



Evan A. Solomon

Associate Professor
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EDUCATION

- 2007 Ph.D. Earth Sciences, Scripps Institution of Oceanography, UC-San Diego, La Jolla, CA
Dissertation: "*The dynamics of fluid flow and associated chemical fluxes at active continental margins.*" Advisor: Dr. Miriam Kastner
- 2001 B.Sc. Geology, University of Nevada, Reno

EMPLOYMENT

- 2015-present Associate Professor, School of Oceanography, University of Washington, Seattle, WA
- 2009-2015 Assistant Professor, School of Oceanography, University of Washington, Seattle, WA
- 2008-2009 NRC/NETL Postdoctoral Research Fellow, Scripps Institution of Oceanography
Advisor: Dr. Miriam Kastner
- 2008 Postdoctoral Research Associate, Scripps Institution of Oceanography
Advisor: Dr. Miriam Kastner
- 2001-2007 Graduate Research Assistant, Scripps Institution of Oceanography
- 2000-2001 Research Assistant, University of Nevada, Reno
Supervisor: Dr. Steven Wesnousky

FELLOWSHIPS, SCHOLARSHIPS, AND HONORS

- 2018-2019 Distinguished Lecturer, IODP Ocean Discovery Lecture Series
- 2008-2009 Awarded the DOE National Energy Technology Laboratory Methane Hydrate Postdoctoral Research Fellowship through the National Research Council
- 2001 Outstanding Senior in Earth Sciences, University of Nevada, Reno
- 2001 Outstanding Summer Field Camp Student, Geology, University of Nevada, Reno

TEACHING

- Ocean 310:** UW, Marine Geology and Geochemistry, Fa2016, Fa2017, Fa 2018, Fa2019, Fa2020 (online), Fa2021, Fa2022
- Ocean 540:** UW, Marine Geology and Geophysics, W 2011, W2012, W2013, Sp2014, W2015, Sp2016, Sp2017, Sp2020 (online), Sp2021 (online)
- Ocean 544:** UW, Subseafloor Hydrogeology and Geochemistry, Sp 2012, Sp 2019
- Ocean 549:** UW, Marine Geology: Current Theory and Research, W2010, Sp2010, W2013, Sp2013, Fa2015, W2015, Sp2016, Sp2020 (online)
- Ocean 201:** UW, Introduction to Oceanography Laboratory Methods, Sp 2010, Sp 2011, Sp2015
- Ocean 220:** UW, Introduction to Field Oceanography, Sp 2013
- SIO 120:** UCSD, Introduction to Mineralogy Lab (instructor), W 2003, W 2004, W 2005
- SIO 102:** UCSD, Introduction to Geochemistry (TA), W 2007
- SIO 152:** UCSD, Petrology and Petrography (TA), Sp 2005

RESEARCH GRANTS AND CONTRACTS

Current

- 2022-2026 “Collaborative Research: Unraveling the habitat and dynamics of slow slip events through integrated borehole observations in the northern Hikurangi subduction margin”.
Sponsor: National Science Foundation. L. Wallace (Lead PI, UT-Austin), E. Solomon (UW), D. Saffer (UT-Austin), P. Fulton (Cornell). ES: \$551,253.
- 2020-2023 “Collaborative Research: Early career coring principal investigator training cruise”.
Sponsor: National Science Foundation. M. Walczak (Lead, OSU), M. Lyle (OSU), R. Parnell-Turner (SIO), J. McManus (LDEO), E. Solomon (UW), C. Goldfinger (OSU), L. Keigwin (WHOI), N. Slowey (TAMU). ES: \$23,289
- 2019-2024 “Deepwater methane hydrate characterization and scientific assessment; Phase-II geochemistry.” *Sponsor: Department of Energy/UT-Austin.* E. Solomon, Sole PI, \$892,395.
- 2018-2023 “Collaborative Research: Slow-slip and fluid flow response offshore New Zealand – Probing the nature of the Hikurangi margin hydrogeochemical system (SAFFRONZ).
Sponsor: National Science Foundation. E. Solomon (UW), M. Torres (OSU), R. Harris (OSU). ES: \$369,470.
- Supplement, September 2020 – Use of ROV ROPOS for SAFFRONZ II research expedition. ES: \$1,028,681*
Supplement, July 2021 – Covid-related expenditures, SAFFRONZ II research expedition, ES: \$114,714
- 2017-2022 “Collaborative Research: Pythia’s Oasis – Access to deep subduction zone fluids.”
Sponsor: National Science Foundation. D. Kelley (Lead PI, UW), E. Solomon (UW), M. Torres (OSU), R. Collier (OSU). UW: \$390,349.

Previous

- 2015-2021 “Collaborative Research: Unlocking the secrets of slow slip by drilling at the northern Hikurangi subduction margin: CORK observatory development and installation.”
Sponsor: National Science Foundation. L. Wallace (Lead PI, UT-Austin), D. Saffer (PSU), E. Solomon (UW), P. Fulton (Texas A&M). ES: \$249,109.
- 2019-2021 Evaluating the extent of microbial Fe-reduction and its role in the global methane cycle.
Sponsor: National Research Council/DOE. DOE Methane Hydrates Research Program postdoctoral research fellowship to C. McKinley, proposal written by McKinley with my guidance.
- 2019-2020 “OOI FLOBN Analyses”, *Sponsor: National Science Foundation.* E. Solomon, Sole PI, \$38,752
- 2018-2019 Evaluating the extent of microbial Fe-reduction and its role in the global methane cycle.
Sponsor: CDEBI. Center for Dark Energy Biosphere Investigations postdoctoral fellowship to C. McKinley, proposal written by McKinley with my guidance.
- 2018-2019 E. Solomon’s participation on IODP Expedition 375, Hikurangi Subduction Margin.
Sponsor: National Science Foundation/USSSP. ES: \$52,977

- 2018 “Refurbishment of FLOBN Instruments”. *Sponsor: NSF/Ocean Observatories Initiative*. E. Solomon, Sole PI, \$12,884.
- 2018 “2017 FLOBN Analyses”. *Sponsor: NSF/Ocean Observatories Initiative*. E. Solomon, Sole PI, \$58,568.
- 2017-2018 “Diagenetic reactions and fluid migration within input sediments at the Sumatra subduction zone – insights from pore water oxygen and hydrogen isotopes. *Sponsor: NSF/USSSP*. E. Solomon, Sole PI, \$14,939.
- 2017 “Refurbishment of FLOBN Instruments”. *Sponsor: NSF/Ocean Observatories Initiative*. E. Solomon, Sole PI, \$13,143.
- 2016-2017 “2016 FLOBN Analyses”. *Sponsor: NSF/Ocean Observatories Initiative*. E. Solomon, Sole PI, \$59,550.
- 2016-2017 “Quantifying global rates of magnesium uptake into marine sediments.” *Sponsor: National Science Foundation/USSSP*. Schlanger Ocean Drilling Fellowship to graduate student Richard Berg, proposal written by Berg with my guidance, \$30,000.
- 2013-2017 “Characterizing the response of the Cascadia margin gas hydrate reservoir to bottom water warming along the upper continental slope.” *Sponsor: Department of Energy*. E. Solomon (Lead PI), H.P. Johnson (UW, Co-PI). Total: \$830,969 (includes \$200 k of UW ship-time); ES: \$563,967
- 2012-2017 “Thermal Structure of the Cascadia Subduction Zone on the Washington Margin.” *Sponsor: National Science Foundation*. H.P. Johnson (Lead PI), E. Solomon (Co-PI). Total: \$395,329; ES: \$150,911.
- Supplement to NSF Award OCE-1144164, June 2014. Total: \$77,031; ES: \$18,324*
- 2012-2016 “IODP Expeditions 334/344 Objective Research: Geochemical investigation of fluid/rock reactions and the nature of fluid flow at the erosive Costa Rica subduction zone.” *Sponsor: National Science Foundation*. E. Solomon (Sole PI), \$193,753.
- Supplement to NSF Award OCE-1233587, “Continuous fluid composition record in the Costa Rica forearc through the September 5, 2012 M_w 7.6 Nicoya earthquake June 2014, E. Solomon (Sole PI), \$33,025*
- 2015 “Construction of a benthic fluid flow (FLOBN) instrument for Ocean Observatories Initiative Regional Scale Nodes (OOI-RSN).” *Sponsor: National Science Foundation*. E. Solomon (Sole PI), \$20,283.
- 2016 “Construction of benthic fluid flow (FLOBN) instruments for Ocean Observatories Initiative Regional Scale Nodes (OOI-RSN).” *Sponsor: National Science Foundation*. E. Solomon (Sole PI), \$10,000.
- 2011-2012 “Gas Emissions Evaluation from Focused MARine Seepage.” *Sponsor: Exxon Mobil*. I. Leifer (Lead PI, UCSB), E. Solomon (UW), R. Coffin (NRL). ES: \$61,073.

