

Hyodae Seo*

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 (on leave) Web: <http://hseo.whoi.edu>

BIO

Dr. Hyodae Seo is an Associate Professor in the Department of Oceanography and an Associate Director of the Uehiro Center for the Advancement of Oceanography. He is a physical oceanographer and climate scientist with a broad range of research and teaching interests in ocean and atmospheric processes and their coupled interactions relating to weather and climate. He combines high-resolution coupled modeling with theories of geophysical fluid dynamics and analyses of in situ and satellite observations to better understand the ocean-atmosphere coupled boundary layer processes, improve their representation in numerical models, and evaluate their influence on ocean, weather, and climate. Dr. Seo actively contributes to developing sustaining and sustainable ocean observing strategies and strives to engage the public around the issues related to the ocean, extreme weather, climate, and ocean-based renewable energy research.

EDUCATION

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- 2007 Ph.D., Oceanography, Scripps Institution of Oceanography, UC San Diego
 Thesis title: [Mesoscale coupled ocean-atmosphere interaction](#)
 Thesis advisors: [Dr. Arthur J. Miller](#) and Dr. John Roads ([deceased](#))
- 2002 B.S., Meteorology, Yonsei University, Seoul, South Korea

POSITIONS HELD

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- Since 2024 August: Associate Professor, Department of Oceanography, University of Hawai‘i at Mānoa
 2023 August – 2024 July: Senior Scientist, WHOI
 2018 July – 2023 August: Associate Scientist with Tenure, WHOI
 2014 September – 2018 June: Associate Scientist, WHOI
 2010 October – 2014 August: Assistant Scientist, WHOI
 2009 – 2010 Visiting Assistant Researcher, IPRC, University of Hawai‘i at Mānoa
 2007 – 2008 NOAA Climate and Global Change Postdoctoral Fellow, UCLA & Univ. Hawai‘i at Mānoa
 2007 Visiting Scientist, International Pacific Research Center, Univ. Hawai‘i at Mānoa
 2002 – 2007 Graduate Research Assistant, Scripps Institution of Oceanography, UCSD

PUBLICATIONS (*led by student and postdoc under my direct supervision)**2025**

65. Yang, S., H. Bae, M.-S. Park, M. Bourassa, C. C. Nam, S. Cocke, D. W. Shin, B. W. Barr, **H. Seo**, D.-H. Cha, M.-H. Kwon, D. Kim, K.-Y. Jung, and B.-M. Kim, 2025: Sea spray effects on typhoon prediction in the Yellow and East China Seas: Case studies using a coupled atmosphere-ocean-wave model for Lingling (2019) and Maysak (2020). *Env. Res. Lett.*, 20, 054028.
64. Cho, A., H. Song, **H. Seo**, R. Sun, M. R. Mazloff, A. C. Subramanian, B. D. Cornuelle, and A. J. Miller, 2025: Dynamic and Thermodynamic coupling between the Atmosphere and Ocean near the Kuroshio Current and Extension System. *Ocean Modell.*, 194, 102496, <https://doi.org/10.1016/j.ocemod.2024.10249>

2024

63. *Sauvage, C., **H. Seo**, B. W. Barr, J. B. Edison, and C. A. Clayson, 2024: Misaligned Wind-Waves Behind Atmospheric Cold Fronts. *J. Geophys. Res. Oceans*, 129, e2024JC021162. <https://doi.org/10.1029/2024JC021162>
62. Shinoda, T., T. G. Jensen, Z. Lachkar, Y. Masumoto, and **H. Seo**, 2024: **Modeling the Indian Ocean, Intraseasonal variability in the Indian Ocean region.** *The Indian Ocean and its role in the global climate system.* Elsevier Publishing, Editors: C. C. Ummerhofer and R. R. Hood. <https://doi.org/10.1016/B978-0-12-822698-8.00013>

