

CURRICULUM VITAE

(~2014)

Bruce D. Marsh

Born: January 4, 1947, Munising, Michigan

Married: J.A. Marsh (m.1/24/70); children: Hannah (6/27/82), William (2/13/84)

Education:

Michigan State University, B.S. (1969)

University of Arizona, M.S. (1971)

University of California, Berkeley, Ph.D. (1974)

Positions:

Geophysicist/Geologist, The Anaconda Company (1969-1971)

Assistant Professor, The Johns Hopkins University (1974)

Associate Professor, The Johns Hopkins University (1978)

Professor, The Johns Hopkins University (1981-)

Chairman, The Johns Hopkins University (1989-1992)

Visiting Professor, California Institute of Technology (winter 1985)

Visiting Professor, University of Maine (1992-1993)

Editorial Boards:

Journal of Petrology (1986-)

Journal of Volcanology and Geothermal Research (1979-1985; Chief 1985-2007)

Physics of the Earth and Planetary Interiors (1992 - 2002)

Geology, Geological Society of America (1980-83)

Bulletin Geological Society of America (1986-91)

Journal of Geophysical Research (1987-90)

Memberships:

Geological Society of America (Fellow)

Royal Astronomical Society (Fellow)

American Geophysical Union (Fellow)

Mineralogical Society of America (Fellow)

Awards and Honors:

Bowen Award (1993), American Geophysical Union

Hallimond Lecture (1995), Mineralogical Society of Great Britain & Ireland

Daly Lecture (2000), American Geophysical Union

President's Lecture (2003), Florida International University

Marsh Cirque (2005) in the Olympus Range of Antarctica named in honor of research
Noel Potter Distinguished Lecturer (2006), Dickinson College
da Vinci Lecture, Southern Methodist University, 2007
Mineralogical Society of America, Distinguished Lecturer 2008/09

Elected Positions:

Gordon Conference Co-Chairman (1983): Quantification of Petrologic Processes
American Geophysical Union; Volcanology, Geochemistry, and Petrology (VGP): Section
Secretary and Program Manager (1984-86); President Elect (1988-90), President (1990-92).

Advisory Positions:

American Geophysical Union

Editor Search Committee (1990-92; Chair)
Macelwane Medal Committee (1992-94)
Nominations Committee (1992-94)
Audit and Legal Affairs Committee (1988-92; Chair 1990-1992)
Book Board, Chair (1996-1998)
Publication Committee (1996-2000, Chair 1998-2000)

NASA

Planetary Geology (1980-83)
Solid Earth Geophysics Working Group of Earth System Science Committee (1984-85)

National Science Foundation

Graduate Fellowship Panel (1979-83, Chair, 1983)
Review and Advisory Panel (March 1984)
Review Panel (1985-88; 2000-01)
Ocean Drilling Program, Tectonics Panel (1984-87)

National Research Council

Steering Committee on Physics and Chemistry of Earth Materials (1985-88)
U.S. National Committee for the International Geological Correlation Program
(Chair, 1987-90)
U.S. Delegate to International Geological Congress (1989)
Oversight Committee for Joint U.S.-U.S.S.R. Research in the Evolution of Geological
Processes in the History of the Earth (1987-)
Associateship Program (1988-91)
Site Visiting Committee, Johnson Space Center (1990)
Solid Earth Sciences Panel on Physics and Chemistry Earth Materials (1988-89)

Geological Society of America

Day Medal Committee (1989-91)

Mineralogical Society of America

MSA Award Committee (1991)
Management Committee (1992-94)
Nominating Committee (1999-2002, 2014)
Roebing Medal Committee (1993--96)
Fellows Committee (1997-1999)

Advisory & Review Boards

Stanford University (1991-1993)
Rice University Visiting Committee (Chair, 1991--)
Princeton University Advisory Council (1993-)
American Museum of Natural History (Idea Person for Hall to Planet Earth, 1998-2000)
Smithsonian Institution Review and Advisory Panels (1999, 2003)
Columbia University (2003)
Earth, Fire, Wind, Water, and Life. German-U.S., Symp. 2004 (co-American Organizer)
Nuclear Regulatory Commission (2005-2008)
McMurdo Area Users Committee (2006- 2010)
PreCambrian Research Center, University of Minnesota, Duluth, Minnesota (2007-2011)