- 2011-2012 “Development of a continuous, 3-D seafloor fluid sampler for quantification of fluid and chemical fluxes in dynamic hydrogeologic environments.” *Sponsor: UW Royalty Research Fund*. E. Solomon (Sole PI), \$34,513.
- 2011-2014 “Constraining Fluid Sources, Flow Pathways, and Fluid/Rock Reactions Above the Aseismic-Seismic Transition Along the CRISP Transect.” *Sponsor: Ocean Leadership*. E. Solomon (Sole PI), \$14,999.
- 2011-2014 “Solomon’s participation in IODP Expedition 334.” *Sponsor: Ocean Leadership*. E. Solomon (Sole PI), \$17,119.
- 2012-2016 “Geochemical investigation of fluid/rock reactions and the nature of fluid flow along the CRISP transect, IODP Expedition 344.” *Sponsor: Ocean Leadership*. E. Solomon (Sole PI), \$14,917.
- 2012-2016 “Characterization of fluid sources and biogeochemical cycling at the CRISP-A2 research sites.” *Sponsor: Ocean Leadership*. E. Solomon (Sole PI), \$14,693.
- 2015 “Investigating Cascadia subduction zone geodynamics through scientific ocean drilling.” Workshop proposal, *Sponsor: Ocean Leadership*. W. Wilcock (Lead, UW), E. Solomon (UW), A. Trehu (OSU), E. Davis (PGC), \$23,405, no salary support requested.

INTERNATIONAL OCEAN DRILLING PROGRAM EXPEDITIONS – LEAD OR PROPONENT

Submitted The lithology, structure and tectonic history of the south-central Chile margin and their role in generating the world’s largest earthquakes. *Sponsor: International Ocean Discovery Program*. N. Bangs (Lead, UT-Austin), A. Trehu (Oregon State), E. Contreras-Reyes (U. Chile Santiago), E. Solomon (UW), S. Han (UT-Austin), J. Morgan (Rice), A. Maksymowicz (U. Chile Santiago). No salary support requested.

Rhythms, magnitude, and impacts of volcanic ash from explosive Central American Arc eruptions. *Sponsor: International Ocean Discovery Program*. A. Dunlea (Lead, WHOI), S. Kutterolf (GEOMAR), M. Torres (OSU), Y. Morono (JAMSTEC), E. Lebas (Institut de Physique du Globe de Paris), E. Solomon (UW). No salary support requested.

Probing the physical controls on a locked vs. creeping megathrust with ocean drilling, Hikurangi Subduction Margin, NZ. *Sponsor: International Ocean Discovery Program*. A. Fagereng (Lead, Cardiff), D. Bassett (GNS), R. Bell (Imperial Coll. London), H. Savage (LDEO), L. Wallace (GNS), R. Arai (JAMSTEC), N. Bangs (UT-Austin), P. Barnes (NIWA), G. Crutchley (GNS), R. Harris (OSU), S. Henrys (GNS), M. Ikari (MARUM), S. Kodaira (JAMSTEC), G. Moore (U. Hawaii), D. Saffer (Penn State), E. Solomon (UW), K. Ujiie (U. Tsukuba). No salary support requested.

CCBO: Cascadia cabled borehole observatories to investigate plate boundary mechanics and test models for along-strike segmentation of the megathrust. H. Tobin (Lead, UW), W. Wilcock (UW), E. Davis (PGC), M. Heesemann (PGC), E. Araki (JAMSTEC), S. Carbotte (LDEO), J. Collins (WHOI), S. Han (UT-Austin), D. Kelley (UW), M. Kinoshita (U. Tokyo), H. Kopp (Bremen), K. Moran (U. Vic), E. Roland (UW), D. Schmidt (UW), E. Solomon (UW), A. Trehu (OSU), K. Wang (PGC), M. Zumberge (SIO). No salary support requested.

At JRFB

Testing mechanisms for pore pressure evolution along the Costa Rica megathrust.
Sponsor: International Ocean Discovery Program. N. Bangs (co-Lead, UT-Austin), E. Solomon (co-Lead, UW), C. Ranero (ICREA, Spain), M. Torres (OSU), R. Harris (OSU), K. Ujie (U. Tsukuba, Japan), S. Kutterolf (Geomar, Germany), K. McIntosh (UT-Austin), J. Morgan (Royal Holloway, UK), S. Saneutsu (JAMSTEC, Japan), M. Stipp (Geomar, Germany), P. Vannucchi (Royal Holloway, UK), Y. Yamamoto (JAMSTEC, Japan). No salary support requested.

Linking sediment deposition during glacial cycles and methane hydrate occurrence. IODP-APL. A. Cook (Lead, OSU), A. Malinverno (LDEO), R. Colwell (OSU), S. Phillips (USGS), E. Solomon (UW), A. Portnov (OSU), K. Weitmeyer (Ocean Floor Geophysics Inc), J. Hillman (GNS), P. Flemings (UT-Austin). No salary support requested.

GRADUATE STUDENTS ADVISED

Chair, Committees for:

Richard Berg, Oceanography: Marine Geology and Geophysics, Ph.D., 2011 – 2018

M.Sc. Thesis Topic: Geochemical constraints on dehalogenation of organic matter in the deep biosphere along continental margins – Awarded: December 2013

Ph.D Thesis Topic: Global rates of magnesium uptake and authigenic mineral precipitation in continental slope, rise, and abyssal sediments.

Awarded 1-year University of Washington Top Scholar Award

Awarded Schlanger Ocean Drilling Fellowship

Theresa Whorley, Oceanography: Marine Geology and Geophysics, Ph.D, 2014-2021

M.Sc. Thesis Topic: Characterizing the response of the Cascadia margin gas hydrate reservoir to bottom water warming along the upper continental slope.

Ph.D. Thesis Topic: The response of seep and methane hydrate biogeochemical systems to variability in climate, hydrogeology, and trace metal availability

Awarded 1-year University of Washington Top Scholar Award

Awarded UW College of the Environment GROE Award, 1 quarter of support

Brendan Philip, Oceanography: Marine Geology and Geophysics, M.Sc., 2016-2019

M.Sc. Thesis Topic: Fluid sources and overpressures within the central Cascadia subduction zone

Awarded UW College of the Environment GROE Award, 2 quarters of support

Awarded NSF Graduate Research Fellowship, 3 years of support

Irita Aylward, Oceanography: Marine Geology and Geophysics, Ph.D., 2018-present

M.Sc. Thesis Topic: Evaluating the role of pore fluid pressure and fluid flow in slow slip at the Hikurangi subduction zone – Awarded July 2021

Ph.D. Thesis Topic: The role of pore pressure, fluid flow, and sediment diagenesis in fault slip at the Hikurangi and Cascadia subduction zones

Awarded University of Washington Top Scholar and Vetlesen Awards

Awarded NSF Graduate Research Fellowship, 3 years of support

Taylor Walton, Oceanography: Marine Geology and Geophysics, Ph.D., 2021-present

Awarded NSF Graduate Research Fellowship, 3 years of support

POSTDOCTORAL RESEARCHERS ADVISED

Claire McKinley, 2018-2020. Project Title: Evaluating the extent of microbial Fe-reduction and its role in the global methane cycle. Funding: Center for Dark Energy Biosphere Investigations Postdoctoral Fellowship (2018-2019) and NRC/DOE Methane Hydrates Postdoctoral Fellowship (2019-2020).

