

Geological Society of America  
**Limnogeology Division Newsletter**

Volume 7, Number 1  
September 2009

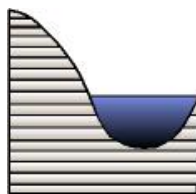


Limnogeology  
Division

THE GEOLOGICAL SOCIETY  
OF AMERICA

## ***Limnogeology Division Newsletter***

**Volume 7. Number 1  
October 2009**



Limnogeology  
Division



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## From the Editor

**Peter Drzewiecki**  
Storrs, CT

Greetings!

For those of you in academia, the summer field season is done and the fall semester is in full swing. For those of you in industry or government, hopefully you got out into the field a bit this summer. Both ways, it is October, and the long-awaited next installment of the Limnogeology Division Newsletter is here.

This edition of the Newsletter contains several articles and informational items including:

- A message from your division chair
- Two research articles from opposite sides of the world
- Kerry Kelts Research Award winners
- Information about the 2009 Annual GSA Meeting
- A list of upcoming limnogeology-related meetings

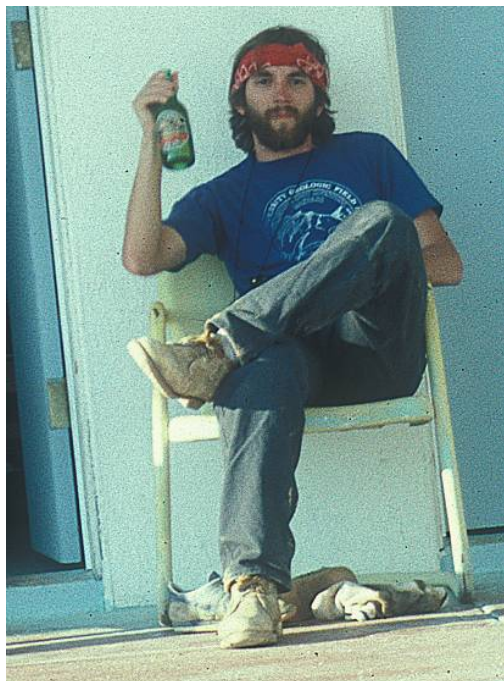
In an attempt to give the Newsletter a more interesting look, I have added a picture to the cover. I would like to continue this practice, but I need help from you. Please send me any picture you may have that will look good on the cover, and I will put your name in print (see below)! What could be easier or more exciting than that?

As always, please send me any announcements, etc. you want distributed to other members of the division. I always love to receive more technical articles for the Newsletter as well.

Cover Photo: Lake Baikal (photograph by Elizabeth Gierlowski-Kordesch)

## Message from the Chair

Michael Rosen  
Carson City, NV



**Michael Rosen from the “good old days” doing his PhD research, when he had copious amounts of hair and could drink beer. This photo is more than 20 years old!**

Welcome to the latest addition of the Limnogeology Division Newsletter. It has been a relatively exciting year in the field of Limnogeology. Some of this excitement I would rather not see repeated this year! Thanks to the membership for sending letters of support to for Andy Cohen’s students who were detained while doing their lake coring in Brazil. Hopefully this situation will be fully resolved soon, but the students are back in the US now. Also, the 11<sup>th</sup> International Paleolimnology Conference that was to be held in Mexico was postponed due to the H1N1 virus outbreak, and will now be held December 16-18, 2009. If you didn’t know about this meeting I believe you can still register. There are also numerous other smaller meeting in the next year, culminating in the 5<sup>th</sup> Limnogeology Congress in Germany in 2011.

At GSA in Portland this year, we will have one poster and oral session on Cenozoic lakes. Our business meeting will be once again combined with the Sedimentary Geology Division. Please attend and have your voice heard on Division matters. You can also introduce yourself to the new Kerry Kelts award winners; all three will be at the meeting for the first time to receive their awards. Please note that the business meeting will be held on Tuesday night at 5:45 PM (see details in this Newsletter), rather than the traditional Monday night. This is so that we won’t conflict with alumni parties, so this year, you have no excuse for not attending.

