

S. ADAM SOULE

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EDUCATION

2003 **Ph.D.**, Dept. of Geological Sciences, University of Oregon, Eugene, OR
1997 **B.A.**, Geology Department, Carleton College, Northfield, MN, USA

PhD advisor: Kathy Cashman (U. Oregon); Post-doc advisor: Dan Fornari (WHOI)

EMPLOYMENT

2005-present Assistant Scientist, Woods Hole Oceanographic Institution.
2003-05 Post-Doctoral scholar, Woods Hole Oceanographic Institution.
2000 Volunteer at the Hawaiian Volcanoes Observatory, Geophysics Group.
2001-2003 Graduate Research Assistant, University of Oregon
1999-2001 Graduate Teaching Assistant, University of Oregon
1998 Earth Science Intern, Bay Area Mapping Team, USGS, Menlo Park, CA
1996-1997 Undergraduate Teaching Assistant, Carleton College

RESEARCH INTERESTS

My research focuses on the physical processes of magmatism and volcanism on terrestrial volcanoes and the global mid-ocean ridge system. Specific areas of interest include: seafloor mapping of individual lava flows and faults to quantify processes ocean crust construction; links between volcanism, hydrothermal circulation, and biological communities in the deep ocean; controls on lava flow emplacement including the thermal evolution of lava and its interaction with topography; the role of volatiles in the generation, storage, and eruption of magmas.

HONORS AND AWARDS

2003 Postdoctoral Scholar Fellowship, Woods Hole Oceanographic Institution
2001 Staples Fellowship, U. Oregon Dept. of Geosciences
1999 Staples Fellowship, U. Oregon Dept. of Geosciences
1997 Honors in Geology, Carleton College
1996 Keck Geology Consortium Fellowship for Undergraduate Research, Hawaii

PROFESSIONAL AFFILIATIONS

1997-present American Geophysical Union
1997-present Geological Society of America
2003-present International Association of Volcanology and Chemistry of the Earth's Interior

TEACHING ACTIVITIES

2009 Co-teaching WHOI/MIT JP Marine Geology and Geophysics II.

- 2007 Led Graduate Seminar (U. Oregon) in Advanced Field Methods, Four Craters Volcanic Field, Oregon.
- 2004 Field Trip Leader (WHOI), Geodynamics Seminar Series, Hawaii.
- 2003 Lectures in Geologic Hazards (U. Oregon GEOL 353) and Introduction to Geology (U. Oregon GEOL 103)
- 2002 Teaching Assistant, University of Oregon Field Camp, Dylan, MT and Bend, OR.
- 2001 Teaching Assistant, Geology of the National Parks (U. Oregon GEOL 213).
- 2001 Field Trip (co-leader), Staples Field Trip to Hawaii (U. Oregon).
- 2000 Teaching Assistant, Metamorphic Petrology (U. Oregon GEOL 515) and Igneous Petrology (U. Oregon 514).
- 1999 Teaching Assistant, Geology of the National Parks (U. Oregon GEOL 213).
- 1997 Teaching Assistant, Petrology (Carleton College GEO 255).

SUPERVISION AT WHOI

- 2008-present *Dorene Nakata* (primary advisor), Ph.D. candidate, Volcanology and marine Geology.
- 2008-present *Thibaut Barreyre* (co-advisor) Guest Student from Ecole Normale Supérieure, France.
- 2006-present *Chris Waters* (co-advisor), Ph.D. candidate, Mid-ocean ridge geochemistry.
- 2004-2009 *Abigail Knee* (Thesis committee member), Ph.D., Mid-ocean ridge genomic diversity.
- 2007 *Dorene Nakata* (primary advisor), Summer student fellow.
- 2007 *Sarah Hale* (co-advisor) Summer student fellow.
- 2006 *Bridget Dieffenbach* (co-advisor) Summer student fellow.
- 2005 *Jennifer Glass* (co-advisor) Summer student fellow.

