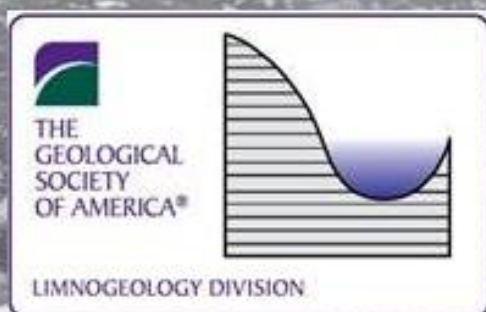
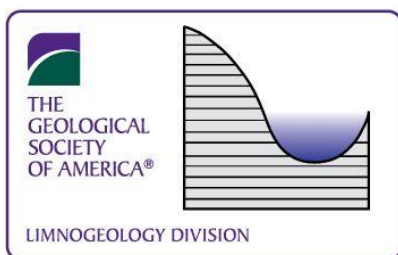


Geological Society of America
Limnogeology Division Newsletter

Volume 10. Number 2
May 2013





Limnogeology Division Newsletter

Volume 10, Number 2

May 2013

Limnogeology Division Officers and Management Board

Amy Myrbo - Chair

LacCore / Limnological Research Center, Department of Geology and Geophysics,
University of Minnesota, 500 Pillsbury Dr SE, Minneapolis, MN 55455
(612) 626-7889 (direct)
(612) 626-7750 (fax)
amyrb@umn.edu

Johan C. Varekamp - Vice-Chair

Dept. of Earth & Environmental Sciences,
Wesleyan University
45 Wyllys Avenue, Middletown, CT 06459
(860) 685-2248 (direct)
(860) 685-3651 (fax)
jvarekamp@wesleyan.edu

Michelle Goman - Secretary and Newsletter Editor

Dept. of Geography and Global Studies,
Sonoma State University, Rohnert Park, CA 94928
(707) 664-2314? (direct)
(707) 664-3332 (fax)
goman@sonoma.edu

David B. Finkelstein - Treasurer

Dept. of Geosciences,
University of Massachusetts, 611 North Pleasant Street, Amherst, MA 01003-9297
(413) 545-1913 (department phone)
(413) 545-1200 (fax)
dfink@geo.umass.edu

Daniel Deocampo – Past Chair

Department of Geosciences,
Georgia State University, 340 Kell Hall, Atlanta, GA 30303
(404) 413-5759 (direct)
(404) 413-5768 (fax)
Deocampo@gsu.edu

David Warburton - Webmaster

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

CONTENTS

Page 3	From the Editor
Page 4	Message from the Chair
Page 7	The Hominin Sites and Paleolakes Drilling Project: Discovering the paleoenvironmental context of human evolution in the East Africa Rift (A. Cohen)
Page 11	Kerry Kelts Announcement
Page 12	125 th GSA at Denver Session Announcements
Page 15	An urgent call for climate and environmental change research in the Niger Delta of Nigeria (E. Clinton)
Page 17	ILIC 6-2015 volunteer call
Page 18	Upcoming Meetings

From the Editor

Michelle Goman

Rohnert Park, CA

Welcome to the spring 2013 edition of the Limnogeology Newsletter!

This edition of the Newsletter begins with a message from our new division chair, Amy Myrbo. It also contains a list of sessions for the upcoming 125th Annual GSA Meeting in Denver, and other informational items including:

- An article on the *The Hominin Sites and Paleolakes Drilling Project*
- A call for assistance on Climate Change Research in the Niger Delta, and
- A list of upcoming limnogeology-related meetings

Finally, I would like to thank Peter Drzewiecki for his 6 years of service to Limnogeology as the Newsletter Editor.

Cover Photo: Twin Lake, Minneapolis, Minnesota (photograph by Amy Myrbo)

Message from the Chair

Amy Myrbo
Minneapolis, MN

It's an honor and a thrill to be the new Chair of GSA's Limnogeology Division. As a grad student I witnessed the Division's birth soon after the passing of Kerry Kelts, the father of Limnogeology (or Geolimnology – there was considerable debate back then) as well as my own Ph.D. advisor. A few years later I started earnestly hanging around with the Limnogeology cool kids, trying to make the scene, at the GSA annual meeting, when LacCore began sharing a booth with the Division. I've learned something important from each of the former Division officers – Beth Gierlowski-Kordesch, Kevin Bohacs, Michael Rosen, Dave Finkelstein, Peter Drzewiecki, Dan Deocampo, and especially Tom Johnson (who advised the last years of my Ph.D.) and Lisa Park Boush (whom I'm currently helping with her REU) – and I look forward to learning from new officers Michelle Goman and Joop Varekamp over the next couple years.



Caption Challenge...

What is Amy thinking? Submit captions to Newsletter editor, Michelle Goman (goman@sonoma.edu). Results will be made public at the annual meeting!

This is an exciting time to be studying lakes. A healthy crop of lake drilling projects continues to produce long and fascinating continental paleorecords, and there are efforts afoot to expand continental drilling substantially. At the same time, lake sediments are being used to address an increasing range of questions on geologically short (e.g., human) time scales. While funding for limnogeological research is still not what it should be, many institutions are recognizing the value of interdisciplinary work using lake cores, especially when it integrates education and outreach. Our community has the opportunity to raise its profile (and increase our funding rates) by coming together and improving our methods, cooperation, synthesis, data management, and use of informatics resources. I encourage our membership to be involved with initiatives like NSF's EarthCube, to think creatively when it comes to Broader Impacts, and to reach across the fuzzy barriers between

professional societies such as GSA, AGU, the International Association of Limnogeology (IAL), the International Paleolimnological Association (IPA), AMQUA, ESA, ASLO, and others. Each of these organizations has a somewhat different focus, but our goals are the same – to foster and conduct the best possible lake sediment research in order to answer fundamental questions about the environment.

