

Geological Society of America
Limnogeology Division Newsletter

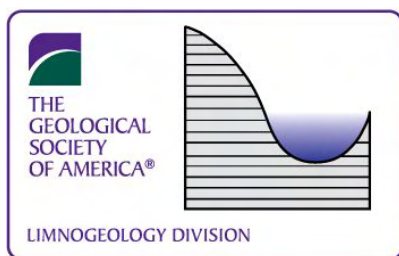
Volume 18 Number 1
October 2020



Lake Champlain, Quebec

(Photo Credit: Wikipedia Creative Commons)





Limnogeology Division Newsletter

Volume 18 Number 1

October 2020

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From the Editor

Michelle Goman

Sonoma State University, Rohnert Park, CA



Dear Limnogeologists, I hope you are all well.

This will be my last newsletter for the Division as I am retiring as Secretary after 8 years. It has been a fun and rewarding time and I thank my fellow officers for their support and comradeship.

Dr Andrea Shilling will take over the helm. Please remember to send her your news items.

Please attend the Division Business meeting this week via the following link.

Business Meeting October 29th THURSDAY 5:30 PM - 8:00 PM EDT

Join the Zoom Meeting starting at 5pm EDT

<https://us02web.zoom.us/j/81122343290?pwd=aFFScDM2YXFrV0gyMVNXbHY4UGgxZ09>

Meeting ID: 811 2234 3290

Passcode: dTJ5Li

Best wishes

Michelle (goman@sonoma.edu)

Message from the Outgoing Chair

Lisa Park Boush

University of Connecticut



Nearly 20 years ago, Beth Gierlowski-Kordesch, Kathleen Nicoll and I were circulating petitions at the 2001 GSA in Boston to form a new “Limnogeology Division” for GSA. The US and the world had just been shook by the events of September 11 and the tragic loss of more than 3,000 souls on that day. As we approach this year’s GSA, which will be the first annual meeting convened virtually, we are faced with another crisis—one that has impacted the entire world—COVID-19, which continues to impact us in every aspect of our daily lives. With the hope of a vaccine in the next 12-18 months, we bravely carry on and try to do our science, manage our households and stay healthy.

But another crisis is still on-going and has impacted many people in addition to the COVID-19 pandemic—climate change. With record-setting wildfires in the western US and elsewhere in the world, as well as a record number of tropical cyclones in both the Atlantic and Pacific basins, we are faced with the effects of enhanced warming on our planet. In this context, the field of Limnogeology has never been so important. Lakes, both past and present, allow us to better understand past climate, develop critical economic resources and forecast future freshwater resources. We also may be the critical link to finding life on another planet. The breadth and depth of our understanding of lakes will be critical in our path forward. In that light, the Division will be sponsoring a number of sessions on lakes for the virtual GSA meeting and we encourage you to attend them! (see page 11).

A BIG THANK YOU!!!

I also want take this opportunity to thank our wonderful Secretary, Michelle Goman, who will be stepping down after many years of dedicated service to the Division. Michelle has kept us all going, and has been a crucial element to the Division’s success. We appreciate her dedication and enthusiasm for Limnogeology! Likewise, we wish to thank Scott Starratt for his role as Past-Chair as well as Chair. Scott has been exceptionally helpful in leading the Division and we thank him for his service.

I wish to welcome our new officers Jason Price (Vice Chair), Andrea Shilling (Secretary) and Joseph Thomas (Student Rep) and to hand over the leadership duties to Kathy Benison, who will be the new Division Chair for the next two years. I am sure that Kathy will do an amazing job for us and I will enjoy working with her to help make Limnogeology Division as responsive to and supportive of the field as possible.

I encourage all of you to keep up your diverse and ground-breaking research because the future needs you.

It has been an honor to serve as your Chair.

Respectfully,
Lisa Park Boush

Message from the Incoming Chair

Kathy Benison

West Virginia University



Dreaming of lakes from my home office.... you?

On March 10, 2020, four research students and I were packed and ready to embark on a field trip to Western Australia the following day. Our first aid kits included flu medicines and our carry-on bags had a supply of disinfectant wipes. We were ready for the newest flu we had started hearing about in the news. We were eager to get to Australia and check on how the acid salt lakes we study had fared the recent fires. But a late afternoon phone call from university administrators put a sudden halt to our trip.

I imagine that most of us have stories about how this pandemic world has impacted our study of lakes and lake deposits. A silver lining is that many of us may also be revisiting past field and lab work involving lakes, even if only from our home offices.

