Marie Edmonds

University Reader

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Earth Sciences, University of Cambridge,
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Date of birth: 14 September 1975
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Education

2002	PhD, Volcanology, Earth Sciences Department, University of Cambridge, UK Advisors: Prof David Pyle, Prof Clive Oppenheimer Thesis: *Sulfur and chlorine degassing at the Soufriere Hills Volcano, Montserrat*
1997	Bachelor of Arts, Geological Sciences, University of Cambridge, 1st class

Current Positions

2007 –	Reader, Earth Sciences Department, University of Cambridge, UK
2007 –	Fellow in Earth Sciences and trustee, Queens' College, Cambridge, UK

Previous Positions

2006 – 2007	Reader, School of Environmental Sciences, University of East Anglia, UK
2004 – 2006	Mendenhall Fellow, United States Geological Survey, USA
2002 – 2004	Volcanologist, British Geological Survey, UK

Fellowships and Awards

2019	Thermo-Fisher Scientific Volcanic & Magmatic Studies Group Award
2017	Wager Medal, International Association Volcanology and Chemistry Earth's Interior
2013	William Smith Fund, Geological Society of London
2004 – 2006	Mendenhall Fellowship, United States Geological Survey, USA
2004	NERC Fellowship
2004	Royal Society Dorothy Hodgkin Fellowship (declined)
2003	USGS Mendenhall Fellowship
1997	Mineralogical Society Prize for Mineralogy and Petrology, University of Cambridge
1996, 1997	Jesus College Scholarship Prizes

Service and External Positions

2019 – 2021	Member, NERC Advisory Network (NAN), Research Councils UK
2018 – 2022	Editor, Geochemistry, Geophysics, Geosystems, American Geophysical Union
2017 – 2021	External Examiner Geology Undergraduate Degree, Durham University
2017 – 2021	Chair, Panel A, Natural Environment Research Council, UK
2017 – 2019	Volcanology, Petrology Secretary of the American Geophysical Union
2017	Reviewer for National Academy of Sciences, *ERUPT* report
2016 –	2017 Member AGU VGP Section Awards Committee
2016 – 2018	Member NERC Training Advisory Board and DTP-2 Working Group
2014 – 2018	Chair NERC Ion Microprobe Facility steering committee, UK
2014 – 2019	Co-chair, Reservoirs and Fluxes Directorate, Deep Carbon Observatory
2016 – 2019	Chair Synthesis Group 2019, Deep Carbon Observatory
2015 – 2018	Secretary for Science, Geological Society of London
2013 – 2019	Elected member of DECADE, Deep Carbon Observatory
2013 – 2018	Elected Member of Council, Geological Society of London
2014 – 2016	Peer Review College, NERC
2007 –	Editorial Board, Journal Volcanological Geothermal Research
2012 – 2014	Member NERC Ion Probe Facility Steering Committee
2008 – 2012	Member Volcanic and Magmatic Studies Group Committee
2004 – 7	Member David Perlman AGU Award Committee for Journalism in Science
2002 – 4	Member Scientific Advisory Committee, UK Foreign Office

Recent Invited Talks and Seminars

2018	Seminars at Oxford, UCL, Rice University
2017	Fall AGU, invited talk "Sulfides and metal budgets of basaltic eruptions"
	IAVCEI meeting, Portland, USA, invited talk
	Seminar, Camborne School of Mines, UK, University of Leeds, UK
2016	Fall AGU, invited talk, "Exsolved vapor in magma reservoirs"
	Seminar, University of St Andrews, UK
	Plenary lecture, Subduction Zone Observatory, Iris Workshop, Idaho

Recent Research Grants

2018	A. P. Sloan Foundation, co-I (Lead, Liu), $215k, *UAVs in Volcanology*
2018	A. P. Sloan Foundation, $145k, *Chair, Synthesis Group 2019, Deep Carbon Observatory*
2016	A. P. Sloan Foundation, $99k, *Chair, Synthesis Group 2019, Deep Carbon Observatory*
2015	Isaac Newton Trust, £30k, w/PDRA *Remote sensing of volcanic eruptions*
	NERC ion probe facility award, PI, *Sulfur systematics, Holuhraun*
	NERC urgency grant, Co-I, £65k, *Source of the sulfur plume from Holuhraun*
2014	Synchotron facility award, co-I, *Redox state of melts and gases at Kilauea*
	NERC ion probe facility award, PI, *The 1730 Timanfaya eruption, Lanzarote*
	NERC ion probe facility award, co-I, *Timescales storage, mixing at Bardarbunga*
	NSF grant, Collaborator (PI B. Houghton), *Strombolian and Hawaiian explosions*
	NERC large grant, non-lead PI, £3.2M, *Rift Volcanism*, w/studentship, 5 years
	NERC, Co-I, COMET, £3M, 5-year programme, *Earth Observation,* w/studentship

