

KENNETH H. RUBIN
Publications
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Articles (most recent first)

In review

1. Falkenberg, Jan, Keith, Manuel, Haase, Karsten M, Bach, Wolfgang, Klemd, Reiner, Strauss, Harald, Yeo, Isobel A, **Rubin, Kenneth H.**, Anderson, Melissa O (2020) Effect of fluid boiling on volatile element and Au enrichment in submarine hydrothermal sulphides, Niua South, Tonga arc, *Geochimica et Cosmochimica Acta*, Submitted Oct 2020
2. Anderson, Melissa O., Norris-Julseth, Chantal, **Rubin, Kenneth Howard**, Haase, Karsten M., Hannington, Mark , Baxter, Alan T., Stewart, Margaret (2020) Geometry and evolution of wrench tectonics in the NE Lau Basin, *JGR: Solid Earth*. Mar 2020

published

1. Chadwick, W.W, **Rubin, K.H.**, Merle, S.G., Bobbitt, A.M., Kwasnitschka, T., Embley, R.W. (2019) Recent Eruptions Between 2012 and 2018 Discovered at West Mata Submarine Volcano (NE Lau Basin, SW Pacific) and Characterized by New Ship, AUV, and ROV Data *Frontiers in Marine Science* 6, article 495, pp25. DOI: 10.3389/fmars.2019.00495
2. Graham, David W., Michael, Peter J., **Rubin, Ken H.** (2018) An investigation of mid-ocean ridge degassing using He, CO₂, and δ¹³C variations during the 2005-06 eruption at 9°50'N on the East Pacific Rise, *Earth Planet. Sci. Letters*, 504, 84-93. DOI: 10.1016/j.epsl.2018.09.040.
3. Clague, David, Paduan, Jennifer, Dreyer, Brian, Chadwick, William. **Rubin, Kenneth**, Perfit, Michael, Fundis, Allison (2018) Chemical Variations in the 1998, 2011, and 2015 Lava Flows from Axial Seamount, Juan de Fuca Ridge: Cooling During Ascent, Lateral Transport, and Flow, *G-cubed* 2018GC007708R.
4. Embley, Robert W. **Rubin, Kenneth H.**, Extensive Young Silicic Volcanism Produces Large Deep Submarine Lava Flows in the NE Lau Basin, *Bulletin of Volcanology* (2018) **80**:36, pp23 <https://doi.org/10.1007/s00445-018-1211-7>. <http://rdcu.be/JffP>
5. Butler, Rhett, Burney, David A., **Rubin, Kenneth H.**, and David Walsh (2017) The Orphan Sanriku Tsunami of 1586: New Evidence from Coral Dating on Kaua'i, *Natural Hazards*, DOI: 10.1007/s11069-017-2902-7.
6. Dutton, A., **Rubin, K.H.**, McLean, N, Bowring, Bard, J. E., Edwards, R.L., Henderson, G.M., Reid, M.R., Richards, D.A., Sims, K.W.W., Walker, J.D., Yokoyama Y. (2017) Data reporting standards for publication of U-series data for geochronology and timescale assessment in the earth sciences, *Quaternary Geochronology* **39**, 42-149, DOI: 10.1016/j.quageo.2017.03.001
7. Shortle, Oliver, Rudge, John F, MacLennan, John, **Rubin, Ken H** (2015) A Statistical description of concurrent mixing and crystallisation during MORB differentiation: Implications for trace element enrichment, *Journal of Petrology*, , **57** (11-12): 2127-2162. doi: 10.1093/petrology/egw056
8. Colman, Alice, Sinton, John, **Rubin, Ken** (2015) Magmatic Processes at Variable Magma Supply Along the Galápagos Spreading Center: Constraints from Individual Eruptive Units, *Journal of Petrology*, 57(5), 981-1018, doi: 10.1093/petrology/egw032.
9. Zellmer, GF, **K. H. Rubin**, CA Miller, JG Shellnutt, A Belousov, M Belousova (2015) Resolving discordant U-Th-Ra ages: constraints on petrogenetic processes of recent effusive eruptions at Tatun Volcano Group, northern Taiwan, In: Caricchi, L. & Blundy, J. D. (eds) *Chemical, Physical and Temporal Evolution of Magmatic Systems*. Geological Society,

