

THE PRESIDENT'S MESSAGE

According to the recent book "Thank You for Being Late" by Thomas Friedman, we are living in the Age of Accelerations. Not only are things changing, but they are changing faster than ever. This is true most dramatically in technology, but also in social and economic systems as well as environmental and geological systems. Buzzwords such as "sustainability" and "resiliency" reflect the expectation of more changes yet to come. Are you keeping up?

Perhaps I'm not alone in remembering writing manuscripts with pencil on lined paper, drafting figures with pen and ink (with a Leroy lettering guide on the final copy), sitting in the library for hours copying notes from journal articles onto index cards. Job ads once said things like "computer literacy preferred." Now, device dependency is taken for granted.

In this environment of accelerating change, the Society aspect of the Geological Society of Maine is indispensable. Recent GSM meetings presenting new technology and new applications to geologic problems have been well received. The truth is that even as a group of geologists we have a diverse range of individual knowledge, experience, skills, and interests. What we do have in common is that something about the natural world drew us to geology, be it wonder, mystery, intellectual challenge, excitement of discovery, discipline of analysis, enjoyment of being outdoors, managing natural resources, or solving practical problems. What draws you to geology?

An easy way to celebrate our individuality and our connection is to share pictures. I am instituting the *Rediscover Your Passion* Challenge, by asking you to take time to visit a place in Maine that has special geologic significance for you, and have your

picture taken. Go by yourself, with your dog, or invite other GSM members. Plan ahead or go on a whim. Hike a mountain or step out the back door. Then send the picture in a message to the GSM Facebook page (and don't forget to "Like" us!). Visit the Facebook page, click on the "Message" button, and attach a photo using the icon along the bottom of the message window. In the message, include your name, the names of any other people in the photo (with their permission), the location in Maine (with UTM or lat/long coordinates if possible), and a few words describing the allure of the place.

The photos will be posted with the hashtag #rediscoveryourgeopassion. It will be fun to see how many places in Maine are special to our members. I would love to see at least 50 GSM members participate by the end of July. I commit to posting one myself before the Spring Meeting. One of the ways to reduce the stress of change is to celebrate things that energize us, such as our own passions and connection to community.

Please look through the Newsletter for upcoming events and activities of your Society. I look forward to seeing you at our next face-to-face meeting at Bates College on April 7.

GSM President Henry Berry

henry.n.berry@maine.gov

GSM Logo Contest

Announcing the first ever GSM Logo Contest! We are looking for a simple, colorful design that we can use to identify the society in informal communications and on tangible items. For example, we hope to pursue a t-shirt to be ready for the Summer Field Trip. All GSM members with a talent for graphics are invited to enter the contest. Entries should be submitted by email to Henry Berry (henry.n.berry@maine.gov) by **Friday, March 31**. Each entry should include three items: (1) the

entry email giving the name and contact information of the entrant, (2) one copy of the logo graphic in JPG format, and (3) one copy of the logo graphic in one of these vector formats: PDF, AI, SVG, or EPS with a 10 Mb file size limit. Logo should be designed for legibility in the 1" to 3" range. All entries must be the original work of the GSM member and must not include, be based on, or derived from any pre-existing or third-party designs, trademarks, or copyrighted images. Entries will be displayed at the GSM Spring Meeting on April 7, and GSM members will vote for their favorite. The winning entry will receive a free t-shirt with the new logo. This logo will not replace the GSM emblem we have used since the inception of the society in 1974 and which appears at the top of this Newsletter, but will be used in less formal settings. Will the graphic artists among us please step forward!

private sectors can catch up with each other. Those who wish to continue conversation may purchase an outstanding dinner through the line downstairs at the Bates Commons.

Many thanks to the Bates Geology Department for hosting this event!

GSM Spring Meeting, Friday, April 7
Room 221/222 New Commons, Bates College
Preliminary schedule (depending on abstracts received)

1:30 GSM business meeting
1:45 Student poster presentations
3:15 Keynote presentation, Dr. Dwight Bradley
4:15 Student oral presentations
5:30 Awards and Social Hour
6:30 Dinner through the line in the Commons

GSM Spring Meeting

Spring Meeting April 7

The GSM Spring Meeting will showcase student research in geological sciences on Friday, April 7 at Bates College. Students at any Maine school and students from elsewhere who are working in Maine are invited to present their work in either poster or oral format. Abstracts must be submitted to Bev Johnson (bjohnso3@bates.edu) by **Friday, March 24**. See the abstract submission instructions for details.