The division is still pretty stable somewhere over 200 members. However, as was mentioned in the last Newsletter, we don’t want to be stable, we want to grow! Now that

the recession has been declared to be over by the government, it is time to reinvest in Limnogeology and the Kerry Kelts fund. Your dues are still mostly used to give scholarships to students. With the current membership we have about \$2000 for scholarships each year. If we could add just 50 members, we could add additional money to the Kerry Kelts Student Scholarship Fund, or we could give bigger scholarships. If you know someone working on Limnogeology who is not a member of the Division, please ask them if they will join. It isn't an enormous investment, but the benefit to students is great.

The Kelts Fund is currently somewhere near \$10,000. But we need you to help us endow the scholarship at a significant level, so donations to the Kelts Fund are desperately needed to keep our funding of deserving students actively growing and sustainable.

Our new award the Israel C. Russell Award, is still in the works (see last Newsletter for details), but we expect to have this award up and going in 2010. Donations will be accepted for this award through the GSA Foundation starting next year.

Peter is always looking for good articles for the Newsletter. This issue is pretty full, so we are doing well, but future issues are always in need of interesting articles. We strongly encourage past Kelts Award winners to let us know how their research has benefited from the Award, and in addition all Limnogeology students are encouraged to submit articles or ask for advice from the membership through either the Newsletter or email exchanges.

Finally, we plan to have a core workshop at GSA in Denver in 2010, so please be thinking about good cores that you might like to talk about or see at the workshop. It is also time to start thinking about new Limnogeology sessions for Denver as well. GSA would also like more Division support of sectional meetings, if anyone from the Division would like to run a session at a sectional meeting please do so. The Division officers will help you if possible.

In the mean time, have a great meeting in Portland and I hope to see you there!

Michael



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## ***Limnogeology Research***

### **Limnogeology work related to water quality in Uzbekistan**

**Michael Rosen**  
*Carson City, NV*

I recently spent two weeks in Uzbekistan in June (4-16) taking sediment cores of shallow lakes, attending project meetings, and training Uzbeks on new water quality field techniques (using semipermeable membrane devices (SPMDs)) as part of a collaborative project between the USGS, the University of Nevada, Reno, the University of Bonn (ZEF), and the Uzbekistan Academy of Sciences (two institutes). The project is funded by the NATO Science for Peace program. This trip was actually the last trip for the project, which started in 2006, and was my fourth trip to Uzbekistan. However, a new NSF funded project started this year and will provide travel expenses for at least one more trip next year. The area of study is located in Khorzem Province, and is based out of the ZEF headquarters in Urgench. This is a large intensive agricultural area developed during Soviet occupation of Uzbekistan in the 1950s. Cotton, wheat and rice are the main crops in the area and water to irrigate the crops is taken from the Amu Darya River which used to deliver water to the Aral Sea. Diversion of this water (and other rivers) for crops has led to drastic declines in Aral Sea water levels.

The goal of the project was to determine whether the hundreds of small lakes (Photo 1) that exist in the area (probably formed due to over irrigation) were suitable for water supplies, recreation or tourism, or fish farming. Due to documented use of DDT and Lindane in the 1960's to 1991 (Uzbekistan Independence), we anticipated that the lakes could have high concentrations of these pesticides in the sediment or water column.



**Photo 1.** Atakul (kul means lake), which has 93 percent agricultural land around it. To the left is a rice field that is draining ponded water into the lake.

Initial work using SPMDs didn't turn up any DDT or Lindane, and monthly monitoring of these pesticides using traditional methods gave results near the detection limit, indicating little DDT or Lindane is present in the water. Lake coring was conducted to determine whether concentrations were higher in the past, but only low levels were found at all depths. We hypothesized that perhaps microbial activity in the lake sediments was responsible for the observed concentrations and the new NSF project is designed to try to answer this question.