- London, Special Publications, 422, <http://doi.org/10.1144/SP422.3>
10. Lupton, John, **Rubin, Ken H.**, Arculus, Richard, Lilley, Marvin, Butterfield, David, Resing, Joseph, Baker, Edward, Embley R., (2015). Helium Isotope, C/3He, and Ba-Nb-Ti Signatures in the Northern Lau Basin: Distinguishing Arc, Back-arc, and Hotspot Affinities, *Geochem. Geophys. Geosys.*, DOI: 10.1002/2014GC005625.
 11. **Rubin K. H.** (2014) Mid-Ocean Ridge Magmatism and Volcanism. In: Harff J., Meschede M., Petersen S., Thiede J. (Ed.) *Encyclopedia of Marine Geosciences*. Springer-Verlag Berlin Heidelberg. DOI 10.1007/978-94-007-6644-0_28-3 pp 21.
 12. Embley, R.W., S.G. Merle,, E.T. Baker, **K. H. Rubin**, J.E. Lupton, , J.A. Resing, R.P. Dziak, M.D. Lilley, W.W. Chadwick Jr., T. Shank, , R. Greene, S.L. Walker, J..Haxel, E. Olson and T. Baumberger (2014), Eruptive modes and hiatus of volcanism at West Mata seamount, NE Lau basin: 1996-2012, *Geochemistry, Geophysics, Geosystems*. **15**, 4093-4115, DOI: 10.1002/2014GC005387
 13. T. McClinton, S. M. White, A. Colman, **K. H. Rubin**, J. M. Sinton (2014) The role of crystallinity and viscosity in the formation of submarine lava flow morphology. *Bull. Volc.* 76:854, pp13. DOI: 10.1007/s00445-014-0854-2.
 14. Bowles, J. A., A. Colman, J. T. McClinton, J. M. Sinton, S. M. White, and **K. H. Rubin** (2014), Eruptive timing and 200 year episodicity at 92°W on the hot spot-influenced Galapagos Spreading Center derived from geomagnetic paleointensity, *Geochem. Geophys. Geosyst.*, 15, 2211–2224, doi:10.1002/2014GC005315.
 15. Sherman, C.E., Fletcher, C.H., **Rubin, K. H.**, Simmons, K.R. and H. Adey, W.H. (2014) Sea-level and reef accretion history of marine isotope stage 7 and late stage 5 based on age and facies of submerged late Pleistocene reefs, Oahu, Hawaii, *Quaternary Research*, 81, 138-150. DOI: 10.1016/j.yqres.2013.11.001.
 16. **K. H. Rubin**, S.A. Soule, WW Chadwick, D.J. Fornari, DS Clague, R.W.. Embley, E.T. Baker, M.R. Perfit, DW Caress, RP Dziak (2012) Volcanic Eruptions in the Deep Sea, *Oceanography* **25**, 142–157, <http://dx.doi.org/10.5670/oceanog.2012.12>.
 17. E.T. Baker, W. W. Chadwick, J.P. Cowen, R. P. Dziak, **K. H. Rubin**, D. J. Fornari (2012) Hydrothermal discharge during submarine eruptions: The importance of detection, response, and new technology, *Oceanography*, **25**, 128–141, <http://dx.doi.org/10.5670/oceanog.2012.11>.
 18. Colman, A, Sinton, J.M., White, S. M., McClinton, J.T., Bowles, J.A., **Rubin, K. H.**, Behn, M.D., Cushman, B., Eason, D.E., Gregg, TKP, Grönvold, K., Hidalgo, S., Howell, J., Neill, O., Russo, C. (2012) Effects of variable magma supply on mid-ocean ridge eruptions: Constraints from mapped lava flow fields along the Galápagos Spreading Center *Geochem. Geophys. Geosyst.*, **13**, Q08014, <http://dx.doi.org/10.1029/2012GC004163>
 19. D.J. Fornari, K.L. Von Damm, J.G. Bryce, J.P. Cowen, V. Ferrini, A. Fundis, M.D. Lilley, G.W. Luther III, L. Mullineaux, M.R. Perfit, M.F. Meana-Prado, **K. H. Rubin**, W.E. Seyfried Jr., T.M. Shank, A. Soule, M. Tolstoy, S.M. White (2012) The East Pacific Rise Between 9° and 10°N: Twenty-Five Years of Integrated, Multidisciplinary Oceanic Spreading Center Studies. *Oceanography*, **2**, 18–43, <http://dx.doi.org/10.5670/oceanog.2012.02>.
 20. J.A. Resing, **K. H. Rubin**, R.W. Embley, J.E. Lupton, E.T. Baker, RP Dziak, T. Baumberger, M.D. Lilley, J.A. Huber, TM Shank, DA Butterfield, DA Clague, NS Keller, SG Merle, NJ Buck, PJ Michael, A Soule, DW Caress, SL Walker, R Davis, JP Cowen, A-L Reysenbach, H Thomas (2011) Active submarine eruption of boninite in the northeastern Lau Basin, *Nature Geoscience*, **4**, 799-806 DOI: **10.1038/NGEO1275**.
 21. E.T. Baker, J.E. Lupton, J.A. Resing, T Baumberger, M.D. Lilley, SL Walker, **K. H. Rubin** (2011) Unique event plumes from a 2008 eruption on the Northeast Lau Spreading Center, *Geochem. Geophys. Geosyst.*, **12** , Article Number: Q0AF02 DOI: 10.1029/2011GC003725
 22. **K. H. Rubin** and D.J. Fornari (2011) Multidisciplinary Collaborations in Mid-Ocean Ridge

