

## CURRICULUM VITAE

### MAURICE A. TIVEY

Senior Scientist  
Department of Geology and Geophysics  
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### EDUCATION

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

### 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

- Aug. 2015 – Aug. 2018 **Program Director (IPA)**, Marine Geology and Geophysics, Division of Ocean Sciences, National Science Foundation
- Mar. 2008 – present **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

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 40 cruises since 1980. Diver on 16 submersible cruises with more than 25 dives in ALVIN, SHINKAI 6500 and NAUTILE

2019	Geophysicist <i>RV Thompson/Sentry</i> – Marion Rise, South West Indian Ridge
2018	Co-Chief Scientist <i>RV Thompson/ROV Jason</i> – Brothers Volcano
2016	Yellowstone Lake (YNP) magnetic survey (HD-YLAKE Project)
2015/16	Shipboard scientist <i>Joides Resolution</i> ODP Leg 360, Indian Ocean
2014/15	Co-Chief Scientist <i>ARRV Sikuliaq/Sentry</i> – Hawaiian Jurassic Quiet Zone
2014	Scientist <i>ARRV Sikuliaq</i> – Science test cruise Puerto Rico
2014	Co-Chief Scientist/diver <i>R/V Atlantis/Alvin</i> – 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 <i>R/V Point Sur</i> – CORK optical modem operations
2012	Co-Chief Scientist <i>R/V Langseth</i> – CORK optical modem operations
2011	Co-Chief Scientist <i>R/V Thompson/Sentry/Seismics</i> – Hawaiian Jurassic Quiet Zone
2011	Co-Chief Scientist <i>R/V Atlantis/ROV Jason</i> – CORK optical modem/Thermal GRID
2010	Co-Chief Scientist/diver <i>R/V Atlantis/Alvin</i> – CORK optical modem operations
2008	Co-Chief Scientist/diver on <i>R/V Atlantis/Alvin</i> , Juan de Fuca Ridge
2008	Scientist on <i>RRS James Cook</i> , ROV ISIS and TOBI sidescan, Mid-Atlantic Ridge
2006	Chief Scientist on <i>R/V Melville/Jason/ABE</i> . Hydrothermal vent mapping and sampling, East Manus Basin, Papua New Guinea
2005	Scientist on <i>R/V Atlantis/Alvin</i> . Endeavour Ridge, Juan de Fuca Ridge
2004	Co-Chief Scientist on <i>R/V Knorr/Jason/ABE</i> . Kane Megamullion
2004	Co-Chief Scientist/diver on <i>R/V Atlantis/Alvin</i> . East Pacific Rise 9N
2002/03	Co-Chief Scientist on <i>R/V Thompson/DSL120</i> . Deep-tow magnetics of Pacific Jurassic Quiet Zone.
2002	Scientist on <i>R/V Western Flyer/ROV Tiburon</i> (MBARI). Cleft Ridge, Juan de Fuca
2002	Scientist on <i>R/V Thompson/ABE</i> . Explorer Ridge mapping (NOAA-OE)
2002	Co-Chief Scientist/diver on <i>R/V Atlantis/Alvin/ABE</i> . East Pacific Rise 9N
2001	Co-Chief Scientist on <i>R/V Atlantis/DSL120/ABE</i> . East Pacific Rise 9N
2000	Co-Chief Scientist on <i>R/V Atlantis/Jason</i> . Endeavour Ridge, Juan de Fuca Ridge
2000	Scientist on <i>R/V Western Flyer/ROV Tiburon</i> . Cleft and Blanco fracture zone
1998	Scientist on <i>RRS James Clark Ross</i> . Southwest Indian Ridge
1997	Scientist/diver on <i>R/V Atlantis/Alvin</i> . Endeavour Ridge, Juan de Fuca Ridge
1996	Co-Chief Scientist on <i>R/V Thompson/Jason/ABE</i> . Coaxial Ridge, Juan de Fuca Ridge
1995	Chief Scientist/diver on <i>R/V Atlantis/Alvin</i> . Blanco fracture zone magnetics
1995	Co-Chief Scientist/diver on <i>R/V Atlantis/Alvin</i> . Coaxial Ridge, Juan de Fuca Ridge.
1994	Scientist/diver on <i>R/V Yokosuka/Shinkai6500</i> . Western Kane Fracture Zone, Mid-Atlantic Ridge
1993	Scientist/diver on <i>R/V Atlantis II/Alvin</i> . Coaxial eruption, Juan de Fuca Ridge
1992	Co-Chief Scientist on <i>R/V Thomas Washington</i> . Deeptow 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 - Marcus Langseth Science Oversight Committee (MLSOC)  
(<http://www.unols.org/committees/mlsoc/index.html>) 2011-2015
- Member Canada Foundation for Innovation (CFI) review panel (2014)
- Chair: InterRidge Working Group on Seafloor Mineralization (2008-present) 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 for DOEI 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 Hussenoeder (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)  
 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)  
 Masako Tominaga, Texas A&M (Ph.D. 2009)  
 Florent Szitkar, IPGP, Paris (Ph.D. 2013)

**Thesis Advisor** : H. Paul Johnson University of Washington

**Post-Doctoral Advisor** : Hans Schouten, WHOI

**WHOI COMMITTEES**

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)**

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)**

Dec. 2018 Fall AGU Meeting, Washington DC

Jul. 2018 NSF Geoscience Cutting Edge early career workshop

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

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

Apr. 2017 Early Warning Offshore Cascadia workshop, Seattle

Sep. 2016 Subduction Zone Observatory, Boise, ID.

Sep. 2016 OOI workshop, Portland OR.

Jul. 2016 NSF Geoscience Cutting Edge early career workshop

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

## PUBLICATIONS

(\* student author, # postdoc author)

### Submitted

Caratori Tontini, F., **M.A. Tivey**, C.E.J. deRonde, S.E. Humphris, Heat-flow and near seafloor magnetic anomalies highlight hydrothermal circulation at Brothers volcano caldera, south Kermadec arc, New Zealand, submitted to Geophysical Research Letters, May 2019.

Greene, J., D. Lizarralde, M. Tominaga, **M. Tivey**, Ongoing silica diagenesis in the northwestern Pacific identified by high-resolution seismic images, submitted to Geology, May 2019

Dick, H.J.B., C.J. MacLeod, P. Blum, N. Abe, D.K. Blackman, J.A. Bowles, M.J. Cheadle, K. Cho, J. Ciazela, 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, submitted to Journal of Geophysical Research, May 2019.

### Published

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 Communication*, 8, 1870, 10:1038/s41467-017-01610-4, 2017.

92) Sztikar, 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 subseafloor 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.

88) Thal, J., **M.A. Tivey**, D.R. Yoerger, D. Niedermeyer and W. Bach, Subaqueous cryptodome eruption, hydrothermal activity and related seafloor morphologies on the andesitic North Su volcano, *Jour. Volc. Geoth. Res.*, doi:10.1016/j.jvolgeores.2016.04.041, 2016.

87) Dick, H.J.B., MacLeod, C.J., Blum, P., and the Expedition 360 Scientists, Expedition 360 Preliminary Report: Southwest Indian Ridge lower crust and Moho. *International Ocean Discovery Program*. <http://dx.doi.org/10.14379/iodp.pr.360.2016>, 2016.

- 86) deRonde, C.E.J., S.L. Walker, C. LeBlanc, B.W. Davy, D.J. Fornari, F. Caratori-Tontini, B.J. Scott, F.H. Seebeck, T. Stewart, A. Mazot, A. Nichol and **M.A. Tivey**, Reconstruction of the geology and structure of Lake Rotomahana and its hydrothermal systems from high-resolution multibeam mapping and seismic surveys: Effects of the 1886 Mt. Tarawera eruption, *Jour. Volc. Geoth. Res.*, doi:10.1016/j.jvolgeores.2016.02.002, 2016.
- 85) Tominaga, M., **M.A. Tivey**, and W.W. Sager, Nature of the Jurassic Magnetic Quiet Zone, *Geophys. Res. Lett.*, 42, 8367-8372, doi:10.1002/2015GL065394, 2015.
- 84) Caratori Tontini, F., C. de Ronde, B. Scott, S. Soengkono, V. Stagpoole, C. Timm, and **M. Tivey**, Interpretation of gravity and magnetic anomalies at Lake Rotomahana: geological and hydrothermal implications, *Jour. Volc. Geoth. Res.*, doi:10.1016/j.jvolgeores.2015.07.002, 2015.
- 83) Walker, S.L., C.E.J. de Ronde, D. Fornari, **M. A Tivey**, and V. K. Stucker, High-resolution water column survey to identify active sublacustrine hydrothermal discharge zones within Lake Rotomahana, North Island, New Zealand, *Jour. Volc. Geoth. Res.*, doi:10.1016/j.jvolgeores.2015.07.037, 2015.
- 82) **Tivey, M.A.**, C.E.J. Ronde, F. Caratori-Tontini, S.L. Walker and D. Fornari, A novel heat flux study of a geothermal active lake –Lake Rotomahana, New Zealand, *Jour. Volc. Geoth. Res.*, doi:10.1016/j.jvolgeores.2015.06.006, 2015.
- 81) Hsu, L., R. Arko, S. Carbotte, J. Delano, V. Ferrini, J. Gill, A. Goodwillie, K. Lehnert, **M.A. Tivey**, Rescue of long-tail data from the ocean bottom to the Moon: IEDA Data Rescue Mini-Awards, *GeoResJ*, 6, 108-114, doi:10.1016/j.grj.2015.02.012, 2015.
- 80) Humphris, S.E., M.K. Tivey & **M.A. Tivey**, TAG The Trans-Atlantic Geotraverse Hydrothermal Field: A Hydrothermal System on an Active Detachment Fault, "Special volume on Peter Rona," *Deep Sea Research II*, 121, 8-16, 2015.
- 79) **Tivey, M.A.**, H. P. Johnson, M.S. Salmi and M. Hutnak High-resolution near-bottom vector magnetic anomalies over Raven Hydrothermal Field, Endeavour Segment, Juan de Fuca Ridge, *J. Geophys. Res.*, 119, doi:10.1002/2014JB011223, 2014.
- 78) \*Salmi, M. S., H. P. Johnson, **M.A. Tivey** and M. Hutnak, Quantitative estimate of heat flow from a midocean ridge axial valley, Raven Field, Juan de Fuca Ridge, *J. Geophys. Res.*, 119, doi:10.1002/2014JB011086, 2014.
- 77) \*Thal, J., W. Bach, **M. Tivey** and D. Yoerger, Geologic setting of PACManus hydrothermal area – High resolution mapping and in situ observations, *Marine Geology*, 355, 98-114, 2014.
- 76) Hansen, L.N., M.J. Cheadle, B.E. John, S.M. Swapp, H.J.B. Dick, B.E. Tucholke, and **M.A. Tivey**, Mylonitic deformation at the Kane oceanic core complex: Implications for the rheological behavior of oceanic detachment faults, *Geochem. Geophys. Geosyst.*, 14(8), 3085-3108, doi:10.1002/ggge.20184, 2013.
- 75) \*Waters, C.L., Sims, K.W.W., Soule, S.A., Blichert-Toft, J., Dunbar, N.W., Plank, T.A., Prytulak, J. Sohn, R.A., and **M.A. Tivey**, Recent Volcanic Accretion at 9-10°N East Pacific Rise as Resolved by Combined Geochemical and Geological Observations, *Geochem. Geophys. Geosyst.*, 13, doi:10.1002/ggge.20134, 2013.
- 74) Deschamps, A., **M. A. Tivey**, W. W. Chadwick, and R. W. Embley, Waning magmatic activity along the Southern Explorer Ridge revealed through fault restoration of rift topography. *Geochem. Geophys. Geosyst.*, 14, 1609-1625, doi:10.1002/ggge.20110, 2013
- 73) Kinsey, J.C., **M.A. Tivey**, and D.R. Yoerger, Dynamics and Navigation of Autonomous Underwater Vehicles for Submarine Gravity Surveying, *Geophysics*, 78(3), G55-G68, doi:10.1190/GEO2012-0181.1, 2013.
- 72) Caratori-Tontini, F., B. Davy, C. de Ronde, R.W. Embley, M. Leybourne, and **M.A. Tivey**, Crustal magnetization of Brothers volcano New Zealand measured by autonomous vehicles: geophysical expression of a submarine hydrothermal system, *Econ. Geol.*, 107, 1571-1581, 2012.