During the current trip, I took sediment cores from three different lakes all of which are surrounded by agricultural activity using a home-built raft (Photo 2) constructed by Julian Scott who recently completed his Master's thesis on the water balance of the two lakes. I also participated in a project meeting where current progress in the study was presented, and an end-user meeting in Tashkent (the capital of Uzbekistan) where project participants trained other Uzbek scientists. Although there was quite a bit of hard work done in temperatures over 100 °F, the field work didn't seem hard because all the participants are now colleagues and friends and work well together. Indeed, a considerable amount of vodka, wine and beer was consumed (I didn't consume the beer), and long festive dinners were eaten at participants houses and restaurants (photo 3). Over the one weekend, a trip was made to a reservoir 2 hrs from Tashkent to relax and hike in the mountains (Photo 4). Given the flat landscape in Urgench, this was a welcome change. All in all, the trip went very well, and a meeting with US State Department Staff at the US Embassy in Tashkent may develop into an MOU with the Uzbekistan government, which may lead to additional work for the USGS.



**Photo 2.** Gaukul, note the “drilling raft” with the inflatable tender. Luckily the lakes are less than 10 ft deep. Also note the children playing in the water. They were a bit of a hassle, because they wanted to dive off the raft. Marhabo Bekchanova(Uzbek Master's student) and Julian Scott are in the picture.



**Photo 3.** Dinner at Marhabo Bekchanova's parents house (Marhabo is in the front at the right, her mother is behind her in the flowery blue dress, and her father is at the back in the blue shirt next to Eric Marchand). Assoc Prof Laurel Saito (UNR) is between Marhabo and her mother. Note the bottle of vodka near Marhabo's father which is used for toasting of people's health throughout the meal. It was empty by the time we left.



**Photo 4.** The motley crew that went to Charvak Reservoir left to right: PhD student Nodirbek Mullaboev, Julian Scott, Assoc Prof. Eric Marchand (UNR), the driver whose name I can't remember, Michael Rosen, Nodirbek's brother, whose name I also can't remember.





**Photo 5.** The ancient Silk Road city of Khiva is also in our field area and is a major tourist destination in Uzbekistan along with Samarkand and Buxoro (visited on previous trips).

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## ***Limnogeology Research***

### **Tropical climate records from small Andean lakes**

By Broxton W. Bird  
The Ohio State University  
Byrd Polar Research Center

Formerly of:  
The University of Pittsburgh  
Department of Geology and Planetary Science

In 2005, I had the privilege of being awarded one of the first Kerry Kelts Awards from the GSA Limnology Division. I was presented with the award to conduct a ground penetrating radar survey of Dry Lake in the San Bernardino Mountains of southern California, the site I was working on for my masters research. The survey produced

