

Inland Geological Society

February 2009

Newsletter of the Inland Geological Society

Volume 25 No. 2

This Meeting:

Wednesday,
February 4th

Time:

Social: 6:00pm
Dinner: 6:30pm
Lecture: 7:00pm

Location:

LSA Associates
1500 Iowa Ave
Suite 200
Riverside, CA
92507

(Map on Pg.4)

Coming to
Dinner?

Please RSVP:
By Friday 1/30
(951) 782-3295
dlass@
waterboards.ca.gov

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February Speaker:

Dr. Matthew Kirby
California State University, Fullerton

The Paleoclimate of Southern California

Abstract

High-resolution, continuous terrestrial records of Holocene climate from Southern California are scarce. Recent research on Lake Elsinore, however, has shown that the lake's sediments hold excellent potential for paleoenvironmental analysis and reconstruction. Kirby et al. (2007) use environmental magnetic susceptibility, loss-on-ignition, %Al, and total inorganic P to infer a wet early Holocene followed by a long-term drying trend. Superimposed on the long-term hydrologic trend is higher frequency variability. New 1 cm contiguous grain size data reveal a more complex Holocene climate history for Southern California than previously recognized at the site. A modern comparison between 20th century lake level change, San Jacinto River discharge, and percent sand suggests that sand content is a reasonable, qualitative proxy for hydrologic variability at both multi-decadal-to-centennial as well as at event (i.e., storm) timescales. The sand-hydrologic proxy data reveal several intervals of wet and dry climate throughout the Holocene with notable dry intervals from 9550 to 9150, 8900 to 6900, 6400 to 5800, 3300 to 1850, and 1400 to 600 calendar years before present (cy BP). Individual sand spikes are frequent between 9800 and 3300 cy BP (n=40), but they are nearly absent from 3300 to 400 cy BP (n=2), which is interpreted as a change in storm activity. Interestingly, there is no evidence for complete desiccation of Lake Elsinore before 500 cy BP. Regionally, there is an intriguing relationship between Sierra Nevada precipitation



(Hughes and Graumlich, 2000) and Lake Elsinore hydrologic variability over the past 8000 cy BP. A comparison to other regional hydrologic proxies (7 sites) show moderate similarities with the exception of the Little Ice Age interval, which is interpreted consistently across the region as wetter than average.

Biography:

Dr. Matthew Kirby received his Bachelor's degree from Hamilton College (Clinton, NY) in 1993, where he had the opportunity to research Holocene glacial marine sediments in the Palmer Deep Basin, Bellingshausen Sea, Antarctica. In 1996, he completed his M.Sc. at the University of Colorado—Institute of Arctic and Alpine Research (Boulder, CO) with a thesis on the "Mid to Late Wisconsin Ice Sheet/Ocean Interactions in the Northwest Labrador Sea: Sedimentology, Provenance, Process, and Chronology". He received his Ph.D. in 2001 at Syracuse University (Syracuse, NY). His dissertation was "14,600 Calendar Years of Decadal-to-Centennial Scale Atmospheric Circulation and Precipitation Change, Fayetteville Green Lake, NY". Following the completion of Ph.D., Dr. Kirby worked on lacustrine sedimentology, Holocene tropical climate variability and forcings, and climate modeling during a Post-Doc Research Associateship at the University of Southern California (Los Angeles, CA). His research has taken him around the world including Antarctica; Phuket, Thailand, and various regions throughout the United States.

Dr. Kirby is an Associate Professor at California State University, Fullerton where he has been employed since 2002.

Inland Geological Society Web Site Update

Marina West, our web mistress (and also the General Manager of the Big Horn Desert View Water Agency) has been working on a complete redo of our IGS web site! She hopes to have a beta site up sometime in March.

Presently, she is working on:

- Updating content including job opportunities with an email form
- Calendar with an email form (event reservation)
- Updated society links with the addition of an interactive map
- Addition of corporate sponsors
- Access to current newsletter as well as an archive of past newsletters
- Updated photos!
- Building a library of local reports and maps

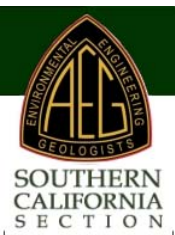
If you have any interesting geological or IGS event photos, reference reports or maps, and favorite links, please send them to Marina at wells.out.west@gmail.com.

Upcoming Meetings/Events

Rock & Gem Shows—Various locations

Various rock and mineral shows will be throughout southern California. To find one nearest you, visit www.rockngem.com/showdates.asp

AEG—Inland Empire Chapter Meeting



Dr. Jeffrey R. Keaton, MACTEC in Los Angeles, CA, will be giving a talk on “Scour of Rock—Rates and Threshold Conditions” at the February meeting. The meeting will be **Wed., Feb. 18, 2009**.

