

# Elizabeth Burke Watson

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## EDUCATIONAL BACKGROUND

2006	Ph.D., Geography	University of California, Berkeley
2002	M.A., Geography	University of California, Berkeley
2000	A.B., Integrative Biology	University of California, Berkeley

## PROFESSIONAL BACKGROUND

2023-present	Associate Professor, Department of Ecology & Evolution Stony Brook University, Stony Brook, NY
2020-2023	Associate Professor, Department of Biodiversity, Earth & Environmental Science, Drexel University, Philadelphia, PA
2014-2023	Wetland Section Leader, Patrick Center for Environmental Research Academy of Natural Sciences, Philadelphia, PA
2014-2020	Assistant Professor, Department of Biodiversity, Earth & Environmental Science, Drexel University, Philadelphia, PA
2011-2014	Research Ecologist, U.S. Environmental Protection Agency, Narragansett, RI
2009-2011	Environmental Scientist, Elkhorn Slough National Estuarine Research, Watsonville, CA
2008-2009	Postdoctoral Research Fellow, CICESE, Ensenada, México
2007-2008	Postdoctoral Research Scholar, Department of Land, Air & Water Resources, University of California, Davis
2000-2001	Research Fishery Biologist, National Marine Fisheries, Tiburon, CA
1996-2000	Seasonal Park Ranger, San Mateo County Parks, Menlo Park, CA

## HONORS AND AWARDS

2024	Student Recognition, Thank a Teacher Program, Stony Brook University
2023	Interdisciplinary Course Development Award, with faculty member Dr. Katy Fallon, Sociology, College of Arts & Sciences, Stony Brook University
2023	Presidential Mini-grant for Departmental Diversity Initiative, "Establishing a SBU Chapter of National SACNAS Organization," led by Dr. Dianna Padilla (Ecology & Evolution) and Sixto Taveras Lopez (PhD candidate)
2021	Museum Innovation Fund Award, Westphal College of Media Arts & Design, Drexel University, with faculty member Ben Kalina (TV/Film) and student Breath Hand
2021	Curriculum Innovation Award, College of Arts & Sciences, Drexel University
2021	Student Recognition, Thank a Teacher Program, Teaching & Learning Center, Drexel
2021-5	Fulbright Specialist Roster
2020	Publication highlighted in <a href="#">EOS</a> (2020), "Linking Hydrology and Biogeochemistry in a Tropical Urban Estuary"
2019	Fulbright-Garcia Robles Scholar, CICESE, Ensenada, Baja California, México
2019	American Association of Geographers, Marcus Fund Award
2019	Drexel International Conference Travel Award
2019	Teaching and Learning Faculty Conference Travel Award

- 2018 Drexel co-op of the year employer award on behalf of the Wetlands Section, Patrick Center for Environmental Research Center, Academy of Natural Science
- 2017 Publication highlighted in Coastal and Estuarine Science News, "[For New England Coastal Marshes, the Future is Here](#)"
- 2016 Publication highlighted in Coastal and Estuarine Science News, "[Disappearing Wetlands](#)"
- 2016 Publication highlighted as the editor's choice monthly selection, *Biological Conservation* "[Sea level rise, drought, and the decline of \*Spartina patens\* in New England coastal marshes](#)"
- 2011,4 U.S. EPA Supervisory Honor Award
- 2008-9 UC Mexus Post-doctoral Research Fellowship (2008-2009)
- 2007 Mia Tegner Grant in Historical Marine Ecology, Marine Conservation Biology Institute
- 2006 Geologist-in-the-parks Fellow, National Park Service and the Association of Women Geoscientists
- 2006 Departmental Service Award, Geography Department, UC Berkeley
- 2006 Stahl Award, Archeological Research Facility, UC Berkeley
- 2005 Student Research Grant, Society of Wetland Scientists
- 2004-6 National Estuarine Research Reserve Graduate Research Fellowship, San Francisco Bay National Estuarine Research Reserve
- 2004 Coastal Wetlands Fieldwork Award, Garden Club of America
- 2003 Lucy Cranwell Award, American Association of Stratigraphic Palynologists
- 2001 Graduate Student Presentation Award, Pacific Estuarine Research Society
- 2001 Presidential Presentation Award, Association of Pacific Coast Geographers
- 2001 Illustrated Paper Award, Coastal and Marine Specialty Group, Association of American Geographers
- 2002 Graduate Division Summer Research Grant, UC Berkeley
- 2002 Mentored Research Award, Graduate Division, UC Berkeley
- 2002 Weigel Scholarship, California Shore & Beach Preservation Association
- 2002 Margaret Trussell Scholarship, Association of Pacific Coast Geographers
- 2002 Student Research Grant, Berkeley Chapter, Sigma Xi
- 2001 Student Research Grant, The Paleontological Society
- 2001 Student Research Grant, Geological Society of America

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## **PUBLICATIONS** ([scholar profile](#))

† high school student

\* undergraduate

^ graduate student

§ post-doctoral researcher

### *Submitted*

- 71. Payne, A.P. ^, K. Gedan, D. Njie\*, C. Freyland\*, and **E.B. Watson**. Submitted summer 2024. Plant thresholds and community composition of coastal marsh-forest ecotones in the US Northeast. *Ecosphere*.
- 70. Janousek, C., J.R. Krause§, J.Z. Drexler et al., including **E.B. Watson**. Submitted spring 2024. Multi-scale drivers of variability in blue carbon stocks along the Pacific coast of North America. *Global Biochemical Cycles*.

### *Published*

69. Champlin, L. ^, M. Gannon§, J. Sessa, and **E.B. Watson**. 2024. Bivalve shells reflect <sup>15</sup>N enrichment in a fertilizer-dominated estuary *Marine Pollution Bulletin* 207: 116902. <https://doi.org/10.1016/j.marpolbul.2024.116902>
68. Cherneskie, K.^, Njie, D.J.\*, L.K. Champlin,^ D. Swanson Perger,^ and **E.B. Watson**. 2024. Drainage impacts on coastal marsh productivity and soil biogeochemistry. *Aquatic Botany* 193: 103772. <https://doi.org/10.1016/j.aquabot.2024.103772>
67. Wilburn , B.P. ^, K. Raper, K. B. Raposa, A.B. Gray, T.J. Mozdzer, and **E.B. Watson**. 2024. Promoting success in thin layer sediment placement: effects of sediment grain size and amendments on salt marsh plant growth and greenhouse gas exchange. *Restoration Ecology*, 14141. <https://doi.org/10.1111/rec.14141>
66. Champlin, L.K., ^ T.N. Moore§, R. Jeppesen, J. Haskins, B. Sayer\*, and **E.B. Watson**. 2024. Biological and physical controls on multidecadal acidification in a eutrophic estuary. *Journal of Geophysical Research - Oceans*, 129(3), e2023JC020405. <https://doi.org/10.1029/2023JC020405>
65. Shikuzawa, J. ^, **E.B. Watson**, K. Tanner^, B. Wilburn^, S. Fork, S. Larson^, M. Fountain, A. Thomsen^, and K. Wasson. 2024. Ecosystem functions of plant diversity: comparisons from a large-scale marsh restoration experiment in California, USA. *Ecosphere* 15, e4742. <https://doi.org/10.1002/ecs2.4742>
64. Courtney, S.,\* F. Montalto, and **E.B. Watson**. 2024. Climate and vegetation change in a coastal marsh: two snapshots of groundwater dynamics and tidal flooding at Piermont Marsh, NY spanning 20 years. *Wetlands* 44, 8 <https://doi.org/10.1007/s13157-023-01761-9>
63. Arafteh-Dalmau, N., A. Munguia-Vega, F. Micheli, ..., **E. B. Watson**, S. Worden, and Hugh P. Possingham 2023. Integrating climate adaptation and transboundary management: Guidelines for designing climate-smart marine protected areas. *One Earth* 6, 1523-1541. <https://doi.org/10.1016/j.oneear.2023.10.002>
62. Champlin, L.K.^, A. Woolfolk, A.J. Oczkowski, A. Rittenhouse^, A.B. Gray, K. Wasson, F.I. Rahman\*, P. Zelanko, N.B. Quintana Krupinski^, R. Jeppesen, J. Haskins, and **E.B. Watson**. 2023. Use of historical isoscapes to develop an estuarine nutrient baseline. *Frontiers in Marine Science*. 10: 1257015.<https://doi.org/10.3389/fmars.2023.1257015>
61. Raposa, K.B., A. Woolfolk, C.A. Endris, M.C. Fountain, G. Moore, M. Tyrrell, R. Swerida, S. Lerberg, B.J. Puckett, M.C. Ferner, J. Hollister, D.M. Burdick, L. Champlin^, J.R., Krause^, D. Haines, A.B. Gray, **E.B. Watson**, and K. Wasson. 2023. Evaluating thin-layer sediment placement as a tool for enhancing tidal marsh resilience: a coordinated experiment across eight U.S. National Estuarine Research Reserves. *Estuaries & Coasts*. <https://doi.org/10.1007/s12237-022-01161-y>
60. Carlton, H.,\* L. Champlin^, R. Jeppesen, J.C. Haskins, F.I. Rahman,\* and **E.B. Watson**. 2023. Tidal restrictions in a central Californian estuarine system are associated with contrasting effects on mean pH and low pH exposure. *Marine Ecology Progress Series* 703: 177-183. <https://doi.org/10.3354/meps14209>
59. Krause, J.K.§, A.J. Oczkowski, and **E.B. Watson**. 2023. Improved mapping of coastal salt marsh habitat change at Barnegat Bay (NJ, USA) using object-based image analysis of high-resolution aerial imagery. *Remote Sensing Applications: Society and Environment* 29, 100910. <https://doi.org/10.1016/j.rsase.2022.100910>

