

STEVEN CONSTABLE – CURRICULUM VITAE

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EDUCATION:

1983 Ph.D., Geophysics, Australian National University
1979 Bachelor of Science, Geology (Honors), University of Western Australia

POSITIONS HELD:

2016– Distinguished Professor
Scripps Institution of Oceanography (SIO)
1998–2016 SIO, Professor
1985–1998 SIO, Research Geophysicist (Assistant through Full)
1983–1985 SIO, Postdoctoral Research Oceanographer

PROFESSIONAL SOCIETIES:

Royal Astronomical Society
American Geophysical Union (supporting life member)
Society of Exploration Geophysicists (lifetime member)
European Association of Geoscientists and Engineers

AWARDS, PRIZES:

Rex T. Prider Medal (1979); G.W. Hohmann Award (2003);
SEG Distinguished Achievement Award (for Scripps) (2007);
Hon. Mention, Best Paper, *The Leading Edge* (2007);
R&D 100 Award (with Quasar Geophysical Technologies) (2010)
2015 Bullard Lecturer (AGU section lecture for GPE)
SEG/AAPG Distinguished Lecturer, Fall 2016
SEG Reginald Fessenden Award, 2016
AGU Fellowship, 2016

RESEARCH INTERESTS:

Application of marine EM methods to tectonics and resource exploration.
Electromagnetic sounding of the crust and mantle.
Laboratory studies of electrical conductivity of rocks and minerals.

SUMMARY:

135 publications, 5 patents, 897 days at-sea experience, ISI h-index=42

PUBLICATIONS:

- Constable, C. and S. Constable, 2023.. A grand spectrum of the geomagnetic field. *Physics of the Earth and Planetary Interiors*, **344**, 107090, <https://doi.org/10.1016/j.pepi.2023.107090>.
- Cordell, D., S. Naif, R. Evans, K. Key, S. Constable, D. Shillington, and A. Becel, 2023. Forearc seismogenesis in a weakly coupled subduction zone influenced by slab mantle fluids. *Nature Geoscience*, **16**, 822–827, <https://doi.org/10.1038/s41561-023-01260-w>.
- King, R.B., and S. Constable, 2023. How low can you go: An investigation of depth sensitivity and resolution using towed marine controlled-source electromagnetic systems. *Geophysical Prospecting*, **71**, 722–733, doi.org/10.1111/1365-2478.13345.
- Share, P-E., J.R. Peacock, S. Constable, F.L. Vernon, and S. Wang, 2022. Structural properties of the South-