In the next two years I have three goals for our Division. First, I would like to see us grow our membership. In addition to recruiting new members, we can be a second Division for many people whose primary affiliation is Sedimentary Geology, QG&G, Hydro, Planetary, Geobiology – or, frankly, any other Division. Second, I would like to provide more networking and informational opportunities for students at the annual meeting and at section meetings. One way to accomplish this informally is for each of us to spend time at poster sessions featuring student presenters, and to talk with students to break the ice and help them feel like part of our community. Our awards reception and business meeting, held jointly with Sed Geo Division at the annual meeting, is another time when we can socialize with students, and introduce them to our Divisions' activities. Please plan to attend this event, usually held on the Tuesday night of the meeting! Third, I would like to see a diversity of sessions at the annual meeting. We do pretty well at this already, but if you (or a colleague) have ever said "I'd like to go to GSA this year, but there wasn't a session for me to submit to," we still have work to do. This task belongs to all of us! The list of sessions offered at any GSA is the direct result of individuals proposing sessions. If you would like to see a whole session on the use of environmental magnetism in lakes, on allogenic/autogenic succession, on meromictic lakes, chronology, or whatever tickles your fancy, propose it! Even better, propose to co-chair it with a colleague, even someone from a different Division. Get it sponsored by all pertinent Divisions so that it shows up in specialty session lists. Chairing a session is intense work for a few hours about three times over the course of a year – at session submission (January), abstract wrangling (right after the abstract deadline), and at the meeting. You can do it, and it's a lot of fun. You never know what topic will bring dozens of pent-up abstracts out of the woodwork! For instance, "Wetlands: form and function" was a huge hit last year.

Speaking of sessions, you will find a list of the exciting sessions at GSA 2013 in Denver sponsored by or relevant to Limnogeology Division in this newsletter. If you do not find the perfect session, please consider submitting your abstract to the ever-present general session, which we fancy up with a title. This year it's called "World of Lakes," and the posters and talks will be organized thematically based on the abstracts received. Wherever you submit, we look forward to seeing you in Denver to celebrate GSA's 125th Anniversary.

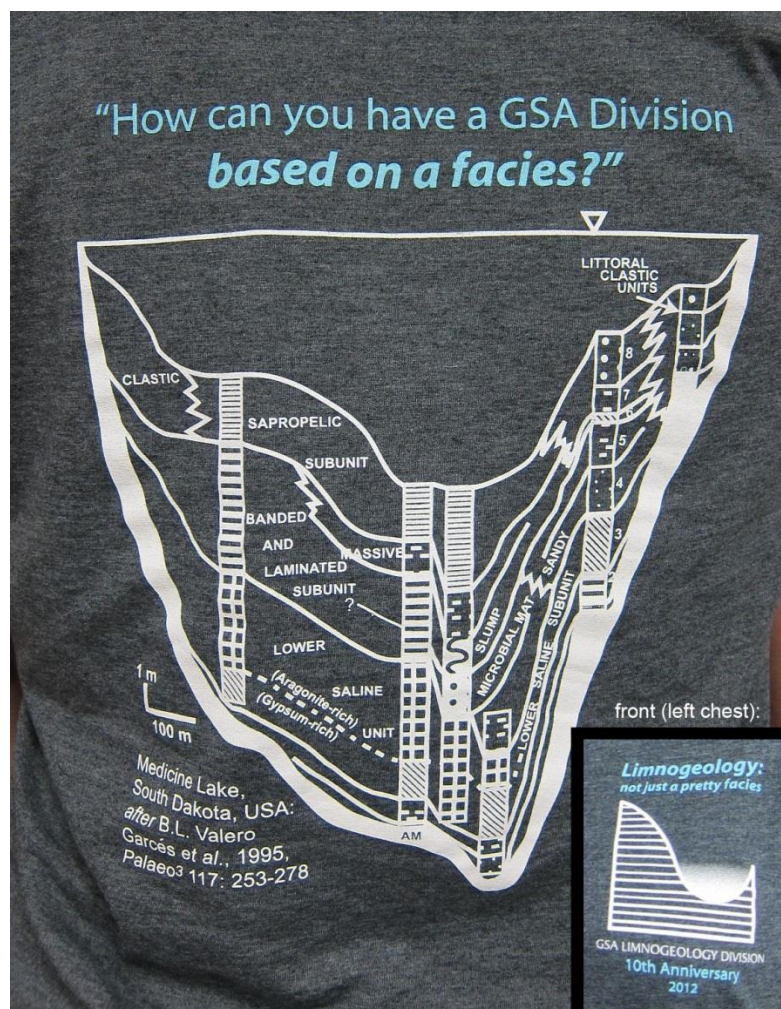
My final item for this issue is to exhort students to apply for the Kerry Kelts Student Research Award. One award of \$1000 will be presented this year at the annual meeting. The application is available on the Division website, and the deadline is July 1st 2013. If you would like to support the Division by making a contribution to

the Kelts Fund, the newest way to do so is to buy a fabulous Limnogeology Division t-shirt. To buy one online, go to laccore.org and click on "T-shirts" on the left. You can also donate directly through LacCore or the Division website.