58. Krause, J.K., § M.E. Gannon, § A.J. Oczkowski, M.J. Schwartz, L.K. Champlin, ^ D. Steinmann, M. Maxwell-Doyle, E. Pirl, V. Allen\*, and **E.B. Watson**. 2022. Tidal flushing rather than non-point source nitrogen pollution drives nutrient dynamics in a putatively eutrophic estuary. *Water* 15(1):15. <https://doi.org/10.3390/w15010015>
57. **Watson, E.B.**, W. Ferguson, L. K. Champlin^, J. D. White, N. Ernst, H. A. Sylla,\* B. Wilburn,^ and C. Wigand. 2022. Runnels mitigate marsh drowning in microtidal salt marshes. *Frontiers in Environmental Science* 10, 987246, <https://doi.org/10.3389/fenvs.2022.987246>
56. **Watson, E. B.**, F.I. Rahman\*, A. Woolfolk, R. Meyer, N. Maher, C. Wigand, and A.B. Gray 2022. High nutrient loads amplify carbon cycling across California and New York coastal wetlands but with ambiguous effects on marsh integrity and sustainability. *PLoS one*, 17(9), e0273260. <https://doi.org/10.1371/journal.pone.0273260>
55. Krause, J.R.^, A. Hinojosa Corona, A.B. Gray, J.C. Herguera, J. McDonnell^, M.V. Schaefer, S.C. Ying, and **E.B. Watson**. 2022. Beyond habitat boundaries: organic matter cycling requires a system-wide approach for accurate blue carbon accounting. *Limnology and Oceanography*. <https://doi.org/10.1002/lno.12071>
54. Elsey-Quirk T., **E.B. Watson**, K. Raper, D. Kreeger, B. Paudel §, L. Haaf^, M. Maxwell-Doyle, A. Padeletti, E. Reilly, and D.J. Velinsky. 2022. Relationships between ecosystem properties and sea-level rise vulnerability of tidal wetlands of the U.S. Mid-Atlantic. *Environmental Monitoring and Assessment* 194: 292. <https://doi.org/10.1007/s10661-022-09949-y>
53. Thomsen A.S.^, J. Krause ^, M. Appiano^, K.E. Tanner^, C. Endris, J. Haskins, **E.B. Watson**, A. Woolfolk, M.C. Fountain, and K. Wasson. 2022. Monitoring vegetation dynamics at a tidal marsh restoration site: integrating field methods, remote sensing and modeling. *Estuaries and Coasts* 45(2):523-38. <https://doi.org/10.1007/s12237-021-00977-4>
52. Haaf L^, **E.B. Watson**, T. Elsey-Quirk, K. Raper, A. Padeletti, M. Maxwell-Doyle, D. Kreeger, and D.J. Velinsky. 2022. Sediment accumulation, elevation change, and the vulnerability of tidal marshes in the Delaware Estuary and Barnegat Bay to accelerated sea level rise. *Estuaries and Coasts* 45: 413–427 <https://doi.org/10.1007/s12237-021-00972-9>
51. Weis, J.S., **E.B. Watson**, B. Ravit, C. Harman, and M. Yepsen. 2021. The status and future of tidal marshes in New Jersey faced with sea level rise. *Anthropocene Coasts* 4(1):168-92. <https://doi.org/10.1139/anc-2020-0020>
50. Wigand C, A.J. Oczkowski, B.L. Branoff §, M. Eagle, A. Hanson, R.M. Martin §, S. Balogh §, K.M. Miller, E. Huertas, J. Loffredo^, and **E.B. Watson**. 2021. Recent nitrogen storage and accumulation rates in mangrove soils exceed historic rates in the urbanized San Juan Bay Estuary (Puerto Rico, United States). *Frontiers in Forests and Global Change*. 4, <https://doi.org/10.3389/ffgc.2021.765896>
49. Krause, J. R.^, Hinojosa-Corona, A., Gray, A. B., and **E.B. Watson**. 2021. Emerging sensor platforms allow for seagrass extent mapping in a turbid estuary and from the meadow to ecosystem scale. *Remote Sensing*, 13(18), 3681. <https://doi.org/10.3390/rs13183681>

48. Wigand, C., Eagle, M., Branoff, B., Balogh, S. §, Miller, K., Martin, R.M. §, Hanson, A., Oczkowski, A., Huertas, E., Loffredo, J. and **Watson, E.B.**, 2021. Recent carbon storage and burial exceed historic rates in the San Juan Bay estuary peri-urban mangrove forests (Puerto Rico, United States). *Frontiers in Forests and Global Change*, 4. <https://doi.org/10.3389/ffgc.2021.676691>
47. **Watson, E.B.**, A. Hinojosa-Corona, J.R. Krause<sup>^</sup>, J.C. Herguera, J. McDonnell<sup>^</sup>, K.R. Villegas Manríquez<sup>^</sup>, M.E. Gannon<sup>^</sup>, and A.B. Gray. 2020. Lagoon biogeochemical processing is reflected in spatial patterns of sediment stable isotopic ratios. *Journal of Marine Science and Engineering* 8(11), 874; <https://doi.org/10.3390/jmse8110874>
46. Mozdzer, T.J., **E.B. Watson**, W.H. Orem, C. Swarzenski, R.E. Turner. 2020. Unraveling the Gordian Knot: eight testable hypotheses on the effects of nutrient enrichment on tidal wetland sustainability. *Science of the Total Environment*. 743, 140420. <https://doi.org/10.1016/j.scitotenv.2020.140420>
45. Krause, J.<sup>^</sup>, **E.B. Watson**, C. Wigand, and N. Maher. 2020. Are coastal wetlands exposed to nutrient pollution more vulnerable to sea level rise? *Wetlands*, [DOI 10.1007/s13157-019-01254-8](https://doi.org/10.1007/s13157-019-01254-8)
44. Powell, E.<sup>^</sup>, Krause, J.R.<sup>^</sup>, Martin, R.R. §, and **E.B. Watson**. 2020. Pond excavation reduces coastal wetland carbon dioxide assimilation. *Journal of Geophysical Research – Biogeosciences* 125(2) e2019JG005187. <https://doi.org/10.1029/2019JG005187>
43. Oczkowski, A.J., E. Santos<sup>^</sup>, R. Martin§, A.B. Gray, A. Hanson, **E.B. Watson**, E. Huertas, and C. Wigand. 2020. Unexpected nitrogen sources in a tropical urban estuary. *Journal of Geophysical Research – Biogeosciences* 125(3) 125(2), e2019JG005502. <https://doi.org/10.1029/2019JG005502>
42. Oczkowski, A.J., E. Santos<sup>^</sup>, A. Gray, K. Miller, E. Huertas, A. Hanson, R. Martin§, **E.B. Watson**, and C. Wigand. 2020. Tracking the dynamic ecological history of a tropical urban estuary as it responds to human pressures. *Ecosystems*. 23: 231-245. <https://doi.org/10.1007/s10021-019-00399-1>
41. Desianti, N.<sup>^</sup>, M.D. Enache, M. Griffiths, K. Biskup, A. Degen, M. DaSilva, D. Millemann, L. Lippincott, **E. Watson**, A. Gray, D. Nikitina, M. Potpova. 2019. The potential and limitations of diatoms as environmental indicators in Mid-Atlantic coastal wetlands. *Estuaries and Coasts* 42(6):1440-1458.
40. **Watson, E.B.**, A.B. Gray, G.B. Pasternack, and A.M. Woolfolk. 2019. Retention of alluvial sediment in the tidal delta of a river draining a small, mountainous coastal watershed. *Continental Shelf Research* 182: 1-11.
39. Wyndham-Myers, L., W.J. Kai, A. Wang, A. Andersson, A. Hinson, C. Hopkinson, D. Lagomasino, D. Peteet, C. Giri, J. Howard, J. Tang, J. Crosswell, J.M. Hernandez Ayon, K. Dunton, K. Kroeger, M. Tzortziou, M.L. Paulsen, A. Mead, P. Megonigal, S. Siedlecki, **E.B. Watson**, S. Alin, and X. Hu. 2018. Chapter 15, Tidal Wetlands and Estuaries. The Second State of the Carbon Cycle Report (SOCCR): The North American Carbon Budget and Implications for the Global Carbon Cycle. Oak Ridge National Laboratory, Oak Ridge, TN.

38. Raposa K.B., R.A. McKinney, C. Wigand, J.W. Hollister, C. Lovall, K. Szura<sup>^</sup>, J.A. Gurak, Jr.<sup>^</sup>, J. McNamee, C. Raithel, and **E. B. Watson**. 2018. Top-down and bottom-up controls on overabundant New England salt marsh crab populations. *PeerJ* 6: e4876
37. Holmquist, J.R., L. Windham-Myers, S. Crooks, J. Morris, J.P. Magonigal, T. Troxler, D. Weller, N. Bliss, J. Callaway, J. Drexler, M. Ferner, M. Gonnee, K. Kroeger, L. Schile, I. Woo, K. Buffinton, J. Breithaupt, B. Boyd, L. Brown, N. Dix, L. Hice Dutton, B. Horton, G. MacDonald, R. Moyer, T. Shaw, E. Smith, J.D. Smoak, C. Sommerfield, K. Thorne, **E.B. Watson**, D.J. Velinsky, K. Wilson, and M. Woodrey. 2018. Accuracy and precision of tidal wetland soil carbon mapping in the conterminous United States. *Scientific Reports* 8(1): 9478
36. Wigand, C., **E.B. Watson**, R. M. Martin<sup>§</sup>, D.S. Johnson, R.S. Warren, A. Hanson, E.W. Davey, R. Johnson, and L. Deegan. 2018. Discontinuities in soil strength coupled with sea level rise contribute to destabilization of nutrient-enriched creeks. *Ecosphere* 9(8)e02329
35. Gray, A.B., G.B. Pasternack, and **E.B. Watson**. 2018. Estuarine abandoned channel sedimentation rates record peak fluvial discharge magnitudes. *Estuarine Coastal and Shelf Science* 203: 90-99.
34. **Watson, E.B.**, E. Powell<sup>^</sup>, N.P. Maher, A.J. Oczkowski, B. Paudel, A. Starke, K. Szura<sup>^</sup>, and C. Wigand. 2018. Indicators of nutrient pollution for Long Island, New York, estuarine environments. *Marine Environmental Research* 134: 109-120.
33. **Watson, E.B.**, K. Szura<sup>^</sup>, E. Powell<sup>^</sup>, N. Maher, and C. Wigand. 2018. Cultural eutrophication is reflected in the stable isotopic composition of the eastern mudsnail. *Journal of Environmental Quality* 47: 177-184.
32. **Watson, E.B.**, A. Hinojosa Corona. 2017. A preliminary assessment of blue carbon storage by tidal wetlands in five Pacific Coast lagoons (Baja California, México) and evidence for wetland stability in the face of anthropogenic and climatic impacts. *Sensors* 18: 32. DOI: 10.3390/s18010032
31. Cole Ekberg, M.L., K.B. Raposa, W.S. Ferguson, and K. Rudduck, and **E.B. Watson**. 2017. Development and application of a salt marsh rapid assessment method to identify vulnerability to sea level rise. *Estuaries and Coasts* 40: 694-710
30. Wasson, K., R. Jeppesen, C. Endris, D.C. Perry\*, A. Woolfolk, K. Beheshti<sup>^</sup>, M. Rodriguez\*, R. Eby, **E.B. Watson**, F. Rahman\*, J. Haskins, and B.B. Hughes. 2017. Eutrophication decreases salt marsh resilience through proliferation of algal mats. *Biological Conservation* 212: 1-11.
29. **Watson, E.B.**, C. Wigand, E.W. Davey, H.M. Andrews\*, J. Bishop\*, and K.B. Raposa. 2017. Wetland loss patterns and inundation-productivity relations prognosticate widespread salt marsh loss for southern New England. *Estuaries and Coasts* 40: 662-681. <https://doi.org/10.1007/s12237-016-0069-1>
28. **Watson, E.B.**, K.B. Raposa, J.C. Carey<sup>§</sup>, C. Wigand, and R.S. Warren. 2017. Anthropocene survival of southern New England's salt marshes. *Estuaries and Coasts* 40: 617-625.

