

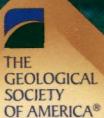


THE  
GEOLOGICAL  
SOCIETY  
OF AMERICA®

# BULLETIN

ISSN 0016-7606 VOL. 125 NO. 7/8

JULY/AUGUST 2013



THE  
GEOLOGICAL  
SOCIETY  
OF AMERICA®

1888 **125** 2013  
*Years*

CELEBRATING ADVANCES IN GEOSCIENCE

**Invited Review Articles Inside**

- |                                    |         |
|------------------------------------|---------|
| Let there be Granite!              | p. 1079 |
| Kangaroo geology                   | p. 1282 |
| On Miocene Pond                    | p. 1125 |
| New tricks for an old suture       | p. 1319 |
| Some Like it Hot: The early Eocene | p. 1338 |



THE  
GEOLOGICAL  
SOCIETY  
OF AMERICA®

# BULLETIN

VOL. 125 • NO. 7/8 • P. 1025–1376

JULY/AUGUST 2013

The Geological Society of America Bulletin is a leading international journal for major scholarly research in all branches of the earth sciences. Published continuously since 1890.

## T A B L E   O F   C O N T E N T S

### INVITED REVIEWS

- 1027 **The solid Earth's influence on sea level**  
Clinton P. Conrad
- 1053 **Large igneous provinces and silicic large igneous provinces: Progress in our understanding over the last 25 years**  
Scott E. Bryan and Luca Ferrari
- 1079 **Granite: From genesis to emplacement**  
Michael Brown

### DEFORMATION

- 1282 **Interaction between deformation and magma extraction in migmatites: Examples from Kangaroo Island, South Australia**  
Roberto F. Weinberg, Pavlína Hasalová, Lindsay Ward, and C. Mark Fanning

### SEDIMENTARY GEOLOGY

- 1349 **Sedimentological constraints on the evolution of the Cordilleran arc: New insights from the Sonsela Member, Upper Triassic Chinle Formation, Petrified Forest National Park (Arizona, USA)**  
Evan R. Howell and Ronald C. Blakey

### VOLCANOLOGY

- 1224 **Physical characteristics of kimberlite and basaltic intraplate volcanism and implications of a biased kimberlite record**  
Richard J. Brown and Greg A. Valentine

### TECTONICS

- 1260 **Strain partitioning in accretionary orogens, and its effects on orogenic collapse: Insights from western North America**  
Steve A. Israel, Lori A. Kennedy, and Richard M. Friedman
- 1301 **Active thrusting, landscape evolution, and late Pleistocene sector collapse of Barú Volcano above the Cocos-Nazca slab tear, southern Central America**  
Kristin D. Morell, Thomas W. Gardner, Donald M. Fisher, Bruce D. Idleman, and Hannah M. Zellner

### QUATERNARY GEOLOGY/GEOMORPHOLOGY

- 1114 **Sediment supply, base level, braiding, and bedrock river terrace formation: Arroyo Seco, California, USA**  
Noah J. Finnegan and Greg Balco
- 1146 **Covariation of climate and long-term erosion rates across a steep rainfall gradient on the Hawaiian island of Kaua'i**  
Ken L. Ferrier, J. Taylor Perron, Sujoy Mukhopadhyay, Matt Rosener, Jonathan D. Stock, Kimberly L. Huppert, and Michelle Slosberg

### LIMNOGEOLGY

- 1125 **Chemical and ecological evolution of the Miocene Ries impact crater lake, Germany: A reinterpretation based on the Enkigen (SUBO 18) drill core**  
Gernot Arp, Martin Blumenberg, Bent T. Hansen, Dietmar Jung, Claudia Kolecka, Olaf Lenz, Nicole Nolte, Klaus Poschlod, Andreas Reimer, and Volker Thiel

### PALEOClimATOLOGY

- 1338 **Terrestrial paleoenvironmental reconstructions indicate transient peak warming during the early Eocene climatic optimum**  
Ethan Hyland, Nathan D. Sheldon, and Majie Fan

### STRATIGRAPHY

- 1164 **Linking offshore stratigraphy to onshore paleotopography: The Late Jurassic-Paleocene evolution of the south Norwegian margin**  
Tor O. Sømme, Ole J. Martinsen, and Ian Lunt

### NEOTECTONICS/PALEOSEISMICITY

- 1187 **Chronology of tectonic, geomorphic, and volcanic interactions and the tempo of fault slip near Little Lake, California**  
Colin B. Amos, Sarah J. Brownlee, Dylan H. Rood, G. Burch Fisher, Roland Bürgmann, Paul R. Renne, and Angela S. Jayko
- 1239 **A decoupled kinematic model for active normal faults: Insights from the 1980,  $M_S = 6.9$  Irpinia earthquake, southern Italy**  
Alessandra Ascione, Stefano Mazzoli, Paola Petrosino, and Ettore Valente

### PRECAMBRIAN GEOLOGY

- 1203 **The Laurentian record of Neoproterozoic glaciation, tectonism, and eukaryotic evolution in Death Valley, California**  
Francis A. Macdonald, Anthony R. Prave, Ryan Petterson, Emily F. Smith, Sara B. Pruss, Kaylyn Oates, Felix Waechter, Dylan Trotzuk, and Anthony E. Fallik
- 1319 **A new view of an old suture zone: Evidence for sinistral transpression in the Cheyenne belt**  
W.A. Sullivan and R.J. Beane

### DISCUSSION-REPLY

- 1369 **Rapid and widespread response of the Lower Mississippi River to eustatic forcing during the last glacial-interglacial cycle: Discussion**  
Ervin G. Otos
- 1375 **Rapid and widespread response of the Lower Mississippi River to eustatic forcing during the last glacial-interglacial cycle: Reply**  
Zhixiong Shen, Torbjörn E. Törnqvist, Whitney J. Autin, Kyle M. Straub, and Barbara Mauz

### ERRATA

- 1376 **Granite: From genesis to emplacement**  
Michael Brown
- 1376 **Large igneous provinces and silicic large igneous provinces: Progress in our understanding over the last 25 years**  
Scott E. Bryan and Luca Ferrari