- Research, *EOS, Trans. Amer. Geophys. U.*, **92:16**, 141-142, DOI: [10.1029/2011E0170002](https://doi.org/10.1029/2011E0170002).
23. G.F. Zellmer, **K. H. Rubin**, P. Dulski, Y. Iizuka, S.L. Goldstein, M.R. Perfit (2011) Crystal growth during dike injection of MOR basaltic melts: evidence from preservation of local Sr disequilibria in plagioclase, *Contributions to Mineralogy and Petrology*, **161**, 153-173, doi: [10.1007/s00410-010-0518-y](https://doi.org/10.1007/s00410-010-0518-y).
 24. A.K. Schmitt, M.R. Perfit, **K. H. Rubin**, D.F. Stockli, M.C. Smith, L.A. Cotsonika, G.F. Zellmer, W.I. Ridley, O.M. Lovera (2011) Rapid cooling rates at an active mid-ocean ridge from zircon thermochronology, *Earth Planet. Sci. Lett.*, **302**, 349-358, doi: [10.1016/j.epsl.2010.12.022](https://doi.org/10.1016/j.epsl.2010.12.022)
 25. A.R. Goss, M.R. Perfit, W.I. Ridley, **K. H. Rubin**, G.D. Kamenov, S.A. Soule, A. Fundis, and D.J. Fornari (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, *Geochem. Geophys. Geosyst.*, **11**, Q05T09, doi:[10.1029/2009GC00297](https://doi.org/10.1029/2009GC00297).
 26. **K. H. Rubin**, Sinton, J.M., MacLennan, J., Hellebrand, E. (2009) Magmatic filtering of mantle compositions at mid-ocean ridge volcanoes, *Nature Geoscience*, **2**, 321-328.
 27. **K. H. Rubin**, G.F. Zellmer (2009) Reply to comment on "On the recent bimodal magmatic processes and their rates in the Torfajökull -Veidivötn area, Iceland" by K.M. Cooper, *Earth Planet. Sci. Lett.*, **281**, 115–123, doi:[10.1016/j.epsl.2009.02.008](https://doi.org/10.1016/j.epsl.2009.02.008)
 28. C.J. Russo, **K. H. Rubin**, D.W. Graham (2009) Mantle melting and magma supply to the Southeast Indian Ridge: the roles of lithology and melting conditions from U-series disequilibrium, *Earth Planet. Sci. Lett.*, **278**, 55-66, doi:[10.1016/j.epsl.2008.11.016](https://doi.org/10.1016/j.epsl.2008.11.016).
 29. **K. H. Rubin** (2009) Depleted Uranium, Natural Uranium and Other Naturally Occurring Radioactive Elements in Hawaiian Environments, US Army/NDCEE-CR-2009-072 (Requests for this document shall be referred to: Office of the Assistant Secretary of the Army for Installations and Environment ASA (I&E) – ESOH 1235 South Clark Street Crystal Gateway 1, Suite 307 Arlington, VA 22202-3263)