In 2008, I was in Western Australia with three students to conduct a coring campaign at several neutral and acid saline lakes. While we were waiting for a broken drill rig to be fixed, we found ourselves at Lake Ballard, an ephemeral salt lake in the central Yilgarn Craton. In 2003, *Inside Australia*, an installation of sculptures by artist Antony Gormley, was commissioned as part of the Perth International Arts Festival. Gormley used residents of the nearby village of Menzies as inspiration for his 51 metal sculptures. For anyone who loves the meeting of art and nature, this is a bucket list destination, despite the remote location.



Lake Ballard is also a great place to learn about ephemeral, muddy saline lakes. A large closed basin in a semiarid climate, it floods, evapoconcentrates, and desiccates. During our February, 2008 visit, the lake was almost completely desiccated, with only puddles of surface brine remaining. The geologic highlight for us was watching rafts of halite crystals float on this evaporating lake water.

I used these photos recently as part of a narrated lecture for a remote class. Until I get back to the field and lab, memories, photos, and teaching will have to sustain my lake fix!

Sincerely,
Kathy Benison

Congratulations to our New Officers

Vice-Chair	Secretary	Student Representative
		
Jason Price	Andrea Shilling	Joseph Thomas

Revisions to the Division by-laws were voted and approved over the summer by the membership and will be ratified by GSA council following the Annual Meeting.

Congratulations to Dr Gail Ashley who will receive the 2020 Russell Award.



At the Division Business Meeting we will be honoring this year's Israel Russell Award Winner—Dr. Gail Ashley. Gail's incredible career will be highlighted and her commitment to the community will be celebrated.

Business Meeting October 29th THURSDAY 5:30 PM - 8:00 PM EDT

Join the Zoom Meeting starting at 5pm EDT

<https://us02web.zoom.us/j/81122343290?pwd=aFFScDM2YXFrV0gyMVNXbHY4UGgxZ09>

Meeting ID: 811 2234 3290
Passcode: dTJ5Li

Gail collecting samples from a measured section in Bed I, Olduvai Gorge (~1.8 Ma). The samples were used to reconstruct the paleoenvironment of early hominins.

Congratulations to the following Limnogeology Members Elected Geological Society of America Fellows

Paul A. Baker (Duke University):

For fundamental research contributions that further understanding of the geochemistry of marine carbonates, the history and dynamics of the South American Summer Monsoon system, and the geologic record of biotic diversification in tropical South America. —
Sherilyn C. Fritz

Kathleen Counter Benison (West Virginia University):

Kathleen Benison utilizes her training in terrestrial sedimentology and geochemistry to inform astrobiology studies and educate the next generation of geoscientists. Her distinguished academic accomplishments inform her public interactions that raise awareness of the importance of the interdisciplinary nature of Earth and planetary systems. —Francisca E. Oboh-Ikuenobe

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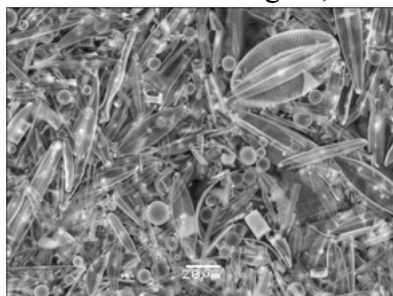
2018 Kerry Kelts Awardee Update

Ellie Broadman



In July, a new study led by Ellie Broadman was published in *Quaternary Science Reviews*, supported in part by the Kerry Kelts Award (which Ellie received in 2018). The study presents a new Holocene diatom oxygen isotope ($\delta^{18}\text{O}_{\text{BSi}}$), biogenic silica abundance (BSi), and diatom flora dataset from Sunken Island Lake, located in the Kenai Peninsula lowlands of south-central Alaska. Sunken Island Lake is hydrologically

closed, as evinced in part by changes in lake level documented by aerial photography. A survey of regional lake water isotopes also indicates the lake is sensitive to changes in the balance of precipitation and evaporation (P-E). However, an analysis of sedimentary $\delta^{18}\text{O}_{\text{BSi}}$ over the instrumental period indicates that $\delta^{18}\text{O}_{\text{BSi}}$ is sensitive to both P-E and the isotope composition of precipitation, which is driven by changes in the Aleutian Low atmospheric pressure cell. The authors use BSi and diatom flora data, along with previously published datasets from this region, to attempt to tease apart these two competing influences on $\delta^{18}\text{O}_{\text{BSi}}$.