Supervision of Graduate Students and Postdoctoral Researchers

PhD students

2018 –	*Nicholas Barber, Gates Scholarship, Cambridge*
2017 –	*Penny Weiser, NERC, Cambridge*
	Emily Mason, EPSRC, Cambridge
2016 –	*Julia Woitischek, NERC, Cambridge*
2015 –	*Fiona Iddon, NERC (Riftvolc), Cambridge*
2014 –	*Euan Mutch, NERC, Cambridge*
2013 –2018	Lois Salem, NERC, Cambridge
2012 –2016	Svetlana Sibik, Trinity Hall scholarship, Cambridge
2012 –2016	Elspeth Robertson, NERC NCEO Bristol
2010 –2014	David Neave, NERC, Cambridge, now PDRA, Universitat Hannover
2010 –2014	Melissa Plail, NERC, UEA, now Editor, Nature Communications
2009 –2013	Brendan McCormick, NERC Cambridge, now PDRA, University of Cambridge
2009 –2013	Catherine Hayer, NERC NCEO, Reading, now PDRA, University of Oxford
2009 –2013	Isobel Sides, NERC Cambridge – now Energy Consultant, Halliburton, Oxford.

Postdoctoral fellows

2016 –2017	Emma Liu, Deep Carbon Observatory, A. P. Sloan Foundation
2016 –2019	Brendan McCormick, NERC/BGS/Isaac Newton Trust
2011 –2013	Margaret Hartley, NERC, 1783 Laki eruption
2010 –2011	Jian Yang, Isaac Newton Trust, SO_2 plume chemistry in Ecuador

Teaching

Undergraduate

1st year:	Earth Sciences course: *Natural Hazards, Energy and Resources*
2nd year:	Petrology course convener, 14 lectures, *Petrology, Volcanology*
3rd year:	Petrology course, 3 lectures, *Volcanology, Ore deposits*
4th year:	Options courses, 5 lectures, *Volcanology; Large Igneous Provinces*
Queens':	120 hours supervisions (small group tutorials) per year
Field courses:	1-2 weeks undergraduate courses to Spain, Arran

Postgraduate

M. Sci: Supervision of 1-term research dissertations, 2-4 students per year

Organisation of Scientific Meetings

2017	Convener, "Factory Earth" Fermor Meeting, Geological Society of London
2017	Theo Murphy Royal Society Meeting "Magma reservoir architecture and dynamics"
2017	Scientific Organising Committee, IAVCEI for the 2017 Portland General Assembly
2009-2017	Convener or chair for various sessions: at Fall AGU, Goldschmidt, EMC

Institutional Positions

2017 –	Graduate Tutor, Queens' College
2017 –	University of Cambridge REF 2021 Advisory Group
2017 –	Deputy Senior Tutor, Queens' College
2016 –	Research Committee, Department of Earth Sciences
2012 –	Head of Field Safety, Department of Earth Sciences
2010 –	Section Head Electron Microprobe, Department of Earth Sciences
2009 –2015	Faculty Board and Degree Committee
2008 –	Statutes and Bursarial Committees, Queens' College

Membership of Scientific Bodies

2004 –	International Association of Volcanology and Chemistry of the Earth's Interior
2014 –	Geochemical Society
2004 –	American Geophysical Union
2014 –	Fellow, Geological Society of London

Recent Outreach and Training

2017	Christmas Lecture, Dartford Grammar School
2015	ERF-funded Volcanology summer school, Memovolc, Santorini
2015	Pint of Science Festival, Cambridge
2014	Lecture to Essex Rock and Mineral Society
2014	ERF-funded Volcanology Course in Iceland

Books, Editorships and Popular Articles

Guest Editor, *Catastrophic perturbations to Earth's Volatiles*, Elements Magazine, September 2019.