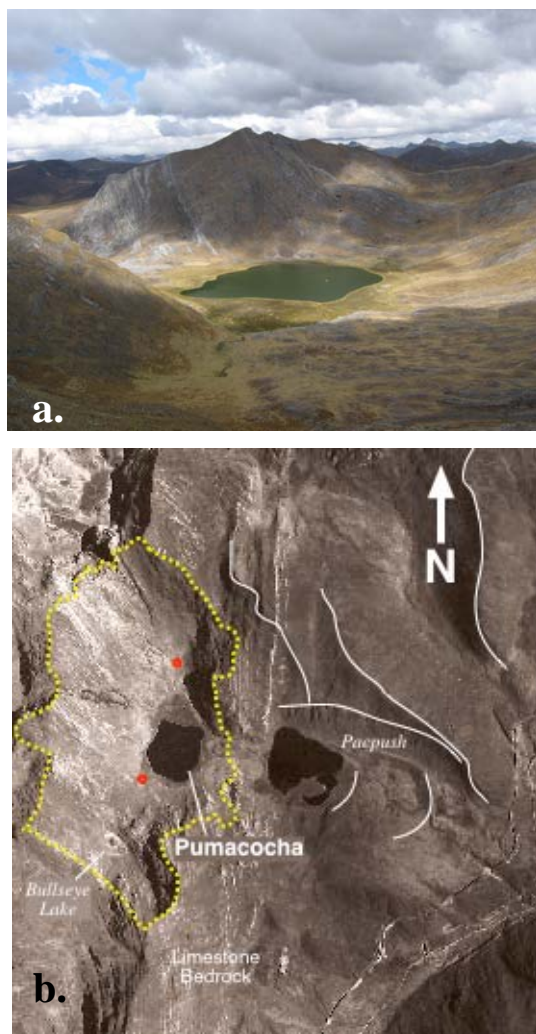


Figure 1 a) Photograph of Laguna Pumacocha looking south. For scale, the small dot in the lake is the coring raft, which is comprised of two 4-person inflatable rafts lashed together with a coring platform between them. b) Air photo of the Laguna Pumacocha watershed (yellow dashed line). The white point in the lake shows the location where cores were collected. The red dots indicate the location of small springs that drain into the lake, supplying  $\text{HCO}_3^-$  and  $\text{Ca}^{2+}$ . The white lines highlight glacial landforms in the area.

some excellent data, which was recently published in a study in the journal *Boreas*. Earning the Kelts Award was one of the early highlights of my still young career, and it is a pleasure to see the tradition not only continues, but is growing. The following article is a summary of my current work on South American climate change indicators.

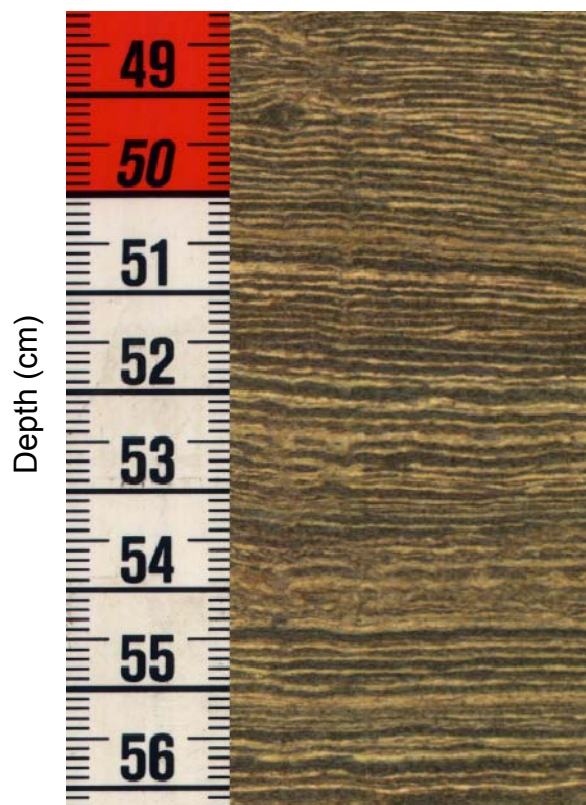
Precipitation from the South American summer monsoon (SASM) supplies the Andean highlands and arid Pacific coast with fresh water that is utilized for agricultural, municipal, and hydroelectric purposes. The importance of the SASM for all levels of society in tropical Andean countries is underscored by the fact that this water resource has come under threat as the global climate has warmed. Glaciers in the tropics are melting at an alarming rate and studies have predicted that many Andean glaciers will be significantly reduced, or gone entirely, within decades (Vuille et al., 2008). Model simulations further predict that warming trends will reduce the strength of the SASM while increasing precipitation seasonality (Bradley et al., 2006; Vuille et al., 2008). These changes have the potential to put tremendous stress on nations, and ecosystems, that are accustomed to the present climatic regime. Despite the importance of the SASM, it is not entirely

understood how this system has varied over time and the extent to which the amount of

precipitation fluctuate. Two factors have contributed to this. The first is that the time period spanned by instrumental records is too short to characterize how the SASM responds to extremes in radiative forcing in the past. The second is that instrumental stations are not well distributed across the topographically complex terrain that comprises South America. As a result, a detailed picture of tropical climate processes has only become possible in recent years with the advent of satellite observations and improved spatial distribution of weather stations during the last couple of decades. The lack of long-term instrumental data means that climate scientists must rely on proxy records of climate change, such as lake sediments, ice cores, and tree rings, to infer SASM variability, in order to understand how the SASM responds to extremes in radiative forcing. However, the majority of previous climate studies lack the resolution necessary to discern climate variability at time scales relevant to human society (i.e., decadal to sub-decadal time scales).

