



The Maine Geologist

NEWSLETTER OF THE GEOLOGICAL SOCIETY OF MAINE

March 2024

Volume 50

Number 1

PRESIDENT'S MESSAGE

This year marks the 50th anniversary of the Geological Society of Maine's formation. This organization has come a long way from its inception, which first convened in Art Hussey's barn in 1974 with the founding members seated on hay bales! Indeed, we have come a long way. More on the 50th in a bit...

The Northeastern GSA section meeting was only a week ago since writing this letter. From my perspective, it was a fantastic conference. There were so many wonderful ideas floating around, and it was refreshing and humbling to spend a few days with so many brilliant minds. There is so much interesting research being done in and around New England! The societal aspect was fully satisfying as well - it was wonderful to catch up with new and old colleagues. I'm hopeful we will see something similar happen at our own spring meeting coming up on April 12th at Bowdoin College. A huge thank you to Professor Emily Peterman and others at Bowdoin for making this happen.

The summer field trip is shaping up and looks to be a memorable event. We are heading back to coastal Maine, with trips around Penobscot Bay on July 27-28. Full details to come, but I'll add that I'm looking forward to my first ever visit to Islesboro.

We are planning something a little different for the GSM 50th anniversary celebration at this year's fall meeting. Normally we focus on recent research or information about a particular geology topic, but this year we're going to lighten things up with a theme of "Maine Geology: Greatest Hits." We will invite members to share classic localities and/or their most loved geologic settings in the state with topics spanning from coastal to surficial to bedrock. It should be a fun meeting with something for

everyone. If you have any suggestions for speakers, please feel free to reach out.

In recognizing the GSM's semicentennial, I would like to express my appreciation for the society and the opportunities and support its members have provided me over the years. It has been an honor to serve at the helm for the past couple years. Here's to 50 more years!

Best Regards,

Myles Felch

President, GSM

Curator, Maine Mineral & Gem Museum

mfelch@mainemineralmuseum.org

NEWS FROM THE STATE GEOLOGIST

Natural disasters are on the rise in Maine. The latest federally declared disaster ([FEMA-DR-4764-ME](#)) was issued on March 20, 2024, for all of Maine's coastal counties. In five days, there was over \$70 million in public infrastructure damage as properties along the entire coast experienced coastal flooding and wave damage during January 9 and 13 southeasters that coincided with King Tides, and a sea level running about half a foot above predicted. The Portland tide gauge set a record by surpassing the February 1978 "100-year" storm. Earlier this winter, a December 17-21, 2023, storm caused flooding, extensive road damage, and power outages across Androscoggin, Franklin, Kennebec, and Oxford Counties ([DR-4754-ME](#)). Looking back over the last 30 months, eight storm-related disasters qualified for federal assistance in Maine.

The [Maine Climate Council's Scientific and Technical Subcommittee](#) (STS) is compiling the latest research and trends for a new scientific assessment due out this spring. The subcommittee

consists of over 40 contributors from Maine with a broad range of specialties from human health to ecosystems. The report will be a resource and reference for trends and extremes that influence stream flow, aquifers, water quality, seasonality in snow and ice, and terrestrial and marine carbon sequestration. The STS briefed the council on March 14, 2023, and [the slides and video recording are on the council's website](#).

In December 2023, the Maine Geological Survey (MGS) published a final report of the New England States Geologic Mapping Coalition. [“Identifying Stratigraphic Problems in New England: A Project of the New England States Geologic Mapping Coalition”](#) is available in the Digital Maine repository and includes a separate citation data file that can be downloaded. The study identifies some of the more significant regional geological issues and we hope it can lead to new research and collaborations on bedrock geology in New England.

The MGS STATEMAP program continues to publish bedrock and surficial geology maps based on 2023 fieldwork, including significant collaborations with external colleagues. The most recent releases can be found on the [“What’s New”](#) MGS website page and through email announcements you can subscribe to at the bottom of the MGS homepage. In the last ten years, the MGS has published over 100 bedrock and surficial maps at the 1:24,000 scale through the STATEMAP program.

Economic geology continues to be of growing interest in Maine. Detailed mapping efforts led by the MGS and funded through the USGS Earth MRI program continue to explore critical minerals of national significance in the state. In February 2024, the Land Use Planning Commission voted against changing zoning that would have opened a path for Wolfden Resources to apply for a DEP permit under the Maine Metallic Mineral Mining Act. This request was made to advance Wolfden’s interests in the Pickett Mountain site, which is estimated to have five million U.S. tons of ore containing zinc, lead, copper, and silver. Separately in 2024, the Maine Legislature took up a revision to the DEP Chapter 200 rules related to the Metallic Mineral Mining Act with the intent to allow excavation of granitic pegmatites with standards like those for rock quarries when sulfidic

rocks are not present to possibly produce acidic water. Following the Legislature’s direction, the Board of Environmental Protection revisited the rule language, deliberated, made a change, and then sent the revised language back to the Legislature for final approval late in the session.