27. Wigand, C. T. Ardito, C. Chaffee, W. Ferguson, S. Paton, K. Raposa, C. Vandemoer, and **E. B. Watson**. 2017. A climate change adaptation strategy for management of coastal marsh systems. *Estuaries and Coasts* 40: 682-693.  
<http://dx.doi.org/10.1007/s12237-015-0003-y>
26. Gray<sup>^</sup>, A.B., G.B. Pasternack, **E.B. Watson**, and M.A. Goñi. 2016. Abandoned channel fill sequences in the tidal estuary of a small mountainous, dry-summer river. *Sedimentology* 63: 176-206.
25. Gray, A.B., G.B. Pasternack, **E.B. Watson**, and M. A. Goñi. 2016. Conversion to drip irrigation agriculture may offset historic anthropogenic and wildfire contributions to sediment production. *Science of the Total Environment* 556: 219-230.
24. **Watson, E.B.**, K. Szura<sup>^</sup>, C. Wigand, K.B. Raposa, K. Blount\*, and M. Cencer\*. 2016. Sea level rise, drought, and the decline of *Spartina patens* in New England coastal marshes. *Biological Conservation* 196: 173-181.
23. Wigand, C., K. Sundberg, A. Hanson, E. Davey, R. Johnson, **E.B. Watson**, and J. Morris. 2016. Varying inundation regimes differentially affect natural and sand-amended marsh sediments. *PLoS ONE* 11(10) e0164956.
22. Gray, A.B. <sup>^</sup>, G.B. Pasternack, **E.B. Watson**, J.A. Warrick, and M.A. Goñi. 2015. Effects of antecedent hydrologic conditions, time dependence, and climate cycles on the suspended sediment load of the Salinas River, California. *Journal of Hydrology* 525: 632-649.
21. Gray, A.B. <sup>^</sup>, G.B. Pasternack, **E.B. Watson**, J.A. Warrick, and M.A. Goñi. 2015. The effect of El Niño Southern Oscillation cycles on the decadal scale suspended sediment behavior of a coastal dry-summer subtropical catchment *Earth Surface Processes and Landforms* 40: 272-284.
20. **Watson, E.B.**, H.M. Andrews\*, A. Fisher\*, M. Cencer\*, L. Coiro, S. Kelley\*, C. Wigand. 2015. Growth and photosynthesis responses of two co-occurring marsh grasses to inundation and varied nutrients. *Botany* 93: 671-683.
19. **Watson, E.B.**, C. Wigand, M. Cencer\*, K. Blount\*. 2015. Inundation and precipitation effects on growth and flowering of the high marsh species *Juncus gerardii*. *Aquatic Botany* 121: 52-56.
18. **Watson, E.B.**, C. Wigand, A. Oczkowski, K. Sundberg, D. Vendettuoli, S. Jayaraman, K. Saliba\*, and J.T. Morris. 2015. *Ulva* additions alter soil biogeochemistry and negatively impact *Spartina alterniflora* growth. *Marine Ecology Progress Series* 532: 59-72.
17. Gray, A.B. <sup>^</sup>, J.A. Warrick, G.B. Pasternack, **E.B. Watson**, and M.A. Goñi. 2014. Suspended sediment behavior in a coastal dry-summer subtropical catchment: effects of hydrologic preconditions. *Geomorphology* 214: 485-501.
16. **Watson, E.B.**, A.J. Oczkowski, C. Wigand, A. Hanson, E.W. Davey, S.C. Crosby<sup>^</sup>, R.L. Johnson, and H.M. Andrews<sup>^</sup>. 2014. Nutrient enrichment and precipitation changes do not enhance resiliency of salt marshes to sea level rise in the Northeastern U.S. *Climatic Change* 125: 501-509.

15. Wigand, C., C.T. Roman, E. Davey, M. Stolt, R.L. Johnson, A.R. Hanson, **E.B. Watson**, S.B. Moran, D.R. Cahoon, J.C. Lynch, and P. Rafferty. 2014. Below the disappearing marshes of an urban estuary: historic nitrogen trends and soil structure. *Ecological Applications* 24: 633-649.
14. García-García, A., M. Leavey, and **E. B. Watson**. 2013. High resolution seismic study of the Holocene infill of the Elkhorn Slough, Central California. *Continental Shelf Research* 55: 108-118.
13. **Watson, E.B.**, and R. Byrne. 2013. Late Holocene salt marsh expansion in southern San Francisco Bay, California. *Estuaries and Coasts* 36: 643-653.
12. **Watson, E.B.**, G.B. Pasternack, A.B. Gray<sup>^</sup>, M.A. Goñi, and A.M. Woolfolk. 2013. Particle size characterization of historic sediment deposition from a closed estuarine lagoon, central California. *Estuarine Coastal & Shelf Science* 126: 23-33.
11. **Watson, E.B.** 2012. Geomorphology, hydrology, and tidal influences. *In* Tidal Salt Marshes of the San Francisco Bay Estuary: ecology, restoration, preservation. A. Palaima, editor. p. 37-51.
10. **Watson, E.B.**, and R. Byrne. 2012. Recent vegetation change (1975-2004) in San Francisco Estuary tidal marshes. *Journal of Coastal Research* 28:51-63.
9. Hughes, B.B. <sup>^</sup>, J.C. Haskins, K. Wasson, and **E.B. Watson**. 2011. Identifying factors that influence expression of eutrophication in a California estuary. *Marine Ecology Progress Series* 439: 31-43.
8. **Watson, E.B.**, K. Wasson, G.B. Pasternack, A. Woolfolk, E. VanDyke, A.B. Gray, A. Pakenham<sup>^</sup>, and R.A. Wheatcroft. 2011. Applications from paleoecology to environmental management and restoration in a dynamic coastal environment. *Restoration Ecology* 19: 765-775.
7. Gray, A.B., G.B. Pasternack, and **E.B. Watson**. 2010. Hydrogen peroxide treatment effects on the particle size distribution of alluvial sediments. *The Holocene* 20: 293-230.
6. **Watson, E.B.** and R. Byrne. 2009. Diversity and abundance of San Francisco Estuary tidal marsh plants: implications for global change ecology. *Plant Ecology* 205:113-128.
5. **Watson, E.B.** 2008. Marsh expansion at Calaveras Point Marsh, South San Francisco Bay, California. *Estuarine, Coastal & Shelf Science* 78: 593-602.
4. Malamud-Roam, K.,F. Malamud-Roam, **E.B. Watson**, J. Collins and B.L. Ingram. 2006. The historical geography and biogeography of North American tidal marshes. *Studies in Avian Biology* 32: 11-31
3. Bloom, K.J., and **E. B. Watson**. 2006. The Arbutus-Hershey Chamisal (*Adenostoma fasciculatum*): a significant anomaly in California plant geography. *Madroño* 53: 277-279.
2. **Watson, E.B.** 2004. Changes in elevation, accretion, and tidal marsh plant assemblages in a South San Francisco Bay tidal marsh. *Estuaries* 27: 684-698.
1. Conaway, C.H., **E.B. Watson**, J.R. Flanders, and A.R. Flegal. 2004. Mercury deposition in a tidal marsh downstream of the historic New Almaden mining district, California. *Marine Chemistry*. 90: 175-184.

## CURRENT RESEARCH FUNDING



1. The Environmental Collaborative, Drexel University – Developing a community-led research project in collaboration with ENLACE, San Juan, Puerto Rico, \$20,000 (PI) (2022-2024)
2. NOAA – Supporting Regional Implementation of Integrated Climate Resilience: Consortium for Climate Risk in the Urban Northeast (CCRUN) Phase III, Montalto, Gurrian and Watson, with collaborators from Rutgers, NYU & others, \$474,000, (2022-2026).
3. State of California, Department of Fish & Wildlife, Wetlands Restoration for Greenhouse Gas Reduction Program – “Elkhorn Slough Tidal Marsh Restoration Phase II, Wetlands Restoration” \$1,596,779 total award, \$45,500 to E. Watson, 2019-2024. (co-PI)
4. US EPA. Assessment and Monitoring of Tidal Marshes along the Tuckahoe River. June 2021-September 2024. \$37,218.

### **PAST RESEARCH FUNDING**

1. NOAA/CICEET - A novel approach combining rapid paleoecological assessments<sup>[1][2]</sup> with geospatial modeling and visualization to help coastal managers design salt marsh conservation strategies in the face of environmental change. (\$280,615) (2009-2011)
2. US EPA Regional Applied Research Effort Grant - Importance of ribbed mussels for salt marsh climate adaptation and water quality management in Atlantic Estuaries. Climate adaptation and water quality management (\$60,000 Office of Research & Development; \$120,000 total) (2012-2014)
4. Mid-Atlantic Coastal Wetlands Assessment, fixed station coastal wetland monitoring project. (2015-present)
  - 2015 PSE&G Foundation Corporate Giving (\$45,000)
  - 2015 Sub-contract from the Partnership for the Delaware Estuary (\$33,435)
  - 2015 Sub-contract from the Barnegat Bay Partnership (\$30,000)
  - 2016 Sub-contract from the Barnegat Bay Partnership (\$29,889)
  - 2016 Sub-contract from the Partnership for the Delaware Estuary (\$30,000)
  - 2017 Sub-contract from the Barnegat Bay Partnership (\$15,000)
  - 2017 Sub-contract from the Partnership for the Delaware Estuary (\$33,000)
  - 2020 Sub-contract from the NJ Dept. of Environmental Protection (\$40,000)
5. UC Mexus - Evaluación de la captura y almacenamiento de carbón por pastos marinos en la Bahía San Quintín, Baja California, México / Assessment of blue carbon stocks and long-term carbon storage in seagrass meadows of Bahía San Quintín, Baja California, México (UC Mexus)(\$25,000 total) (2016-2018)
6. US EPA - Blue carbon storage in natural estuarine wetlands and living shorelines of Delaware and New Jersey. (\$15,300 ANS/Drexel; \$36,000 total) (2016-2018)
7. NOAA / New Jersey Sea Grant Consortium - A model-data synthesis of the status and trends of New Jersey’s coastal wetland sentinel sites for sea-level rise planning. New Jersey Sea Grant (\$139,000) (2016-2019)
8. NOAA / National Estuarine Research Reserve Science Collaborative - Thin-layer sediment placement: evaluating an adaptation strategy to enhance coastal marsh resilience across the NERRS. (\$42,000 ANS/Drexel, \$500,000 total) (2017-2019)

9. US EPA Wetland Program Development Grant - Utilizing the Mid-Atlantic Coastal Wetlands Assessment to Quantify Wetlands Ecosystem Services in New Jersey's Coastal Communities, (US EPA R2) (\$16,000 sub-contract) (2018-2020)
10. The Nature Conservancy Long Island Chapter – “Marsh elevation surveys in New York,” \$25,000, 2019-2020. (contract)
11. US EPA Regional Applied Research Effort - The role of eutrophication in coastal Wetland fragmentation, Barnegat Bay, New Jersey, (\$30,000 Drexel/\$100,000 total) (2019-2022).
12. NSF Ecosystem Science– EAGER: Development of a learning community focused on sea-level rise and coastal habitat change, \$207,812, 2019-2023. (PI)
13. NJ Seagrant/Rutgers. Developing capacity for microplastics extraction from an archived New Jersey larval fish time series. 2020-2023. \$5000 total / \$1100 Drexel/ANS

