Geological Society of America

Limnogeology Division Newsletter

Volume 16 Number 2
May 2019

Ashurst Lake, Coconino National Forest, Arizona

Ashurst Lake is a small lake (93 ha and 3.7 m deep) located on the Anderson Mesa 32 km southeast of Flagstaff. It is one of the few natural lakes in the state.
The San Francisco Peaks stand majestically on the horizon highlighting Arizona's volcanic past.

THE GEOLOGICAL SOCIETY OF AMERICA®

LIMNOGEOLOGY DIVISION

Limnogeology Division Newsletter

Volume 16 Number 2

May 2019

Limnogeology Division Officers and Management Board

Lisa Park Boush - Chair
Center for Integrative Geosciences
University of Connecticut
Storrs, CT 06269
860-486-4434 (voice)
lisa.park_boush@uconn.edu

Kathy Benison- Vice-Chair
Department of Geology & Geography
98 Beechurst Ave.
Morgantown, WV 26506
(304) 293-5603 (voice)
kathleen.benison@mail.wvu.edu

Michelle Goman - Secretary and Newsletter Editor
Dept. of Geography and Global Studies
Sonoma State University
Rohnert Park, CA 94928
(707) 664-2314 (voice)
goman@sonoma.edu

David B. Finkelstein - Treasurer
Dept. of Geoscience
300 Pulteney Street
Hobart and William Smith Colleges
Geneva, NY 14456
(315) 781-4443 (voice)
finkelstein@hws.edu

Scott Starratt - Past Chair
Geology, Minerals, Energy and Geophysics Science Center
U.S. Geological Survey
345 Middlefield Road
Menlo Park, CA 94025
650-329-4990 (voice)
650-329-5203 (fax)
sstarrat@usgs.gov

Sabrina Brown - Student Representative
Dept. of Earth and Atmospheric Sciences
211A Bessey Hall
University of Nebraska-Lincoln
Tucson, AZ 85721
sabrina.brown@huskers.unl.edu

David Warburton - Webmaster
Department of Geosciences
Charles E. Schmidt College of Science
777 Glades Road
Florida Atlantic University
Boca Raton, FL 33431
(561) 297-3312 (direct)
warburto@fau.edu

CONTENTS

From the Editor

Michelle Goman
Sonoma State University, Rohnert Park, CA

REMEMBER!!

The newsletter is your forum to share news, events, and accomplishments.

If you would like to share your research, recent publications, workshop announcements or summaries or really cool images from the field and lab please contact me!

This edition of the Newsletter contains many items of interest for members

- Limnogeology students please be aware of the upcoming Kelts submission deadline
- An International Team of Limnogeolgists Rescue a Cow!!!
- A list of sessions sponsored by Limnogeology for the upcoming Annual GSA Meeting in Phoenix. Note the Early Registration Deadline.

Best

Michelle (goman@sonoma.edu)

Message from the Vice-Chair

Lisa Park Boush
University of Connecticut

Greetings from the **Limnogeology Division of the Geological Society of America**! It is a

good time to be a limnogeologist! There has been no other time when our science has been so diverse, interdisciplinary and pushing the envelope of scientific understanding of continental systems. We, as a discipline have been studying everything from urban lakes to polar lakes to ancient lakes through time. The Limnogeology Division encompasses all of these, using any number of methodological and analytical approaches. We have an exciting agenda for the 2019 GSA meeting in Phoenix this year that reflects our diversity. The meeting is early this year—**September 22-25** and the abstract deadline is also early—**June 25**, so please make sure you are aware of this as you make your plans. We hope to see you there, participating in our sponsored short course on Saturday (September 21), topical sessions throughout the meeting and our business meeting and awards program on Tuesday evening (September 24).

Hope to see you in Phoenix!

