

MARIE EDMONDS

Earth Sciences,
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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 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, United Kingdom

Career Breaks

- 1 January 2010 – 1 July 2010 Maternity leave
1 October 2011 – 31 March 2012 Maternity leave

Fellowships and awards

- 2013 William Smith Fund, Geological Society of London Award
2004 – 2006 Mendenhall Fellowship, United States Geological Survey, USA
2004 NERC Fellowship (declined)
2004 Royal Society Dorothy Hodgkin Fellowship (declined)
2003 USGS Mendenhall Fellowship
1997 Mineralogical Society Prize for 1B Mineralogy and Petrology, U. Cambridge
1996, 1997 Jesus College Scholarship Prizes

Recent invited talks/seminars, conferences

- 2017 Seminar, Camborne School of Mines, UK
 Seminar, School of Geosciences, University of Leeds, UK
- 2016 Invited talk at Fall American Geophysical Union Meeting
 Seminar, University of St Andrews, UK
 Plenary lecture "Volcanoes", Subduction Zone Observatory, Iris Workshop, Idaho
- 2015 Invited talk, "Modelling ground deformation and volcanic gas emissions", Fall AGU

Invited talk “Andesite magmas ascend rapidly from the mid crust at Soufriere Hills Volcano, West Indies”, Goldschmidt Meeting, Prague
Seminar, University of Bristol, UK
Keynote, Volcanic and Magmatic Studies Group (VMSG) Annual Conference

Research grants

- 2016 Sloan Foundation, £70k, *Chair 2019 Synthesis Group, 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 Synchrotron 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
- 2014 Sloan Foundation Deep Carbon Observatory grant, PI, £20k, *Novel gas sensors*
NERC ion probe facility award, co-I, *Boron isotopes in Reykjanes Ridge glasses*
- 2013 Synchrotron facility award, co-I, *Redox state of Reykjanes Ridge glasses*
NERC ion probe facility award, PI, *Magma mixing as a trigger for eruptions*
NERC ion probe facility award, PI, *Volatiles in melt inclusions from Siberian Traps*
- 2011 Isaac Newton Trust, PI, £16k, *Validation of OMI SO₂ measurements*
NERC ion probe facility award, *Water in volcanic pyroxenes*
NERC standard grant, Co-I, £240k, *Volatile budget Laki Eruption*, with postdoc
NERC grant, PI, £65k, *H⁺ in pyroxenes to quantify magma degassing*
- 2010 NERC ion probe facility award, *Volatiles in Soufriere Hills melt inclusions*
NERC grant, PI, £75k, *Carbon output of the Siberian Traps, Russia*
- 2009 Royal Society grant, PI, £15k, *to install CO₂ gas sensors in Montserrat*
- 2008 NERC grant, PI, £50k, *The 2008 summit eruption of Kilauea Volcano*
NERC National Centre Earth Observation, Co-I, Geohazards, 5 year programme

Supervision of graduate students and postdoctoral fellows

PhD students

- 2017 – Penny Weiser, NERC, Cambridge
Alex Gutai, NERC, Cambridge
- 2016 – Julia Woitischek, NERC, Cambridge
- 2015 – Fiona Iddon, NERC (Riftvolc), Cambridge
- 2014 – Euan Mutch, NERC, Cambridge
- 2013 – 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, Sloan Foundation

- 2016 –2018 Brendan McCormick, NERC/BGS/Isaac Newton Trust
 2011 –2013 Margaret Hartley, NERC, 1783 Laki eruption
 2010 –2011 Jian Yang, Isaac Newton Trust, SO₂ plume chemistry in Ecuador

Teaching activities

Undergraduate

- 1st year: Earth Sciences course: *Natural Hazards, Energy and Resources*
 2nd year: Convener Petrology 56 lecture course, give 9 lectures, *Petrology, Volcanology*
 3rd year: Petrology course, 5 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: Leader, 4th year field trip to southern Spain

Postgraduate

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

Organisation of scientific meetings

- 2017 Hooke Royal Society Meeting “Magma reservoir architecture and dynamics”
 2017 Scientific Organising Committee, IAVCEI for the 2017 Portland General Assembly
 2009-2017 Convener and chair for multiple sessions: at Fall AGU, Goldschmidt, EMC, Rimini
 2009 Convenor, Volcanic and Magmatic Studies Group annual meeting, Cambridge