## DATA PUBLICATIONS

12. Champlin, L<sup>^</sup>, M. Gannon<sup>§</sup>, J. Sessa, and **E.B. Watson** (2024). Data from: Bivalve shells reflect <sup>15</sup>N enrichment in a fertilizer-dominated estuary [Dataset]. Dryad. <https://doi.org/10.5061/dryad.cvdncjtcp>
11. **Watson, E.B.**, A. Payne,<sup>^</sup> C. Freyland,<sup>\*</sup> D. Njie,<sup>\*</sup> A. Chatman,<sup>\*</sup> A. Wiley,<sup>\*</sup> A. Doucoure, A. Mouakkil, J. Gale-Cottries, H. Sylla, R. Ikeh, F. Echiejile, J. Barufaldi, B. Wilburn, K. Cherneskie, and L.K. Champlin. Data for: Development of a learning community focused on sea-level rise and coastal habitat change. [Dataset] Dryad. <https://doi.org/10.5061/dryad.ghx3ffbvx>
10. Wilburn, B.P. <sup>^</sup>, K. Raper, K. B. Raposa, A.B. Gray, T.J. Mozdzer, and **E.B. Watson**. 2023. Data for: Promoting success in thin layer sediment placement: effects of sediment grain size and amendments on salt marsh plant growth and greenhouse gas exchange. [Dataset] Dryad. <https://doi.org/10.5061/dryad.xsj3tx9nx>
9. Courtney, S.,<sup>\*</sup> F. Montalto, and **E.B. Watson**. Forthcoming 2023. Data for: Climate and vegetation change in a coastal marsh: two snapshots of groundwater dynamics and tidal flooding at Piermont Marsh, NY spanning 20 years. [Dataset] Dryad. <https://doi.org/10.21203/rs.3.rs-3171581>
8. Champlin, L.K., <sup>^</sup> T.N. Moore<sup>§</sup>, R. Jeppesen, J. Haskins, B. Sayer<sup>\*</sup>, and **E.B. Watson**. Forthcoming 2023. Data for: Biological and physical controls on multidecadal acidification in a eutrophic estuary [Dataset]. Dryad. <https://doi.org/10.5061/dryad.6m905qq6h>
7. **Watson, E.B.**, Cherneskie, K.<sup>^</sup>, Njie, D.J.<sup>\*</sup>, L.K. Champlin, and D. Swanson Perger. 2023. Data for: Drainage impacts on the productivity of the wetland species *Spartina alterniflora* and *Salicornia pacifica*. [Dataset]. Dryad. <https://doi.org/10.5061/dryad.5qfttdzc1>
6. Wasson, K, J. Shikuzawa, **E. Watson**, K. Tanner, B. Wilburn, S. Fork, S. Larson, M. Fountain, and A. Thomsen. 2023. Ecosystem functions of plant diversity: Comparisons from a large-scale marsh restoration experiment in California, USA. [Dataset]. Dryad. <https://doi.org/10.7291/D1JH5N>
5. Champlin, L.K.<sup>^</sup>, A. Woolfolk, A.J. Oczkowski, A. Rittenhouse<sup>^</sup>, A.B. Gray, K. Wasson, F.I. Rahman<sup>\*</sup>, P. Zelanko, N.B. Quintana Krupinski<sup>^</sup>, R. Jeppesen, J. Haskins, and **E.B.**

- Watson.** (2023). Use of historical isoscapes to develop an estuarine nutrient baseline [Dataset]. Dryad. <https://doi.org/10.5061/dryad.3ffbg79q6>
4. Champlin, L<sup>^</sup>, D.J. Velinsky, K. Tucker<sup>^</sup>, C. Sommerfield, K. St. Laurent, **and E.B. Watson.** 2020. Carbon sequestration rate estimates in Delaware and Barnegat Bay tidal wetlands using interpolation mapping. *Data* 5(1)11. [doi.org/10.3390/data5010011](https://doi.org/10.3390/data5010011)
  3. **Watson, E.B.**, L. Haaf<sup>^</sup>, K. Raper, and E. Reilly. 2019. Removal of positive elevation bias of digital elevation models for sea-level rise planning. *Data* 4(1), 46. <https://doi.org/10.3390/data4010046>
  2. **Watson, E.B.**, A.B. Gray, and G.B. Pasternack. 2019. Data for: Retention of alluvial sediment in the tidal delta of a river draining a small, mountainous coastal watershed. Mendeley Data, V1, <https://doi.org/10.17632/b4yvn8prjn.1>
  1. Holmquist, J. R., L. Windham-Myers, N. Bliss, S. Crooks, J.T. Morris, J.P. Megonigal, T. Troxler, D.E. Weller, J.C. Callaway, J. Drexler, M.C. Ferner, M.E. Gonnee, K.D. Kroeger, L. Schile-Beers, I. Woo, K. Buffington, B.M. Boyd, J. Breithaupt, L.N. Brown, N. Dix, L. Hice, B.P. Horton, G.M. MacDonald, R.P. Moyer, W. Reay, T. Shaw, E. Smith, J.M. Smoak, C. Sommerfield, K. Thorne, D.J. Velinsky, **E.B. Watson**, K.W. Grimes, and M. Woodrey. 2018. Dataset from: Accuracy and Precision of Tidal Wetland Soil Carbon Mapping in the Conterminous United States: Public Soil Carbon Data Release. Distributed by Washington DC: Smithsonian Research Online. <https://repository.si.edu/handle/10088/35684>

## PRE-PRINTS

3. Cherneskie, K.<sup>^</sup>, Njie, D.J.\*<sup>,</sup> L.K. Champlin,<sup>^</sup> D. Swanson Perger,<sup>^</sup> and **E.B. Watson.** Under review. Drainage impacts on the productivity of the wetland species *Spartina alterniflora* and *Salicornia pacifica*. <http://dx.doi.org/10.2139/ssrn.4559169>
2. Courtney, S.,\* F. Montalto, F., and **E.B. Watson.** 2023. Accelerated sea level rise and *Phragmites australis* expansion alter tidal marsh water table dynamics. Research Square. <https://doi.org/10.21203/rs.3.rs-3171581/v1>
1. Haaf L<sup>^</sup>, **E.B. Watson**, T. Elsey-Quirk, K. Raper, A. Padeletti, M. Maxwell-Doyle, D. Kreeger, and D.J. Velinsky. 2022. Sediment accumulation, elevation change, and the vulnerability of tidal marshes in the Delaware Estuary and Barnegat Bay to accelerated sea level rise. bioRxiv <https://doi.org/10.1101/821827>

## COURSES TAUGHT

### Primary Instructor

- Fire Ecology, Climate Change & Indigenous Knowledge (Fall 2024) (with sociologist Kathleen Fallon)
- Plant Diversity (Spring 2024)
- Nature-based Solutions (Grad seminar, Humans & the Environment)(Fall 2023)
- Earth System Processes (Winter 2017, 2018, 2019, 2020, 2021, 2022)
- Climate Films and Advocacy (Fall 2021)(Spring 2023, 2024) (with documentary filmmaker Ben Kalina)
- Wetland Ecology (Winter 2020, Fall 2015, 2017, 2021)
- The Watershed Approach (Fall 2020, 2021, 2022)
- Ecosystem Restoration (Summer 2018, 2020)

- Introduction to Physical Geography (Fall 2004, Spring 2005, Fall 2005, Fall 2006)
- Geography of Natural Environments (Fall 2005, Spring 2006)
- General Ecology (Fall 2018, 2020, Spring 2021)
- Coastal Biogeochemistry (Spring 2017)

*Group Independent Study / Research Classes*

- Earth's Climate System (Winter 2022)
- Ecological Effects of Storm Surge Barriers (Fall 2022)
- Environmental Justice CBL with Center for Environmental Transformation (Winter 2021)

*Graduate Teaching Assistantships*

- Introduction to Oceans (Fall 2004, Fall 2005, Fall 2006)
- Global Environmental Change (Spring 2005, 2006)
- Introductory Biology (Ecology, Evolution, Plant Biology) (Fall 2001, Fall 2002)

**FACULTY MENTORING SUMMARY**

*Graduate Students/Post-docs*

- **Faith Echiejile**, PhD anticipated 2026. Extreme precipitation and effects on coastal streams and downstream marshes
- **Andrew Payne**, PhD anticipated 2024. The influence of storms, hydrology, and light availability on salt marsh transgression into forests in the Northeastern US.
- **Lena Champlin**, PhD Environmental Science 2023, Historical shifts of anthropogenic nitrogen loading based on analysis of water quality, land use, and geochemical proxies. current: Post-doc, Boston University
- **Brittany Wilburn**, PhD Environmental Science 2023, An evaluation of biochar as an effective soil amendment in coastal marsh restoration efforts. current: NJ Department of Environmental Protection
- **Johannes Krause**, PhD Environmental Science 2021, Elemental cycling in blue carbon habitats: investigations from the molecular to ecosystem scale. current: Post-doc, Florida International University
- **Kylie Cherneskie**, MS Environmental Science 2023, Drainage impacts on the productivity of wetland species *Spartina alterniflora* and *Salicornia pacifica*. current: PhD student at University of Maryland
- **Abbey Rosatto**, MS 2022 (non-thesis), Microplastics in fish, current: Oregon Department of Fish & Wildlife
- **Breath Hand**, MS Environmental Policy 2021 (non-thesis), current: PhD student at SUNY-ESF
- **Audrey Rittenhouse**, MS 2019 (non-thesis), Stable isotope mapping, current: lovance Biotherapeutics
- **Bhanu Paudel**, Post-doc, 2017-2018. current: Delaware Department of Natural Resources. Coastal water quality
- **Elisabeth Powell**, MS 2017, Carbon dioxide exchange and mapping of landscape disturbance. current: Postdoc, Eastern Carolina University (PhD U of Maryland)

*Undergraduate Mentees (>1 year)*

- **Joshua Barufaldi**, BS Chemistry 2025, Biochar in restoration projects
- **Kris Freyland**, BS Environmental Science 2024, Soil fungi in salt marsh restoration
- **Daouda Njie**, BS Environmental Science 2022, coastal ecology and conservation. current: Fulbright, Fiji Islands 2023-4

- **Haley Carlton**, BS Environmental Science 2021, coastal acidification. current: graduate student, Oregon State University
- **Sophia Courtney**, BS Environmental Science 2021, coastal hydrology. current: Neighborhood Gardens Trust, (MS University of Washington)
- **Farzana Rahman**, BS Environmental Science 2017, coastal biogeochemistry. current: PhD student, Vanderbilt (MS University of Nebraska)

#### *Interns / Co-ops*

- **David Cobar**, [Geopaths program](#) 2022, BS Environmental Science, UC Santa Cruz 2022
- **Habibita Sylla**, Co-op (2022), [RAHSS](#) intern (2020), [WINS](#) intern (2019), George Washington Carver High School for Engineering & Science 2020, Drexel University 2025
- **Lexi Dooley**, [STAR](#) scholar (2022), BS Geoscience 2026
- **Efrain Ruiz**, [Geopaths program](#) 2021, BS Earth Science, UC Santa Cruz 2021
- **Akilah Chatman**, co-op (2021), Bales Co-op / REU, BS Environmental Science 2022
- **Aisha Doucoure**, [WINS](#) intern (2021), Girls High 2024,
- **Leah Doran**, [STAR](#) scholar (2021), BS Environmental Engineering 2024
- **Jah'ya Gale-Cottries**, [RAHSS](#) intern (2020), [WINS](#) intern (2018, 2019), Central High School 2020, Spelman College 2024
- **Aya Mouakkil**, [WINS](#) intern (2020-1), Philadelphia High School for Creative and Performing Arts 2022, SUNY-ESF Environmental Science 2026
- **Alexis Wiley**, co-op (2020), BS Environmental Science 2022
- **Priyanka Sarkar**, Society of Wetland Scientists Wetland Ambassador (2019), PhD Ecology & Environmental Science 2021, Assam University, Silchar, India
- **Bronwyn Sayre**, [STAR](#) student (2019), BS Mathematics 2023
- **Camilla Ibarra**, Energy & Environment REU student (2018), [muralist](#), BS Civil Engineering 2021, Arizona State University
- **Hanaa Belgrave**, [WINS](#) intern (2017), Central High School, Philadelphia, 2018 graduate, [hockey player](#), BS Geology, West Chester University 2022
- **Dylan Wolfinger**, co-op (2017), Drexel University, BS Biology 2019
- **Jacob Farmer**, co-op (2016), Drexel University, BS Geoscience 2017
- **Chaniyah Johnson**, [WINS](#) intern (2016), Girls High School, Philadelphia, 2017 graduate, BA Sociology, Rosemont College 2022
- **Ashleigh Jugan**, co-op (2015), Drexel University, BS Environmental Science 2018