2023

61. *Steffen, J. D., **H. Seo**, C. A. Clayson, S. Pei, and T. Shionda, 2023: Impacts of Tidal Mixing on Diurnal to Intraseasonal Air-Sea Interactions in the Maritime Continent. *Deep-Sea Res.-II, Revised.*
60. *Castillo-Trujillo A. C., Y.-O. Kwon, P. Fratantoni, K. Chen, **H. Seo**, M. A. Alexander, and V. S. Saba, 2023: An evaluation of eight global ocean reanalyses for the Northeast U.S. continental shelf. *Prog. Oceanogr.*, <https://doi.org/10.1016/j.pocean.2023.103126>
59. Clayson, C. A., C. A. DeMott, S. P. de Szoeke, P. Chang, G. R. Foltz, R. Krishnamurthy, T. Lee, A. Molod, D. G. Ortiz-Suslow, J. Pullen, D. H. Richter, **H. Seo**, P. C. Taylor, E. Thompson, B. V. Bôas, C. J. Zappa, and P. Zuidema, 2023: A New Paradigm for Observing and Modeling of Air-Sea Interactions to Advance Earth System Prediction. A US CLIVAR Report, US CLIVAR Project Office, 86 pp. <https://doi.org/10.5065/24j7-w583>.
58. Beaudin, E., E. Di Lorenzo, A. J. Miller, **H. Seo**, and Y. Joh, 2023: Impact of Extratropical Northeast Pacific SST on U.S. West Coast Precipitation, *Geophys. Res. Lett.*, 50, e2022GL102354
57. *Sauvage, C., **H. Seo**, C. A. Clayson, and J. B. Edson, 2023: Improving wave-based air-sea momentum flux parameterization in mixed seas. *J. Geophys. Res. Oceans*, 128, e2022JC019277.
56. **Seo, H.**, L. W. O'Neill, M. A. Bourassa, A. Czaja, K. Drushka, B. Fox-Kemper, I. Frenger, S. T. Gille, B. P. Kirtman, S. Minobe, A. G. Pendergrass, L. Renault, M. J. Roberts, N. Schneider, R. J. Small, A. Stoffelen, and Q. Wang, 2023: Ocean Mesoscale and Frontal-scale Ocean-Atmosphere Interactions and Influence on Large-scale Climate: A Review. *J. Climate*, 36, 1981-2013. <https://doi.org/10.1175/JCLI-D-21-0982.1>

2021

55. Kwak, K. H. Song, J. Marshall, **H. Seo**, and D. McGillicuddy, Jr., 2021: Suppressed pCO₂ in the Southern Ocean due to the interaction between current and wind. *J. Geophys. Res. Oceans*, 126, e2021JC017884.
54. Shinoda, T., S. Pei, W. Wang, J. X. Fu. R.-C. Lien, **H. Seo**, and A. Soloviev, 2021: Climate Process Team: improvement of ocean component of NOAA Climate Forecast System relevant to Madden-Julian Oscillation simulations. *J. Adv. Model. Earth Syst.*, 13, e2021MS002658.
53. **Seo, H.**, H. Song, L. W. O'Neill, M. R. Mazloff, and B. D. Cornuelle, 2021: Impacts of ocean currents on the South Indian Ocean extratropical storm track through the relative wind effect. *J. Climate*, 34, 9093-9113.
52. Pei, S., T. Shinoda, J. Steffen, and **H. Seo**, 2021: Substantial Sea Surface Temperature cooling in the Banda Sea associated with the Madden-Julian Oscillation in the boreal winter of 2015. *J. Geophys. Res. Oceans.*, 126, e2021JC017226.
51. Shroyer, E., and Co-authors, including **H. Seo**, 2021: Bay of Bengal Intraseasonal Oscillation and the 2018 Monsoon Onset. *Bull. Amer. Meteor. Soc.*, 102(10), E1936-E1951.
50. *Bartusek, S., **H. Seo**, C. C. Ummerhofer, and J. D. Steffen, 2021: The role of nearshore air-sea interactions for landfalling atmospheric rivers on the U.S. West Coast. *Geophys. Res. Lett.*, 48, e2020GL091388.
49. Sun, R., A. C. Subramanian, B. D. Cornuelle, M. R. Mazloff, A. J. Miller, F. M. Ralph, **H. Seo**, and I. Hoteit, 2021: The role of air-sea interactions in atmospheric river events: Case studies using the SKRIPS regional coupled model. *J. Geophys. Res. Atmosphere*, 126, e2020JD032885.