FIELD EXPERIENCE

- 2010 Ground-based lidar study of Lone Star Geyser, Yellowstone National Park: Repeat surveys to examine ground deformation related to geyser pressurization during eruption cycles.
- 2009 Cruise AT15-54 to the Guaymas Basin, Gulf of California (R/V Atlantis): Chief scientist on a cruise to map basin seafloor using sidescan sonar and near-bottom photography to look for evidence of widespread shallow sill intrusions into carbon-rich sediments.
- 2009 Airborne lidar study of recent lava flows on Kiluaea and Mauna Loa volcanoes: Surveys and field work to understand controls on emplacement of basaltic lava flows including processes of channelization, interaction with topography, and surface solidification.
- 2009 Bluff erosion on Boston Harbor Islands. Repeat surveys of coastal bluffs on glacial islands in Boston Harbor by ground-based LiDAR to quantify rates of retreat for civil planning and resource preservation.
- 2007-2008 Rates of Cryoturbation in the Antarctica Dry Valleys. Surveying patterned ground with LiDAR and mapping and sampling of periglacial features in volcanic and glacial landscapes.

- 2007 Ground-based LiDAR study of Holocene volcanic deposits, Central Oregon.
- 2007 Cruise AT15-17 to EPR (R/V Atlantis): Deep-towed sidescan and bathymetry survey and ROV operations over the site of the 2005-06 eruption at 9°N and the overlapping spreading center at 9°03'N with ROV Jason2 and TowCam.
- 2006 Cruise GRAVILUCK to the Lucky Strike segment of the MAR (N/O Atalante): Near-bottom geological and geophysical surveys of recent volcanic and tectonic processes in a slow spreading MOR using HOV Nautille and TowCam.
- 2006 Cruise AT15-7 to the East Pacific Rise (R/V Atlantis): Rapid response to the 2006 eruption, sampling and mapping the newly emplaced lava flow with HOV Alvin and TowCam.
- 2006 Field study of Deccan Flood basalts, Maharashtra, India.
- 2006 Cruise OR-217 to offshore Taiwan (R/V OR1): Surveys of methane hydrates with deep-towed camera system and dredging.
- 2005 Cruise AT11-27 to the Eastern Galapagos Spreading Center (R/V Atlantis): Sampling and observation of recent volcanics and associated hydrothermal vent communities with HOV Alvin and TowCam.
- 2004 Cruise AT11-7 to the East Pacific Rise, 9°N (R/V Atlantis): Sampling and observation of channelized lava flows and crustal accretion in young MOR volcanics with HOV Alvin and TowCam.
- 1999-2003 Field studies of active and historic lava flows on Kilauea Volcano, Hawaii.
- 1998 Geologic mapping in Marin, Alameda, and Sonoma Counties, CA.
- 1996 Field study of volcanic vents in the diffuse western rift zone of Mauna Loa Volcano, Hawaii.
- 1995 Carleton College Field Program in tectonics and stratigraphy, Italy.

PROFESSIONAL SERVICE AND HONORS

Reviewer of Journal Contributions for: Journal of Volcanology and Geothermal Research; Bulletin of Volcanology; Geochimica Cosmochimica Acta; Geophysical Research Letters; Geoscience Canada; American Mineralogist; Geochemistry, Geophysics, Geosystems; Journal of Geophysical Research; AGU Geophysics Monographs; GSA Monographs.

Reviewer of Proposals for: National Science Foundation, Ocean Sciences and Earth Sciences.

Member of the *WHOI Deep Submergence Advisory Committee* (2009-present).

Advised and co-advised students in the WHOI/MIT Joint Program (D. Nakata – Advisor; M. Xu – Thesis Committee; C. Waters – Co-advisor; C. Pontbriand – Co-advisor), U. Florida, and U. Oregon.

Ridge2000 Distinguished Lecture Series speaker – 2009-2010.

INVITED TALKS (»Non-technical/Outreach)

May 2010 "MOR Volcanism." Colgate University.

March 2010 "Explosive eruptions in the deep sea." Princeton University.