Fischer, R., A. Aiuppa, M. Edmonds (Guest editors), Carbon degassing from Volcanoes, 2017-2019. G-Cubed special section.

Edmonds, M., K. Cashman, M. Holness, M. Jackson (Guest Editors), 2019. Special issue of the Philosophical Transactions of the Royal Society A, Following the Hooke Royal Society Meeting *Magma reservoir architecture and dynamics*, December 2017.

Edmonds, M. and C. Manning, 2017. *The Deep Carbon Observatory: Synthesizing mountains of data*. Research Project update report, EOS, AGU Publications.

Guest Editor, *Sulfides*, Elements Magazine, April 2017.

G. Zellmer, M. Edmonds and S. Straub (Guest Editors), Geological Society Special Publication, 2014. *The Role of Volatiles in the Genesis, Evolution and Eruption of Arc Magmas*.

Co-authored two chapters in the Encyclopaedia of Volcanoes, Second Edition, 2014, *Hawaiian and Strombolian Eruptions*, with co-authors B. Houghton, S. Vergniolle, J. Taddeucci and M. James; and *Volatiles in Magmas* with co-authors P. Wallace, T. Plank and E. Hauri.

Publications, Peer-Reviewed Journals

Number of accepted publications 90, H-Index 32, Citations total 3179, PhD students/postdoctoral researchers.

94. **2019*, in review*.** Wieser, P. E., **M. Edmonds**, J. Maclennan, J. Wheeler. Distorted olivine crystals: an unexploited record of magma storage at Kilauea Volcano, Hawaii. Nature Communications.

93. **2019*, in review***. Wieser, P. E., Z. Vukmanovic, R. Kilian, E. Ringe, M. Holness, John Maclennan, **M. Edmonds**. To Sink, Swim, Twin or Nucleate: a critical appraisal of crystal aggregation processes. Geology.

92. **2019, *in press***. Taracsak Z., M.E. Hartley, R. Burgess, **M. Edmonds**, F. Iddon, M-A. Longpre. The origin and evolution of volatile-rich basanites from El Hierro (Canary Islands). Geochimica et Cosmochimica Acta.

91. **2019, *in review***. **Edmonds. M.**, B. Tutolo, K. Iacovino, Y. Moussallam. Magmatic carbon outgassing and uptake of CO_2 by alkaline waters. American Mineralogist.

90. **2019, *in press***. Werner, C., T. P. Fischer, A. Aiuppa, **M. Edmonds**, C. Cardellini, S. Carn, G. Chiodini, E. Cottrell, and M. Burton. Carbon Dioxide Emissions from Subaerial Volcanic Regions: Two decades in review. Whole Earth Carbon *eds* Beth Orcutt, Raj Dasgupta, Isabelle Daniel. Cambridge University Press.

89. **2019, *in press***. Mutch, E., J. Maclennan, **M. Edmonds**. Rapid trans-crustal magma movement under Icelandic volcanoes. Nature Geoscience.

88. **2019, *in review***. Suarez, C., **M. Edmonds**, A. Jones. Catastrophic perturbations to Earth's Deep Carbon Cycle. Elements.

87. **2019**. Barth, A., **M. Edmonds** and A. W. Woods. Valve-like dynamics of gas flow through a packed crystal mush and cyclic strombolian explosions. Scientific Reports 9, 1, p. 821. Citations 0.

86. **2018**. Iddon, F., C. Jackson, K. Fontijn, W. Hutchison, T. A. Mather, D. M. Pyle, G. Yirgu and **M. Edmonds**. Insights into peralkaline magma reservoirs based on trace element systematics in feldspars and in glasses. Geochemistry, Geophysics, Geosystems 20 doi.org/10.1029/2018GC007836. Citations 0.

85. **2019**, McCormick Kilbride, B., G. Wadge, **M. Edmonds**. Multi-year satellite observations of sulfur dioxide gas emissions and lava extrusion at Bagana volcano, Papua New Guinea. Frontiers in Earth Science 7, p. 9. Citations 0.

84. **2019**, **Edmonds, M.**, K.V. Cashman, M.B. Holness, M. Jackson. Architecture and dynamics of magma reservoirs. Philosophical Transactions Series A, v. 377, no. 2139, '*Architecture and dynamics of magma reservoirs*' Eds. M. Edmonds, K. V. Cashman, M. Holness, M. Jackson. Royal Society. Citations 2.