2020

48. Liang, Y.-C., M.-H. Lo, C.-W. Lan, **H. Seo**, C. C. Ummenhofer, S. Yeager, R.-J. Wu, and J. D. Steffen, 2020: Amplified Seasonal Cycle in Hydroclimate over the Amazon River Basin and its Plume Region in the Atlantic. *Nat. Commun.*, 11, 4390.
47. *Yuan, X., C. C. Ummenhofer, **H. Seo**, and Z. Su, 2020: Relative contributions of heat flux and wind stress on the spatiotemporal upper-ocean variability in the tropical Indian Ocean. *Env. Res. Lett.*, 15, 084047.
46. Gentemann, C., 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, 2020: FluxSat: Measuring the ocean-atmosphere turbulent exchange of heat and moisture from space. *Remote Sensing*, 12, 1796.
45. Sprintall, J., K. A. Reed, A. H. Butler, G. R. Foltz, S. G. Penny, and **H. Seo**, 2020: Best Practice Strategies for Process Studies designed to Improve Climate Modelling, *Bull. Amer. Met. Soc.*, *Bull. Amer. Met. Soc.*, 101, E1842-E1850
44. Song, H., J. Marshall, D. J. McGillicuddy Jr., and **H. Seo**, 2020: The impact of the current-wind interaction on the vertical processes in the Southern Ocean. *J. Geophys. Res.-Oceans*, 125, e2020JC016046
43. Gopalakrishnan, G., A. C. Subramanian, A. J. Miller, **H. Seo**, and D. Sengupta, 2020: Estimation and prediction of the upper ocean circulation in the Bay of Bengal, *Deep-Sea Res. II*, 172, 104721
42. Hagos, S., G. R. Foltz, C. Zhang, E. Thompson, **H. Seo**, S. Chen, A. Capotondi, K. A. Reed, C. DeMott, and A. Protat, 2020: Atmospheric Convection and Air-Sea Interactions over the Tropical Oceans: Scientific Progress, Challenges and Opportunities. *Bull. Amer. Met. Soc.*, 101, E253–E258.
41. Kwon, Y.-O., **H. Seo**, C. C. Ummenhofer, and T. M. Joyce, 2020: Impact of Multidecadal Variability in Atlantic SST on Winter Atmospheric Blocking. *J. Climate*, 33, 867-892
- 2019**
40. **Seo, H.**, A. C. Subramanian, H. Song, and J. S. Chowdary, 2019: Coupled effects of ocean current on wind stress in the Bay of Bengal: Eddy energetics and upper ocean stratification. *Deep-Sea Res. II*, 168, 104617
39. *Prend, C. J., **H. Seo**, R. A. Weller, and J. T. Farrar, 2019: Impact of freshwater plumes on intraseasonal upper ocean variability in the Bay of Bengal. *Deep-Sea Res.-II*, 161, 63-71.
38. Joyce, T. M., Y.-O. Kwon, **H. Seo**, and C. C. Ummenhofer, 2019: Meridional Gulf Stream shifts can influence wintertime variability in the North Atlantic Storm Track and Greenland Blocking. *Geophys. Res. Lett.*, 46, 1702-1708.
37. Weller, R. A., J. T. Farrar, **H. Seo**, C. J. Prend*, D. Sengupta, J. Sree Lekha, M. Ravichandran, and R. Venkatesen, 2019: Moored observations of the surface meteorology and air-sea fluxes in the northern Bay of Bengal in 2015, *J. Climate*, 32, 549-573.
- 2018**
36. *Parfitt, R., and **H. Seo**, 2018: A New Framework for Near-Surface Wind Convergence over the Kuroshio Extension and Gulf Stream in Wintertime: The Role of Atmospheric Fronts. *Geophys. Res. Lett.*, 45, 9909–9918.
35. Pullen, J., R. Allard, **H. Seo**, A. J. Miller, S. Chen, L. P. Pezzi, T. Smith, P. Chu, J. Alves, and R. Caldeira, 2018: Coupled ocean-atmosphere forecasting at short and medium time scales. *J. Mar. Res.*, 75, 877-921.
34. *Jin, X, Y.-O. Kwon, C. C. Ummenhofer, **H. Seo**, Y. Kosaka, and J. S. Wright, 2018: Distinct mechanisms of decadal subsurface heat content variations in the eastern and western Indian Ocean modulated by tropical Pacific SST, *J. Climate*, 31, 7751-7769.
33. *Jin, X., Y.-O. Kwon, C. C. Ummenhofer, **H. Seo**, F. U. Schwarzkopf, A. Biastoch, C. W. Böning, and J. S. Wright, 2018: Influences of Pacific Climate Variability on Decadal Subsurface Ocean Heat Content Variations in the Indian Ocean. *J. Climate*, 31, 4157-4174.
32. Kwon, Y.-O., A. Camacho, C. Martinez-Zayas, and **H. Seo**, 2018: North Atlantic Eddy-driven Jet and Blocking Variability in the Community Earth System Model Version 1 Large Ensemble Simulations. *Climate Dyn.*, 51, 3275-3289.