Despite previous low-resolution paleoclimate studies, several types of climate archives exist that hold tremendous potential for reconstructing a detailed picture of tropical climate at sub-decadal to decadal time scales (e.g., tree rings, ice cores, and lake sediments). Lake sediments are among the most promising because they are distributed across diverse topography and climate zones, which makes them well suited to provide a comprehensive view of climate change. Further, a growing number of lake-based studies from South America shows that lakes are capable of preserving sub-decadal to annual-scale climate signals (Polissar et al., 2006; Rodbell et al., 1999).

A promising new lake with the potential to reconstruct SASM variability at near annual resolution is Laguna Pumacocha. This small cirque lake is situated on the eastern flank of the central Peruvian Andes at 4300 m asl at 10°S (Fig. 1). The lake sits in a small east facing glacial cirque with a bedrock lithology comprised almost entirely of limestone. As a result, the lake is supplied with ample dissolved  $\text{HCO}_3^-$  and  $\text{Ca}^{2+}$  ions, which allows the lake to maintain a high alkalinity and saturation with respect to calcite year round. Laguna Pumacocha is 23.5 m deep at its deepest point with a flat bottom and very steep sides. This morphology contributes to water column stability, which is reflected by permanent stratification and anoxic conditions below ~ 8 m water depth. Prolonged bottom water anoxia has resulted in the accumulation of finely laminated



**Figure 2** Photograph of core A-05 D-1 showing the well-preserved millimeter-scale couplets in the upper portion of the Pumacocha sediment record.

undisturbed sediments, which form couplets of light tan to white authigenic calcite crystals over lying dark brown to black organic rich layers in the upper 104.5 cm of the 579-cm-long sediment record (Fig. 2). Comparing couplet counts with  $^{137}\text{Cs}$ , and AMS  $^{14}\text{C}$  ages indicate that the couplets are deposited annually with each sub-layer corresponding to a distinct seasonal deposition event.

These layers are traceable throughout the network of cores from the lake, which were collected between June 2005 and August 2008. This demonstrates that sedimentation is consistent across the lake. Calcite, which comprises between 15 and 40% of the

sediment, was isolated for oxygen isotope analysis by sieving and collecting the <63  $\mu\text{m}$  fraction. In total, oxygen isotope ratios were measured on over 3400 samples. In the

upper portion of the record, samples were collected at 1 mm intervals, which equates to ~ 1 year per sample.

The oxygen isotopic composition of calcite precipitated in Laguna Pumacocha, and subsequently preserved in the sediment record, is a function of the temperature at which it is precipitated and the initial isotopic composition of the lake water. Modern relationships between lake water  $\delta^{18}\text{O}$ , and temperature were established by comparing monthly lake water  $\delta^{18}\text{O}$  measurements with lake surface and air temperature, which was measured with a Solinst Levellogger deployed 1.25 m below the lake surface and a Solinst Barrologger deployed in the lake's water shed, respectively. No significant relationship was identified between lake or air temperature. However, mean annual lake water  $\delta^{18}\text{O}$  was essentially identical with precipitation  $\delta^{18}\text{O}$  predicted from gridded and interpolated IAEA-GNIP data, suggesting that the isotopic composition of lake water



reflects that of precipitation. Furthermore, calcite  $\delta^{18}\text{O}$ , which was measured on littoral and sediment trap calcite, was identical with the predicted value given the initial lake water  $\delta^{18}\text{O}$ , indicating that calcite in Laguna Pumacocha is precipitated in equilibrium with lake water and that its oxygen isotope ratio reflects mean annual lake water  $\delta^{18}\text{O}$ . These relationships provide the basis for using down core measurements of calcite  $\delta^{18}\text{O}$  to infer changes in precipitation related to the strength of the SASM.

