

# Christopher G. Piecuch

Associate Scientist (pre-tenure)  
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## Research Statement

I use data, models, proxies, and theory to understand how and why sea level changes.

## Education

2006 **B.A. Physics, Mathematics, German Language & Literature**  
(summa cum laude with minors in philosophy and honors)  
*University of Rhode Island, Kingston, Rhode Island*

2010 **M.Sc. Biological Oceanography** (Adviser: Tatiana Rynearson)  
*University of Rhode Island, Narragansett, Rhode Island*

2016 **Ph.D. Physical Oceanography** (Adviser: Kathleen Donohue)  
*University of Rhode Island, Narragansett, Rhode Island*

## Positions

2022—present **Associate Scientist (pre-tenure)**  
*Woods Hole Oceanographic Institution*

2018—2022 **Assistant Scientist**  
*Woods Hole Oceanographic Institution*

2016—2018 **Staff Scientist II**  
*Atmospheric and Environmental Research, Inc.*

2012—2016 **Staff Scientist I**  
*Atmospheric and Environmental Research, Inc.*

2010—2012 **Senior Research Associate**  
*Atmospheric and Environmental Research, Inc.*

2007—2010 **Research Assistant**  
*University of Rhode Island*

2006—2007 **Volunteer**  
*United States Peace Corps*

## Current Projects

2022—2023 *WHOI Future Leaders for Ocean, Climate and Society at COP27*  
Funder: Woods Hole Oceanographic Institution (\$110K)  
Role: Co-Principal Investigator

2022—2024 *Coastal Flooding—When, Where, Why?*  
Funder: Woods Hole Oceanographic Institution (\$99K)  
Role: Co-Principal Investigator

- 2022—2023 *A Low-Cost Ultrasonic Sensor for Monitoring Coastal Flooding and Sea Level*  
Funder: Woods Hole Oceanographic Institution (\$100K)  
Role: Co-Principal Investigator
- 2021—2027 [Collaborative Research: FOCUS: Florida Current and Sea Level](#)  
Funder: National Science Foundation (\$561K)  
Role: Co-Principal Investigator/Institutional Principal Investigator
- 2021—2025 [30-Year Satellite-Altimeter Record of Regional Sea-Level Change: Statistical Properties, Atmospheric Forcing, and Ocean Response](#)  
Funder: National Aeronautics and Space Administration (\$440K)  
Role: Co-Investigator/Institutional Principal Investigator
- 2020—2024 [Contributions to Coastal Sea-Level Extremes: Understanding the Past and Projecting the Future](#)  
Funder: National Aeronautics and Space Administration (\$1,506K)  
Role: Principal Investigator
- 2020—2023 [Collaborative Research: How Robust Are Common-Era Sea Level Reconstructions?](#)  
Funder: National Science Foundation (\$283K)  
Role: Principal Investigator
- 2020—2024 *Studies of Ocean Circulation, Sea Level and Climate Using Space Gravity Measurements*  
Funder: National Aeronautics and Space Administration (\$217K)  
Role: Co-Investigator/Institutional Principal Investigator
- 2020—2024 [Attributions of Past Regional Sea Level Variations and Projection of Future Sea Level Changes](#)  
Funder: National Aeronautics and Space Administration (\$184K)  
Role: Co-Investigator/Institutional Principal Investigator

### **Past Projects**

- 2019—2021 *Salt Marshes to Satellites—Synthesizing Proxy and Instrumental Records to Infer Multidecadal- to Centennial-Scale Sea-Level Variation over the Late Holocene*  
Funder: Woods Hole Oceanographic Institution (\$65K)  
Role: Principal Investigator
- 2019—2021 *Geothermal Flux and its Influence on Climate*  
Funder: Woods Hole Oceanographic Institution (\$98K)  
Role: Principal Investigator
- 2019—2019 *The Blind Men and the Elephant—Synthesizing Theories of Subpolar Atlantic Decadal Variability*  
Funder: Woods Hole Oceanographic Institution (\$63K)  
Role: Principal Investigator
- 2018—2018 *Between the Devil and the Deep-Blue Sea: Toward Comprehensive Multivariate Projections of Future Coastal Exposure and Compound*

- Flood Risk*  
 Funder: Woods Hole Oceanographic Institution (\$60K)  
 Role: Principal Investigator
- 2018—2021 *Participation in the Consortium for Estimating the Circulation and Climate of the Ocean (ECCO)*  
 Funder: National Aeronautics and Space Administration (\$82K)  
 Role: Co-Investigator/Institutional Principal Investigator
- 2016—2021 *Collaborative Research: Understanding Multidecadal Changes in the Instrumental Mean Sea Level Record*  
 Funder: National Science Foundation (\$302K)  
 Role: Principal Investigator
- 2016—2020 *Studies of the Ocean Circulation and Climate Using Gravity Data, in Combination With Other Data and Ocean Models*  
 Funder: National Aeronautics and Space Administration (\$824K)  
 Role: Co-Investigator
- 2016—2019 *Optimizing the Spatial Scale of Regional Sea Level Indicators*  
 Funder: National Aeronautics and Space Administration (\$333K)  
 Role: Co-Investigator
- 2015—2018 *Understanding Mechanisms of Project Twenty-First Century Ocean Warming Around Greenland*  
 Funder: National Science Foundation (\$450K)  
 Role: Co-Investigator
- 2014—2017 *Data and Forcing Integration For Improved Estimation of Spatial Sea Level Patterns and Their Uncertainty, With Extended Diagnostics For Closed Budget Analysis*  
 Funder: National Aeronautics and Space Administration (\$471K)  
 Role: Co-Investigator