- ern San Andreas fault zone in northern Coachella Valley from magnetotelluric imaging. *Geophysical Journal International*, **232**, 694–704, <https://doi.org/10.1093/gji/ggac356>.
- Constable, S., and L.A. Stern, 2022. Monitoring offshore CO₂ sequestration using marine CSEM methods; constraints inferred from field- and laboratory-based gas hydrate studies. *Energies*, **15**, 7411, doi.org/10.3390/en15197411.
- Bertrand, E.A., P. Kannberg, T.G. Caldwell, W. Heise, S. Constable, B. Scott, S. Bannister, G. Kilgour, S.L. Bennie, R. Hart, N. Palmer, 2022. Inferring the magmatic roots of volcano-geothermal systems in the Rotorua Caldera and Okataina Volcanic Centre from magnetotelluric models. *Journal of Volcanology and Geothermal Research*, **431**, 107645, doi.org/10.1016/j.jvolgeores.2022.107645.
- Blatter, D., M. Morzfeld, K. Key, and S. Constable, 2022. Uncertainty quantification for regularized inversion of electromagnetic geophysical data – Part I: motivation and theory. *Geophysical Journal International*, **231**, 1057–1074, doi.org/10.1093/gji/ggac241.
- Blatter, D., M. Morzfeld, K. Key, and S. Constable, 2022. Uncertainty quantification for regularized inversion of electromagnetic geophysical data – Part II: application in 1-D and 2-D problems. *Geophysical Journal International*, **231**, 1075–1095, doi.org/10.1093/gji/ggac242.
- King, R.B., S. Constable, and J.M. Maloney, 2022. A case study in controlled source electromagnetism: Near seabed hydrocarbon seep systems of Coal Oil Point, California, USA. *Marine and Petroleum Geology*, **139**, doi.org/10.1016/j.marpetgeo.2022.105636.
- King, R.B., W.R. Danskin, S. Constable, and J.M. Maloney, 2022. Identification of fresh groundwater off the coast of San Diego, USA, using electromagnetic methods. *Hydrogeology Journal*, **30**, 965–973, doi.org/10.1007/s10040-022-02463-y.
- Harmon, N., S. Wang, C.A. Rychert, S. Constable, and J.M. Kendall, 2021. Shear velocity inversion guided by resistivity structure from the PI-LAB Experiment for integrated estimates of partial melt in the mantle. *Journal of Geophysical Research: Solid Earth*, **126**, <https://doi.org/10.1029/2021JB022202>.
- Rychert, C.A., S. Tharimena, N. Harmon, S. Wang, S. Constable, J.M. Kendall, P. Bogiatzis, M.R. Agius, and D. Schlaphorst, 2021. A dynamic lithosphere-asthenosphere boundary near the equatorial Mid-Atlantic Ridge. *Earth and Planetary Science Letters*, **566**, <https://doi.org/10.1016/j.epsl.2021.116949>.
- Stern, L.A., S. Constable, R. Lu, W.L. Du Frane, J.J. Roberts, 2021. Electrical properties of carbon dioxide hydrate: Implications for monitoring CO₂ in the gas hydrate stability zone. *Geophysical Research Letters*, **48**, <https://doi.org/10.1029/2021GL093475>.
- Attias, E., S. Constable, D. Sherman, K. Ismail, C. Shuler, and H. Dulai, 2021. Marine electromagnetic imaging and volumetric estimation of freshwater plumes offshore Hawai'i. *Geophysical Research Letters*, **48**, <https://doi.org/10.1029/2020GL091249>.
- Key, K., and S. Constable, 2021. Inverted long-baseline acoustic navigation of deep-towed CSEM transmitters and receivers. *Marine Geophysical Research*, **42:6**, <https://doi.org/10.1007/s11001-021-09427-z>.
- Attias, E., D. Thomas, D. Sherman, K. Ismail, and S. Constable, 2020. Marine electrical imaging reveals novel freshwater transport mechanism in Hawai'i. *Science Advances*, **6**, eabd-4866, doi.org/10.1126/sciadv.abd4866.
- Wang, S., S. Constable, V. Reyes-Ortega, H. Jahandari, C. Farquharson, T. Avilés-Esquivel, 2020. Two-dimensional determinant inversion of marine magnetotelluric data and a field example from the Gulf of California, Mexico. *Geophysics*, **86**, E37–E57, doi.org/10.1190/GEO2019-0735.1.
- Rychert, C.A., N. Harmon, S. Constable, and S. Wang, 2020. The nature of the lithosphere-asthenosphere boundary. *Journal of Geophysical Research: Solid Earth*, **125**, e2018JB016463. <https://doi.org/10.1029/2018JB016463>.
- Wang, S., S. Constable, C.A. Rychert, and N. Harmon, 2020. A lithosphere-asthenosphere boundary and partial melt resolved using marine magnetotelluric data. *Geochemistry Geophysics Geosystems*, **21**, doi.org/10.1029/2020GC009177.
- Constable, S., R. Lu, L.A. Stern, W.L. Du Frane, and J.J. Roberts, 2020. Laboratory electrical con-

