

CURRICULUM VITAE

MAURICE A. TIVEY

Emeritus Scientist Scholar
Department of Geology and Geophysics
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EDUCATION

- 1988 **Ph.D.**, University of Washington, Seattle, WA, USA. - Geological Oceanography, Dissertation: The Central Anomaly Magnetic High: Its Source and Implications for Ocean Crust Construction and Evolution
- 1981 **M.Sc.**, University of Washington, Seattle, WA, USA. Geological Oceanography
- 1979 **B.Sc.(with Honours)**, Dalhousie University, Halifax, Nova Scotia, Canada. Geology with minor in Physics

PRIMARY RESEARCH INTERESTS

Marine geophysics. Analysis of marine magnetic anomalies, magnetization of ocean crust, fine-scale magnetic signals, rock magnetism, physical properties of ocean crust, midocean ridge crest processes including the formation and evolution of ocean crust, hydrothermal systems and their geophysical signal.

EMPLOYMENT/PROFESSIONAL EXPERIENCE

- Feb 2024 – Present **Emeritus Scientist Scholar**, Woods Hole Oceanographic Institution
- Aug. 2023 – Feb. 2024 **Emeritus Scientist**, Woods Hole Oceanographic Institution
- June 2021 – June 2023 **Section Head (IPA)**, Marine Geoscience Section, Division of Ocean Sciences, National Science Foundation
- 2018-2022 **Columbus O'Donnell Iselin Senior Scientist**, Woods Hole Oceanographic Institution
- Aug. 2015 – Aug. 2018 **Program Director (IPA)**, Marine Geology and Geophysics, Division of Ocean Sciences, National Science Foundation
- Mar. 2008 – Jul. 2023 **Senior Scientist**, Woods Hole Oceanographic Institution
- Nov. 2008 – Feb. 2013 **Chair**, Dept. of Geology and Geophysics, WHOI
- Jul. 2004 – Dec. 2005 **Chief Scientist for Deep Submergence**, National Deep Submergence Facility, Woods Hole Oceanographic Institution
- Oct. 1998 **Associate Scientist w/tenure**, Woods Hole Oceanographic Institution
- Aug. 1994 **Associate Scientist**, Woods Hole Oceanographic Institution
- Sep. 1990 **Assistant Scientist**, Woods Hole Oceanographic Institution
- Dec. 1989 **Post-Doctoral Investigator**, Woods Hole Oceanographic Institution
- 1989 **Post-Doctoral Scholar**, Woods Hole Oceanographic Institution
- Oct.- Nov. 1988 **Post-Doctoral Investigator**, University of Washington, Seattle
- 1981 – 1984 **Exploration Geophysicist**, Texaco Canada Resources Ltd., Calgary, Canada
- May – Aug. 1979 **Junior Field Geologist**, Shell Canada Resources, Nova Scotia, Canada
- Jun. – Sep. 1978 **Field Assistant**, Wyoming Mineral Corp. (Westinghouse), Nova Scotia

PROFESSIONAL AFFILIATION

American Geophysical Union
Society of Exploration Geophysicists
Society of Mining Engineers

HONORS

2018-2022 Columbus O'Donnell Iselin Senior Scientist Chair, WHOI
2009 AGU Citation for excellence in reviewing
2007-2010 Institute Fellow : WHOI Deep Ocean and Exploration Institute
1999 Visiting Fellow : IPGP UMPC, Paris, France
1989 Post Doctoral Scholar, Woods Hole Oceanographic Institution
1978-1979 Dalhousie Scholarship for academic achievement, 1978-1979.