## Publications

- [69] **Sensitivity experiments and momentum balances to understand processes driving sea level on the Northwest European Shelf**  
 Wise, A., F. Calafat, C. Hughes, S. Jevrejeva, C. Katsman, J. Oelmann, **C. Piecuch**, J. Polton, K. Richter, submitted to *J. Geophys. Res.-Oceans*, 2023.
- [68] **Spatiotemporal Variability in the Annual Sea Level Cycle Along the Global Coast**  
 Barroso, A., T. Wahl., S. Li, A. Rodríguez Enríquez, J. Morim, S. Dangendorf, **C. Piecuch**, P. Thompson, submitted to *J. Geophys. Res.-Oceans*, 2023.
- [67] **Pelagic sedimentation rates in the North Pacific using Thorium-230 depth profiling**  
 Costa, K., F. J. Pavia, **C. G. Piecuch**, J. F. McManus, G. A. Weinstein, under revision at *Geochim. Cosmochim. Acta*, 2023.
- [66] [Influence of Deep-Ocean Warming on Coastal Sea-Level Trends in the Gulf of Mexico](#)

- Steinberg, J., **C. G. Piecuch**, B. D. Hamlington, P. R. Thompson, S. Coats, under revision at *J. Geophys. Res.-Oceans.*, 2023.
- [65] [Robust weakening of the Gulf Stream during the past four decades observed in the Florida Straits](#)  
**Piecuch, C. G.**, L. M. Beal, *Geophys. Res. Lett.*, 50(18), <https://doi.org/10.1029/2023GL105170>, 2023.
- [64] [Yesterday's high tide is today's new normal](#)  
**Piecuch, C. G.**, B. D. Hamlington, *Earth's Future*, 11(8), <https://doi.org/10.1029/2023EF003774>, 2023.
- [63] [Compounding of sea-level processes during high-tide flooding along the U.S. coastline](#)  
Li, S., T. Wahl, **C. Piecuch**, S. Dangendorf, P. Thompson, L. Liu, *J. Geophys. Res.-Oceans.*, 128(8), <https://doi.org/10.1029/2023JC019885>, 2023.
- [62] [River effects on sea-level rise in the Río de la Plata estuary during the past century](#)  
**Piecuch, C. G.**, *Ocean Sci.*, 19(1), <https://doi.org/10.5194/os-19-57-2023>, 2023.
- [61] [Through an Ice Sheet, Darkly](#)  
**Piecuch, C. G.**, S. B. Das, *Earth's Future*, 10(12), <https://doi.org/10.1029/2022EF003310>, 2022.
- [60] [Low-Frequency Dynamic Ocean Response to Barometric-Pressure Loading](#)  
**Piecuch, C. G.**, I. Fukumori, R. M. Ponte, M. Schindelegger, O. Wang, M. Zhao, *J. Phys. Oceanogr.*, 52, <https://doi.org/10.1175/JPO-D-22-0090.1>, 2022.
- [59] [The importance of non-tidal water-level variability for reconstructing Holocene relative sea level](#)  
Kemp, A. C., T. A. Shaw, **C. G. Piecuch**, *Quat. Sci. Rev.*, 290, 107637, <https://doi.org/10.1016/j.quascirev.2022.107637>, 2022.
- [58] [Contributions of different sea-level processes to high-tide flooding along the U.S. coastline](#)  
Li, S., T. Wahl, A. Barroso, S. Coats, S. Dangendorf, A. R. Enríquez, F. W. Landerer, L. Liu, **C. G. Piecuch**, J. T. Reager, P. R. Thompson, 127, *J. Geophys. Res.-Oceans*, <https://doi.org/10.1029/2021JC018276>, 2022.
- [57] [Local and remote forcing of interannual sea-level variability at Nantucket Island](#)  
Wang, O., T. Lee, **C. Piecuch**, I. Fukumori, I. Fenty, T. Frederikse, D. Menemenlis, R. Ponte, H. Zhang, *J. Geophys. Res.-Oceans*, 127, <https://doi.org/10.1029/2021JC018275>, 2022.
- [56] [High-Tide Floods and Storm Surges During Atmospheric Rivers on the US West Coast](#)  
**Piecuch, C. G.**, S. Coats, S. Dangendorf, F. W. Landerer, J. T. Reager, P. R. Thompson, T. Wahl, *Geophys. Res. Lett.*, 49, <https://doi.org/10.1029/2021GL096820>, 2022.
- [55] [Influence of Nonseasonal River Discharge on Sea Surface Salinity and Height](#)