- 71) Caratori-Tontini, F., C. de Ronde, M. Leybourne, D. Yoerger, J. Kinsey, and **M. Tivey**, 3-D focused inversion of near-seafloor magnetic data with application to the submarine Brothers volcano hydrothermal system, Southern Pacific Ocean, New Zealand, *J. Geophys. Res.*, 117, B10102, 2012JB009349, 2012.
- 70) Mittelstaedt, E., S. Soule; K. Harpp; D. Fornari; C. McKee; **M. Tivey**; D. Geist; M. D. Kurz; C. Sinton; C. Mello; and Scientific Party, Multiple expressions of plume-ridge interaction in the Galápagos: Volcanic lineaments and ridge jumps, *Geochem. Geophys. Geosyst.*, 13, doi:10.1029/2012GC004093, 2012.
- 69) Searle, R.C., B.J. Murton, K. Achenbach, T. LeBas, **M. Tivey**, I. Yeo, M.H. Cormier, J. Carlut, P. Ferreira, C. Mallows, K. Morris, N. Schroth, P. van Calsteren, and C. Waters, Structure and development of an Axial Volcanic Ridge: Mid-Atlantic Ridge, 45°N, *Earth Planet. Sci. Lett.*, 299, 228-241, doi:10.1016/j.epsl.2010.09.003, 2010.
- 68) Johnson, H.P., **M.A. Tivey**, T.A. Bjorkland and M.S. Salmi, Hydrothermal circulation within the Endeavour Segment; Juan de Fuca Ridge, *Geochem. Geophys. Geosyst.*, 11(5), Q05002, doi:10.1029/2009GC002957, 2010.
- 67) Hoagland, P., S.E. Beaulieu, **M.A. Tivey**, R.G. Eggert, C.R. German, L. Glowka and J. Lin, Deep sea mining of seafloor massive sulfides, *Marine Policy*, 34, 728-732, doi:10.1016/j.marpol. 2009.12.001, 2010.
- 66) **Tivey, M.A.**, and J. Dymant, The magnetic signature of hydrothermal systems in slow-spreading environments, *AGU Monograph on Diversity of hydrothermal systems on slow spreading ridges*, edited by P. Rona, C. Devey, J. Dymant and B. Murton, v. 188, pp. 43-66, 2010.
- 65) Zhu, J., J. Lin, Y.J. Chen, C. Tao, C.R. German, D.R. Yoerger, and **M.A. Tivey**, A reduced crustal magnetization zone near the first observed active hydrothermal vent field on the southwest Indian Ridge, *Geophys. Res. Lett.*, 37, doi:10.1029/2010GL043542, 2010.
- 64) Yoerger, D.R., A.M. Bradley M. Jakuba, **M.A. Tivey**, C.R. German, and R.W. Embley, Mid-ocean ridge exploration with an autonomous underwater vehicle, *Oceanography*, 20, 52-61, 2008.
- 63) \*Tominaga, M., W.W. Sager, **M.A. Tivey**, and S-M. Lee, Deep-tow Magnetic Profile Study of the Pacific Jurassic Quiet Zone and Inferences for the Geomagnetic Polarity Reversal Time Scale and Jurassic Geomagnetic Field Behavior, *J. Geophys. Res.*, 113, B07110, doi:10.1029/2007JB005527, 2008.
- 62) Dick, H.J.B., **M.A. Tivey** and B.E. Tucholke, Plutonic foundation of a slow spread ridge segment: The oceanic core complex at Kane Megamullion, 23°30'N, 45°20'W, *Geochem. Geophys. Geosyst.*, 9, 5, Q05014, doi:10.1029/2007GC001645, 2008.
- 61) \*Williams, C., **M.A. Tivey**, H. Schouten, and D.J. Fornari, The Central Anomaly Magnetization High documents variations in crustal accretionary processes along the East Pacific Rise (9°55' – 9°25'N), *Geochem. Geophys. Geosyst.*, 9(4), Q04015, doi:10.1029/2007GC001611, 2008.
- 60) #Kinsey, J.C., **M.A. Tivey**, and D.R. Yoerger, Toward high-spatial resolution gravity surveying of the mid-ocean ridges with autonomous underwater vehicles, Proc. IEEE/MTS Oceans Conf. Sept. 2008, Quebec City, Canada.
- 59) **Tivey, M.A.**, Vine-Matthews-Morley Hypothesis, *Encyclopedia of Geomagnetism and Paleomagnetism*, edited by D. Gubbins and E. Herrero-Bervera, Springer, Dordrecht NL, 980-983, 2007.
- 58) **Tivey, M.A.**, Marine magnetic surveys, *Encyclopedia of Geomagnetism and Paleomagnetism*, edited by D. Gubbins and E. Herrero-Bervera, Springer, Dordrecht NL, 542-545, 2007.
- 57) Ferrini, V. L., D. J. Fornari, T. M. Shank, J. C. Kinsey, **M. A. Tivey**, S. A. Soule, S. M. Carbotte, L. L. Whitcomb, D. Yoerger, and J. Howland, Sub-meter bathymetric mapping of volcanic and hydrothermal features on the East Pacific Rise crest at 9°50'N, *Geochem. Geophys. Geosyst.*, 8, Q01006, doi:10.1029/2006GC001333, 2007.

- 56) Escartin, J., S.A. Soule, D.J. Fornari, **M.A. Tivey**, H. Schouten, M.R. Perfit, Interactions between faults and lava flows along the East Pacific Rise crest (9°10'-50'N): Implications for upper oceanic crust construction, *Geochem. Geophys. Geosyst.*, 8, Q06005, doi:10.1029/2006GC001339, 2007.
- 55) Yoerger, D., A.M. Bradley, M. Jakuba, C. German, T. Shank, and **M.A. Tivey**, Autonomous and remotely operated vehicle technology for hydrothermal vent discovery, exploration and sampling, *Oceanography*, 20, 86-97, 2007.
- 54) #Deschamps, A., **M. Tivey**, R.W. Embley, and W.W. Chadwick, Quantitative study of the deformation at Southern Explorer Ridge using high-resolution bathymetric data, *Earth Planet. Sci. Lett.*, doi:10.1016/j.epsl.2007.04.007, 2007.
- 53) **Tivey, M.A.**, W.W. Sager, S-M. Lee and M. Tominaga, Origin of the Pacific Jurassic Quiet Zone, *Geology*, 34, 789-792, 2006.
- 52) Stakes, D.S., M.R. Perfit, **M.A. Tivey**, D. Caress, T.M. Ramirez, and N. Maher, The Cleft revealed: Geologic, magnetic and morphologic evidence for construction of upper oceanic crust along the southern Juan de Fuca Ridge, *Geochem., Geophys., Geosyst.*, 7, Q04003, doi:10.1029/2005GC001038, 2006.
- 51) \*Pollock, M.A., E.M. Klein, J.A. Karson, and **M.A. Tivey**, Temporal and spatial variability in the composition of lavas exposed along the Western Blanco Transform Fault, *Geochem., Geophys., Geosyst.*, 6, Q11009, doi:10.1029/2005GC001026, 2005.
- 50) Soule, S.A., D.J. Fornari, M.P. Perfit, **M.A. Tivey**, W.I. Ridley, and H. Schouten, Channelized lava flows at the East Pacific Rise crest 9-10°N: the importance of off-axis lava transport in developing the architecture of young oceanic crust, *Geochem., Geophys., Geosyst.*, 6, Q08005, doi:10.1029/2005GC000912, 2005
- 49) **Tivey, M. A.**, Roger Larson, Hans Schouten, Robert A. Pockalny, Downhole Magnetic Measurements of ODP Hole 801C: Implications for Pacific Oceanic Crust and Magnetic Field Behavior in the Middle Jurassic, *Geochem., Geophys., Geosyst.*, 6, Q04008, doi:10.1029/2004GC000754, 2005.
- 48) Fornari, D.J., **M.A. Tivey**, H. Schouten, M. Perfit, K. Von Damm, D. Yoerger, A. Bradley, M. Edwards, R. Haymon, T. Shank, D. Scheirer, and P. Johnson, Submarine lava flow emplacement processes at the east pacific rise 9 50N Implications for hydrothermal fluid circulation in the upper ocean crust, AGU Monograph148, Mid-Ocean Ridges: Hydrothermal interactions between the lithosphere and oceans, edited by C. German, J. Lin, and L.M. Parson, AGU, Washington DC, 187-218, 2004.
- 47) Sichel, E. K. and **M.A. Tivey**, A marine technology project for high school and college students, *Current: The Journal of Marine Education*, 19, 7-11, 2003.
- 46) \*Hosford, A., **M.A. Tivey**, T. Matsumoto, H. Dick, and H. Schouten, Crustal accretion at an ultra-slow spreading ridge: results from 0-25 Myr old crust on both flanks of the southwest Indian Ridge between 56°55' – 58°40'E, *J. Geophys. Res.*, 108, 10.1029/2001JB000604, 2003.
- 45) **Tivey, M.A.**, H. Schouten and M.C. Kleinrock, A near-bottom magnetic survey of the Mid-Atlantic Ridge axis at 26°N: Implications for the tectonic evolution of the TAG segment, *J. Geophys. Res.*, 108, 10.1029/2002JB001967, 2003.
- 44) Johnson, H.P., S.L. Hautala, **M.A. Tivey**, C.D. Jones, J. Voight, M. Pruis, I. Garcia-Berdeal, L.A. Gilbert, T. Bjorklund, W. Fredericks, J. Howland, M. Tsurumi, T. Kurokawa, K. Nakamura, K. O'Connell, L. Thomas, S. Bolton, J. Turner, and Thermal scientific Party, Survey studies hydrothermal circulation on the northern Juan de Fuca Ridge, *EOS*, 83, 73-79, 2002.
- 43) **Tivey, M.A.** and H.P. Johnson, Crustal magnetization reveals subsurface structure of Juan de Fuca Ridge hydrothermal fields, *Geology*, 30, 979-982, 2002.