- Nov. 2009 "Seafloor eruptions across the global MOR system" U. Rhode Island School of Oceanography.
- »Sept. 2008 "Volcanoes on the ocean floor: seafloor eruptions across the global mid-ocean ridge system", WHOI Ocean Science Journalism Fellowship Program.
- June 2008 "Application of ground-based laser mapping to patterned ground in periglacial environments: Antarctic Dry Valleys", Keynote Lecture at Studying Earth Surface Processes with High-Resolution Topographic Data Workshop, Boulder, CO.
- May 2008 "The 2005-06 eruption of the EPR at 9°-10°N: insight into fast-spreading ridge volcanic processes" Institut Physique du Globe de Paris, *University of Paris*.
- March 2008 "Volcanism and Hydrothermalism at the Lucky Strike Segment of the MAR (37°N)", Ridge2000 Community Workshop, Portland, OR
- Oct. 2007 "Volcanic processes at the East Pacific Rise, 9°-10°N: insight from the 2005-06 eruptions", Department of Earth Sciences Colloquium, *Syracuse University*
- Oct. 2007 "Volcanic processes at the East Pacific Rise, 9°-10°N: insight from the 2005-06 eruptions", Dept. of Earth and Planetary Sciences, Bromery Lectures, *Johns Hopkins University*
- July 2007 "Volcanism in the deep ocean: insights into mid-ocean ridge eruption processes from field studies at the East Pacific Rise" *Hawai'i Volcanoes Observatory*
- »Oct. 2006 "Capturing volcanic eruptions in the deep-ocean", WHOI Deep Ocean Exploration Institute Steering Comm. meeting.
- March 2006 March, Ridge2000 EPR Working Group, *Lamont Doherty Earth Institute*
- »March 2006 "Visualizing the ocean floor: tools for exploiting large, multi-scalar datasets" WHOI Development News at Noon Seminar Series.
- Oct. 2005 "Ridge exploration using Alvin, ABE, CTD, and camera", WHOI / Los Alamos Nat. Lab. Image Understanding Symposium.
- »April 2005 "Long waves: the 2005 Indian Ocean tsunami", Carleton College Alumni Club of Boston.
- March 2005 "Channelized lava flows at the East Pacific Rise: building the oceanic crust", Dept. of Geosciences Distinguished Lecturer Series, *San Francisco State University*
- March 2005 "Construction of the uppermost oceanic crust: volcanic processes on the fast-spreading East Pacific Rise, 9°-10°N", Geology and Geophysics Seminar Series, *University of South Carolina*
- »March 2005 "The Big Island of Hawaii: from mantle to mythology", Concord High School, Concord, MA.
- Feb. 2005 "Quantitative constraints on deep-sea eruption processes and crustal accretion at the EPR", WHOI Geology and Geophysics Friday Seminar.

PEER-REVIEWED PUBLICATIONS (*Student author)

Lizarralde, D.L., Soule, S.A., Seewald, J.F. (2010) Thermogenic-carbon flux and crustal melt distribution of a young, sedimented spreading center, *Nat. Geoscience.*, *in press*.