Lisa Park Boush, Division Chair

~*~

Message from the Vice-Chair

Kathy Benison
West Virginia University

A ICDP workshop field trip turns into an international cow rescue effort

In March, 2019, approximately 60 scientists from 10 countries met in Norman, Oklahoma for

an Intercontinental Continental Drilling Program workshop. Hosted by Dr. Lynn Soreghan and funded by the ICDP, the goal of the workshop was to plan a major drilling effort targeting Permian red beds and evaporites to obtain a high-resolution paleoclimate record from saline lakes, loess deposits, and paleosols. After two days of scientific talks and break-out sessions, we boarded a bus for a day amid Permian red beds and evaporites in western Oklahoma. Our last field trip stop was at a ranch; Lynn had previously secured permission from the rancher. As we hiked toward the outcrops, we noticed a white dot in the muddy pond waters. It was a cow, exhausted and stuck in the mud. We called the rancher to alert him, but he and his family were hours from home. Dr. Amy Mybro approached the cow, talking to her and checking her

condition. Amy decided to try to dig the cow out of the thick, wet mud. Someone lent a small, folding field shovel. Someone Googled the best techniques for freeing a large mammal from mud. Over time, more of the field trippers joined Amy in the mud, administering to the cow. Soon, even the bus driver ended was knee-deep in mud! Our progress was slow; eventually, the rancher arrived with a 4WD vehicle and a towrope and was able to take over the last stages of the cow rescue. Over the next couple of days, the rancher sent updates about the cow, which were announced at the meeting. After three days, the cow was walking and eating. One of the workshop talks included suggestions for "branding" the proposed drilling project. Dr, Sylvie Bourquin noted that the cow is a breed native to a region of France with Permian red beds. It was agreed that Dusty the Orange Cow would be a focus of the drilling project logo.

Cow rescue on Deep Dust ICDP workshop field trip. Left, Permian red beds and gypsum eolian, paleosol, and lake deposits. Center, Amy Mybro speaks soothingly to cow stuck in mud. Right, a team effort freed exhausted cow.

Be on the lookout for more ICDP "Deep Dust" proposal planning in the near future. In particular, theme sessions about Permian lakes and associated continental deposits and the climate proxies they hold are planned for the September, 2019 GSA Annual Meeting in Phoenix and the December, 2019 AGU Meeting in San Francisco.

Best
Kathy

~*~

The Student Photic Zone

Sabrina R. Brown – Student Representative
University of Nebraska-Lincoln, Department of Earth & Atmospheric Sciences
Student Representative – Limnogeology Division

Shout out to all my fellow limnogeology student members! I hope you've been conducting some awesome research this year and are looking forward to a summer days in the field, lab, class, writing, or spending time with family! As the new student representative, I am excited to become more involved with the Limnogeology Division student members.

The application period for the Kerry Kelts Student Research Award in now open, with a fast-approaching deadline of June 30th (12 AM Eastern). This $1,000 award is open to both graduate and undergraduate students in pursuit of limnogeology, limnology, or paleolimnology research. The award will be presented at the joint Limnogeology/Sedimentology Reception at the GSA Annual Meeting. For more information on the award and how to submit your application, visit the website: https://community.geosociety.org/limnogeologydivision/awards/kerrykelts.

I'm looking forward to catching up with many of you at the GSA Annual Meeting in Phoenix this September. Note that the meeting is earlier than usual, so be sure you don't miss the June 25th (11:59 PM Pacific) abstract deadline! Keep an eye out for Limnogeology topical session. Also, the On to the Future Program is accepting applications – this program offers partial funding to attend the 2019 Annual Meeting for students and recent graduates from diverse backgrounds who have never attended a GSA Annual Meeting. The deadline to apply is May 31st. For more information: https://www.geosociety.org/GSA/Education_Careers/Grants_Scholarships/otf/GSA/OTF/Home.aspx.

Finally, one of my goals as student representative is to grow the social media presence of the GSA Limnogeology Division. As such, I encourage you to like the GSA Limnogeology Division on Facebook (https://www.facebook.com/Limnogeo/) and follow us on Twitter (https://twitter.com/LimnoGeo). We post important deadlines and information, and will be live-Tweeting 2019 Annual Meeting happenings. Further, I'd love to create a "limnogeology" photo or fact of the week on our social media platforms. If you have any interesting photos, facts, or musings to share, please email them to me at sabrina.brown@huskers.unl.edu.