2017

31. **Seo, H.**, Y.-O. Kwon, T. M. Joyce, and C. C. Ummerhofer, 2017: On the predominant nonlinear response of the extratropical atmosphere to meridional shift of the Gulf Stream. *J. Climate*, 30, 9679-9702.
30. Morrow, R., L.-L. Fu, T. Farrar, **H. Seo**, P.-Y. Le Traon, 2017: Ocean eddies and mesoscale variability. Satellite Altimetry Over Oceans and Land Surfaces, In D. Stammer and A. Cazenave, editors, *Satellite Altimetry Over Ocean and Land Surfaces*. CRC Press, Taylor and Francis Group, [Satellite Altimetry Over Oceans and Land Surfaces](#).
29. Centurioni, L. R., and Co-authors, 2017: Northern Arabian Sea Circulation-Autonomous Research (NASCar): A Research Initiative Based on Autonomous Sensors. *Oceanography*, 30, 74-87.
28. Ummerhofer, C. C., **H. Seo**, Y.-O. Kwon, R. Parfitt, S. Brands, and T. M. Joyce, 2017: Emerging European winter precipitation pattern linked to atmospheric circulation changes over the North Atlantic region in recent decades. *Geophys. Res. Lett.*, 44, 8557–8566.
27. **Seo, H.**, 2017: Distinct influence of air-sea interactions mediated by mesoscale sea surface temperature and surface current in the Arabian Sea. *J. Climate*, 30, 8061-8079.
26. Miller, A. J., M. Collins, S. Gualdi, T. G. Jensen, V. Misra, L. P. Pezzi, D. W. Pierce, D. Putrasahan, **H. Seo**, and Y.-H. Tseng, 2017: Coupled Ocean-Atmosphere-Hydrology Modeling and Predictions, *J. Mar. Res.*, 75, 361-402.
25. *Parfitt, R., A. Czaja, and **H. Seo**, 2017: A simple diagnostic for the detection of atmospheric fronts, *Geophys. Res. Lett.*, 44, 4351–4358.
24. Jongaramrungruang, S., **H. Seo**, and C. C. Ummerhofer, 2017: Intraseasonal rainfall variability in the Bay of Bengal during the Summer Monsoon: Coupling with the ocean and modulation by the Indian Ocean Dipole. *Atmos. Sci. Lett.*, 18, 88–95.