- Goss, A.R., Perfit, M.R., Ridley, W.I., Rubin, K.H., Kamenov, G.D., **Soule, S.A.**, Fundis, A., Fornari, D.J. (2010) Geochemistry of lavas from the 2005-2006 eruption at the East Pacific Rise, 9°46'N-9°56'N: implications for ridge crest plumbing and decadal changes in magma chamber compositions. *G-cubed*, 11, doi:10.1029/2009GC002977.
- *Fundis, A.T., **Soule, S.A.**, Fornari, D.J., Perfit, M.R. (2010) Paving the seafloor: volcanic emplacement processes during the 2005-2006 eruptions at the fast-spreading East Pacific Rise, 9°50'N. *G-cubed*, 11, doi:10.1029/2010GC003058.
- *Barreyre, T., **Soule, S.A.**, Sohn, R.A. (2010) Settling velocity of MORB volcanoclasts and implications for dispersal during deep-sea eruptions. *J. Volc. Geotherm. Res.*, submitted.
- Soule, S.A.**, Escartín, J., Fornari, D.J. (2009) A record of eruption and intrusion at a fast-spreading ridge axis: axial summit trough of the East Pacific Rise at 9°-10°N, *G-cubed*, 10, doi:10.1029/2008GC002354.
- Soule, S.A.**, Ferrini, V.L., Kinsey, J.C., Fornari, D.J., Sellers, C., White, S.M., Von Damm, K., Carbotte, S.M. (2008) Navigational infrastructure at the East Pacific Rise 9°50'N area following the 2005-2006 eruption: seafloor benchmarks and near-bottom multibeam surveys, *G-cubed*, 9, doi:10.1029/2008GC002070.
- Bockheim, J.G., Kurz, M.D., **Soule, S.A.**, Burke, A. (2009) Genesis of active sand-filled polygons in Lower and Central Beacon Valley, Antarctica, *Permafrost and Periglacial Processes*, 20, doi:10.1002/ppp.661.
- Maloof, A.C., Stewart, S.T., Weiss, B.P., **Soule, S.A.**, Swanson-Hysell, N.L., Louzada, K.L., Garrick-Bethell, I., Poussart, P.M. (2009) *GSA Bull.*, 122, 109-126.
- Sohn, R.A., Willis, C., Humphris, S., et al., & **Soule, S.A.** (2008) Explosive volcanism on the ultraslow-spreading Gakkel ridge, Arctic Ocean, *Nature*, 453, doi:10.1038/nature07075
- *Louzada, K.L., Weiss, B.P., Maloof, A.C., Stewart, S.T., Swanson-Hysell, N.L., **Soule, S.A.** (2008) Paleomagnetism of Lonar impact crater, India, *Earth Plan. Sci. Lett.*, 275, 308-319.
- Soule, S.A.**, Fornari, D.J., Perfit, M.P., Rubin, K. (2007) New insights into mid-ocean ridge volcanic processes from the 2005-06 eruption of the East Pacific Rise, 9°46'-56'N, *Geology*, 35, 1079-1082, doi: 10.1130/G23924A.1.
- Escartín, J.E., **Soule, S.A.**, Fornari, D.J., Tivey, M.A., Schouten, H., Perfit, M.P. (2007) Interactions between faults and lava flows along the axis of the East Pacific Rise (9°10'-50'N): implications for upper crust construction, *Geochemistry, Geophysics, Geosystems*, 8, doi:10.1029/2006GC001399.
- Cowen, J.P., D.J. Fornari, T.M. Shank, B. Love, B. Glazer, A.H. Treusch, R.C. Holmes, **S.A. Soule**, E.T. Baker, M. Tolstoy, and K.R. Pomraning (2007), Volcanic Eruptions at the East Pacific Rise near 9°50'N, *Eos*, 88, 81-83.
- Soule, S.A.**, Fornari, D.J., Perfit, M.P., Ridley, I.W., Reed, M.H., Cann, J.R. (2006) Incorporation of seawater into submarine lava flows during emplacement, *Earth and Planetary Science Letters*, 252, 289-307.