- 42) Karson, J.A., **M.A. Tivey** and J.R. Delaney, Internal structure of uppermost oceanic crust along the Western Blanco Transform Scarp: Implications for subaxial accretion and deformation at the Juan de Fuca Ridge, *J. Geophys. Res.*, 10.1029/2000JB000051, 2002.
- 41) Allerton, S., and **M.A. Tivey**, Magnetic polarity structure of lower oceanic crust, *Geophys. Res. Lett.*, 28, 423-426, 2001.
- 40) Smith, D.K., **M.A. Tivey**, P. Gregg, and L. Kong, Magnetic anomalies at the Puna Ridge, a submarine extension of Kilauea Volcano: Implications for lava deposition, *J. Geophys. Res.*, 106, 16,047-16,060, 2001.
- 39) Johnson, H.P., M.J. Pruis D. Van Patten, and **M.A. Tivey**, Density and porosity of upper oceanic crust from seafloor gravity measurements, *Geophys. Res. Lett.*, 27, 1053-1056, 2000.
- 38) Mitchell, N. C., **M.A. Tivey** and P. Gente, Seafloor slopes at mid-ocean ridges from submersible observations and implications for interpreting geology from seafloor topography, *Earth and Planet. Sci. Lett.*, 183, 543-555, 2000.
- 37) Cochran, J.R., D.J. Fornari, B.J. Coakley, R. Herr, and **M.A. Tivey**, Continuous near-bottom gravity measurements made with a BGM-3 gravimeter in DSV Alvin on the East Pacific Rise crest near 9°30'N and 9°50'N, *J. Geophys. Res.*, 104, 10841-10861, 1999.
- 36) Schouten, H., **M.A. Tivey**, D.J. Fornari, and J.R. Cochran, The central anomaly magnetic high: Constraints on volcanic construction of seismic layer 2A at a fast-spreading midocean ridge, the East Pacific Rise at 9°30'-50'N, *Earth Planet. Sci. Lett.*, 169, 37-50, 1999.
- 35) Smith, D.K., **M.A. Tivey**, H. Schouten and J.R. Cann, Locating the spreading axis along 80 km of the Mid-Atlantic Ridge south of the Atlantis Transform, *J. Geophys. Res.*, 104, 7599-7612, 1999.
- 34) **Tivey, M.A.**, A. Takeuchi, and WMARK Scientific Party, Submersible study of the western intersection of the Mid-Atlantic Ridge and Kane fracture zone (WMARK), *Mar. Geophys. Res.*, 20, 195-218, 1998.
- 33) **Tivey, M.A.**, H.P. Johnson, and BLANCOVIN Scientific Party, Direct measurement of magnetic reversal polarity boundaries in a cross-section of oceanic crust, *Geophys. Res. Lett.*, 25, 3631-3634, 1998.
- 32) **Tivey, M.A.** and B.E. Tucholke, Magnetization of oceanic crust from 0 to 29 Ma formed at the Mid-Atlantic Ridge 25°30' to 27°10'N, *J. Geophys. Res.*, 103, 17,807-17,826, 1998.
- 31) **Tivey, M.A.**, H.P. Johnson, A. Bradley, and D. Yoerger, Thickness measurements of submarine lava flows determined from near-bottom magnetic field mapping by autonomous underwater vehicle *Geophys. Res. Lett.*, 25, 805-808, 1998.
- 30) Sager, W.W., C.J. Weiss, **M.A. Tivey**, and H.P. Johnson, Geomagnetic polarity reversal model of deep-tow profiles from the Pacific Jurassic Quiet Zone, *J. Geophys. Res.*, 103, 5269-5286, 1998.
- 29) Johnson, H.P., D.V. Kent, **M.A. Tivey**, J.S. Gee, R.L. Larson, and R.W. Embley, Conference on the magnetization of oceanic crust steers future research, *EOS*, 78, pp 198-202, 1997.
- 28) Kleinrock, M.C., B.E. Tucholke, J. Lin and **M.A. Tivey**, Fast rift propagation at a slow spreading ridge: Progressive tearing of an entire spreading segment, *Geology*, 25, 639-642, 1997.
- 27) Smith, D.K., S.E. Humphris, **M.A. Tivey** and J.R. Cann, Viewing the morphology of the Mid-Atlantic Ridge from a new perspective, *EOS*, 78, 265-269, 1997.
- 26) **Tivey, M.A.**, A. Bradley, D. Yoerger, R. Catanach, A. Duester, S. Liberatore and H. Singh, Autonomous underwater vehicle maps seafloor, *EOS*, 78, 229-230, 1997.

- 25) Tucholke, B.E., J. Lin, M.C. Kleinrock, **M.A. Tivey**, T.B. Reed, J. Goff and G.E. Jaroslow, Segmentation and crustal structure of the western Atlantic Ridge flank 25°30' - 27°10'N and 0-29 M.Y., *J. Geophys. Res.*, 102, 10,203-10,224, 1997.
- 24) \*Hussenoeder, S., **M.A. Tivey**, H. Schouten, and R. Searle, Near-bottom magnetic survey of the Mid-Atlantic Ridge Axis, 24° - 24°40'N: Implications for crustal accretion at slow spreading ridges, *J. Geophys. Res.*, 101, 22,051-22,069, 1996.
- 23) \*Lee, S-M, S.C. Solomon, and **M.A. Tivey**, Fine-scale crustal magnetization anomalies and segmentation of the East Pacific rise, 9°10'-9°50'N, *J. Geophys. Res.*, 101, 22,033-22,050, 1996.
- 22) **Tivey, M.A.**, The vertical magnetic structure of ocean crust determined from near-bottom magnetic field measurements, *J. Geophys. Res.*, 101, 20,275-20,296, 1996.
- 21) **Tivey, M.A.**, P. A. Rona, and M. C. Kleinrock, Reduced crustal magnetization beneath relict hydrothermal mounds of the TAG hydrothermal field, Mid-Atlantic Ridge, 26°N, *Geophys. Res. Lett.*, 23, 3511-3514, 1996.
- 20) \*Hussenoeder, S., **M.A. Tivey**, H. Schouten, Direct inversion of potential fields from an uneven track with application to the Mid-Atlantic Ridge, *Geophys. Res. Lett.*, 22, 3131-3134, 1995.
- 19) Johnson, H.P., and **M.A. Tivey**, Magnetic properties of zero-age oceanic crust; a new submarine lava flow on the Juan de Fuca Ridge, *Geophys. Res. Lett.*, 22, 175-178, 1995.
- 18) Johnson, H.P., D. Van Patten, **M.A. Tivey**, and W.W. Sager, Geomagnetic polarity reversal rate for the phanerozoic, *Geophys. Res. Lett.*, 22, 231-234, 1995.
- 17) Juteau, T., D. Bideau, O Dauteuil, G. Manac'h, D.D. Naidoo, P. Nehlig, H. Ondreas, **M.A. Tivey**, K.X. Whipple, and J.R. Delaney, A submersible study in the western Blanco Fracture Zone, N.E. Pacific: Lithostratigraphy, magnetic structure, and magmatic and tectonic evolution during the last 1.6 Ma, *Mar. Geophys. Res.*, 17, 399-430, 1995.
- 16) Juteau, T., D. Bideau, O Dauteuil, G. Manac'h, D.D. Naidoo, P. Nehlig, H. Ondreas, **M.A. Tivey**, K.X. Whipple, and J.R. Delaney, De la propagation a l'accrétion océanique: étude par submersible du mur nord de la Fosse Ouest-Blanco (Zone de Fracture Blanco, Pacifique NE), *Bull. Soc. géol. France*, 166, 105-121, 1995.
- 15) **Tivey, M.A.**, and H.P. Johnson, Alvin magnetic survey of zero-age crust: Coaxial segment eruption, Juan de Fuca Ridge 1993, *Geophys. Res. Lett.*, 22, 171-174, 1995.
- 14) Auzende, J-M., M. Cannat, P. Gente, J-P. Henriët, T. Juteau, J. Karson, Y. Lagabrielle, C. Mevel, et **M.A. Tivey**, Observation of section of oceanic crust and mantle cropping out on the southern wall of Kane FZ (N. Atlantic), *Terra Nova*, 6, 143-148, 1994.
- 13) **Tivey, M.A.**, The fine-scale magnetic anomaly field over the Southern Juan de Fuca Ridge: The axial magnetic low and implications for crustal structure, *J. Geophys. Res.*, Special issue on Southern Juan de Fuca Ridge, 99, 4833-4855, 1994.
- 12) **Tivey, M.A.**, High-resolution magnetic surveys over the Middle Valley mounds, Northern Juan de Fuca Ridge, Proc. ODP, *Scientific Results*, 139, 29-35, 1994.
- 11) Auzende, J-M., M. Cannat, P. Gente, J-P. Henriët, T. Juteau, J. Karson, Y. Lagabrielle, C. Mevel, et **M.A. Tivey**, Affleurments des roches profondes de la croûte océanique et du manteau sur le mur sud de la fracture Kane (Atlantique central) : observations par submersible, *Comptes Rendus Acad. Sci. Paris*, 317, II, 1641-1648, 1993.
- 10) Auzende, J-M., **M.A. Tivey** et al., Première exploration in situ de la dorsale médio-Atlantique au sud de la zone de fracture Atlantis (29°06'N 43°11'W), *Comptes Rendus Acad. Sci. Paris*, 316, II, 1415-1422, 1993.

- 9) **Tivey, M.A.**, and H.P. Johnson, Variations in oceanic crustal structure and the implications for the fine-scale magnetic anomaly signal, *Geophys. Res. Lett.*, 20, 17 1879-1882, 1993.
- 8) **Tivey, M.A.**, P.A. Rona and H. Schouten, Reduced crustal magnetization beneath the active sulfide mound, TAG Hydrothermal Field, Mid-Atlantic Ridge 26°N, *Earth Planet. Sci. Lett.*, 115, 101-116, 1993.
- 7) \*Wooldridge, A.L., C.G.A. Harrison, **M.A. Tivey**, P.A. Rona, and H. Schouten, Magnetic modeling near selected areas of hydrothermal activity on the Mid-Atlantic and Gorda ridges, *J. Geophys. Res.*, 97, 10,911-10,926, 1992.
- 6) **Tivey, M.A.**, and H.P. Johnson, The magnetic structure of Axial Seamount, Juan de Fuca Ridge, *J. Geophys. Res.*, Special issue on Axial Seamount , 95, 12735-12752, 1990.
- 5) **Tivey, M.A.** and H.P. Johnson, High resolution geophysical studies of oceanic hydrothermal systems, *CRC Critical Reviews in Aquatic Science* , 1, 3, 473-496, 1989.
- 4) Embley, R.W., I. Jonasson, M. Perfit, **M. Tivey**, A. Malahoff, J. Franklin, M. Smith and T. Francis, Submersible investigation of an extinct hydrothermal system on the Galapagos Ridge: Sulfide mounds, stockwork zone and differentiated basalts, *Can. Mineralogist*, 26, 517-539, 1988.
- 3) **Tivey, M.A.**, and H.P. Johnson, The Central Anomaly Magnetic High: Implications for Ocean Crust Construction and Evolution, *J. Geophys. Res.*, 92, 12,685-12,694, 1987.
- 2) **Tivey, M.A.** and H.P. Johnson, The characterization of viscous remanent magnetization in large and small magnetite particles, *J. Geophys. Res.*, 89, 543-552, 1984.
- 1) **Tivey, M.A.** and H.P. Johnson, Characterization of viscous remanent magnetization in single and multi-domain magnetite grains, *Geophys. Res. Lett.*, 8, 217-220, 1981.

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## Conference Proceedings and Contributed Publications

Hansen, J., J. Kinsey, D. Fourie, C. Pontbriand, J. Ware, N. Farr, C. Kaiser, **M. Tivey**. Autonomous Acoustic- Aided Optical Localization for Data Transfer. MTS/IEEE OCEANS 2015 Conference, October 19-22, 2015.

Farr, N.E., J.D. Ware, C.T. Pontbriand, and **M.A. Tivey**, "Demonstration of Wireless Data Harvesting from a Subsea Node Using a 'Ship of Opportunity'." MTS/IEEE OCEANS 2013 Conference, San Diego, CA, 23-26 Sept. 2013.