Publications - Papers

(Plus approx. 250 abstracts, 175 invited lectures, and 45 news interviews & articles)

- Handverger, P.A. and B.D. Marsh. 1971. Recon. Geology of Isla Mejia, Gulf of California, Mexico. Part I - Geology, Ariz. Geol. Soc. Digest, vol. IX, 171-179.
- Marsh, B.D. 1971. Recon. Geology of Isla Mejia, Gulf of California, Mexico. Part II - Magnetic Survey, Ariz. Geol. Soc. Digest, vol. IX, 181-187.
- Marsh, W.M., B.D. Marsh and J. Dozier. 1973. Formation, Structure and Geomorphic Influence of Lake Superior Icefoots. Amer. Jour. Sci., vol. 273, 48-64.
- Marsh, B.D. and Dirks, Moses, 1973. Atxax matal txin agunaa (in Aleut), State of Alaska., 10 p.
- Marsh, B.D. and I.S.E. Carmichael. 1974. Benioff Zone Magmatism. Jour. Geophys. Research, vol. 79, no. 8, 1196-1206.
- Marsh, B.D. 1975. Plume Spacing and Source. Nature, vol. 256, no. 5514, p. 240.
- Marsh, B.D. 1976. Some Aleutian andesites: their nature and source. Jour. of Geology, vol. 84, p. 27-45.
- Marsh, B.D., J. Dozier and W.M. Marsh. 1976. Ice Cusp Formation on Lake Superior Icefoots. Rev. Geogr. Montr., vol. XXX, nos. 1-2, p. 161-169.

- Marsh, B.D. 1976. Mechanics of Benioff Zone Magmatism. Amer. Geophys. Union Monograph, no. 19, p. 237-250.
- Marsh, B.D. and J.G. Marsh. 1976. On global gravity anomalies and two-scale mantle convection. Jour. Geophys. Research, vol. 81, p. 5267-5280.
- Marsh, B.D. 1978. On the cooling of ascending andesitic magma. Phil. Trans. Royal Soc. London, vol. 288 A, p. 611-626.
- Marsh, B.D. and L.H. Kantha. 1978. On the heat and mass transfer from an ascending magma. Earth Planet. Sci. Letters, vol. 39, p. 435-443.
- Marsh, B.D. and J.G. Marsh. 1978. Reply (Gravity of the Pacific). Jour. Geophys. Research, vol. 83, no. B7, p. 3555-3558.
- Elsasser, W.M., P. Olson and B.D. Marsh. 1979. The depth of mantle convection. Jour. Geophys. Research, 84, p. 147-154.
- Marsh, B.D. 1979. Island Arc Volcanism. Amer. Scientist, vol. 67, p. 161-172.
- Marsh, B.D. 1979. Island Arc Development: Some Observations, Experiments and Speculations. Jour. Geology, vol. 87, p. 687-713.
- Marsh, B.D. and R. E. Leitz. 1979. Geology of Amak Island, Aleutian Islands, Alaska. Jour. Geology, vol. 87, p. 715-723
- Marsh, J.G., B.D. Marsh, T.D. Conrad, W.T. Wells, and R.G. Williamson. 1979. Gravity Anomalies Near the East Pacific Rise with Wavelengths Shorter than 3300 km Recovered from GEOS-3/ATS-6 Satellite-to-Satellite Tracking Data. In The Use of Artificial Satellites for Geodesy and Geodynamics. Vol. II, G. Veis and E. Livieratos (eds.) Athens, Greece, p. 296-342.
- Marsh, J.G., B.D. Marsh, R.G. Williamson, and W.T. Wells. 1980. The Gravity Field in the Central Pacific from Satellite-to-Satellite Tracking. Jour. Geophys. Res., vol. 86, p. 3979-3997.
- Marsh, B.D. 1980. Howel Williams, 1898-1980. Volcano News, no. 5, p. 6.
- Marsh, B.D. 1981. On the crystallinity, probability of occurrence, and rheology of lava and magma. Contrib. Min. Pet., vol. 78, p. 85-98.
- Myers, J.D. and B.D. Marsh. 1981. Geology and Petrogenesis of the Edgecumbe Volcanic Field, SE Alaska: The Interaction of Basalt and Sialic Crust. Contrib. Min. Pet., vol. 77, p. 272-287.