 30. J.A. Resing, R.W. Embley, **K. H. Rubin** (2009) Eruptions in the NE Lau Basin, Margins Newsl., **23**, 12-14.
 31. G.F. Zellmer, **K. H. Rubin**, K. Grönvold, Z. Jurado-Chichay (2008) On the recent bimodal magmatic processes and their rates in the Torfajökull-Veidivötn area, Iceland, *Earth Planet. Sci. Lett.*, **269**, 387-397, doi:[10.1016/j.epsl.2008.02.026](https://doi.org/10.1016/j.epsl.2008.02.026).
 32. Fletcher, C.H., Bochicchio, C, Conger, CL, Engels, MS, Feirstein, EJ, Frazer, N, Glenn, CR, Grigg, R.W., Grossman, EG, Harley, JN, Isoun, E, Murray-Wallace, CV, Rooney, JJ, **Rubin**, K. H., Sherman, CE and Vitousek S (2008) Geology of Hawaii Reefs in, Coral reefs of the USA (ed. Bernhard M. Riegl and Richard E. Dodge) Springer, pp 435-487
 33. **K. H. Rubin** and J.M. Sinton (2007) Inferences on mid-ocean ridge thermal and magmatic structure from MORB compositions, *Earth Planet. Sci. Lett.*, **260**, 257–276, doi:[10.1016/j.epsl.2007.05.035](https://doi.org/10.1016/j.epsl.2007.05.035).
 34. E.C. Bergmanis, J.M. Sinton, **K. H. Rubin** (2007) Recent Eruptive History and Magma Reservoir Dynamics on the Southern East Pacific Rise at 17.5°S, *Geochem. Geophys. Geosyst.*, **8**, Q12O06, doi:[10.1029/2007GC001742](https://doi.org/10.1029/2007GC001742)
 35. S.A. Soule, D.J. Fornari, M.R. Perfit and **K. H. Rubin** (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** (12), 1079–1082, doi: [10.1130/G23924A.1](https://doi.org/10.1130/G23924A.1).
 36. R.P. Dziak, D.R. Bohnenstiehl, J.P. Cowen, E.T. Baker, **K. H. Rubin**, J.H. Haxel, M.J., Fowler (2007) Rapid dike emplacement leads to dramatic hydrothermal plume release during seafloor spreading events, *Geology*, **35**, 579–582, doi: [10.1130/G23476A.1](https://doi.org/10.1130/G23476A.1)
 37. M. Tolstoy, J. P. Cowen, E. T. Baker, D.J. Fornari, **K. H. Rubin**, T.M. Shank, F. Waldhauser, D.R. Bohnenstiehl, D.W. Forsyth, R.C. Holmes, B. Love, M.R. Perfit, R.T. Weekly, S.A.