**Tivey, M.A.**, and Seafloor Mineralization Working Group, InterRidge and International Scientific Research Activities into Seafloor Mineralization at Hydrothermal Vent Systems, Proc. MTS/IEEE Oceans, Waikaloa, Hawaii, Sept. 2011.

**Tivey, M.**, Crustal controls on the pattern of hydrothermal circulation at midocean ridges, Ridge2000 Meeting Workshop, Portland, Oregon, Oct 29-21, 2010.

Farr, N., J. Ware, C.T. Pontbriand, D.E. Frye, and **M. Tivey**, Optical communication system expands CORK seafloor observatory's bandwidth, Proc. IEEE/MTS Oceans Meeting, Seattle, USA, 2010.

Farr, N., J. Ware, C.T. Pontbriand, D.E. Frye, and **M. Tivey**, An integrated optical/acoustic communications system, Proc. IEEE/MTS Oceans Meeting, Sidney, Australia, paper 100129-029, 2010.

**Tivey, M.A.**, and C. M. Williams, The Magnetism of Oceanic Core Complexes – the Kane OCC, Abstract, AGU Chapman Conference, Agros, Cyprus, 2010.

Hansen, L.N., M.J. Cheadle, B.E. John, H.J.B. Dick, B.E. Tucholke, **M.A. Tivey**, Mylonitic detachment faulting on the Mid-Atlantic Ridge at the Kane Fracture Zone oceanic core complex: Implications for the

rheological characteristics of oceanic detachment systems, abstract, AGU Chapman Conference, Agros, Cyprus, 2010.

**Tivey, M.A.**, and S. Beaulieu, Workshop on Deep Sea Mining of Seafloor Massive Sulfides, *InterRidge News*, 18, 50-51, 2009

**Tivey, M.A.**, Working Group Updates, Seafloor Mineralization, *InterRidge News*, 18, 48, 2009.

Geophysics: Not so quiet zone, *Nature* 443, 4-5 (7 September 2006), doi:10.1038/443004a.

**Tivey, M.A.**, Paving the seafloor – brick by brick, *Oceanus*, 42 (2), 44-48, 2004.

**Tivey, M.A.**, P. Fucile, E. Sichel, A low power low cost underwater optical communication system, *Ridge 2000 Events*, 2, 27-29, 2004.

Schouten, H., **M. Tivey**, D. Fornari, D. Yoerger, A. Bradley, M. Edwards, and P. Johnson, Central Anomaly Magnetization High: Constraints on the volcanic construction and architecture of young upper oceanic crust, EPR 9-10N, *Ridge 2000 Events*, 1, 30-34, 2003.

Stakes, D. S., M.R. Perfit, **M.A. Tivey**, T. Walsh, M. McCann, T. M Ramirez, and D. Caress, Virtual field trip from the Juan de Fuca Ridge, (DVD presentation), MBARI Digital Data Series No. 8, 2003.

Hosford, A., and **M.A. Tivey**, A regional context for Hole 735B, *JOI/USSAC Newsletter*, 14, 5, 2001.

**Tivey, M.A.**, The magnetic thickness of a recent submarine lava flow obtained by an autonomous underwater vehicle, *Oceanus*, 41, 20-22, 1998.

**Tivey, M.A.**, A. Bradley, D. Yoerger, R. Catanach, A. Duester, S. Liberatore and H. Singh, Autonomous underwater vehicle maps seafloor, *Earth in Space*, 10, 10-14, 1997.

Fujimoto, H., N. Seama, T. Tanaka, **M.A. Tivey**, J. Lin, T. Matsumoto, T. Fujiwara, T. Furuta and K. Fujioka, Geophysical mapping of the Mid-Atlantic Ridge 23.5-28N, *JAMSTEC Journal of Deep Sea Research*, 12, 347-354, 1996.

**Tivey, M.A.**, From the beginning: Monitoring change in a young lava flow, *Oceanus*, 39, 1, 21, 1996.

Yoerger, D., A. Bradley, R. Bachmayer, R. Catanach, A. Duester, S. Liberatore, H. Singh, B. Walden and **M.A. Tivey**, Near-bottom magnetic surveys of the Coaxial Ridge segment using the Autonomous Benthic Explorer survey vehicle, *RIDGE Events*, 7, 5-9, 1996.

Fujimoto, H., W. Bryan, **M.A. Tivey**, P. Kelemen, K. Kobayashi, T. Matsumoto, H. Kinoshita, A. Takeuchi, H. Ishizuka, T. Furuta and T. Fujiwara, Outline of diving surveys in the WMARK Area in the Atlantic, *JAMSTEC Journal of Deep Sea Research*, 11, 1-10, 1995.

Fujiwara, T., H. Fujimoto, and **M.A. Tivey**, On-bottom observation of geomagnetic vector field on the western intersection of the Mid-Atlantic Ridge and Kane Transform fault (WMARK), *JAMSTEC Journal of Deep Sea Research*, 11, 11-20, 1995.

Ishizuka, H., H. Fujimoto, W. Bryan, T. Fujiwara, T. Furuta, P. Kelemen, H. Kinoshita, K. Kobayashi, T. Matsumoto, A. Takeuchi, and **M.A. Tivey**, Oceanic lower crust and upper mantle materials in transform fault zone of WMARK, *JAMSTEC Journal of Deep Sea Research*, 11, 37-52, 1995.

Kobayashi, K., H. Fujimoto, W. Bryan, **M.A. Tivey**, P. Kelemen, T. Matsumoto, H. Kinoshita, A. Takeuchi, H. Ishizuka, T. Furuta and T. Fujiwara, Ocean floor slumpings under active transform tectonism observed by the Mid-Atlantic Ridge - Kane transform fault survey of R/S "Shinkai 6500", *JAMSTEC Journal of Deep Sea Research*, 11, 63-70, 1995.

Matsumoto, T., H. Fujimoto, J. Lin, W. Bryan, **M.A. Tivey**, P. Kelemen, H. Ishizuka, H. Kinoshita, A. Takeuchi, K. Kobayashi, T. Fujiwara and T. Furuta, Density structure of basement rocks and its tectonic

implications in the Kane Fracture zone area, Mid-Atlantic Ridge - Preliminary Results, *JAMSTEC Journal of Deep Sea Research*, 11, 27-36, 1995.

Takeuchi, A., H. Fujimoto, W. Bryan, **M.A. Tivey**, H. Ishizuka, P. Kelemen, H. Kinoshita, T. Matsumoto, K. Kobayashi, T. Furuta and T. Fujiwara, Active tectonics at the Mid-Atlantic Ridge/Kane transform intersection (WMARK), *JAMSTEC Journal of Deep Sea Research*, 11, 53-62, 1995.

**Tivey, M.A.**, and Scientific party, BLANCOVIN ALVIN Cruise Report, WHOI Data Library, 1995.

**Tivey, M.A.**, and Scientific party, COAXIAL ALVIN Cruise Report - Geophysical surveys with ABE, 1995.

**Tivey, M.A.**, Scientists track change over time in a young lava flow, in Woods Hole Oceanographic Institution Annual Report 1995, 13, 1995.

Auzende et al., A transect through 0-4 Ma Oceanic crust: Nautilite dives along the Kane Transform, *RIDGE Events*, June 1993.

**Tivey, M.A.**, Leg 139 drilling tests magnetic models, *JOI/USSAC Newsletter*, July, 5, 2, 1992.

**Tivey, M.A.** and H. Schouten, Micro-magnetic field measurements near the ocean floor, *Oceanus*, 35, 4, 82-88. 1992.

---

## Published Abstracts

(168) Reysenbach, A-L., F. Caratori Tontini, C.E.J. de Ronde, S.E. Humphris, M.A. Tivey, A. Diehl, G. Flores, V. Schenker, L. Stewart, V. Stucker, and S.L. Walker, Hydrothermal and Microbiological Investigations of the Active Brothers Volcano in the Kermadec Arc, AGU Fall Meeting, Abstract OS24, 2018.

(167) Caratori Tontini, F., M. Tivey, C.E.J. de Ronde, and S. Humphris, Heat-flow and near-seafloor magnetic anomalies highlight hydrothermal circulation at Brothers volcano (southern Kermadec Arc), AGU Fall Meeting, Abstract OS24, 2018.

(166) Tao, W., T. Chunhui, M. Tivey, Z. Fei, and Z. Jinhui, High-resolution magnetic exploration of Longqi hydrothermal field (49.6°E) on SWIR, AGU Fall Meeting, Abstract OS24, 2018.

(165) Beaulieu, S., P. Hoagland, C. German, and M. Tivey, Applying an economic value framework to ecosystem services from deep-sea vents, 6th International Symposium on Chemosynthesis-Based Ecosystems, Woods Hole, Aug 27 - Sep 1, 2017.

(164) Greene, J., D. Lizarralde, M. Tominaga, and **M. Tivey**, Seismic Characterization of Silica Diagenesis in the Northwestern Pacific, AGU Fall Meeting, Abstract OS53A-1174, 2017.

(163) Tominaga, M., **M. Tivey**, and W. Sager, Toward establishing a definitive Mid Jurassic to Early Cretaceous (M-series) Geomagnetic Polarity Reversal Time Scale through unraveling the nature of Jurassic Quiet Zone, AGU Fall Meeting, Abstract GP42A-04, 2017.

(161) Tominaga, M., **M. Tivey**, and W. Sager, Revising (Re-defining?) the Jurassic Magnetic Quiet Zone, AGU Fall Meeting, Abstract DI13A-2350, 2016.

(160) Claus, B. M. Tominaga, **M. Tivey** and J. Kinsey, Observing Crustal Magnetic Anomalies in Remote Ocean Regions: Filling in the Gaps, AGU Fall Meeting Abstract OS41B-1954, 2016.

(159) 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, AGU Fall Meeting Abstract GP43C-1253, 2016.