PROFESSIONAL OFFICES, AWARDS, AND SERVICE

Awards

2008-2009 Department of Energy-National Energy Technology Laboratory Methane Hydrate Postdoctoral Research Fellowship through the National Research Council

Non-University Service

2015-present Member, Department of Energy, Methane Hydrates Advisory Committee (MHAC)

2017-present Board Member, Lake Chelan Research Institute

2018 Editorial review committee, Proceeding of IODP Expedition 375, November 5-9, 2018, College Station, Texas

2017 Session Chair, Geological Society of America, Fall Meeting, Groundwater flow in coastal and marine settings: from the intertidal zone to the deep seafloor, 22-25 October 2017, Seattle, WA

2017 Session Chair, 9th International Conference on Gas Hydrates, June 25-30, 2017, Denver, CO

2016-2017 Steering Committee Member, Geoprism/Earthscope/UNAVCO workshop, Subduction Zone Observatory, September 2016, Boise

2016 Co-Chair, Workshop, A mini-workshop to define scientific strategies and next steps for optimizing the OOI-node on Hydrate Ridge, March 4, 2016, Galveston, TX

2016 Discussion Leader, Gordon Research Conference on Gas Hydrates, Galveston, TX, February 28-March 4, 2016

2015 Panel Member, Schmidt Ocean Institute proposal review panel, Palo Alto, CA, 9-10 September 2015

2015 Co-convener, Workshop, Investigating Cascadia subduction zone geodynamics through scientific ocean drilling, April 29-May 1, 2015, Seattle, WA

2014 Discussion Leader/Speaker, Gordon Research Conference on Gas Hydrates, Galveston, TX, 23-28 March 2014

2013-2016 Member, U.S. Advisory Committee for Scientific Ocean Drilling (USAC)
Subcommittee on expedition staffing
Reviewer for Post-Expedition Activity Awards
2014 Schlanger Ocean Drilling Graduate Student Fellowship Committee
Host, USAC Winter Meeting, 26-28 January 2015, UW, Seattle, WA
IODP Mentor at 2016 AGU Fall Meeting

- 2013 NSF Review Panel for Marine Geology and Geophysics – *Declined, out at sea*
- 2012 Discussion Leader, Observatories in Scientific Ocean Drilling Workshop, Geophysical Frontiers in Borehole Observatories Working Group, Rice University, 10-12 September 2012.
- 2012 Co-Chair, Fluids in subduction zones – deformation and cycling of solutes and volatiles, AGU-AOGS Joint Meeting, Singapore, 13-17 August 2012
- 2012 Discussion Leader, Building U.S. Strategies for 2012-2013 Scientific Ocean Drilling, Earth in Motion and Carbon Cycling Working Group, Denver, CO, 30 April-2 May, 2012
- 2011 Co-Chair, Tectonophysics section, Insights into the megathrust: offshore studies at accretionary and erosive subduction margins, AGU Fall Meeting
- 2010-2013 Member, UNOLS – Deep Submergence Science Committee
Member, Proposal Evaluation Panel, UNOLS DSV Alvin verification cruise
Member, Proposal Evaluation Panel, UNOLS DSV Alvin verification cruise, Early Career Participants
- 2010 Co-Chair, Union Session, Frontiers in scientific ocean drilling: recent discoveries and future opportunities
- 2010 Member, Laboratory assessment team for *D/V Joides Resolution*
- 2010 Discussion Leader, Gordon Research Conference on Gas Hydrates, Hydrate and sediment/microbe interactions, Colby College, Waterville, Maine
- 2009 Co-Chair, IODP Invest Workshop, Controls and feedbacks on hydrocarbon storage and emissions working group, Bremen, Germany
- University/Departmental Service*
- 2019-2021 Chair, School of Oceanography Faculty Council
- 2018-2019 Member, School of Oceanography Faculty Council
- 2016-2017 Member, Review Panel, UW Royalty Research Fund, Physical Sciences and Engineering
- 2016-2018 Member, College of the Environment Scholarship Committee
- 2016 Member, Faculty Search Committee, Elemental Cycles
- 2016 Chair, Faculty Search Committee, APL/SOO WOT, Marine Electromagnetics
- 2015-2016 Organizer, Marine Geology and Geophysics Seminar Series
- 2015-2016 Member, School of Oceanography Hiring Committee
- 2013-2015 Member, School of Oceanography Faculty Council
- 2013 Organizer, Marine Geology and Geophysics Seminar Series, winter and spring quarters

- 2012-2014 Chair, School of Oceanography, Marine Geology and Geophysics graduate student admissions
- 2011-2015 Member, School of Oceanography, Undergraduate Academic Affairs Committee
- 2011-2012 Member, Faculty Search Committee, Ocean-Climate Modeler
- 2010 Organizer, Marine Geology and Geophysics Seminar Series, winter and spring quarters
- 2010 Chair, Marine Geology and Geophysics graduate student admissions

Editorial and Review Services

- 2008-present Reviewer for numerous journals including *Nature*, *Nature Geoscience*, *Science*, *Nature Communications*, *Geology*, *Geophysical Research Letters*, *Earth and Planetary Science Letters*, *Geochimica et Cosmochimica Acta*, *G-Cubed*, *Deep Sea Research*, *Chemical Geology*, *Marine Petroleum Geology*, *Geo-Marine Letters*, *Marine Geology*
- 2008-present Proposal reviewer for NSF Marine Geology and Geophysics, NSF Ocean Drilling, NSF Biological Oceanography, NSF Chemical Oceanography, NSF Polar Programs, NSF Geobiology and Low Temperature Geochemistry, NSF Petrology and Geochemistry, NOAA, Netherlands Organisation for Scientific Research (NWO), Schmidt Ocean Institute, Israel Science Foundation
- 2019-present Served on NSF review panels, Serve as a reviewer for promotion and tenure applications at other universities

TALKS AND PRESENTATIONS

Invited Talks and Seminars (Since 2008)

- 2022 Solomon, E.A., 2022. Methane cycling in the forearc of subduction zones, SEG-AGU Joint Workshop on Geophysics of Convergent Margins, Seattle, WA, 12-14 July 2022.
- 2022 Solomon, E.A., 2022. New insights into biogeochemical processes regulating the inventory of CO₂ and CH₄ in marine sediments, University of Washington Astrobiology Colloquium, May 3, 2022.
- 2021 Solomon, E.A., 2021. Unraveling the hydrogeologic habitat of slow slip events at the Hikurangi subduction zone, offshore New Zealand, Oregon State University Geology & Geophysics Seminar, December 9, 2021.
- 2021 Solomon, E.A., 2021. Unraveling the hydrogeologic habitat of slow slip events at the Hikurangi subduction zone, offshore New Zealand, Shanghai Ocean University, December 2, 2021.
- 2020 Solomon, E.A., 2020. Geochemical constraints on the hydrogeology along the IODP Expedition 375 transect. IODP Expedition 375 Post-Cruise Meeting, online.
- 2020 Solomon, E.A., 2020. Silicate mineral diagenesis and authigenic carbonate precipitation within gas hydrate systems. Gordon Conference on natural gas hydrate systems. Galveston, TX, February 25, 2020.