Preliminary results show that the SASM has varied considerably during the Holocene at millennial to sub-decadal time-scales. The inferred variability appears to be related to both orbital and radiative forcing and their interactions. This suggests that future changes in radiative forcing driven by anthropogenic processes will be an important driver of SASM variability in the future. For those interested, a more detailed discussion of the results, their significance, and what they tell us about SASM dynamics during the Holocene and the implications for future variability will be forthcoming in a series of manuscripts. The success of this particular study supports the continued targeting of tropical lakes for detailed paleoclimate studies aimed at understanding annual to decadal climate variability, which can greatly affect society.

## Acknowledgements

This work was funded by the National Science Foundation Earth Systems History program. Mark Abbott, Donald Rodbell, Nathan Stansell, Colin Cooke, Enrique Lopez, Jaime Escobar, Byron Steinman, Pedro Tapia, Alijandro Chu, and Eden Diaz all provided invaluable assistance with field work that made this project a success.

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## 2009 Kerry Kelts Award

This year, three students will be presented with the annual Kerry Kelts Award at the Limnogeology Division Business Meeting on October 20, 2009. Each student will receive a monetary award of \$400. The 2009 award winners are:

- **Chelsea Carmichael** (Loma Linda University)
- **Marit Heideman** (Simon Fraser University)
- **Julie Loisel** (Lehigh University)

Congratulations to all of you!

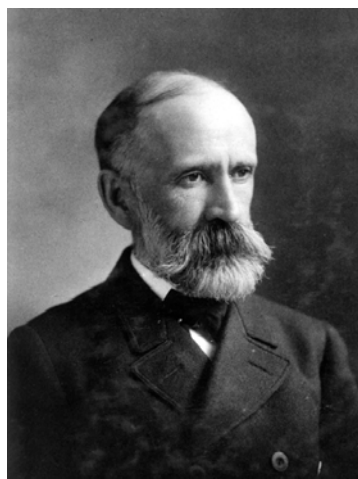
The Kerry Kelts Research Awards of the Limnogeology Division support undergraduate or graduate student research. Up to three awards of \$400 each for use in research related to limnogeology, limnology, and paleolimnology are available. In the past few years, one award has been given for each of these three subdisciplines of limnogeology.

The 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). Summaries in PDF format, along with your name and a short (two-page maximum) CV will be submitted to the chair of the Limnogeology Division, Michael Rosen, at [mrosen@usgs.gov](mailto:mrosen@usgs.gov). The application process for the 2010 awards will be announced in spring of 2010.

As mentioned in the *Message from the Chair*, donations to are needed to grow this fund to a sustainable level. Donations can be sent to the Kerry Kelts Research Awards of the Limnogeology Division at GSA, P. O. Box 9140, Boulder, CO, 80301-9140, USA. It is also easy to make donations when you pay your membership dues – the Kerry Kelts Research Award is listed on the donations page.

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## Israel C. Russell Award



As Michael mentioned in the *Message from the Chair*, the Division established the Israel C. Russell Award to honor those who have made significant career contributions to lake research and education. Please consider donating to establish the fund, and start thinking of deserving nominees!

### Israel Russell (1852-1906), circa 1900

Public Domain image from:  
[http://upload.wikimedia.org/wikipedia/commons/e/e1/Israel\\_Russell.jpg](http://upload.wikimedia.org/wikipedia/commons/e/e1/Israel_Russell.jpg)

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## Report on 2009 GSA Annual Meeting

Peter Drzewiecki  
Storrs, CT



(<http://www.geosociety.org/meetings/2009/>)

The 2009 annual meeting of the Geological Society of America will take place on October 18-21, in Portland, Oregon. The theme for the conference is *From Volcanoes to Vineyards: Living with Dynamic Landscapes*. The meeting website is:

<http://www.geosociety.org/meetings/2009/>

We hope to see you all in Portland!

