J. Thomas Farrar | Curriculum Vitae

Senior Scientist – Woods Hole Oceanographic Institution
Physical Oceanography Department
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Research Interests

Ocean-atmosphere interaction; dynamics and thermodynamics of the upper ocean; tropical dynamics and equatorial waves; oceanic internal waves and eddies; satellite oceanography; ocean observing and instrumentation.

These interests are pursued using in situ observations, satellite observations, and numerical models to test hypotheses and test or formulate simplified physical models to help us understand ocean dynamics and air-sea interaction.

Education

Ph.D.: Physical Oceanography, Massachusetts Institute of Technology-Woods Hole Oceanographic Institution, 2007

S.M.: Physical Oceanography, Massachusetts Institute of Technology, 2003

B.S.: Physics, University of Oklahoma, 2000

B.A.: Philosophy, University of Oklahoma, 2000

Positions Held

2022-present: **Senior Scientist** Woods Hole Oceanographic Institution (WHOI), Physical Oceanography Department.

2022-present: **Visiting Professor** Cornell University, Department of Civil and Environmental Engineering.

2011-present: **Adjunct Faculty** University of Massachusetts, School of Marine Sciences.

2018-2020: **Visiting Scientist** Cornell University, Department of Earth and Atmospheric Sciences.

2016-2022: **Associate Scientist with Tenure** WHOI, Physical Oceanography Department.

2012-2016: **Associate Scientist** WHOI, Physical Oceanography Department.

2008-2012: **Assistant Scientist** WHOI, Physical Oceanography Department.

2007-2008: **Postdoctoral Investigator** WHOI, Physical Oceanography Department.

2004-2007: **Graduate Research Assistant** WHOI, Physical Oceanography Department.

2003-2004: **Research Associate I** WHOI, Physical Oceanography Department.

2000-2003: **Graduate Research Assistant** WHOI, Physical Oceanography Department.

1998-2000: **Student Laboratory Assistant** Magneto-optical trapping laboratory (atomic-molecular physics), Physics Department, University of Oklahoma.

Selected Academic and Professional Honors

2024: NASA Group Achievement Award for the Sub-Mesoscale Ocean Dynamics Experiment, for "outstanding achievements in advancing the understanding of small-scale ocean dynamics and their role in the Earth's climate system"

2021: Science Team Co-Lead for the NASA-CNES Surface Water Ocean Topography (SWOT) satellite mission.

2018: Principal Investigator of the Sub-Mesoscale Ocean Dynamics Experiment (S-MODE), a $30M NASA Earth Venture Suborbital Mission with 21 co-investigators, remote sensing measurements from three aircraft, and three research cruises that took place in 2021-2023.

2017: American Meteorological Society Nicholas P. Fofonoff Award in recognition of research achievement in physical oceanography, for "insightful analysis of observations yielding a deeper understanding of tropical and upper ocean dynamics, and for generous collaboration and leadership in major field experiments"

2012: Editors' Citation for Excellence in Refereeing, Journal of Geophysical Research-Oceans

2006: Outstanding Student Paper Award, AGU Ocean Sciences meeting

2000-2001: MIT Presidential Fellowship

2000: Fowler Prize for Most Outstanding Physics Student, University of Oklahoma

1999: Phi Beta Kappa

1999: Golden Key National Honor Society

1998: Sigma Pi Sigma (physics honor society)

1994: National Merit Scholar

National and International Service Activities

- Co-lead, SWOT Science Team (Surface Water Ocean Topography satellite mission), 2021-present
- Principal Investigator of NASA Earth Ventures Suborbital Investigation, S-MODE (Sub-Mesoscale Ocean Dynamics Experiment), 2019-present
- US Lead Oceanographic Subject Matter Expert for SWOT Algorithm Development Team, 2021-present
- Member, Tropical Pacific Observing System Scientific Advisory Committee, 2023-present
- Co-chair, TPOS-2020 (Tropical Pacific Observing System) Task Team on Planetary Boundary Layers, 2015-2020
- Co-chair, SPURS-2 (Salinity Processes in the Upper-ocean Regional Study) Science Steering Committee, 2015-2020
- Co-chair, US CLIVAR Process Study and Model Improvement Panel, 2013-2014
- Organizer, SWOT Science Campaign Workshop, October 2018.
- Organizer, Doppler Scatterometer Field Campaign Workshop, August 2017.
- Organizer, SPURS-2 (Salinity Processes in the Upper-ocean Regional Study) Planning Workshop, April 2014.
- Subject Matter Expert, NASA Surface Water Ocean Topography Algorithm Development Team, 2018-present
- Member of Organizing Committee for the US CLIVAR Workshop on Surface Currents in the Coupled Ocean-Atmosphere System, February 2020
- Member of International CLIVAR Atlantic Implementation Panel, 2011-2015
- Member of US CLIVAR Process Study and Model Improvement Panel, 2012-2016
- Member of TPOS-2020 (Tropical Pacific Observing System) Scientific Steering Committee, 2014-present
- Member of NASA Surface Water Ocean Topography Algorithm Development Team steering committee,

2014-2016
- Member of Science Committee of the European Space Agency's Ocean Salinity Science and Salinity Remote Sensing Workshop, 2014
- Member of Office of Naval Research ASIRI (Air-Sea Interaction Regional Initiative) Steering Committee, 2012-2017
- Member of NASA Ocean Surface Topography Science Team, 2012-2023
- Member of NASA Ocean Vector Wind Science Team, 2010-2018
- Member of Office of Naval Research MISO-BoB (Monsoon Intraseasonal Oscillations in the Bay of Bengal) Steering Committee, 2016-2021
- Member of SPURS (Salinity Processes in the Upper-ocean Regional Study) Science Steering Committee, 2011-2015

WHOI Committees

- Member of WHOI Scientific Staff Executive Committee, 2023-present
- WHOI Physical Oceanography Department Postdoc Mentoring Coordinator, 2024-present
- Member of WHOI Ocean Vital Signs Network Vision Committee, 2022
- Member of WHOI Chief People Officer (Human Resources Officer) Search Committee, 2022
- Member of WHOI Physical Oceanography Department Diversity, Equity, and Inclusion Committee, 2021-present
- Member of WHOI Physical Oceanography Faculty Recruitment Committee, 2020-2021
- Member of MIT-WHOI Joint Committee for Physical Oceanography, 2011-2015
- Member of MIT-WHOI Joint Program Graduate Admissions Committee, 2010-2013
- Member of WHOI Search Committee for Physical Oceanography Department Chair, 2010
- Member of WHOI Search Committee for Vice President of Marine Operations, 2008-2009
- Member of WHOI Diversity Committee, 2008-2010
- Member of WHOI Gender Equity Program Advisory Committee, 2004-2006
- Secretary, WHOI Postdoctoral Association, elected representative of the physical oceanography department, 2007-2008