- Marsh, B.D. 1981. "Flinn's Feature Fuels Forum." EOS. Transaction American Geophysical Union, vol. 62, no.29.
- Marsh, B.D. 1981. Physics of magmatic processes (book review). Amer. Sci., vol. 69, p. 970.
- Marsh, B.D. and S. Morris. 1981. Comment on "rise of deep diapirs." Geology, Dec., p. 559-561.
- Regan, R.D. and B.D. Marsh. 1981. The Bangui magnetic anomaly: its geologic origin. Jour. Geophys. Res., vol. 87, no. B2, p. 1107-1120.
- Marsh, B.D. 1982. The Aleutians. In Andesites: Orogenic Andesites and Related Rocks. R. Thorpe (ed.), John Willey and Sons, p. 99-114.
- Marsh, B.D. 1982. On the Mechanics of Igneous Diapirism, Stoping, and Zone Melting. Amer. Jour. Science, vol. 282, p. 808-855.
- Marsh, B.D. 1982. Physics of magmatic processes (book review). The Journal of Geology, vol. 90, no. 3, p. 345.
- Hsui, A.T., B.D. Marsh, and M.N. Toksoz. 1983. On melting of the subducted oceanic crust: effects of subduction induced mantle flow. Tectonophysics, vol. 99, p. 207-220.
- Marsh, B.D. 1984. Mechanics and Energetics of Magma Formation and Ascension. In Explosive Volcanism, Inception, Evolution, and Hazards. J. Boyd (ed.), Nat. Acad. Press, p. 67-83.
- Marsh, B.D., J.G. Marsh, and R.G. Williamson, 1984. On gravity from SST, geoid from SEASAT, and plate age and fracture zones in the Pacific. Jour. of Geophysical Res., vol. 89, p. 6070-6078.
- Marsh, B.D. 1984. On the mechanics of caldera resurgence. Jour. Geophys. Res., vol. 89, p. 8245-8251.
- Marsh, B.D. 1984. Arc Volcanism: physics and tectonics (book review). American Scientist, vol. 72, p. 511.
- Marsh, B.D. 1984. Reply to comment: On the mechanics of igneous diapirism, stoping, and zone melting. Amer. Jour. Sci., vol. 284, p. 981-984.
- Marsh, B.D. and M.R. Maxey. 1985. On the distribution and separation of crystals in convecting magma. Jour. Vol. Geothermal Res., vol. 24, p. 95-150.
- Myers, J.D., B.D. Marsh and A.K. Sinha. 1985. Strontium isotopic and selected trace element variations between two Aleutian volcanic centers (Adak and Atka): Implications for the development of arc volcanic plumbing systems. Contrib. Min. Pet., vol. 91, p. 221-234.