- ductivity of marine gas hydrate. *Geophysical Research Letters*, **47**, e2020GL087645. doi.org/10.1029/2020GL087645.
- Constable, S., 2020. Perspectives on marine electromagnetic methods. *Perspectives of Earth and Space Scientists*, **2**, e2019CN000123. doi.org/10.1029/2019CN000123.
- Kannberg, P.K., and S. Constable, 2020. Characterization and quantification of gas hydrates in the California Borderlands. *Geophysical Research Letters*, **47**, e2019GL084703, doi.org/10.1029/2019GL084703.
- Esquivel, T.A., C. Flores, V. Reyes-Ortega, S. Constable, E. Gómez-Treviño, and A. González-Fernández, 2020. Magnetotelluric exploration of the Wagner Basin, Gulf of California, Mexico: Evidence for an axial magma chamber and hydrothermal circulation. *Journal of South American Earth Sciences*, **99**, doi.org/10.1016/j.jsames.2020.102501.
- Constable S., 2019. Understanding the internal structure of our planet. In “*Geomagnetism, Aeronomy and Space Weather: A Journey from the Earth’s Core to the Sun*”, ed. Manda, M., Korte, M., Yau, A., and Petrovsky, E., Cambridge University Press, pp. doi.org/10.1017/9781108290135.003.
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- Avilés-Esquivel, T., C. Flores, V. Reyes-Ortega, S. Constable, E. Gómez-Treviño, and A. González-Fernández, 2020. Magnetotelluric exploration of the Wagner Basin, Gulf of California, Mexico: Evidence for an axial magma chamber and hydrothermal circulation. *Journal of South American Earth Sciences*, **99**, doi.org/10.1016/j.jsames.2020.102501.
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- Córdoba-Ramírez, F., C. Flores, A. Gonzalez-Fernandez, S. Constable, J.G. Peña-Domínguez, E. Gómez-Treviño, 2019. Marine controlled-source electromagnetics with geothermal purposes; central Gulf of California, Mexico. *Journal of Volcanology and Geothermal Research*, **384**, 206–220.
- Wang, S., S. Constable, V. Reyes-Ortega, and C.A. Rychert, 2019. A newly distinguished marine magnetotelluric coast effect sensitive to the lithosphere-asthenosphere boundary. *Geophysical Journal International*, **218**, 978–987.
- Wang, S., M. Batani, S. Constable, T. Kalscheuer, and A. Malehmir, 2019. Boat-towed radio-magnetotelluric and controlled-source audio-magnetotelluric study to resolve fracture zones at Äspö Hard Rock Laboratory site, Sweden. *Geophysical Journal International*, **218**, 1008–1031.
- Harmon, N., C. Rychert, M. Agius, S. Tharimena, T. Le Bas, J.M. Kendall, and S. Constable, 2018. Marine geophysical investigation of the Chain Fracture Zone in the equatorial Atlantic from the PI-LAB experiment. *Journal of Geophysical Research: Solid Earth*, **123**, 11,016–11,030.
- Sherman, D., and S.C. Constable, 2018. Permafrost extent on the Alaskan Beaufort Shelf from surface towed controlled-source electromagnetic surveys. *Journal of Geophysical Research: Solid Earth*, **123**, 1–13, /doi.org/ 10.1029/2018JB015859.
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- Barak, O., K. Key, S. Constable, and S. Ronen, 2018. Recording active-ground rotations using induction-coil magnetometers. *Geophysics*, **83**, 1–24, /doi.org/10.1190/GEO2017-0281.1.

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- Sherman, D., P. Kannberg, and S. Constable, 2017. Surface towed electromagnetic system for mapping of subsea Arctic permafrost. *Earth and Planetary Science Letters*, **460**, 97–104.
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- Constable, S., P. K. Kannberg, and K. Weitemeyer, 2016. Vulcan: A deep-towed CSEM receiver. *Geochemistry, Geophysics, Geosystems*, **17**, 1042–1064, doi:10.1002/2015GC006174.
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- Du Frane, W., L.A. Stern, S. Constable, K.A. Weitemeyer, M.M. Smith, and J.J. Roberts, 2015. Electrical properties of methane hydrate + sediment mixtures. *Journal of Geophysical Research*, **120**, 4773–4787, doi:10.1002/2015JB011940.
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- Myer, D., K. Key, and S. Constable, 2015. Marine CSEM of the Scarborough gas field, Part 2: 2D inversion. *Geophysics*, **80**, E187–E196.
- Constable, S., A. Orange, and K. Key, 2015. And the geophysicist replied: “Which model do you want?”. *Geophysics*, **80**, E197–E212.
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- Myer, D., S. Constable, K. Key, M.E. Glinsky, and G. Liu, 2012. Marine CSEM of the Scarborough gas field, Part 1: Experimental design and data uncertainty. *Geophysics*, **77**, E281–E299, doi:10.1190/GEO2011-0380.1.