The [Northeast Section meeting of the Geological Society of America](#) was held March 16-19 in Manchester, New Hampshire. Many GSM members spoke or exhibited posters on recent work in Maine and across New England. There was also a special symposium honoring retired Maine State Geologist Robert Marvinney that was chaired by MGS Senior Geologist Amber Whittaker, with contributing talks from Amber, Henry Berry, and Lindsay Theis (also MGS Senior Geologists). Lindsay and MGS Marine Geologist Peter Slovinsky also chaired a technical session on geohazards in the northeast.

I extend my gratitude to the geologic community for the significant scientific contributions that benefit Maine. The work we all do extends far beyond the inner circles of science and reaches the people of Maine and beyond. Thank you.

Stephen M. Dickson, Ph.D.
State Geologist

NEWS FROM THE CAMPUSES

University of Maine – Presque Isle

Seven students from UMPI’s Geology Club and Professor Wang headed to New York City for Spring Break 2024 (March 9-12)! They visited some classic destinations including Central Park, the Metropolitan Museum of Art (where interest focused on pieces comprised of rock), and of course, the American Museum of Natural History. Dr. Wang also recently authored the [bedrock geology of the Spider Lake quadrangle, Maine](#).

Chunzeng Wang

University of Maine – Farmington

UMF senior Gil Hamilton shared results of our stream geochemistry project near the Plumbago North lithium prospect at NEGSA in Manchester, New Hampshire. Other contributions included co-authorship on two posters (new Islesboro map and updated terrane map of the Appalachian-Caledonide orogen), and a talk on Newfoundland geology for the symposium in honor of Sandra Barr. Earth and Environmental Sciences students will be attending the MSWC in Augusta. Carson Theriault has documented the sedimentological record of last year's floods. Drs. Julia Daly and Rachel Hovel are headed to Iceland with students in May. Perhaps the best news is that Dr. Larry Tuttle has accepted a tenure track position in Mineralogy and Petrology starting this summer.

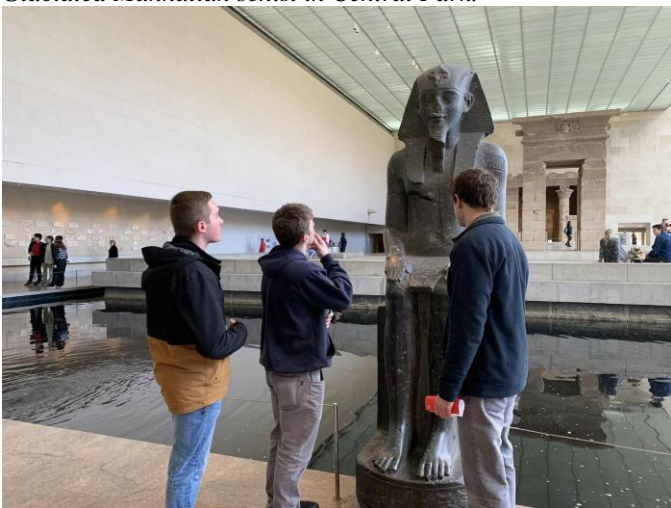
Doug Reusch



The UMPI group at the American Museum of Natural History.



Glaciated Manhattan schist in Central Park.



UMPI students at the Metropolitan Museum of Art – no rock hammers allowed here!



UMF student Carson Theriault taking notes in Temple Stream, Farmington, after a May 2023 flood. Carson will be presenting this work at the Maine Sustainability and Water Conference.

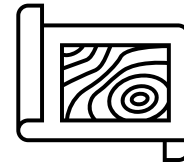


THE EDITOR'S MESSAGE

The newsletter is distributed through email and on the GSM website in PDF format. Anyone with special needs should contact the Editor. Please send items of interest and photographs of GSM activities to:

Lindsay Theis, Newsletter Editor
lindsay.theis@maine.gov

GSM WEBSITE: www.gsmmaine.org
FACEBOOK: facebook.com/GSMMaine



GSM SUMMER FIELD TRIP

The 2024 GSM summer field trip will be held in the Penobscot Bay region of Maine on July 27-28, 2024. Camping and trip headquarters will be at Camden Hills State Park. More details to come!

GSM SPRING MEETING

April 12, 2024, Bowdoin College

The GSM spring meeting will be hosted by the Bowdoin College Earth and Oceanographic Science Department, Brunswick, ME. The meeting will start at 12:15 pm but all are welcome to arrive early for lunch on campus. This is a great opportunity for students to hone their presentation skills and get some feedback on their projects without the expense of a multi-day conference. We hope to see you there! Please contact Emily Peterman with any questions (epeterma@bowdoin.edu).