- *Garry, W.B., T.K.P. Gregg, **Soule, S.A.**, Fornari, D.J. (2006), Formation of submarine lava channel textures: Insights from laboratory simulations, *J. Geophys. Res.*, 111, doi:10.1029/2005JB003796.
- *Bowles, J., Gee, J.S., Kent, D.V., Perfit, M.R., **Soule, S.A.**, Fornari, D.J. (2006), Paleointensity applications to timing and extent of eruptive activity, 9°–10°N East Pacific Rise, *G-cubed*, 7, doi:10.1029/2005GC001141.
- Tolstoy, M., Cowen, J.P., Baker, E.T., Fornari, D.J., Rubin, K.H., Shank, T.M., Waldhauser, F., Bohnenstiehl, D.R., Forsyth, D.W., Holmes, R.C., Love, B., Perfit, M.R., Weekly, R.T., **Soule, S.A.**, Glazer, B. (2006) A seafloor spreading event captured by seismometers, *Science*, 314, 1920-1922, doi:10.1126/science.1133950.
- Geist, D.J., Fornari, D.J., Kurz, M.D., Harpp, K.S., **Soule, S.A.**, Perfit, M.R., Koleszar, A.M. (2006) Submarine Fernandina: Magmatism at the leading edge of the Galápagos hot spot, *G-cubed*, 7, 12, doi:10.1029/2006GC001290.
- Ferrini, V.L., Fornari, D.J., Shank, T.M., Kinsey, J.C., **Soule, S.A.**, Tivey, M.A., Carbotte, S.A., Whitcomb, L.L., Yoerger, D.A., Howland, J., (2006) Sub-meter Bathymetric Mapping of the East Pacific Rise Crest at 9° 50'N: Linking Volcanic and Hydrothermal Processes, *Geochemistry, Geophysics, Geosystems*, 8, 1, doi:10.1029/2006GC001333.
- Soule, S.A.**, Fornari, D.J., Perfit, M.R., Tivey, M.A., Ridley, W.I., Schouten, H. (2005) Channelized lava flows at the East Pacific Rise Crest, 9-10°N: the importance of off-axis lava transport in developing the architecture of young oceanic crust, *Geochemistry, Geophysics, Geosystems*, 6, doi:10.1029/2005GC000912.
- Soule, S.A.** and Cashman, K.V. (2005) Shear rate dependence of the pañohoe to 'a'a transition: analog experiments, *Geology*, 33, 5, 361-364.
- Soule, S.A.** and Cashman, K.V. (2004) The mechanical properties of solidified polyethylene glycol 600, an analog for lava crust. *J. Volc. Geotherm. Res.* 129:139-153.
- Fornari, D., Tivey, M., Schouten, H., Perfit, M., Yoerger, D., Bradley, A., Edwards, M., Haymon, R., Scheirer, D., Von Damm, K., Shank, T., **Soule, A.** (2004) Submarine lava flow emplacement at the East Pacific Rise 9°50'N: implications for uppermost ocean crust stratigraphy and hydrothermal fluid circulation, in *Mid-Ocean Ridges: Hydrothermal Interactions Between the Lithosphere and Oceans*, eds. German, C.R., Lin, J., Parson, L.M., 187-217.
- Soule, S.A.**, Cashman, K.V., Kauahikaua, J.P. (2004) Examining flow emplacement through the surface morphology of three rapidly emplaced, solidified lava flows, Kilauea Volcano, Hawaii, *Bull. Volc.*, 66, 1-14.
- Miller, M.G., Ryter, D.A., and **Soule, S.A.** (2000) Drawing contours on clay models; a hands-on introduction to topographic maps, *J. Geoscience Ed.*, 48, 5, p. 596.
- Blake Jr., M.C., Graymer, R.W., and D.L. Jones; digital database by **Soule, A.**, and R.W. Graymer, (1998) Geologic map and map database of parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California, *U.S. Geological Survey, Miscellaneous Field Study MF 2337*.

PUBLICATIONS IN PRESS & REVIEW

PUBLICATIONS IN PREPARATION

- Soule, S.A.**, Escartin, J.E., Nakata, D.S., Bezos, A., et al. (2009) Volcanic accretion at a melt-focused, slow-spreading segment, Mid-Atlantic Ridge 37°N, *to be submitted to G-cubed*.
- Escartin, J.E., **Soule, S.A.**, Cannat, M., et al. (2009) Magmatic cyclicity and seamount construction at the Lucky Strike segment of the Mid-Atlantic Ridge 37°N, *to be submitted to G-cubed*.
- Rubin, K.H., **Soule, S.A.**, Perfit, M.A., Fornari, D.J. (2009) Chronology of the 2005-06 eruptions at the EPR near 9°50'N. *to be submitted to Nature*.
- *Pontbriand, C., **Soule, S.A.**, Sohn, R., Humphris, S. (2009) Evidence for explosive basaltic eruptions in the deep ocean, Gakkel Ridge 85°E, Arctic Basin. *to be submitted to J. Volc. Geotherm. Res.*

RECENT ABSTRACTS (‡Invited)