Amy Myrbo

Limnogeology Division Chair

BE CHIC, BE SEEN IN A LIMNOGEOLOGY T-SHIRT !



Limnogeology Division 10th Anniversary t-shirts are available now! All proceeds go to the Kerry Kelts Fund for Student Research. Shirts are \$20 including shipping and can be purchased at LacCore.org (click on "T-shirts" on the left). Sizes are S-M-L-XL-2XL. If you wish to pay by check, contact Amy Myrbo (amyrb@umn.edu).

The Hominin Sites and Paleolakes Drilling Project: Discovering the paleoenvironmental context of human evolution in the East African Rift

The HSPDP Science Team* (corresponding author: Andrew S. Cohen, Department of Geosciences, University of Arizona, Tucson AZ 85721 USA
cohen@email.arizona.edu)

Understanding human origins is a fundamental and existential question for our society. During a time of rapid climate change it is also one fraught with societal significance, as we confront and try to adapt to an ever-changing environment. These two powerful issues have driven paleoanthropologists and geologists to the paleoenvironmental record spanning human prehistory, to ask questions about how our distant ancestors and extinct relatives (“hominins”) either survived or died out during other climatic extremes of the past six million years (the approximate duration of the tribe Hominini; Potts, 1996; Vrba, 2005; NRC, 2010). Did hominin evolution track changes in regional or global climate, and if so how? Were evolutionary and extinction events synchronous with major directional changes in environmental conditions, or did they perhaps respond to increases or decreases in the variability of those conditions? And what was the role of non-climatic variables, such as tectonism or volcanic activity in driving this phylogenetic history, especially in the East African Rift Valley, where most of the fossil and archaeological evidence is found?

For many years tackling these questions centered around one of two broad approaches. Paleoenvironmental data were obtained from outcrops containing hominin fossils and artifacts, typically paleosols and fluvial channel deposits (e.g. Cerling et al., 2011). Records from such sites can give a local history of paleoenvironments with a direct stratigraphic connection to the fossils of interest. Alternatively, deep sea (and more recently deep lake) core records from sites around and in Africa provide a record of climate change across the time span of hominin evolution (e.g. deMenocal, 2004; Cohen et al., 2007). Such records have been spectacularly successful in providing paleoanthropologists with a rich environmental history and a source of hypotheses for understanding human origins. But both types of records have distinct limitations for addressing questions linking environmental drivers with evolutionary and ecological events. Local outcrop records of fluvial deposits and paleosols are often weathered and discontinuous.

*The HSPDP Science Team. A. Cohen (U. Arizona); Z. Alemseged (California Acad. Sci.); R. Arrowsmith (Arizona State U.); A. Asrat (Addis Ababa U.); K. Behrensmeyer (Smithsonian Inst.); R. Bobe (George Washington U.); E. Brown (U. Minnesota Duluth); C. Campisano (Arizona State U.); I. Castañeda (U. Massachusetts); O. Davis (U. Arizona); A. Deino (Berkeley Geochronology Ctr.); G. Dupont-Nivet (U. Rennes); C. Feibel (Rutgers U.); A. Hill (Yale U.); S. Ivory (U. Arizona); T. Johnson (U. Minnesota Duluth); J. Kingston (U. Michigan); H. Lamb (U. Aberystwyth); T. Lowenstein (Binghamton U.); E. Mbua (Nat'l. Mus. Kenya); A. Noren (U. Minnesota); D. Olago (U. Nairobi); B. Owen (Hong Kong Baptist U.); J. Pelletier (U. Arizona); R. Potts (Smithsonian Inst.); K. Reed (Arizona State U.); R. Renaut (U. Saskatchewan); P. Renne (Berkeley Geochronology Ctr.); D. Roman (Carnegie Inst.); S. Rucina (Nat'l. Mus. Kenya); J. Russell (Brown U.); J. Russell (U. Arizona); F. Schäbitz (U. Cologne); C. Scholz (Syracuse U.); E. Shevliakova (Princeton U./GFDL); J. Stone (Indiana State U.); R. Stouffer (Princeton U./GFDL); M. Strecker (U. Potsdam); J.-J. Tiercelin (CNRS); M. Trauth (U. Potsdam); A. Tripathi (UCLA); J. Werne (U. Pittsburgh); J. Yin (U. Arizona).

For example, it is difficult to ask questions about the role of climate seasonality in evolution, when the records being queried are time averaged over decades or millennia and also contain extreme depositional hiatuses. In the case of deep sea or deep lake records, deposition may be much more continuous and unweathered, but the records have been obtained from sites thousands of kilometers from where the hominins or stone tools were actually recovered.