- Marsh, B.D. 1986. Magmatism at a Plate Edge: The Peruvian Andes (book review). *Amer. Jour. Sci.*, vol. 286, 5, p. 431-432.
- Marsh, B.D. 1986. Principles of Igneous Petrology (book review). *Amer. Jour. Sci.*, vol. 286, 7, p. 590-591.
- Brophy, J.G., and B.D. Marsh. 1986. On the origin of high-alumina basalts and the mechanics of melt extraction. *Jour. Petrology*, vol. 27, 4, p. 763-789.
- Myers, J.D., B.D. Marsh and A.K. Sinha. 1986. Geochemical and strontium isotopic characteristic of parental Aleutian Arc magmas: evidence from the basaltic lavas of Atka. *Contrib. Min. Pet.*, vol. 94, p. 1-11.
- Von Drach, V., B.D. Marsh, and G.J. Wasserburg. 1986. Nd and Sr isotopes in the Aleutians: multicomponent parenthood of island-arc magmas. *Contrib. Min. Pet.*, vol. 92, p. 13-34.
- Myers, J.D. and B.D. Marsh. 1987. Aleutian lead isotopic data: Additional evidence for the evolution of lithospheric plumbing systems. *Geochim. Cosmochim. Acta*, vol. 51, p. 1833-1842.
- Marsh, B.D. 1987. Petrology and evolution of the N.E. Pacific including the Aleutians. *Pacific Rim Congress 87*, p. 309-315.
- Marsh, B.D. 1987. Magmatic Processes. *Reviews of Geophysics*, vol. 25, 5, p. 1043-1053.
- Marsh, W.M. and B.D. Marsh. 1987. Wind erosion and sand dune formation on high Lake Superior bluffs. *Geografiska Annaler*, vol. 69, Ser. A., p. 379-391.
- Marsh, B.D. 1988. Causes of magmatic diversity. *Nature*, vol. 333, p. 397.
- Marsh, B.D. 1988. Origins of Igneous Layering (book review): *EOS, Trans. Amer. Geophys. Union*, vol. 69, no. 37, Sept. 13, 1988.
- Marsh, B.D. 1988. Crystal size distribution (CSD) in rocks and the kinetics and dynamics of crystallization I. Theory. *Contrib. Min. Pet.*, vol. 99, p. 277-291.
- Cashman, K.V. and B.D. Marsh. 1988. Crystal size distribution (CSD) in rocks and the kinetics and dynamics of crystallization II: Makaopuhi lava lake. *Contrib. Min. Pet.*, vol. 99, p. 292-305.
- Marsh, B.D. 1988. Crystal capture, sorting, and retention in convecting magma. *Geological Society of Amer. Bulletin*, vol. 100, p. 1720-1737.
- Marsh, B.D. 1989. Magma Physics, in James, D. (ed.), *Encycl. of Solid Earth Geophysics*, Van Nostrand and Reinhold Co., p. 676-688.

- Marsh, B.D. 1989. Magma Chambers. *Ann. Rev. Earth Planet. Sciences*, vol 17, p. 439-474.
- Brandeis, G. and B. D. Marsh. 1989. The convective liquidus in a solidifying magma chamber: a fluid dynamic investigation. *Nature*, vol. 339, p. 613-616.
- Marsh, B.D. 1989. On convective style and vigor in sheet-like magma chambers. *Jour. Petrology*, v. 30, part 3, pp. 479-530.
- Tsvetkov, A.A. and B. D. Marsh. 1990. Island arc volcanism: tectonic position, conditions of manifestation and compositional variations. (in Russian), *Isvestiya AN SSSR, Seiya Geologicheskaya*, no. 2, p. 3-15.
- Marsh, B.D., J. Fournelle, J.D. Myers, I-Ming Chou. 1990. On plagioclase thermometry in island-arc rocks: experiments and theory. *Geochemical Soc. Amer. Spec. Pub.* 2, p. 65-83.
- Marsh, B.D. 1990. Igneous processes in sills. *Proceedings of Pacific Rim 90 Congress*, v. II, p. 83-91.
- Marsh, B.D. 1990. Reply to comments on Crystal capture, sorting, and retention in convecting magma. *Geological Soc. America Bulletin*, v. 102, no. 6, p. 849-850.
- Brandeis, G. and B. D. Marsh. 1990. Transient magmatic convection prolonged by solidification. *Geophysical Res. Letters*, v. 17, no. 8, p. 1125-1128.
- Marsh, B.D. 1990. Amak, Aleutian Islands, Alaska; Atka, Central Aleutian Islands; Buldir, Western Aleutian Islands; Gareloi, Western Aleutian Islands; Moffett and Adagdak, Central Aleutian Islands; and Tanaga, Central Aleutian Islands. *In* *Volcanoes of North America United States and Canada*, Wood, C.A. and Kienle, J. (eds), Cambridge University Press, 354 pp.
- Fournelle, J. and B. Marsh. 1991. Shishaldin Volcano: Aleutian high-alumina basalts and the question of plagioclase accumulation. *Geology*, v. 19, p. 234-237.
- Marsh, B.D., 1991. Citation: McBirney Honored with Bowen Award. *EOS, Transactions*, v. 72, no. 14, p. 161.
- Marsh, B.D., B. Gunnarsson, R. Congdon and R. Carmody. 1991. Hawaiian basalt and Icelandic rhyolite: Indicators of fundamental igneous processes. *Geologische Rundschau*, v. 80, p. 481-510.
- Marsh, B.D. 1991. Reply to comments "On Convective style and vigor in sheet-like magma chambers". *Jour. Petrology*, v. 32, no. 4, p. 855-860.
- Marsh, B.D. 1992. Magmatic processes in sills. *In* *Encyclopedia of Earth Sciences*, Academic Press, Inc., vol. 3, p. 19-30.