- Ferrini, V.L., **Soule, S.A.**, and White, S.M. (2008), Investigation of bathymetric changes associated with the 2005-2006 EPR eruptions, *Ridge2000 Mantle to Microbe: Integrated Studies at Oceanic Spreading Centers, Portland, OR, 22*.
- *Fundis, A.T., **Soule, S.A.**, Fornari, D.J., and Perfit, M.R. (2008), The 2005-2006 eruption at the East Pacific Rise 9°50'N: detailed flow morphology mapping and insight into emplacement processes, *EOS Trans. AGU, 89, Abstract B21A-0328*.
- *Goss, A.R., Perfit, M.R., Kamenov, G.D., Rubin, K.H., Fundis, A.T., **Soule, S.A.**, and Fornari, D.J. (2008), Geochemical characterization of axial and off-axis lavas from the 2005-06 eruption along the East Pacific Rise (9°46-56'N): implications for AMC composition over decadal time scales and mantle heterogeneity along fast spreading centers, *EOS Trans. AGU, 89, Abstract B21A-0330*.
- Michael, P.J., Perfit, M.R., Palke, A., Fornari, D.J., and **Soule, S.A.** (2008), Observations of CO₂ exsolution in submarine lava flows: the 2005-6 eruption on the East Pacific Rise, 9°50'N, *EOS Trans. AGU, 89, Abstract V21B-2106*.
- *Nakata, D.S., and **Soule, S.A.** (2008), Mapping volcanic morphology and faulting of Lucky Strike (MAR, 37°17'N), *Ridge2000 Mantle to Microbe: Integrated Studies at Oceanic Spreading Centers, Portland, OR, 45*.
- *Pontbriand, C.W., **Soule, S.A.**, Sohn, R.A., and Humphris, S.E. (2008), Deep pyroclastic deposits and evidence for explosive volcanism on the ultraslow spreading Gakkel Ridge at 85E, *EOS Trans. AGU, 89, Abstract T43B-2019*.
- ‡Rubin, K.H., Perfit, M.R., Sinton, J.M., **Soule, S.A.**, Fornari, D.J., and Smith, M.C. (2008), Pre- and syn-eruptive conditions of individual submarine rift zone eruptions at ocean ridges: detailed geological, chronological, and geochemical mapping, *IAVCEI General Assembly, Reykjavik, Abstract, p. 62*.
- ‡Rubin, K.H., Tolstoy, M., Fornari, D.J., Dziak, R.P., **Soule, S.A.**, Waldhauser, F., and Von

- Damm, K.L. (2008), Integrating radiometric, geophysical and thermal signals of volcanic unrest and eruption in 2005-06 at 9°50'N EPR, *EOS Trans. AGU*, 89, Abstract B23F-07.
- Soule, S.A.**, White, S.M., Fornari, D.J., Escartín, J., Rubin, K., Perfit, M.R., Nakata, D., and Ferrini, V.L. (2008), Spatial patterns of volcanism at mid-ocean ridges: controls from crustal melt storage at fast- and slow-spreading ridges, *IAVCEI General Assembly, Reykjavik*, Abstract, p. 62.
- *Trump, B.E., Perfit, M.R., Ridley, W.I., **Soule, S.A.**, and Fornari, D.J. (2008), Geochemistry of the 2005-2006 East Pacific Rise eruption: chemical changes and possible petrogenetic relationships to the 1991-1992 eruption, *EOS Trans. AGU*, 89, Abstract B21A-0332.
- White, S.M., **Soule, S.A.**, Tolstoy, M., Waldhauser, F., and Rubin, K. (2008), Volcanic eruptions of the EPR and ridge axis segmentation: an interdisciplinary view, *EOS Trans. AGU*, 89, Abstract B21A-0329.
- *Emerson, L.F., **Soule, S.A.**, Belien, I., Deardorff, N., Gottesfeld, E., Johnson, E., McKay, D., and Wisely, B.A. (2007), Implementation of ground-based lidar, total station, and gps in an advanced geophysical study of basaltic cinder cone morphology, Four Craters Volcanic Field, Oregon, *GSA Abstracts with Programs*, 39, 123.
- Escartín, J., **Soule, S.A.**, Bezos, A., Cannat, M., Fornari, D.J., Ballu, V., Humphris, S., and Party, G.S. (2007), Patterns of volcanism and tectonism at a slow-spreading segment of the Mid-Atlantic Ridge (Lucky Strike, 37N): preliminary results from near-bottom geological and geophysical surveys, *EOS Trans. AGU*, 87, Abstract B33D-05.
- Ferrini, V.L., **Soule, S.A.**, Fornari, D.J., Von Damm, K., Shank, T.M., Perfit, M.R., and Rubin, K. (2007), Small-scale bathymetric changes associated with 2005-2006 eruptions at the East Pacific rise near 9°50'N, *EOS Trans. AGU*, 87, Abstract V23B-0604.
- Fornari, D.J., **Soule, S.A.**, Perfit, M.R., Rubin, K.H., Shank, T.M., Cowen, J.P., Von Damm, K.L., and Tivey, M.A. (2007), Variability in eruptive vents and lava morphology of the 2005-2006 EPR eruptions near 9°50'N, *EOS Trans. AGU*, 87, Abstract V23B-0603.
- *Garrick-Bethell, I., Weiss, B.P., Maloof, A.C., Stewart, S.T., Louzada, K.L., **Soule, S.A.**, and Swanson-Hysell, N.L. (2007), Paleomagnetism of Lonar Crater impact glass, *EOS Trans. AGU*, 87, GP23A-07.
- Klein, E.M., White, S.M., Perfit, M.R., Von Damm, K., Fornari, D.J., **Soule, S.A.**, Ridley, W.I., Carmichael, S., Sims, K., Wanless, D., Zaino, A., Fundis, A.T., Mason, J., O'Brien, J., Waters, C., Mansfield, F., Neely, K., Laliberte, J., Goehring, E., and Preston, L. (2007), Detailed investigations of the overlapping spreading center at 9°N on the East Pacific Rise: overview of the Medusa 2007 cruise activities, *EOS Trans. AGU*, 88, Abstract T32B-03.
- Lizarralde, D., **Soule, S.A.**, Seewald, J.S., Kent, G.M., Harding, A.J., Holbrook, W.S., Umhoefer, P.J., Axen, G.J., and Fletcher, J.M. (2007), The sills of Guayas Basin, Gulf of California: implications for crustal melt distribution and thermogenic carbon flux, *EOS Trans. AGU*, 88, Abstract T31F-03.
- *Nunnery, A., Klein, E.M., White, S.M., Perfit, M.R., Fornari, D.J., **Soule, S.A.**, and Mason, J. (2007), Photographic analysis of seafloor geologic features at the 9°N overlapping spreading center, East Pacific Rise, *EOS Trans. AGU*, 88, Abstract T33B-1350.