- Chandanpurkar, H., T. Lee, X. Wang, H. Zhang, S. Fournier, I. Fenty, I. Fukumori, D. Menemenlis, **C. Piecuch**, J. Reager, O. Wang, J. Worden, J. Adv. Model. Earth Syst., 13, <https://doi.org/10.1029/2021MS002715>, 2022.
- [54] [Ocean mass, sterodynamic effects, and vertical land motion largely explain US coast relative sea level rise](#)  
Harvey, T. C., B. D. Hamlington, T. Frederikse, R. S. Nerem, **C. G. Piecuch**, W. C. Hammond, G. Blewitt, P. R. Thompson, D. P. S. Bekaert, F. W. Landerer, J. T. Reager, R. E. Kopp, I. Fenty, D. Trossman, J. Walker, C. Boening, *Commun. Earth Environ.*, 2, 233, doi:10.1038/s43247-021-00300-w, 2021.
- [53] [North American East Coast Sea Level Exhibits High Power and Spatiotemporal Complexity on Decadal Timescales](#)  
Little, C. M., **C. G. Piecuch**, R. Ponte, *Geophys. Res. Lett.*, 48, doi:10.1029/2021GL093675, 2021.
- [52] [Climate did not drive Common Era Maldivian sea-level lowstands](#)  
**Piecuch, C. G.**, A. C. Kemp, G. Gebbie, A. Meltzner, *Nat. Geosci.*, 14, 273-275, doi:10.1038/s41561-021-00731-2, 2021.
- [51] [Intraseasonal Sea-Level Variability in the Persian Gulf](#)  
**Piecuch, C. G.**, I. Fukumori, R. M. Ponte, *J. Phys. Oceanogr.*, 51, 1687-1704, doi:10.1175/JPO-D-20-0296.1, 2021.
- [50] [Meridional Asymmetry in Recent Decadal Sea-Level Trends in the Subtropical Pacific Ocean](#)  
F. Schloesser, P. R. Thompson, **C. G. Piecuch**, *Geophys. Res. Lett.*, 48, doi:10.1029/2020GL091959, 2021.
- [49] [Likely weakening of the Florida Current during the past century revealed by sea level observations](#)  
**Piecuch, C. G.**, *Nat. Commun.*, 11, 3973, doi:10.1038/s41467-020-17761-w, 2020.
- [48] [Origin of Interannual Variability in Global Mean Sea Level](#)  
Hamlington, B. D., **C. G. Piecuch**, J. T. Reager, H. Chandanpurkar, T. Frederikse, R. S. Nerem, J. T. Fasullo, S.-H. Cheon, *Proc. Natl. Acad. Sci. U.S.A.*, doi:10.1073/pnas.1922190117, 2020.
- [47] [Understanding of Contemporary Regional Sea-Level Change and the Implications for the Future](#)  
Hamlington, B. D., 50 others (including **C. G. Piecuch**), *Rev. Geophys.*, 58, doi:10.1029/2019RG000627, 2020.
- [46] [A Pre-Industrial Sea-Level Rise Hotspot Along the Atlantic Coast of North America](#)  
Gehrels, W. R., S. Dangendorf, N. Barlow, M. Saher, A. Long, P. Woodworth, **C. Piecuch**, K. Berk, *Geophys. Res. Lett.*, 47, doi:10.1029/2019GL085814, 2020.
- [45] [Dynamic Sea Level Variability due to Seasonal River Discharge: A Preliminary Global Ocean Model Study](#)  
**Piecuch, C. G.**, R. Wadehra, *Geophys. Res. Lett.*, 47, doi:10.1029/2020GL086984, 2020.