There are three sessions sponsored by the Limnogeology Division at this meeting:

### **T35. Cenozoic Lakes**

*GSA Limnogeology Division; GSA Sedimentary Geology Division, GSA Quaternary Geology and Geomorphology Division*

Elizabeth Gierlowski-Kordesch, Broxton W. Bird, Nathan D. Stansell

Time: Tuesday, October 20, 1:30 PM-5:30 PM

Location: Oregon Convention Center: D139/140

### **T35. Cenozoic Lakes (Posters)**

*GSA Limnogeology Division; GSA Sedimentary Geology Division, GSA Quaternary Geology and Geomorphology Division*

Elizabeth Gierlowski-Kordesch, Broxton W. Bird, Nathan D. Stansell

Time: Wednesday, October 21, 9:00 AM-6:00 PM

Location: Oregon Convention Center: Hall A

## **P7. Hazards and Health: Preventing Disaster and Building Resilience on the Ring of Fire**

GSA Geology and Health Division; GSA Engineering Geology Division; GSA Geoinformatics Division; GSA Limnogeology Division; GSA Quaternary Geology and Geomorphology Division; GSA International Division; GSA Geology & Public Policy Committee; Geological Society of New Zealand; International Association of Emergency Managers; International Medical Geology Association; International Union of Geological Sciences; International Union for Quaternary Research; U.S. Geological Survey

Monica E. Gowan, David Applegate, Scott F. Burns, John J. Clague, David Johnston

Time: Monday, October 19, 8:00 AM-12:00 PM

Location: Oregon Convention Center: Portland Ballroom 254

**In addition to the technical sessions, there are two other Division items you should be aware of:**

### **Limnogeology Booth**

Come visit us at Exhibitor Booth 712 in the exhibition hall. This is sure to be one of the most exciting places to hang out at the meeting! Let us know what the division can do for you, and let us know of any ideas you have for future Limnogeology activities. Feel free to bring us coffee (morning) or beer (~~afternoon~~ anytime) when you stop by.

Finally, do not forget the...

**GSA Joint Sedimentary Geology and Limnogeology Divisions  
Business Meetings & Awards Reception**

**Cosponsored by Society for Sedimentary Geology (SEPM)**

Tuesday, October 20, 5:45 PM-8:15 PM,

Oregon Convention Center: D139/140



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## Upcoming Meetings

### Geological Society of America (GSA) Annual Convention

October 18-21, 2009

The **Geological Society of America** will hold its Annual Meeting in Portland, Oregon, USA. The conference theme is *From Volcanoes to Vineyards: Living with Dynamic Landscapes*. Abstract Deadline was August 11, 2009.

The meeting website is: <http://www.geosociety.org/meetings/2009/>

Future Meetings are scheduled for:

2010 - Denver, Colorado USA: 31 Oct.–3 November

2011 - Minneapolis, Minnesota USA: 9–12 October

2012 - Charlotte, North Carolina: 4-7 November

### International Association of Theoretical and Applied Limnology (SIL)

October 24-27, 2009

The International Society of Limnology will host a **Symposium on Global Change and Freshwater Environments in Nanjing, China**. Abstract Deadline was June 30, 2009.

The conference website is: <http://www.limnology.org/news/symposium2009.shtml>

### Global Continental Paleohydrology (GLOCOPH)

October 25 – November 3, 2009

Global Continental Paleohydrology (GLOCOPH) is organizing the **GLOCOPH Israel 2009 Workshop** under the Terrestrial Processes (TERPRO) Commission of the International Quaternary Association (INQUA).

The workshop website is: <http://geography.huji.ac.il/GLOCOPH/index.htm>

### North American Lake Management Society (NALMS)

October 27-31, 2009

The **29<sup>th</sup> International Symposium of the North American Lake Management Society** will take place in Hartford, Connecticut, USA. Abstract Deadline was May 15, 2009.

The website is: <http://www.nalms.org/nalmsnew/nalms.aspx?subcatid=42&Sid=3>

## **International Lake Environment Committee (ILEC)**

*Nov. 1-5, 2009*

The **13<sup>th</sup> World Lakes Conference (WLC)** will take place in Wuhan, China. Abstract Deadline was July 31, 2009.

The conference website is: <http://www.ilec.or.jp/eg/wlc/index.html>

The English website is: <http://www.wlc2009-ilec.org/html/en/>

## **International Paleolimnology Association (IPA)**

*December 15-18, 2009*

The **11<sup>th</sup> International Paleolimnology Symposium** of the International Paleolimnology Association will take place at Guadalajara, Jalisco, Mexico.