- 2020 Solomon, E.A., 2020. A decade digging in the mud – investigating the role of continental margin sediment diagenesis in marine geochemical cycles. UW School of Oceanography, Banse Seminar Series, January 29, 2020.
- 2019 Solomon, E.A., 2019. Revisiting the role of continental margin sediment diagenesis in marine geochemical cycles, UC-Davis, May 15, 2019.
- 2019 Solomon, E.A., 2019. Revisiting the role of continental margin sediment diagenesis in marine geochemical cycles, University of Alaska, Fairbanks, April 19, 2019.
- 2019 Solomon, E.A., 2019. Revisiting the role of continental margin sediment diagenesis in marine geochemical cycles, Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science, March 27, 2019.
- 2019 Solomon, E.A., 2019. Revisiting the role of continental margin sediment diagenesis in marine geochemical cycles, University of Tennessee, March 25, 2019.
- 2019 Solomon, E.A., 2019. Revisiting the role of continental margin sediment diagenesis in marine geochemical cycles, University of Kentucky, March 22, 2019.
- 2019 Solomon, E.A., 2019. Revisiting the role of continental margin sediment diagenesis in marine geochemical cycles, SUNY Stony Brook, March 15, 2019.
- 2018 Solomon, E.A., 2018. Probing the nature of the Hikurangi Margin hydrologic system. GeoPRISMS workshop on Hikurangi Subduction Zone, December 18, 2018, Washington DC.
- 2018 Solomon, E.A., 2018. Revisiting the role of continental margin sediment diagenesis in marine geochemical cycles, Fresno State University, September 13, 2018.
- 2017 Solomon, E.A., 2017. Subseafloor Observatories. Drilling into young oceanic crust for subseafloor observations at Axial Seamount, 11-13 October 2017, LDEO, Palisades, New York.
- 2017 Solomon, E.A., 2017. New insights into the water budget at subduction zones – impacts on global geochemical cycles and benthic ecology. University of Washington, Marine Geology and Geophysics Seminar, May 15, 2017.
- 2016 Solomon, E.A., 2016. Continuous seafloor observations to understand the nature and dynamics of fluid flow through seismic cycles. The Subduction Zone Observatory Workshop, Boise, Idaho, September 30, 2016.
- 2016 Solomon, E.A., 2016. Characterizing the response of the Cascadia margin gas hydrate reservoir to contemporary bottom water warming. University of Washington, Tacoma – Environmental Science Seminar, May 23, 2016.
- 2015 Solomon, E.A., 2015. Microbial metabolism promotes submarine silicate weathering – implications for the global carbon and water cycles. Marine Geology and Geophysics Seminar, October 2015, University of Washington
- 2014 Solomon, E.A., 2014. The role of coupled microbial methanogenesis and silicate weathering in the global carbon and alkalinity cycles. Joint Chemical Oceanography-Marine Geology and Geophysics Seminar, November 2014, University of Washington.

- 2014 Solomon, E.A. Silicate weathering in marine methanogenic sediments – Significance in the global carbon cycle. Scripps Institution of Oceanography, September 13, 2014.
- 2014 Solomon, E.A. New perspectives on CO₂ and CH₄ cycling in gas hydrate-bearing continental margin sediments, University of Washington, Earth and Space Sciences Colloquium, June 5, 2014.
- 2014 Solomon, E.A. Investigating climate-sensitive gas hydrate deposits and seafloor hydrocarbon seeps: methane sources, transport, and sinks. Scripps Institution of Oceanography Earth Sciences Seminar, May 5, 2014.
- 2014 Solomon, E.A. Response of the Washington Margin Gas Hydrate Reservoir to Warming North Pacific Intermediate Water, Art Institute of Seattle, March 6, 2014.
- 2014 Kelley, D.S., Solomon, E.A., Philips, B**. Intense venting at Southern Hydrate Ridge: An OOI cabled observatory. Solomon was presenter. Gordon Research Conference on Gas Hydrates, Galveston, TX, 23-28 March 2014.
- 2013 Solomon, E.A., Torres, M., Martino, A., Nuzzo, M., Formolo, M., Schmidt, M., Hensen, C., Biogeochemical constraints on fluid-rock and metabolic reactions, fluid sources, and flow pathways along the CRISP transect. IODP Expedition 334 Post-Expedition Meeting, Heredia, Costa Rica, 11-13 March 2013.
- 2012 Solomon, E.A. Seafloor hydrological methods for detecting slow slip events and strain in subduction zone forearcs. Workshop on Seafloor Geodesy in Cascadia, University of Washington, June 11-12, 2012.
- 2012 Solomon, E.A. Methane transport from deep hydrocarbon seeps – the role of bubbles, gas hydrates, and environmental transience, Gordon Research Conference on Natural Gas Hydrate Systems, Ventura Beach, CA, March 18-22, 2012
- 2012 Solomon, E.A. Crossing the great divide: new insights into methane transport from gas hydrate-bearing seeps to the atmosphere. University of Washington, School of Oceanography Seminar Series, March 1, 2012.
- 2012 Solomon, E.A. Session Overview Presentation: Constraining methane dynamics at gas hydrate systems through long-term interdisciplinary monitoring at cabled observatories, 2012 Ocean Sciences Meeting, Salt Lake City, Utah February 20-24, 2012.
- 2011 Solomon, E.A. Constraining processes driving fluid flow and the physical state of the Cascadia accretionary prism. University of Washington, Chemical Oceanography Seminar.
- 2011 Solomon, E.A. Toaster graduate student educational retreat, Friday Harbor Labs, 4-6 February 2011
- 2010 Solomon, E.A. Hydrogeochemical Responses to Slow Slip Events and Chemical Cycling at the Costa Rica Subduction Zone. Oregon State University, COAS Seminar, December 2, 2010.
- 2010 Solomon, E.A. Water column C₁-C₄ fluxes to the ocean and atmosphere at Mississippi Canyon 118. DOE-NETL Hydrate Program Review, Atlanta, GA January 26, 2010.
- 2010 Solomon, E.A. Constraining rates of biogeochemical reactions in the K-G basin offshore SE India. DOE-NETL Hydrate Program Review, Atlanta, GA January 26, 2010.

- 2009 Solomon, E.A. Hydrocarbon emissions to the atmosphere from dynamic gas-hydrate bearing seeps in the Gulf of Mexico. University of Washington, Chemical Oceanography Seminar, December 11, 2009.
- 2009 Solomon, E.A. Fluid flow pathways, flow rates, and geochemical cycling at the Costa Rica subduction zone. University of Washington, Marine Geology and Geophysics Seminar, November 9, 2009.
- 2008 Solomon, E.A. Hydrogeochemical responses to slow slip events and chemical cycling at the Costa Rica subduction zone. Woods Hole Oceanographic Institution
- 2008 Solomon, E.A. From passive margins to subduction zones: using hydrogeochemical observatories to document and understand transient flow and chemical fluxes. University of Washington.

Presentations at Scholarly Meetings (1st author and student authors only since 2009)

- 2022 Aylward, I. *, Solomon, E.A., Philip, B. *, Torres, M., Harris, R., Kelley, D., Collier, R., 2022. New geochemical and thermal evidence for the importance of strike-slip faults in regulating megathrust pore fluid pressure and effective stress offshore central Oregon, SEG-AGU Joint Workshop on Geophysics of Convergent Margins, Seattle, WA, 12-14 July 2022.
- 2020 Aylward, I. *, Solomon, E.A., Torres, M.E., Whorley, T.L. *, Harris, R.N., Hillman, J., Philip, B. *, 2020. Geochemical constraints on the Hikurangi margin hydrogeologic system – Results from the SAFFRONZ Expedition. AGU Fall Meeting, Online.
- 2020 Aylward, I. *, Solomon, E.A., Harris, R.N, Torres, M.E., Whorley, T.L. *, 2020. Probing the nature of the Hikurangi Margin hydrogeologic system – preliminary results from the SAFFRONZ Expedition, HOMESTAYSS: Hikurangi Online MT, Earthquake, Seismology, Tectonics, and geology Seminar Series.
- 2020 McKinley, C.C. ^, Solomon, E.A., Bundy, R.M., Whorley, T.L., Hoffman, C.L. ^, 2020. Fe speciation and cycling in marine methanogenic sediments, V.M. Goldschmidt Meeting, online.
- 2020 Seabrook, S. ^, Rowden, A., Law, C., Bowden, D., Solomon, E.A., Aylward, I., Torres, M.E., Harris, R., 2020. The interplay of ecosystem function with fluid flow dynamics on the Hikurangi Margin, Geological Society of New Zealand Annual Conference, 22-25 November, UC Canterbury Christchurch.
- 2019 Philip, B.T. *, Solomon, E.A., Kelley, D.S., Whorley, T.L. *, et al., 2019. Pythia’s Oasis: Fluid sources and overpressures within the central Cascadia subduction zone revealed by a warm, fluid-dominated, high-flux seafloor seep, AGU Fall Meeting, San Francisco, CA.
- 2019 Aylward, I. *, Solomon, E.A., Torres, M.E., Whorley, T.L. *, Harris, R.N, et al., 2019. Probing the nature of the Hikurangi margin hydrogeologic system – preliminary results from the SAFFRONZ expedition, AGU Fall Meeting, San Francisco, CA.
- 2019 Whorley, T.L. *, Solomon, E.A., Kowalski, L. **, Centurion, R. ^, 2019. Persistent downward flow of seawater beneath *Beggiatoa* mat communities at Hydrate Ridge – mechanisms and biogeochemical implications, AGU Fall Meeting, San Francisco, CA.
- 2019 McKinley, C.^, Solomon, E.A., Whorley, T. *, 2019. Evaluating the pervasiveness and depth extent of microbial Fe reduction and its role in the global methane cycle, AGU Fall Meeting, San Francisco, CA.