Schedule:

11:30 am – 12:15 pm: Lunch
12:15-12:30 pm: Opening Remarks/Business Mtg.
12:30-1:30 pm: Poster Session
1:30-1:45 pm: Coffee Break
1:45-2:45 pm: Student Presentations
2:45-3:00 pm: Break
3:00-4:00 pm: Keynote Speaker
4:00-4:30 pm: Student Awards



NEGSA MEETING RECAP

The Northeast Section of the Geological Society of America held its [annual meeting](#) in Manchester, NH, March 16-19. It was wonderful to see so many GSM members there (including honorary member Flat [Florence Bascom](#))! The wide variety of technical sessions and symposiums provided something for everyone. Many thanks to the organizing committee and session chairs for all their hard work. Rumor has it that the 2029 meeting will be back in Portland, Maine! If you are interested in serving on the 2029 meeting committee, please contact Amber Whittaker (Amber.H.Whittaker@maine.gov).



Chunzeng Wang (UMPI) and retired Maine State Geologist Bob Marvinney (left photo) and Dave West (NEGSA Section Secretary/Middlebury College; right photo) posing with Flat Florence Bascom (a.k.a. "Flat Flo") at NEGSA 2024.

APRIL 8, 2024 SOLAR ECLIPSE

As many of you may already know, northern Maine will be inundated in early April with visitors seeking to experience the total solar eclipse. The eclipse will occur from about 2-5 pm EDT, with optimal conditions in Maine towns such as Rangeley, Jackman, Millinocket, Houlton, and Presque Isle. You can watch an animation of the path [here](#). For more information, visit eclipse2024.org. (Thanks to Woody Thompson for sending along this information.)



Total solar eclipse path across the U.S. (from Astronomy Magazine).

SECRETARY'S REPORT

The Executive Council (EC) met by Zoom in September to plan the fall meeting and recruiting for EC positions. The EC met in person in advance of the fall 2023 meeting to finalize the GSM meeting plans and discuss preliminary plans for spring and summer events. The EC met by zoom in January 2024 to discuss the GSM spring meeting and planning for the 2024 summer field trip.

Fall GSM Business Meeting Minutes, Friday, November 17, 2023

1. GSM President Myles Felch welcomed all and called the meeting to order.
2. Nominations Committee
 - a. The Nominating Committee presented nominations for two Councilor positions: Mark Woodruff

(three-year term) and Joe Kelley (two years, serving out Sarah Hall's remaining two-year term).

- b. Nominations were presented, seconded, and approved by member vote.
3. Treasurer's report
 - a. Bruce started with a reflection on funding available: GSM renamed the original Anderson Fund as the Education and Professional Development Fund (EAPD Fund) at Walter Anderson's suggestion about a year ago. Funds are available for professional development (e.g., ASBOG exam, professional licensing matters) in addition to research and education. All are encouraged to consider educators who may make use of funds, or individual applications.
 - b. Bruce provided an update on the state of GSM accounts: \$6,670 in general fund, \$39,200 in EAPD Fund, \$16,291 Kevin McCartney fund. The fundraising campaign for educational funds was interrupted by the arrival of COVID-19. Our original goal was to get the education funds up to \$100K and be able to fund requests out of the interest. While we still have a long way to go to endow the funds, we are still able to provide funds to meet requests.
 4. Summer field trip 2024: Options include Penobscot Bay, Downeast, and the Katahdin area. A successful trip will depend on willing leaders; if you have any ideas, please feel free to share them.
 5. Walter Anderson discussed a proposal for establishing a Geoheritage site in the Katahdin region. The guidelines for Geoheritage include focus on educational,

scientific, cultural, and aesthetic significance.

- a. Walter presented “A Geoheritage Proposal for the Greater Katahdin Region” to Our Katahdin on October 26, 2023. The presentation was prepared by Water Anderson, Bob Marvinney, and Chunzeng Wang.
 - b. The proposal focuses on the greater Katahdin region and includes three phases: web presence, web app for use at user’s locations, and interpretive center and signage at physical locations.
 - c. Walter, Bob, Chunzeng will continue to seek endorsements from organizations, societies, educational institutions.
 - d. Myles proposed a good next step as a meeting with Walter, Bob, Chunzeng, and the EC for further discussion.
6. Keith Taylor discussed job opportunities in geology in Maine, including opportunities in environmental consulting and with Maine DEP. Keith also noted that the Association of State Boards of Geology (ASBOG) administers two tests which are required by many state licensing boards, including Maine. The Fundamentals of Geology (FG) test can now be taken right out of college, rather than waiting until full eligibility for licensing. Having a successful FG test in-hand can be a benefit to job seekers.