All events will take place in Room 221/222 of the New Commons (next to Garcelon football field) at Bates College. The program will begin promptly at 1:30 pm with a brief GSM business meeting open to all GSM members followed by an afternoon of student presentations and interaction. As an added attraction, we are pleased to present Dr. Dwight Bradley of the U.S. Geological Survey who will give a special keynote talk at 3:15. At the close of formal presentations, awards will be presented to the best undergraduate poster, the best undergraduate talk, and the best presentation by a high school student as determined by a panel of judges. The winner of the GSM logo contest will be decided by vote of the membership. This will be followed by a less formal but equally important social hour where students and professional geologists working in the public and

Notes on Abstract submission:

Submit by email to Bev Johnson (bjohnso3@bates.edu) by **Friday, March 24**.

Enter "GSM2017" in the subject line of the email. Indicate whether High School student, Undergraduate student, or Graduate student.

Indicate your school.

Oral presentations will be scheduled for 15 minutes plus 5 minutes for questions.

Posters should be 24" high by 36" wide (landscape format).

Form of the abstract should follow GSA guidelines exactly as below:

TITLE IN ALL CAPS

Last Name, First Name, Middle Initial [and so on for co-authors], Department Name, Institution Name, Address, e-mail address.

Body of the abstract, no longer than 350 words or about 2000 characters. Write in simple declarative sentences. DO NOT use the passive style "it will be demonstrated that ..." etc., just tell us the facts.

THE EDITOR'S MESSAGE

The Newsletter is distributed through e-mail in PDF format. Anyone with special needs please contact the Editor. Please send items of interest for the News from the Campuses and Member News columns, or other things you'd like to share.

Dan Belknap, Newsletter Editor

<belknap@maine.edu>

or Amber Whittaker, incoming Newsletter Editor

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GSM WEBSITE: www.gsmmaine.org

FACEBOOK: facebook.com/GSMMaine

NEWS FROM THE STATE GEOLOGIST

Groundwater at the Legislature

Robert G. Marvinney, State Geologist

Nothing dies harder than a bad idea. I last wrote a column about groundwater in 2009 when the 124th Maine Legislature was deluged with more than a dozen bills addressing various aspects of groundwater, all motivated by concerns over large-scale withdrawals for bottling. Among the bills currently before the 128th Legislature are those that would tax bottled water, create a water trust, and limit a water district's ability to sell water for bottling. Bills like these surface whenever Poland Spring/Nestlé investigates potential new sources, as they are currently doing in the Rumford area. All the legislative attention is predicated on the perception that among all groundwater withdrawals, those for bottled water pose a greater threat to Maine's aquifers and the environment than withdrawals for other purposes. There is no basis for this position.

Groundwater is among Maine's most renewable resources. [Monitoring wells](#) managed by the USGS and distributed across the state clearly demonstrate the annual recharge cycle of Maine's groundwater, in stark contrast with USGS wells in many western states that show decades of decline due to pumping for irrigation and municipal water supplies that outstrips recharge. "Groundwater mining" like that simply is not happening in Maine. In fact, decades of monitoring show that groundwater levels are increasing across most of Maine. Furthermore, large groundwater withdrawals for irrigation (in areas regulated by the Land Use Planning Commission) and bottling are heavily regulated, requiring expensive investigations and rigorous analyses to demonstrate the sustainability of the withdrawals.

In 2015 Poland Spring bottled around 900 million gallons of water from nine different gravel

aquifer sources distributed around southern and western Maine. For comparison consider that in a typical year one large blueberry grower in eastern Maine uses about 1 billion gallons from one aquifer. One public water system in southern Maine produces about 900 million gallons annually from several clusters of wells in one aquifer system and has done so for decades. Monitoring data for all these withdrawals demonstrate groundwater recharge on an annual basis. I visited all of Poland Spring's well sites in October 2016, at the nadir of our recent drought. Each site had flowing springs – a testament to careful oversight by the resource managers at Poland Spring and the State's regulatory framework that limits withdrawals during drought.

Activist groups opposed to withdrawals for bottling often ascribe environmental catastrophes to this activity – groundwater mining, aquifer collapse, loss of wetlands, private wells run dry throughout a region – but never express similar concerns about irrigation or public water system uses of similar magnitude. These same groups suggest that Nestlé's goal is to control Maine's groundwater supply and sell it back to Maine citizens at a profit. I have heard this same view expressed by Maine Legislators. Groundwater withdrawals for bottling should be taxed, they say, in a way similar to excise taxes on oil and gas production in Alaska. As we all know, an analogy that compares non-renewable resources such as oil and gas to renewable resources such as groundwater is one that does not work.