- 2018 Solomon, E.A., Hupers, A., Luo, M., Malie, P., Saffer, D., Torres, M., Wallace, L., Petronotis, K., Barnes, P., Pecher, I., Levay, L., 2018. Geochemical constraints on fluid-rock reactions, fluid sources, and flow pathways along the IODP Expedition 375 transect; Northern Hikurangi Margin, AGU Fall Meeting, Washington, DC.
- 2017 Solomon, E.A., Kowalski, L. **, Whorley, T.L. *, 2017. Pervasive shallow seawater circulation at methane seeps – implications for seep ecosystems and marine biogeochemical cycles. GSA Fall Meeting, 22-25 October 2017, Seattle, WA.
- 2017 Philip, B.T. *, Solomon, E.A., Kelley, D.S., Collier, R.W., Whorley, T.L. *, 2017. Pythia's Oasis: A high-flux, fluid-dominated seafloor seep on the Oregon sector of the Cascadia margin. GSA Fall Meeting, 22-25 October 2017, Seattle, WA.
- 2017 Solomon, E.A., Kowalski, L. **, Whorley, T.L. *, 2017. Chronic downward flow of seawater in bacterial mats – mechanisms and biogeochemical significance. Goldschmidt 2017, Paris, France.
- 2017 Berg, R.D. *, Solomon, E.A., Teng, F.Z., 2017. New constraints on the oceanic magnesium cycle using a global characterization of the marine sedimentary sink. Goldschmidt 2017, Paris, France.
- 2017 Solomon, E.A., Kowalski, L. **, Whorley, T.L. *, 2017. Chronic downward flow of seawater in bacterial mats – mechanisms and biogeochemical significance. 9th International Conference on Gas Hydrates, Denver, CO.
- 2017 Whorley, T.L. *, Solomon, E.A., Philip, B.T. *, Torres, M.E., Johnson, H.P., 2017. Investigating the response of methane hydrate to modern bottom water warming along the upper continental slope of the Cascadia margin. 9th International Conference on Gas Hydrates, Denver, CO.
- 2016 Berg, R.D. *, Solomon, E.A., 2016. Re-evaluating the oceanic magnesium and magnesium isotope budgets – the contribution of authigenic mineral formation in marine sediments. AGU Fall Meeting, San Francisco, CA.
- 2016 Philip, B.T. *, Kelley, D.S., Solomon, E.A., Delaney, J.R., 2016. Monitoring methane emissions at Southern Hydrate Ridge using Ocean Observatories Initiative's acoustic Doppler current profiler, OCEANS 16, Monterey, CA, 19-23 September 2016.
- 2016 Whorley, T.L. *, Solomon, E.A., Torres, M.E., Johnson, H.P., Berg, R.D. *, Philip, B.T. **, 2016. Evaluating active methane hydrate dissociation along the Washington margin in response to bottom water warming. Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX, February 29-March 4, 2015
- 2015 Whorley, T.L. *, Solomon, E.A., Torres, M.E., Johnson, H.P., Berg, R.D. *, Philip, B.T. **, 2015. Evaluating active methane hydrate dissociation along the Washington margin in response to bottom water warming. 2015 AGU Fall Meeting
- 2015 Graw, M.F. *, Solomon, E.A., Treude, T., Pohlman, J., Colwell, F.S., 2015. Towards biogeochemical modeling of anaerobic oxidation of methane: characterization of microbial communities in methane-bearing North American continental margin sediments. 2015 AGU Fall Meeting

- 2015 Salmi, M.S.*, Harris, R.N., Johnson, H.P., Solomon, E.A., 2015. High resolution thermal model and heat flow of the Washington margin of the Cascadia subduction zone. 2015 AGU Fall Meeting
- 2015 Miller, U.K.** , Johnson, H.P., Salmi, M.S.* , Solomon, E.A., 2015. Analysis of bubble plume distributions to evaluate methane hydrate decomposition on the Cascadia margin, 2015 AGU Fall Meeting.
- 2015 Kowalski, L** , Solomon, E.A., 2015. A long-term record of the temporal and spatial variability of fluid fluxes at a gas hydrate system. UW Undergraduate Research Symposium
- 2015 Rose, K.K.* , Johnson, J.E., Torres, M.E., Hong, W.L., Giosan, L., Solomon, E.A., Kastner, M., Cawthern, T.** , Long, P.E., Schaef, H.T., 2015. Preferential accumulation of gas hydrate in the Andaman accretionary wedge and relationship to anomalous porosity preservation, 2015 AGU Fall Meeting
- 2014 Solomon, E.A., Torres, M.E., Kastner, M., Spivack, A., Teichert, B., 2014. Silicate weathering drives pervasive authigenic carbonate formation in continental margin sediments. AGU Fall Meeting, 15-19 December 2014, San Francisco, CA.
- 2014 Berg, R.D.* , Solomon, E.A., Johnson, H.P., Culling, D.* , Harris, R.N., 2014. Fluid and solute fluxes from the deformation to the upper slope at the Cascadia margin. AGU Fall Meeting, 15-19 December 2014, San Francisco, CA.
- 2014 Salmi, M.* , Johnson, H.P., Solomon, E.A., Harris, R.N., 2014. Heat flow surveys on the Washington margin of the Cascadia subduction zone. AGU Fall Meeting, 15-19 December 2014, San Francisco, CA.
- 2014 Solomon, E.A., Hautala, S., Harris, R., Johnson, H.P., Miller, U.K.** , Philip, B.** , 2014. Response of the Cascadia margin gas hydrate reservoir to warming north Pacific intermediate water. Gas in Marine Sediments 12, Taipei, Taiwan, 1-6 September, 2014.
- 2014 Berg, R.D.* , Solomon, E.A., 2014. Constraining rates of organic matter degradation in marine sediments using pore water bromide profiles. Gordon Research Conference on Gas Hydrates, Galveston, TX, March 2014.
- 2014 Salmi, M.* , Johnson, H.P., Solomon, E.A., Harris, R.N., 2014. Heat flow survey on the Washington margin of the Cascadia subduction zone. AOGS, Sapporo, Japan.
- 2013 Berg, R.D.* , Solomon, E.A., Morris, R.M., 2013. Rates and extent of microbial debromination in the deep seafloor biosphere. AGU Fall meeting 2013, Abstract B23G-05.
- 2013 Gott, C.* , Riedinger, N., Formolo, M., Solomon, E.A., Torres, M.E., Bates, S.M., Lyons, T.W., Sulfur and iron geochemistry of the dynamic sedimentary system at the Costa Rica margin, IODP Expedition 344. AGU Fall Meeting, Abstract T31F-2587.
- 2013 Culling, D.P.* , Solomon, E.A., Kastner, M., Berg, R.D., 2013. Continuous monitoring of fluid flow rate and contemporaneous biogeochemical fluxes in the seafloor; the Mosquito flux meter. AGU Fall Meeting, Abstract H43H-1571.