Institutional responsibilities

- 2017 – Graduate 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, Bursarial Committees, Queens' College

Commissions of trust

- 2017 – 2021 Chair, Panel A, Natural Environment Research Council (NERC), UK
 2017 – 2019 Volcanology, Petrology Secretary of the American Geophysical Union
 2017 Reviewer for National Academy of Sciences, *ERUPT* report
 2016 – 2017 Member VGP Section Awards Committee
 2016 – 2017 Expert Councillor, Horizon 2020 *HiTech AlkCarb*
 2016 – 2019 Member NERC Training Advisory Board and DTP-2 Working Group
 2014 – 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 – Elected member of DECADE, Deep Carbon Observatory
 2013 – Elected Member of Council, Geological Society of London
 2014 – 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

Membership of scientific societies

- 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
- 2011 – 2014 European Research Foundation Volcanology Training Network “*Memovolc*”

Outreach activities

- 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
- 2013 Lecture to the Leicestershire Geological Society
- 2012 Lecture to Geological Society of Cambridgeshire
- 2011 Lecture on volcanic ash to Royal Bank of Scotland CEOs, Queens' College
- 2011 Public lecture on the climate impacts of volcanism, Cambridge Rotary Club
- 2011 Radio interview on volcanology, Radio Montserrat
- 2010 Shell Public lecture, Geological Society of London
- 2009 Radio interview “Naked Scientists” BBC Cambridgeshire
- 2006 Media Advisor for US Geological Survey, eruption Augustine Volcano, USA

Books, editorships and popular articles

Edmonds, M., K. Cashman, M. Holness, M. Jackson, 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.

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

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

Publications, peer-reviewed journals (research students underlined)

Number of accepted publications 72, H-Index 26, Citations total 2131.

2017

75. 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**, *in press 2017*. Aerosol and gas emissions from Holuhraun eruption 2014-2015: size-resolved chemistry at source and in exposed communities. Earth and Planetary Science Letters.

74. Mason, E., **M. Edmonds***, A.V.T Turchyn, *in review 2017*. Heavy crustal carbon remobilized by arc volcanoes and implications for Earth's past. Science.

73. **Edmonds, M.**, E. Liu, T. Mather, *in review 2017*. Remarkable metal fingerprints in volcanic plumes elucidate metal pathways in magmas. Nature Geoscience.

72. Iddon, F., **M. Edmonds**, Charlotte Jackson, Will Hutchison, Tamsin Mather, David Pyle, Karen Fontijn, *in prep.* 2017. Mush architecture beneath a peralkaline volcano, Main Ethiopian Rift. *Journal of Petrology*.

71. Neave, D. A., M. E. Hartley, J. Maclennan, **M. Edmonds**, T. Thordarson, *in press*. Volatile and light lithophile elements in high-anorthite plagioclase-hosted melt inclusions from Iceland. *Geochimica et Cosmochimica Acta*.

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*.

2016

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 SO₂ 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 CO₂ 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.

2015

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 Kilauea Volcano, Hawai'i. In: *Hawaiian volcanoes, from source to surface*. Eds: M. Poland, R. Carey, D. Weiss. AGU Monograph Series, pp. 538.

2014

46. Donovan, A., V. Tsanev, C. Oppenheimer, **M. Edmonds**, 2014. Reactive halogens (BrO and OCIO) 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 CO₂ 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.

2013

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.

2012

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.

27. Neave, D., R. A. Herd, G. Fabbro, C. Petrone and **M. Edmonds**, 2012. Melting, differentiation and degassing at Pantelleria Volcano. *Journal of Petrology*, 53, 3, 637-663, doi:10.1093/petrology/egr074.

2011

26. Wallace, P.J., **M. Edmonds**, 2011. The Sulfur Budget in Magmas: Evidence from Melt Inclusions, Submarine Glasses, and Volcanic Gas Emissions. *Reviews in Mineralogy and Geochemistry*, 73, 1, 215-246, DOI: 10.2138/rmg.2011.73.8.