- Marsh, B.D. and R. G. Resmini. 1992. Longevity of magma in the near subsurface: A study using crystal sizes in lavas. In: Proceedings of the Third International Conference on High Level Radioactive Waste Management, v. 2, p. 2025-2032.
- Mangan, M. and B. D. Marsh. 1992. Solidification front fractionation in phenocryst-free sheet-like magma bodies. *J. Geology*, v. 100, p. 605-620.
- Marsh, B.D., 1992. Enclaves and Granite Petrology: (book review); *Lithos*, v. 29, p. 158-159.
- Murphy, M. T. and B. D. Marsh. 1993. Textures and magmatic evolution of intermediate-composition dome complexes: Evidence from the northern Tatoosh Complex, southern Washington Cascades. *J. Volcan. Geotherm. Res.*, v. 54, p. 197-220.
- Hort, M., B.D. Marsh and T. Spohn, 1993. Igneous layering through oscillatory nucleation and crystal settling in well-mixed magmas. *Contrib. Mineral. Petrol.*, v. 114, p. 425-440..
- Mangan, M.T., B.D. Marsh, A.J. Froelich, and D. Gottfried, 1993. Emplacement and differentiation of the York Haven diabase sheet, Pennsylvania. *J. Petrology*, v. 34, p. 1271-1302.
- Marsh, B. D., 1993. Memorial to Walter M. Elsasser 1904-1991, *Geological Society of America Memorials*, v. 24, pp. 181-186.
- Wheelock, M.M. and B.D. Marsh, 1993. Bimodal differentiation: Silicic segregations in the Ferrar Dolerites, *Antarctic Journal of the United States*, v. 28., no. 5, 19-21.
- Marsh B. D. and Wheelock M. M., 1994. The vertical variation of composition in the Peneplain sill and Basement sills of the Dry Valleys: The Null Hypthesis, *Antarctic Journal of the United States* , v. 29, no. 5, pp. 25-26.
- Fournelle, J.H., B.D. Marsh and J.D. Myers, 1994. Age, character, and significance of Aleutian arc volcanism. In *The Geology of Alaska*, Plafker, G and Berg, H.C. (eds), Boulder, Colorado, The Geological Society of America, *The Geology of North America*, v. G-1.
- Resmini, R.G. and B.D. Marsh, 1995. Crystal Size Distributions (CSDs) of plagioclase in the mafic lavas at Dome Mountain, Nevada: Implications for steady-state volcanism, paleoeffusion rates and an estimation of magmatic system volume, *Jour. Volcan. Geotherm. Res.*,v. 68, 273-296.
- Heyn, J., Marsh, B.D., and Wheelock, M.M., 1995. Crystal size and cooling time in the Peneplain sill, Dry Valley Region. *Antarctic Journal of the United States*, v. 30, 50-51.
- Marsh, B.D., 1996. Solidification fronts and magmatic evolution. *Mineralogical Magazine*, v. 60, 5-40.