The conference website is: <http://www.geofisica.unam.mx/paleolimnologia/>

## **American Society of Limnology and Oceanography (ASLO)**

### **2010 ASLO Ocean Science Meeting (February 22-26, 2010)**

The summer conference of the American Society of Limnology and Oceanography will be held in Portland, Oregon, USA. Abstract Deadline: October 15, 2009.

### **2010 ASLO Summer Conference (June 6-11, 2010)**

The summer conference of the American Society of Limnology and Oceanography will be held in Santa Fe, New Mexico, USA. Deadline: Not published yet.

### **2010 ASLO Aquatic Science Meeting (February 13-18, 2011)**

The summer conference of the American Society of Limnology and Oceanography will be held in San Juan, Puerto Rico, USA. Deadline: Not published yet.

The website listing all these conferences is:

<http://www.aslo.org/meetings/aslomeetings.html>

## **American Association of Petroleum Geologists Annual Conference and Exhibition**

*April 11-14, 2010*

The **2010 Annual Conference and Exhibition of the American Association of Petroleum Geologists** will take place in New Orleans, Louisiana. Division member Alan Carroll and Meredith Rhodes are hosting a session entitled “Lacustrine Depositional Settings, Modern & Ancient”. Abstract deadline was: September 30, 2009.

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

## **Desert Symposium 2010**

*April 23-26, 2010*

The **24<sup>th</sup> Annual Desert Symposium** will take place in the Desert Studies Center, Zzyzx, California. The theme for the 2010 meeting is “Overboard in the Mojave: 18 Million Years of Lakes and Wetlands”. Abstract deadline: January 23, 2010.

The conference website is: <http://biology.fullerton.edu/dsc/school/symposium.html>

## **International Association for Great Lakes Research (IAGLR)**

*May 17-21, 2010*

The 53<sup>rd</sup> Annual Conference of the International Association for Great Lakes Research (IAGLR) will take place at the University of Toronto, Toronto, Canada, eh. The call for sessions ends: October 16, 2009.

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

## **International Society of Limnology (SIL)**

*August 15-20, 2010*

The International Society of Limnology will hold a conference in Capetown, South Africa in August of 2010. Stay tuned for updates.

The Society's website is: <http://www.limnology.org/index.html>

Future Meetings will be held in Debrecen, Hungary (2013) and Turin, Italy (2016).

## **International Society for Salt Lake Research (ISSLR)**

*May 8-16, 2011*

The 11<sup>th</sup> International Conference on Salt Lake Research (ISSLR) will take place in Miramar, Cordoba, Argentina, in May of 2011. More information will be forthcoming.

The conference proposal website is:

<http://www.isslr.org/ISSLR2011/Bucher%202011.pdf>

## **5<sup>th</sup> International Limnogeology Congress**

*Summer, 2011*

The **5<sup>th</sup> International Limnogeology Congress (ILIC5)** will be held in Germany in the summer of 2011. Stay tuned for details.



## ***News Ripples...***

### **Late Pleistocene Varve Record Website**

A web site on glacial varves, mostly in the northeastern United States, is now up and running and has late Pleistocene varve records from the northeastern United States available for download. There are many other sections of the web site on the history of varve chronology in North America and Sweden, techniques and information about glacial varves with Varves-of-the-Month and other images showing glacial varves. The site is intended to serve as both an educational and research resource.

The North American Glacial Varve web site can be found at:

<http://ase.tufts.edu/geology/varves/>



### **IAVCEI committee on volcanic lakes (CVL)**

The International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) committee on volcanic lakes (CVL) is organizing its next meeting at Poas crater lake in Costa Rica during spring 2010. If you have questions or would like more information, please contact Joop Varekamp.

The website for the IAVCEI is: <http://www.iavcei.org/>

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<http://www.wesleyan.edu/ees/JCV/varekamp.html>

**If you have any news you would like to be sent out to the division, please submit it to Peter Drzewiecki at [drzewiecki@easternct.edu](mailto:drzewiecki@easternct.edu)**

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### ***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.*

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