- [44] [The Mean State and Variability of the North Atlantic Circulation: A Perspective from Reanalyses](#)  
Jackson, L., 18 others (including **C. G. Piecuch**), *J. Geophys. Res.-Oceans*, 124, doi:10.1029/2019JC015210, 2019.
- [43] [What Caused Recent Shifts in Tropical Pacific Sea-Level Trends?](#)  
**Piecuch, C. G.**, P. R. Thompson, R. M. Ponte, M. A. Merrifield, B. D. Hamlington, *J. Geophys. Res.-Oceans*, 124, doi:10.1029/2019JC015339, 2019.
- [42] [The Relationship between United States East Coast Sea Level and the Atlantic Meridional Overturning Circulation: A Review](#)  
Little, C., A. Hu, C. Hughes, G. McCarthy, **C. Piecuch**, R. Ponte, M. Thomas, *J. Geophys. Res.-Oceans*, 124, doi:10.1029/2019JC015152, 2019.
- [41] [Persistent acceleration in global sea-level rise since the 1960s](#)  
Dangendorf, S., C. Hay, F. M. Calafat, M. Marcos, **C. G. Piecuch**, K. Berk, J. Jensen, *Nature Clim. Change*, 9, 705-710, doi:10.1038/s41558-019-0531-8, 2019.
- [40] [How is New England coastal sea level related to the Atlantic Meridional Overturning Circulation at 26°N?](#)  
**Piecuch, C. G.**, Dangendorf, S., G. G. Gawarkiewicz, C. M. Little, R. M. Ponte, J. Yang, *Geophys. Res. Lett.*, 46, 5351-5360, doi:10.1029/2019GL083073, 2019.
- [39] [Impact of Continental Freshwater Runoff on Coastal Sea Level](#)  
Durand, F., **C. Piecuch**, M. Becker, F. Papa, S. V. Raju, J. U. Khan, R. M. Ponte, *Surv. Geophys.*, 40(6), 1437-1466, doi:10.1007/s10712-019-09536-w, 2019.
- [38] [The Ability of Barotropic Models to Simulate Historical Sea Level Changes from Coastal Tide Gauges](#)  
**Piecuch, C. G.**, F. M. Calafat, S. Dangendorf, G. Jordà, *Surv. Geophys.*, 40(6), 1399-1435, doi:10.1007/s10712-019-09537-9, 2019.
- [37] [The Dominant Global Modes of Recent Internal Sea Level Variability](#)  
Hamlington, B. D., S. H. Cheon, **C. G. Piecuch**, K. B. Karnauskas, P. R. Thompson, K.-Y. Kim, J. T. Reager, F. W. Landerer, T. Frederikse, *J. Geophys. Res.-Oceans*, 124, 2750-2768, doi:10.1029/2018JC014635, 2019.
- [36] [Towards Comprehensive Observing and Modeling Systems for Monitoring and Predicting Regional to Coastal Sea Level](#)  
Ponte, R. M., 52 others (including **C. G. Piecuch**), *Front. Mar. Sci.*, 6, 437, 2019.
- [35] [Atlantic Meridional Overturning Circulation: Observed Transports and Variability](#)  
Frajka-Williams, E., 39 others (including **C. G. Piecuch**), *Front. Mar. Sci.*, 6, 260, 2019.
- [34] [Putting It All Together: Enhancing the Global Ocean and Climate Observing Systems With Complete Self-Consistent Ocean State and Parameter Estimates](#)  
Heimbach, P., 18 others (including **C. G. Piecuch**), *Front. Mar. Sci.*, 6, 55, 2019.
- [33] [Origin of spatial variation in United States East Coast sea level trends during 1900-2017](#)

- Piecuch, C. G.**, P. Huybers, C. C. Hay, A. C. Kemp, C. M. Little, J. X. Mitrovica, R. M. Ponte, M. P. Tingley, *Nature*, 564, 400-404, doi:10.1038/s41586-018-0787-6, 2018.
- [32] [Global Sea Level Budget 1993-Present](#)  
The WCRP Global Sea Level Budget Group (Cazenave, A., 84 others, including **C. G. Piecuch**), *Earth Syst. Sci. Data*, 10, 1551-1590, doi:10.5194/essd-10-1551-2018, 2018.
- [31] [River-discharge effects on United States Atlantic and Gulf coast sea-level changes](#)  
**Piecuch, C. G.**, K. Bittermann, A. C. Kemp, R. M. Ponte, C. M. Little, S. E. Engelhart, S. J. Lentz, *Proc. Natl. Acad. Sci. U.S.A.*, 115, 30, 7729-7734, doi:10.1073/pnas.1805428115, 2018.
- [30] [Tide Gauge Records Reveal Improved Processing of Gravity Recovery and Climate Experiment Time-Variable Mass Solutions over the Coastal Ocean](#)  
**Piecuch, C. G.**, F. W. Landerer, R. M. Ponte, *Geophys. J. Int.*, 214, 2, 1401-1412, 2018.
- [29] [Mechanisms Controlling Global Mean Sea Surface Temperature From a State Estimate](#)  
Ponte, R. M., **C. G. Piecuch**, *Geophys. Res. Lett.*, 45, 3221-3227, 2018.
- [28] [Accounting for Gravitational Attraction and Loading Effects from Land Ice on Absolute Sea Level](#)  
Ponte, R. M., K. J. Quinn, **C. G. Piecuch**, *J. Atmos. Ocean. Tech.*, 35(2), 405-410, 2018.
- [27] [Observation-Driven Estimation of the Spatial Variability of 20th Century Sea Level Rise](#)  
Hamlington, B., A. Burgos, P. Thompson, F. Landerer, **C. Piecuch**, S. Adhikari, L. Caron, J. Reager, E. Ivins, *J. Geophys. Res.-Oceans.*, 123, doi:10.1002/2017JC013486, 2018.
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**Piecuch, C. G.**, R. M. Ponte, C. M. Little, M. W. Buckley, I. Fukumori, *J. Geophys. Res.-Oceans*, 122, doi:10.1002/2017JC012845, 2017.
- [25] [On the relationship between the meridional overturning circulation, alongshore wind stress, and United States East Coast sea level in the Community Earth System Model Large Ensemble](#)  
Little, C. M., **C. G. Piecuch**, R. M. Ponte, *J. Geophys. Res.-Oceans*, 122, 4554-4568, doi:10.1002/2017JC012713, 2017.
- [24] [Change of the Global Ocean Vertical Heat Transport over 1993-2010](#)  
Liang, X., **C. G. Piecuch**, R. M. Ponte, G. Forget, C. Wunsch, P. Heimbach, *J. Climate*, 30, 14, 5319-5327, 2017.
- [23] [Comparison of full and empirical Bayes approaches for inferring sea level changes from tide gauge data](#)