2016

23. Chowdary, J. S., G. Srinivas, T. S. Fousiya, A. Parekh, C. Gnanaseelan, **H. Seo**, and J. A. MacKinnon, 2016: Representation of Bay of Bengal Upper-Ocean Salinity in General Circulation Models. *Oceanography*, 29, 38–49.
22. **Seo, H.**, A. J. Miller, and J. R. Norris, 2016: Eddy-wind interaction in the California Current System: dynamics and impacts, *J. Phys. Oceanogr.*, 46, 439-459.
21. Brink, K. H. and **H. Seo**, 2016: Continental Shelf Baroclinic Instability 2: Oscillating wind forcing, *J. Phys. Oceanogr.*, 46, 569-582.

2015

20. *Oltmanns, M., F. Straneo, **H. Seo**, and G. W. K. Moore, 2015: The role of wave dynamics and small-scale topography for downslope wind events in southeast Greenland. *J. Atmos. Sci.*, 72, 2786-2805.
19. Cavanaugh, N., T. Allen, A. Subramanian, B. Mapes, **H. Seo**, A. J. Miller, 2015: The Skill of Tropical Linear Inverse Models in Hindcasting the Madden-Julian Oscillation. *Climate Dyn.*, 44, 897-906.

2014

18. **Seo, H.**, A. C. Subramanian, A. J. Miller, and N. R. Cavanaugh, 2014: Coupled impacts of the diurnal cycle of sea surface temperature on the Madden-Julian Oscillation. *J. Climate*, 27, 8422-8443.
17. Park, J.-Y., J.-S. Kug, **H. Seo**, and J. Bader, 2014: Impact of bio-physical feedbacks on the tropical climate in coupled and uncoupled GCMs. *Climate Dyn.*, 43, 1811-1827.
16. **Seo, H.**, Y.-O. Kwon, and J.-J. Park, 2014: On the effect of the East/Japan Sea SST variability on the North Pacific atmospheric circulation in a regional climate model. *J. Geophys. Res.-Atmospheres*, 119, 418-444.
15. Subramanian, A, M. Jochum, A. J. Miller, R. Neale, **H. Seo**, D. Waliser, and R. Murtugudde, 2014: The MJO and Global warming: A study in CCSM4. *Climate Dyn.*, 42, 2019-2031.

2013

14. **Seo, H.**, and J. Yang, 2013: Dynamical response of the Arctic atmospheric boundary layer process to uncertainties in sea ice concentration. *J. Geophys. Res.-Atmosphere*, 118, 12383-12402.
13. Putrasahan, D. A. J. Miller, and **H. Seo**, 2013: Regional coupled ocean-atmosphere downscaling in the Southeast Pacific: Impacts on upwelling, mesoscale air-sea fluxes, and ocean eddies. *Ocean Dynam.*, 63, 463-488.