#### **UNIVERSITY AND ACADEMY OF NATURAL SCIENCE SERVICE**

- 2023-4 Search Committee, Department of Ecology and Evolution, TT hire in Quantitative Biology, Climate Change and Biodiversity.
- 2023-4 Graduate Executive Committee, Ecology & Evolution, Stony Brook University
- 2022-3 Search Committee, Department of Civil, Architectural and Environmental Engineering (CAEE) at Drexel University, interdisciplinary TT hire in water resource engineering and climate change
- 2021-3 BEES Graduate Program Committee Member
- 2022 Sustainability Research Opportunities for Undergraduates Event speaker, 5 April 2022 organized by the LSAMP<sup>1</sup> and UREP<sup>2</sup> programs

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<sup>1</sup> Louis Stokes Alliance for Minority Participation

<sup>2</sup> Undergraduate Research and Enrichment Programs

- 2022 BEES Research Day Organizer, 3 March 2022
- 2021-2 Academy of Natural Sciences, IDEAL<sup>3</sup> Committee, Policy Working Group
- 2021-2 Search Committee, Betz Chair, Department of Biodiversity, Earth & Environmental Sciences.
- 2021 Participant, Environmental Research Opportunities at the Academy of Natural Sciences event with the LSAMP program
- 2021 Organizer with filmmaker Ben Kalina, Cinema for the Climate, Academy of Natural Science, 4 Dec 2021
- 2021 Development of a University-wide minor in Climate Change
- 2021 Search Committee, Associate Dean for Faculty Advancement
- 2020 Development of a Global Classroom for General Ecology (course partner, Universidad Autónoma de Baja California)
- 2020 Ad-hoc committee member, Faculty by-laws revision
- 2020-3 BEES, Intersectional Nondiscrimination and Inclusion committee, co-chair
- 2020 International Research Showcase Panel Member, Office of Global Engagement and Study Abroad
- 2020 BEES Research Day Organizer, 13 February 2020
- 2020 Sabbatical review committee, College of Arts and Sciences
- 2019 “Engaging the Environment,” Panel Member, College of Arts & Science
- 2018 BEES Research Day co-organizer, February 15, 2018
- 2016 Writing About Science Panel Member, 14 May 2016, Drexel University Week of Writing 2016 Event
- 2016 Geophysics/Hydrogeology Search Committee
- 2015- Active with Women in Natural Sciences (WINS), an afterschool program for Philadelphia public high school students (100% low income; 85% backgrounds under-represented in STEM), Academy of Natural Sciences
- Designed field activities and wetland hikes for WINS students
  - Mentored 1-3 high school student interns in my lab per summer (2016-2022)
  - Supported WINS graduates with paid internships through NSF supplement requests
  - Attend WINS celebrations and events
- 2015- Public Outreach at the Academy of Natural Sciences Museum
- Members Night Events (2015, 2016, 2017, 2018, 2019)
  - Back from the Field Events (2016, 2018, 2021)
  - Smithsonian Museum Day events (2017, 2019)
- 2003-5 Co-president, Geography Graduate Student Association

## **PROFESSIONAL SERVICE**

*Professional organization service*

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<sup>3</sup> Inclusion Diversity Equity Access Learning

- 2023 New England Estuarine Research Society, Spring 2023, Brooklyn Meeting Program Committee
- 2019-2022 Awards Committee, American Association of Geographers (Chair 2021-2)
- 2019-2020 Student Awards Committee, Society of Wetland Scientists
- 2018-9 Annual Meeting Program Committee for the 2019 Baltimore Meeting Plenary Speakers Committee Chair, Society of Wetland Scientists
- 2017 Organizer of special issue of *Estuaries and Coasts* entitled, “Anthropocene survival of southern New England’s salt marshes” publication May 2017
- 2016-7 Society of Wetland Scientists, Global Change Ecology Section Leader

*Manuscript and Proposal Reviews*

Manuscript Reviews - Peer review of ~2-10 manuscripts per year; verified record 2015-present For journals including *Estuaries & Coasts*, *Science of the Total Environment*, *Wetlands*, *Remote Sensing*, *Global Change Biology*, *Biology Letters*, *Journal of Hydrology*, & others.

Journal Editorial Boards – Remote Sensing (2020-present)

Proposal Reviews / Proposal Panel Participation

- 2024 Department of Energy, 1-day proposal review panel
- 2023 National Science Foundation, 3-day proposal review panel
- 2022 National Science Foundation, 3-day proposal review panel
- 2021 NOAA Sea Grant Woods Hole proposal review panel
- 2020 Delta Science Program proposal 2-day review panel
- 2018-2020 National Science Foundation, mail-in reviews (several)
- 2019 NOAA Sea Grant Connecticut proposal review panel
- 2019 Delaware River Watershed Initiative proposal review panel
- 2018 Department of Energy – Environmental System Science proposal review panel
- 2018 NOAA Sea Grant Connecticut mail-in reviews
- 2018 NOAA Sea Grant Mississippi mail-in reviews
- 2017 NOAA Sea Grant MIT mail-in reviews
- 2016 NOAA Ecological Effects of Sea Level Rise Program proposal review panel

**OUTREACH & ENGAGEMENT**

- 2015-present Delaware Bay National Estuary Program Science and Technical Advisory Committee (elected)
- 2018-present Science Advisory Board, New Jersey Department of Environmental Protection Ecological Processes Committee (appointed)
- 2016-2020 Society of Wetland Scientists Multicultural Mentoring Program
- 2021 Development of an independent study class to support the Center for Environmental Transformation in Camden, NJ’s work on air quality justice.
- 2012-2015 Rhode Island Coastal Resources Management Council Salt Marsh Working Group
- 2009-2011 Research Activity Panel, Monterey Bay National Marine Sanctuary
- 2010-2014 Sea Level Rise Workshop Organizer (3)

Co-organized with Elkhorn Slough National Estuarine Research Reserve and Narragansett Bay National Estuarine Research Reserve Coastal Training Program Staff

- 2005-present Advisor on restoration and coastal climate-adaptation projects:
- Bolinas Lagoon, CA;
  - South Bay Salt Pond Restoration, South San Francisco Bay, CA;
  - Parson's Slough Project, Elkhorn Slough, CA;
  - Minohoto restoration project, Elkhorn Slough, CA;
  - Narrow River, USFWS, Narragansett, RI;

## PROFESSIONAL DEVELOPMENT

- 2023 Participant in iSTEAM: Inclusive Teaching in STEM project, a multi-session semester long interactive course, led by Dr. Shyam Sharma, Writing & Rhetoric, Stony Brook University, focused on inclusive and student-centered education
- 2021-3 Multi-session Mentor training, and DEI coaching recipient, Engaging Women in Engineering: Training Mentors to Make a Difference (NSF Award 1849735)
- 2022-4 Participant, Deep Teaching Residency, a Faculty Development Program for Design and Implementation of Inclusive Undergraduate STEM Teaching Practices (NSF Award 2021494), 27-31 July, 2022, Howard Hughes Medical institute, Chevy Chase, MD.
- 2022 Completed graduate education class, EDCR 518, Evidence-based Evaluation
- 2020-2021 Developing anti-racist pedagogies discussion series, Teaching & Learning Center, Drexel University
- 2017-2021 Drexel University coursework in the Goodwin College of Profession Studies, Diversity & Inclusion in the Workplace (3 units), and Spanish (28 units)
- 2019 International Programs, Summer Global Learning Community
- 2018 Community-Based Learning Training, the Lindy Center for Civic Engagement, Drexel University
- 2017 Workshop for Early Career Geoscience Faculty, July 9-13, University of Maryland, College Park, MD

## INVITED PRESENTATIONS

30. **Watson, E.B.** Threats of accelerated sea level rise to coastal wetlands and strategies to build climate change resilience, Seminar, Stony Brook University, School of Marine and Atmospheric Sciences. 30 April 2021.
29. **Watson, E.B.** Threats of accelerated sea level rise to coastal wetlands and strategies to build climate change resilience, Seminar, and day-long campus virtual visit, Rutgers University, Department of Ecology, Evolution and Natural Resources. 1 April 2021.
28. **Watson, E.B.**, J.R. Krause,\* and A. Hinojosa Corona. Can Coastal Ecosystems Mitigate Climate Change? Office of Global Engagement, Drexel Virtual Exchange Series. 25 March 2021.
27. Sarkar, P.^, & **Watson, E.B.** Can biochar increase carbon sequestration in wetland restoration projects? Society of Wetland Scientists Monthly Webinar. 16 July 2020.



26. **Watson, E.B.** Ground-truthing sea level rise models in New Jersey. New Jersey Tidal Wetland Monitoring Network Meeting. 9 May 2019, Webinar.
25. **Watson, E.B.** Ground-truthing sea level rise models in New Jersey. Delaware National Estuarine Program Science and Technical Advisory Committee Meeting. 1 April 2019, Wilmington, DE.
24. **Watson, E.B.**, and W. Ferguson. 2019. Coastal marsh interior drowning: can it be reversed? Delaware Applied Coastal Research Symposium, Newark, DE. 27 March 2019.
23. **Watson, E.B.** Conservation and climate change challenges in the urban estuaries of the Northeastern United States. The International Forum on Ecological Civilization and Second International Forum on Silk Road Development Chongming Island, Shanghai, China, 11 October 2018.
22. **Watson, E.B.** Coastal wetland restoration / carbon sequestration scoping and implementation projects in the USA, Coastal Blue Carbon Forum, East China Normal University, Shanghai, China, 9 October 2018.
21. **Watson, E.B.** Indicators of nutrient pollution in Long Island's estuaries and on Fisher Island, Fishers Island Seagrass Coalition Meeting, 10 July 2018.
20. **Watson, E.B.** Coastal wetland loss in Rhode Island: 1850 to present. Salt Marsh Response & Resilience to Changing Conditions: Prospects for Management, New England Estuarine Research Society and New England National Estuarine Research Reserve joint meeting, 26 April 2018, Portsmouth, NH.
19. **Watson, E.B.** Impacts of sea level rise on coastal wetlands in the Northeastern U.S., Environmental Science Departmental Seminar. UC Riverside. 23 March 2018.
18. **Watson, E.B.** Blue Carbon in Barnegat Bay. Barnegat Bay Partnership Science and Technical Advisory Committee Meeting, 14 February 2018.
17. **Watson, E.B.** Sediment isotopic signatures of agricultural intensification in Elkhorn Slough. Presentation to Elkhorn Slough TMDL Working Group, 27 February 2018.
16. **Watson, E.B.** Impacts of sea level rise on coastal wetlands in the Northeastern U.S., Temple University, Earth & Environmental Science Departmental Seminar. 1 December 2017.
15. **Watson, E.B.** Impacts of sea level rise on coastal wetlands in the Northeastern U.S., Syracuse University, Earth & Environmental Science Departmental Seminar. 12 October 2017.
14. **Watson, E.B.** Impacts of sea level rise on coastal wetlands in the U.S., Villanova University. 23 February 2017.
13. **Watson, E.B.**, and A.M. Woolfolk. Lessons from the past to prepare for the future: the value of estuarine historical ecology in a changing world. 20 October 2016, New England Estuarine Research Society Fall Meeting, Block Island, RI. Invited Speaker for the Symposium "Next Questions, Future Directions: Emerging Perspectives in Estuarine and Coastal Marine Science.
12. **Watson, E.B.** Impacts of sea level rise on coastal wetlands in the U.S. Northeast. *Rising Seas and Extreme Events on Vulnerable Coasts*: Symposium to honor Brian Atwater, awardee of the 2016 Benjamin Franklin Medal in Earth and Environmental Science, 20 April 2016, University of Delaware, Newark, DE.