Other Service

- Associate Editor of *Geophysical Research Letters* for special collection, *Science from the Surface Water and Ocean Topography Satellite Mission*, 2024-present
- Associate Editor of *Journal of Geophysical Research: Oceans* for special collection, *Science from the Surface Water and Ocean Topography Satellite Mission*, 2024-present
- President, Sigma Pi Sigma (physics honor society), Univ. Oklahoma Chapter, 1999-2000
- Reviewer for *Science*, *Geophysical Research Letters*, *Journal of Physical Oceanography*, *Journal of Geophysical Research*, *Ocean Science*, *Journal of Atmospheric and Oceanic Technology*, *Climate Dynamics*, *Journal of Climate*, *Dynamics of Atmospheres and Oceans*, *Monthly Weather Review*, *Deep Sea Research*, *Journal of Earth System Science*, *Weather and Forecasting*, *Oceanologia*, *Atmospheric Science Letters*, *Ocean Dynamics*, *Journal of Operational Oceanography*, *Remote Sensing of Environment*, *Oceanography*, *Scientific Reports*, *Journal of Atmospheric Sciences*, *Marine Technology Society Journal*, *Proceedings of the National Academy of Sciences*, *PLOS One*, *IEEE Geosci. Remote Sensing Lett.*, *Journal of Climate*, *IEEE Trans. Geosci. Remote Sensing*, and *Bulletin of the American Meteorological Society*.
- Proposal reviewer for US National Science Foundation, UK Natural Environment Research Council, NASA
- Panel reviewer for NSF (2010), NOAA (2010), NASA (2021, 2022, 2024)

Educational Activities

Ph.D. advisor for: Alec Bogdanoff (MIT-WHOI, Ph.D. awarded 2017; co-advised with Carol Anne Clayson). Dr. Bogdanoff went on to co-found a climate-change adaptation consulting firm in Miami (Brizaga).

M.S. advisor for: Ersen'S Joseph (Univ. Mass. Dartmouth Mechanical Engineering program; co-advised with Amit Tandon).

Thesis Committee Member or Examiner for:

- Ping Zhai (MIT-WHOI, S.M. awarded 2011)
- Ping Zhai (MIT-WHOI, Ph.D. awarded 2014)
- Sudip Majumder (U. Mass., Ph.D. awarded 2014)
- Neeti Neeti (Clark Univ., Ph.D. awarded 2012)
- Sophia Merrifield (MIT-WHOI, Ph.D. awarded 2016)
- Julius Busecke (Columbia University; Ph.D. Awarded 2017)
- Gualtiero Spiro Jaeger (MIT-WHOI, Ph.D. awarded 2019)
- Samuel Levang (MIT-WHOI, Ph.D. awarded 2019)
- Julie Jakoboski (MIT-WHOI, Ph.D. awarded 2019)
- Audrey Delpech (Université de Toulouse, Ph.D awarded 2021)
- Shikhar Rae (Univ. Rochester, Ph.D. awarded 2023)
- Siddhant Kerhalkar (U. Mass., 2021-present)
- Weiguang Roger Wu (MIT-WHOI, 2022-present)

Postdoctoral advisor for:

- Shannon Davis (2015-2016); wind energy research program manager at US Department of Energy
- Viviane Menezes (2016-2017); tenure-track scientist at WHOI
- Michael Schlundt (2017-2019); research scientist at GEOMAR Helmholtz Centre for Ocean Research Kiel
- Uriel Zajaczkovski (2017-2019); Director of Core Analytics at WTW
- Cesar Rocha (2018-2020); professor at University of São Paulo
- Seth Zippel (2019-2020); professor at Oregon State University
- Leo Middleton (2023-2024); researcher at University of Gothenburg
- Iury Simoes-Sousa (2023-present)

Undergraduate students advised (internships and summer research projects):

- Erica Rosenblum (summer student from Stony Brook University)
- Sourajit Das (summer student from India Institute of Tech., Kharagpur)
- Weiguang Roger Wu (summer student from Univ. California San Diego)
- Steven Akin (guest student project that became his senior capstone project at Angelo State University)
- Roland Ovbiebo (guest student from Nigeria)
- Ersen'S Joseph (internship and Univ. Massachusetts senior capstone project, Department of Mechanical Engineering)
- Viktoriya Balabanova (internship and Univ. Massachusetts senior capstone project, Department of Physics)

Teaching:

- MIT graduate class 12.805, *Data Analysis in Physical Oceanography* (2016, 2017, 2019, 2020, 2022, 2023; co-taught with Jake Gebbie)
- MIT graduate class 12.870, *Air-sea Interaction* (2023, co-taught with Hyodae Seo)
- Guest lecturer for MIT graduate class 12.808 *Introduction to Physical Oceanography* (2006-2014).
- Guest lecturer for Cornell undergraduate class EAS 3530 *Physical Oceanography* (2019).
- Guest lecturer for Cornell graduate class CEE 6035 *Case Studies in Coastal and Ocean Processes* (2024, two lectures).

Member: MIT-WHOI Joint Committee for Physical Oceanography (a graduate program oversight committee concerned with curriculum, required courses, general exam structure, and student welfare), 2011-2015.

Member: WHOI Joint Program Admissions Committee, 2010-2013.

Summer advisor: MIT-WHOI Joint Program student Deepak Cherian (2012).

Visiting graduate students advised: Andrew Wells (2007, Cambridge University, co-advised with Claudia Cenedese); visiting graduate student John Prytherch (2010, University of Southampton, co-advised with Bob Weller)

Publications

Contribution statements use CRediT Contributor Roles Taxonomy
∗ indicates student or postdoc of Farrar; † indicates other student or postdoc

Manuscripts in review

[1] **J.T. Farrar**, E. D'Asaro, E. Rodríguez, A. Shcherbina, L. Lenain, M. Omand, A. Wineteer, P. Bhuyan, F. Bingham, A. B. Villas Boas, E. Czech, J. D'Addezio, M. Freilich, L. Grare, D. Hypolite, G. Jacobs, P. Klein, S. Lang, I. M. Leyba, Z. Li, A. Mahadevan, J. McWilliams, D. Menemenlis, L. Middleton, J. Molemaker, L. O'Neill, D. Perkovic-Martin, N. Pizzo, L. Rainville, C. Rocha, R. M. Samelson, I. Simoes-Sousa, N. Statom, A. Thompson, D. Thompson, H. Torres, I. Uchoa, J. Wenegrat, and E. Westbrook. S-MODE: the Sub-Mesoscale Ocean Dynamics Experiment (revised). *Bulletin of the American Meteorological Society*, 2025.