25. Johnston, F.K.B., A.V. Turchyn, **M. Edmonds**, 2011. Decarbonation Efficiency in Subduction Zones: Implications for the Closure of the Tethys and warm Cretaceous climates. *Earth Planetary Science Letters* 303, 143–152.

2010

24. **Edmonds, M.**, A. Aiuppa, M. Humphreys, R. Moretti, G. Giudice, R. S. Martin, R. A. Herd, and T. Christopher, 2010. Excess volatiles supplied by mingling of mafic magma at an andesite arc volcano. *Geochem. Geophys. Geosyst.*, doi:10.1029/2009GC002781.

23. Humphreys, M. C. S., **Edmonds, M.**, Christopher, T., Hards, V., 2010. Magma hybridisation and diffusive exchange recorded in heterogeneous glasses from Soufrière Hills Volcano, Montserrat. *Geophys. Res. Lett.*, 37, doi:10.1029/2009GL041926.

22. Christopher, T., **M. Edmonds**, M. C. S. Humphreys, and R. A. Herd, 2010. Volcanic gas emissions from Soufrière Hills Volcano, Montserrat 1995–2009, with implications for mafic magma supply and degassing. *Geophys. Res. Lett.*, 37, , doi:10.1029/2009GL041325.

2009

21. Humphreys, M.C.S., **M. Edmonds**, T. Christopher, V. Hards, 2009. Chlorine variations in the magma of Soufriere Hills Volcano, Montserrat: Insights from Cl in hornblende and melt inclusions. *Geochimica et Cosmochimica Acta* 73, 19, 5693-5708.

2008

20. **Edmonds, M.**, T. M. Gerlach and R. A. Herd, 2008, Halogen degassing from water-poor basaltic magma. *Chemical Geology*, doi:10.1016/j.chemgeo.2008.09.022.
19. **Edmonds, M.**, 2008. New Geochemical Insights into Volcanic Degassing. *Philosophical Transactions of the Royal Society Series A*, 366, 4559-4579, doi: 10.1098/rsta.2008.0185.
18. **Edmonds, M.**, K. A. McGee and M. Doukas, 2008, Chlorine degassing during the lava dome-building eruption of Mount St Helens, USA, 2004-2005. In: Sherrod, D. S. and Scott, W. E., *A Volcano Rekindled: the first year of renewed eruption at Mount St Helens, 2004-2006*, US Geological Survey Professional Paper 1750.
17. Rodriguez, L. A. and Watson, I. M., **Edmonds, M.** and Ryan, G. and Hards, V. L. and Oppenheimer, C. M. M. and Bluth, G. J. S., 2008. SO₂ loss rates in the plume emitted by Soufrière Hills volcano, Montserrat. *Journal of Volcanology and Geothermal Research*, 173 (1-2). pp. 135-147.
- 2007**
16. **Edmonds, M.** and R.A. Herd, 2007. A volcanic degassing event at the explosive-effusive transition. *Geophysical Research Letters*, 34, L21310, doi:10.1029/2007GL031379.
15. **Edmonds, M.** and T. M. Gerlach, 2007. Vapor segregation and loss in basaltic melts. *Geology* 35, 8, 751-754.
- 2006**
14. **Edmonds, M.** and T. M. Gerlach, 2006. The airborne lava-seawater interaction plume at Kilauea Volcano, Hawai'i. *Earth and Planetary Science Letters*, 244, 83-96. [Featured in *Nature News and Views*, 440, 620, 30 March 2006 doi:10.1038/440620a], doi: 10.1016/j.epsl.2006.02.005.
13. **Edmonds, M.**, R. A. Herd and M. Strutt, 2006. Tephra deposits associated with a large lava dome collapse, Soufriere Hills Volcano, Montserrat, 12-15 July 2003. *Journal of Volcanology and Geothermal Research*, 153, 313-330, doi: 10.1016/j.jvolgeores.2005.12.008.
- 2005**
12. **Edmonds, M.** and R. A. Herd, 2005. An inland-directed base surge generated by the explosive interaction of pyroclastic flows and seawater at Soufrière Hills volcano, Montserrat. *Geology*, 33, 4, 245-248, doi: 10.1130/G21166.1.
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