11. **Watson, E.B.** Impacts of sea level rise on coastal wetlands in the U.S. Northeast. American Water Resource Association, Philadelphia Chapter, 13 April 2016, Philadelphia, PA.
10. **Watson, E.B.** Impacts of sea level rise on coastal wetlands in the U.S. Northeast. Society of Women Environmental Professionals, 15 January 2016, Philadelphia, PA.
9. **Watson, E.B.** Narragansett Bay historical nutrient sources and loads: a stable isotope and stoichiometric approach. 16 December 2015. Joint meeting of the Narragansett Bay National Estuary Program Science and Technical Advisory Committee, Executive Committee, and Management Committee. The Coastal Institute, Narragansett, RI.
8. **Watson, E.B.** Mid-Atlantic Coastal Wetland Assessment: Future Plans. New Jersey Corporate Wetlands Restoration Partnership. 5 November 2015. Trenton, NJ.
7. **Watson, E.B.**, A. J. Oczkowski, A. Hanson, E. W. Davey, S. C. Crosby, and R. L. Johnson. 2014. Vulnerability of Northeastern U.S. salt marshes to climatic and anthropogenic stressors (Invited). American Geophysical Union Fall Meeting 15-19 December, 2014, San Francisco, CA.
6. **Watson, E.B.** 2012. A tale of two estuaries. University of Rhode Island Ecology Seminar Series.
5. **Watson, E.B.** 2012. Coastal wetland sustainability: linking empirical evidence, data from field and laboratory mesocosms, and predictive modeling. Smithsonian Environmental Research Center, Edgewater, MD.
4. **Watson, E.B.** 2009. Rates and patterns of sediment accretion in the Salinas River Watershed, Central California. CICESE, Ensenada, México.
3. **Watson, E.B.** 2007. Elkhorn Slough marsh stratigraphy. Phil Williams and Associates, San Francisco, CA.
2. **Watson, E.B.** 2007. Paleoecology in support of conservation at Elkhorn Slough, California. U.S. Geological Survey, Western Earth Processes Seminar Series, Menlo Park, California.
1. **Watson, E. B.** 2003. Accelerated sea level rise and sediment accretion at a San Jose, California, tidal marsh. Headwaters to Ocean Conference, Long Beach, CA. Invited as the Wiegel Scholarship winner.

## **SCIENTIFIC CONFERENCE SESSION CONVENER**

9. Moderated, "Living Resources" session at the Delaware Estuary Science Summit. 1 March 2021.
8. Organized panel at Delaware Estuary Science Summit. Fresh Perspectives for the next 25 years. 3 March 2021.
7. Moderator of conference session on "Climate Change Effects on Wetlands and Our Role in Mitigating and Adapting," at the Society of Wetland Scientists Annual Meeting, May 28-31, 2019, Baltimore, MD.
6. Organizer of conference session on "Environmental Change and the Wetland Sediment Archive," Society of Wetland Scientists Annual Meeting, 29 May - 2 June 2018, Denver, Colorado.

5. Moderator of conference session on Ecosystem Restoration, Seventh Annual Delaware Estuary Science and Environmental Summit, 22-25 January 2017, Cape May, NJ.
4. Organizer of conference session on Global Change Impacts on “Blue Carbon Pools and Processes,” Society of Wetland Scientists Annual Meeting, 5-8 June 2017, San Juan, Puerto Rico.
3. Organizer of field trip “Strawberries, Sea Otters, and Tidal Scour” educational kayaking and hiking trip at the Elkhorn Slough National Estuarine Research Reserve, Association of American Geographers Annual Meeting, 28 March – 2 April 2016, San Francisco, CA
2. Organizer of conference session on “Responses of Salt Marshes to Sea Level Rise,” Coastal and Estuarine Research Federation, 8-12 November 2015, Portland, OR.
1. Organizer of Napa wine tasting and kayaking educational fieldtrip, to tidal sloughs of Napa, California, American Association of Geographers Annual Meeting, 12-15 April 2007, San Francisco, CA.

### CONFERENCE PRESENTATIONS

103. Taveras Lopez, S<sup>\*</sup>, **E. Watson**, F. Montalto, and F. Echiejile<sup>\*</sup>. 2024. Evaluating ecosystem services of coastal marsh restoration in Barnegat Bay, New Jersey. New England Estuarine Research Society Spring Meeting, April 18-20, Freeport, ME. (won best poster award).
102. Ikeh, R.<sup>^</sup>, F. Echiejile<sup>^</sup>, A. Chatman<sup>\*</sup>, C. Freyland<sup>\*</sup>, H. Sylla<sup>\*</sup>, and **E. Watson**. 2024. Spatial patterns in salt marsh plant stress derived from photosynthesis measures and satellite imagery analysis. New England Estuarine Research Society Spring Meeting, April 18-20, Freeport, ME. (won best poster award)
101. Champlin, L.K.<sup>^</sup>, A. Woolfolk, A.J. Oczkowski, A. Rittenhouse<sup>^</sup>, A.B. Gray, K. Wasson, F.I. Rahman<sup>\*</sup>, P. Zelanko, N.B. Quintana Krupinski<sup>^</sup>, R. Jeppesen, J. Haskins, and **E.B. Watson**. 2023. Use of historical isoscapes to develop an estuarine nutrient baseline. Coastal and Estuarine Research Federation, 12-16 November, 2023, Portland, OR.
100. Janousek, C. K. Poppe, J.R. Krause, § J. Drexler, J. Holmquist, **E.B. Watson**, E.K. Peck, H. Diefenderfer, C.A. Brown, C. Cornu, J. Apple, and K.J. Buffington. 203. Advances in blue carbon research and applications to policy and planning. Coastal and Estuarine Research Federation, 12-16 November, 2023, Portland, OR.
99. Ikeh, R.<sup>^</sup>, F. Echiejile<sup>^</sup>, A. Chatman<sup>\*</sup>, C. Freyland<sup>\*</sup>, H. Sylla,<sup>\*</sup> **E.B. Watson**. 2023. Spatial patterns in saltmarsh plant stress derived from photosynthesis measures and satellite imagery analysis. LiCOR connect 2023, November 6-9, Atlanta, GA.
98. Cherneskie, K.<sup>^</sup>, and **E.B. Watson**. 2023. Drainage impacts on the productivity of the wetland species *Spartina alterniflora* and *Salicornia pacifica*. 2023 New England Estuarine Research Society Meeting, Brooklyn, NY. April 27-29, 2023.
97. Freyland, C.<sup>\*</sup>, A. Payne<sup>^</sup>, D. Njie<sup>\*</sup>, and **E. Watson**. 2022. Ecohydrology of the coastal wetland-forest ecotone. National Diversity in STEM conference, Society for the Advancement of Chicanos, Latinos, and Native Americans in Science (SACNAS). October 26-28, San Juan, Puerto Rico.

96. Wilburn, B.P.<sup>^</sup>, A. Doucoure<sup>†</sup>, H. Sylla\*, J. Barufaldi\*, **E. B. Watson**. 2022. Biochar stability and carbon sequestration capacity across a salinity gradient in New Jersey tidal marshes. Joint Aquatic Sciences Meeting, May 14-20, Grand Rapids, MI.
95. Champlin, L.<sup>^</sup>, R. Jeppesen, J. Haskins, and **E.B. Watson**. 2022. Quantifying the effects of eutrophication from anthropogenic and marine sources on multidecadal acidification trends in a California Estuary. Ocean Sciences Meeting, online, 24 February - 4 March, 2022.
94. Payne, A.<sup>^</sup>, **Watson, E.B.**, Njie, D.\* , and Chatman, A.\* 2022. Salt marsh hydrology: patterns in groundwater flooding along a marsh forest gradient. Ocean Sciences Meeting, online, 28 February-March 4, 2022.
93. Krause, J.<sup>^</sup>, **E.B. Watson**, A.J. Oczkowski, A. Hanson, and J. Santo Domingo. 2022. Disturbance alters the mangrove-associated sediment microbiome in an urban tropical estuary. Ocean Sciences Meeting, online, 28 February-March 4, 2022.
92. Njie, D, **E.B. Watson**, and L. Champlin. 2022. Development of a low-cost tidal simulation system for mesocosm research. Ocean Sciences Meeting, online, 24 February - 4 March, 2022
91. Chatman A.\* , **E.B. Watson**. 2021. Connections to the past and future: liberation in coastal science. Coastal and Estuarine Research Federation, Online, 1–4 and 8–11 November, 2021.
90. Champlin, L.K.<sup>^</sup>, H. Carlton\*, **E.B. Watson**. 2021. Spatial and temporal variability of coastal acidification in a eutrophic estuary. Joint AERS-NEERS meeting. Spring online *Conference of the New England Estuarine Research Society and the Atlantic Estuarine Research Society*, April 27-30, 2021. \*won award for best student AERS presentation\*
89. **Watson, E.B.**, & Sylla, H.\* 2020. Interior marsh dieback: causes and solutions. The National Coastal & Estuarine Virtual Summit, September 29-October 1, 2020.
88. Champlin, L.<sup>^</sup>, and **E. B. Watson**. 2020. Diel and Seasonal Cycles of Coastal Acidification and Carbonate Chemistry at Elkhorn Slough. Ocean Sciences Meeting, San Diego, CA, 16-21 February, 2020.
87. Krause, J.K.<sup>^</sup>, A. Hinojosa-Corona, and **E.B. Watson**. 2020. Integrating acoustic and optical remote sensing for SAV mapping in a turbid estuary, Ocean Sciences Meeting 16-21, San Diego, CA, February, 2020.
86. Haaf, L.<sup>^</sup>, P. Deneshagar, **E. Watson**, and S. Dymond. 2019. The effects of storm surge on pitch pine growth in a rapidly transgressing coastal forest. Coastal and Estuarine Research Federation, Mobile, AL, 3-7 November, 2019.
85. Krause, J., A.<sup>^</sup>, Hinojosa-Corona, and **E. Watson**. 2019. Integrating acoustic and optical remote sensing allows for SAV mapping in a turbid estuary. Coastal and Estuarine Research Federation, Mobile, AL, 3-7 November, 2019.
84. Gannon, M.<sup>^</sup>, **E. Watson**, A. Oczkowski, K. Raper, and D. Velinsky. 2019. Spatial and temporal variability of stable isotopes in flora and fauna of Barnegat Bay, NJ. Coastal and Estuarine Research Federation, Mobile, AL, 3-7 November, 2019.
83. Oczkowski, A., E. Santos, R. Martin§, E. Huertas, A. Hanson, **E. Watson**, and C. Wigand. 2019. Biogeochemical data from a tropical urban estuary implicate unexpected nitrogen sources. Coastal and Estuarine Research Federation, Mobile, AL, 3-7 November, 2019.