They attribute a $\sim 2\text{‰}$ increase in $\delta^{18}\text{O}_{\text{BSi}}$ from 5.5 to 4.5 ka cal BP to a stronger Aleutian Low, which resulted in the delivery of isotopically heavier precipitation to the Kenai lowlands, and wetter conditions during the late Holocene. These interpretations are supported by late Holocene increases in the relative abundance of planktonic diatoms and BSi-inferred storminess, and by evidence for higher-than-

present lake levels on the paleo-shorelines above SIL at ~1.5–0.5 ka cal BP. The data indicate that this region was characterized by relatively low lake levels and dry climate in the early Holocene, a strengthening of the AL in the late Holocene, and wetter climate during the late Holocene until recent decades. The study also demonstrates that a multi-proxy approach can be useful for interpreting $\delta^{18}\text{O}$ paleo-datasets in the hydroclimatically dynamic North Pacific region.

Broadman, E., Kaufman, D.S., Henderson, A.C., Berg, E.E., Anderson, R.S., Leng, M.J., Stahnke, S.A. and Muñoz, S.E., 2020. Multi-proxy evidence for millennial-scale changes in North Pacific Holocene hydroclimate from the Kenai Peninsula lowlands, south-central Alaska. *Quaternary Science Reviews*, 241, p.106420.



2021 Kerry Kelts Submission Information

The **Kerry Kelts Student Research Award (KKSRA)** is given to a student (usually graduate, but undergraduates may apply) in support of their thesis or dissertation research on any facet of limnogeology. The amount of the award is \$1,500.

The application should be submitted as a PDF and include a summary of the research (five-page maximum), a *Curriculum vitae* (two-page maximum) and a letter of support from the student's graduate advisor.

The recipient of the award is requested to provide a summary of the research project for which the award was used for publication in the division newsletter the spring following the receipt of the award.

Further information is available on the Limnogeology Division website in Article VIII of the bylaws. The deadline for submission of the application is **11:59 p.m., February 1st, 2021**.

Send your application to Division Chair Kathy Benison (kathleen.benison@mail.wvu.edu). Please include "Kelts Award application" in the subject line and be sure that your last name is in all file names.

Donate to the Kerry Kelts Award



GSA and the limnogeology Division hope to increase the number of Kelts awards, named for the visionary limnogeologist and inspiring teacher Kerry Kelts, in the future. If you can help support this award, please send your donation, labeled “Kerry Kelts Research Awards of the Limnogeology Division,” to GSA at P.O. Box 9140, Boulder, CO 80301-9140, USA.

Kerry Kelts just before receiving the first Bradley Medal at the ILIC meeting in Brest, France. (Photo credit: Michael Rosen).

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Nominate your outstanding colleagues for the Israel Russell Award!

The Israel C. Russell Award is awarded for major achievements in Limnogeology through contributions in research (limnology, paleolimnology, and Limnogeology), teaching (undergraduate or graduate), and service (to GSA and the earth science community). The nominee does not need to be a member of the division or GSA but does need to have made valuable contributions to GSA.

Nominations should consist of a letter describing the Nominee's accomplishments in the field of limnogeology, service to students and teaching, and contributions to GSA and the earth science community at large. The nomination package should also include a detailed *Curriculum vitae*.

Nominations are currently being accepted until **February 1st, 2021**. Further information is available on the Limnogeology Division website in Article VIII of the bylaws.

Nominations should be forwarded electronically to the Division Treasurer David Finkelstein, (FINKELSTEIN@hws.edu).

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GEOLOGICAL SOCIETY OF AMERICA FELLOW

One of the ways we can raise the profile of the Limnology Division within GSA and the larger community is to increase the number of division members who are GSA Fellows. About 40 members of the division are fellows. We could use a few more.

In order to be nominated the member 1) must have an established career extending at least fifteen years beyond their highest degree, 2) have been a professional member of GSA for at least five years, and have served GSA in some way (committee, division officer, *etc.*)

The nominator must be a GSA Fellow. The nominator initiates the process by completing the nomination form. Two additional supporting nominations are required one of which must be from a GSA Fellow. At least one of the secondary nominators must be from an organization other than that of the nominee. All nominators must be GSA members. A list of GSA Fellows is available on the GSA website.

Instructions for nomination

The primary nominator should provide the following to GSA via the nomination website: 1) online nomination form; 2) names of two supporting nominators; 3) ranking of up to three election categories (see below); and 4) a brief 50-word reason for nomination to be published if the nominee is elected to Fellowship.

The primary nominator should provide 1) a nomination letter, up to two pages long, including a separate paragraph describing the nominee's contributions, which support the primary selected categories for election; 2) two supporting letters from the secondary nominators; and 3) A current *curriculum vitae*, government record, or resume of the nominee.