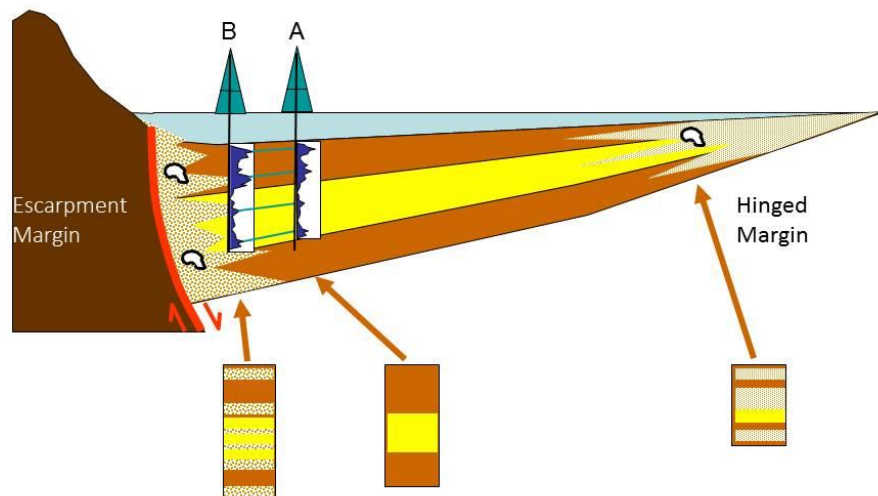


Figure 1. A conceptual model for drill site targeting in HSPDP, using a half-graben rift lake basin depositional model. Note that a lake is shown in the diagrammatic cross section, although for the actual HSPDP sites we are targeting paleolake deposits where drilling can be done from a truck mounted rig. The primary targets (Drill Site A) would be far enough from the paleoshoreline to avoid most coarse clastic facies (dotted and stippled patterns), with a relatively thick and highly resolved stratigraphic record. These types of offshore (fine-grained, organic rich) sediments, (shown as yellow and brown solid colors) are most likely to yield the continuous paleoclimate records useful for addressing current questions about hominin evolution/climate interactions. In contrast, a hinged margin site, even though potentially in close proximity to fossil and artifact localities, will yield a thinner and more discontinuous record, and one in which high stand lake deposits are over-represented. A more proximal target on the escarpment margin (B) will yield a dominantly coarse-grained stratigraphic record that is also less desirable for paleoclimate studies, although it may provide a useful secondary target for correlation into the hominin-bearing outcrops and/or records of tectonic uplift affecting the watershed.

The *Hominin Sites and Paleolakes Drilling Project* was developed to address these problems and transform the nature of the environment-human evolution debate among paleoanthropologists (Cohen et al., 2009). This unique collaboration between over 40 scientists from eight countries has as its goal the collection of unweathered drill cores from lake beds adjacent to several world-class fossil hominin and archaeological sites in Kenya and Ethiopia (Figure 1). Through a series of workshops and meetings over the last six years, a set of five important areas were selected for drilling by the HSPDP science team (Figure 2). All of the sites met rigorous criteria for scientific significance, specifically that important events in hominin fossil or archaeological history were documented nearby, and that coeval lacustrine strata existed that held promise of a continuous paleoenvironmental record for those critical intervals in human evolutionary history. An additional logistical filter on potential sites was one of access at a reasonable cost to the lake beds by a truck mounted drill rig. Collectively the five drilling areas span much of the last 4 million years. However, they are not intended to provide a “master record” of East African terrestrial environmental history. Rather, as a group they may allow us to test key hypotheses about the environmental context of human origins by

providing a set of *replicate historical experiments*. When combined with pre-existing records this metadata set (*sensu* Behrensmeyer, 2006) can then be queried at from local to global scales to discover patterns of temporal relationships between environmental history and human evolution. Drilling areas (Figure 2) include (from oldest to youngest):

- 1) The Northern Awash River Basin, Ethiopia (NA on Figure 2, core interval to cover ~3.6-2.8Ma), where lake beds of the Hadar Fm. will provide an environmental record through the evolutionary history of *Australopithecus afarensis* (e.g. “Lucy”);
- 2) The Baringo Basin/Tugen Hills, Kenya (BT, ~3.2-2.35Ma) where the Chemeron Fm. has yielded the oldest fossils of our own genus *Homo*;
- 3) The west side of the Turkana Basin, Kenya (WT, ~2.3-1.4Ma), where lakebeds of the Nachukui Fm. are coeval with rich archaeological finds, where some of the earliest/most complete specimens of *H. rudolfensis* and *H. erectus* have been found, and covering the time window when hominins first expanded their range outside of Africa;
- 4) The Chew Bahir Basin, Ethiopia (CB ~0.7-0.0Ma) a modern but seasonally dry basin near the oldest known fossils of anatomically modern *Homo sapiens*, and;
- 5) The Southern Kenya, Lake Magadi Basin, Kenya (SK, 0.7-0.0Ma), adjacent to key archaeological sites that document the technological transition into the Middle Stone Age.