- Soule, B. Glazer (2006) A Seafloor Spreading Event Captured by Seismometers, *Science*, **314**, 1920-1922, doi:10.1126/science.1133950
38. R.W. Embley, WW Chadwick, Jr., E.T. Baker, DA Butterfield, J.A. Resing, C.E.J. de Ronde, V .Tunnicliffe, J.E. Lupton, K.S. Juniper, **K. H. Rubin**, R.J. Stern, GT Lebon, K Nakamura, SG Merle, JR Hein, DP Wiens, & Y. Tamura (2006) Long-Term Eruptive Activity at a Submarine Arc Volcano, *Nature*, **441**, 494-497. doi:10.1038/nature04762.
 39. D.W. Graham, J. Blichert-Toft, C.J. Russo, **K. H. Rubin** & F. Albarède (2006) Cryptic Striations in the Upper Mantle Revealed by Hafnium Isotopes in Southeast Indian Ridge Basalts, *Nature*, **440**, 199-202, doi:10.1038/nature04582.
 40. **K. H. Rubin**, I. van der Zander, M.C. Smith and EC Bergmanis (2005) Minimum speed limit for ocean ridge magmatism from ^{210}Pb - ^{226}Ra - ^{230}Th disequilibria, *Nature*, **437**, 534-538, doi:10.1038/nature03993.
 41. **K. H. Rubin**, & I van der Zander (2005) Obtaining high-resolution chronologies of submarine lava eruptions: better dating through radiochemistry, *Ridge 2000 Events*, **3** (Spr 2005), 28-30.
 42. J Sinton, E. Bergmanis, **K. H. Rubin**, R. Batiza, T.K.P. Gregg, K. Grönvold, K. Macdonald, and S. White (2002) Volcanic eruptions on mid-ocean ridges: New evidence from the superfast-spreading East Pacific Rise, 17°-19°S, *J. Geophys. Res.* 107(B6), 2115, doi:10.1029/2000JB000090.
 43. **K. H. Rubin**, M.C. Smith, E.C. Bergmanis, M.R. Perfit, J.M. Sinton and R .Batiza (2001) Geochemical heterogeneity within mid-ocean ridge lava flows: insights into eruption, emplacement and global variations in magma generation. *Earth Planet. Sci. Lett.*, **188**, 349-367.
 44. **K. H. Rubin** (2001) Analysis of ^{232}Th / ^{230}Th in Volcanic Rocks: A Comparison of Thermal Ionization Mass Spectrometry and other Methodologies. *Chemical Geology*, **175**, 723-750.
 45. A.J. Pietruszka, **K. H. Rubin** and M.O. Garcia (2001) ^{226}Ra - ^{230}Th - ^{238}U disequilibria of historical Kilauea lavas (1790-1982) and the dynamics of mantle melting within the Hawaiian plume. *Earth Planet. Sci. Lett.*, **186**, 15-31.
 46. **K. H. Rubin**, C.H. Fletcher, CE Sherman (2000) Fossiliferous Lanai deposits formed by multiple events rather than a single giant tsunami, *Nature*, **408**, 657-681.
 47. KTM Johnson, DW Graham, **K. H. Rubin**, K Nicolaysen, DS Scheirer, DW Forsyth, E.T. Baker, LM Douglas-Priebe (2000) Boomerang Seamount: The active expression of the Amsterdam-St. Paul Hotspot, Southeast Indian Ridge. *Earth Planet. Sci. Lett.*, **183**, 245-259.
 48. C.E. Sherman, C.H. Fletcher, **K. H. Rubin**, (1999) Marine and meteoric diagenesis of Pleistocene carbonates from a nearshore submarine terrace, Oahu, Hawaii, *Journal of Sedimentary Research*, **69**, 1083-1097.
 49. Sinton, J. M., E. Bergmanis, R. Batiza, **K. Rubin**, T. K. P. Gregg, K. Grönvold, S. White, K. Macdonald, C. Van Dover, M. Cormier, W. Ryan, M. Aigner-Torres, L. Popels, E. Boyle, A. Shah, W. Jin, Volcanological investigations at superfast spreading: Results from R/V Atlantis Cruise 3-31, *RIDGE Events*, **10**, 17-23, 1999
 50. **K. H. Rubin**, M.C. Smith, M.R., Perfit, L.F., Sacks, D. Christie (1998), Geochronology and Petrology of lavas from the 1996 North Gorda Ridge eruption, *Deep Sea Res. II*, **45**, 2751-2599. [Special Volume on Event Detection and Response on the Gorda Ridge]
 51. M.O. Garcia, **K. H. Rubin**, M.D. Norman, J.M. Rhodes, D.W. Graham, K. Spencer and D. Muenow (1998) Petrology and geochronology of basalt breccia from the 1996 earthquake swarm of Loihi Seamount, Hawaii: Magmatic History of its 1996 eruption, *Bull. Volc.*, **59**, 577-592.
 52. **K. H. Rubin** (1997) Degassing of Metals and Metalloids from Erupting Seamount and Mid-Ocean Ridge Volcanoes: Observations and Predictions, *Geochim. et Cosmochim. Acta*, **61**,