[2] P. Bhuyan†, C.B. Rocha, L. Romero, and **J.T. Farrar**. Acoustic Doppler current profiler measurements from Saildrones with applications to submesoscale studies (in revision). *Journal of Atmospheric and Oceanic Technology*, 2025. *Contributions: conceptualization, methodology, review/edit, funding acquisition.*

[3] L. Middleton*, W. Wu, T.M.S Johnston, D. Tarry, **J.T. Farrar**, P. Poulain, T. Ozgökman, A. Shcherbina, A. Pascual, C. McNeill, M. Belgacem, M. Berta, K. Abbott, A. Worden, F. Wittmers, A. Kinsella, L. Centurioni, V. Hormann, E. Cutolo, J. Tintoré, S. Ruiz, B. Casas, H. Chelsack, CALYPSO Collaboration, E. D'Asaro, and A. Mahadevan. Ocean cyclone splitting ventilates the upper ocean (in revision). *Science Advances*, 2025. *Contributions: conceptualization, methodology, review/edit, funding acquisition.*

Peer-reviewed articles

[4] N. T. Vinogradova, T. M. Pavelsky, **J.T. Farrar**, F. Hossain, and L. Fu. A new look at Earth's water, energy, and climate with SWOT. *Nature Water*, 3:27–37, 2025. *Contributions: original text, review/edit.*

[5] H.S. Torres, A. Wineteer, E. Rodriguez, P. Klein, A.F. Thompson, D. Perkovic-Martin, J. Molemaker, D. Hypolite, J. Callies, **J.T. Farrar**, E. D'Asaro, and M. Freilich. Submesoscale eddy contribution to ocean vertical heat flux diagnosed from airborne observations. *Geophysical Research Letters*, 52(2):e2024GL112278, 2025. e2024GL112278 2024GL112278.

[6] I.T. Simoes-Sousa*, C.M.L. Camargo, J. Tavora, A. Piffer-Braga, **J.T. Farrar**, and T. M. Pavelsky. SWOT satellite reveals devastating flood impact in Rio Grande do Sul, Brazil (in press). *Geophysical Research Letters*, 2025. *Contributions: review/edit, supervision.*

[7] N. Scapin†, J. Wu, **J.T. Farrar**, B. Chapron, S. Popinet, and L. Deike. Momentum fluxes in wind-forced breaking waves (accepted). *Journal of Fluid Mechanics*, 2025. *Contributions: conceptualization, review/edit, funding acquisition.*

[8] S. Rai†, **J.T. Farrar**, and H. Aluie. Atmospheric wind energization of ocean weather. *Nature Communications*, 16:1172, 2025. *Contributions: review/edit.*

[9] H.S. Torres, E. Rodriguez, A. Wineteer, P. Klein, A.F. Thompson, J. Callies, E. D'Asaro, D. Perkovic-Martin, **J.T. Farrar**, F. Polverari, and R. Akbar. Airborne observations of fast-evolving oceansubmesoscale turbulence. *Communications Earth & Environment*, 5, 2024. *Contributions: conceptualization, review/edit, funding acquisition.*

[10] R. Samelson and **J.T. Farrar**. Models of the sea-surface height expression of the internal-wave continuum. *Journal of Physical Oceanography*, 54:2099–2117, 2024. *Contributions: conceptualization, methodology, software, original text, review/edit, analysis, funding acquisition.*

[11] L.D. Riihimaki, M. F. Cronin, R. Acharya, N. Anderson, J. Augustine, K. A. Balmes, P. Berk, R. Bozzano, A. Bucholz, K. J. Connell, C. J. Cox, A. G. di Sarra, J. Edson, C.W. Fairall, K. **J.T. Farrar**, Grissom, M. T. Guerra, V. Hormann, K. J. Joseph, C. Lanconelli, Meloni D. Melin, F. and, M. Ottaviani, S. Pensieri, K. Ramesh, D. Rutan, N. Samarinas, S. R. Smith, S. Swart, A. Tandon, E. J. Thompson, R. Venkatesan, R. K. Verma, V. Vitale, K. S. Katie S. Watkins-Brandt, R. A. Weller, C. J. Zappa, and D. Zhang. Ocean surface radiation measurement best practices. *Frontiers in Marine Science*, 11, 2024. *Contributions: conceptualization, methodology, review/edit.*

[12] L. Fu, T. Pavelsky, J. Cretaux, R. Morrow, **J.T. Farrar**, P. Vaze, P. Sengenes, N. Vinogradova-Shiffer, A. Sylvestre-Baron, N. Picot, and G. Dibarboure. The Surface Water and Ocean Topography mission: A breakthrough in radar remote sensing of the ocean and land surface water. *Geophysical Research Letters*, 51(4):e2023GL107652, 2024. *Contributions: conceptualization, review/edit.*

[13] M. A. Freilich, C. Poirier, M. Dever, E. Alou-Font, J. Allen, A. Cabornero, L. Sudek, C. J. Choi, S. Ruiz, A. Pascual, T.M. S. **J.T. Farrar**, Johnston, E. D'Asaro, A. E. Worden, and A. Mahadevan. 3D-intrusions transport active surface microbial assemblages to the dark ocean. *Proceedings of the National Academy of Sciences*, 121(19):e2319937121, 2024. *Contributions: field data collection, review/edit.*

[14] D. Chaudhuri†, D. Sengupta, E. D'Asaro, M. Mathur, S. Ranganathan, and **J.T. Farrar**. Near-inertial response of a salinity-stratified ocean. *Journal of Physical Oceanography*, 54:1841–1855, 2024. *Contributions: field data collection, review/edit.*

[15] X. Wang†, T. Kukulka, **J.T. Farrar**, A. Plueddemann, and S. Zippel. Langmuir turbulence controls on observed diurnal warm layer depths. *Geophysical Research Letters*, 50:e2023GL103231, 2023. *Contributions: field data collection, review/edit.*

[16] V.R. Shervin†, M.S. Girishkumar, S. Shivaprasad, N. Sureshkumar, **J.T. Farrar**, K. Athulya, A. Kuriakose, P.R. Rao, D. Sengupta, R. Venkatesan, and M. Ravichandran. Importance of seasonally evolving near-surface salinity stratification on mixed layer heat budget during summer monsoon intraseasonal oscillation in the northern Bay of Bengal during 2019. *Journal of Geophysical Research*, 128:e2023JC019800, 2023. *Contributions: field data collection, review/edit.*

