

# GEOLOGY

DECEMBER 2008 ❧ VOLUME 36 NUMBER 12

- 915 **Rapid exhumation of ice-covered rocks of the Chugach–St. Elias orogen, Southeast Alaska**  
EVA ENKELMANN, JOHN I. GARVER, TERRY L. PAVLIS
- 919 **South Atlantic interocean exchange as the trigger for the Bolling warm event**  
CRISTIANO M. CHIESSI, STEFAN MULITZA, ANDRÉ PAUL, JÜRGEN PÄTZOLD, JEROEN GROENEVELD, GEROLD WEFER
- 923 **Eye of biomineralization: Controls on skeletal mineralogy**  
ANDREY YU. ZHURAVLEV, RACHEL A. WOOD
- 927 **Structural evolution of calderas: Insights from two-dimensional discrete element simulations**  
STUART HARDY
- 931 **Contraction-driven shear failure in compacting uncemented sediments**  
HOSUNG SHIN, J. CARLOS SANTAMARINA, JOSEPH A. CARTWRIGHT
- 934 **Erratum: Capture of high-altitude precipitation by low-altitude Eocene lake, western U.S.**  
CARROLL ET AL.
- 935 **Seismic evidence for orthopyroxene enrichment in the continental lithosphere**  
LARA S. WAGNER, MEGAN L. ANDERSON, JENNIFER M. JACKSON, SUSAN L. BECK, GEORGE ZANDT
- 939 **Newly recognized eastern extension of the Nile deep-sea fan**  
YEHOSHUA FOLKMAN, YOSSI MART
- 943 **Earthworms produce granules of intricately zoned calcite**  
MARTIN R. LEE, MARK E. HODSON, GRAHAM LANGWORTHY
- 947 **Source of fluids forming distal Zn-Pb-Ag skarns: Evidence from laser ablation–inductively coupled plasma–mass spectrometry analysis of fluid inclusions from El Mochito, Honduras**  
IAIN M. SAMSON, ANTHONY E. WILLIAMS-JONES, KATHERINE M. AULT, JOEL E. GAGNON, BRIAN J. FRYER
- 951 **Rapid response of a hydrologic system to volcanic activity: Masaya volcano, Nicaragua**  
S.C.P. PEARSON, C.B. CONNOR, W.E. SANFORD
- 955 **Anatomy of a young impact event in central Alberta, Canada: Prospects for the missing Holocene impact record**  
C.D.K. HERD, D.G. FROESE, E.L. WALTON, R.S. KOFMAN, E.P.K. HERD, M.J.M. DUKE
- 959 **A landslide in Tertiary marine shale with superheated fumaroles, Coast Ranges, California**  
ROBERT H. MARINER, SCOTT A. MINOR, ALLEN P. KING, JAMES R. BOLES, KARL S. KELLOGG, WILLIAM C. EVANS, GARY A. LANDIS, ANDREW G. HUNT, CHRISTY B. TILL
- 963 **Extension during continental convergence in the Eastern Alps: The influence of orogen-scale strike-slip faults**  
JÖRG ROBL, KURT STÜWE, STEFAN HERGARTEN, LYNN EVANS
- 967 **Diachronous dawn of Africa’s Middle Stone Age: New <sup>40</sup>Ar/<sup>39</sup>Ar ages from the Ethiopian Rift**  
LEAH E. MORGAN, PAUL R. RENNE
- 971 **Sulfur isotopes in sediment-hosted orogenic gold deposits: Evidence for an early timing and a seawater sulfur source**  
ZHAOSHAN CHANG, ROSS R. LARGE, VALERY MASLENNIKOV
- 975 **Biogenic silica and chert in the Pacific Ocean**  
T.C. MOORE, JR.
- 979 **Multiple sulfur isotopes reveal a magmatic origin for the Platreef platinum group element deposit, Bushveld Complex, South Africa**  
SARAH C. PENNISTON-DORLAND, BOSWELL A. WING, PAUL A.M. NEX, JUDITH A. KINNAIRD, JAMES FARQUHAR, MICHAEL BROWN, ELIZABETH R. SHARMAN
- 983 **Grenville Province and Monteregian carbonatite and nepheline syenite distribution related to rifting, collision, and plume passage**  
KEVIN BURKE, SHUHAB D. KHAN, RONALD W. MART
- 987 **Tibetan uplift prior to the Eocene-Oligocene climate transition: Evidence from pollen analysis of the Xining Basin**  
G. DUPONT-NIVET, C. HOORN, M. KONERT
- 991 **Subtropical Atlantic salinity variability and Atlantic meridional circulation during the last deglaciation**  
ANDERS E. CARLSON, DELIA W. OPPO, ROSEMARIE E. CAME, ALLEGRA N. LEGRANDE, LLOYD D. KEIGWIN, WILLIAM B. CURRY
- 995 **Stress release in exhumed intermediate and deep earthquakes determined from ultramafic pseudotachylyte**  
TORGEIR B. ANDERSEN, KAREN MAIR, HÅKON AUSTRHEIM, YURI Y. PODLADCHIKOV, JOHANNES C. VRIJMOED
- 999 **Temporal variation in climate and tectonic coupling in the central Andes**  
NADINE MCQUARRIE, TODD A. EHLERS, JASON B. BARNES, BRENDAN MEADE
- 1003 **Research Focus: Surface uplift of Tibet and Cenozoic global cooling**  
CARMALA N. GARZIONE
- 1005 **2008 Author Index**

---

**Cover:** The Bernard Glacier in the Wrangell–St. Elias orogen in Southeast Alaska. The parallel medial moraines are formed when two glaciers meet and the debris on the edges of the adjacent valley sides join. See “Rapid exhumation of ice-covered rocks of the Chugach–St. Elias orogen, Southeast Alaska,” by Enkelmann et al., p. 915–918.

Photo by: E. Enkelmann

Cover design by: Eric Christensen

---

Comments and Replies can be found online at [www.gsjournals.org](http://www.gsjournals.org)—go to Online Journals and then Online Forum.