- 3525-3542.
53. Loihi Science Team (1997) Rapid Response to Submarine Activity at Loihi Volcano, Hawaii. EOS 78, 229-233. (aka Duennebier et al.: with 22 authors listed alphabetically).
 54. John L. Butler, Craig Kastelle, **Ken Rubin**, Donna Kline, Henk Heijnis, Larry J.A. cobson, Allen Andrews, W. Waldo Wakefield. 1995. Age determination of shortspine thornyhead, *Sebastolobus alascanus*, using otolith sections and ^{210}Pb : ^{226}Ra ratios. NOAA Admin. Rep.
 55. **K. H. Rubin**, J.D. Macdougall and M.R. Perfit (1994) ^{210}Po - ^{210}Pb dating of recent volcanic eruptions on the sea floor, *Nature* **368**, 841-844.
 56. **Ken Rubin** and John Mahoney (1993) What's on the plume channel? *Nature (News and Views)* **362**, 109-110.
 57. **K. H. Rubin** and J.D. Macdougall (1992) Th-Sr isotopic relationships in MORB. *Earth Planet. Sci. Lett.* **114**, 149-157.
 58. **K. H. Rubin** (1991) Timing, extent and sources of marine volcanism through U-series disequilibrium, Ph.D. Thesis, University of California, San Diego, pp. 168.
 59. **K. H. Rubin** and J.D. Macdougall (1990) Dating of neovolcanic MORB using (^{226}Ra / ^{230}Th) disequilibrium, *Earth Planet. Sci. Lett.* **101**, 313-322.
 60. **K. H. Rubin** and J.D. Macdougall (1989) Submarine magma degassing and explosive magmatism at Macdonald (Tamarii) seamount, *Nature* **341**, 50-52.
 61. **K. H. Rubin**, G.E. Wheller, MO Tanzer, J.D. Macdougall, R. Varne and R.C. Finkel (1989) ^{238}U decay series systematics of young lavas from Batur volcano, Sunda Arc, *J. Volcan. Geother. Res.* **38**, 215-226.
 62. **K. H. Rubin** and J.D. Macdougall (1988) ^{226}Ra excesses in mid-ocean-ridge basalts and mantle melting, *Nature* **335**, 158-161.
 63. G.N. Schrauzer, E.O. Schlemper, N.N. Liu, Q.G. Wang, **K. Rubin**, X.M. Zhang, X.P. Long , C.S. Chin (1986) Studies Of Molybdenum Compounds .5. Diethyl(2,2'-Bipyridyl)Dioxomolybdenum(Vi) And Other Higher Dialkyl Derivatives Of Dioxomolybdenum(Vi) *Organometallics* **5**, 2452-2456. (*includes data from my undergraduate research*)
 64. Levitin, I. Ya, R. M. Bodnar, G. N. Schrauzer, N. H. Liu, **K. Rubin**, and M. Karbassi. (1985) Salts of Alkyl [2-[1-[(2-Aminoethyl) Imino] Ethyl] Phenolato](1, 2-Ethanediame) Cobalt (III) and Alkyl [2-[1-[(3-Aminopropyl) Imino] Ethyl] Phenolato](1, 3-Propanediamine) Cobalt (III). *Inorganic Syntheses*, **23**: 163-170. 1985, DOI: 10.1002/9780470132548.ch32 (Published Online: 5 JAN 2007; <http://onlinelibrary.wiley.com/doi/10.1002/9780470132548.ch32/summary>) (*includes data from my undergraduate research*)

Popular Books

KH Rubin (2007) Volcanoes and Earthquakes, Insiders Series, The Five Mile Press PTY, Ltd, Sydney Australia, pp64 (*this book is targeted to Middle Schoolers*)

M Allaby, R Coenraads, S Hutchinson, K McGhee, J O'Byrne, **K Rubin** (alphabetical), Encyclopedia of Earth; The University of California Press (2008). pp608 (*this book is targeted as "general reference"*)

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