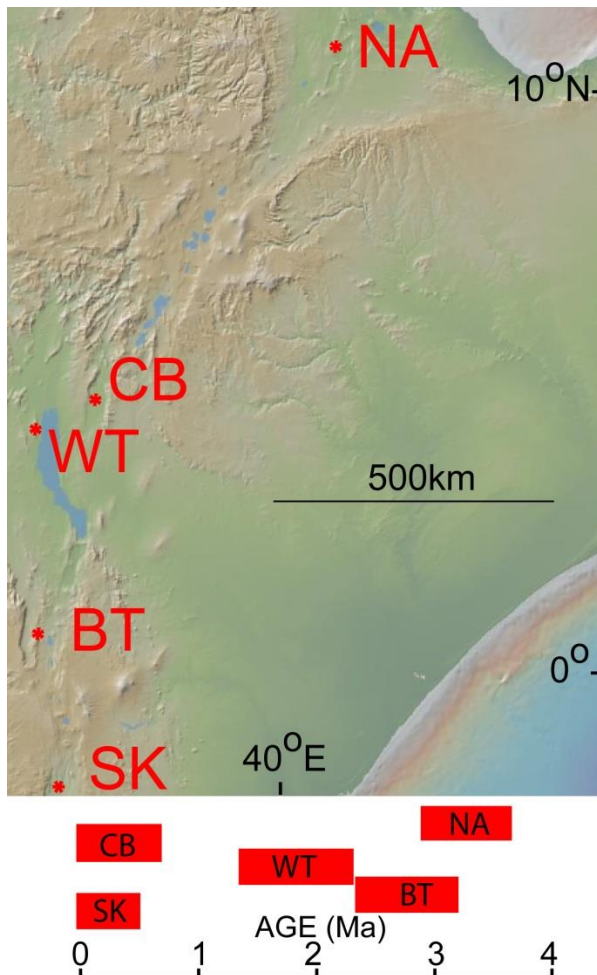


Figure 2. Map of East Africa showing the Eastern Rift Valley, the location of drilling areas and anticipated cored intervals in time for each drilling site. See text for abbreviations.

The paleolimnological record of the cores is also expected to provide new and extraordinary understanding of internal paleolake and watershed processes. Our team includes geochemists, paleoecologists, geochronologists and sedimentologists, many with decades of experience studying both modern African lake sediments and their ancient outcrop counterparts. We expect to acquire a rich and well-dated record of organic geochemistry, microfossils, sedimentary and geophysical logging records that will allow us to quantitatively reconstruct lake level, watershed vegetation, erosion and fire histories. Leading paleoanthropologists working in the region will also take part, providing their insights as the project moves from the core data collection to integration of the core and hominin fossil records. A large group of modelers be involved to help provide a realistic dynamic understanding of the environmental drivers behind the records we obtain.

Drilling is scheduled to begin in June 2013 and will continue through 2014. For further information please visit the HSPDP websites at hspdp.asu.edu for current activities and http://www.icdp-online.org/front_content.php?idcat=1225 for more project background. This project is jointly funded by the International Continental Drilling Program, the US National Science Foundation and the German Research Foundation Priority Program SPP 1006.

References

- Behrensmeyer, A.K., 2006, Climate change and human evolution. *Science* 311:476-478.
- Cerling, T.E., Wynn, J.G., Andanje, S.A., Bird, M.I., Koriri, D.K., Levin, N.E., Mace, W., Macharia, A., Quade, J., and Remien, C.H., 2011, Woody cover and hominin environments in the past 6 million years. *Nature* 476:51-56.
- Cohen, A.S., Stone, J.R., Beuning, K.R., Park, L.E., Reinthal, P.N., Dettman, D., Scholz, C.A., Johnson, T.C., King, J.W., Talbot, M.R., Brown, E.T., and Ivory, S.J., 2007. Ecological consequences of Early Late-Pleistocene Megadroughts in Tropical Africa. *Proc. Nat. Acad. Sci.* 104:16422-16427.
- Cohen, A.S., Arrowsmith, R., Behrensmeyer, A.K., Campisano, C., Feibel, C., Fisseha, S., Bedaso, Z., Lockwood, C., Mbua, E., Olago, D., Potts, R., Reed, K., Renaut, R., Tiercelin, J.J., and Umer, M. 2009, Understanding paleoclimate and human evolution through the Hominin Sites and Paleolakes Drilling Project. *Scientific Drilling* no. 8:60-65.
- deMenocal, P., 2004. African climate change and faunal evolution during the Plio-Pleistocene. *Earth and Planet Sci Let.* 220:3-24.
- National Research Council Committee on the Earth System Context for Human Evolution (Hamilton, R., Asfaw, B., Ashley, G., Cerling, T., Cohen, A.S., deMenocal, P., Hill, A., Johnson, T.C., Kutzbach, J.E., Potts, R., Reed, K., Rogers, A.R., and Walker, A.), 2010, *Understanding Climate's Influence on Human Evolution*. National Academies Press, Washington, D.C., 115pp.
- Potts R., 1996. Evolution and climate variability. *Science* 273:922–923.
- Vrba, E.S., 2005. Mass turnover and heterochrony events in response to physical change. *Paleobiology* 31:157-174.

2013 Kerry Kelts Award

The application process for the Kerry Kelts Research Awards of the Limnogeology Division is now open. These awards for undergraduate or graduate student research are named in honor of Kerry Kelts, a visionary limnogeologist and inspiring teacher.



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

This year, **one** award of \$1,000 in research related to limnogeology, limnology, or paleolimnology is available. Application for this award is simple and consists of a summary of the proposed research, its significance, and how the award will be used (five-page maximum). Please send your summary in PDF format along with your name and a short (two-page maximum) CV to the chair of the Limnogeology Division, Amy Myrbo (amyrbo@umn.edu).

Please put your name in all PDF file names that you send. **Application Deadline: July 1, 2013.** Awards will be announced at the Limnogeology Division Business Meeting and Reception at the 2013 GSA Annual Meeting in Denver, Colorado in October.

We hope to increase the number of the awards in succeeding years. If you are interested in supporting this awards program, please send your donations, designated for the Kerry Kelts Research Awards of the Limnogeology Division, to GSA, P.O. Box 9140, Boulder, CO 80301-9140, USA.

125th GSA at Denver

Sessions Sponsored by Limnogeology Division:

T64. Lacustrine Basin Analysis and Petroleum Systems: Ancient Case Studies, Modern Analogs, New Frontiers

GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA Geophysics Division; SEPM (Society for Sedimentary Geology)

Michael M. McGlue, Geoffrey Ellis

This session will encompass the evolution of our understanding of lacustrine geology, including research on the geology, geochemistry, and geophysics of lake basins (modern and ancient), with special relevance to petroleum systems development.