- Piecuch, C. G.**, P. Huybers, M. Tingley, *J. Geophys. Res.-Oceans*, 122, doi:10.1002/2016012506, 2017.
- [22] [Causes of the regional variability in observed sea level, sea surface temperature, and ocean colour over the period 1993-2011](#)  
Meysignac, B., **C. G. Piecuch**, C. J. Merchant, M.-F. Racault, H. Palanisamy, C. McIntosh, S. Sathyendranath, R. Brewin, *Surv. Geophys.*, 38: 187-215, doi:10.1007/s10712-016-9383-1, 2017.
- [21] [El Niño, La Niña, and the global sea level budget](#)  
**Piecuch, C. G.**, K. J. Quinn, *Ocean Sci.*, 12, 1165-1177, doi:10.5194/os-2016-66, 2016.
- [20] [Air pressure effects on sea level changes during the Twentieth Century](#)  
**Piecuch, C. G.**, P. R. Thompson, K. A. Donohue, *J. Geophys. Res.-Oceans*, 121, 7917-7930, doi:10.1002/2016JC012131, 2016.
- [19] [Forcing of recent decadal variability in the Equatorial and North Indian Ocean](#)  
Thompson, P. R., **C. G. Piecuch**, M. A. Merrifield, J. McCreary, E. Firing, *J. Geophys. Res.-Oceans*, 121, 6762-6778, doi:10.1002/2016JC012132, 2016.
- [18] [Annual Sea Level Changes on the North American Northeast Coast: Influence of Local Winds and Barotropic Motions](#)  
**Piecuch, C. G.**, S. Dangendorf, R. M. Ponte, M. Marcos, *J. Climate*, 29, 13, 4801-4816, 2016.
- [17] [Quantifying Greenland freshwater flux underestimates in climate models](#)  
Little, C. M., **C. G. Piecuch**, A. H. Chaudhuri, *Geophys. Res. Lett.*, 43, 5370-5377, doi:10.1002/2016GL068878, 2016.
- [16] [Sensitivity of contemporary sea level trends in a global ocean state estimate to effects of geothermal fluxes](#)  
**Piecuch, C. G.**, P. Heimbach, R. M. Ponte, G. Forget, *Ocean Model.*, 96, 214-220, doi:10.1016/j.ocemod.2015.10.008, 2015.
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**Piecuch, C. G.**, R. M. Ponte, *Geophys. Res. Lett.*, 42, 5918–5925, doi:10.1002/2015GL064580, 2015.
- [14] [Bottom-pressure signature of annual baroclinic Rossby waves in the northeast tropical Pacific Ocean](#)  
**Piecuch, C. G.**, *J. Geophys. Res.-Oceans*, 120, 2449–2459, doi:10.1002/2014JC010667, 2015.
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**Piecuch, C. G.**, R. M. Ponte, *Ocean Sci.*, 11, 175-185, 2015.



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- [10] [Annual Cycle in Southern Tropical Indian Ocean Bottom Pressure](#)  
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- [9] [Interannual Bottom Pressure Signals in the Australian-Antarctic and Bellingshausen Basins](#)  
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- [8] [Mechanisms of Global-Mean Steric Sea Level Change](#)  
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- [7] [Dynamics of satellite-derived interannual ocean bottom pressure variability in the western tropical North Pacific](#)  
Piecuch, C. G., *J. Geophys. Res.*, 118, 5117-5128, doi:10.1002/jgrc.20374, 2013.
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Piecuch, C. G., R. M. Ponte, *J. Phys. Oceanogr.*, 43(3), 533-547, 2013.
- [4] [Quantifying dispersal and connectivity of surface waters using observational Lagrangian measurements](#)  
Piecuch, C. G., T. A. Rynearson, *J. Atmos. Ocean. Tech.*, 29(8), 1127-1138, 2012.
- [3] [Buoyancy-driven interannual sea level changes in the southeast tropical Pacific](#)  
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Piecuch, C. G., R. M. Ponte, *J. Climate*, 25(1), 350-362, 2012.
- [1] [Mechanisms of interannual steric sea level variability](#)  
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#### Invited Seminars

- 2024** Ocean Circulation and Climate Dynamics Colloquium, **Helmholtz Centre for Ocean Research Kiel, Germany**  
Geophysical Fluid Dynamics Laboratory, **National Oceanic and Atmospheric Administration**
- 2023** School for Marine Science and Technology, **University of Massachusetts Dartmouth**