82. Wilburn, B.<sup>^</sup>, K. Raper, C. Ibarra\*, A. Gray, T. Mozdzer, K. Raposa, and **E.B. Watson**. 2019. Determining the suitability of dredged sediments and carbon-based soil amendments for mitigating sea level rise effects in drowning coastal marshes. 8<sup>th</sup> World Conference on Ecological Restoration, Cape Town, South Africa, September 24-28<sup>th</sup>, 2019.
81. **Watson, E.**, E. Powell<sup>^</sup>, L. Champlin<sup>^</sup>, M. Fountain, and C. Wigand. 2019. Cap and trade funded coastal wetland restoration-carbon sequestration projects: Examples from California and the northeastern United States. 8<sup>th</sup> World Conference on Ecological Restoration, Cape Town, South Africa, September 24-28<sup>th</sup>, 2019.
80. Powell, E.<sup>^</sup>, **E.B. Watson**, S. Haag, and L. Perez. 2019. Detection of disturbance in coastal wetlands using GEOBIA and pixel-based classification of LANDSAT 8 and high-resolution aerial imagery. Society of Wetland Scientists Annual Meeting, May 28-31, 2019, Baltimore, MD.
79. Ibarra, C.\* , E. Powell<sup>^</sup>, F. Rahman\*, B.P. Wilburn<sup>^</sup>, K. Raper, and **E. B. Watson**. 2019. Use of Dredge Sediment to Rebuild Drowning Coastal Marshes: A Plant Growth Experiment. Society of Wetland Scientists Annual Meeting, May 28-31, 2019, Baltimore, MD.
78. Champlin, L.<sup>^</sup>, D.J. Velinsky, C. Sommerfield, K. Raper, L. Haaf, K. St. Laurent, **E. B. Watson**. 2019. A Comparison of Annual and Decadal-Scale Carbon Sequestration Rates in New Jersey, Pennsylvania, and Delaware Tidal Wetlands Using Interpolation Mapping. Society of Wetland Scientists Annual Meeting, May 28-31, 2019, Baltimore, MD.
77. **Watson, E.**, T. Elsey-Quirk. 2019. Impacts of sea level rise on coastal marshes in New Jersey: past, present, and future. Society of Wetland Scientists Annual Meeting, May 28-31, 2019, Baltimore, MD.
76. Wilburn, B.<sup>^</sup>, K. Raper, C. Ibarra\*, A. Gray, K. Raposa, and **E.B. Watson**. 2019. Determining Suitability of Sediments for Rebuilding Drowned Coastal Wetlands. Society of Wetland Scientists Annual Meeting, May 28-31, 2019, Baltimore, MD.
75. **Watson, E.**, Courtney, S\*. 2019. Co-operative education as a vehicle for immersive research experiences for undergraduate students. Association for the Sciences of Limnology and Oceanography. 2019 Aquatic Sciences Meeting, 23 February – 2 March, 2019. San Juan, Puerto Rico.
74. Oczkowski, A., E. Santos, R. Martin§, A. Hanson, E. Huertas, **E. Watson**, C. Wigand. 2019. Nutrient dynamics in a tropical urban estuary indict unanticipated nitrogen sources as contributing to environmental health problems – a case study from San Juan, Puerto Rico. 2019 Aquatic Sciences Meeting, 23 February – 2 March, 2019. San Juan, Puerto Rico.
73. Krause, J.<sup>^</sup>, **E.B. Watson**, A. Gray, J. McDonnell<sup>^</sup>, and A. Hinojosa. 2019. Blue carbon in an eastern Pacific reverse estuary: organic matter cycling links salt marshes and seagrass beds. 2019 Aquatic Sciences Meeting, 23 February – 2 March, 2019. San Juan, Puerto Rico.
72. Hanson, A, A. Oczkowski, E. Santos, R. Martin§, H. Buffum, E. Huertas, **E. B. Watson**, and C. Wigand. 2019. Synthesis of long-term water quality and modern biogeochemical data in the San Juan Bay Estuary. 2019 Aquatic Sciences Meeting, 23 February – 2 March, 2019. San Juan, Puerto Rico.

71. Wilburn, B.<sup>^</sup>, K. Raper, C. Ibarra\*, A. Gray, K. Raposa, and **E.B. Watson**. 2019. Determining Suitability of Sediments for Rebuilding Drowned Coastal Wetlands Delaware Estuary and Environmental Summit, Cape May, NJ, January 27-30, 2019.
70. Champlin, L.<sup>^</sup>, D.J. Velinsky, C. Sommerfield, K. Raper, L. Haaf, K. St. Laurent, E. B. Watson. 2019. A Comparison of Annual and Decadal-Scale Carbon Sequestration Rates in New Jersey, Pennsylvania, and Delaware Tidal Wetlands Using Interpolation Mapping. Delaware Estuary and Environmental Summit, Cape May, NJ, January 27-30, 2019.
69. Krause, J.R.<sup>^</sup>, **E.B. Watson**, A.B. Gray, J. McDonnell<sup>^</sup>, and A. Hinojosa Corona. 2018. Blue Carbon in an Eastern Pacific Reverse Estuary: Organic Matter Cycling links Salt Marshes and Seagrass Beds. American Geophysical Union Annual Meeting, December 10-14, 2018, Washington, DC.
68. Haaf, L.<sup>^</sup>, **E.B. Watson**, and S. Dymond. 2018. Suppression of growth driven by sea level rise in coastal Mid-Atlantic forests. American Geophysical Union Annual Meeting, December 10-14, 2018, Washington, DC.
67. Wilburn, B.<sup>^</sup>, K. Raper, C. Ibarra\*, A. Gray, K. Raposa, and **E.B. Watson**. 2018. Using net ecosystem exchange to determine the suitability of dredge sediments for rebuilding drowned coastal wetlands. Atlantic Estuarine Research Society Meeting, October 11-13, Galloway, NJ.
66. Courtney, S. \*, and **E.B. Watson**. Will shit-eating green life die as the world gets warmer and the water gets higher? Upgoer style poster. Atlantic Estuarine Research Society Meeting, October 11-13, Galloway, NJ.
65. Ibarra, C.\* , E. Powell<sup>^</sup>, F. Rahman\*, B.P. Wilburn,<sup>^</sup> K. Raper, and **E.B. Watson**. 2018. Use of Dredge Sediment to Rebuild Drowning Coastal Marshes: A Plant Growth Experiment. Energy and Society Research Experience for Undergraduates Symposium, 10 August 2018, Philadelphia, PA.
64. Krause, J.R.<sup>^</sup>, **E.B. Watson**, J. McDonnell<sup>^</sup>, A.B. Gray, and A. Hinojosa Corona. 2018. Comparison of organic matter source and carbon burial rates in tidal salt marshes and seagrass beds of Bahía San Quintín, México. Association for the Sciences of Limnology and Oceanography 10-15 June, 2018, Victoria, British Columbia, Canada.
63. **Watson, E.B.**, A. Woolfolk, A.B. Gray, and A.J. Oczkowski. 2018. Wetland sediment records of agricultural intensification from a Monterey Bay coastal estuary. Society of Wetland Scientists Annual Meeting, May 29-June 1, 2018, Denver, CO.
62. Powell, E.B.<sup>^</sup>, **E.B. Watson**, R. Martin<sup>§</sup>, and K. Raper. 2018. The Effect of Open Marsh Water Management Practices on the Carbon Balance of Tidal Marshes in Barnegat Bay, New Jersey. Society of Wetland Scientists Annual Meeting, May 29-June 1, 2018, Denver, CO.
61. Krause, J.R.<sup>^</sup>, E.B. Powell,<sup>^</sup> **E.B. Watson**, and N. Maher. 2018. Are nutrient polluted coastal wetlands more vulnerable to sea level rise? Society of Wetland Scientists Annual Meeting, May 29-June 1, 2018, Denver, CO.
60. Krause, J.R.<sup>^</sup>, **E.B. Watson**, J. McDonnell<sup>^</sup>, A.B. Gray, and A. Hinojosa Corona. 2018. Comparison of organic matter source and carbon burial rates in tidal salt marshes and seagrass beds of Bahía San Quintín, México. Society of Wetland Scientists Annual Meeting, May 29-June 1, 2018, Denver, CO.

59. Raper, R. L. Haaf, T. Quirk, M. Maxwell-Doyle, **E.B. Watson**, D. J. Velinsky, D. Kreeger, and A. Padeletti. 2018. The relative importance of elevation change and hypsometry as benchmarks for coastal wetland vulnerability to sea level rise. Poster presentation at the Atlantic Estuarine Research Society, March 21, 2018, Rehoboth Beach, DE.
58. **Watson, E.B.**, E.B. Powell<sup>^</sup>, L. Perez, and S. Haag. 2018. A comparison of object- and pixel-based classification methods for detecting coastal wetland habitat change. Poster presentation at the Delaware Wetlands Conference, January 31 – February 2, 2018, Wilmington, DE.
57. Raper, R. L. Haaf, T. Quirk, M. Maxwell-Doyle, **E.B. Watson**, D. J. Velinsky, D. Kreeger, and A. Padeletti. 2018. The relative importance of elevation change and hypsometry as benchmarks for coastal wetland vulnerability to sea level rise. Poster presentation at the Delaware Wetlands Conference, January 31 – February 2, 2018, Wilmington, DE.
56. Powell, E.B.<sup>^</sup>, R. Martin<sup>§</sup>, and **E.B. Watson**. 2018. Impacts of Open Marsh Water Management on carbon exchange in Barnegat Bay, New Jersey. Poster presentation at the Delaware Wetlands Conference, January 31 – February 2, 2018, Wilmington, DE.
55. Krause, J.K.<sup>^</sup>, Powell, E.<sup>^</sup>, **E.B. Watson**, and N. Maher. 2018. Are nitrogen polluted coastal wetlands more vulnerable to sea level rise? Poster presentation at the Delaware Wetlands Conference, January 31 – February 2, 2018, Wilmington, DE.
54. Champlin, L.<sup>^</sup>, D.J. Velinsky, C. Sommerfield, K. Raper, L. Haaf, K. St. Laurent, T. Quirk, and **E.B. Watson**. 2018. A comparison of annual and decadal-scale carbon sequestration rates in New Jersey, Pennsylvania, and Delaware tidal wetlands using interpolation mapping. Poster presentation at the Delaware Wetlands Conference, January 31 – February 2, 2018, Wilmington, DE.
53. McDonnell, J.<sup>^</sup>, Krause, J.<sup>^</sup>, A. Hinojosa Corona, A.B. Gray, and **E.B. Watson**. Assessing the role of seagrass population dynamics in long term blue carbon accumulation and storage. American Geophysical Union Annual Meeting, December 11-15, New Orleans, LA, USA.
52. Krause, J.<sup>^</sup>, A. Hinojosa Corona, A.B. Gray, K. Raper, J. McDonnell<sup>^</sup>, and **E.B. Watson**. 2017. Assessment of blue carbon stocks and storage in seagrass meadows of Bahía San Quintín, México. Coastal and Estuarine Research Federation Meeting, November 5-9, Providence, Rhode Island.
51. **Watson, E.B.**, Rahman, F.I.\* , T. Curran, A.M. Woolfolk, and N. Maher. 2017. High nutrient loads amplify carbon cycling across California and New York coastal wetlands. Coastal and Estuarine Research Federation Meeting, November 5-9, Providence, RI.
50. Powell, E.B.<sup>^</sup>, R. Martin<sup>§</sup>, and **E.B. Watson**. 2017. Impacts of Open Marsh Water Management on carbon exchange in Barnegat Bay, New Jersey Coastal and Estuarine Research Federation Meeting, November 5-9, Providence, RI.
49. Paudel, B. <sup>§</sup>, N. Neupane, **E.B. Watson**, C. Goulden. L. Perez, and D.J. Velinsky. 2017. Effects of sub-daily precipitation events on coastal hydrology. Coastal and Estuarine Research Federation, Providence, RI. November 5-9.
48. Courtney, S.\* , and **E.B. Watson**. 2017. Effects of poor water quality on aerenchyma formation in *Spartina patens*. Coastal and Estuarine Research Federation, Providence, RI. November 5-9.