T65. Lakes and Lake Deposits on Earth and Mars

GSA Limnogeology Division

Johan C. Varecamp, Nathalie Cabrol

Remote sensing and observer data indicate that lake deposits are common on Mars. We invite papers on comparative paleolimnology between Mars and Earth: sediment mineralogy, lake water geochemistry, and modern terrestrial analogs for Mars lakes.

T66. New or Improved Proxy Methodology for Enhanced Resolution and Accuracy of Climatic and Paleoenvironmental Interpretations in Sedimentary Records

GSA Limnogeology Division; GSA Sedimentary Geology Division

Michael Sperazza, Amy Myrbo

This session will serve as an examination of advances in climatic and environmental proxies to enhance our understanding and the accuracy of interpretations.

T67. West of the Plains, North to Alaska: The Role of Montane Lake, Bog, Fen, and Soil Records in Unraveling Climate Change in Western North America

GSA Limnogeology Division

Scott W. Starratt, Paula Noble, Jennifer Kusler

One of the major challenges to understanding the impact of climate change in mountainous regions is identifying the impact of local factors on climate history. This session seeks biotic and abiotic records of these changes.
Limnogeology | Environmental Geoscience | Quaternary Geology

T68. World of Lakes

GSA Limnogeology Division

Amy Myrbo

Lacustrine records continually provide new insights into terrestrial paleoconditions. Limnogeology and paleolimnology have taken tremendous strides in the past 50 years. This session invites all contributions related to lake research.

Limnogeology | Paleoclimatology/Paleoceanography | No Selection

T119. Digital Geology Express (Digital Posters)

National Association of Geoscience Teachers; GSA Archaeological Geology Division; GSA Geobiology & Geomicrobiology Division; GSA Geoinformatics Division; GSA Geology and Society Division; GSA Geoscience Education Division; GSA Hydrogeology Division; GSA Limnogeology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; NAGT Geo2YC (The 2-Year College Division); GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Structural Geology and Tectonics Division

Declan G. De Paor, Stephen J. Whitmeyer, John Bailey, Callan Bentley

A modification of the speed-dating format from GSA 2012, this fast-paced session will link presenters and active participants in a blend of digital poster and workshop formats.

T124. Geoscience Alliance: Moving Toward Earth Systems Planning for Seven Generations through Broadening the Participation of Native Americans in the Geosciences

GSA Geology and Society Division; GSA Limnogeology Division; GSA Geology and Health Division; GSA Geoscience Education Division; GSA Environmental and Engineering Geology Division

Nievita Bueno Watts, Diana Dalbotten, Suzanne Zurn-Birkhimer, Amy Myrbo

Geoscience Alliance was formed in 2007 as a national movement dedicated to broadening the participation of Native Americans in the geosciences through innovative programming and research. We will highlight our progress and discuss remaining challenges.

T193. Continental Carbonates

SEPM (Society for Sedimentary Geology); GSA Limnogeology Division; GSA Sedimentary Geology Division

Elizabeth Gierlowski-Kordesch, David B. Finkelstein

Continental carbonates contribute paleoenvironmental information for reconstructions of paleoclimate as well as landscape drainage patterns. Research on lacustrine and palustrine limestones, microbialites and spring deposits, and evaporites will be highlighted.

T19. G.K. Gilbert and Geomorphology at GSA's 125th

GSA Quaternary Geology and Geomorphology Division; GSA History and Philosophy of Geology Division; GSA Limnogeology Division

Kathleen Nicoll, Paul Jewell

We welcome abstracts on themes related to the history of evolving paradigms in geomorphic inquiry and Grove Karl Gilbert's observations regarding landscapes, tectonics, and climate change in the American west (and beyond).

OTHER SESSIONS OF INTEREST AT THE 125TH GSA

The following sessions are not sponsored by the Division but maybe of interest:

T150. Advances in X-ray Fluorescence and Diffraction and Their Role in Sedimentary Geochemistry and Chemostratigraphy

SEPM (Society for Sedimentary Geology); GSA Sedimentary Geology Division

Alexander Seyfarth

The proposed session seeks to evaluate the role of X-ray fluorescence and diffraction in stratigraphy, paleoceanography, paleolimnology, paleopedology, and paleoclimatology and define modern approaches to answering questions in the various subdisciplines of sedimentary geochemistry.

T161. Hydrochemistry and Biogeochemistry of Tropical Mountainous Rivers & Estuaries

GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; International Association of GeoChemistry; GSA Environmental and Engineering Geology Division

Steven T. Goldsmith, Russell Harmon, Ryan P. Moyer

We encourage contributions that examine the hydrochemistry of tropical mountainous rivers and/or the biogeochemical cycling and fluxes, as well as paleo-records, of material delivered by tropical mountainous rivers and associated estuarine and coastal waters.

T194. Current Understanding of Dolomite, Dolomitization, and Dolomite Problems

GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geobiology & Geomicrobiology Division; GSA Sedimentary Geology Division

Huifang Xu

This session will cover compositions and structures of sedimentary dolomite, catalysts in sedimentary dolomite formation, molecular level understanding and laboratory synthesis of low-temperature dolomite and proto-dolomite; roles of microbes in dolomite formation; dolomite and sedimentary environment; and dolomite and hydrocarbon reservoirs mud carbon sequestration.