Taxing bottled water was a bad idea in 2005 when Maine voters rejected a referendum to do just that. It was a bad idea in 2009, 2011, and 2015 when bills to tax bottled water were rejected by the Legislature. It remains a bad idea today.

Robert G. Marvinney, State Geologist.

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GSM 2016 Fall Meeting Report

Report on the GSM Fall 2016 Meeting

Marty Yates, Meeting Organizer

GSM met for its annual Fall meeting on November 18 at the Augusta Civic Center with a GIS theme titled 'Geographic Information Tech-

nology and Applications'. The idea was to bring our members up to date on current developments in geospatial information and its application to the geology of Maine. We were fortunate to have six excellent speakers presenting on a variety of topics. Martha Neilson from the U.S. Geological Survey, New England Water Science Center presented new research on integrating published and database accessible data for the purpose of estimating groundwater recharge in Maine. Amber Whittaker, *GIS Coordinator*, Maine Geological Survey provided us with a step-by-step tutorial on incorporating LandSat data into geological applications. Chris Halsted, Director of Earth Resources Information at the Maine Geological Survey updated us on newly available online GIS resources and potential applications. Nicholas Whiteman from the School of Earth and Climate Sciences at the University of Maine demonstrated the use of the photo-based 'Structure from Motion' program to study coastal erosion. David McKittrick, Senior Applications Specialist for Blue Marble Geographics demonstrated the 'Global Mapper' program's ability to process LiDAR data. Our keynote speaker was Sean Smith from the School of Earth and Climate Sciences at the University of Maine. Sean spoke on his use of geographic information techniques to study pollution in Downeast watersheds. All of the talks were informative, were well received by the attendees, and lead to considerable discussion. My thanks to all the speakers and participants.

Martin Yate Yates@maine.edu

GSM 2017 Summer Field Trip

Plans are underway for the 2017 Summer Field Trip. It will celebrate the geology of the southern Maine coast from York County to Casco Bay, in tribute to Professor Arthur Hussey, charter member and first President of the GSM. We will visit several of the classic stops featured in Arthur's book, [Guide to the Geology of Southwestern Maine](#), published by the Maine Mineral and Gem Museum. Stay tuned to the GSM web site and Facebook page for dates and details as plans develop.



DIRIGO. Arthur M. Hussey II, Gaspé Peninsula, Bowdoin College Geology Field Trip 10/10/72.
Dan Belknap

GSM TREASURER'S REPORT

Anderson Fund Grants

The Society would like to remind members that the Anderson Fund is available for grants up to \$1,000 to support educational programs. The most recent examples are the support of field trips for university geology students. However this is not all that may be funded. Any project furthering the public awareness and understanding of the geology of the State of Maine is eligible. Take a look at the "Education Funding Requests" document on the GSM website to find other types of projects that qualify for funding and the procedure for submitting proposals. You will find this under the Walter Anderson Fund page on the web site. Start thinking of projects you would like to do. The upcoming submittal date is October, 2017.

Treasurer Bruce Hunter
<bruce.e.hunter@gmail.com>

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 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 a field trip). A newsletter, ***The Maine Geologist***, is published for all members three times a year. The Society year runs from Aug. 1 to Jul. 31. Annual dues and gift or fund contributions to the Society are tax deductible. There are four classes of memberships:

\$ 20.00 REGULAR MEMBER	Graduate geologists, or equivalent, with one year of practice in geology, or with an advanced degree.	FEE SCHEDULE
\$ 20.00 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	\$ 20.00	\$ _____	Name _____	Make checks payable to: Geological Society of Maine Bruce Hunter, GSM Treasurer 44 Old Fairgrounds Rd. Readfield, ME 04355
Institutional Members	\$ 20.00	\$ _____		
Associate Member	\$ 10.00	\$ _____	Address _____	
Student Member	\$ 5.00	\$ _____		
Contributions to GSM		\$ _____		
(please write gift or fund on check)				
TOTAL ENCLOSED		\$ _____	_____	

Email Address _____

(GSM funds include the Walter Anderson Fund____, and discretionary gifts as noted by contributor)

2016/2017 SOCIETY YEAR BEGAN August 1 - PLEASE SEND DUES TO TREASURER.

THE GEOLOGICAL SOCIETY OF MAINE

c/o Daniel F. Belknap, Newsletter Editor
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PLEASE PAY YOUR DUES

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.

Correspondence about **membership** in the Society, **publications** and **dues** should be mailed to:

Bruce E. Hunter, bruce.e.hunter@gmail.com, GSM Treasurer, 44 Old Fairgrounds Rd., Readfield, ME 04355

Items for inclusion in the **Newsletter** may be directed to:

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