47. Hinojosa Corona, A., A.B. Gray, **E.B. Watson**, A. Trasviña, R. Ochoa, J.C. Herguera, A. Payen, J. Krause<sup>^</sup>, L. Gradilla, O. Meillon, S. Arregui, K. Raper, and J. McDonnell, D.C. Trasviña, Y. Hernandez, J.C. Montes Herrera, K. R. Villegas Manriquez<sup>^</sup>, E. Merinos, L. M. Gaxiola Espinoza, J.J. Morales Vital. 2017. Carbon azul en la Bahía San Quintín, BC. Reunión Anual 2017 Unión Geofísica Mexicana, 22-27 October, Puerto Vallarta, Mexico.
46. Courtney, S.\* , and **E.B. Watson**. 2017. Effects of pollution on the ability of salt marshes to adapt to climate change. Start Talking Science Event, September 8, 2017, Philadelphia, PA.
45. **Watson, E.B.**, and W. Ferguson. 2017. Coastal marsh interior drowning: can it be reversed? Oral presentation to be presented at The Society of Wetland Scientists Annual Meeting, San Juan, Puerto Rico, June 3-6, 2017.
44. Raper, K., **E.B. Watson**, J. Mead, and D.J. Velinsky. Impacts of episodic storms on urban freshwater wetland processes. Annual Meeting of the Society of Wetland Scientists, San Juan, Puerto Rico, 3-6 June 2016.
43. Rahman, F.I.\* , T. Curran, A.M. Woolfolk, N. Maher, and **E.B. Watson**. 2017. High nutrient loads amplify carbon cycling across California and New York coastal wetlands. Poster to be presented at The Society of Wetland Scientists Annual Meeting, San Juan, Puerto Rico, June 3-6, 2017.
42. Powell, E.<sup>^</sup>, **E.B. Watson**, N. Maher, and C. Wigand. 2017. Are nitrogen polluted coastal wetlands more vulnerable to sea level rise? Oral presentation to be presented at The Society of Wetland Scientists Annual Meeting, San Juan, Puerto Rico, June 3-6, 2017.
41. Haaf, L., and **E.B. Watson**. 2017. Is coastal wetland transgression accelerating? A case study from the mid-Atlantic region. Society of Wetland Scientists Annual Meeting, San Juan Puerto Rico, 3-6 June 2017.
40. Haaf, L., S. Jardine, D. Kreeger, K. Raper, E. Reilly, R. Martin<sup>§</sup>, E. Powell<sup>^</sup>, C. Sommerfield, D. Velinsky, M. Walch, **E. Watson**, and C. Wigand. 2017. Blue carbon storage in natural estuarine wetlands and living shorelines of Delaware and New Jersey. Delaware Estuary Science & Environmental Summit, 22-25 January 2017, Cape May, NJ.
39. **Watson, E.B.**, A.J. Oczkowski, K. Raper, A.B. Gray<sup>§</sup>, C. Wigand, and D. Velinsky, F.I. Rahman\*. 2016. Impacts of episodic storms on coastal wetland processes in the Northeastern U.S. American Geophysical Union Fall Meeting, 12-16 December 2016, San Francisco, CA.
38. Magonigal, P., Lisamarie Windham-Myers, W. Cai, C. Hopkinson, A.Z. Wang, A.J. Andersson, A. Hinson, D. Lagomasino, D.M. Pateet, C.P. Giri, J. Howard, J. Tang, J. Crosswell, J.M. Hernandez Ayon, K.H. Dunton, K.D. Kroeger, M.L. Paulsen, M.A. Allison, S.A. Siedlecki, S. R. Alin, X. Hu, M. Tzortziou, R. Majjar, K.V. Schafer, **E. B. Watson**, and E. Pidgeon. 2016. Coastal carbon dynamics as a New Chapter in SOCCR2: tidal wetlands and estuaries. American Geophysical Union Fall Meeting, 12-16 December 2016, San Francisco, CA.
37. Hatten, J.A. M. A. Goñi, A.B. Gray<sup>§</sup>, G.B. Pasternack, J.A. Warrick, **E.B. Watson**, and R.A. Wheatcroft. 2016. Role of wildfire in controlling the source and flux of particulate organic carbon from a small, mountainous, semi-arid watershed. American Geophysical Union Fall Meeting, 12-16 December 2016, San Francisco, CA.



36. Gray, A.B. §, G.B. Pasternack, **E.B. Watson**, J.A. Warrick, J.A. Hatten, and M. A. Gofii. 2016. Wildfire vs. agricultural operations: a tale of overprinted disturbance regimes. American Geophysical Union Fall Meeting, 12-16 December 2016, San Francisco, CA.
35. **Watson, E.B.**, F.I. Rahman\*, P. Zelanko, and K. Wasson. 2016. Agricultural intensification drives decreased importance of marine upwelling as a nutrient source in a California coastal lagoon. The Atlantic Estuarine Research Society Fall Meeting: Baltimore, MD, 18-20 November, 2016.
34. Raper, K., **E.B. Watson**, and D.J. Velinsky. Impacts of episodic storms on an urban freshwater wetland. The Atlantic Estuarine Research Society Fall Meeting: Baltimore, MD, 18-20 November, 2016.
33. Raper, K., T. Elsey-Quirk, D. Velinsky, D. Kreeger, A. Padeletti, and M. Maxwell-Doyle, and **E.B. Watson**. 2015. Intensive long-term monitoring in tidal wetlands of Delaware and Barnegat Bays. Fall Meeting of the New England Estuarine Research Society: Block Island, RI, 20-22 October 2016.
32. Rahman, F.\* , K. Wasson, and **E.B. Watson**. 2016. Sediment nitrogen stable isotope ratios as an indicator of historic eutrophication trends in a California estuary. The New England Estuarine Research Society Fall meeting: Block Island, RI, October 20-22, 2016.
31. **Watson, E.B.**, A.J. Oczkowski, K. Raper, J.V. Mead, A. Hanson, E. Markham^, R. Johnson, C. Wigand, and D.J. Velinsky. 2016. Impacts of episodic storms on coastal wetland processes in the U.S. Northeast. Annual Meeting of the Society of Wetland Scientists, 31 May - June 4 2016, Corpus Christi, TX.
30. **Watson, E.B.** 2016. Landscapes of change: exploring Roger Byrne's contributions and legacy. Invited Panelist, Association of American Geographers Annual Meeting, 28 March – 2 April, San Francisco, California.
29. **Watson, E.B.**, S. Haag, L.B. Perez, K. Raper, C. Chaffee, and N. Maher. 2016. Remote sensing techniques for detection of novel ecosystems: a comparison of methods for recognizing marsh transgression with sea level rise. Association of American Geographers Annual Meeting, 28 March – 2 April, San Francisco, California.
28. **Watson, E.B.**, C. Wigand, E. Davey, H. Andrews\*, J. Bishop\*. 2015. Wetland loss patterns and inundation-productivity relationships prognosticate widespread salt marsh loss for southern New England. Coastal and Estuarine Research Federation Conference, Nov. 8-12, Portland, Oregon.
27. Raper, K., T. Elsey-Quirk, D. Velinsky, D. Kreeger, A. Padeletti, and M. Maxwell-Doyle, and **E.B. Watson**. 2015. Intensive long-term monitoring in tidal wetlands of Delaware and Barnegat Bays. Poster presented at the Coastal and Estuarine Research Federation (CERF) conference, Portland, OR, November 8-12, 2015.
26. Moody, J.,^ D. Kreeger, and **E.B. Watson**. 2015. Geospatial variation of ribbed mussel (*Geukensia demissa*) ecosystem services across the salt marsh landscape. Coastal and Estuarine Research Federation Conference, Nov. 8-12, Portland, Oregon.
25. **Watson, E.B.**, K.B. Raposa, K. Szura^, C. Bradley, J. Gurak\*, R.A. McKinney, and C. Wigand. 2015. Development of an empirical spatial model of salt marsh crab and burrow density with applications for evaluating the effects of accelerated sea level rise.

- Presented at the Society for Wetland Scientists Meeting, May 31-June 5, 2015, Providence, Rhode Island.
24. Raposa, K., W. Ferguson, R. Weber, M. Cole Eckberg, **E.B. Watson**, and D. Burdick. 2015. Ongoing degradation of Rhode Island salt marshes in relation to accelerating rates of sea-level rise. Presented at the Society for Wetland Scientists Meeting, May 31-June 5, 2015, Providence, Rhode Island.
  23. Raper, K., D. Velinsky, T. Elsey-Quirk, D. Kreeger, A. Padeletti, M. Maxwell-Doyle, and **E.B. Watson**. 2015. Value of a sentinel site monitoring program for assessing tidal wetland carbon sequestration rates. Presented at the Capitalizing on Blue Carbon conference, May 12-13, 2015, Brockton, Massachusetts.
  22. Raposa, K.B., C. Bradley, C. Wigand, R. McKinney, K. Szura\*, **E.B. Watson**, and J. Gurek\*. 2015. Why are there so many crabs? Strategies for quantifying salt marsh crab abundance. New England Estuarine Research Society Meeting, 16-18 April, 2015, Bristol, RI.
  21. Moody, J.,<sup>^</sup> D. Kreeger, and **E.B. Watson**. 2015. Geospatial variation of ribbed mussel (*Geukensia demissa*) ecosystem services across the salt marsh landscape. Presented at the National Shellfisheries Association Annual Meeting, March 29– April 2, 2015, Jacksonville, Florida.
  20. **Watson, E.B.**, A. Hinojosa-Corona, and S.E. Ibarra-Obando. 2015. A preliminary assessment of blue carbon storage by Baja California's tidal wetlands and evidence for its stability in the face of anthropogenic and climatic impacts. Atlantic Estuarine Research Society Meeting, 12-14 March 2015, Wachese, NC.
  19. Moody, J.,<sup>^</sup> D. Kreeger, **E.B. Watson**. 2015. Geospatial variation of ribbed mussel (*Geukensai demissa*) ecosystem services across the salt marsh landscape. Presented at the Delaware Estuary Science and Environmental Summit, 25-28 January 2015, Cape May, NJ.
  18. **Watson, E.B.**, A. J. Oczkowski, A. Hanson, E. W. Davey, S. C. Crosby, and R. L. Johnson. 2014. Vulnerability of Northeastern U.S. salt marshes to climatic and anthropogenic stressors (Invited). American Geophysical Union Fall Meeting 15-19 December, 2014, San Francisco, CA.
  17. Moseman-Valtierra, S., R. Martin,<sup>^</sup> J. Tang, K. Morkeski, I. China, E. Brannon, and **E.B. Watson**. 2014. Testing two potential fates for coastal marshes: greenhouse gas emissions from native, *Phragmites australis*-invaded, and permanently inundated zones. American Geophysical Union Fall Meeting 15-19 December, 2014, San Francisco, CA.
  16. Gray, A. B.<sup>^</sup>, G. B. Pasternack, M. A. Goñi, and **E. B. Watson**. 2014. Abandoned channel fill sequences in tidal estuaries. American Geophysical Union Fall Meeting 15-19 December, 2014, San Francisco, CA.
  15. **Watson, E.B.**, C. Wigand, A. Oczkowski, K. Sundberg, D. Vendettuoli, S. Jayaraman, K. Saliba\*, and J.T. Morris. 2014. Death by *Ulva*. New England Estuarine Research Society Meeting Spring Meeting. Salem, MA.
  14. García-García, A., N. King, H. Sims, M. Lopez, M.D. Leavey, G. Shipton, **E. B. Watson**, and R. Eby. 2013. Gas evidence and seepage: implications and subsidence in the Elkhorn Slough, CA. American Geophysical Union Annual Meeting, San Francisco, CA.

13. **Watson, E.B.**, C. Wigand, J. Nelson, and K. Wasson. 2012. Coastal wetland deterioration, climate change and nutrient inputs in California and southern New England salt marsh. Coastal & Estuarine Research Society Meeting 2012, Mar de Plata, Argentina.
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