

NY  
G-37/02



THE  
GEOLOGICAL  
SOCIETY  
OF AMERICA®

# GEOLOGY

ISSN 0091-7613

FEBRUARY 2014 • VOL. 42 NO. 2 • P. 97–176



## INSIDE:

- A Salty Tale of the Neoproterozoic Ocean, p. 103
- Interfering with Sinkhole Formation, p. 111
- The Hanging Gardens of Morocco, p. 119
- Ironing out Seafloor Problems, p. 135

# GEOLOGY

FEBRUARY 2014 | VOLUME 42 | NUMBER 2

- 99 **Biomarkers heat up during earthquakes: New evidence of seismic slip in the rock record**  
Heather M. Savage, Pratigya J. Polissar, Rachel Sheppard, Christie D. Rowe, and Emily E. Brodsky
- 103 **Analyses of fluid inclusions in Neoproterozoic marine halite provide oldest measurement of seawater chemistry**  
Natalie Spear, H.D. Holland, Javier Garcia-Veigas, T.K. Lowenstein, Robert Giegengack, and Heide Peters
- 107 **Temporal and spatial evolution of a waxing then waning catastrophic density current revealed by chemical mapping**  
Rebecca Williams, Michael J. Branney, and Tiffany L. Barry
- 111 **Bayou Corne, Louisiana, sinkhole: Precursory deformation measured by radar interferometry**  
Cathleen E. Jones and Ronald G. Blom
- 115 **Decoupled Hf-Nd isotopes in Neoproterozoic seawater reveal weathering of emerged continents**  
Sebastian Viehmann, J. Elis Hoffmann, Carsten Münker, and Michael Bau
- 119 **Cryptic coral-crinoid “hanging gardens” from the Middle Devonian of southern Morocco**  
Michał Jakubowicz, Blazej Berkowski, and Zdzisław Belka
- 123 **A perturbed hydrological cycle during Oceanic Anoxic Event 2**  
Niels A.G.M. van Helmond, Appy Sluijs, Gert-Jan Reichart, Jaap S. Sinninghe Damsté, Caroline P. Slomp, and Henk Brinkhuis
- 127 **Plate tectonic influences on Neoproterozoic–early Paleozoic climate and animal evolution**  
N. Ryan McKenzie, Nigel C. Hughes, Benjamin C. Gill, and Paul M. Myrow
- 131 **Parasequence types in shelfal mudstone strata—Quantitative observations of lithofacies and stacking patterns, and conceptual link to modern depositional regimes**  
Kevin M. Bohacs, O. Remus Lazar, and Timothy M. Demko
- 135 **Magnetite in seafloor serpentinite—Some like it hot**  
Frieder Klein, Wolfgang Bach, Susan E. Humphris, Wolf-Achim Kahl, Niels Jóns, Bruce Moskowitz, and Thelma S. Berquo
- 139 **Heading down early on? Start of subduction on Earth**  
Simon Turner, Tracy Rushmer, Mark Reagan, and Jean-Francois Moyen
- 143 **Trilobites in early Cambrian tidal flats and the landward expansion of the Cambrian explosion**  
M. Gabriela Mángano, Luis A. Buatois, Ricardo Astini, and Andrew K. Rindsberg
- 147 **Basin inversion in central Taiwan and its importance for seismic hazard**  
Giovanni Camanni, Chi-Hsuan Chen, Dennis Brown, Joaquina Alvarez-Marron, Yih-Min Wu, Hsi-An Chen, Hsin-Hua Huang, Hao-Tsu Chu, Mien-Ming Chen, and Chien-Hsin Chang
- 151 **Geomorphic and stratigraphic signals of postglacial meltwater pulses on continental shelves**  
Andrew N. Green, J. Andrew G. Cooper, and Leslee Salzmann
- 155 **Exceptional preservation of angiosperm markers in Miocene and Eocene ambers**  
Suryendu Dutta, Rakesh Saxena, and Hukam Singh
- 158 **ERRATUM: Glaciovolcanic evidence for a polythermal Neogene East Antarctic Ice Sheet**  
John L. Smellie, Sergio Rocchi, Thomas I. Wilch, Maurizio Gemelli, Gianfranco Di Vincenzo, William McIntosh, Nelia Dunbar, Kurt Panter, and Andrew Fargo
- 159 **In-situ Pb isotopic analysis of sulfides in abyssal peridotites: New insights into heterogeneity and evolution of the oceanic upper mantle**  
J. Blusztajn, N. Shimizu, J.M. Warren, and H.J.B. Dick
- 163 **A White Nile megalake during the last interglacial period**  
Timothy T. Barrows, Martin A.J. Williams, Stephanie C. Mills, Geoff A.T. Duller, L. Keith Fifield, David Haberlah, Stephen G. Tims, and Frances M. Williams
- 167 **Basins and bedrock: Spatial variation in <sup>10</sup>Be erosion rates and increasing relief in the southern Rocky Mountains, USA**  
David P. Dethier, Will Ouimet, Paul R. Bierman, Dylan H. Rood, and Greg Balco
- 171 **How accurate are rivers as gauges of chemical denudation of the Earth surface?**  
Julien Bouchez and Jérôme Gaillardet
- 175 **RESEARCH FOCUS: Geochemical Fingerprinting of the Earth's Oldest Rocks**  
Julian A. Pearce

---

## ONLINE FORUMS

- Rare earth element abundances in apatite in the Bushveld Complex—A consequence of the trapped liquid shift effect**
- e318 **COMMENT:** J.A. VanTongeren and E.A. Mathez  
e319 **REPLY:** R. Grant Cawthorn