Happy semester-end!

Sabrina

~*~

2018 Israel C. Russell Award

Presented to Sherilyn C. Fritz

Citation by Jeffrey Stone

It is an honor to present Dr. Sherilyn C. Fritz for the Israel C. Russell Award for excellence in limnogeology. Sheri was awarded a PhD (Ecology) from the University of Minnesota (LRC) in 1985, working with the late Herb Wright. She continued at LRC for almost a decade, before becoming a professor at Lehigh University. In 1999, she joined the faculty at University of Nebraska-Lincoln and quickly reached the rank of Professor, and in 2004 she was awarded a distinguished university professorship.

Sheri's earliest research applied fossil diatom records to reconstruct land-use practices, and she also pioneered transfer functions to reconstruct water chemistry. In post-doctoral research with Rick Battarbee, she published several landmark papers on lake acidification. Since that time, she has had a long-term interest in drought history through diatom-inferred salinity reconstruction, particularly in the US Great Plains, and has been involved in decades of research in the Greater Yellowstone region, together with Cathy Whitlock. Around the time Sheri started at Nebraska, she shifted her focus to South America, where she and long-time collaborator, Paul Baker, began exploring the paleoclimatic history of Lake Titicaca, Salar de Uyuni, and other sites in the tropical Andes. In her most recent adventures, Sheri is now at the forefront of the Trans-Amazon Drilling Project.

Sheri has authored/co-authored nearly 200 peer-reviewed publications and has been a principle investigator for over 50 external grants and contracts. She has a joint position in the Geology and Biology departments, which emphasizes her interdisciplinary approach to teaching and research. Sheri is deeply invested in the development of her students into successful scientists, which can be witnessed daily through her open-door policy and superb guidance. She has mentored 22 MS and PhD students and has acted as a research supervisor for 7 post-docs. Among her student advisees, Sheri is known as a jet setter, with a deep love for travel, new locations, and new experiences. She has a passion for good food, good friends, and she is a consummate professional. As someone who commands respect, has unbounded energy for science, and has vast interdisciplinary knowledge of limnogeology, Sheri is the unquestioned idol of every student that has come through her lab.

With all of these accomplishments in mind, I am delighted to present the Israel C. Russell award to my mentor, Dr. Sherilyn C. Fritz.

Response by Sherilyn C. Fritz

I'm very honored to be awarded the GSA 2018 Israel C. Russell Award in Limnogeology. I am especially thrilled to be nominated by one of my former PhD students, Jeffery Stone, together with one of my current PhD students, Sabrina Brown – who did her MS degree with Jeffery. It is very exciting and fulfilling to see the evolution of a talented and multi-generational academic family tree.

I'm an ecologist by training, but I've spent nearly all of my academic career in geology departments and in the midst of geologists on a day-to-day basis. Those influences have expanded my world view and had a profound influence – as a result, I now consider myself a limnogeologist at my core, rather than an aquatic ecologist, although I find that the greatest insights emerge by balancing the two perspectives.

For me, a career is all about the people. My PhD advisor, geologist Herb Wright, left a strong imprint on my thinking and career. Herb always emphasized the importance of independence and a frame of reference that was international and interdisciplinary, and those values have propelled me forward over the years. While in Herb's lab, I met several people that were mentors and that have been life-long friends, including Rick Battarbee and Svante Björck. I also met several fellow graduate students that I've collaborated with now for more than 30 years: Dan Engstrom and I did our PhDs together under Herb, and, just afterwards, started investigating the saline lakes of the Great Plains, recognizing their potential for reconstructing hydrologic history in the days when climate change was a relatively new topic. We also spent time in the dramatic landscape of Glacier Bay, Alaska studying lake evolution following deglaciation. John Anderson and I did our dissertations on paleolimnological records of human impact on lakes in Britain and spent considerable time as students commiserating over diatom taxonomy. Later we collaborated in Greenland on saline lakes and the complexities of watershed-lake interactions following deglaciation. I also met Cathy Whitlock as a student when she visited Herb's lab, and we've enjoyed working together on a variety of projects in Yellowstone and the northern Rocky Mountain region. A "newer" collaborator, Paul Baker, invited me more than 20 years ago to work in Lake Titicaca. Since that time, we've explored many beautiful spots in the Andes and adjoining Amazon, including deposits of the Salar de Uyuni, lakes in the Bolivian and Peruvian Amazon, and Mio-Pliocene outcrops in northern Chile. It is primarily through these South American projects that I developed some street credibility in the deeper time aspects of limnogeology. Of course, students provide the spark and incentive to move into new areas, and over the years I've had ~30 graduate students and postdocs in my lab – too many to list here – but many have helped me to continue to expand my mind and my perspectives and have opened up new avenues for exploration and fun.