- 2012 Solomon, E.A., Torres, M., Harris, R.N., Formolo, M., Nuzzo, M., 2012, Geochemical constraints on fluid-rock reactions, fluid sources, and flow pathways along the CRISP transect; IODP Expedition 334. Joint AGU-AOGS meeting, August 13-17, 2012, Singapore.
- 2012 Denny, A*, Kelley, D., Solomon, E.A., Proskurowski, G., Phillip, B., Stapleton, C.**, Delaney, J., 2012. Methane bubble plumes at Hydrate Ridge: Multibeam imaging of temporal and spatial variability as part of the Ocean Observatories Initiative, 2012 Ocean Sciences Meeting.
- 2011 Solomon, E.A., Torres, M., Harris, R.N., Formolo, M., Nuzzo, M., 2011, Geochemical constraints on fluid-rock reactions, fluid sources, and flow pathways along the CRISP transect; IODP Expedition 334. AGU Fall Meeting 2011.
- 2011 Solomon, E.A., Kastner, M., Leifer, I., MacDonald, I., Chanton, J., Robertson, G., 2011. Sea-Air hydrocarbon fluxes associated with a 900-m seafloor gas hydrate deposit in the Gulf of Mexico, Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh, Scotland, United Kingdom, July 17-21, 2011.
- 2010 Solomon, E.A., Spivack, A., Kastner, M., 2010. Biogeochemical cycling and methane production in gas hydrate-bearing sediments offshore southeast India, 2010 AGU Fall Meeting
- 2010 Solomon, E.A., Kastner, M., Wheat, G., Jannasch, H., Davis, E.E., 2010. Poster: Long-term hydrogeochemical records from Ocean Drilling Program borehole observatories in the Costa Rica subduction zone, 2010 AGU Fall Meeting.
- 2010 Solomon, E.A., Spivack, A., Kastner, M., Torres, M., 2010. Biogeochemical cycling and methane generation in gas hydrate-bearing sediments offshore SE India, Gordon Research Conference on Gas Hydrates, Waterville, ME, USA, June 6-11, 2010.
- 2009 Solomon, E.A., Kastner, M., Leifer, I., 2009. Ethane and propane emissions to the ocean and atmosphere from 550-1200 m seeps in the Gulf of Mexico. AGU Fall Meet. Supp., Abstract OS31A-1182.

^Postdoctoral Scholar

**Graduate Student*

***Undergraduate Student*

Presentations to a Nonprofessional (or public) Audience (Since 2009)

- 2014 Presenter and Panelist for “An Evening at the Bottom of the Ocean: Meet the Scientists of the International Ocean Discovery Program,” The Carriage House at the Mathematical Association of America, Washington DC, July 1, 2014.
- 2014 Solomon, E.A. Response of the Washington Margin Gas Hydrate Reservoir to Warming North Pacific Intermediate Water, Art Institute of Seattle, March 6, 2014.
- 2013 Video report on Washington margin gas hydrates. King 5 News, Seattle, WA

Workshops (Since 2009)

- 2022 SEG-AGU Joint Workshop on Geophysics of Convergent Margins, Seattle, WA, 12-14 July 2022
- 2019 Borehole observatory workshop, University of Washington, October 16-17, 2019
- 2018 Geoprisms workshop on the Hikurangi subduction zone, Washington DC

- 2017 Drilling into young oceanic crust for subseafloor observations at Axial Seamount, LDEO, Palisades, New York.
- 2016 Subduction Zone Observatory Workshop, September 2016, Boise, Idaho
- 2016 A mini-workshop to define scientific strategies and next steps for optimizing the OOI-node on Hydrate Ridge, March 4, 2016, Galveston, TX
- 2015 Investigating Cascadia subduction zone geodynamics through scientific ocean drilling, April 29-May 1, 2015, Seattle, WA
- 2013 Methane hydrate community workshop, Washington DC, 4-6 June 2013
- 2013 Workshop on field logistics for Geoprisms research in the Aleutian Arc, AGU Fall Meeting
- 2012 Observatories in Scientific Ocean Drilling, Rice University, 10-12 September 2012
- 2012 Building U.S. Strategies for 2013-2023 Scientific Ocean Drilling, Denver, CO, April 30-May 2, 2012
- 2012 GeoPRISMS-EarthScope Planning Workshop for the Cascadia Primary Site, Portland, OR 5-6 April, 2012
- 2012 Seafloor Geodesy in Cascadia, University of Washington, 11-12 June, 2012
- 2011 Integrating CRISP IODP Drilling and 3D Seismic Study, 7 December 2011, San Francisco, CA
- 2009 IODP Invest Workshop, Bremen, Germany, 23-25 September 2009.

Outreach (Solomon and his lab group)

- 2022 Drilling deep to discover the secrets of the mantle, feature story by Nina Notman, Chemistry World, <https://www.chemistryworld.com/features/drilling-deep-to-discover-the-secrets-of-the-mantle/4015054.article>
- 2021 Video story on SAFFRONZ II research expedition offshore New Zealand, Radio New Zealand, <https://www.rnz.co.nz/national/programmes/checkpoint/audio/2018789064/undersea-robots-go-deep-in-study-of-earthquakes>
- 2021 Video story on SAFFRONZ II research expedition offshore New Zealand, Newshub, <https://www.newshub.co.nz/home/new-zealand/2021/03/hopes-earthquake-forecasting-will-improve-after-scientists-collect-fault-line-data-from-east-coast-subduction-zone.html>
- 2021 News story on New Zealand earthquakes and SAFFRONZ II research expedition offshore New Zealand, New Zealand Herald, <https://www.nzherald.co.nz/nz/satellite-view-shows-raoul-island-before-and-after-quakes-tsunami/RTINUEKMWY3E7ZXMHRFGNMCSFU/>
- 2021 News story on earthquakes and slow slip at Hikurangi subduction zone, New Zealand Herald, <https://www.nzherald.co.nz/nz/scientists-uncover-sub-seafloor-secrets-about-nzs-quakes/YRGNLBVKIEZ564OY76CTG462KM/>
- 2021 News story on using ROV ROPOS for SAFFRONZ II research expedition, NIWA, <https://vimeo.com/niwanz/ropos>

- 2021 News story on SAFFRONZ II research expedition, East Coast Lab, <https://www.eastcoastlab.org.nz/home/article/192/underwater-remotely-operated-vehicle-helping-scientists-collect-the-latest-earthquake-data?t=featured&s=1>
- 2019 News story on SAFFRONZ research expedition, earthquake processes offshore New Zealand, Stuff news website, <https://www.stuff.co.nz/science/110722230/gns-science-use-robotic-underwater-vehicle-to-research-slow-slip-earthquakes>
- 2019 News story on SAFFRONZ research expedition, earthquake processes offshore New Zealand, TV New Zealand, <https://www.tvnz.co.nz/one-news/new-zealand/jason-underwater-robot-makes-first-trip-hikurangi-subduction-zone>
- 2019 News story on SAFFRONZ research expedition, earthquake processes offshore New Zealand, New Zealand Herald, https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12205220
- 2019 Video story on SAFFRONZ research expedition, earthquake processes offshore New Zealand, TV3 New Zealand nightly news
- 2019 Series of blog posts on the SAFFRONZ research expedition, how we sample and study pore water, and slow slip earthquakes, East Coast Lab, <https://www.eastcoastlab.org.nz/news/>