SHIPBOARD EXPERIENCE

Chief/Co-chief Scientist (21), Scientist and participant in more than 50 cruises since 1980. Diver on 16 submersible cruises with more than 25 dives in ALVIN, SHINKAI 6500 and NAUTILE

2023 Geophysicist *RV Sally Ride* – Heat Flow Probe testing – Oregon margin
2023 Remote participant *RV Falkor Too*, FKt220303 - MidAtlantic Ridge
2023 Remote participant *RV Falkor Too*, FKt231024 - Galapagos/Cocos Rift
2020 Geophysicist *RV Sonne* – Marion Rise, South West Indian Ridge
2019 Geophysicist *RV Thompson/Sentry* – Marion Rise, South West Indian Ridge
2018 Co-Chief Scientist *RV Thompson/ROV Jason* – Brothers Volcano
2016 Yellowstone Lake (YNP) magnetic survey (HD-YLAKE Project)
2015/16 Shipboard scientist *Joides Resolution* ODP Leg 360, Indian Ocean
2014/15 Co-Chief Scientist *ARRV Sikuliaq/Sentry* – Hawaiian Jurassic Quiet Zone
2014 Scientist *ARRV Sikuliaq* – Science test cruise Puerto Rico
2014 Co-Chief Scientist/diver *R/V Atlantis/Alvin* – CORK optical modem operations
2014 Lake Rotomahana heat flow survey, New Zealand
2013 Fieldwork, Glacier Bay, Alaska – acoustic and magnetic tracking of halibut
2013 Chief Scientist *R/V Point Sur* – CORK optical modem operations
2012 Co-Chief Scientist *R/V Langseth* – CORK optical modem operations
2011 Co-Chief Scientist *R/V Thompson/Sentry/Seismics* – Hawaiian Jurassic Quiet Zone
2011 Co-Chief Scientist *R/V Atlantis/ROV Jason* – CORK optical modem/Thermal GRID
2010 Co-Chief Scientist/diver *R/V Atlantis/Alvin* – CORK optical modem operations
2008 Co-Chief Scientist/diver on *R/V Atlantis/Alvin*, Juan de Fuca Ridge
2008 Scientist on *RRS James Cook*, ROV ISIS and TOBI sidescan, Mid-Atlantic Ridge
2006 Chief Scientist on *R/V Melville/Jason/ABE*. Hydrothermal vent mapping and sampling, East Manus Basin, Papua New Guinea
2005 Scientist on *R/V Atlantis/Alvin*. Endeavour Ridge, Juan de Fuca Ridge
2004 Co-Chief Scientist on *R/V Knorr/Jason/ABE*. Kane Megamullion
2004 Co-Chief Scientist/diver on *R/V Atlantis/Alvin*. East Pacific Rise 9N
2002/03 Co-Chief Scientist on *R/V Thompson/DSL120*. Deep-tow magnetics of Pacific Jurassic Quiet Zone.
2002 Scientist on *R/V Western Flyer/ROV Tiburon* (MBARI). Cleft Ridge, Juan de Fuca
2002 Scientist on *R/V Thompson/ABE*. Explorer Ridge mapping (NOAA-OE)
2002 Co-Chief Scientist/diver on *R/V Atlantis/Alvin/ABE*. East Pacific Rise 9N