- Marsh, B.D. and J. R. Philipp, 1996. 3-D Magmatic Filling of Basement Sill Revealed by Unusual Crystal Concentrations. *Antarctic Journal of the United States*.
- Marsh, B.D., 1998. On the interpretation of Crystal Size Distributions in Magmatic Systems. *J. Petrol.*, v. 39, 553-599.
- Gunnarsson, B., B. D. Marsh, and H.P. Taylor, Jr. 1998. Geology and petrology of postglacial silicic lavas from the SW part of the Torfajökull central volcano, Iceland. *J. Volcanology and Geotherm. Res.* 83, 1-45.
- Hort, M., B.D. Marsh, R.G. Resmini and M.K. Smith, 1999. Convection and crystallization in a liquid cooled from above: An experimental and theoretical study, *J. Petrology*, v 40, 1271-1300.
- Marsh, B. D. and M. J. Zieg, 1999, Solidification fronts of the Sudbury melt sheet. *Geological Assoc. Canada and Mineral. Assoc. Canada, Field Trip Guidebook B9*, 34p.
- Marsh, B. D., 1999, Santorini and Its Eruptions, by F. A. Fouque, trans. by A. R. McBirney. (book review), *Earth Science History*, v.18, no. 2, 354-355.
- Marsh, B. D., 2000, Magma Chambers. *Encyclopedia of Volcanoes*. Academic Press, 191-206.
- Zieg, M. J. and B. D. Marsh, 2002, Crystal Size Distributions and Scaling Laws in the Quantification of Igneous Textures. *J. Petrology* v 43, 85-101.
- Marsh, B. D. and M. D. Higgins, 2002, Inherited Correlation in Crystal Size Distribution: Comment. *Geology*, v. 30, p.284-286.
- Marsh, B. D., 2002, On Bimodal Differentiation by Solidification Front Instability in Basaltic Magmas, I: Basic Mechanics, *Geochimica et Cosmochimica Acta*, v66, 2211-2229.
- Myers, J. D., B. D. Marsh, C.D. Frost, and J. A. Linton, 2002, Petrologic Constraints on the Spatial Distribution of Crystal Magma Chamber, Atka, Volcanic Center, Central Aleutian Arc. *Contributions to Mineralogy and Petrology*, 143,567-586.
- Marsh, B.D., 2003, The Chicago Guide to Communicating Science (book review). *EOS Transactions American Geophysical Union*, November 14.
- Marsh, B.D., 2004, A Magmatic Mush Column Rosetta Stone: The McMurdo Dry Valleys of Antarctica. *EOS Transactions American Geophysical Union*, v 85, no 47,23 p. 497-502.
- Olsen, S. N., B.D. Marsh, and L. Baumgartner, 2004, Modeling mid-crustal migmatite terrains as feeder zones for granite plutons: The competing dynamics of melt transfer by bulk versus porous flow. *Trans. Roy. Soc. Scotland*, v. 95, p 49-58.

- Coleman, N.M., Abramson, L.R., Marsh, B.D., 2004, Testing Claims about Volcanic Disruption of a Potential Geologic Repository at Yucca Mountain, Nevada. *Geophysical Research Letters*, v. 23, p. 567-572.
- Zieg, M.J. and B.D. Marsh, 2005, The Sudbury Igneous Complex: Viscous Emulsion Differentiation of a Superheated Impact Melt Sheet. *Geological Society America Bulletin*, v. 117, p. 1427-1450.
- Hersum, T., Hilpert, M., and Marsh, B., 2005, Permeability and melt flow in simulated and natural partially molten basaltic magmas. *Earth and Planetary Science Letters*, v.237, p. 798-814.
- Hersum, T. and Marsh, B., 2006, Igneous microstructures from kinetic models of crystallization. *Journal of Volcanology and Geothermal Research*, v. 154, p. 34-47.
- Sen, G., M. Borges, and B.D. Marsh, 2006, A case for Short Duration Deccan Trap Eruption. *EOS, Trans. American Geophysical Union*, v. 87, n. 20, p. 197, 200.
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- Marsh, B.D., 2007, Crystallization of Silicate Magmas Deciphered Using Crystal Size Distributions. *Jour. Amer. Ceramic Soc.*, v.90, Issue 3, p. 746-757.
- Hersum, T.G. and B.D. Marsh, 2007, Igneous Texture: On the Kinetics behind the Words. *Elements*, v. 3, p. 247-252.
- Hersum, T.G., B.D. Marsh, and A.C. Simon, 2007, Contact Partial Melting of Granitic Country Rock, Melt segregation, and Re-injection as Dikes into Ferrar Dolerite Sills, McMurdo Dry Valleys, Antarctica. *Jour. Petrology*, v. 48, p.2125-2148.
- Bedard, J.H.J., B.D. Marsh, T.G. Hersum, H.R. Naslund, and S.B. Mukasa, 2007, Large-scale Mechanical Redistribution of Orthopyroxene and Plagioclase in the Basement Sill, McMurdo Dry Valleys, Antarctica: Petrological, Mineral-chemical and Field Evidence for Channelized Movement of Crystals and melt. *Jour. Petrology*, v. 48, p. 2289-2326.
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- Marsh, B.D., N.M. Coleman, 2009, Magma Flow and Interaction with Waste Packages in a Geologic Repository at Yucca Mountain, Nevada. *Jour. Volcanology and Geothermal Research*, 182, 76-96.
- Teplow, W., B.D. Marsh, J. Hulen, P. Spielman, M. Kaleikini, D. Fitch, W. Rickard, 2009, Dacite Melt at the Puna Geothermal Venture Wellfield, Big Island of Hawaii. *Geothermal Research Conference Transactions*, v. 33, p. 989-994.
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- Patwardhan, K. and B. D. Marsh, 2011, Dynamics of the Development of the Isle au Haut Gabbro-Diorite Layered Complex: Quantitative Implications for Mafic-Silicic Magma Interactions. *Jour. Petrology*, v. 52, n. 12, 2365-2395.
- Zieg, M. J., and B. D. Marsh, 2012, Multiple Reinjections and Crystal-Mush Compaction in the Beacon Sill, McMurdo Dry Valleys, Antarctica. *Jour. Petrology*, v.53, n. 12, 2567-2591.
- Marsh, B.D., 2013, On Some Fundamentals of Igneous Petrology. *Contributions to Mineralogy and Petrology*, 166: 665–690.
- Marsh, B.D., 2013, Magmatism, Magma, and Magma Chambers. *In* *Treatise on Geophysics, Earth's Crust 2nd ed.*, Chapter 6, p. 276-333, (in revision). Elsevier.
- McCormick, K. A. and B. D. Marsh, 2010, Silicic Magmas on Rapa Nui (Easter Island), Chile: Products of a Multistage Differentiation Process. (in revision).
- Marsh, B. D., 2014, Magma Chambers. *Encyclopedia of Volcanoes*, 2nd ed. Academic Press (in press).