- (158) Bowles, J., A. Morris, **M. Tivey** and IODP Expedition 360 Scientist Party, Paleomagnetic and rock magnetic results from in-situ oceanic gabbro from Atlantis Bank: IODP Expedition 360, AGU Fall Meeting Abstract GP43C-1256, 2016.
- (157) Morris, A., J. Bowles, **M. Tivey** and IODP Expedition 360 Scientist Party, Paleomagnetic constraints on the evolution of Atlantis Bank: results from IODP Expedition 360 "SW Indian Ridge Lower Crust and Moho", AGU Fall Meeting Abstract OS31D-2059, 2016.
- (156) Blackman, D., B. Ildefonse, N. Abe, A. Harding, G. Guerin and IODP Expedition 360 Science Party, Physical properties of gabbroic rock exposed in oceanic core complexes- new borehole data from IODP Hole U1473A in the Indian Ocean and prior Mid-Atlantic Ridge results, AGU Fall Meeting Abstract OS31D-2060, 2016.
- (155) Blum, P., H. Dick, C. MacLeod and IODP Expedition 360 Scientists, IODP Exp 362T: additional coring and remediation in Hole U1473A - continuing the journey to the Moho, AGU Fall Meeting Abstract OS31D-2058, 2016.
- (154) Burgio, M., L. Kavanagh, A. Martinez, J. Zhang, and IODP Expedition 360 Scientists. Education and Outreach from the JOIDES Resolution during IODP Expedition 360 : linking onboard and classroom activities, AGU Fall Meeting Abstract OS31D-2062, 2016.
- (153) Cheadle, M.J., John, B.E., Coble, M.A., Koepke, J., Rioux, M. & IODP Expedition 360 Scientists, The Age of IODP Site 1473, Atlantis Bank: Constraints from initial SIMS U-Pb dating and chemistry of zircons, AGU Fall Meeting Abstract OS31D-2052, 2016.
- (152) Deans, J., M. Cheadle, O. Pluemper, G. Viegas, C. Ferrando and IODP Expedition 360 Science Party, Insights into oceanic core complex formation from structural studies of IODP Hole U1473A, Expedition 360 Atlantis Bank, Southwest Indian Ridge, AGU Fall Meeting Abstract OS23F-03, 2016.
- (151) Dick, H.J., C.J. MacLeod, P. Blum and Expedition 360 Scientific Party, Lateral Variability of the Lower Ocean Crust at Atlantis Bank, SW Indian Ridge, Results of IODP Expedition 360, AGU Fall Meeting Abstract OS23F-02, 2016.
- (150) Kavanagh, L., A. Martinez, M. Burgio, J. Zhang, and the **IODP Expedition 360 Science Party**. IODP Expedition 360: Analyzing the Media Coverage of a High Profile Research Project, AGU Fall Meeting Abstract ED33G-04, 2016.
- (149) MacLeod, C.J., J. Deans, A. Morris, A. Evans, M.J. Cheadle, C. Ferrando, O. Plümpfer, L.G. Viegas, B. Ildefonse, H.J.B. Dick & **IODP Expedition 360 Scientists**, Contrasting modes of detachment faulting at slower spreading midocean ridges, AGU Fall Meeting Abstract T33A-2992, 2016.
- (148) MacLeod, C.J., H.J.B. Dick, P. Blum & **IODP Expedition 360 Scientific Party**, The nature of the lower crust and Moho at slower spreading ridges: SloMo Leg 1 (IODP Expedition 360), AGU Fall Meeting Abstract OS23F-01, 2016.
- (147) Martinez, A.O., L. Kavanagh, M. Burgio, and **IODP Expedition 360 Science Party**, Outreach aboard the JOIDES Resolution: Bringing cutting edge research on Mid Ocean Ridge Processes to Classrooms Worldwide, AGU Fall Meeting Abstract OS31D-2063, 2016.
- (146) Natland, J. and **IODP Expedition 360 Scientific Party**, Mobility of late-stage magmatic liquids and the development of detachment faults at a slowly spreading ridge, AGU Fall Meeting Abstract OS31D-2057, 2016.
- (145) Sanfilippo, A., L. France, B. Ghosh, C Liu, T. Morishita, J. Natland, H.J.B. Dick, C.J. MacLeod & **IODP Expedition 360 Scientific Party**, Igneous stratigraphy and rock-types of a long transect of the lower crust formed at the Atlantis Bank core complex (SW Indian Ridge): preliminary results from IODP Expedition 360, AGU Fall Meeting Abstract OS31D-2056, 2016.



- (144) Sylvan, J.B., V.P. Edgcomb, G. Burgaud, F. Klein, F. Schubotz and **IODP 360 Expedition Scientists**, Microbiology of the lower ocean crust - Preliminary results from IODP Expedition 360, Atlantis Bank, AGU Fall Meeting Abstract OS23F-07, 2016.
- (143) Tominaga, M., **M.A. Tivey**, and W.W. Sager, Nature of the Jurassic Magnetic Quiet Zone revealed by sea surface, mid-water, and near source magnetic sensor data in the western Pacific, AGU Fall Meeting Abstract GP23B-1310, 2015.
- (142) Feng, H.S., D. Lizarralde, L.A. Hart, M. Tominaga, **M.A. Tivey** and S.A. Swift, Extent and impact of Cretaceous magmatism on the formation and evolution of Jurassic oceanic crust in the western Pacific, AGU Fall Meeting Abstract, V21A-3016, 2015.
- (141) Caratori Tontini, F., C.E.J. de Ronde, **M.A. Tivey** and J.C. Kinsey, Near-seafloor magnetic exploration of submarine hydrothermal systems in the Kermadec arc, AGU Fall Meeting Abstract (invited) OS51-E02, 2014.
- (140) **Tivey, M.A.**, N. Farr, J. Ware, C. Pontbriand and L.P. Pelletier, A high-speed optical modem communications system for CORK seafloor observatories, AGU Fall Meeting Abstract OS53D-1083, 2014.
- (139) Stucker, V., **M. Tivey**, J. Lupton, S. Walker, and C. de Ronde, Spatial and temporal changes to the water chemistry and heat flux of the Lake Rotomahana hydrothermal system, AGU Fall Meeting Abstract V13D-03 2014.
- (138) Hart, L., M. Tominaga, **M.A. Tivey**, J.C. Kinsey, and W.W. Sager, Gravity anomaly investigation on the formation and evolution of the Hawaiian Jurassic Quiet Zone upper oceanic lithosphere, ASLO Meeting, Abstract: 164:15218, 2014.
- (137) Chandler, M.T., M. Tominaga, W.W. Sager, **M.A. Tivey** and P. Fucile, Mapping the marine magnetic field using autonomous magnetic drifters, ASLO Meeting, Abstract 071:15622, 2014.
- (136) Beinlich, A., M. Tominaga, O. Pluempfer, J. Hoefelmann, **M. Tivey**, E.A. Lima, B.P. Weiss H. Austrheim and B. Jamtveit, Natural Serpentine Carbonation at Linnajavri, N-Norway, AGU Fall Meeting, Abstract MR22A-02, (Invited), 2013.
- (135) Hansen, L., M.J. Cheadle, B.E. John, S.M. Swapp, H.J.B. Dick, B.E. Tuelholke, and **M.A. Tivey**, Mylonitic deformation at the Kane oceanic core complex: Implications for the rheological behavior of oceanic detachment faults, AGU Fall meeting, Abstract T21F-03, 2013.
- (134) Tominaga, M., **M. Tivey** and W. Sager, The origin of the Jurassic Quiet Zone – new insights from Hawaiian Jurassic magnetic anomalies, AGU Fall meeting, Abstract GP13A-1134, 2013.
- (133) Hsu, L., K.A. Lehnert, S.M. Carbotte, V.L. Ferrini, J. Delano, J. Gill, and **M. Tivey**, Rescue of Long-Tail Data from the Ocean Bottom to the Moon, AGU Fall meeting, Abstract IN12A-03, 2013.
- (132) Mathews, N.J., A.J. Oakley, D. Lizarralde, M. Tominaga, **M. Tivey** and W.W. Sager, Seafloor structure and shallow sedimentation in the Pigafetta Basin, Magellan Seamount Chain, and East Mariana Basin of the Central Western Pacific, AGU Fall meeting, Abstract T51B-2472, 2013.
- (131) Thal, J., W. Bach, **M. Tivey** and D. Yoerger, Volcanic and hydrothermal activity of the North Su volcano: New insights from repeated bathymetric surveys and ROV observations. AGU Fall meeting, Abstract OS11D-1667, 2013.
- (130) Salmi, M., M. Hutnak, C. Hearn, **M. Tivey**, T. Bjorklund, H. P. Johnson Characterization of Active Hydrothermal Fluid Discharge and Recharge Zones in the Endeavour Axial Valley, Juan de Fuca Ridge, AGU Fall meeting, Abstract OS12D-1761, 2012.
- (129) Tominaga, M., A. Beinlich, **M. Tivey**, E. Lima and B. Weiss, Magnetic mapping of (carbonated) oceanic crust-mantle boundary: new insights from Linnajavri, northern Norway, AGU Fall meeting, Abstract T43D-2706, 2012.

- (128) **Tivey, M.**, M. Tominaga and W.W. Sager, The last frontier? High-resolution, near-bottom measurements of the Hawaiian Jurassic magnetic anomaly sequence AGU Fall meeting, Invited Abstract T42B-02, 2012.
- (127) Oakley, A.J., N. Mathews, M. Tominaga, **M. Tivey**, W.W. Sager, D. Lizarralde New seamounts and broad seafloor depressions revealed in shipboard geophysical data from the Early Cretaceous – Middle Jurassic seafloor, Central-Western Pacific, AGU Fall meeting, Abstract OS51E-1929, 2012.
- (126) German, C.R., D.J. Fornari, P. Fryer, P.R. Girguis, S.E. Humphris, D.S. Kelley, **M. Tivey**, C.L. Van Dover, and K. Von Damm, Being There & Getting Back Again: Half a Century of Deep Ocean Research & Discovery with the Human Occupied Vehicle “Alvin”, AGU Fall meeting (Invited), OS53E-06, 2012.
- (125) Salmi, M.S., H.P. Johnson, M. Hutnak, **M.A. Tivey**, and T.A. Bjorklund, Discovery of large areas of active hydrothermal discharge and recharge in a mid-ocean ridge axial valley, AGU Ocean Sciences Meeting Abstract: 12712, Salt Lake City, NV, 2012.
- (124) Caratori Tontini, F., C. de Ronde, M. Leybourne, D. Yoerger, J. Kinsey and **M. Tivey**, 3D Focused inversion of magnetic data with application to submarine hydrothermal venting in the Kermadec Arc (New Zealand), EOS Trans. AGU, 92(52), Fall Meet. Suppl. Abstract GP34A-01, 2011.
- (123) Thal, J., W. Bach, **M. Tivey**, D.R. Yoerger, High-resolution geologic mapping in the eastern Manus Basin, EOS Trans. AGU, 92(52), Fall Meet. Suppl. Abstract OS13A-1504, 2011.
- (122) **Tivey, M.**, N. Farr, J. Ware and C. Pontbriand, Results from an Integrated Optical/Acoustic Communication System Installed at CORK 857D: Implications for Future Seafloor Observatories, EOS Trans. AGU, 92(52), Fall Meet. Suppl. Abstract OS11A-1464, 2011.
- (121) MacLeod, C.J., M. Tominaga, **M. Tivey**, A. Morris, and D. Shillington, Characterization of the in situ magnetic and lithologic architecture of Hess Deep using near-bottom vector magnetic data, EOS Trans. AGU, 91(52), Fall Meet. Suppl., Abstract OS14A-05, 2010.
- (120) Caratori Tontini, F., B.W. Davy, C.E. de Ronde, R.W. Embley, and **M. Tivey**, Potential-field inversion from uneven tracks with application to the Brothers volcano AUV magnetic data (Kermadec Arc, New Zealand), EOS Trans. AGU, 91(52), Fall Meet. Suppl., Abstract NS31A-1383, 2010.
- (119) **Tivey, M.**, N. Farr, J. Ware, and C.T. Pontbriand, An integrated optical/acoustic communication system for seafloor observatories, EOS Trans. AGU, 91(52), Fall Meet. Suppl., Abstract U43A-05, 2010.
- (118) Farr, N., J. Ware, C.T. Pontbriand, D.E. Frye, and **M. Tivey**, Integrated optical/acoustic communications system for deep sea data transfer and vehicle control, AGU Ocean Sciences abstract MT23A-04, Portland, 2010.
- (117) Yeo, I.A., K. L. Achenbach, R.C. Searle, T.P. Le Bas, and the JC024 Shipboard Scientific Party Team, Small, monogenetic volcanoes: building blocks of the upper oceanic crust, EGU Geophys. Abstr. Vol. 12, EGU2010-9743-1, 2010.
- (116) Soule, S.A., K.H. Rubin, D.J. Fornari, M.R. Perfit, V.L. Ferrini, S.M. White, T.M. Shank, A. Fundis, D.S. Nakata, **M. Tivey** and A.R. Goss, Volcanic eruption and emplacement during the 2005-06 magmatic event at the East Pacific Rise R2K Integrated Study Site, EOS Trans. AGU, 90(52), Fall Meet. Suppl., Abstract OS11B-03, 2009.
- (115) Kinsey, J.C., **M.A. Tivey** and D.R. Yoerger, Toward High-Spatial Resolution Gravity Surveying of the Mid-Ocean Ridges with Autonomous Underwater Vehicles, IEEE/MTS Oceans Conference Proc., Quebec, 2008.
- (114) Zhu, J., J. Lin, Y. Chen, C. German, D. Yoerger, C. Tao and **M. Tivey**, Near-bottom magnetic observation of the first active hydrothermal vent field at the southwest Indian Ridge, EOS Trans. AGU, 89(53), Fall Meet. Suppl., Abstract T43B-2032, 2008.