2001 Co-Chief Scientist on R/V *Atlantis/DSL120/ABE*. East Pacific Rise 9N
 2000 Co-Chief Scientist on R/V *Atlantis/Jason*. Endeavour Ridge, Juan de Fuca Ridge
 2000 Scientist on R/V *Western Flyer/ROV Tiburon*. Cleft and Blanco fracture zone
 1998 Scientist on RRS *James Clark Ross*. Southwest Indian Ridge
 1997 Scientist/diver on R/V *Atlantis/Alvin*. Endeavour Ridge, Juan de Fuca Ridge
 1996 Co-Chief Scientist on R/V *Thompson/Jason/ABE*. Coaxial Ridge, Juan de Fuca Ridge
 1995 Chief Scientist/diver on R/V *Atlantis/Alvin*. Blanco fracture zone magnetics
 1995 Co-Chief Scientist/diver on R/V *Atlantis/Alvin*. Coaxial Ridge, Juan de Fuca Ridge.
 1994 Scientist/diver on R/V *Yokosuka/Shinkai6500*. Western Kane Fracture Zone, Mid-Atlantic Ridge
 1993 Scientist/diver on R/V *Atlantis II/Alvin*. Coaxial eruption, Juan de Fuca Ridge
 1992 Co-Chief Scientist on R/V *Thomas Washington*. Deep tow magnetics Pacific Jurassic Quiet Zone.
 1992 Scientist/diver on R/V *Nadir/Nautile*. Kane Transform Zone dives, Mid-Atlantic Ridge
 1991 Scientist on NOAA *Discoverer*. Vents program, Southern Juan de Fuca Ridge
 1991 Scientist/diver on R/V *Nadir/Nautile*. Blanco Transform Zone dives, Juan de Fuca Ridge
 1990 Scientist on CSS *Tully/SeaMARC 1A*. Middle Valley surveys, Juan de Fuca Ridge
 1990 Co-Chief Scientist/diver on R/V *Atlantis II/Alvin*. Endeavour Ridge flank, Juan de Fuca Ridge
 1989 Scientist on CSS *Tully*. NOBEL seismic experiment, northern Juan de Fuca Ridge
 1988 Co-Chief Scientist on R/V *Atlantis II SeaMARC 1A*. Northern Juan de Fuca Ridge
 1988 Scientist on CSS *Tully*. Middle Valley hydrothermal vents, Juan de Fuca Ridge
 1986 Scientist on NOAA *Discoverer*. Axial seamount, Juan de Fuca Ridge
 1986 Scientist on R/V *Thomas Thompson*. Deep tow seismic profiler, Juan de Fuca Ridge
 1985 Scientist/diver on R/V *Atlantis II/Alvin*. Galapagos Rift 86W
 1984 Scientist/diver on R/V *Atlantis II/Alvin*. Endeavour Ridge hydrothermal vents, Juan de Fuca Ridge
 1983 Scientist on R/V *Thomas Thompson*. TT175, Geophysical mapping and sampling, Juan de Fuca Ridge
 1982 Scientist on R/V *Thomas Thompson*. TT170, Geophysical mapping and sampling, Juan de Fuca Ridge
 1981 Scientist on CSS *Hudson*. Bedford remotely operated drill, Juan de Fuca Ridge
 1980 Scientist on R/V *Thomas Thompson*. TT152, Geophysical mapping and sampling, Juan de Fuca Ridge

PROFESSIONAL ACTIVITIES

Member - InterRidge Working Group on Seafloor Mineralization (2018-present)
 Member - Marcus Langseth Science Oversight Committee (MLSOC) 2011-2015
 Member - Canada Foundation for Innovation (CFI) review panel (2014)
 Chair - InterRidge Working Group on Seafloor Mineralization (2008-2016) 2 terms
 Organizer – MORSS Workshop on deep sea mining (2009)
 Organizer – InterRidge Workshop on Deep Sea Mining (2009)
 Co-convenor Fall AGU sessions (2004, 2007, 2013, 2016)
 Acting Director – WHOI-Deep Ocean Exploration Institute Proposal review process, May 2006
 Associate Editor - Journal of Geophysical Research 1993-1995, 1999-2002
 Member - NOAA Ocean Exploration review panel (2003)
 Member - NURP review panel (2005)
 National Ocean Science Board review on deep submergence (2003 attendee)
 Hosted Dr, Margaret Kivelson for Distinguished Lecturer Series (2002)
 Chief Scientist for Deep Submergence (2004-2005)
 DESSC Meetings (2005/2006 presenter)

NSF-Advanced Technology Education (ATE) grant with Mass. Maritime Academy and Bristol Community College.

EDUCATION ACTIVITIES

MIT-WHOI Joint Program Activities:

Member: Joint Committee for Marine Geology and Geophysics (1999-2003)
Ph. D. Advisor: Clare Williams (Ph.D. 2007)
Ph. D. Co-Advisor: Chris Waters (Ph.D. 2010)
Allegra Hosford (Ph.D. 2001)
Stefan Hussenöeder (Ph.D. 1998)
Ph. D. Thesis Committee: Helen Feng (PhD 2016)
Chris Waters (Ph.D. 2011)
Javier Escartin (Ph.D. 1996)
Sang-Mook Lee (Ph.D. 1995)
Generals committee: Min Xu (2007, Generals Project advisor)
Phil Lane (2007)
Astri Kvassnes (2001)
Sheri White (1996)
Fernanda Hoefel (2001)
Masters Committee: Amy McKnight (2001)
Michael Horowitz
Teaching: Invited lecturer for Marine Geophysics class 12.711 (1989-1991)
Co-taught Marine Geophysics class 12.711 (1992) with R. Stephen
Redesigned and taught Advanced Marine Geophysics 12.755 with Rob
Evans and Jian Lin (1996, 1998, 2002, 2007).
Postdoc Scholar Advisor: Masako Tominaga (2009-2012)
James Kinsey (2007/2008 coadvisor with Dana Yoerger)
Anne Deschamps (2003/2004)
WHOI Summer Fellows: Nazli Nomanbhoy (1991), Cheryl Waters (1995, with Dan Fornari)
Trish Gregg (1999, with Deb Smith), Amena Siddiqi (2000)
Deniz Kazanci (2003), Jennifer Glass (2006 with Dan Fornari)
Bailey L. Fluegel (2021)
WHOI Summer Fellows Selection Committee (2000/2001)
Guest Student: Gaud Pouliquen, IPGP, Paris (1999)
Laney Hart (Mich State Univ. (2014)
Hosted Falmouth High School students in a tour of Alvin and Deep Submergence assets, Mar 2006

Non WHOI Education Activities:

Ph. D. Thesis Committee: Mitsuko Kitazawa, IPGP, Paris (Ph.D. 2006) (External exam committee)
Masako Tominaga, Texas A&M (Ph.D. 2009)
Florent Szitkar, IPGP, Paris (Ph.D. 2013) (External exam committee)
Fei Zhou, IPGP, Paris (Ph.D. 2022) (External exam committee)

Thesis Advisor : H. Paul Johnson University of Washington

Post-Doctoral Advisor : Hans Schouten, WHOI

WHOI COMMITTEES

Chair G&G Dept. Chair Search Committee (2020)
Chair G&G Geophysics staff position search (2019)
Chair and member, Scientific Staff Executive Committee, SciSEC (2014-2015)

Member, Search Committee – Director of Center for Marine Robotics (2014)
 Member, Advisory Committee – Center for Marine Robotics (2012 – present)
 Member, Marine Operations Committee (2012-present)
 Management Oversight : Ocean Bottom Seismology Instrument Pool (OBSIP) 2010-2012
 Ad-Hoc Mentoring Committees: Mark Behn, Dan Lizarralde (2007), James Kinsey (2012-2015),
 Kevin Anchukaitis (2013-2014)
 Co-chair, Friends of Vents Revival series (2007 – present) with Stefan Sievert
 Member, Office of Applied Oceanography Oversight Committee Nov 2007 - 2009
 Chair, Deep Submergence Advisory Committee: Mar. 2005 – 2009
 Member, Scientific Staff Executive Committee (SciSEC) 2005- 2006
 Member, Deep Ocean and Exploration Institute Oversight/Review Committee 2004-2006
 Ex Officio member of Replacement HOV Committee (CSDS responsibilities (2004-2005)
 Chf. Scientist Deep Submergence July 1st 2004 – Dec 31 2005
 Member, Tenured Staff Executive Committee (TenSEC) 2003- 2005
 Marine Operations Committee: 2003-2004
 Member, Information and Technology Advisory Committee 2001-2003
 Member, JCMG&G 1999-2003
 Review Committee, Mellon awards 1997, 2004
 Member, Advisory Committee for Computing (G&G rep.) 1997-2001 (1996-1997 alternate rep.)
 Member, DIAL (Digital Image Analysis Lab) committee 1991-1994
 Member, Friends of Vents seminar series 1989-1994
 Member, Hot Topics seminar series committee 1989-1991

Invited Professional Talks (Post-Tenure)