[17] U.K. Miller†, C.J. Zappa, S. Zippel, **J.T. Farrar**, and R.A. Weller. Scaling of moored surface ocean turbulence measurements in the southeast Pacific stratus cloud region. *Journal of Geophysical Research*, 128:e2022JC018901, 2023. *Contributions: field data collection, conceptualization, methodology, software, review/edit, funding acquisition.*

[18] B. A. Hodges, L. Grare, B. Greenwood, K. Matsuyoshi, N. Pizzo, N. M. Statom, **J.T. Farrar**, and L. Lenain. Evaluation of ocean currents observed from autonomous surface vehicles. *Journal of Atmospheric*

and Oceanic Technology, 40(10):1121 – 1136, 2023. *Contributions: conceptualization, methodology, review/edit, funding acquisition.*

[19] G. Esposito†, S. Donnet, M. Berta, A. Shcherbina, M. Freilich, L. Centurioni, E. D'Asaro, **J.T. Farrar**, T.M.S. Johnston, A. Mahadevan, T. Ozgokmen, A. Pascual, P.-M. Poulain, S. Ruiz, D. Tarry, and A. Griffa. Inertial oscillations and frontal instabilities at an Alboran Sea front: Effects on divergence and vertical transport. *Journal of Geophysical Research*, 128(3):e2022JC019004, 2023. *Contributions: field data collection, review/edit.*

[20] S. Zippel*, **J.T. Farrar**, C.J. Zappa, and A.J. Plueddemann. Parsing the kinetic energy budget of the ocean surface mixed layer. *Geophysical Research Letters*, 49:e2021GL095920, 2022. *Contributions: field data collection, conceptualization, methodology, review/edit, funding acquisition*.

[21] J. Wang, L. Fu, B. Haines, M. Lankhorst, A.J. Lucas, **J.T. Farrar**, U. Send, C. Meinig, O. Schofield, R. Ray, M. Archer, D. Aragon, S. Bigorre, Y. Chao, J. Kerfoot, R. Pinkel, D. Sandwell, and S. Stalin. On the development of SWOT in-situ calibration/validation for short-wavelength ocean topography. *Journal of Atmospheric and Oceanic Technology*, 2022. *Contributions: conceptualization, methodology, review/edit, project administration*.

[22] D. R. Tarry†, S. Ruiz, T. M. Johnston, P.-M. Poulain, T. Özgökmen, L. R. Centurioni, M. Berta, G. Esposito, **J.T. Farrar**, A. Mahadevan, and A. Pascual. Drifter observations reveal intense vertical velocity in a surface ocean front. *Geophysical Research Letters*, 49:e2022GL098969, 2022. *Contributions: field data collection, review/edit, funding acquisition.*

[23] F. Polverari†, A. Wineteer, E. Rodríguez, D. Perkovic-Martin, P. Siqueira, **J.T. Farrar**, M.C. Tarrés J.M. Adam, and J. Edson. A Ka-band wind geophysical model function using Doppler scatterometer measurements from the Air-Sea Interaction Tower Experiment. *Remote Sensing*, 14:2067, 2022. *Contributions: conceptualization, supervision, review/edit, funding acquisition, project administration*.

[24] C.X. Light†, B.K. Arbic, P.E. Martin, L. Brodeau, **J.T. Farrar**, S.M. Griffies, B.P. Kirtman, L.C. Laurindo, D. Menemenlis, A. Molod, A.D. Nelson, E. Nyadjro, A.K. O'Rourke, J.F. Shriver, L. Siqueira, R.J. Small, and E. Strobach. Effects of grid spacing on high-frequency precipitation variance in coupled high-resolution global ocean-atmosphere models. *Climate Dynamics*, 2022. *Contributions: field data collection, review/edit*.

[25] S. Katsura†, J. Sprintall, **J.T. Farrar**, D. Zhang, and M.F. Cronin. The barrier layer effect on the heat and freshwater balance from moored observations in the Eastern Pacific Fresh Pool. *Journal of Physical Oceanography*, 2022. *Contributions: field data collection, conceptualization, review/edit, original text, funding acquisition.*

[26] K. Jossia Joseph, A. Tandon, R. Venkatesan, **J.T. Farrar**, and R.A. Weller. Longwave radiation corrections for the OMNI Buoy Network. *Journal of Atmospheric and Oceanic Technology*, 39:271–282, 2022. *Contributions: field data collection, methodology, review/edit*.

[27] D. B Chelton, R. M. Samelson, and **J.T. Farrar**. The effects of uncorrelated measurement noise on SWOT estimates of sea-surface height, velocity and vorticity. *Journal of Atmospheric and Oceanic Technology*, 39:1053–1083, 2022. *Contributions: methodology, review/edit, original text, funding acquisition*.

[28] S. Zippel*, **J.T. Farrar**, C.J. Zappa, U. Miller, L. St. Laurent, T. Ijichi, R.A. Weller, L. McRaven, and D. Le Bel. Moored turbulence measurements using pulse-coherent Doppler sonar. *Journal of Atmospheric and Oceanic Technology*, 38:1621–1639, 2021. *Contributions: field data collection, conceptualization, methodology, review/edit, software, analysis, funding acquisition*.

[29] **J.T. Farrar**, T.S. Durland, S.R. Jayne, and J.F. Price. Long-distance radiation of Rossby waves from the equatorial current system. *Journal of Physical Oceanography*, 51:1947–1966, 2021.

[30] D.R. Tarry†, S. Essink, A. Pascual, S. Ruiz, P.M. Poulain, T. Özgökmen, L.R. Centurioni, **J.T. Farrar**, A. Shcherbina, A. Mahadevan, and E. D'Asaro. Frontal convergence and vertical velocity measured by drifters in the Alboran Sea. *Journal of Geophysical Research: Oceans*, 126, 2021. *Contributions: field data collection, review/edit*.

[31] E. Shroyer, A. Tandon, D. Sengupta, H.J.S. Fernando, A.J. Lucas, **J.T. Farrar**, R. Chattopadhyay, S. de Szoeke, and 42 other co-authors. Bay of Bengal intraseasonal oscillations and the 2018 monsoon onset. *Bulletin of the American Meteorological Society*, 102:E1936–E1951, 2021. *Contributions: field data collection, review/edit*.

[32] **J.T. Farrar**, E. D'Asaro, E. Rodriguez, A. Shcherbina, E. Czech, P. Matthias, S. Nicholas, F. Bingham, A. Mahedevan, M. Omand, L. Rainville, C. Lee, D. Chelton, R. Samelson, L. O'Neill, L. Lenain, D. Menemenlis, D. Perkovic-Martin, P. Mouroulis, M. Gierach, D. Thompson, A. Wineteer, H. Torres, P. Klein, A. Thompson, J.C. McWilliams, J. Molemaker, R. Barkan, J. Wenegrat, C. Rocha, G. Jacobs, J. D'Addezio, S. de Halleux, and R. Jenkins. S-MODE: The Sub-Mesoscale Ocean Dynamics Experiment. In *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, pages 3533–3536, 2020.