Field Areas (Past & Present)

- Major Areas:** Aleutian Islands (15 yrs), Iceland (5 yrs.), Montana (Shonkin Sag, 5 yrs.), Africa (central, 1 yr.), Sudbury (Ontario, 7 yrs.), Antarctica (Dry Valleys, 18 yrs., 9 expeditions)
- Minor Areas:** Japan, Sierra Nevada, Maine, Pennsylvania, Hawaii, Oregon.
- Leader and Organizer:** Magmatic Field Laboratory and Workshop, McMurdo Dry Valleys, Antarctica (2004-2005).

Ph. D. Students

J. Myers, Ph.D., 1979, Prof., Univ. Wyoming
S. Morris, Ph.D., 1980, Prof., U.C. Berkeley
E. Didwall, Ph.D., 1981, Section Leader, Lawrence- Livermore Lab.
B. Banerjee, Ph.D., 1981, Project Engineer, Fermilab
C. Schlinger, Ph.D., 1983, Prof., Univ. Northern Arizona
L. Kovach, Ph.D., 1984, Nuclear Reg. Commission
J. Brophy, Ph.D., 1985, Prof., Indiana Univ.
K. Cashman, Ph.D., 1986, Prof., Univ. Oregon
J. Hinojosa, Ph.D., 1986, Prof. and Dean, Univ. Texas, Laredo
T. D. Peterson, Ph.D., 1987, Geol. Survey, Canada
B. Gunnarson, Ph.D., 1987, Prof., Univ. Iceland.
G. Bergantz, Ph.D., 1988, Prof., Univ. Wash.
J. Fournelle, Ph.D., 1988, Senior Res. Sci, Univ. Wisconsin (Madison)
M. delMarmol, Ph.D., 1989, Faculty, Univ. Brussels
M. Murphy, Ph.D., 1989, Batelle Geoscience
R. Congdon, Ph.D., 1991, Bureau of Land Management
R. Carmody, Ph.D., 1991, University of Maryland, College Park
M. Mangan, Ph.D., 1991, U.S.G.S., Menlo Park
K. Grossenbacker, Ph.D., 1993, Bank & Trust Co., Calif.
S. McDuffie, Ph.D., 1993, DOE, Pacific Northwest Lab. Richland, Wash.
R. Resmini, Ph.D., 1993, Boeing Corp., Alexandria, VA
K. McCormick, Ph.D., 1996; Geological Survey of South Dakota
C-H. Geshwind, Ph.D., 1995; Univ. of Maryland Library
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