83. **2019**, White, R.S.W., **M. Edmonds**, J. Maclennan, T. Greenfield and T. Agustsdottir. Melt Movement Through the Icelandic Crust. Philosophical Transactions Series A, Special Issue '*Architecture and dynamics of magma reservoirs*' Eds. M. Edmonds, K. V. Cashman, M. Holness, M. Jackson. Royal Society. Citations 3.

82. **2018**, **Edmonds, M**., E. Liu, T. Mather. A distinct metal fingerprint in arc volcanic emissions. Nature Geoscience 11, 10, 790-794. Citations 0.

81. **2018**, **Edmonds, M**., A.W. Woods. Exsolved volatiles in magma reservoirs. Journal of Volcanology and Geothermal Research (Invited Review Article), v. 368, p. 13-30. Citations 2.

80. **2018**, Hamlyn, J., T.J. Wright, R.J. Walters, C. Pagli, E. Sansosti, F. Casu, S. Pepe, **M. Edmonds**, B. M. Kilbride, D. Keir, J. Neuberg, C. Oppenheimer. What causes subsidence following the 2011 eruption at Nabro (Eritrea)? Progress in Earth and Planetary Science 5, 1, 31. Citations 0.

79. **2018**, Liu, E., K. Wood, E. Mason, **M. Edmonds**, A. Aiuppa, G. Giudice, M. Bitetto, V. Francofonte, T. Richardson, S. Burrow, T. Pering, T. C. Wilkes, A. J. S. McGonigle, G. Velasquez. Dynamics of outgassing and plume transport revealed by proximal Unmanned Aerial System (UAS) measurements at Volcán Villarrica, Chile. Geochemistry, Geophysics, Geosystems 19 doi.org/10.1029/2018GC007692. Citations 0.

78. **2018**, Muller, C., J. Biggs, S. K. Ebmeier, P. Mothes, P. B. Palacios, P. Jarrin, **M. Edmonds**, M. Ruiz. Temporal Evolution of the Magmatic System at Tungurahua Volcano, Ecuador, detected by geodetic observations. J. Volcanological Geothermal Research, 368:63-72. Citations 0.

77. **2018**, Liu, E.J., K.V. Cashman, A.C. Rust, **M. Edmonds**. Insights into the dynamics of mafic magmatic-hydromagmatic eruptions from volatile degassing behaviour: The Hverfjall Fires, Iceland. Journal of Volcanological and Geothermal Research, 358, 228-240. Citations 0.

76. **2018**, Wadge G., B.M. Kilbride, **M. Edmonds**, R.W. Johnson Persistent growth of a young andesite lava cone: Bagana volcano, Papua New Guinea. Journal of Volcanology and Geothermal Research, 356, 304-15. Citations 0.

75. **2018**, Plail, M., **M. Edmonds**, A.W. Woods, J. Barclay, M. Humphreys, R.A. Herd, T. Christopher. Mafic enclaves record syn-eruptive basalt intrusion and mixing. Earth and Planetary Science Letters 484, 30–40. Citations 2.

74. **2017**, Hartley, M.E., O. Shorttle, J. Maclennan, Y. Moussallam, **M. Edmonds**. Olivine-hosted melt inclusions as an archive of redox heterogeneity in magmatic systems. Earth and Planetary Science Letters 479, 192-205. Citations 4.

73. Ilyinskaya, E., A. Schmidt, T. Mather, F. Pope, C. Witham, P. Baxter, Þ. Jóhannsson, S. Barsotti, M. Pfeffer, A. Singh, P. Sanderson, B. Bergsson, B. McCormick, A. Donovan, N. Peters, **M. Edmonds**, 2017. Understanding the environmental impacts of large fissure eruptions: Aerosol and gas emissions from the 2014–2015 Holuhraun eruption (Iceland). Earth and Planetary Science Letters 472, 309-322.

72. Mason, E., **M. Edmonds***, A.V.T Turchyn, July 2017. Remobilization of crustal carbon may dominate volcanic arc emissions. Science 357, 6348, 290-294.