(113) Yeo, I., R.C. Searle, K. Achenbach, M. Tivey, T. LeBas, B.J. Murton, P.J. van Calsteren and JC24 Shipboard Scientific Party, Detailed distribution and rapid degradation of small seamounts on the MAR axial volcanic ridge, 45°30'N, EOS Trans. AGU, 89(53), Fall Meet. Suppl., Abstract T41D-08, 2008.

(112) Dick, H.J.B., B.E. Tucholke, **M.A. Tivey**, and J.P. Canales, Evidence for focused melt flow and transient instabilities in the shallow mantle beneath the mid-Atlantic Ridge at Kane Megamullion, RIDGE 2000 Mid-Atlantic Ridge 35-37.5N, Implementation Plan Workshop, 27-28 March 2008, Portland OR.

(111) Dick, H.J.B., B.E. Tucholke, **M. A. Tivey**, focused melt flow in the shallow mantle: Evidence for transient instabilities in the partially molten mantle beneath an ocean ridge? *Geochim. Cosmo Acta*, 72(12), A216, 2008.

(110) Nugroho, C.N., S-M. Lee, **M.A. Tivey** and W.W. Sager, Preliminary analysis of 3.5 Khz sub-bottom acoustic reflectors from chert layer in Pigafetta Basin, East of Mariana Trench, submitted to Korean Society of Oceanography Fall Meeting Seoul, 2007.

(109) Hansen, L.N., M.J. Cheadle, B.E. John, S.M. Swapp, H.J.B. Dick, B.E. Tucholke, and **M.A. Tivey**, Styles of detachment faulting at the Kane Fracture Zone oceanic core complex. 23°N, Mid-Atlantic Ridge, EOS Trans. AGU, 88(52), Fall Meet. Suppl., Abstract T51F-07, 2007.

(108) Soule, S.A., S.M. White, D.J. Fornari, V.L. Ferrini, and **M.A. Tivey**, Comparison of Pre- and Post-Eruption surveys of the 2005-2006 East Pacific Rise volcanic event: Implications for fast-spreading mid-ocean ridge eruption processes, EOS Trans. AGU, 88(52), Fall Meet. Suppl., Abstract, 2007.

(107) Tucholke, B.E., H.J.B. Dick, **M.A. Tivey**, and S.E. Humphris, Cemented mounds perched on the Kane Megamullion detachment surface: A new manifestation of hydrothermal venting?, EOS Trans. AGU, 88, Fall Meet. Suppl., Abstract, 2007.

(106) Williams, C.M., **M.A. Tivey**, M.D. Behn, H.J.B. Dick, and B.E. Tucholke, Geometry of a Polarity Reversal Boundary in Lower Crust and Upper Mantle at Kane Megamullion, EOS Trans. AGU, 88(52), Fall Meet. Suppl., Abstract, 2007.

(105) Bach, W., **M.A. Tivey**, J.S. Seewald, M.K. Tivey, P.R. Craddock and D. Yoerger, Variable basement composition and magma degassing affecting hydrothermal systems in the Eastern Manus Basin: EOS Trans AGU, 88(52), V21D-0749, 2007.

(104) Bach, W., J.S. Seewald, **M.A. Tivey**, M.K. Tivey, D. Yoerger, P.R. Craddock and the Scientific Party of MGLN06MV, Hydrothermal systems in the eastern Manus Basin: Effects of phase separation and fluid mixing, Abstract Goldschmidt Conf., Cologne, 2007.

(103) Seewald, J., E. Reeves, P. Saccocia, O. Rouxel, E. Walsh, P. Craddock, **M. A. Tivey**, W. Bach, M. K. Tivey, Tracing styles of hydrothermal circulation in Manus Basin using vent fluid composition. EGU General Assembly 2007, Geophysical Research Abstracts 9, 10057, 2007

(102) Davy, B., C.E.J. de Ronde, **M. Tivey**, R. Embley, and D. Yoerger, Magnetic surveying of Brothers volcano, Kermadec arc – High resolution near-bottom AUV surveying and regional surface-tow measurements, Joint Geological Society of New Zealand and New Zealand Geophysical Society Annual Conference, Abstract pg 36, November 26-27, Tauranga, NZ, 2007.

(101) Embley et al., Preliminary Results of a Near-Bottom Integrated Seafloor and Water Column survey of Brothers volcano, Kermadec arc, Using the Autonomous Vehicle ABE, EOS Trans. AGU, 88, Fall Meet. Suppl., Abstract, 2007.

(100) Soule, S.A., D.J. Fornari, T. Shank, and **M. Tivey**, The influence of volcanic eruptions on hydrothermal vent succession: the case of Rose Garden and Rosebud on the Eastern Galapagos Rift (86°W), Ridge2000 Theoretical Institute 2006

- (99) Williams, C.M., **M.A. Tivey**, and M.D. Behn, The Magnetic Structure of Kane Megamullion: Results from Marine Magnetic Anomalies, Paleomagnetic Data and Thermal Modeling., *EOS Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract T24A-03, 2006.
- (98) Soule, S.A., D.J. Fornari, K.H. Rubin, M.R. Perfit, **M.A. Tivey**, T.M. Shank, M. Tolstoy, F. Waldhauser, J.P. Cowen, K.L. Von Damm, Extent and dynamics of the 2005-06 volcanic eruptions of the East Pacific Rise, 9°46'-56'N, *EOS Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract V23B-0601, 2006
- (97) Fornari, D.J., Soule, A., M.R. Perfit, K.H. Rubin, T.M. Shank, J.P. Cowen, K.L. Von Damm, **M.A. Tivey**, Variability in Eruptive Vents and Lava Morphology of the 2005-2006 EPR Eruptions near 9 50'N, *EOS Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract V23B-0603, 2006
- (96) **Tivey, M.A.**, W. Bach, M.K. Tivey, J. Seewald, P..Craddock, O. Rouxel, D. Yoerger, C. Yeats, T. McConachy, M. Quigley, D. Vanko and the Scientific Party of MGLN06 Investigating the influence of magmatic volatile input and seawater entrainment on vent deposit morphology and composition in Manus Basin (back-arc) hydrothermal systems, *EOS Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract B34A-01, 2006.
- (95) Glass, J.B., Fornari, D.J., **Tivey, M.A.**, Hall, H.F., Cougan, A.A., Berkenbosch, H.A., Holmes, M.L., White, S.M., del la Torre G., New Insights on Submarine Volcanism in the Western Galapagos Archipelago from High Resolution Sonar and Magnetic Surveys, *EOS Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract V23A-0590, 2006.
- (94) Seewald, J., E. Reeves, P. Saccocia, O. Rouxel, E. Walsh, R. Price, **M.A. Tivey**, W. Bach, M.K. Tivey and the Scientific Party of MGLN06, Water-Rock Reaction, Substrate Composition, Magmatic Degassing, and Mixing as Major Factors Controlling Vent Fluid Compositions in Manus Basin Hydrothermal Systems, *EOS Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract B34A-02, 2006.
- (93) Fornari, D.J., S.A. Soule, J. Escartin, M. Perfit, **M. Tivey**, H. Schouten, V.L. Ferrini, Detailed studies of the axial summit trough of the East Pacific Rise 9-10N, *EOS Trans. AGU Fall Meeting Suppl.*, T31A-0491, 2005.
- (92) Williams, C.M., **M.A. Tivey**, B.E. Tucholke, H.J. Dick, The nature of a magnetic polarity boundary in the lower crust and upper mantle at Kane megamullion, *EOS Trans. AGU Fall Meeting Suppl.*, T41D-1332, 2005.
- (91) Cheadle, M.J. B.E. Tucholke, **M.A. Tivey**, H.J. Dick, J..J. Schwartz and L.N. Hansen, The Nature of Detachment faulting at the Kane Megamullion: Initial Results, *EOS Trans. AGU Fall Meeting Suppl.* T41D-1331, 2005.
- (90) Dick, H.J., **M.A. Tivey**, B.E. Tucholke, and M.J. Cheadle., The Plutonic Foundation of a MAR Ridge Spreading Segment: The Kane Oceanic Core Complex, *EOS Trans. AGU Fall Meeting Suppl.*, T33G-02, 2005.
- (89) Tucholke, B.E., H.J. Dick, **M.A. Tivey**, M.J. Cheadle, Structure of Kane Megamullion, *EOS Trans. AGU Fall Meeting Suppl.*, T33G-01, 2005.
- (88) Brown, R., **M. Tivey**, B. Walden, R. Detrick, A new replacement for the deep diving submersible ALVIN: Initial project update and concept, *EOS Trans. AGU Fall Meeting Suppl.*, OS43B-0559, 2004.
- (87) Ferrini, V., D.J. Fornari, T.M. Shank, **M. Tivey**, D.S. Kelley, D. Glickson, S.M. Carbotte, J. Howland, L.L. Whitcomb, and D. Yoerger, Very High Resolution Bathymetric Mapping at the Ridge 2000 Integrated Study Sites: Acquisition and Processing Protocols Developed During Recent Alvin Field Programs to the East Pacific Rise and Juan de Fuca Ridge , *EOS Trans. AGU Fall Meeting Suppl.*, B13A-0162, 2004.
- (86) Fornari, D.J., J. Escartin, A. Soule, H. Schouten, **M. Tivey**, and V. Ferrini, Burying Tectonic Strain Under Lava Flows at the East Pacific Rise (9 N 26'-58'N), *EOS Trans. AGU Fall Meeting Suppl.*, B13A-0167, 2004.