FIELDWORK

08-09/2022	UNOLS Coring PI Training Cruise, Oregon margin, coring, R/V Revelle, Member of mentoring team
02-03/2022	Puerto Rico Trench, Adaptations of anaerobic microbial communities to in situ pressure, coring, R/V Armstrong, Lead Geochemist
03/2021	SAFFRONZ II, Hikurangi subduction zone, ROV ROPOS, flow meter recovery, CORK data download, APG/tilt meter deployment recovery, R/V Tangaroa, Co-Chief Scientist
09-10/2019	Pythia's Oasis, Cascadia subduction zone, DSV Sentry, DSV Jason, coring, heat flow, R/V Atlantis, Co-Chief Scientist
01-02/2019	SAFFRONZ I, Hikurangi subduction zone, Flow meter deployments, coring, and heat flow, R/V Revelle, DSV Jason, Chief Scientist
03-05/2018	IODP Exp. 375, Hikurangi subduction zone, CORK deployment, JOIDES Resolution, Lead Geochemist
10/2014	Cascadia gas hydrates, R/V Thompson, Chief Scientist
07-08/2013	Cascadia subduction zone fluid and heat flux, DSV Jason, R/V Atlantis, Co-Chief Scientist
10-12/2012	IODP Exp. 344, CRISP II, Costa Rica seismogenesis, JOIDES Resolution
08/2011	OOI 2011 Visions Expedition, R/V Thompson, Ropos
03-04/2011	IODP Exp. 334, CRISP, Costa Rica Seismogenesis, JOIDES Resolution
07/2010	OOI 2010 Enlighten Expedition, Hydrate Ridge, DSV Jason, Sentry
07/2009	Gulf of Mexico hydrocarbon plumes, CH ₄ emissions to the ocean and atmosphere
02/2009	Costa Rica subduction zone, OsmoSampler recovery, DSV Alvin
12/2007-02/2008	IODP Exp. 316, NantroSeize Thrust Faults, Nankai Subduction Zone, Chikyu

06-07/2006	NGHP Project – Indian Ocean gas hydrates, ocean drilling, JOIDES Resolution
08/2004	IODP Exp. 301T, Costa Rica subduction zone hydrogeology, OsmoSampler recovery, JOIDES Resolution
07/2004	Offshore N. Carolina, en echelon cracks at shelf edge, RV Cape Hatteras
02/2004	Costa Rica subduction zone, OsmoSampler recovery, DSV Alvin
09/2003	Gulf of Mexico gas hydrates, long-term fluid monitoring, JSL
08/2003	GHOSTS II, Gulf of Mexico gas hydrates, long-term fluid monitoring, JSL
09-11/2002	ODP Leg 205, Costa Rica Prism, Installed CORK-IIs and OsmoSamplers, JOIDES Resolution
08/2002	Cascadia, offshore Oregon, Hydrate Ridge gas hydrates, DSV Alvin
06/2002	GHOSTS I, Gulf of Mexico gas hydrates, long-term fluid monitoring, JSL

PUBLICATIONS

SUBMITTED

Philip, B.* , Solomon, E.A., Kelley, D., Whorley, T.* , Roland, E., Trehu, A., Tominaga, M., Collier, B., *submitted*. Fluid sources and overpressure within the central Cascadia subduction zone revealed by a warm, high-flux seafloor seep, *Science Advances*.

Luo, M., Hong, W.L., Torres, M.E., Kutterolf, S., Solomon, E.A., Pank, K., Hopkins, J.L., Wang, K.L., Lee, H.Y., *submitted*. Quantitative assessment of volcanogenic aluminosilicate diagenesis in the northern Hikurangi margin sediments: Implications for subsurface geochemical cycles, *Geochim. et Cosmochim. Acta*.

Pecher, I.A., Cook, A.E., Solomon, E.A., Wang, X., Han, S., Paganoni, M., Luo, M., Heeschen, K.U., McNamara, D.D., Nole, M., Bottger, L., Oluwunmi, P., Archer, S., Reagan, M., Moridis, G., Levay, L., Petronotis, K., Barnes, P.M., Wallace, L.M., Saffer, D.M., *submitted*. A bubbling carbon pool? Dissociating gas hydrates beneath the hydrate stability field, *Nature Geoscience*.

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Morgan, J.K., Solomon, E.A., Fagereng, A., Savage, H., Wang, M., Meneghini, F., Barnes, P.M., Bell, R., French, M., Bangs, N., Kitajima, H., Saffer, D., Wallace, L., *in press*. Seafloor overthrusting causes ductile fault deformation and fault sealing along the northern Hikurangi margin, *Earth and Planetary Science Letters*.

REFEREED JOURNAL ARTICLES

Cook, A.E., Paganoni, M., Clennell, M.B., McNamara, D.D., Nole, M., Wang, X., Han, S., Bell, R.E., Solomon, E.A., Saffer, D.M., Barnes, P.M., Pecher, I.A., Wallace, L.M., LeVay, L.J., Petronotis, K.E., 2020. Physical properties and gas hydrate at a near-seafloor thrust fault, Hikurangi Margin, New Zealand, *Geophysical Research Letters*, 47, doi:10.1029/2020GL088474.

Flemings, P.B., Phillips, S.C., Boswell, R., and 23 additional authors, 2020. Concentrated hydrate in a deepwater Gulf of Mexico turbidite reservoir: initial results from the UT-GOM2-1 hydrate pressure coring program, *AAPG Bulletin*.

- Torres, M.E., Hong, W.L., Solomon, E.A., Milliken, K., Kim, J.H., Sample, J., Teichert, B., Wallmann, K., 2020. Silicate weathering in anoxic marine sediment as a requirement for authigenic carbonate burial, *Earth-Science Reviews*, 200, 102960.
- Barnes, P.M., Wallace, L.M., Saffer, D.M., and 39 additional authors, 2020. Slow slip source characterized by lithological and geometric heterogeneity, *Science Advances*.
- Berg, R.D.* , Solomon, E.A., Teng, F.Z., 2019. The role of marine sediments in the modern oceanic magnesium cycle, *Nature Communications*, 10, 4371. <https://doi.org/10.1038/s41467-019-12322-2>
- Riedinger, N., Torres, M.E., Screatton, L., Solomon, E.A., Kutterolf, S., Formolo, Schindlbeck-Belo, J., M.J., Lyons, T.W., Vannucchi, P., 2019. Interplay of subduction tectonics, sedimentation, and carbon cycling, *Geochem, Geophys, Geosyst*, 20, 4939-4955.
- Hong, W.L., Lepland, A., Himmler, T., Kim, J.H., Chand, S., Sahy, D., Solomon, E.A., Rae, J.W.B., Martma, T., Nam, S.I., Knies, J., 2019. Discharge of meteoric water in the eastern Nordic Sea since the last glacial period, *Geophysical Research Letters*, 46, 8194-8204.
- Rafter, P.A., Carriquiry, J.D., Herguera, J.C., Hain, M.P., Solomon, E.A., Southon, J.R., 2019. Anomalous >2,000-year old surface ocean radiocarbon age as evidence for deglacial geologic carbon release, *Geophysical Research Letters*, 46, 13,950-13,960.
- Fagereng, A., Savage, H.M., Morgan, J.K. et al., 2019. Mixed deformation styles observed on a shallow subduction thrust, Hikurangi margin, New Zealand, *Geology*, 47, 872-876.
- Solomon, E.A., Becker, K., Kopf, A., Davis, E.E., 2019. Listening down the pipe. *Invited paper, Oceanography*, 32(1), 98-101.
- Ruark, C.** , Torres, M.E., Muratli, J., Solomon, E.A., 2019. Isotopic and elemental analyses of pore fluids and carbonates from Sites U1378 and U1380 drilled during CRISP-A Expeditions 334 and 344 in the middle slope offshore Costa Rica. *In Harris, R.N., Sakaguchi, A., Petronotis, K. eds, Proceedings of the Integrated Ocean Drilling Program, 344: College Station, TX, doi:10.2204/iodp.proc.344.208.2019.*
- Philip, B.T.** , Denny, A.* , Solomon, E.A., Kelley, D.S., 2016. Time-series of bubble plume variability and water column methane distribution above southern Hydrate Ridge, Oregon, *Geophys. Geochem. Geosyst.*, 17, 1182-1196.
- Berg, R.* , Solomon, E.A., 2016. Geochemical constraints on the distribution and rates of debromination in the deep seafloor biosphere. *Geochimica et Cosmochimica Acta*, 174, 30-41.
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- Johnson, H.P., Miller, U.K.** , Salmi, M.S.* , Solomon, E.A., 2015. Analysis of bubble plume distributions to evaluate methane hydrate decomposition on the upper continental slope, *Geophys. Geochem. Geosyst.*, 16, 3825-3839, doi:10.1002/2015GC005955.