Dec 2019	DESSC report on 2019 Marion Rise cruise
Oct 2018	INMARTECH Keynote speaker
Dec 2016	Deep Submergence New Users Workshop, San Francisco
Feb 2016	Seminar given to the Mauritius Oceanography Institute, Albion, Mauritius on IODP research.
May 2015	Atlantis Bank Magnetics – USSSP Drilling workshop, Woods Hole
May 2015	TAG Magnetics – USSSP Drilling workshop, Woods Hole
Aug 2014	Science Made Public – “Alvin and the wet WIFI”
June 2014	Rona Symposium, Rutgers Univ. – TAG magnetism
Dec 2013	AGU talk - Jurassic Quiet Zone
May 2013	IPGP Presentation on Jurassic Magnetics
May 2013	DOEI presentation to WHOI Trustee Committee - CORK optical communications
Dec 2012	AGU talk
Sep 2011	MTS/IEEE Oceans 2011– Waikaloa, Hawaii. Public lecture : Geophysics of hydrothermal systems.
Feb 2010	Geological Association of Canada-Mineralogical Association of Canada – Spring meeting – St Johns, Newfoundland, Canada. Workshop talk and Public lecture.
Apr 2009	Deep-Sea Mining of Seafloor Massive Sulfides - A Reality for Science and Society in the 21st Century, Morss Colloquium keynote speaker, Woods Hole.
Mar 2009	Geophysical Signatures of Seafloor Massive Sulfide Deposits, InterRidge Deep Sea Mining Workshop keynote speaker, Woods Hole.
Dec 2008	The New Gold Rush: Seafloor Hydrothermal Research and Marine Mining, Harvard Club, Boston.
Nov 2008	Optical Communications: Ocean Technology Expo, Providence, RI
Oct 2008	InterRidge Meeting : Presentation to Steering Committee on Working Group on Seafloor Mineralization.

Jan 2008 Mass. Tech. Transfer Consortium (MTTC) Presentation on Optical Underwater Communications, Boston.

Jan. 25 2007 Marine mineral resources in the Red Sea, Saudi Arabian KAUST Presentation, Woods Hole

Jun. 6 2006 High resolution mapping using ABE, Workshop on AUVs for Scientific Applications (AUVSA), Woods Hole

Nov. 18 2005 High resolution magnetic studies of the seafloor, Univ. Rhode Island Seminar

Nov. 14 2005 Magnetism of the seafloor, Teachers Workshop, Woods Hole

Sep. 5 2005 Presentation to Placer-Dome Corp., Vancouver

Jun. 23 2005 Jurassic Magnetism, WHOI Summer Student Fellow Seminar series, Woods Hole

May 2005 Magnetism - Supreme mystery of science, G&G Dept. Talk, Woods Hole

Sep. 28 2004 Presentation to Kathy Sullivan on replacement HOV project, Woods Hole

Jun. 22 2004 Two presentations on deep submergence science to COMRA, Beijing, China

Oct. 22 2003 Jurassic Magnetism, Geophysics Seminar, Woods Hole

Jun. 24 2003 Magnetism of the ocean basins, WHOI Summer Lecture Series, Woods Hole

Jan. 24 2002 Magnetism of the East Pacific Rise at 9N: Deconvolution for crustal accretion, MBARI, Monterey, CA

Jun. 15 2001 Magnetism of the East Pacific Rise at 9N: Deconvolution for crustal accretion, IFREMER, Brest, France

Jun. 6 2001 Magnetism of the East Pacific Rise at 9N: Deconvolution for crustal accretion, Institut de Physique du Globe Paris (IPGP), Paris, France

May 23 2001 CalTech Alumni presentation, Woods Hole

Spring 2001 Measuring magnetic fields at the seafloor, ALVIN Operations Group, Woods Hole.