- (85) Pollock, M.A. E.M. Klein, J.A. Karson, **M.A. Tivey**, Spatial and geochemical variations of lavas exposed along a crustal section in the Blanco Transform: Insights into accretion of the upper oceanic crust at the southern Juan de Fuca Ridge, *EOS Trans. AGU Fall Meeting Suppl.*, T13B-1360, 2004.
- (84) Rzhhanov, Y., L.Mayer, D. Fornari, A. Soule, T. Shank, S. Beaulieu, H. Schouten, and **M. Tivey**, Mosaicking techniques for deep submergence vehicle video imagery – Applications to Ridge2000 Science, *EOS Trans. AGU Fall Meeting Suppl.*, B13A-0163 2004.
- (83) Soule, S.A., D.J. Fornari, M. Perfit, I. Ridley, **M. Tivey**, H. Schouten and V.L. Ferrini, Off-axis lava transport at the East Pacific Rise 9-10degrees N: channelized lava flows, *EOS Trans. AGU Fall Meeting Suppl.*, B13A-0166, 2004.
- (82) Tominaga, M., W.W. Sager, and **M.A. Tivey**, Deep-tow study of magnetic anomalies in the Pacific Jurassic Quiet Zone, *EOS Trans. AGU Fall Meeting Suppl.*, GP43B-0856, 2004.
- (81) **Tivey, M.A.**, R. Larson, W. W. Sager, S-M. Lee, R. Pockalny and H. Schouten, Near-bottom seafloor spreading anomalies around Hole 801C in Pacific Jurassic crust, *EOS Trans. AGU, Joint Assem. Suppl.*, Abstract GP54A-01, 2004.
- (80) **Tivey, M.A.**, Insights into the magnetic structure of oceanic crust from near-bottom magnetic field observations, *EOS Trans. AGU, Joint Assem. Suppl.*, Abstract GP53A-06, 2004.
- (79) **Tivey, M.A.**, W. W. Sager, and S-M. Lee, Deeptow magnetic survey of the Pacific Jurassic Quiet Zone: implication for seafloor spreading anomalies, *EOS Trans. AGU, Fall Meeting Suppl.*, 84 (46), GP32A-07, 2003.
- (78) Becker, N., A. Sterling, P. Fryer, B. Appelgate, and **M. Tivey**, Comparison of sidescan and swath bathymetry and imagery: Merging various types of swath mapping sonar data sets using a variety of post-processing display techniques, *EOS Trans. AGU, Fall Meeting Suppl.*, 84 (46), OS32A-0237, 2003.
- (77) Garry, W.B., T.K. Gregg, H. Schouten, **M. Tivey**, and D. Fornari, Morphologic comparison of submarine lava channels on the East Pacific Rise and simulated lava channels, *EOS Trans. AGU, Fall Meeting Suppl.*, 84 (46), V21D-0547, 2003.
- (76) Williams, C.M., **M.A. Tivey**, D.J. Fornari, H. Schouten, An investigation of small-scale ridge axis offsets using near-bottom magnetic data from the East Pacific Rise, 9° 25'N to 9° 58'N, *EOS Trans. AGU (Fall Meeting)*, B12A-0737, 2003.
- (75) William W. Sager and **Maurice Tivey**, Deep-tow Investigations of “Tiny Wiggles” in the Pacific Jurassic “Quiet Zone”, Chapman Conference on Timescales of the Geomagnetic Field, Gainesville, FL, 9-11 March 2003.
- (74) Perfit, M.R., D.S. Stakes, **M.A. Tivey**, S.E. Kulp, W.I. Ridley, and T.M. Ramirez, Magmagenesis and crustal formation along the southern Juan de Fuca Ridge (JdFR): Results of fine-scale sampling and mapping, *EGS-AGU-EUG Spring Meeting*, 5, 7287, Abstract EAE03-A07287, Nice, France, May 2003.
- (73) **Tivey, M.A.**, D. Fornari, H. Schouten, A. Bradley, D. Yoerger, H.P. Johnson, R. Embley, W. Chadwick, T. Shank, S. Hammond, High-resolution magnetic field and bathymetric imaging using autonomous underwater vehicles, remotely operated vehicles and submersibles, *EGS-AGU-EUG Spring Meeting*, 5, 2858, Abstract EAE03-A02858, Nice, France, May 2003.
- (72) Schouten, H., **M. Tivey**, D. Fornari, and M. Edwards, High-resolution, near-bottom observations of lava transport and accumulation on East Pacific Rise 9-10N, *EGS-AGU-EUG Spring Meeting*, 5, 12502, Abstract EAE03-A12502, Nice, France, May 2003.
- (71) **Tivey, M.A.**, R. Embley, W. Chadwick, A. Bradley and D. Yoerger, High-Resolution Magnetic Field Mapping Over Explorer Ridge - NOAA Ocean Exploration Program, *EOS Trans. AGU (Fall Meeting)*, 83 (47), T11C-1267 2002.

- (70) Schouten, H., **M. Tivey**, D. Fornari, D. Yoerger, A. Bradley, P. Johnson, M. Edwards and T. Kurokawa, Lava Transport and Accumulation Processes on EPR 9° 27'N to 10°N: Interpretations Based on Recent Near-Bottom Sonar Imaging and Seafloor Observations Using ABE, Alvin and a new Digital Deep Sea Camera, *EOS Trans. AGU (Fall Meeting)*, T11C-1262 2002.
- (69) Kurokawa, T., M. Edwards, P. Johnson, D. Fornari, H. Schouten, and **M. Tivey**, Possible Recent Volcanic Activity on the East Pacific Rise at 9° 32'N, *EOS Trans. AGU (Fall Meeting)*, 83 (47), V52A-1283 2002.
- (68) Stakes, D.S., M. Perfit, C. G. Wheat, E. Delong, **M.A. Tivey**, and T.M. Ramirez, Evidence of Volcanism and Extensive Low-Temperature Off-Axis Hydrothermal Venting along the Cleft Segment of the Southern Juan de Fuca Ridge (JdFR), *EOS Trans. AGU (Fall Meeting)*, 83 (47), V61B-1366 2002.
- (67) Hammond, S., T. Shank, D. Fornari, D. Yoerger, A. Bradley, D. Scheirer, **M. Tivey** and AT7-13 scientific party, Multidisciplinary investigations of the Galapagos Rift 86°W to 89.5°W: Exploration for new hydrothermal vents – 25<sup>th</sup> anniversary of the discovery of hydrothermal vents, *EOS Trans. AGU (Fall Meeting)*, 83 (47), T11C-1255 2002.
- (66) Embley, R.W., E.T. Baker; J. Baross; A.E. Bates; Y.C. Beaudoin; A.M. Bradley; D.A. Butterfield; W.W. Chadwick Jr.; B.L. Cousens; K.M. Gillis; M. Jakuba; K. Juniper; R.J. Leveille; M. Lilley; J.E. Lupton; S.G. Merle; K. Nakamura; A. Metaxas; C.L. Moyer; J.E. Resing; S.D. Scott, **M.A. Tivey**; V. Tunncliffe; A. Williams-Jones; D.R. Yoerger, Rediscovery and Exploration of Magic Mountain, Explorer Ridge, NE Pacific, *EOS Trans. AGU (Fall Meeting)*, 83 (47), T11C-1264 2002.
- (65) Perfit, M, D. Stakes, W.I. Ridley, D., **M.A. Tivey**, T. Ramirez, J. Kela, and S. Kulp, Evaluation of the split-ridge hypothesis and generation of oceanic crust along the Cleft segment of the Southern Juan de Fuca Ridge, *EOS Trans. AGU*, 82, 47, F1278, (Fall Meeting), 2001.
- (64) **Tivey, M.A.**, H.P. Johnson and Thermal Grid Scientific Party, (RIDGE Endeavour Observatory workshop), Sept. 2001.
- (63) **Tivey, M.A.**, H.P. Johnson and Thermal Grid Scientific Party, High-resolution geophysical mapping of the hydrothermal vent systems at Endeavour Ridge, Juan de Fuca, *EOS Trans. AGU, Fall Meeting*, 82, 46, F612, , 2001.
- (62) Stakes, D., M. Perfit, **M. A. Tivey**, K. Salamy, and T. Ramirez, Tectonomagmatic cycles and crustal evolution on the Cleft segment of the Juan de Fuca Ridge, EGS Meeting, 2001.
- (61) Gregg, P., D. Smith, L. Kong, K. Johnson, J. Reynolds, F. Trusdell, **M. Tivey**, W. Zhu, M. Bulmer, M. Avgerinos, D. Geist, T. Naumann, J. Mercer, T. Dulaney, and E. Bergmanis, Lava depocenters at the summit of the submarine Puna ridge, Kilauea volcano, *EOS Trans. AGU, (Fall Meeting)*, F1351, 2000.
- (60) Hosford, A., **M.A. Tivey**, and D.K. Smith, Building the crust at the southwest Indian Ridge, 57° - 58°30'E, *EOS Trans. AGU, (Fall Meeting)*, F1129, 2000.
- (59) Stakes, D., M. Perfit, **M. A. Tivey**, K. Salamy, and T. Ramirez, Tectonomagmatic cycles and crustal evolution on the Cleft segment of the Juan de Fuca Ridge, *EOS Trans. AGU, (Fall Meeting)*, F1078, 2000.
- (58) Yoerger, D., J.R. Cochran, D.J. Fornari, R. Herr, T. McGee, H. Schouten and **M. A. Tivey**, Near-bottom, underway gravity survey of the small overlapping spreading center at 9°37'N on the east Pacific Rise Crest, *EOS Trans. AGU, (Fall Meeting)*, F1077, 2000.
- (57) **Tivey, M.A.**, Non-Riser Drilling ODP-Post 2003: Future ideas and directions, Abstract volume: Post-2003 Drilling Ocean Drilling Program Workshop, University of British Columbia, Vancouver, BC, May 1999.
- (56) **Tivey, M.A.**, Regional Geophysics of the Juan de Fuca Ridge, Invited abstract RIDGE Workshop - Juan de Fuca Ridge Symposium, Nov, 1999.

- (55) **Tivey, M.A.**, and H. Schouten, Magnetism of the Juan de Fuca Ridge: The next dimension, Abstract RIDGE Workshop -Juan de Fuca Ridge Symposium, Nov, 1999.
- (54) **Tivey, M.A.**, Wireless oceanography, Abstract RIDGE 2000 Workshop, Newport, OR, Sept. 1999.
- (56) **Tivey, M.A.** and G. Christeson, High-resolution Magnetic Imaging of Extrusive and Intrusive Crust at Hess Deep and a Comparison With Juan de Fuca and Hole 504B Results, *EOS Trans. AGU, (Fall Meeting)*, 80:46, F985, 1999.
- (55) Hosford, A., **M.A. Tivey**, and T. Matsumoto, The spreading history, segmentation, and crustal structure of the Atlantis segment, Southwest Indian Ridge, *EOS Trans. AGU, (Fall Meeting)*, 80:46, F957, 1999.
- (54) Larson, R.L., H. Schouten, **M.A. Tivey**, and ODP Leg 185 Shipboard Scientific Party, Multiple reversals and/or intensity fluctuations in the Jurassic magnetic quiet zone (JQZ) measured by downhole logging in ODP Hole 801C, *EOS Trans. AGU, (Fall Meeting)*, 80:46, F526, 1999.
- (53) Johnson, H.P., and **M.A. Tivey**, A re-evaluation of a contribution to marine magnetic anomalies from lower crustal rocks, *EOS Trans. AGU*, 79, 45, F230, 1998.
- (52) MacLeod, C, Allerton, S, Dick, H, Robinson, P., and JCR31 Scientific Party, High resolution geological mapping and sampling of the lower ocean crust from a near-bottom video and wireline drilling survey, *EOS Trans AGU*, 79, 45, F812, 1998.
- (51) MacLeod, C., Allerton, S., Dick, H., Robinson, P., and JCR 31 Science Party, Geology of Atlantis Bank, SW Indian Ridge: Preliminary Results of RRS James Clark Ross Cruise 31 *EOS, Trans AGU*, 79, 45, F893, 1998.
- (50) Rona, P.A., K. Fujioka, T. Ishihara, H. Chiba, H. Masuda-Nakaya, T. Oomori, M.C. Kleinrock, **M.A. Tivey**, M. Watanabe, and C. Lalou, An active low-temperature mound and a large inactive sulfide mound found in the TAG Hydrothermal Field, Mid-Atlantic Ridge 26°N, 45°W, *EOS Trans. AGU*, 79, 45, F920, 1998.
- (49) Schouten, H., **M.A. Tivey**, and D.J. Fornari, High-resolution image of magnetic layer 2A: EPR 9-10°N, *EOS Trans. AGU*, 79, 45, F816, 1998.
- (48) **Tivey, M.A.**, H. Schouten, and D.J. Fornari, High-resolution magnetic studies of the spreading axis of the East Pacific Rise between 9°30'-9°50'N: Imaging magnetic layer 2A, *RIDGE workshop: Results of field studies Along the East Pacific Rise*, (abstract) 9°-10°N, Sept 24-27, Santa Barbara, CA, 1998.
- (47) **Tivey, M.A.**, and S. Allerton, Vine-Matthews lineations recorded in lower oceanic crust: Oriented core and near-bottom magnetic survey results, *EOS Trans. AGU*, 79, 45, F230, 1998.
- (46) **Tivey, M.A.**, and N.C. Mitchell, A synthesis of submersible dives on mid-ocean ridges: composition of oceanic crust and rock slope geomorphology, *EOS Trans. AGU*, 79, 45, F817, 1998.
- (44) **Tivey, M.A.**, and H. Schouten, Magnetism of the midocean ridge axis and implications for crustal accretion, *EOS Trans. AGU*, 78:46, 641, 1997.
- (43) **Tivey, M.A.**, and M.C. Kleinrock, A deep-tow magnetic survey of the TAG ridge segment of the Mid-Atlantic Ridge 26°N, *EOS Trans. AGU*, 78:46, 669, 1997.
- (42) Johnson, H.P., D. Van Patten and **M.A. Tivey**, Structure of upper oceanic crust from seafloor gravity measurements near the Blanco fracture zone, *EOS Trans. AGU*, 77:46, F707, 1996.
- (41) Smith, D.K., and **M.A. Tivey**, Volcanological insights gained from integrating TOBI sidescan sonar and surface collected magnetic and multibeam data at the Mid-Atlantic Ridge (24° - 30°N), *FARA Interridge meeting*, Iceland, June 1996.