In short, history has created many strong threads and connections that have sustained my career and enriched my life. I'm very grateful to a large generous network of compelling colleagues and friends that have shared a lifetime of projects, a rich landscape of ideas, and many beautiful and interesting places on this Earth.

Sabrina Brown, Jeffrey Stone (citationist) and daughter, Sherri Fritz (2018 Russell Awardee) and Scott Staratt (Past Chair Limnogeology Division)

Nominate your outstanding colleagues for the Israel Russell Award!

Do you have an outstanding colleague in the field of Limnogeology? It is never too early to start thinking about nominating that person for the Israel C. Russell Award! The Russell Award is awarded for major achievements in Limnogeology through contributions in research, teaching and service.

Nominations should consist of a letter describing the Nominee's accomplishments in the field of limnogeology (broadly defined and including limnogeology, limnology and paleolimnology), service to students and teaching, and contributions to GSA, as well as a Curriculum Vitae. The Nominee need not be a member of the Division or of GSA, but must have made valuable contributions to the Society. The dossiers of nominees who did not receive the award in any given year will be retained and considered for two succeeding years; thus, nominations are valid for a total of three years. Updated information for carry-over candidates may be sent to the Division Treasurer during the ordinary call for nominations. Israel C. Russell Award Committee members are encouraged to initiate nominations for the Award.

Nominations should be forwarded electronically to the Division Treasurer David Finkelstein, (finkelstein@hws.edu). **Deadline is March 15**, but you can nominate EARLY!

~*~

2019 Kerry Kelts Submission Information

Kerry Kelts Limnogeology Student Research Award ($1000)

Did you know that the Limnogeology Division has a student research award? The Kelts Award supports an undergraduate or graduate student research related to limnogeology, limnology, or paleolimnology for up to $1000.

To apply, please prepare your application as a PDF (or PDFs) with your last name on all file names. The application files should contain a research summary and a short CV (two pages max.). The research summary must include a description of the proposed research, its limnogeological significance, why the award funds are needed for the project, and a brief description of the student's other funding sources. Be sure to include a title. The maximum length for the summary is five pages, including figures and captions; the list of references cited is not included in this limit. Send your application to Division Chair Lisa Park Boush, lisa.park_boush@uconn.edu. Please include "Kelts Award application" in the subject line.

Deadline is June 30th 2019, 12 a.m. EST.

~*~

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).

NECROLOGY

The Limnogeology Division is saddened to announce the passing of the following member.

Dr Paul Buchheim, Loma Linda University, **April 21, 1947 - January 11, 2019**

EarthRates Broader Impact Database

Do you have a NSF grant with a great broader impact result that you would like to share? EarthRates—a Research Coordination Network (https://earthrates.org) that aims to provide the framework and opportunity to engage four critical communities—paleoclimatology, paleobiology, geochronology and sedimentology/stratigraphy to forge synergistic collaborations in order to foster transdisciplinary research in the sedimentary crust, is launching a project to gather data on broader impacts for the sedimentary crust community of researchers. We will be initiating our database this fall at the Annual GSA meeting. More details will forthcoming this summer! Stay tuned!