Jun. 4 2000 Imaging the ocean floor using magnetic sensors, Center for Subsurface Sensing and Imaging Systems (CenSSIS) Retreat, Woods Hole

Nov. 7 1999 Keynote Speaker - Regional geophysical results of the Juan de Fuca Ridge. RIDGE Symposium on results of the Juan de Fuca Ridge, Seattle, WA

WORKSHOPS ATTENDED (POST-TENURE)

Mar. 2022 Ocean Sciences meeting virtual

Dec. 2019 Fall AGU Meeting, San Francisco, CA

Oct. 2019 USSSP-IODP workshop on borehole instrumentation, Seattle, WA

Sep. 2019 InterRidge Workshop on Seafloor Mineralization, Hangzhou, China (Co-convenor)

Dec. 2018 Fall AGU Meeting, Washington DC

Jul. 2018 NSF Geoscience Cutting Edge early career workshop, Alexandria, VA

Jul. 2018 NSF Seafloor Sensors Workshop, Gleneden Beach, OR

May 2018 IODP Leg 360 Post cruise workshop, Sicily, Italy

Jan. 2018 NSF Ship Inspection, RV Thompson, Seattle, WA

Dec. 2017 Fall AGU Meeting New Orleans, LA

Nov. 2017 Annual UNOLS meeting Alexandria, VA

Oct. 2017 IODP Axial Seamount workshop, Lamont-Doherty, NY

Oct. 2017 NAS - COSG Committee meeting: Subduction zone science

Jul. 2017 NSF Geoscience Cutting Edge early career workshop, Alexandria, VA

Apr. 2017 Early Warning Offshore Cascadia workshop, Seattle, WA

Sep. 2016 Subduction Zone Observatory, Boise, ID

Sep. 2016 OOI workshop, Portland OR.

Jul. 2016 NSF Geoscience Cutting Edge early career workshop, Arlington, VA

May 2015 USSSP-COMRA Workshop on Drilling Indian Ocean, Woods Hole

Nov 2012	IODP Workshop on Brothers Volcano hydrothermal drilling, Lisbon
Apr. 2012	GEOMAR workshop on Segment scale hydrothermalism, Kiel, Germany
Sep. 2011	Underwater Minerals and Mining Institute (UMI) Conference, Hilo, Hawaii.
Sep. 2011	MTS/IEEE Oceans 2011 Workshop – Waikaloa, Hawaii.
Oct. 2010	Ridge 2000 Community workshop, Portland Oregon
Jun. 2009	JC-24 Post-cruise meeting (Iceland)
May 2010	AGU Chapman Conference on Ocean Core Complexes, Agros, Cyprus
Apr. 2009	InterRidge Working Group post-workshop meeting
Mar. 2009	InterRidge Deep Sea Mining workshop, Woods Hole
Mar 2009	Morss colloquium, Deep Sea Mining ,Woods Hole
Jan. 2009	InterRidge Steering Group meeting, Woods Hole
Nov 2008	Underwater Minerals and Mining Institute Conference, Oxford, MS
Oct 2008	InterRidge Meeting Working Group on Seafloor Mineralization.
Mar 2008	Environmental Impact Workshop Marine Mining - Nautilus Minerals, San Diego, CA.
Jan 2008	InterRidge Meeting: New Working Group on Seafloor Mineralization.
Oct. 2007	Underwater Mining Institute Conference, Tokyo, Japan
Mar. 2007	Environmental Impact of Marine Mining Workshop, Nautilus Minerals, Port Moresby, Papua New Guinea
Sep. 2006	IODP Mission Moho Workshop, Portland, OR
Jun. 2006	AUVs for Scientific Applications, Woods Hole, MA
Feb. 2004	RIDGE Mid-Atlantic Ridge Workshop, Providence, RI
Oct. 2002	Advance Technology Education (ATE) Conference, Washington DC
Sep. 2001	RIDGE Endeavour Observatory Results, Seattle, WA
May 2001	NSF-MGG Database workshop, San Diego, CA
Jan. 2001	RIDGE Endeavour Observatory Data management Meeting, Seattle, WA
Nov. 2000	ODP Remotely Operated Drilling Workshop College Station, TX
Nov. 1999	RIDGE Symposium on results from Juan de Fuca, Seattle WA
Sep. 1999	UNOLS DESCEND Workshop, Washington DC
May 1999	ODP Complex Meeting, Vancouver BC

PATENTS

US Patent No. 11,493,391, Gradient Sensor (High-Resolution Heat Flow Probe), Rick Sanger, Paul Fucile, and **Maurice Tivey** issued Nov. 8, 2022.