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- Key, K., and S. Constable, 2011. Coast effect distortion of marine magnetotelluric data: Insights from a pilot study offshore northeastern Japan. *Physics of the Earth and Planetary Interiors*, **184**, 194–207.
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- Weitemeyer, K., G. Gao, S. Constable, and D. Alumbaugh, 2010. The practical application of 2D inversion to marine controlled-source electromagnetic sounding. *Geophysics*, **75**, F199–F211.
- Constable, S., 2010. Ten years of marine CSEM for hydrocarbon exploration. *Geophysics*, **75**, 75A67–75A81.
- Weitemeyer, K., and S. Constable, 2010. Mapping shallow geology and gas hydrate with marine CSEM surveys. *First Break*, **28**, 97–102.
- Myer, D., S. Constable, and K. Key, 2010. A marine EM survey of the Scarborough gas field, Northwest Shelf of Australia. *First Break*, **28**, 77–82.
- Li, Y.G., and S. Constable, 2010. Transient electromagnetic in shallow water: insights from 1D modeling. *Chinese Journal of Geophysics*, **53**, 737–743.
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REPORTS, PATENTS, ETC:

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- Constable, S., 2006. *System and method for hydrocarbon reservoir monitoring using controlled-source electromagnetic fields*. US Patent no. 7,109,717.
- Constable, S., 2005. Hydrocarbon Exploration Using Marine EM Techniques. Contributed paper at *2005 Offshore Tech. Conf.*, Houston, USA.
- Key, K., S. Constable, and J. Behrens, 2005. Mapping the northern EPR magmatic system using marine EM. *Ridge 2000 Events*, **3**, 35–37.
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- Constable, S., 1992. Controlled-source electromagnetic methods in the spatial characterization of ridge systems. *RIDGE Events*, **3**, 6–8.
- Constable, S.C., 1983. *Deep Resistivity Studies of the Australian Crust*. Ph.D. thesis, Australian National University.

TEACHING:

Mining Geophysics at SDSU in 1987

Geophysics of Natural Resources (two quarter course) at UCSD from 1993 to 2008 (with A. Harding)

Special Topics in Geophysics (Seminars in Marine Geophysics) at SIO in 1993

Special Topics in Geophysics (Field Studies in Marine EM Methods) at SIO in 2006

Special Topics in Geophysics (Electrical Methods for Groundwater Exploration) at SIO in 2008

Special Topics in Geophysics (Conductivity of the Deep Earth) at SIO in 2010

Electromagnetic Methods in Geophysics at SIO in 2001, 2003, 2007, 2013, 2017

Ethical and Professional Science at SIO from 2011 to present (with C. Constable)

Environmental and Exploration Geophysics at SIO from 2011 to present

Introduction to Geophysics at SIO from 2012 to present (with G. Masters/ R. Parnell-Turner)

GRADUATE STUDENTS:

Catherine deGroot-Hedlin (graduated 1991)
Kerry Key (graduated 2003)
James Behrens (graduated 2004)
Karen Weitemeyer (graduated 2008)
David Myer (graduated 2011)
Brent Wheelock (graduated 2012)
Samer Naif (with K. Key, graduated 2015)
Peter Kannberg (graduated 2018)
Dallas Sherman (graduated 2018)
Mike Sly (Masters, graduated 2015)
Hannah Peterson (Masters, graduated 2020)
Roslynn King (Graduated 2022)
Eliana Vargas-huitzil@ucsd.edu (current)
Kyle Ivey (current)

COMMUNITY SERVICE:

Distributed the Occam inversion code, used widely throughout geophysics
AGU special session convener, 1991, 1998, 1999, 2009, 2015, 2017 Fall meetings
Associate Editor, *Geophysics*, 1999–2004
Secretary, GP section of the American Geophysical Union, 2001–2002
AGU Program Committee, 2001 & 2002 Fall meetings
AGU Corresponding Editor for EOS (GP section), 2003–2007.
SEG Continuing Education Instructor, 2005–2015
MARELEC program committee, 2004, 2006, 2009, 2011, 2013, 2015 meetings
Invited Speaker, SPE 2007 Research and Development Conference
Invited Plenary speaker at German Geophysical Society Annual meeting, 2008.
Invited presentation, Japan 2009 RAEG meeting, Kyoto
Presented short course at AAPG/SEG West Coast Student Expo, Northridge, CA, 2010
Special Award Judge (SEG) at 2011 Intel Science Fair, Los Angeles
MARELEC meeting chair and host, 2011 meeting
Keynote speaker, ASEG-PESA meeting, 2013
Invited speaker, ASEG-PESA Inversion Forum, 2013
Short course speaker, 2nd IAGA summer school, Prague, 2015
Trustee, Gerald W. Hohmann Memorial Trust, 2016–present
SEG Distinguished Lecture Committee, member, 2016–2019
MARELEC standing committee, 2016–present
Member, AGU College of Fellows Steering Team, 2017–2020
Chair, AGU College of Fellows Subcommittee on Distinguished Traveling Lecture Series, 2017–2020
Funding coordinator, Industry liaison, IAGA Division VI, 2016–present
Member, subcommittee on IAGA Division VI procedures, 2016–2020
Co-chair, 3DEM-6 Symposium, Berkeley, CA, 2017
Member, AGU GPE honors committee, 2017/2018, 2021/2022