- (40) **Tivey, M.A.**, High resolution magnetic studies of the magnetization of oceanic crust, in Program and collected abstracts, *International Symposium on Deep Sea Research in Subduction Zones, Spreading Centers and Backarc Basins*, p21, JAMSTEC, Tokyo, 1996.
- (39) Fleutelot, C., T. Juteau, **M.A. Tivey** and BLANCOVIN Scientific Team, The Parks Plateau Unveiled, *EOS Trans. AGU*, 76, 46, F421, 1995.
- (38) Hussenoeder, S.A., **M.A. Tivey** and H. Schouten, Near-bottom magnetic survey of the Mid-Atlantic Ridge axis 24°-24°40'N, *IUGG XXI General Assembly*, p. A179,(abstract), 1995.
- (37) Sager, W.W., C.J. Weiss, **M.A. Tivey** and H.P. Johnson, Magnetic reversal model of deep-tow magnetic data from the Pacific Jurassic Quiet Zone, *EOS Trans. AGU*, 76, 46, F175, 1995.
- (36) Schneider, D.A. and **M.A. Tivey**, A method for absolute intensity from sediments, *EOS Trans. AGU*, 76, 46, F171, 1995.
- (35) **Tivey, M A**, C Fleutelot, S Hussenoeder, H P Johnson, R M Lawrence, D D Naidoo, D van Patten, C Waters and F B Wooding, BLANCOVIN: A Submersible Study of Oceanic Crust at a Magnetic Polarity Reversal Boundary, *EOS Trans. AGU*, 76, 46, F421, 1995.
- (34) Tucholke, B.E., M.C. Kleinrock, **M.A. Tivey** and J Lin, Fast propagating rifts in slow spreading crust, *EOS Trans. AGU*, 1995.
- (33) Yoerger, D., A. Bradley, R. Catanach, A. Duester, S. Liberatore, H. Singh, B. Walden, and **M.A. Tivey**, Near-bottom magnetic surveys of the Coaxial Ridge Segment, Juan de Fuca Ridge using the Autonomous Benthic Explorer Survey vehicle, *EOS Trans. AGU*, 76, 46, F411, 1995.
- (32) Bryan, W.B., H. Fujimoto, and MODE '94 Leg 1 Scientific Party, Submersible observations of the WMARK Ridge-transform intersection, MAR at 23°N, *EOS Trans. AGU*, 75, 44, 657, 1994.
- (31) Fujimoto, H., W.B. Bryan, T. Matsumoto, T. Furuta, T. Fujiwara, **M. Tivey**, J. Lin, K. Kobayashi, H. Kinoshita, A. Takeuchi, H. Ishizuka, P. Kelemen, H. Hotta, and M. Purdy, A geophysical survey of the Mid-Atlantic Ridge around the western Kane Transform fault, *EOS Trans. AGU*, 75, 44, 656, 1994.
- (30) Johnson, H.P., D. Van Patten, **M.A. Tivey** and W.W. Sager, Geomagnetic polarity reversal rate for the phanerozoic, *EOS Trans. AGU*, 75, 44, 202, 1994.
- (29) Rona, P.A., S. Petersen, M.D. Hannington, P.M. Herzig, **M.A. Tivey**, M. Kleinrock, S.E. Humphris, G. Thompson, and C. Lalou, ALVIN zone of the TAG hydrothermal field, Mid-Atlantic Ridge 26°N, 45°W, *EOS Trans. AGU*, 75, 44, 706, 1994.
- (28) Van Patten, D., H.P. Johnson, **M.A. Tivey** and W.W. Sager, Anomalous geomagnetic polarity bias at the Jurassic/Triassic boundary, *EOS Trans. AGU*, 75, 44, 202, 1994.
- (27) Shaw, P.R., **M.A. Tivey**, B.E. Tucholke, M.C. Kleinrock, and J. Lin, Past plate motions recorded in abyssal hill lineations and magnetic lineations on the western flank of the MAR, 26N, *EOS Trans. AGU*, 75, 330, 1994.
- (26) **Tivey, M.A.**, G.M. Kent, D.J. Fornari, and J.R. Cochran, Submersible magnetic profiles across the East Pacific Rise at 9°50'N and 9°30'N. Implications for Layer 2A structure, *EOS Trans. AGU*, 75, 44, 601, 1994.
- (25) Hussenoeder, S.A., **M.A. Tivey** and H. Schouten, Near-bottom magnetic survey of the mid-Atlantic ridge axis 24°-24°40'N, *EOS Trans. AGU*, 74, 43, 574, 1993.
- (24) Johnson, H.P., **M.A. Tivey** and M.L. Holmes, A geophysical study of a new eruption on the axial seamount segment of the Juan de Fuca ridge, *EOS Trans. AGU*, 74, 43, 620, 1993.
- (23) Schouten, H. and **M.A. Tivey**, Atlantic magnetic anomaly variability revisited, *EOS Trans. AGU*, 74, 43, 216, 1993.



- (22) **Tivey, M.A.**, A direct measurement of the extrusive lava contribution to the marine magnetic anomaly signal using a submersible, *EOS Trans. AGU*, 74, 43, 216, 1993.
- (21) **Tivey, M.A.**, T. Juteau, and Blanconaute Scientific Team, The vertical magnetic structure of oceanic crust determined by submersible, *EUG VII*, Strasbourg, Terra abstracts, 5, 81, 1993.
- (20) Kleinrock, M.C., B.E. Tucholke, J. Lin, and **M.A. Tivey**, The trace of nontransform offsets and the evolution of Mid-Atlantic Ridge spreading segments between 25°25'N and 27°10'N over the past 30 m.y., *EOS Trans. AGU*, 73, 43, 538, 1992.
- (19) **Tivey, M.A.**, A measurement of the vertical magnetic structure of ocean crust using near bottom sensors, *EOS Trans. AGU*, 73, 14, 90, 1992.
- (18) BLANCONAUTE Shipboard Party, The western Blanco transform: Preliminary insights into the oceanic crustal architecture and transform zone processes, *EOS Trans. AGU*, 72, 44, 519, 1991.
- (17) **Tivey, M.A.**, N. Nomanbhoy, and H.P. Johnson, The fine-scale magnetic anomaly field over the Southern Juan de Fuca Ridge spreading center, *EOS Trans. AGU*, 72, 44, 230, 1991.
- (16) **Tivey, M.A.** and H.P. Johnson, Crustal evolution and the implications for the magnetization of oceanic crust, *EOS Trans. AGU*, 72, 44, 448, 1991.
- (15) **Tivey, M.A.**, P.A. Rona and H. Schouten, A submersible investigation of the magnetic field over the TAG active hydrothermal mound on the Mid-Atlantic Ridge at 26°08'N, 44°49'W, *EOS Trans. AGU*, 72, 265, 1991.
- (14) CREVEX I shipboard party, Studies of crustal evolution, zero to 1 My: The Endeavour Segment of the Juan de Fuca Ridge, *EOS Trans. AGU*, 71, 1675, 1990.
- (13) Johnson, H.P. and **M.A. Tivey**, Tectonic control on hydrothermal systems on the northern Juan de Fuca Ridge: Middle Valley and the Endeavour Segment, *EOS Trans. AGU*, 71, 1566, 1990
- (12) Purdy, G. M., H. Schouten, **M.A. Tivey**, and J-C Sempere, High-resolution central magnetic anomaly field along the Mid-Atlantic Ridge between 24°N and 31°N, *EOS Trans. AGU*, 70, 468, 1989.
- (11) **Tivey, M.A.**, H. Schouten, J. Lin, J-C Sempere, and A. Wooldridge, Predictions of Hydrothermal Fields on the Mid-Atlantic Ridge based on magnetic anomalies, *EOS Trans. AGU*, 70, 1325, 1989.
- (10) **Tivey, M.A.**, H. Schouten, J-C Sempere, and A. Wooldridge, Implications of the 3-D structure of the TAG magnetic anomaly on the Mid-Atlantic Ridge, *EOS Trans. AGU*, 70, 455, 1989.
- (9) Wooldridge, A.L., P.A. Rona, C.G.A. Harrison, **M.A. Tivey**, and H. Schouten, Two and three dimensional inversion on magnetic anomalies near hydrothermal sites on the Mid-Atlantic and Gorda Ridge, *EOS Trans. AGU*, 70, 1325, 1989.
- (8) **Tivey, M.A.** and H.P. Johnson, The anomalous magnetic structure of Axial Seamount, Central Juan de Fuca Ridge, *EOS Trans. AGU*, 69, 1468, 1988.
- (7) **Tivey, M.A.**, and H.P. Johnson, The central anomaly magnetic high: magnetics and tectonics of ridge crest processes, *Intl. Union of Geodesy and Geophysics*, abstr. U9-12, 1, pp. 85, Vancouver, Canada, 1987.
- (6) **Tivey, M.A.**, H.P. Johnson, S.R. Hammond, and R.W. Embley, A Deep-Tow Magnetometer Study of the Summit Caldera of Axial Seamount: Juan de Fuca Ridge, *Hawaii Symposium on How Volcanoes Work*, Hilo, Hawaii, abstr. vol., 1987.
- (5) Embley, R.W., **M. Tivey**, A. Malahoff, and I. Jonasson, Geologic setting of an extinct hydrothermal system on the Galapagos Ridge, *EOS Trans. AGU*, 67, 1185, 1986.

(4) Jonasson, I., R. Embley, T. Francis, A. Malahoff, M. Perfit, and **M. Tivey**, Exposure of the alteration zone beneath the Galapagos massive sulfide deposit, *EOS Trans. AGU*, 66:, 1985.

(3) **Tivey, M.A.** and H.P. Johnson, A near-bottom magnetic survey over an active hydrothermal vent field: Northern Juan de Fuca Ridge, *EOS Trans. AGU*, 66, 925, 1985.

(2) MERGE group, Regional setting and local character of a hydrothermal field/sulfide deposit on the Endeavour Segment of the Juan de Fuca Ridge, *EOS Trans. AGU*, 65, 1111, 1984.

(1) Johnson, H.P. and **M.A. Tivey**, Viscous remanent magnetization in large and small magnetite grains, *IAGA, IV*, Edinburgh, U.K., 1981.