T31. Recent Advances in Understanding Great Basin Paleoclimate

Guleed AH Ali, Kenneth D. Adams

This session encourages presentation of new observations and geochronology leading toward new interpretations of Pleistocene and Holocene lake level changes and other climate-related effects in the western U.S. Great Basin.

AN URGENT CALL FOR CLIMATE AND ENVIRONMENTAL CHANGE RESEARCH IN THE NIGER DELTA OF NIGERIA.

Dr. Clinton Ifeanyichukwu Ezekwe (geologist, geographer and environmental hydrologist) is the overseer of the Paleoenvironmental Change Research Unit- a budding research outfit based in the Centre for Disaster Risk Management and Development Studies in the School of Geography and Environmental Management of the University of Port Harcourt in South-south Nigeria. The center under the directorship of Professor Samuel B Arokoyu has instituted a small unit of research professionals including geologists, hydrologists, geomorphologists, climatologists, a chemist, a biologist and a few postgraduate students to form the core of the paleoenvironmental research unit to foster research and training in the use of isotope geochemistry and macro fossil analysis in understanding the Paleoclimatology and environmental changes in the Niger Delta of Nigeria (Figure 1).

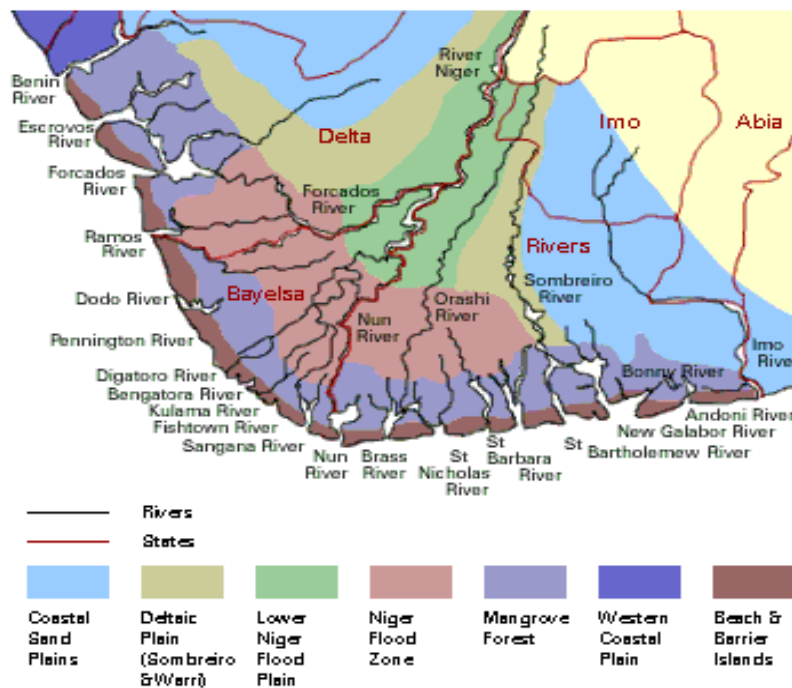


Figure 1: The Niger Delta (Figure courtesy: URHOB0 HISTORICAL SOCIETY, 2012)

The Niger delta (Tertiary to Recent) is one of the biggest wetlands in the world (70,000 km²) and maintains the third-largest drainage basin in Africa. This incredibly well-endowed ecosystem contains one of the highest concentrations of biodiversity on the planet, in addition, it supports abundant flora and fauna, arable terrain that can sustain a wide variety of crops, lumber or agricultural trees, and more species of freshwater fish than any ecosystem in West Africa. Regrettably, it is also an oil-rich region, and has been the center of international controversy over unabated gas flaring of over 50 decades and devastating oil pollution and ecocide and consequently is experiencing unprecedented patterns in weather patterns and increasing devastating floods, ecological changes and loss of biodiversity.

The region also has a lot of lakes some of them unaffected by the devastation of oil pollution. Sediments from these lakes could be used as veritable sources for a quantitative understanding of the past environment of the Niger delta and to define the impacts of human activities in this important wetland of the world and implications for future climate and environment.

The Centre for Disaster Risk Management and Environmental Change is currently interested in detailed investigations of wetland and lake-sediment cores, climate change and the long-term effects of human activity on terrestrial and lake ecosystems, flood frequency analysis and the long-term dynamics of the rainforest of the Niger Delta using sediment cores and macro fossils. It also has long term plans of creating a regional center for Paleoenvironmental Change studies in the West African Sub-Region.

The center is seeking assistance in obtaining new and used equipment for sediment coring, and sediment/plant macrofossil analysis. We are looking forward to a warm collaboration with individual researchers, assistance from institutional collaborators in training of staff and students and analysis of sediments, the establishment of a paleoecology laboratory and research funding opportunities.

For more information please contact:

Dr. Ezekwe I Clinton

Weather Room, Centre for Disaster Risk
Management and Development Studies
School of Geography and Environmental
Management,
University of Port Harcourt
PMB 5323 Choba, Rivers State, Nigeria
Tel: +2348033388237; +2348086978711.
Email: clidnelson@yahoo.com;
Clinton.ezekwe@uniport.edu.ng



ILIC 6 - 2015



The next International Association of Limnogeologist meeting will be held at Lake Tahoe in the summer of 2015 Exact date and venue is still being decided

If you are interested in helping:

- The planning committee
- Scientific program committee
- Field trip committee
- Sponsorship committee
- Or anything else!