12. **Seo, H.** and S.-P. Xie, 2013: Impact of ocean warm layer thickness on the intensity of hurricane Katrina in a regional coupled model. *Meteor. Atmos. Phys.*, 122, 19-32.
 11. Putrasahan, D. A. J. Miller, and **H. Seo**, 2013: Isolating Mesoscale Coupled Ocean-Atmosphere Interactions in the Kuroshio Extension Region. *Dyn. Atmos. Oceans.*, 63, 60-78.
- 2012**
10. **Seo, H.**, K. H. Brink, C. E. Dorman, D. Koracin, and C. A. Edwards, 2012: What determines the spatial pattern in summer upwelling trends on the U.S. West Coast? *J. Geophys. Res.-Oceans*, 117, C08012.
 9. Alexander, M.A., **H. Seo**, S.-P. Xie, and J.D. Scott, 2012: ENSO's impact on the gap wind regions of the eastern tropical Pacific Ocean. *J. Climate*, 25, 3549-3565.
- 2011**
8. **Seo, H.**, and S.-P. Xie, 2011: Response and Impact of Equatorial Ocean Dynamics and Tropical Instability Waves in the Tropical Atlantic under Global Warming: A regional coupled downscaling study. *J. Geophys. Res.-Oceans*, 116, C03026.
- 2009**
7. **Seo, H.**, S.-P. Xie, R. Murtugudde, M. Jochum, and A. J. Miller, 2009: Seasonal effects of Indian Ocean freshwater forcing in a regional coupled model. *J. Climate*, 22, 6577-6596.
- 2008**
6. **Seo, H.**, R. Murtugudde, M. Jochum, and A. J. Miller, 2008: Modeling of Mesoscale Coupled Ocean-Atmosphere Interaction and its Feedback to Ocean in the Western Arabian Sea. *Ocean Modell.*, 25,120-131.
 5. **Seo, H.**, M. Jochum, R. Murtugudde, A. J. Miller, and J. O. Roads, 2008: Precipitation from African Easterly Waves in a Coupled Model of the Tropical Atlantic. *J. Climate*, 21, 1417-1431.
 4. Small, R. J., S. de Szoek, S. P. Xie, L. O'Neill, **H. Seo**, Q. Song, P. Cornillon, M. Spall, and S. Minobe, 2008: Air-Sea Interaction over Ocean Fronts and Eddies. *Dyn. Atmos. Oceans.*, 45, 274-319.
- 2007**
3. **Seo, H.**, M. Jochum, R. Murtugudde, A. J. Miller, and J. O. Roads, 2007: Feedback of Tropical Instability Wave - induced Atmospheric Variability onto the Ocean. *J. Climate*, 20, 5842-5855.
 2. **Seo, H.**, A. J. Miller and J. O. Roads, 2007: The Scripps Coupled Ocean-Atmosphere Regional (SCOAR) model, with applications in the eastern Pacific sector. *J. Climate*, 20, 381-402.
- 2006**
1. **Seo, H.**, M. Jochum, R. Murtugudde and A. J. Miller, 2006: Effect of Ocean Mesoscale Variability on the Mean State of Tropical Atlantic Climate. *Geophys. Res. Lett.*, 33, L09606.

CURRENT PROJECTS

- ONR SAFARI (Study of Air-Sea Fluxes and Atmospheric River Intensity DRI. Marine Meteorology and Space Weather at ONR. (2025-2028): **sole PI**, \$TBD
- University of Hawai'i Foundation (UHF), UC•AO-Hokkaido Education Exchange For Global Partnership. **co-PI**.
- University of Hawai'i Foundation (UHF), Joint Research Between The Uehiro Center for The Advancement OF Oceanography (UC•AO) and The Okinawa Institute Of Science And Technology (OIST). **co-PI**
- ONR Arabian Sea Transition Layer (ASTraL) DRI (2022-2027): Improving the model simulation of surface wave impacts on air-sea fluxes, turbulent boundary layers, and their impacts on Indian monsoons in the Arabian Sea, **sole PI**, \$688,863.
- NOAA Climate Variability & Predictability Program (2022-2025): Exploiting coupled ocean-atmosphere-wave model simulations to identify observational requirements for air-sea interaction studies across the tropical Pacific, **lead PI** with co-PI Wijffels, \$773,543
- NSF Physical Oceanography Program (2022-2025): Improving understanding of coupled impacts of