[33] J. Sree Lekha†, A. J. Lucas, J. Sukhatme, J. K. Joseph, M. Ravichandran, N. Suresh Kumar, **J.T. Farrar**, and D. Sengupta. Quasi-biweekly mode of the Asian summer monsoon revealed in Bay of Bengal surface observations. *Journal of Geophysical Research: Oceans*, 125:e2020JC016271, 2020. *Contributions: field data collection, review/edit*.

[34] G. Spiro Jaeger†, J. MacKinnon, A.J. Lucas, E. Shroyer, J. Nash, A. Tandon, **J.T. Farrar**, and A. Mahadevan. How spice is stirred in the Bay of Bengal. *Journal of Physical Oceanography*, 50:2669–2688, 2020. *Contributions: field data collection, review/edit*.

[35] M. Schlundt*, **J.T. Farrar**, S.P. Bigorre, A.J. Plueddemann, and R.A. Weller. Accuracy of wind observations from open-ocean buoys: Correction for flow distortion. *Journal of Atmospheric and Oceanic Technology*, 37:687–703, 2020. *Contributions: field data collection, conceptualization, methodology, software, review/edit, supervision, project administration, funding acquisition*.

[36] C.L. Gentemann, C.A. Clayson, S. Brown, T. Lee, R. Parfitt, **J.T. Farrar**, M. Bourassa, P.J. Minnett, H. Seo, S.T. Gille, and V. Zlotnicki. FluxSat: Measuring the ocean–atmosphere turbulent exchange of heat and moisture from space. *Remote Sensing*, 12:1796, 2020. *Contributions: conceptualization, original text, review/edit*.

[37] T. S. Durland and **J.T. Farrar**. Another note on Rossby wave energy flux. *Journal of Physical Oceanography*, 50:531–534, 2020. *Contributions: conceptualization, review/edit, funding acquisition*.

[38] M. Dever†, M. Freilich, **J.T. Farrar**, B. Hodges, T. Lanagan, and A. Mahadevan. EcoCTD for profiling oceanic physical-biological properties from an underway ship. *Journal of Atmospheric and Oceanic Technology*, 37:825—-840, 2020. *Contributions: conceptualization, methodology, review/edit, funding acquisition*.

[39] D. Zhang, M.F. Cronin, C. Meinig, **J.T. Farrar**, R. Jenkins, D. Peacock, J. Keene, and A. Sutton. Comparing air-sea flux measurements from a new unmanned surface vehicle and proven platforms during the SPURS-2 field campaign. *Oceanography*, 32(2):122–133, 2019. *Contributions: field data collection, conceptualization, review/edit*.

[40] R. A. Weller, **J.T. Farrar**, H. Seo, C. Prend, D. Sengupta, J. Sree Lekha, M. Ravichandran, and R. Venkatesen. Moored observations of the surface meteorology and air-sea fluxes in the northern Bay of Bengal in 2015. *Journal of Climate*, 32(2):549–573, 2019. *Contributions: field data collection, conceptualization, review/edit, supervision, project administration, funding acquisition*.

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[118] **J.T. Farrar**, S. Lentz, J. Chruchill, P. Bouchard, J. Smith, J. Kemp, J. Lord, G. Allsup, and D. Hosom. King Abdullah University of Science and Technology (KAUST) mooring deployment cruise and fieldwork report, Fall 2008, R/V Oceanus Voyage 449-5. Technical report, WHOI-KAUST-CTR-2009-02, Woods Hole Oceanographic Institution and King Abdullah University of Science and Technology, Woods Hole, Massachusetts, USA, 2009.

[119] S. Whelan, Lord J., N. Galbraith, R. Weller, **J.T. Farrar**, D. Grant, C. Grados, S. deSoeke, C. Moffat, C. Zappa, M. Yang, F. Straneo, C. Fairall, P. Zuidema, D. Wolfe, M. Miller, , and D. Covert. Stratus 9/vocals ninth setting of the stratus ocean reference station & vocals regional experiment. Technical report, Woods Hole Oceanographic Institution, 2009-03, 2009.

[120] S. Whelan, J. Lord, C. Grados, L. Yu, L. Morales, N. Galbraith, S. deSoeke, M. O'Leary, R. Weller, P. Bouchard, **J.T. Farrar**, , and F. Bradley. Stratus ocean reference station (20 s, 85 w) mooring recovery and

deployment cruise stratus 8 r/v ronald h. brown cruise 07-09 october 9, 2007–november 6, 2007. Technical report, Woods Hole Oceanographic Institution, 2008-01, 2007.

[121] **Farrar, J.T.** *Air-sea interaction at contrasting sites in the eastern tropical Pacific: Mesoscale variability and atmospheric convection at 10°N*. PhD thesis, Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, Cambridge, MA, 2007.

[122] L. Hutto, **J.T. Farrar**, and R.A. Weller. CBLAST 2003 field work report. Technical report, Woods Hole Oceanographic Institution, 2005.

[123] **Farrar, J.T.** The evolution of upper ocean thermal structure at 10°N, 125°W during 1997-1998. Master's thesis, Massachusetts Institute of Technology, 2003.

Conference & Workshop Presentations (presenting author only)

Farrar, J.T., R. Weller, and J. Edson. Observations of the coupled air-sea boundary layers during the 2003 CBLAST-Low field program. *Eos Trans. AGU, 84*(52), Ocean Sci. Meet. Suppl., Abstract OS51G-02, 2004. (Invited)

Farrar, J.T. and Weller, R.A. The evolution of upper ocean thermal structure at 10°N, 125°W during 1997-98. *Eos Trans. AGU, 84*(52), Ocean Sci. Meet. Suppl., Abstract OS22E-12, 2004.

Farrar, J.T., Plueddemann, A J, and Weller, R.A. Evaluation of a kinetic energy budget for inertial motions in the oceanic mixed layer: theory and observations. *Eos Trans. AGU, 84*(52), Ocean Sci. Meet. Suppl., Abstract OS22E-01, 2004.

Farrar, J.T., Weller, R.A., and Huang, K. Comparison of NWP model/reanalysis air-sea fluxes of heat and momentum to in situ observations at several sites in the tropical Pacific. 1st International CLIVAR Science Conference. Baltimore, MD. 2004.