AGU GPE president-elect, 2022/2023

UNIVERSITY SERVICE:

SIO computer policy committee, 1986–1998 (chair 1994-97)
San Diego Supercomputer Center steering committee from 1994–1998
UCSD Vice-chancellor’s committee on information infrastructure, 1994
U.C. shipfunds subcommittee from 1995 (chair in 1996)–1997
Earth Sciences Undergraduate Program Steering Committee from 1996–2004
Frieman Prize Committee, 1999
SIO Geophysics Graduate Admissions Chair, 1999–2002
SIO Marine Operations committee, 2002–2013
UCSD Committee on Educational Policy 2002 to 2009 (vice-chair 2004/5, 2007/8; chair 2008/2009)
UCSD Senate Council , 2008/9
UCSD Senate Admin Council, 2008/9
UC Committee on Educational Policy, 2008/9
UCSD Committee on Educational Policy subcommittee on grade appeals, chair, 2004
UCSD Committee on Educational Policy subcommittee on online/distance learning, chair, 2004–2006
UCSD/LANL CARE steering committee, 2004
UCSD review of History Department, chair, 2006
UCSD review of Biology Division, chair, 2007
SIO search committee for Assistant Director, Ship Operations, chair, 2007
UCSD search committee, Assistant Vice Chancellor, Intellectual Property, 2007
SIO AGOR-28 naming committee, 2010
SIO Faculty search committee, 2010
UCSD Committee on Committees, 2010–2013
SIO Faculty, vice-chair, 2009/10, chair 2010/11
Speaker, SIO perspectives on Ocean Science, 2011
UCSD University-Industry Relations Task Force member, 2010–2011
Director Haymet’s 5-year review committee, 2011
UCSD Building Advisory Committee, Seaweed Canyon, 2011
SIO Geophysics Graduate Admissions Chair, 2011
SIO Committee on Academic Personnel, 2012–2015
UCSD search committee, Export Control Officer, 2012
SIO search committee, Director, Contracts and Grants, 2014
UCSD search committee, Associate Vice Chancellor Innovation Alliances, 2015
SIO member, UCSD Representative Assembly, 2011–2014
UCSD Committee on Planning and Budget, 2015–2019 (vice-chair, 2016/17; chair 2017/18, 18/19)
UC Planning and Budget Committee, 2017/18, 18/19
UCSD Senate Council , 2017/18, 18/19,
UCSD Senate Admin Council, 2017/18, 18/19
Director, Institute of Geophysics and Planetary Physics, 2016–2020
Chair, IGPP Green Selection Committee, 2016–2020
Vice-Chair, UCSD Academic Senate, 2019/21

Chair, UCSD Academic Senate, 2020/21
UC Council, 2020/21
UC Assembly, 2020/21
Member, EDI Advisory Council, 2020/21
Chair, Committee on Rules and Jurisdiction, 2022/2023

CONSULTING EXPERIENCE:

Science advisor for AOA Geomarine Operations (not current)
Science advisor for Quasar Federal Systems (not current)
Technology Advisory Board, RSI Ltd. (not current)
Consultant on marine EM to various exploration, contractor, and legal companies

SEAGOING EXPERIENCE:

1983-1984: 3 weeks total on R.V. Ellen B. Scripps; testing E.M. equipment.
Sept 1983: 4 week cruise on R.V. New Horizon; controlled source EM sounding.
Sept 1984: 3 week cruise on R.V. New Horizon; controlled source EM sounding.
May 1986: 3 week cruise on R.V. Sproul, "Chovy"; acoustic studies using E.M., low frequency pressure, and seismic instruments.
July 1986: 1.5 week cruise on R.V. Sproul; "Chovy" recovery.
March 1988: 1 week cruise on R.V. Sproul; testing E.M. and pressure instruments (chief scientist).
May 1988: 3 week cruise on R.V. Sproul, "Nachos"; acoustic studies using E.M., low frequency pressure, and seismic instruments.
Nov 1988: 3.5 week cruise on R.V. New Horizon, "Pegasus"; Controlled source E.M. sounding, low frequency pressure array, and seafloor gravity (co-chief scientist).
June 1989: 3 week cruise on R.R.S. Charles Darwin; Controlled source E.M. sounding over the East Pacific Rise (co-chief scientist).
June/Aug 1991: 2, 1 day legs on R.V. Sproul, tiltmeter testing (chief scientist).
October 1991: 8 days R.V. Thomas Washington, Loihi tiltmeter and hydrophone deployment, dredging, seabeam (chief scientist).
December 1991: 4 days R.V. Wecoma, Loihi tiltmeter and hydrophone recovery, (chief scientist).
November 1992: 3 days R.V. Sproul, tiltmeter and OBS deployment (chief scientist).
February 1993: 2 days R.V. Sproul, tiltmeter and OBS recovery (chief scientist).
October 1993: 31 days R.R.S. Charles Darwin, Geophysical studies of Reykjanes Ridge (co-chief)
February 1994: 2, 1 day legs on R.V. Sproul, tiltmeter and OBS testing (co-chief scientist).
March 1994: 2, 1 day legs on R.V. Sproul, tiltmeter and magnetometer testing (chief scientist).
July 1994: 5 days on R.V. Wecoma, JdF tiltmeter and OBS deployment (chief scientist).
Sept 1994: 4 days on R.V. Wecoma, JdF tiltmeter and OBS recovery (co-chief scientist).
April 1994: 2 days on R.V. Sproul, LCheapo testing (chief scientist).
Oct 1995: 16 days on Maestrale Secondo, Magnetotelluric survey for AGIP-INTE (chief scientist).
Nov 1995: 32 days on R.V. Ewing, Lau Basin EM/seismic survey (co-chief scientist).
Aug 1996: 12 days on R.V. Pelican, Gulf of Mexico magnetotelluric survey (chief scientist).
Oct/Nov 1996: 30 days on Maestrale Secondo, Magnetotelluric survey for AGIP-INTE (chief scientist).
April 1997: 8 days on R.V. Moana Wave, SWELL MT deployments.
June 1997: 14 days on R.V. Pelican, Gulf of Mexico magnetotelluric survey (chief scientist)