71. Neave, D. A., M. E. Hartley, J. Maclennan, **M. Edmonds**, T. Thordarson, 2017. Volatile and light lithophile

elements in high-anorthite plagioclase-hosted melt inclusions from Iceland. Geochimica et Cosmochimica Acta 205, 100–118.

70. **Edmonds, M**. & P. Wallace, 2017. Exsolved fluids in magma reservoirs. Elements, 13, 1, 29-34.

69. **Edmonds, M**. & T. A. Mather, 2017. Volcanic sulfides and degassing. Elements, 13, 2, 105-10.68. Hughes, E., D. A. Neave, K. Dobson, **M. Edmonds**, 2017. How to fragment peralkaline rhyolites: Observations of pumice using combined 2D and 3D imaging. Journal of Volcanology and Geothermal Research 336, 179–191.

67. McCormick, M., **M. Edmonds***, J. Biggs, 2016. Volcano deformation and sulfur mass loading generated in tandem during explosive volcanic eruptions. Nature Communications, 7.

66. Moussallam, Y., **M. Edmonds**, N. Peters, E. Gennaro, I. Sides, B. Scaillet, C. Oppenheimer, 2016.The impact of volatile degassing on the oxidation state of basaltic magmas; a case study at Kilauea volcano. Earth and Planetary Science Letters 450, 317-25.

65. Hayer, C., G. Wadge, **M. Edmonds**, T. Christopher, 2016. Sensitivity of OMI SO_2 measurements to variable eruptive behaviour at Soufrière Hills Volcano, Montserrat. Journal of Volcanology and Geothermal Research 312, 1-10.

64. Robertson, E., J. Biggs, **M. Edmonds**, T. Fischer, G. Kianji, W. Koros, 2016. Diffuse degassing through continental rift volcanoes: a soil CO_2 survey at Longonot Volcano, Kenya. Journal of Volcanology and Geothermal Research, 327, 208-22.

63. **Edmonds, M**., M. Humphreys, E. H. Hauri and S. Kohn, 2016. Extensive, water-rich magma reservoir beneath southern Montserrat. Invited Research Article, Lithos 252, 216-33.

62. Hartley, M. E., D. J. Morgan, J. Maclennan, **M. Edmonds**, T. Thordarson, 2016. Tracking timescales of short-term precursors to large basaltic fissure eruptions through Fe-Mg diffusion in olivine. Earth and Planetary Science Letters 439, 58-70.

61. Rae, A., **M. Edmonds**, J. Maclennan, B. Houghton, 2016. Timescales of magma mixing prior to and during the 1959 Kilauea Iki eruption. Geology, 44, 6, 463-6.

60. Humphreys, M., **M. Edmonds**, M. Kloecking, 2016. The validity of plagioclase-melt geothermometry for decompression-driven magma crystallisation. American Mineralogist 101, 4, 769-79.

59. Houghton, B.F., J. Taddeucci, H.M. Gonnermann, M. Pistolesi, M.R. Patrick, D. Andronico, T.R. Orr, D.A. Swanson, **M. Edmonds** and R.J. Carey, 2016. Stronger or longer: Discriminating between Hawaiian and Strombolian eruption styles. Geology, doi 10.1130/G37423.1.

58. **Edmonds, M**., 2015. Flotation of magmatic minerals. Geology 43, 7, 655-656.

57. **Edmonds, M**., S. Michnovich, J. Grattan, 2015. Volcanic gases, silent killers. Advances in Volcanology, Observing the Volcano World: Volcano Crisis Communication, 2014. Editors C. Fearnley, W. McGuire, G. Jolly. Springer.

56. Hartley, M., D. Neave, J. Maclennan, **M. Edmonds**, 2015. Diffusive over-hydration of olivine-hosted melt inclusions. Earth and Planetary Science Letters 425, 168-178.

55. Cassidy, M., Watt, S.F.L., Talling, P.J. Palmer, M.R., **Edmonds M**., Wall-Palmer, D., Jutzeler, M., Coussens, M., Gernon, T., Taylor, R.N., Inglis, E., Hunt, J., Le Friant, A., Ishizuka, O., 2015. Rapid onset of mafic magmatism facilitated by volcanic edifice collapse. Geophysical Research Letters 42(12):4778-85.

54. Shorttle, O., Y. Moussallam, M. Hartley, J. Maclennan, **M. Edmonds**, B. Murton, 2015. The role of ocean island volcanism in the solid-Earth oxygen cycle. Earth and Planetary Science Letters 427:272-85.