The business meeting was adjourned. Myles Felch provided opening remarks for the afternoon discussion of topics about PFAS, poly- and perfluoroalkyl substances, or “forever chemicals.” His remarks were followed by an update from State Geologist Steve Dickson and invited speakers.

Respectfully submitted,
Lisa Jacob, Secretary
ljj@smemaine.com
207-829-5016

TREASURER'S REPORT

A Note About Dues and Donations:

Do you ever wonder where your GSM dues and donations go? The Fall meeting is when we gather at the Augusta Civic Center to listen to presentations on topics of interest to professional geologists. The meeting is free to attend but it is our biggest expense since we rent a room and provide refreshments - this year it cost the GSM \$2,412.59.

The spring meeting is where students present their research projects as talks or posters. This meeting is hosted by Maine colleges and universities on a rotating schedule and the host usually covers any costs. The GSM gives awards to the best presentations and posters and this usually costs \$200.00.

In the summer we have a field trip to an area of geologic interest. The costs of these trips vary depending on the location, but the GSM likes to subsidize the cost for attendees so that no one is excluded. We usually ask for a \$15.00 registration fee. Attendees get a field guide, dinner on Saturday night, and a camping site if they wish to camp.

A small percentage of your dues go to the two GSM endowment funds: the Education and Professional Development Fund (previously the Anderson Fund) and the Kevin McCartney fund. Both help fund student field trips and research projects. When we raised dues to \$30.00 it was decided that a percentage would go to the funds. Separate donations have fallen off since COVID and I hope more of you can start giving again. If you wish to make a [donation](#) or [pay your dues](#), you can do so on the GSM website or send a check to the Geological Society of Maine c/o Bruce Hunter at the address below – thank you for your contributions.

Respectfully submitted,
Bruce E. Hunter, Treasurer
44 Old Fairgrounds Road
Readfield, ME 04355

August 1, 2023 to February 12, 2024

Semi-Annual Asset Summary February 12, 2024

Account	Sub-Account	Feb. 12, 2024
General Fund	Maine State Credit Union	
	Business Savings	\$21.84
	Checking	\$1,668.75
	Sub-Total	\$1,690.59
EAPD fund		
(previously known as the Anderson Fund)	Bath Savings Trust	
	Managed Account	\$43,421.04
	Sub-Total	\$43,421.04
Kevin McCartney Fund	Maine State Credit Union	
	Business Savings	\$1,565.16
	13-month CD 5.250 %	\$16,492.59
	Sub-Total	\$18,057.75
All Funds	Total Assets	\$63,169.38

	Actual
Income	
Dues Paid	\$2,025.00
Donations received by the Anderson Fund	\$1,350.00
Donations received by the Kevin McCartney Fund	\$1,550.00
Subtotal	\$4,925.00
Expenses	
<i>Meeting Expenses:</i>	
Fall Meeting	-\$2,412.59
<i>Research Awards:</i>	
Continuation of A Stream Geochemical Analysis of the Plumbago North Lithium Deposit, West-Central Maine	-\$1,000.00
<i>Donations to GSM Funds:</i>	
Donation to EAPD Fund	-\$1,200.00
Donation to Kevin McCartney Fund	-\$1,200.00
<i>GSM Website:</i>	
Annual hosting plan cost	-\$280.40
Online payment processing costs	-\$249.85
Subtotal	-\$6342.84
Net Decrease	-\$1,417.84

UPCOMING EVENTS

<u>Date</u>	<u>Event</u>	<u>Location</u>	<u>Organizer</u>
March 28, 2024	Maine Sustainability and Water Conference	Augusta Civic Center, Augusta, ME	U-Maine Mitchell Center
April 8, 2024	Solar Eclipse	Northern Maine	
April 12, 2024	GSM Spring Meeting	Bowdoin College, Brunswick, ME	GSM
April 20-21, 2024	39th Annual Gem, Mineral, and Jewelry Show	Thompson's Point, Portland, ME	Maine Mineral Club
May 17-19, 2024	9th Annual New England Mineral Conference	Grand Summit Hotel, Newry, ME	New England Mineral Association
June 7-9, 2024	85th Annual Reunion	North-Central Vermont	Northeast Friends of the Pleistocene
July 8-14, 2024	Grand Canyon Rafting Trip	Lee's Ferry, AZ	Fred Beck and Alison Jones
July 27-28, 2024	GSM Summer Field Trip	Penobscot Bay Region	GSM

Please submit events to include on the calendar to the Newsletter Editor: lindsay.theis@maine.gov

PLEASE PAY YOUR ANNUAL GSM DUES VIA THE GSM WEBSITE:

<https://www.gsmmaine.org/join-gsm/>

If you do not already have a membership account, click on the Membership Form button on the above page to get started.