Farrar, J.T., Weller, R.A., Zappa, C., and Jessup, A.T. Subsurface expressions of sea surface temperature variability under low winds, in *16th Symposium on Boundary Layers and Turbulence (AMS)*, Ref. P8.1, Portland, ME. 2004.

Farrar, J.T. and Weller, R.A. Air-sea heat fluxes and SST at two sites in the eastern tropical Pacific during 1997-98. *Eos Trans. AGU, 86*(52), Fall Meet. Suppl., Abstract A53B-06, 2005.

Farrar, J.T. and Weller, R.A. Intraseasonal variability near 10°N in the eastern tropical Pacific Ocean. *Eos Trans. AGU, 87*(36), Ocean Sci. Meet. Suppl., Abstract OS35H-13, 2006.

Plueddemann, A.J. and **Farrar, J.T.** Observations and models of the energy flux from the wind to mixed layer inertial currents. *Eos Trans. AGU, 87*(36), Ocean Sci. Meet. Suppl., Abstract OS36A-28, 2006.

Farrar, J.T., Zappa, C.J., Weller, R.A., and Jessup, A.T. Sea surface temperature signatures of oceanic internal waves in low winds, in *27th Conference on Hurricanes and Tropical Meteorology (AMS)*, Ref. P11.2, Monterey, CA. 2006.

Farrar, J.T. and Weller, R.A. Oceanic mesoscale variability and atmospheric convection on 10°N in the eastern Pacific. NOAA Climate Prediction Program for the Americas PI Meeting, August 2006, Tucson, AZ.

Farrar, J.T. and Weller, R.A. The relationship between oceanic mesoscale motions and atmospheric convection on 10°N in the eastern tropical Pacific Ocean. *EOS Trans. AGU, 87*(52), Fall Meet. Suppl., Abstract OS51E-06. 2006.

Weller, R.A., **Farrar, J.T.**, Zappa, C.J., and Jessup, A.T. Sea surface temperature signatures of oceanic internal waves in low winds. *EOS Trans. AGU, 87*(52), Fall Meet. Suppl., Abstract OS43D-07. 2006.

Farrar, J.T. Observations of the dispersion characteristics and meridional sea-level structure of Pacific equatorial waves. Ocean Sciences Meeting Abstract Book, p. 121. 2008.

Farrar, J.T. Air-sea exchange in the Red Sea: the role of coastal processes. Gordon Research Conference on Coastal Ocean Circulation, New London, NH. 2009. (Invited)

Farrar, J.T. Barotropic Rossby waves seen radiating from tropical instability waves in the Pacific Ocean. NASA Ocean Surface Topography Science Team Meeting, Seattle, WA. 2009.

Farrar, J.T. Air-sea exchange and surface salinity. NASA Sea Surface Salinity Workshop, Pasadena, CA. 2009. (Invited)

Farrar, J.T. Barotropic Rossby waves seen radiating from tropical instability waves in the Pacific Ocean. Ocean Sciences Meeting, Portland, OR. 2010. (Invited)

Farrar, J.T., Zappa, C.J., Weller, R.A., Bigorre, S.P., Moffat, C.F., and Straneo, F. Upper-ocean turbulence beneath the stratus cloud deck of the Southeast Pacific. Meeting of the Americas, Foz do Iguassu, Brazil. 2010. (Invited)

Farrar, J.T. and Durland, T.S. New observations of Yanai waves and equatorial inertia-gravity waves in the Pacific Ocean. Fall AGU Meeting, San Francisco, CA. 2011.

Farrar, J.T. and Durland, T.S. A survey of waves on subseasonal time scales in the tropical Pacific Ocean. Ocean Sciences Meeting, Salt Lake City, UT. 2012.

Farrar, J.T., Chelton, D.B., Samelson, R. and Durland, T.S. How will oceanic internal waves appear in SWOT data? SWOT Science Definition Team Meeting, Pasadena, CA, 2013.

Farrar, J.T. Using AirSWOT to assess the expression of oceanic internal waves in SWOT data. AirSWOT meeting, Pasadena, CA, 2013.

Farrar, J.T., Plueddemann, A., Kessler, W., Rainville, L., Hodges, B., Riser, S., Edson, J., Eriksen, C., Lee, C., Schmitt, R., Fratantoni, D. A preliminary evaluation of upper-ocean heat and salt budgets during the SPURS campaign. Ocean Sciences Meeting, Honolulu, HI. 2014.

Farrar, J.T., Durland, T.S., and Jayne, S. Long-range Radiation of Barotropic Rossby Waves from the Equatorial Paciffic Ocean. NASA Ocean Surface Topography Science Team meeting, Oct 2015, Reston, VA.

Farrar, J.T. and Durland, T.S. Time-space variability of weekly to monthly period equatorial waves in the Pacific Ocean. Fall AGU meeting Dec 2015, San Francisco.

Farrar, J.T., Durland, T.S., and Jayne, S. Long-range Radiation of Barotropic Rossby Waves from an Unstable Current. Ocean Science Meeting, Feb 2016, New Orleans.

Farrar, J.T., Chelton, D.B., and Samelson, R.M. The Prospects for Future Estimation of Mesoscale and Submesoscale Vorticity by Doppler Scatterometry. NASA Ocean Vector Wind Science Team Meeting, Sapporo, Japan, May 2016.

Farrar, J.T., Chao, Y., Andres, M., and Girton, J. In situ techniques for inferring SSH. NASA SWOT Cal/Val Workshop, June 2016, Pasadena, CA.

Farrar, J.T., Wang, J., Fu, L.-L., Savage, A., and Arbic, B. Challenges for in situ cal/val from time-space variability. NASA SWOT Cal/Val Workshop, June 2016, Pasadena, CA.

Farrar, J.T., O'Neill, L., Schneider, N. Seo, H., and Durland, T. Scale dependence of air-sea interaction: what are we missing?, NASA Ocean Vector Wind Science Team Meeting, La Jolla, CA, May 2017.

Farrar, J.T., Weller, R., Mathew, S. Buckley, J., Venkatesan, R., Sree Lekha, Dipanjan Chaudhuri, Suresh Kumar, Praveen Kumar, Thangaprakash, V.P., Ravichandran, M., and Sengupta, D. Mooring measurements of air-sea interaction in northern Bay of Bengal. July 2016, Indian Institute of Tropical Meteorology, Pune, India, at "Discussion Meeting on Probable Collaborations on BoB Air-Sea interactions".

Farrar, J.T., Samelson, R.M., Savage, A., Arbic, B., and Chelton, D.B. Moored time series and frequency-wavenumber spectra. NASA SWOT Science Team Meeting, July 2017, Toulouse, France.