53. Sibik, S., **M. Edmonds**, J. Maclennan, H. Svensen, 2015. Effect of mantle heterogeneity and crustal contamination on the volatile output of Siberian Traps magmas. J. Petrology. 56, 11, 2089–2116.

52. Christopher, T.E., Blundy, J., Cashman, K., Cole, P., **Edmonds, M**., Smith, P., Sparks R.S.J. and Stinton, A., 2015. Crustal-scale degassing due to magma system destabilisation and magma-gas decoupling at Soufrière Hills Volcano, Montserrat. Geochemistry, Geophysics, Geosystems, 16, 9, 2797-2811.

51. Humphreys, M., **M. Edmonds**, T. Christopher and V. Hards, 2015. *Comment* on: Magma storage region processes of the Soufrière Hills Volcano, Montserrat. Joseph D Devine and Malcolm Rutherford In: *The eruption of Soufriere Hills Montserrat from 2000 to 2010*. Eds G. Wadge, R. Robertson, B. Voight. Geological Society, London, Memoirs, 39.

50. **Edmonds, M**., 2015. Partitioning of light lithophile elements in basalts on Earth and application to Mars. Earth and Planetary Science Letters 411, 142-150.

49. Zellmer, G. F., **M. Edmonds**, S. M. Straub, 2015. Volatiles in subduction zone magmatism. In: The Role of Volatiles in the Genesis, Evolution and Eruption of Arc Magmas. Eds G. Zellmer, M. Edmonds, S. Straub. Geological Society of London Special Publication 410.

48. Cassidy, M., **M. Edmonds**, S. Watt, T. Christopher, 2015. Origin of basalts by hybridisation in andesite-dominated arcs. Journal of Petrology.

47. **Edmonds**, **M**., I. Sides, J. Maclennan, B. Houghton, D. Swanson, 2015. Insights into mixing, fractionation and degassing of primitive melts at Kīlauea Volcano, Hawai`i. In: Hawaiian volcanoes, from source to surface. Eds: M. Poland, R. Carey, D. Weiss. AGU Monograph Series, pp. 538.

46. Donovan, A., V. Tsanev, C. Oppenheimer, **M. Edmonds,** 2014. Reactive halogens (BrO and OClO) detected in the plume of Soufrière Hills Volcano during an eruption hiatus. G-Cubed, http://dx.doi.org/10.1002/2014GC005419.

45. Christopher, T., **M. Edmonds**, B. Taisne, H. Odbert, A. Costa, V. Hards, G. Wadge, 2014. Prolonged sulfur dioxide degassing at the Soufrière Hills Volcano, Montserrat, and implications for gas release from deep magma. In: The Role of Volatiles in the Genesis, Evolution and Eruption of Arc Magmas. Eds G. Zellmer and M. Edmonds. Geological Society of London Special Publication 410.

44. **Edmonds**, **M.**, Brett, A., M. Humphreys, A. Woods, R. A. Herd, 2014. Magnetite-bubble aggregates at mixing interfaces in andesite magma bodies. In: The Role of Volatiles in the Genesis, Evolution and Eruption of Arc Magmas. Eds G. Zellmer and M. Edmonds. Geological Society of London Special Publication 410, SP410-7.

43. Neave, D., J. Maclennan, M. Edmonds, T. Thordarson, 2014. Crystal storage and transfer in basaltic systems: The Skuggafjöll eruption, Iceland. Journal of Petrology 55, 12, 2311-46.

42. Hartley, M., J. Maclennan, **M. Edmonds**, T. Thordarson, 2014. Shrinkage bubbles affect melt inclusion volatile systematics: deep degassing from the AD 1783 Laki eruption, Iceland. Earth and Planetary Science Letters 393, 120-131.

41. Neave, D., J. Maclennan, **M. Edmonds**, T. Thordarson, 2014. Melt mixing causes negative correlation of trace element enrichment and CO_2 content prior to an Icelandic eruption. Earth and Planetary Science Letters 400, 272-283.

40. Plail, M., **M. Edmonds**, M. C. S. Humphreys, J. Barclay and R. A. Herd, 2014. Geochemical evidence for relict degassing pathways preserved in andesite. Earth and Planetary Science Letters 386, 21-33.