- Rubin, K.H., Perfit, M.R., Fornari, D.J., **Soule, S.A.**, Tolstoy, M., and Waldhauser, F. (2007), Geochronology and composition of the 2005-06 volcanic eruptions of the East Pacific Rise, 9°46'-56'N, *EOS Trans. AGU*, 87, Abstract V23B-0602.
- Soule, S.A.**, White, S.M., Fornari, D.J., Ferrini, V.L., and Tivey, M.A. (2007), Comparison of pre- and post-eruption surveys of the 2005-2006 East Pacific Rise volcanic event: implications for fast-spreading mid-ocean ridge eruption processes, *EOS Trans. AGU*, 88, Abstract V21A-0383.
- *Willis, C., Humphris, S., **Soule, S.A.**, Reeves-Sohn, R., Shank, T.M., and Singh, H. (2007), Volcanic structure of the Gakkel Ridge at 85°E, *EOS Trans. AGU*, 88, Abstract OS43A-0986.
- Escartín, J., **Soule, S.A.**, Bezos, A., Cannat, M., Fornari, D.J., Ballu, V., Humphris, S., and Party, G.S. (2006), Patterns of volcanism and tectonism at a slow-spreading segment of the Mid-Atlantic Ridge (Lucky Strike, 37N): preliminary results from near-bottom geological and geophysical surveys, *EOS Trans. AGU*, 87, Fall Meet. Suppl., Abstract B33D-05.
- Fornari, D.J., **Soule, S.A.**, Perfit, M.R., Rubin, K.H., Shank, T.M., Cowen, J.P., Von Damm, K., and Tivey, M.A. (2006), Variability in eruptive vents and lava morphology of the 2005-06 EPR eruptions near 9°50'N, *EOS Trans. AGU*, 87, Fall Meet. Suppl., Abstract V23B-0603.
- ‡Rubin, K.H., Perfit, M.R., Fornari, D.J., **Soule, S.A.**, Tolstoy, M., and Waldhauser, F. (2006), Geochronology and composition of the 2005-06 volcanic eruptions of the East Pacific Rise, 9°46'-56'N, *Eos. Trans. AGU*, 87, Fall Meet. Suppl., Abstract V23B-0602.
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