies or resulted in petroleum vapors in a home's living space.

\* The entire report may be found under Bureau of Remediation and Waste Management at <http://janus.state.me.us/dep/home.htm>

## **News from the Board for Certification of Geologists and Soil Scientists.**

The Board is having discussions with the Department of Business and Financial Regulation about its finances. Those of you who are certified will remember that we had to increase fees significantly a few years ago, and recently have had to raise them again to cover the cost of participating in the National Geologist Exam through ASBOG. As part of a general restructuring, the Department changed the way it calculates administrative overhead for the boards last year. This has had the effect of increasing the Board's fixed costs significantly, as the new formula takes 1/3 of the cost of running all licensing programs and spreads it evenly over the boards, regardless of size or activity. This assessment is over \$18,000 per board. The other two thirds of the costs are based on the number of licensees and amount of non-administrative expenditures. Since the Board has a comparatively small number of licensees and

expends relatively little discretionary money, these two assessments add up to about \$4,000. So our total fixed administrative costs are in the area of \$22,000. David Rocque, our chair, has written an article being distributed to all certified geologists and soil scientists describing the formula and its consequences in more detail.

When you compare these with our normal revenue of about \$25-27,000 per year, there is little room to actually operate the board, pay ASBOG dues (about \$2,500 per year), or run meetings. The net result is that the board, which had been generating a small reserve, is projected to run a deficit and become insolvent by 2002. The Legislature's Business and Economic Development Committee is involved in a process of reviewing the licensing program, in part because of the financial status of a number of boards.

The options that have been offered to the Board so far include increasing fees to \$130 per year and considering merging with other, unspecified, board or boards. Neither of these options appeal to the Board, and we are looking for guidance and suggestions of how to proceed. Please communicate with your Board members and let them know about whether you value Maine Geologist and Soil Scientist Certification. Geologist Board members are Bob Marvinney, Art Hussey, and myself. Soil Science members are Dave Rocque, Al Frick, and Ivan Fernandez. Daniel Bernier is our public member. The Legislature's review process is just beginning, but it has a very short time line, and your feedback will help the Board do its part more effectively.

Andy Tolman, MGS, 287-2801.  
<Andrews.L.Tolman@state.me.us>

## **DEP-Consulting Professionals Task Force Update**

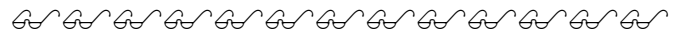
by: Carolyn Lepage

The Task Force has been focusing on wetlands issues recently. Topics discussed included the inconsistency of wetland delineations submitted to the Department of Environmental Protection (DEP), the qualifications of the individuals performing the work, the level of mapping intensity required, and the inaccuracies associated with the transfer of wetlands mapping information to a set of plans. Additional training was discussed, as was the possibility of certifying wetlands professionals. The State of New Hampshire may establish a certification requirement soon. The Task Force has suggested that DEP establish guidelines regarding the level of effort required for various wetland delineations. One option for developing guidance is

through a stakeholders group that includes the Maine Association of Wetland Scientists and other interested parties. The Task Force also feels there is a need for “clarification of qualifications” for wetlands scientists.

The Task Force discussed the DEP’s Third-Party Inspection Program at an earlier meeting. This program requires inspection of certain elements by an independent inspector during construction of major projects. Engineers who design particular aspects of a project (such as stormwater control measures) do not want to be prevented from being hired as inspectors. In addition, engineers are concerned that non-engineers are allowed as inspectors of features designed by professional engineers.

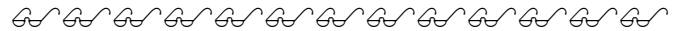
Suggestions for training or issues for the Task Force to follow up on are always welcome. Please give me a call at 777-1049, send me a fax at 777-1370, or e-mail me at: clepagegeo@aol.com.



“ January 26, 27 and 28 [1667] ... there were earthquakes 6 or 7 times in the space of three days. Earthquakes are frequent in the Countrie; some suppose that the white mountains were first raised by earthquakes, they are hollow as may be guessed by the resounding of rain on the top. The *Indians* told us of a River whose course was not only stopt by an Earthquake in 1668 ... but the whole River swallowed up. And I have heard it reported ... that ... there happened a terrible Earthquake amongst the French [in Quebec], rending a huge Rock asunder even to the center wherein was a vast hollow of an immeasurable depth, out of which came many infernal spirits.”

John Josselyn, Colonial Traveler, A Critical Edition of *Two Voyages to New-England*, (1674), Edited and Introduced by Paul J. Lindholdt, University Press of New England, Hanover, 1988, p. 42-43.

Submitted by: Michael Field.



**MEMBERSHIP DUES STATEMENT**

**The GEOLOGICAL SOCIETY OF MAINE, INC.** 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 modern 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:

- \$7.00 REGULAR MEMBER Graduate geologists, or equivalent, with one year of practice in geology, or with an advanced degree.
- \$6.00 ASSOCIATE MEMBER Any person or organization desirous of association with the Society.
- \$4.00 STUDENT MEMBER Persons currently enrolled as college students.

A \$2.00 APPLICATION FEE is a one-time fee for all new members, payable when applying for membership.

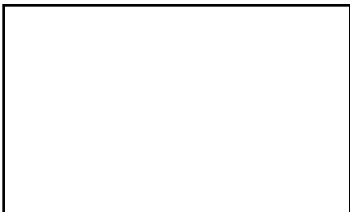
**THE GEOLOGICAL SOCIETY OF MAINE ANNUAL RENEWAL / APPLICATION FOR MEMBERSHIP**

Application Fee	\$2.00	\$ _____	Name _____	<b>Make checks payable to:</b> Geological Society of Maine Elizabeth Champeon, Treasurer Six Liberty Drive Bangor, ME 04401
Regular Member	\$7.00	\$ _____		
Associate Member	\$6.00	\$ _____	Address _____	
Student Member	\$4.00	\$ _____		
Contributions to GSM		\$ _____		
			(please write gift or fund on check)	
<b>TOTAL ENCLOSED</b>		\$ _____	_____	

(Geological Society of Maine funds include the Walter Anderson Fund, the Education Fund, and discretionary gifts as noted by contributor)

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**1999/2000 SOCIETY YEAR BEGINS AUGUST 1 - PLEASE SEND DUES TO TREASURER**

**THE GEOLOGICAL SOCIETY OF MAINE**  
c/o Daniel F. Belknap, Newsletter Editor  
Department of Geological Sciences  
111 Bryand Global Sciences Center  
University of Maine  
Orono, ME 04469-5790



*THE MAINE GEOLOGIST* is published three times a year, in mid-winter, summer, and early fall, for members of the Geological Society of Maine.

Return Service Requested

Correspondence about membership in the Society should be mailed to:  
Elizabeth Champeon, 6 Liberty Drive, Bangor, ME 04401

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

- President Walter Anderson
- Vice President Dave Gibson
- Secretary Pat Seaward
- Treasurer Elizabeth Champeon
- Newsletter Editor Dan Belknap
- Directors Fred Beck (97-00)
- Marty Yates (97-01)
- Joe Kelley (98-02)