Farrar, J.T., Fu, L., Morrow, R., Drushka, K., Rainville, L., d'Ovidio, F., Chao, Y., and Girton, J. SWOT science oceanographic field campaigns. NASA SWOT Cal/Val Workshop, July 2017, Toulouse, France.

Farrar, J.T., T. Durland, S. Jayne. Long-distance radiation of barotropic Rossby waves from tropical instability waves. NASA Ocean Surface Topography Science Team Meeting, October 2017, talk/plenary session.

Farrar, J.T., L. Fu, R. Morrow, F. d'Ovidio. A pair of notional SWOT science campaigns. SWOT Science Team Meeting, Montreal, Quebec, June 2018 (Invited).

Farrar, J.T., M. Cronin, Planetary Boundary Layer Task Team Status report. TPOS2020 Steering Committee Meeting, Seattle, WA, Oct 2017.

Farrar, J.T., Do internal waves affect our science goals in ways other than aliasing? Workshop for the Winds and Currents Mission, La Jolla, CA, April 2018.

Farrar, J.T., S-P. Xie, R. Samelson, T. Durland, R. Holmes. Tropical Pacific Circulation. Workshop for the Winds and Currents Mission, La Jolla, CA, April 2018.

Farrar, J.T., and 10 coauthors. Contrasting upper-ocean heat and salt balances and dynamics in SPURS 1 and 2. Ocean Sciences Meeting, Portland, OR, Feb 2018.

Farrar, J.T., Introduction to WHOI and Ocean Remote Sensing. Meeting of National Acadamies of Science, Engineering, and Medicine Committee on Radio Frequencies, Woods Hole, MA, October 2018 (Invited).

Farrar, J.T., SWOT Science Campaigns: Notional campaigns and science goals. SWOT Science Campaign Workshop, Crystal City, VA, October 2018.

Farrar, J.T., S-MODE Earth Venture Suborbital Mission. SWOT Science Campaign Workshop, Crystal City, VA, October 2018.

Farrar, J.T. and coauthors, NASA Earth Venture Suborbital Investigation: Sub-Mesoscale Ocean Dynamics Experiment (S-MODE). SWOT Science Team Meeting, Bordeaux, France, June 2019.

Rocha, C., Wu, W., and **Farrar, J.T.**. Directionality of internal waves. SWOT Science Team Meeting, Bordeaux, France, June 2019.

Farrar, J.T., Report on SWOT Oceanographic Campaign Workshop (October 2018). SWOT Science Team Meeting, Bordeaux, France, June 2019.

Farrar, J.T., and S. Zippel. Challenges in measuring the vertical structure of near-surface currents. US CLIVAR Workshop on Ocean Surface Currents, La Jolla, February 2020 (Invited).

Farrar, J.T., et al. Surface current observations in the Sub-Mesoscale Ocean Dynamics Experiment. Ocean Sciences Meeting, San Diego, February 2020 (invited).

Dibarboure, G. and **Farrar, J.T.**, SWOT Low-rate data algorithm and products. SWOT Science Team Meeting, online, September 2021 (Invited).

Farrar, J.T. Equatorial waves across the Pacific, Indian and Atlantic: a virtual poster (or whatever). Ocean Sciences Meeting, February 2022.

Farrar, J.T. Questions About The Global Distribution of Eddy Kinetic Energy. Gordon Research Conference on Ocean Mixing, South Hadley, MA, 2022. (Invited)

Farrar, J.T. Observations of equatorial waves in all three tropical oceans. International Symposium on Geophysical Flows, Indian Inst. Of Technology, Madras, August 2022, 2022. (Invited)

Farrar, J.T. The Sub-Mesoscale Ocean Dynamics Experiment (S-MODE). FilaChange (international conference on ocean processes linking filaments and fine scales with climate change), Providence, RI, 2022. (Invited)

Farrar, J.T. S-MODE and SWOT. Ocean Sciences Meeting, New Orleans, LA, February 2024.

Farrar, J.T. Ocean surface current measurements in the Sub-Mesoscale Ocean Dynamics Experiment (S-MODE). IEEE International Geoscience and Remote Sensing Symposium, Athens, Greece, 2024.

Lectures & Seminars

September 2006: Massachusetts Institute of Technology, Oceanography and Climate Sack Lunch Seminar. *Oceanic mesoscale variability and atmospheric convection on 10° N in the eastern Pacific.*

February 2007 (Invited): National Data Buoy Center. *Buoys and wave-measurement requirements of the WHOI Upper Ocean Processes Group.*

April 2007 (Invited): Lamont-Doherty Earth Observatory, Ocean and Climate Physics Seminar. *Oceanic mesoscale variability and atmospheric convection on 10° N in the eastern Pacific.*

June 2007 (Invited): Geophysical Fluid Dynamics Program Staff Lecture, Woods Hole Oceanographic Institution. *Modulation of the cool skin of the ocean by internal waves* (with C.J. Zappa and C. Cenedese).

July 2007 (Invited): Geophysical Fluid Dynamics Program, Mini-Symposium on "Ocean Bottom and Surface Boundary Layers", Woods Hole Oceanographic Institution. *The ocean's diurnal boundary layer: observations and models.*

October 2007: University of Oklahoma, Department of Meteorology, Seminar series in convection and numerical weather prediction. *Oceanic mesoscale variability and atmospheric convection on 10° N in the eastern Pacific.*

October 2007 (Invited): University of Oklahoma, Department of Physics Colloquium Series. *Planetary-scale equatorial waves in the Pacific Ocean and mathematical analogy to the quantum simple harmonic oscillator.*

November 2007: Woods Hole Oceanographic Institution, Physical Oceanography Seminar. *Observations of equatorial waves in the Pacific Ocean: Dispersion characteristics, meridional sea-level structures, and a previously unobserved wave mode.*

November 2007 (Invited): Oregon State University, Physical Oceanography Seminar. *Observations of the dispersion characteristics and meridional sea-level structure of equatorial waves in the Pacific Ocean.*

November 2007: Oregon State University, Joint Physical Oceanography and Atmospheric Sciences Seminar. *Oceanic mesoscale variability and atmospheric convection on 10° N in the eastern Pacific.*

April 2008: Woods Hole Oceanographic Institution, Physical Oceanography Seminar. *Equatorial and tropical instability waves: synthesis and new observations.*

June 2008: Oregon State University, Physical Oceanography Seminar. *Equatorial and tropical instability waves: synthesis and new observations.*

September 2009: Texas A&M University, Department of Atmospheric Sciences Seminar. *Oceanic mesoscale variability and atmospheric convection on 10° N in the eastern Pacific.*