- April 1998: 14 days on R.V. Franklin, SWAGGIE marine magnetotelluric and self potential
- July 1998: 11 days on R.V. Pelican, Gulf of Mexico magnetotelluric survey (chief scientist)
- Oct 1999: 1 day instrument recovery off Kauai, Hawaii.
- June 2000: 3 days on Kaiyo, offshore Japan MT deployments
- November 2000: 42 days on R.R.V. Charles Darwin, oilfield characterization offshore West Africa
- January 2001: 2 days on R.V. Sproul, instrument tests offshore San Diego (chief scientist)
- February 2001: 29 days on R.V. Thompson, APPLE (chief scientist)
- March 2001: 6 days R.V. Longhorn, Gemini MT in Gulf of Mexico (chief scientist)
- June 2001: 11 days on S.V. Explorer, sub-basalt MT offshore Faroes (chief scientist)
- June 2001: 1 day on Acoustic Explorer, instrument recoveries offshore San Diego (chief scientist)
- August 2001: 10 days on R.V. New Horizon, APPLE recovery (chief scientist)
- October 2001: 3 days on R.V. Sproul, instrument tests offshore San Diego (chief scientist)
- Jan/Feb 2002: 21 days on R.R.V. Charles Darwin, oilfield characterization offshore West Africa
- March 2002: 2 days on R.V. Sproul, shallow water MT offshore San Diego (chief scientist)
- July 2002: 1 day on R.V. New Horizon, instrument tests offshore San Diego (chief scientist)
- Feb 2003: 12 days on R.V. Gyre, MT and CSEM in Gulf of Mexico (chief scientist)
- April 2003: 4 days on R.V. New Horizon, instrument tests offshore San Diego (chief scientist)
- Feb 2004: 30 days on R.V. Revelle, marine EM over the EPR (co-chief scientist)
- August 2004: 7 days on R.V. New Horizon, marine EM on Hydrate Ridge (chief scientist)
- September 2004: 3 days on R.V. New Horizon, EM transmitter tests (chief scientist)
- April 2005: 2 days on R.V. Sproul, deployment for SAIC (chief scientist)
- October 2005 13 days on the R.V. Pelican, GoM sub-salt MT survey (chief scientist)
- May 2006 5 days on R.V. New Horizon, marine CSEM and MT (chief scientist)
- July 2006 5 days on R.V. Revelle, Loihi seamount EM tomography (chief scientist)
- May 2007 2 days on R.V. New Horizon, CSEM/MT instrument tests (chief scientist)
- September 2007 15 days on Akademik Boris Petrov, Marine MT in the Gulf of Kutch (chief scientist)
- April 2008 2 days on R.V. Sproul, Instrument tests (chief scientist)
- October 2008 18 days on R.V. Roger Revelle, EM for gas hydrate in GoM (chief scientist)
- November 2008 10 days on R.V. New Horizon, Plate boundary marine EM (chief scientist)
- May/June 2009 32 days on R.V. Roger Revelle, EM studies of Scarborough gas field (co-chief scientist)
- August 2009 5 days on R.V. New Horizon, instrument tests off Newport, Oregon (chief scientist)
- April/May 2010 30 days on R.V. Melville, SERPENT; MT and CSEM off Nicaragua (co-chief scientist)
- May 2011 3 days R.V. Wecoma, instrument tests off Oregon (chief scientist)
- June 2011 1 day on R.V. Sproul, instrument tests (chief scientist)
- Dec 2011 7 days on R.V. New Horizon, hydrate survey in San Nicolas Basin (chief scientist)
- July 2012 2 days on R.V. Sproul, marine MT training (chief scientist)
- Dec 2012 2 days on R.V. New Horizon, instrument tests (chief scientist)
- March 2013 2 days on R.V. New Horizon, instrument tests (chief scientist)
- May 2013 3 days on R.V. New Horizon, hydrate survey in San Nicolas Basin (chief scientist)
- Jan/Feb 2014 28 days on R.V. Ocean Stalwart, offshore Uruguay (chief scientist)
- June 2014 7 days on R.V. New Horizon, hydrate survey in Santa Cruz Basin (chief scientist)
- July 2014 7 days on R.V. Ukpik, permafrost survey Prudhoe Bay (chief scientist)
- August 2014 4 days on Shin Nichi Maru, hydrate survey offshore Japan

- March 2015 2 days on R.V. New Horizon, instrument tests (chief scientist)
- May 2015 10 days on B.O. Alpha Helix, Sea of Cortez geothermal project
- July 2015 8 days on R.V. Ukpik, permafrost survey Prudhoe Bay (chief scientist)
- May 2016 7 days on B.O. Alpha Helix, Sea of Cortez geothermal project
- July 2017 10 days on the R.V. Point Sur, Gulf of Mexico gas hydrate studies (chief scientist)
- October 2017 6 days on R.V. Roger Revelle, Mendocino Fracture Zone study (chief scientist)
- June 2018 2 days on R.V. Robert Gordon Sproul, instrument tests (chief scientist)
- January 2019 2 days on F.V. Amigo, tar seep mapping, Channel Islands
- June 2019 32 days on R.V. Sikuliaq, CSEM and MT on Alaska megathrust
- August 2020 7 days on R.V. Sally Ride, Deep lithosphere CSEM sounding (chief scientist)
- September 2021 4 days on G.O. America, Seafloor characterization off Florida (chief scientist)
- September 2021 5 days on R.V. Byster, Santa Barbara groundwater and tar seeps
- November 2022 8 days on R.V. Tangaroa, White Island MT deployments
- January 2023 7 days on M.V. Toanui, White Island MT
- January 2023 29 days on R.V. James Cook, Goban Spur seismics + CSEM + MT (co-chief scientist)