- 2022 Graduate School of Oceanography, **University of Rhode Island**  
School for Marine Science and Technology, **University of Massachusetts Dartmouth**
- 2021 Goddard Institute for Space Studies, **Columbia University**  
Institute for Geophysics, **University of Texas at Austin**  
Department of Ocean and Earth Sciences, **Old Dominion University**  
School of the Environment, **Yale University**
- 2020 College of Marine Sciences, **University of South Florida**
- 2019 School of Marine and Atmospheric Sciences, **Stony Brook University**  
School for Marine Science and Technology, **University of Massachusetts Dartmouth**  
School of Oceanography, **University of Washington**  
Graduate School of Oceanography, **University of Rhode Island**  
School of Earth and Environmental Sciences, **Georgia Institute of Technology**
- 2018 Joint Institute for Marine and Atmospheric Research, **University of Hawaii at Mānoa**  
Woods Hole Coastal and Marine Science Center, **United States Geological Survey**  
Coastal Ocean Fluid Dynamics Laboratory, **Woods Hole Oceanographic Institution**
- 2017 Physical Oceanography Department, **Woods Hole Oceanographic Institution**  
Department of Earth and Planetary Sciences, **Harvard University**
- 2016 Physical Oceanography Department, **Woods Hole Oceanographic Institution**

#### **Conference Presentations (Lead Author Only)**

- 2024 Oral Presentation, Ocean Sciences Meeting, New Orleans, Louisiana
- 2023 Poster Presentation, Islands Coastal Conference, Nantucket, Massachusetts  
**Invited** Oral Presentation, International Space Science Institute, Bern, Switzerland.  
Oral Presentation, NASA Sea Level Change Team (N-SLCT) Meeting, Pasadena, California
- 2022 **Invited** Oral Presentation, AGU Fall Meeting (virtual)  
Poster Presentation, UK Sea Level and Coasts Meeting, Durham, UK.  
Oral Presentation, US Atlantic Meridional Overturning Circulation (AMOC) Science Team Meeting, Woods Hole, Massachusetts.

- Poster Presentation, Ocean Sciences Meeting (virtual).  
**Invited** Oral Presentation, International Space Science Institute, Bern, Switzerland.
- 2021** Oral Presentation, AGU Fall Meeting (virtual).  
 Oral Presentation, GRACE Science Team Meeting (virtual).  
**Invited** Oral Presentation, Carbon North Atlantic Irrigation by the Meridional Overturning Circulation Workshop, Brest, France (virtual).
- 2020** Oral Presentation, AGU Fall Meeting (virtual).  
**Invited** Oral Presentation, National Academy of Sciences Committee on Solid Earth Geophysics Meeting on Solid Earth Science and Sea Level Change (virtual).  
 Oral Presentation, GRACE Science Team Meeting (virtual).  
**Invited** Oral Presentation, NASA Sea Level Change Team (N-SLCT) Meeting, Savannah, Georgia. (Cancelled due to COVID-19.)  
 Poster Presentation, Ocean Sciences Meeting, San Diego, California.
- 2019** **Invited** Poster Presentation, AGU Fall Meeting, San Francisco, California.  
**Invited** Oral Presentation, AGU Fall Meeting, San Francisco, California.  
**Invited** Keynote Talk, US CLIVAR Workshop on Sea Level Hotspots from Florida to Maine: Drivers, Impacts, and Adaptation, Norfolk, Virginia.  
 Poster Presentation, US CLIVAR Workshop on Sea Level Hotspots from Florida to Maine: Drivers, Impacts, and Adaptation, Norfolk, Virginia.  
**Invited** Oral Presentation, International Space Science Institute, Bern, Switzerland.
- 2018** **Invited** Oral Presentation, US CLIVAR Phenomena, Observations, and Synthesis Webinar Series.  
 Oral presentation, AGU Fall Meeting, Washington DC.  
 Oral presentation, ECCO Meeting, Austin, Texas.  
 Poster presentation, Middle Atlantic Bight Physical Oceanography and Meteorology Meeting, Woods Hole, Massachusetts.  
**Invited** Oral Presentation, International Space Science Institute Workshop on Understanding the Relationship between Coastal Sea Level and Large-Scale Ocean Circulation, Bern, Switzerland.  
 Oral Presentation, Ocean Sciences Meeting, Portland, Oregon.
- 2017** Oral Presentation, AGU Fall Meeting, New Orleans, Louisiana.  
 Poster Presentation, International WCRP/IOC Regional Sea Level Changes and Coastal Impacts Conference, New York, New York.  
 Oral Presentation, US AMOC Science Team Meeting, Santa Fe, New Mexico.
- 2016** Oral Presentation, AGU Fall Meeting, San Francisco, California.

Oral Presentation, MABPOM meeting, Fall River, Massachusetts.  
Oral Presentation, CLIVAR Open Science Conference, Qingdao, China.  
**Invited** Oral Presentation, NASA Sea Level Change Team (N-SLCT) Meeting, Norfolk, Virginia.