September 2009 (Invited): Texas A&M University, Department of Oceanography Seminar. *Observations of the dispersion relation and meridional structure of equatorial waves and tropical instability waves.*

October 2009 (Invited): WHOI, Applied Ocean Physics and Engineering Coastal Ocean Fluid Dynamics Laboratory Seminar. *Air-sea exchange in the Red Sea and the role of coastal processes.*

December 2009 (Invited): University of Rhode Island, Graduate School of Oceanography. *Observations of the dispersion relation and meridional structure of equatorial waves and tropical instability waves.*

February 2011 (Invited): Rensselaer Polytechnic Institute, Mathematics Colloquium. *Observations of planetary-scale ocean waves in the equatorial waveguide.*

April 2011 (Invited): University of Massachusetts, Dartmouth, School for Marine Science and Technology. *New observations of equatorial waves and tropical instability waves in the Pacific Ocean.*

June 2011: Woods Hole Oceanographic Institution, Physical Oceanography Seminar. *On the spectrum of equatorial inertia-gravity waves and the significance of zero group velocity* (co-delivered with Ted Durland).

April 2012: Oregon State University, Physical Oceanography Seminar. *Sea-level variability in the tropical Pacific: from inertia-gravity waves to Rossby waves.*

April 2012: University of South Florida, Oceanography Seminar. *New observations of equatorial waves and tropical instability waves.*

May 2012: Woods Hole Oceanographic Institution, Physical Oceanography Seminar. *Sea-level variability in the tropical Pacific: from inertia-gravity waves to Rossby waves*.

April 2013 (Invited): Lamont-Doherty Earth Observatory, Ocean and Climate Physics Seminar. *Sea-level variability in the tropical Pacific: from inertia-gravity waves to Rossby waves.*

March 2016: Woods Hole Oceanographic Institution, Physical Oceanography Seminar. *Long-range teleconnections in the ocean eddy field*.

July 2016 (Invited): National Institute of Ocean Technology, Chennai, India. *Mooring measurements of air-sea interaction at WHOI*.

July 2016 (Invited lectures): International Training Course on Emerging trends in Ocean Observations and Ocean Data Analysis (58 students); Hyderabad, India, Indian National Centre for Ocean Information Services. *Fourier analysis, spectral analysis, and filtering*.

May 2017: Woods Hole Oceanographic Institution, Physical Oceanography Seminar. *Surface velocity measurements from air and space (Doppler scatterometry)*.

October 2018: Cornell University, Atmospheric Sciences Seminar. *Ocean-atmosphere interaction and ocean dynamics using measurements from water, air, and space*.

February 2019 (Invited): New York University Courant Institute of Mathematical Sciences. *Long-range Rossby wave radiation from an unstable ocean current*.

March 2019: Cornell University, Atmospheric Sciences Seminar. *Long-range Rossby wave radiation from an unstable ocean current*.

November 2019: Cornell University, Atmospheric Sciences Seminar. *New observations of equatorial waves*.

April 2021: Scripps Institution of Oceanography, SWOT Interest Group Seminar (virtual). *Rossby wave interference patterns and patchy SSH variance*.

September 2021 (Invited): Oregon State University, Physical Oceanography Seminar. *Remote effects of an unstable ocean current*.

April 2022 (Invited): Nigerian National Association of Geoscience Students (virtual). *Career paths and graduate school in physical oceanography*.

January 2023 (Invited): Cornell University, School of Civil and Environmental Engineering, Environmental Fluid Mechanics Seminar. *Kilometer-scale ocean turbulence from planes, ships, robots and satellites: overview of the NASA S-MODE program*.

February 2023 (Invited): University of Rochester, Department of Mechanical Engineering Seminar Series. *Kilometer-scale ocean turbulence from planes, ships, robots and satellites: overview of the NASA S-MODE program*.

March 2023 (Invited): NASA Ames Earth Science Division Seminar. *Kilometer-scale ocean turbulence from planes, ships, robots and satellites: the NASA S-MODE program*.

November 2024: Cornell University, School of Civil and Environmental Engineering, Environmental Fluid Mechanics Seminar. *Iceberg tsunamigenesis observed from SWOT*.

November 2024 (Invited): University of Rhode Island, Graduate School of Oceanography. *S-MODE: the Sub-Mesoscale Ocean Dynamics Experiment*.

Fieldwork Experience

2019: MISO-BoB cruise, RV *Sally Ride*, Chennai, Indai to Chennai, India (Bay of Bengal). Led WHOI drogued surface buoy effort. Chief Scientist: Emily Shroyer.

2017: IRENE cruise, BO *SOCIB*, Palma, Mallorca to Palma, Mallorca. Led WHOI drogued surface buoy effort and Underway CTD sampling. Chief Scientist: Simon Ruiz.

2016: SPURS-2 deployment cruise in-port work; Honolulu. Worked with group members to assemble surface mooring buoy, prepare instruments and equipment, and load ship.

2012: SPURS deployment cruise, RV *Knorr*; Woods Hole to Azores. Led WHOI mooring effort and Underway CTD sampling. Chief Scientist: Ray Schmitt.

2010: Chief Scientist for King Abdullah University for Science and Technology mooring recovery cruise, SETE3 (tug) and SETE30 (barge); Durrat, Saudi Arabia to Durrat, Saudi Arabia (Red Sea).

2009: Chief Scientist for King Abdullah University for Science and Technology mooring recovery/redeployment cruise, SETE3 (tug) and SETE30 (barge); Durrat, Saudi Arabia to Durrat, Saudi Arabia (Red Sea).

2008: Chief Scientist for King Abdullah University for Science and Technology mooring deployment cruise, RV *Oceanus*; Jeddah, Saudi Arabia to Jeddah, Saudi Arabia.

2008: Northern Tropical Atlantic Station mooring turnaround cruise, RV *Oceanus*; Woods Hole, MA to Barbados. Chief Scientist: Al Plueddemann.

2007: CLIMODE and wave-measurement test mooring recovery cruise, RV *Oceanus* (Co-PI with Robert Weller). Participation in planning and execution of a dragging operation to retrieve remnants of a mooring that had previously failed in the Gulf Stream. Chief scientist: Robert Weller.

2007: Chief Scientist for Wave-measurement Test Mooring deployment cruise, RV *Oceanus*; coastal waters south of Martha's Vineyard, MA.

2003: Chief Scientist for 3 of 5 cruise legs of Coupled Boundary Layers and Air-Sea Transfer Experiment, Low Winds, FV *Nobska* (PI, Robert Weller).

2001: Salt Finger Tracer Release Experiment, RV *Oceanus*; Barbados to Barbados. SF_6 tracer release and microstructure sampling, Chief Scientist: Raymond Schmitt.