PUBLICATIONS

(* student author, # postdoc author)

Published

106) *Berrios-Rivera, N., J.S. Gee, R. Parnell-Turner, S. Maher, J-N. Wu, D. Fornari, D., **M. Tivey**, M. Marjanović, T. Barreyre, and J. McDermott, Significance of Short-Wavelength Magnetic Anomaly Low Along the East Pacific Rise Axis, 9°50'N, *G-cubed*, doi.org/10.1029/2023GC010875, 2023.

105) Caratori Tontini, F., G.M. Turner, A.G. Reyes, F. Speranza, **M.A. Tivey**, C. Massiot, C.E.J. De Ronde, and S.E. Humphris, Effects of hydrothermal alteration and mineralization on the paleomagnetic properties of rocks from IODP Expedition 376 at Brothers volcano. Special Issue on Brothers Volcano, *Econ. Geology*, doi.org/10.5382/econgeo.5008, 2023.

- 104) #Biasi, J., **M. Tivey**, & *B. Fluegel. Volcano monitoring with magnetic measurements: A simulation of eruptions at Axial Seamount, Kilauea, Bárðarbunga, and Mount Saint Helens. *Geophysical Research Letters*, 49, e2022GL100006. doi.org/10.1029/2022GL100006, 2022.
- 103) *Fluegel, B., **M. Tivey**, J. Biasi, W. W. Chadwick Jr., and S.L. Nooner. The Magnetization of an underwater caldera: A time-lapse magnetic anomaly study of Axial Seamount. *Geophysical Research Letters*, 49, e2022GL100008. doi.org/10.1029/2022GL100008, 2022.
- 102) Wu, T., **M.A. Tivey**, C. Tao, J. Zhang, F. Zhou, and Y. Liu, An intermittent detachment faulting system with a large sulfide deposit revealed by multi-scale magnetic surveys, *Nature Communications*, 12, 5642, doi.org/10.1038/s41467-021-25880-1, 2021.
- 101) Tominaga, M., **M. A. Tivey** and W. W. Sager, A New Middle to Late Jurassic Geomagnetic Polarity Time Scale (GPTS) from a multiscale marine magnetic anomaly survey of the Pacific Jurassic Quiet Zone, *Jour. Geophys. Res.*, 126(3), doi.org/10.1029/2020JB021136, 2021.
- 100) Reysenbach, A.-L. E. St. John, J. Meneghin, G. Flores, M. Podar, N. Dombrowski, A. Sprang, S. L'Haridon, S.E. Humphris, C.E.J. de Ronde, F. Caratori Tontini, **M. Tivey**, V. Stucker, L.C. Stewart, A. Diehl, and W. Bach, Complex subsurface hydrothermal fluid mixing at a submarine arc volcano supports distinct and highly diverse microbial communities, *PNAS*, 117(51), 2020-19021R, doi.org/10.1073/pnas.2019021117, 2020.
- 99) *Greene, J., D. Lizarralde, M. Tominaga, **M. Tivey**, Deep-ocean paleo-seafloor erosion in the northwestern Pacific identified by high-resolution seismic images, *Marine Geology*, 429, 106330, doi.org/10.1016/j.margeo.2020.106330, 2020.
- 98) Bouligand, C., **M. A. Tivey**, C. A. Finn, L. A. Morgan, P. W. C. Shanks III, R. A. Sohn, Geological and thermal control of the hydrothermal system in northern Yellowstone Lake: Inferences from high resolution magnetic surveys, *Jour. Geophys. Res. Solid Earth*, 125, doi.org/10.1029/2020JB019743, 2020.
- 97) Bowles, J.A., A. Morris, **M.A. Tivey**, and I. Lascu, Magnetic mineral populations in lower oceanic crustal gabbros (Atlantis Bank, SW Indian Ridge): Implications for marine magnetic anomalies, *Geochem. Geophys. Geosyst.*, 21(3), doi.org/10.1029/2019GC008847, 2020.
- 96) Dick, H.J.B., C.J. MacLeod, P. Blum, N. Abe, D.K. Blackman, J.A. Bowles, M.J. Cheadle, K. Cho, J. Ciążela, J.R. Deans, V.P. Edgcomb, C. Ferrando, L. France, B. Ghosh, B. Ildefonse, B. John, M.A. Kendrick, J. Koepke, J.A.M. Leong, C. Liu, Q. Ma, T. Morishita, A. Morris, J. H. Natland, T. Nozaka, O. Pluemper, A. Sanfilippo, J.B. Sylvan, **M.A. Tivey**, R. Tribuzio, G. Viegas, Dynamic accretion beneath a slow spreading ridge segment: IODP Hole 1473A and the Atlantis Bank Oceanic Core Complex, *Journal of Geophysical Research*, 124, 12631-12659, 2019.
- 95) Caratori Tontini, F., **M.A. Tivey**, C.E.J. de Ronde, and S.E. Humphris, Heat-flow and near-seafloor magnetic anomalies highlight hydrothermal circulation at Brothers volcano caldera, southern Kermadec arc, New Zealand, *Geophys. Res. Lett.*, 46, 8252-8260, doi: 10.1029/2019GL083517, 2019.
- 94) MacLeod, C.J., Dick, H.J.B., Blum, P., Abe, N., Blackman, D.K., Bowles, J.A., Cheadle, M.J., Cho, K., Ciążela, J., Deans, J.R., Edgcomb, V.P., Ferrando, C., France, L., Ghosh, B., Ildefonse, B.M., Kendrick, M.A., Koepke, J.H., Leong, J.A.M., Liu, C., Ma, Q., Morishita, T., Morris, A., Natland, J.H., Nozaka, T., Pluemper, O., Sanfilippo, A., Sylvan, J.B., **Tivey, M.A.**, Tribuzio, R., and Viegas, L.G.F., Southwest Indian Ridge Lower Crust