~*~

WORKSHOPS

International Continental Drilling Project (ICDP) Lake Drilling workshops

There are some exciting new projects developing in lake drilling. For those of you not familiar with ICDP, it is an international organization that supports continental drilling of all kinds, not just in lakes. ICDP projects span the globe and span the scientific areas of climate and ecosystem research as well as sustainable georesources and natural hazards. Many lake drilling projects have been supported over the years and many are currently in development. Two workshops were planned for this summer, the first occurred in May and the second this June.

ICDP / EarthRates Workshop EMCT: Early Mesozoic, Low- to High-Latitude Coring Transect for Environmental, Climatic, Biotic, and Solar System Evolution Normal
St. George, Utah, 11-14 May 2019 (Workshop), 15-16 May 2019 (Fieldtrip)

The early Mesozoic (Triassic/Early Jurassic) witnessed the initial fragmentation of Pangea, the evolution of fundamental components of modern biota, the evolutionary/ecological ascent of dinosaurs, two mass extinctions, a major biotic turnover, and is distant enough in time to provide distinctly different greenhouse gas boundary conditions for developing climate models and recognizing apparently anomalous astronomical climatic pacing related to the chaotic behavior of the Solar System. Conceptually developed over two decades

and successor to the first phase (Early to mid-Late Triassic) of the ICDP-NSF CPCP I, this project seeks to obtain a complete latest Triassic through Early Jurassic record at low-paleolatitude Colorado Plateau (USA) sites and correlative continental high-paleolatitude Junggar Basin sites (Xinjiang, western China).

ICDP Workshop on Scientific Drilling of Lake Tanganyika, Africa: Exploring the paleoclimatic, tectonic, and evolutionary history of Africa's oldest lake
Dar es Salaam, Tanzania, 17-20 June, 2019

Lake Tanganyika is one of the oldest, largest, and deepest lakes anywhere on Earth and provides an outstanding opportunity to transform our understanding of processes controlling tropical climate, biological diversification, and Earth surface (source-to-sink) processes in continental rift basins. The lake contains an extraordinary tropical sedimentary record that continuously spans the Miocene to present at drillable depths, constitutes a textbook example of an explosive evolutionary radiation, and is a natural laboratory to study rates and processes of extensional deformation and coupled surface processes. Scientific drilling at Lake Tanganyika can therefore provide transformative insights into the climatic, geological, and biologic evolution of this tropical African rift system.

Existing sediment cores from Lake Tanganyika provide benchmark records of tropical environmental change, yet barely scrape the surface of the lake's sedimentary record. An ICDP funded workshop will be held in Dar es Salaam, Tanzania, from June 17-20, 2019 to develop scientific and logistical plans for drilling the lake's deeper sediments. The agenda of the workshop will include reviews of existing datasets that address the climatic and environmental evolution of Africa; a summary of the geologic and limnologic setting of Lake Tanganyika and its sediments; the formulation of scientific objectives and goals of a deep drilling project; and a discussion of scientific collaboration and responsibilities, potential drill sites, operations, outreach, logistics, funding and permitting. The principal workshop outcome will be a draft science plan that will form the basis for a proposal on Scientific Drilling in Lake Tanganyika.

LIMNOGEOLOGY DIVISION SHORT COURSE

Limnogeology Short Course at GSA

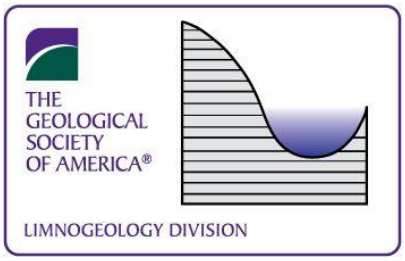
A 1-day short course, "Successfully Planning and Executing your Limnogeology/Paleolimnology Project" will be offered on Saturday, September 21, 2019 at the GSA Annual Meeting in Phoenix. The short course sponsors are GSA Limnogeology Division, GSA Continental Scientific Drilling Division, and EarthRates RCN.

Whether you are a graduate student, professor, or researcher, you need to get the most scientific bang for your budget. You may have a multi-investigator project in a far-flung part of the world, or a local project you run on your own – in every case, logistics, project management, budgeting, instrumentation access, broader impacts, data management, and interpersonal relationships are all critical. How do you accomplish all this, and still get to do your science?