Election Categories

The election categories are not intended to represent any order of importance, but rather exemplify activities commonly presented as qualifications for Fellowship. These include 1) publication of the results of geologic research; 2) applied research; 3) training of geologists; 4) administration of geological programs; 5) raising public awareness of geology; 6) service to professional organizations; and 7) editorial, bibliographic, and library responsibilities.

Detailed information on the nomination process is available on the GSA website (<https://www.geosociety.org/GSA/About/awards/Fellows-New/GSA/Awards/Fellows>).

The deadline for nominations is February 1, 2021.



38	T156. Natural and Human Influences on Great Lakes Coasts	MON Oct 26 th	5:30 - 8:00 PM	<i>GSA e-Attend Platform - Meeting Rooms</i>
39	T166. Lakes of the World through Time and Space I	MON Oct 26 th	5:30 - 8:00 PM	<i>GSA e-Attend Platform - Meeting Rooms</i>
123	T165. Walden Pond: From Glaciation to Thoreau and Beyond (see further information below)*	WED Oct 28th	10:00 AM - 12:00 PM	<i>GSA e-Attend Platform - Meeting Rooms</i>
210	T167. Sedimentary Records of Neogene and Quaternary Environmental Change from Eastern Africa	THUR Oct 29th	1:30 PM - 5:30 PM	<i>GSA e-Attend Platform - Meeting Rooms</i>
215	T206. Global Water Resources and Geohealth: Tracing Inorganic Contaminant Origins, Evaluating Human Health Risks, and Remediation/ Mitigation Strategies	THUR Oct 29th	1:30 PM - 5:30 PM	<i>GSA e-Attend Platform - Meeting Rooms</i>
252	T166. Lakes of the World through Time and Space II	FRI Oct 30th	10:00 AM - 2:00 PM	<i>GSA e-Attend Platform - Meeting Rooms</i>
NTE89	GSA Limnogeology Division Business Meeting and Awards Presentations	THUR Oct 29th	5:30 PM - 8:00 PM	<i>Alternate Platform - Connect & Learn</i>
	Business Meeting Link https://us02web.zoom.us/j/81122343290?pwd=aFFScDM2YXFrV0gyMVNXbHY4UGgxZDZ09 Meeting ID: 811 2234 3290 Passcode: dTJ5Li			

* Topical Session T165 Walden Pond: From Glaciation to Thoreau and Beyond.

From Francine McCarthy, Co-Chair of session T165

My co-chair Brad Hubeny and I opted for format 2, which is discussion only but with each presenter invited to prepare 1 or 2 slides that summarize her/his presentation at the beginning of our two-hour session that starts at 10AM next Wednesday, October 28. Brad will also summarize the aims of our session, one of which is to put together a special volume (probably of JOPL, after recent email exchanges with Tom Whitmore) focused on this iconic pond, from the historical and philosophical through the limnological/paleolimnological/Quaternary Geology perspectives. We will then moderate a discussion that we hope will delve into these topics, even beyond the excellent set of presentations submitted to our session. We encourage the membership to log onto our session next week - hopefully after browsing the gallery of uploaded talks beforehand - and consider submitting to a special issue of a journal (hopefully in spring-summer 2021).

Future Division-Sponsored Session Information

Look for information regarding the 2021 GSA annual meeting and the call for papers for "Out of this World Lakes". We encourage oral and poster submissions about extraterrestrial lakes and lake deposits, as well as terrestrial analogs. Contact Incoming Chair Kathleen Benison for more information. kathleen.benison@mail.wvu.edu

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Upcoming Meetings

Geological Society of America (GSA) Annual Convention

2021 Portland, Oregon, USA 10–13 October

Association of American Geographers (AAG) Annual Meeting

2021 Seattle, Washington, USA April 7-11

<http://annualmeeting.aag.org/>

Numerous sessions organized by the Paleoenvironmental Change Specialty Group.
Limnogeologists encouraged to participate!

International Association of Limnogeology (IAL) and

International Paleolimnology Association (IPA) Joint Conference

Bariloche, Argentina, 20th to 24th March 2022

Note new date

<https://www.ial-ipa2021.com/>

World Lakes Conference (WLC17)

The 18th World Lakes Conference (WLC18)

Guanajuato, Mexico

University of Guanajuato

Postponed until November 2021

<http://www.worldlakeconference.ugto.mx/en/>

Go to the Limnogeology Division website at:

<https://community.geosociety.org/limnogeologydivision/home>

To get the latest information on other Limnogeology meetings and workshops...

David Warburton, Webmaster