and Moho. Proceedings of the International Ocean Discovery Program, 360: College Station, TX (International Ocean Discovery Program). <http://dx.doi.org/10.14379/iodp.proc.360.2017>, 2017.

93) Tominaga, M., A. Beinlich, E. Lima, **M.A. Tivey**, B. Hampton, B. Weiss, and Y. Harigane, Multi-scale magnetic mapping of serpentinite carbonation, *Nature Communications*, 8, 1870, 10:1038/s41467-017-01610-4, 2017.

92) Szitkar, F., **M. Tivey**, D.S. Kelley, J.A. Karson, G. Fruh-Green, and A. Denny, Magnetic exploration of a low-temperature ultramafic-hosted hydrothermal site (Lost City, 30°N, MAR), *Earth Planet. Sci. Lett.*, 461, 40-45, 2017.

91) Caratori Tontini, F., T. Crone, C.E.J. de Ronde, D.J. Fornari, J. Kinsey, E. Mittelstaedt, and **M. Tivey**, Crustal magnetization and the seafloor structure of the ASHES vent field (Axial Seamount, Juan de Fuca Ridge): Implications for the exploration of hydrothermal sites, *Geophys. Res. Lett.*, 43, doi:10.1002/2016GL069430, 2016.

90) Tominaga, M., **M.A. Tivey**, C.J. MacLeod, A. Morris, C.J. Lissenberg and D.J. Shillington, Characterization of the in situ magnetic architecture of Hess Deep crust using near-source vector magnetic data acquired by the Remotely Operated Vehicle (ROV) Isis, *Jour. Geophys. Res.*, 121, doi:10.1002/2015JB012783, 2016.

89) Xu, M. and **M.A. Tivey**, Investigation of a marine magnetic polarity reversal boundary in cross-section at the northern boundary of the Kane Megamullion, Mid-Atlantic Ridge 23°40'N, *Jour. Geophys. Res.*, 121, 3161–3176, doi:10.1002/2016JB012928, 2016.

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