Please contact:

Dr. Michael R. Rosen (Past Chair of the Limnogeology Division of GSA)

mrosen@usgs.gov; Ph: 775-887-7683

Upcoming Meetings

Geological Society of America (GSA) Annual Convention

October 27-30th 2013

The **Geological Society of America** will hold its Annual Meeting in Denver, Colorado, USA. The conference theme is Celebrating Advances in Geosciences. Abstract Deadline August 6th, 2013.

The meeting website is: <http://community.geosociety.org/2013AnnualMeeting/Home>

Future Meetings are scheduled for:

2014 - Vancouver, British Columbia, Canada: 19–22 October

2015 - Baltimore, Maryland: 1–4 November

International Association of Theoretical and Applied Limnology (SIL)

SIL 2013 Congress

The **32nd Congress of the International Society of Limnology** will take place in Debrecen, Hungary in 2013. The 33rd congress will be held in Turin, Italy, in 2016.

For more information about these meetings, see the SIL website: <http://www.limnology.org/>

North American Lake Management Society (NALMS)

October 30 - November 1, 2013

The **33rd International Symposium of the North American Lake Management Society** will take place in San Diego, California, USA. The Abstract Deadline is May 17, 2013
NALMS 33rd International Symposium

The website is: <http://www.nalms.org/home/conferences-and-events/nalms-upcoming-symposium/nalms-symposium.cmsx>

International Lake Environment Committee (ILEC)

September 1st – 5th, 2014

The **15th World Lakes Conference (WLC15)** will be held in Perugia, Umbria, Italy. The conference theme is *Lakes, the Mirrors of the Earth: Balancing Ecosystem Integrity and Human Wellbeing.*

The ILEC website is <http://www.ilec.or.jp/en/>

International Paleolimnology Association (IPA)

Mid-August 2015

The **13th International Paleolimnology Symposium** of the International Paleolimnology Association will take place in **Lanzhou, China**. An abstract deadline has not yet been posted.

The IPA Symposium website is: <http://www.paleolim.org/index.php/symposia/>

American Society of Limnology and Oceanography (ASLO)

2014 ASLO Ocean Sciences Meeting (Feb 23-28, 2014)

The Ocean Sciences Meeting of the American Society of Limnology and Oceanography will be held in Honolulu, HI, 2014. Abstract deadline: Not published yet.

2014 ASLO Summer Conference (May 18-23, 2014)

The summer conference of the American Society of Limnology and Oceanography will be held in Portland, OR. Abstract deadline: Not published yet.

The website listing all these conferences is: <http://www.aslo.org/meetings/aslomeetings.html>

American Association of Petroleum Geologists International Conference and Exhibition

September 8-11th, 2013

The **2013 International Conference and Exhibition of the American Association of Petroleum Geologists** will take place in Cartagena, Columbia. Abstract submission has passed.

The conference website is: <http://www.aapg.org/cartagena2013/>

International Association for Great Lakes Research (IAGLR)

June 2-6th, 2013

The **56th Annual Conference of the International Association for Great Lakes Research (IAGLR)** will take place in West Lafayette, Indiana, USA. Abstract submission has passed.

The conference website is: <http://iaglr.org/iaglr2013/program/>

Go to the Limnogeology Division website at:

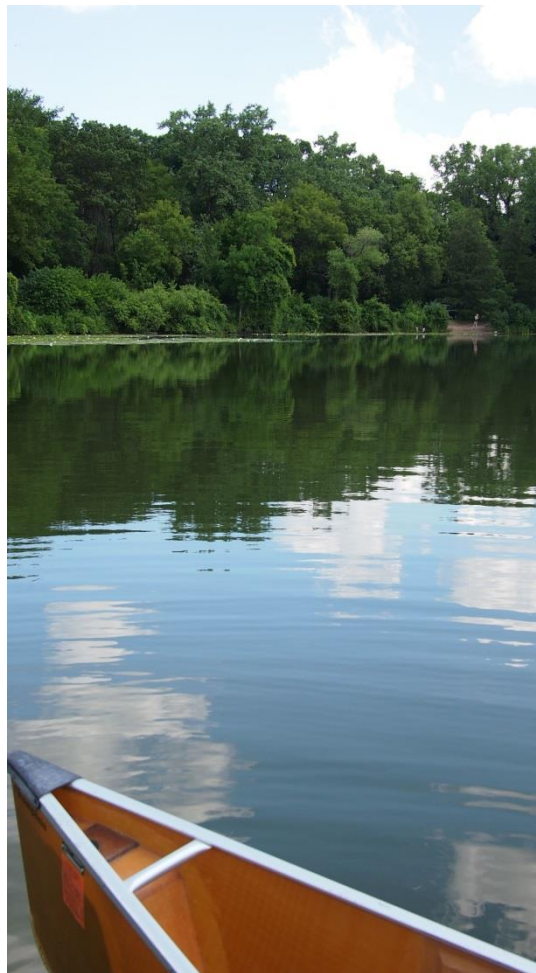
<http://rock.geosociety.org/limno/index.html>

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

David Warburton, Webmaster

If you don't have access to our website, please contact a Division officer for a list of meetings.

If you have any news, photos, articles, recent publications, you would like to share with the division, please submit it to Michelle Goman at goman@sonoma.edu



End Photo: Brownie Lake. Minneapolis, Minnesota (photograph by Amy Myrbo)