39. Sides, I., **M. Edmonds**, J. Maclennan, B. Houghton, D. Swanson, 2014. Eruption style at Kīlauea Volcano in Hawai`i linked to primary melt composition. Nature Geoscience, doi: 10.1038/NGEO2140.

38. Sides, I., **M. Edmonds**, J. Maclennan, B. Houghton, D. Swanson, 2014. Magma mixing and high fountaining during the 1959 Kīlauea Iki eruption, Hawai`i. Earth and Planetary Science Letters 400, 102-112.

37. McCormick, B., M. Herzog, J. Yang, **M. Edmonds**, T. A. Mather, S. A. Carn, S. Hidalgo, and B. Langmann, 2014. An integrated study of sulphur dioxide emissions from Tungurahua volcano, Ecuador. Journal of Geophysical Research Atmospheres 119, 7, 4264–4285.

36. Plail, M., J. Barclay, M. C. S. Humphreys, **M. Edmonds**, R. Herd & T. Christopher, 2014. Characterisation of mafic enclaves in the erupted products of Soufrière Hills Volcano, Montserrat 1995-2010. In: *The eruption of Soufriere Hills Montserrat from 2000 to 2010.* Eds G. Wadge, R. Robertson, B. Voight. Geological Society, London, Memoirs, 39, 341–358.

35. **Edmonds, M**., M. C. S. Humphreys, E. H. Hauri, R. A. Herd, G. Wadge, H. Rawson, R. Ledden, M. Plail, J. Barclay, A. Aiuppa, T. Christopher, G. Giudice, R. Guida, 2014. The role of pre-eruptive vapour in eruption style and longevity at Soufriere Hills Volcano. In: *The eruption of Soufriere Hills Montserrat from 2000 to 2010.* Eds G. Wadge, R. Robertson, B. Voight. Geological Society, London, Memoirs, 39, 289–313.

34. Yallup, C., **M. Edmonds**, A. V. Turchyn, 2013. Sulphur degassing due to contact metamorphism during flood basalt eruptions. Geochimica Cosmochimica Acta 120, 263-279.

33. **M. Edmonds**, I. R. Sides, D. Swanson, C. Werner, R. S. Martin, T. A. Mather, R. A. Herd, R. L. Jones, M. I. Mead, G. Sawyer, T. Roberts, A. J. Sutton, T. Elias, 2013. Magma storage, transport and degassing during the 2008-10 summit eruption at Kīlauea Volcano, Hawai`i. Geochimica Cosmochimica Acta 123, 284-301.

32. Parks, M. M., S. Caliro, G. Chiodini, D. M. Pyle, T. A. Mather, K. Berlo, **M. Edmonds**, J. Biggs, P. Nomikou, C. Raptakis, 2013. Magmatic degassing at Santorini volcano, Greece, identified from soil gas measurements during the 2011-2012 period of unrest. Earth and Planetary Science Letters 377-378, 180-190.

31. McCormick, B. T., **M. Edmonds**, T. A. Mather, R. Campion, C. S. L. Hayer, H. E. Thomas and S. A. Carn, 2013. Volcano monitoring applications of the Ozone Monitoring Instrument (OMI). Special Publication of the Geological Society of London, 380, 259-291.

30. Humphreys, M.C.S., **M. Edmonds**, J. Barclay, M. Plail, D. Parkes & T. Christopher, 2013. A new method to quantify the real supply of mafic components to a hybrid andesite. Contributions to Mineralogy and Petrology, 165, 1, 191-215.

29. McCormick, B. T., **M. Edmonds**, T. A. Mather, and S. A. Carn, 2012. First synoptic analysis of volcanic degassing in Papua New Guinea. Geochemistry, Geophysics, Geosystems, 13, Q03008, 21 PP, doi:10.1029/2011GC003945.

28. Mather, T. M., M.L.I. Witt, D.M. Pyle, B.M. Quayle, A. Aiuppa, E. Bagnato, R.S. Martin, K.W.W. Sims, **M.**

Edmonds, A.J. Sutton and E. Ilyinskaya, 2012. Halogens, mercury and other trace metal emissions from the ongoing 2008 summit eruption of Kīlauea volcano, Hawai`i. Geochimica Cosmochimica Acta 83, 292-323.28.

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