This workshop will present typical workflows and case studies of modern and ancient lake coring, drilling, and outcrop projects. We will discuss project management (including soft skills!), support from multi-user facilities, career development, near-peer mentoring, funding sources, geochronology, and outreach and education with cores. In the afternoon we'll have a few topical deep-dives, including saline lakes, fluid inclusions, outcrop/drill-core studies of ancient lakes, the times "when lakes lead us astray," and neopaleolimnology of urban lakes. We'll end with a panel Q&A session.

Instructors will include Amy Myrbo (organizer), Kathleen Benison, David Finkelstein, Simon Goring, Anders Noren, Lisa Park Boush, and Michael Elliot Smith. Course content will lean toward paleorecords but instructors have knowledge of other domains and will be happy to answer questions.

~*~



Sessions Sponsored by Limnogeology Division at 131st GSA at Phoenix, Arizona

Important Note: EARLY DEADLINE

Abstracts deadline: 25th June (Tuesday), 11:59 p.m. PDT

https://community.geosociety.org/gsa2019/home

Sessions that might be of interest to Limnogeology Division members. Bolded sessions are specifically organized by Limnogeology.

T11. Microbial and Organic Matter Signatures: Biophysical Feedbacks between Water, Sediment, and Biota
Nicholas A. Sutfin, Ashley R. Manning-Berg
GSA Quaternary Geology and Geomorphology Division; GSA Limnogeology Division
Interdisciplinary biophysical approaches have enhanced research in contemporary environments that serve as analogs for paleoenvironmental conditions. We seek abstracts investigating feedbacks between water, sediment, and biota occurring across all time scales (seconds to millennia).

T103. Refining Terrestrial Ecosystem Evolution through Scientific Drilling
Christopher J. Campisano, Christopher J. Lepre, Cynthia M. Liutkus-Pierce
GSA Continental Scientific Drilling Division; GSA Sedimentary Geology Division; GSA Geochronology Division; SEPM (Society for Sedimentary Geology); Paleontological Society; GSA Limnogeology Division
This session will explore the evidence for ecosystem evolution collected via continental scientific drilling. Records from any epoch and location are welcome, and we seek presentations from diverse fields related to geochronology, paleoclimatology, and paleoecology.

T106. Biogeochemical Signatures of Fossils: From Paleoclimate to Diagenesis
John David Fortner
GSA Geobiology & Geomicrobiology Division; GSA Soils and Soil Processes Division; GSA Limnogeology Division
This session brings together research focused on the chemistry of fossil soils and organisms, spanning marine to terrestrial environments, as well as their depositional and subsequent burial environments.

T121. Landscape Responses to Neogene Climate Change
William E. Lukens, Anthony L. Layzell, Tara M. Smiley
GSA Sedimentary Geology Division; GSA Soils and Soil Processes Division; SEPM (Society for Sedimentary Geology); GSA Limnogeology Division
This session will gather records of continental paleoclimate and paleoenvironments from the Neogene, with emphasis on outcrop-based landscape reconstructions. We welcome presentations from the fields of sedimentology, paleopedology, paleolimnology, paleobotany, and isotope geochemistry.

T122. Insights from Microfossils and Their Modern Analogs: From Traditional to Emerging Approaches (Posters)
Chiara Borrelli, Megan K. Fung
Cushman Foundation; Paleontological Research Institution; Paleontological Society; GSA Limnogeology Division
Traditional applications of microfossils are central to many studies, while novel approaches (especially geochemistry) utilizing microfossils have expanded recently. This session highlights traditional and innovative microfossil applications in terrestrial and marine environments, including modern analogs.

T124. Advances in Ocean and Climate Reconstructions from Environmental Proxies
Meghan Zulian, Natasha Leclerc, Bryan Black
Paleontological Society; GSA Karst Division; GSA Sedimentary Geology Division; GSA Geoarchaeology Division; Geochemical Society; GSA Limnogeology Division; GSA Geochronology Division
This will be a common forum for sclerochronologists, dendrochronologists, and others using increment-yielding proxies to share recent methodological advancements and multidisciplinary applications of paleoenvironmental reconstructions, including proxies such

as tree rings, corals, mollusk shells, and speleothems.