- Ross, N**, Torres, M.E., Haley, B., Solomon, E.A., Kastner, M., 2015. Data report: Strontium isotope analyses of pore fluids from the CRISP-A transect drilled during Expeditions 334 and 344. *Proceedings IODP Expedition 334*.
- Solomon, E.A., Spivack, A.J., Kastner, M., Torres, M., Robertson, G., 2014. Gas hydrate distribution and carbon sequestration through coupled microbial methanogenesis and silicate weathering in the Krishna-Godavari basin, offshore India. *Marine and Petroleum Geology*, 58, 233-253.
- Hautala, S.L., Solomon, E.A., Johnson, H.P., Harris, R.N., Miller, U.K.** , 2014. Dissociation of Cascadia margin gas hydrates in response to contemporary ocean warming, *Geophysical Research Letters*, 41, 8486-8494.
- Hong, W.L.* , Solomon, E.A., Torres, M., 2014. A kinetic-model approach to quantify the effect of mass transport deposits on pore water profiles in the Krishna-Godavari Basin, Bay of Bengal. *Marine and Petroleum Geology*, 58, 223-232.
- Kastner, M., Solomon, E.A., Harris, R., Torres, M.E., 2014. Fluid origins, thermal regimes, and fluid and solute fluxes in the forearc of subduction zones. In: *Developments in Marine Geology Vol. 7 – Earth and Life Processes Discovered from the Subseafloor Environment* (R. Stein, D. Blackman, F. Inagaki, H.C. Larsen, Eds.). Elsevier, p. 671-723.
- Teichert, B.M.A., Johnson, J., Solomon, E.A., Giosan, L., Rose, K., Kocherla, M., Connolly, E.C., Torres, M.E., 2014. Composition and origin of authigenic carbonates in the Krishna–Godavari and Mahanadi Basins, eastern continental margin of India, *Marine and Petroleum Geology*, 58, 438-460.
- Rose, K.* , Johnson, J.E., Torres, M., Hong, W.* , Giosan, L., Solomon, E.A., Kastner, M., Cawthern, T., Long, P.E., Schaefer, T., 2014. Anomalous porosity preservation and preferential accumulation of gas hydrate in the Andaman accretionary wedge, NGHP-01 Site 17A. *Marine and Petroleum Geology*, 58, 99-116.
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NON-REFEREED PRODUCTS

Commentaries and Newsletters

Solomon, E.A., Aylward, I.*, Torres, M.E., Harris, R., 2021. Slow-slip and fluid flow response offshore New Zealand (SAFFRONZ) – Probing the nature of the Hikurangi margin hydrogeochemical system, GeoPRISMS Newsletter, Issue 43, 112.

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Wilcock, W., Solomon, E.A., Davis, E.E., Trehu, A., et al., 2016. Report of Investigating Cascadia subduction zone geodynamics through scientific ocean drilling. Available online through the U.S. Science Support Program.

Torres, M.E., Solomon, E.A., Bangs, N., Collier, B., et al., 2016. Report of A mini-workshop to encourage the scientific community to develop proposals for optimizing the OOI node at Hydrate Ridge, available through the Ocean Observatories Initiative.

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Whorley, T.L. *, Solomon, E.A., Philip, B.T. *, Torres, M.E., Johnson, H.P., 2017. Investigating the response of methane hydrate to modern bottom water warming along the upper continental slope of the Cascadia margin. *Proceedings 9th International Conference on Gas Hydrates*, Denver, CO, 15 pages.

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Solomon, E.A., Kastner, M., Jannasch, H., Weinstein, Y., Robertson, G., 2005. Insights into the dynamics of in situ gas hydrate formation and dissociation at the Bush Hill gas hydrate field, Gulf of Mexico, *Proceedings of the Fifth International Conference on Gas Hydrates*, Trondheim, Norway, Paper 3035.

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White Papers

Harris, R., Scholz, C.A., Naif, S., Shillington, D., Gaherty, J., Kolawole, F., Attias, E., Kannberg, P., Newman, A., Noren, A., Solomon, E., Xue, L., 2021. The utility and challenge of using maringe geophysical and geochemical techniques in rift lakes, Rifts. Rifted Margins. Spreading Ridges. Online Workshop, 7-10, June, 2021.

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Johnson, H.P., Solomon, E.A., Salmi, M.*, 2012. Thermal Structure of the Cascadia Subduction Zone on the Washington Margin, Geoprisms-Earthscope Cascadia Science Workshop, April, 2012.

Solomon, E.A., Kastner, M., 2012. Constraining fluid sources and fluxes through the Cascadia accretionary prism – Impact on volatile cycling, physical state, and microbiology, Geoprisms-Earthscope Cascadia Science Workshop, April 2012, Portland, OR.

*Graduate student author

**Undergraduate student author

GRADUATE COMMITTEES

Chair, Committees for:

Richard Berg	Oceanography: Marine Geology/Geophysics	Ph.D.	2011-2018
Theresa Whorley	Oceanography: Marine Geology/Geophysics	Ph.D.	2014-2021
Brendan Philip	Oceanography: Marine Geology/Geophysics (co-chair with Deb Kelley)	M.Sc.	2016-2019
Irita Aylward	Oceanography: Marine Geology/Geophysics	Ph.D.	2018-
Taylor Walton	Oceanography: Marine Geology/Geophysics	Ph.D.	2021-

Member, Committees for:

Marie Salmi	Oceanography: Marine Geology/Geophysics	Ph.D.	2011-2018
Alden Denny	Oceanography: Marine Geology/Geophysics	M.Sc.	2010-2012
Ginevra Moore	Oceanography: Marine Geology/Geophysics	M.Sc.	2018-2020
Evan Lahr	Oceanography: Marine Geology/Geophysics	Ph.D.	2020-
Michael Law	University of Calgary, Geology & Geophysics	M.Sc.	2020-2021
Sarah Vollero	Oceanography: Marine Geology/Geophysics	Ph.D.	2021-

UNDERGRADUATE STUDENTS ADVISED

Charlie Daniels, undergraduate research assistant, 2020-2021, alkalinity reflux from marine sediments

Catherine Cougan, undergraduate research assistant, 2019-2020, porosity across the Hikurangi margin, offshore New Zealand

Xuyang Wang, undergraduate research assistant, 2019-2020

Joy Fay, undergraduate research assistant, 2016-2018, water column methane distribution along the WA margin upper continental slope

Lisa Burke, undergraduate research assistant, work study, 2018, continuous measurements of pore water Cl at the Hydrate Ridge seep system

Kyler Kruger, undergraduate research assistant, 2016, long-term pore water geochemistry record at Hydrate Ridge

Lauren Kowalski, undergraduate research assistant, senior thesis advisee, 2014-2016 (NOAA Hollings Scholarship, UW Mary Gates Scholarship). Project Title: A long-term record of the temporal and spatial variability of fluid fluxes at a gas hydrate system, now working for US Coast Guard.

Brendan Philip, undergraduate research assistant, senior thesis advisee, 2013-2014 (Mary Gates Scholar) Co-advised his senior thesis with Deb Kelley. Thesis Title: Vertical methane transport and plume variability at southern Hydrate Ridge, offshore Oregon.

Carla Stapleton, undergraduate research assistant, senior thesis advisee, 2010-2013 (Mary Gates Scholar) She worked on several projects in my lab and I co-advised her senior thesis. Thesis Title: Discovery and descriptive acoustic analysis of a marine seep, offshore Canada. Currently an Officer in the U.S. Air Force.

Jim Shobe, undergraduate research assistant, 2011. Performed hydrocarbon analyses and assisted with fabricating the first set of seafloor fluid flow meters deployed at Hydrate Ridge. Now working for Microsoft.

Kira Homola, undergraduate advisee, 2011-2013; now a graduate student at University of Rhode Island

Casey Hearn, undergraduate advisee, 2010-2012; now a graduate student at University of Rhode Island.

TECHNICAL STAFF ADVISED

Dr. Romina Centurion, 2018-present, Research Assistant

Daniel Culling, 2013-2014, Research Assistant and Laboratory Manager, now a graduate student at Tulane University

Paige Farrell, 2012, Research Assistant and Laboratory Manager; now a graduate student at the University of Idaho

Christopher Stubbs, 2011, Research Assistant; now a geophysical consultant