- 2015** Poster Presentation, AGU Fall Meeting, San Francisco, California.  
Poster Presentation, NASA Sea Level Change Team (N-SLCT) Meeting, Lake Arrowhead, California.  
Oral Presentation, GRACE Science Team Meeting, Austin, Texas.  
Oral Presentation, Workshop on Global and Regional Sea Level Variability and Change, Palma de Mallorca, Spain.  
Poster Presentation, Workshop on Global and Regional Sea Level Variability and Change, Palma de Mallorca, Spain.  
Poster Presentation, EGU Assembly, Vienna, Austria.
- 2014** Poster Presentation, AGU Fall Meeting, San Francisco, California.  
Oral Presentation, GRACE Science Team Meeting, Potsdam, Germany.  
Oral Presentation, Ocean Sciences Meeting, Honolulu, Hawai'i.
- 2013** Oral Presentation, GRACE Science Team Meeting, Austin, Texas.  
Poster Presentation, American Meteorological Society 19th Conference on Atmospheric and Oceanic Fluid Dynamics, Newport, Rhode Island.
- 2012** Poster Presentation, American Geophysical Union Fall Meeting, San Francisco, California.  
Poster Presentation, 20 Years of Progress in Radar Altimetry Symposium, Venice, Italy.  
Oral Presentation, 20 Years of Progress in Radar Altimetry Symposium, Venice, Italy.  
Poster Presentation, U.S. AMOC Meeting, Boulder, Colorado.  
Poster Presentation, Ocean Sciences Meeting, Salt Lake City, Utah.
- 2011** Poster Presentation, World Climate Research Programme Open Science Conference, Denver, Colorado.  
Oral Presentation, World Climate Research Programme Open Science Conference, Denver, Colorado.  
Oral Presentation, EGU Assembly, Vienna, Austria.  
Poster Presentation, EGU Assembly, Vienna, Austria.
- 2010** Poster Presentation, Ocean Sciences, Portland, Oregon.

#### **Teaching (MIT-WHOI Joint Program)**

- **12.757**, Climate Change Science: Oceans, Cryosphere, and Climate (2022)
- **12.757**, Climate Change Science: Extreme Events in a Warming World (2023)
- **12.S992**, Extreme Value Analysis for Climate Change (2023)

## Mentoring

- **Advisor**, Riley Wadehra, PO Summer Student Fellow, 2019
- **Thesis Defense Chair**, Katherine Castagno, G&G Student, 2019
- **Thesis Defense Chair**, James Bramante, G&G Student, 2019
- **Thesis Defense Chair**, Elizabeth Wallace, G&G Student, 2020
- **Thesis Committee Member**, Jacob Forsyth, PO Student, 2020
- **Co-Advisor**, Jacob Steinberg, PO Postdoc, 2021—2023
- **Co-Advisor**, Kelly McKeon, G&G Student, 2021—present
- **Thesis Committee Member**, Glenn Liu, PO Student, 2021—present
- **Pre-Generals Research Project Advisor**, Elena Perez, PO Student, 2023
- **Co-Advisor**, Carolina Camargo, PO Postdoc, 2023—present
- **Advisor**, Roger Creel, PO Postdoc, 2023—present

## Service

- **Reviewer**, Surveys in Geophysics; Scientific Data; Science Advances; Geoscientific Model Development; Tellus; Geophysical Research Letters; Global and Planetary Change; Ocean Science; Journal of Geophysical Research; Journal of Climate; Journal of Physical Oceanography; Ocean Dynamics; Nature Communications; Geophysical Journal International; Mathematical Geosciences; Earth System Dynamics; Communications Earth and Environment; Estuarine, Coastal and Shelf Science
- **Coordinator**, WHOI Physical Oceanography Seminar (2018-2019)
- **Ad Hoc Search Committee**, WHOI Geology and Geophysics Department (2019)
- **Co-organizer**, Middle Atlantic Bight Physical Oceanography and Meteorology (MAPBOM) meeting, Woods Hole (2018)
- **Member**, WHOI Committee for Diversity, Equity, and Inclusion, Working Group on Academic Recruitment (2020-2021)
- **Participant**, International Space Science Institute (ISSI) International Team, “Towards a Unified Sea Level Record: Assessing the Performance of Global Mean Sea Level Reconstructions from Satellite Altimetry, Tide Gauges, Paleo-Proxies, and Geophysical Models,” Bern, Switzerland (2017-2020)
- **Lecturer**, Estimating the Circulation and Climate of the Ocean (ECCO) Summer School, Friday Harbor, Washington (2019)
- **Participant**, ISSI Workshop, “Understanding the Relationship Between Coastal Sea Level and Large-Scale Ocean Circulation,” Bern, Switzerland (2018)
- **Member**, US CLIVAR Phenomena, Observations, & Synthesis Panel (2019-21)
- **Co-organizer**, Coastal Solutions Workshop: Modeling, Prediction, and Sensor Networks for Coastal Flooding in the US East Coast (2020)