T127. The Importance of Minerals in Recording Paleoenvironmental Conditions and Governing the Biogeochemistry of Lacustrine Systems

Jason R. Price, David W. Szymanski

GSA Limnogeology Division; Mineralogical Society of America

Detrital and diagenetic minerals in lake-bottom sediments provide paleoenvironmental proxy data, and present-day mineral weathering provides sources and sinks of solutes to lake water. This session highlights cutting-edge research at the nexus of mineralogy and limnogeology.

T128. Lakes of the World through Time and Space

Scott W. Starratt, Michelle F. Goman

GSA Limnogeology Division

This session celebrates lacustrine research across the globe. Lakes contain important historical records because their sediments are archives of global change, local human impact, and ecological succession.

T129. From Snowy Peaks to Desert Floor: Paleohydrological Connections between West Coast Mountain Lakes and the Lakes of the Western Great Basin

Scott W. Starratt

GSA Limnogeology Division

This session will highlight the effect of precipitation variability in West Coast watersheds on the paleohydrological records in the terminal lakes of the western Great Basin using geochemical, physical, biological proxies and their integration into modeling studies.

T141. Modeling the Hydrosphere: From Aquifers to Atmosphere

Andrea E. Brookfield, Mary C. Hill, Pamela L. Sullivan

GSA Hydrogeology Division; GSA Soils and Soil Processes Division; GSA Limnogeology Division

Modeling methods have evolved to include many natural and anthropogenic hydrosphere components and interactions between them. We encouraged research related to innovative simulation of water quantity and quality and novel applications.

T156. Microplastics in the Environment: Methods, Findings, and Implications

Jacqueline A. Smith, Brian E. Bodenbender

GSA Environmental & Engineering Geology Division; GSA Hydrogeology Division; GSA Limnogeology Division; GSA Geology and Health Division; GSA Geology and Society Division; GSA Soils and Soil Processes Division

Evidence for microplastic pollution in marine, freshwater, and terrestrial environments continues to mount. This session encompasses all aspects of microplastic research, including field and lab methodology, findings, education, and implications for health and environmental stewardship.

T198. Extreme Impacts of Global Climate Change: Effective Communication for Geoscientists, Educators, Policy Makers, and the Press

Jennifer L. Pierce, George T. Stone

GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Environmental & Engineering Geology Division; GSA Geology and Health Division; GSA Geology and Society Division; GSA History and Philosophy of Geology Division; GSA Hydrogeology Division; International Union for Quaternary Research (INQUA); GSA Limnogeology Division; GSA Geosocience Education Division

Effectively communicating causes and risks of climate change remains a challenge. Why? In this interactive session, we combine up-to-date science on extreme events with compelling presentations on climate communication and education.

~*~

Upcoming Meetings

Geological Society of America (GSA) Annual Convention

2019 Phoenix, Arizona, USA 22–25 September (Note new location and date)

2020 Montréal, Québec, Canada 25–28 October

Association of American Geographers (AAG) Annual Meeting

Denver, Colorado, USA April 6-10, 2020

http://annualmeeting.aag.org/

Numerous sessions organized by the Paleoenvironmental Change Specialty Group. Limnogeologists encouraged to participate! For more information please contact Limnogeology division secretary Michelle Goman.

International Association of Limnogeology (IAL)

and

International Paleolimnology Association (IPA) Joint Conference

Bariloche, Argentina, 22nd to 25th March 2021

https://www.paleolim.org/news/joint-ipa-ial-meeting-2021-bariloche-argentina

World Lakes Conference (WLC17)

The **18th World Lakes Conference (WLC18)**

Guanajuato, Mexico

University of Guanajuato

Autumn, 2020

https://www.ilec.or.jp/en/wlc/wlc-7302/

Go to the Limnogeology Division website at:

http://rock.geosociety.org/limno/index.html

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

David Warburton, Webmaster