- oceans and waves on air-sea fluxes in the US Northeast Coast, **lead PI** with co-PIs Sauvage, Clayson, & Edson, \$831,828
- NASA Modeling, Analysis, and Prediction Program (2021-2024): Improving coupled atmosphere-ocean processes in NU-WRF for the simulation of coast-threatening extratropical cyclones in the northeastern US, **lead PI** with co-PIs Clayson & Edson, \$1,166,106
 - DOE Wind Energy Technologies Office (2021-2026): Improving High Resolution Offshore Wind Resource Assessments and Forecasts using Observations in the MA/RI Lease Areas, **co-PI** with lead PI Kirincich, \$8M
 - NSF Physical Oceanography & Climate and Large-Scale Dynamics Programs (2020-2023): Collaborative Research: Coupled Ocean-Atmosphere Feedbacks Affecting California Coastal Climate: Current Conditions and Future Projections, **lead PI** with co-PI Miller (SIO), \$497,237

AWARDS AND HONORS

- WHOI Francis E. Fowler IV Ocean and Climate Fellow (2022, [link](#))
- Office of Naval Research (ONR) Young Investigator Award (2015, [WHOI press release](#))
- NOAA Climate and Global Change Postdoctoral Fellowship (2007-2009, [class 17](#))
- Physical Oceanography Dissertation Symposium V, Honolulu (2008)
- NCAR Advanced Study Program (ASP) Graduate Student Visiting Fellowship (2006)
- Scripps Institution of Oceanography Frieman Director's Prize for Excellence in Graduate Student Research (2006, [UCSD press release](#))
- Outstanding Student Paper Award, Ocean Sciences Meeting, Honolulu (2006)

TEACHING

@ University of Hawai'i at Mānoa (from August 2024)

- **Spring 2025, OCN 760:** Topics in Physical Oceanography (Air-Sea Interaction and Offshore Wind)
- **Spring 2025, OCN780:** Ocean Seminar
- **Fall 2024, GES 311:** The Changing Earth and Climate System. Guest lecture, “Why offshore wind energy: Necessity, Challenges and Oceanographers’ Role”, Nov 21, 2024

@ MIT/WHOI JOINT PROGRAM (until 2024)

- **Spring Semester, 2023:** Air-Sea Interaction and Boundary Layers, MIT/WHOI Joint Program Course 12.870. Co-teaching with Tom Farrar
- **Fall Semester, 2017, 2019, 2021:** Climate Variability and Diagnostics, MIT/WHOI Joint Program Course 12.860. Co-teaching with Caroline Ummenhofer
- **Fall Semester, 2016, 2017, 2018, 2019:** Introduction to (Observational) Physical Oceanography, MIT/WHOI Joint Program Course 12.808. Co-taught with John Toole

ADVISING AND MENTORING

Dissertation Committee

- Ph.D. Meghan Bradley (University of Hawai'i, Oceanography), 2025- Present
- Ph.D. Ryo Dobashi (University of Hawai'i, Oceanography), 2025- Present
- Ph.D. General Exam Advisor for Anthony Meza (MIT-WHOI Joint Program), 2022-2023
- Ph.D. Thesis Committee for Hanyuan Liu (MIT-WHOI Joint Program), 2021-2023
- Ph.D. External Examiner for Christoph Renkl (Dalhousie University, Oceanography), 2020
- Ph.D. Thesis committee for Jared Buckley (University of Massachusetts, Dartmouth), 2015-2019
- M.S. Thesis committee for Xin Zhou (Florida Institute of Technology), 2015-2016
- M.S. Thesis committee for Sara Bosshart (MIT-WHOI Joint Program), 2013

Graduate Students

- Rachel Wyn Pauly (to join in August 2025)

Researcher

- César Sauvage (2023-): RA3

Postdocs

- Shikhar Rai (2023-)
- Benjamin Barr (2023-)
- Christoph Renkl (2023-2025) at WHOI. Now Assistant Professor in the University of Bonn, Germany
- Alma Carolina Castillo-Trujillo (2021-2024).
- César Sauvage (2020-2023), now RA3 at WHOI and UH
- (former) John Steffen (2019-2021, now at NOAA)
- (former) Rhys Parfitt (2016-2018, now Associate Professor, FSU)