- **Member**, WHOI Physical Oceanography Department Diversity, Equity, and Inclusion Committee (2021)
- **Participant**, ISSI International Team, “Understanding the connection between coastal sea level and open ocean variability through space observations,” Bern, Switzerland (2022-2023)
- **Convenor**, Panel on, “What’s at Risk: Defining Resiliency in a Rising Sea,” UN Climate Change Conference (COP27), Sharm el-Sheikh, Egypt (2022)
- **Organizer**, Scientific Session on, “Towards understanding coastal sea-level variability and change,” Ocean Sciences Meeting (2022)
- **Associate Editor**, *Earth’s Future*, (2022-2025)
- **Organizer**, WHOI Sea-Level Outlook Workshop: Research and Investment in Science and Engagement (SLOW RISE), Woods Hole, (2023)
- **Organizer**, WHOI Physical Oceanography Department Retreat (2023)
- **Member**, WHOI Educational Council (2023-2025)
- **Lecturer**, 2023 Glacial Isostatic Adjustment Training School, Gävle, Sweden, (2023)
- **Convenor**, Panel on, “Sinking Cities—Coastal Subsidence and Land Loss in a Rising Sea,” UN Climate Change Conference (COP28), Dubai, UAE (2023)

### Awards

- US CLIVAR Early Career Scientist Leadership Award (2019)
- Phi Beta Kappa (2004)

### Press

- [\*Study offers first definitive proof that Gulf Stream has weakened\*](#)  
WBUR, 2023
- [\*Study: Atlantic current may collapse. How could it affect Cape Cod?\*](#)  
Cape Cod Times, 2023
- [\*Seas have drastically risen along southern U.S. coast in past decade\*](#)  
Washington Post, 2023
- [\*NASA Project Shows Hidden Factors Shape Minor Coastal Floods\*](#)  
NASA News Briefs, 2023
- [\*New study points the way to better flooding forecasts\*](#)  
NASA News Briefs, 2022
- [\*Cause and effect: rising seas in the northeast\*](#)  
NASA News Briefs, 2022
- [\*High-tide floods surge as climate changes and sea level rises\*](#)  
AGU Newsroom, 2022
- [\*La suba del Río de la Plata: su aumento de nivel es uno de los más rápidos del planeta\*](#)

- El País, 2022
- [\*New England's high tides are getting higher. How 'sunny day' flooding could impact YOU\*](#)  
Providence Journal, 2022
  - [\*Sinking mid-Atlantic coast will increase impacts of rising sea level, study finds\*](#)  
AccuWeather, 2022
  - [\*On Cape Cod, the latest barrage of wind and waves, exacerbated by climate change, turns concern to desperation\*](#)  
Boston Globe, 2022
  - [\*Atmospheric Rivers Spur High-Tide Floods on U.S. West Coast\*](#)  
AGU Eos, 2021
  - [\*In the Atlantic Ocean, Subtle Shifts Hint at Dramatic Dangers\*](#)  
New York Times, 2021
  - [\*Scientists see stronger evidence of slowing Atlantic Ocean circulation, an 'Achilles' heel' of the climate\*](#)  
Washington Post, 2021
  - [\*Das Golfstromsystem macht schlapp\*](#)  
Der Spiegel, 2020
  - [\*New studies confirm weakening of the Gulf Stream circulation \(AMOC\)\*](#)  
Real Climate, 2020
  - [\*New Online Tool Assesses Climate Change-Related Flood Risk\*](#)  
WCAI News, 2020
  - [\*Global sea level rise began accelerating '30 years earlier' than previously thought\*](#)  
Carbon Brief, 2019
  - [\*Along the East Coast, rainy days, high tides and sea rise make floods a part of life\*](#)  
NBC News, 2019
  - [\*Ocean Circulation\*](#)  
Cornell Down to Earth Podcast, 2019
  - [\*Sea Level Rise\*](#)  
Cornell Down to Earth Podcast, 2019
  - [\*Land Sinking Along Mid-Atlantic Coast Will Increase Rate of Sea Level Rise, Study Says\*](#)  
The Weather Channel, 2019
  - [\*And now, land may be sinking\*](#)  
Harvard Gazette, 2019
  - [\*Demystifying Sea Level Changes Along the New England Coast\*](#)  
AGU Eos Research Spotlight, 2019
  - [\*Cape Hatteras Is Sinking, Making Sea Level Rise Worse\*](#)  
WCAI Living Lab Radio, 2019
  - [\*Like Politics, All Sea-Level Rise Is Local\*](#)

WCAI Living Lab Radio, 2019

- [\*Why Sea Level Rise Varies Across The World\*](#)  
NPR All Things Considered, 2019
- [\*Why Is Sea Level Rising Faster In Some East Coast Cities Than Others? Blame Glaciers\*](#)  
WBUR News, 2018
- [\*Terrawatch: Earth's spin creates uneven sea level rise\*](#)  
The Guardian, 2017
- [\*Scientific-ish, with Chris Piecuch\*](#)  
The Ish Podcast, 2017
- [\*Explaining Sea Level Rise In Northeast Presents A Scientific Challenge\*](#)  
WGBH News, 2016
- [\*Neglected effects might influence sea level\*](#)  
NASA Sea Level News, 2016