For more information, please visit www.aegsc.org/chapters/inlandempire/

2009 Shlemon Specialty Conferences

The topic will be “Investigation, Risk Analysis, and Mitigation of Surface Faulting”. The conference will be **Thurs. and Fri., Feb. 19-20, 2009** in Palm Desert, CA. For more information, visit www.aegweb.org

SME—Southern California Section Meeting

L. Alan Weakly, President of Innovative Mining Solutions in Story, WY, will be giving a talk on *Renewables: An Inconvenient Energy Reality*. The meeting will be **Tues., Feb. 17, 2009**. For more information, visit www.sme.net

**WE NEED A SPEAKER
FOR MARCH!!!**

Our March speaker had to reschedule!

If you are interested, please contact Steve Mains or Greg Johnson ASAP!

IGS Meeting Schedule

March 5, 2009 (Thursday)

TBA

April 1, 2009 (Wednesday)

Dr. Kim Bishop, CSU, Los Angeles

1872 Owens Valley earthquake and fault rupture

May 7, 2009 (Thursday)

Bob Reynolds, LSA Associates, Inc.

Stratigraphic Relationships in the Lower Barstow Formation

June 3, 2009 (Wednesday)

Lisa Pierce/Suzie Earp, Water Resources Inst.

Resources available at the Water Resources Institute at Cal State University, San Bernardino

July 2, 2009 (Thursday)

TBA

August 5, 2009 (Wednesday)

TBA

September 3, 2009 (Thursday)

Kent McMillan, Geo-Logic Associates

Faulting in the Imperial Valley (tentative)

October 7, 2009 (Wednesday)

TBA

November 5, 2009 (Thursday)

TBA

December 2, 2009 (Wednesday)

TBA

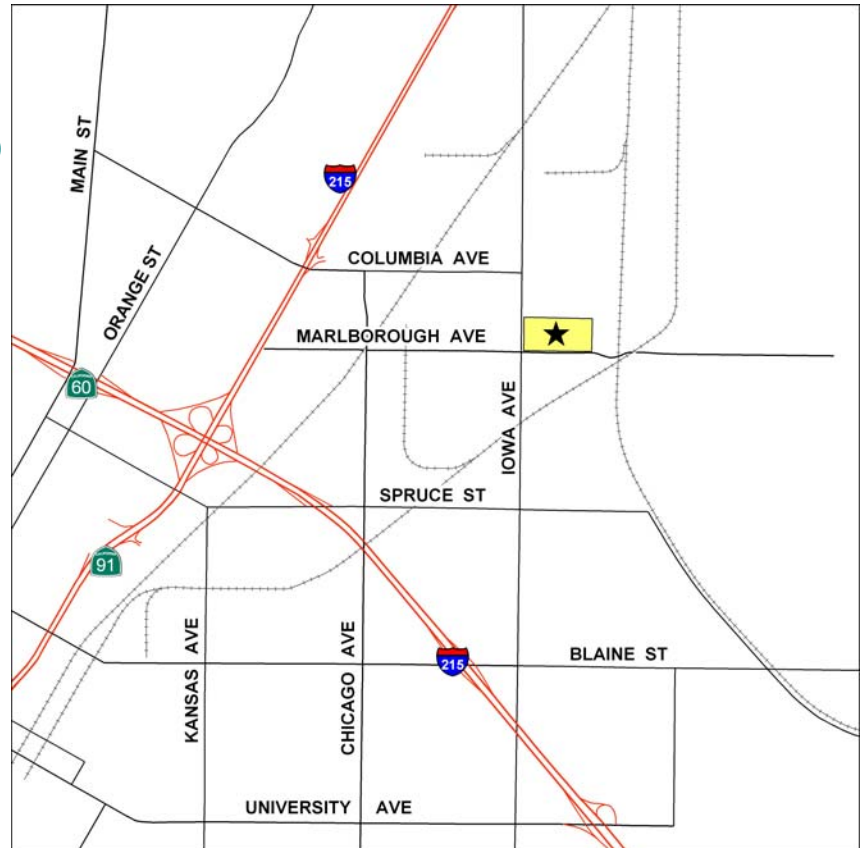
January 7, 2010 (Thursday)

Baird King, Student at UCR

A record of climate change in the Rock Creek drainage of the Eastern Sierra Nevada, California

IGS MEETING LOCATION:

LSA Associates, Inc.
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Riverside, CA 92507

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