Visiting Students

- Yoo-Jun Kim (University of Tokyo), Nov. 2023-Mar. 2024: High-resolution wind modeling.
- Peisen Tan (University of Miami), Summer of 2023: Laboratory and numerical modeling of short wind waves and swell interactions.
- Sam Bartusek (Princeton University, SSF 2019, now at Columbia University): Coastal Ocean impacts on landfalling ARs ([Bartusek et al. 2021](#)).
- Yuqing Liu (Bremen Univ., Guest Student, 2018, now at AWI, Germany): Submesoscale air-sea coupling
- Manthan Shah (Northeastern Univ., Guest Student, 2018): Scale-dependence of SST-wind coupling
- Xu Yuan (Univ. Twente, Guest Student, 2018): Upper-ocean variability in the tropical Indian Ocean ([Yuan et al. 2020](#))
- Xiaolin Jin (Tsinghua University, Visiting Student, 2017), Decadal Subsurface Ocean Heat Content Variations in the Indian Ocean. ([Jin et al. 2018a](#), [Jin et al. 2018b](#))
- Samuel Coakley (Rutgers University, SSF 2017): Southeast Asian monsoon variability in the CESM-Last Millennium Ensemble
- David Smith (Northeastern University, Guest Student, 2016): Decadal predictability of the North Atlantic Blocking
- Channing Prend (Columbia Univ., SSF 2016, Scripps Ph.D.): Impact of freshwater plumes on intraseasonal SST variability in the Bay of Bengal ([Prend et al. 2018](#), [Weller et al. 2019](#))
- Siraput Jongaramrungruang (Univ. Cambridge, SSF 2015, now at Caltech): Interannual modulation of intraseasonal convection in the Bay of Bengal [Jongaramrungruang et al. 2017](#))
- Alicia Camacho (Valparaiso University, UCAR SOARS student 2015, Ph. D. from Stony Brook University): North Atlantic Oscillation, Jet and Blocking in CESM1 Large Ensemble Simulations. ([Kwon et al. 2018](#))
- Carlos Martinez (Texas A&M University, UCAR SOARS student 2014, Ph.D. from Columbia University): North Atlantic Atmospheric Blocking and Atlantic Multi-decadal Oscillation in CESM1 Large Ensemble Simulations. ([Kwon et al. 2018](#))

PROFESSIONAL ACTIVITIES**Community Activities**

- WHOI Representative for UCAR (2018-2023)
- UCAR President’s Advisory Committee on University Relations (PACUR): 2023-Present ([link](#))
- Co-Chair, US CLIVAR Working Group on Mesoscale and Frontal-scale Ocean-Atmosphere Interactions and Influence on Large-scale Climate (2019-Present, [link](#))
- Member, US CLIVAR Air-Sea Transition Zone Study Group (2022-2023, [link](#))
- Associate Editor, *Journal of Climate* (2019- Present)

- (Past) Member, AMS STAC Committee on Air-Sea Interaction (2019- 2022)
- (Past) Member, US CLIVAR Process Study and Model Improvement Panel (2016-2020)
- (Past) Associate Editor: *Atmospheric Science Letters* (2015-2017)
- (Past) Member, AMS STAC Committee on Coastal Environment (2011-2017)

UH Committee and Service

- Department of Oceanography Awards Committee (2025- Present)

WHOI Committee and Service

- WHOI Physical Oceanography Recruitment Committee for Scientific Staff (2020-2021)
- WHOI High-Performance Computing Strategy Committee (2022-2023)
- WHOI Summer Student Fellowship Coordinator (2017-2019)
- WHOI HPC User Advisory Committee (2010-2017)
- WHOI Physical Oceanography Department seminar series organizer (2010-2011)

Agency proposal review panels

- NASA SWOT (2012); DOE ESMD (2020)

Society Memberships

- American Geophysical Union (2002-Present)
- American Meteorological Society (2002-Present)
- The Oceanography Society (2012-Present)