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CURRICULUM VITAE

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EDUCATION

Ph.D., Boston University Marine Program, Biology, 1998
B.S., University of Washington, Zoology, 1991

PROFESSIONAL EXPERIENCE

2022-present	Senior Scientist, Ecosystems Center, Marine Biological Laboratory
2022-present	Adjunct Professor, Department of Marine Science, University of Texas Austin
2018-2022	Professor, Department of Marine Science, University of Texas Austin
2012-2018	Associate Professor, Department of Marine Science, University of Texas Austin
2006-2012	Assistant Professor, Department of Marine Science, University of Texas Austin
2005-2006	Assistant Research Scientist, Ecosystems Center, Marine Biological Laboratory
2003-2005	Research Associate, Ecosystems Center, Marine Biological Laboratory
2001-2003	Postdoctoral Scientist, Ecosystems Center, Marine Biological Laboratory
1999-2001	Postdoctoral Fellow, Biology, Georgia Institute of Technology
1999	Instructor, Universidade de São Paulo, Brazil
1998-1999	Postdoctoral Fellow, Environmental Sciences, University of East Anglia, UK

GRANTS AND CONTRACTS (*collaborators specified in italics*)

2025-2028 Collaborative Research: Advancing Knowledge of Arctic Land-Ocean dynamics through the Arctic Great Rivers Observatory (ArcticGRO), NSF-OPP-2419916, $422,121. *This project is linked with NSF grants to the Woods Hole Oceanographic Institution (B. Peucker-Ehrenbrink), Woodwell Climate Research Center (Scott Zolkos), University of New Hampshire (A. Shiklomanov), and Florida State University (R. Spencer)*.

2024-2027 Collaborative Research: Drivers and Biogeochemical Implications of Saltwater Intrusion along Arctic Coastlines, NSF-OPP-2316041, $434,096. *This project is linked with NSF grants to the Woods Hole Oceanographic Institution (J. Guimond) and Woodwell Climate Research Center (S. Natali and J. Hung).*

2023-2028 LTER: Seasonal Controls and Emergent Effects of Changing Land-Ice-Ocean Interactions on Arctic Coastal Ecosystems (BLE II), Subaward to MBL from NSF-OPP-2322664, $349,575. *This project includes collaborators from the UT Marine Science Institute (K. Dunton and T. Whittaker), University of Massachusetts Amherst (M. Rawlins), Oregon State University (B. Crump, E. Spitz, and E. Eidam), University of Alaska Fairbanks (K. Iken and A. Mahoney),*

UT El Paso (V. Lougheed and C. Tweedie), and the Virginia Institute of Marine Science (A. Hardison).

2022-2028 LTER: Plum Island Ecosystems, The Impact of Changing Landscapes and Climate on Interconnected Coastal Ecosystems, NSF-OCE-2224608, $7,649,999. *This project includes collaborators from the Marine Biological Laboratory (A. Giblin, J. Vallino, I. Forbrich, Z. Cardon, K. Koop-Jakobsen), University of New Hampshire (W. Wollheim, D. Burdick, G. Moore), Northeastern (J. Bowen, A. Hughes, D. Kimbo), University of Louisiana (J. Nelson), Boston University (R. Fulweiler, C. Fichot, S. Fagherazzi), Clark University (R. Pontius), University of South Carolina (J. Morris), Villanova University (N. Weston) Virginia Institute of Marine Science (D. Johnson, M. Kirwan), Mass Audubon (D. Perry, D. Moon), University of Georgia (A. Spivak), and Woodwell Climate Research Center (L. Deegan).*

2019-2025 Collaborative Research: AON: The Arctic Great Rivers Observatory (Arctic-GRO), NSF-OPP-AON-1914215, converted to 2230812 with institutional change, $342,637. *This project is linked with NSF grants to the Woods Hole Research Center (R.M. Holmes), Florida State University (R. Spencer), and University of New Hampshire (A. Shiklomanov).*

2020-2023 Collaborative Research: The Physical and Chemical Dynamics of Groundwater Flow across the Land-Sea Interface in Arctic Lagoon Ecosystems, NSF-OPP-ANS-1938820, $794,976. *This project included a collaborator from the Jackson School of Geosciences at UT Austin (M.B. Cardenas) and was linked with an NSF grant to the Woods Hole Oceanographic Institution (M. Charette).*

2017-2023 LTER: Beaufort Sea Lagoons: An Arctic Coastal Ecosystem in Transition, NSF-PLR-1656026, $5,600,000. *This project included collaborators from the UT Marine Science Institute (K. Dunton, A. Hardison), University of Massachusetts Amherst (M. Rawlins), Oregon State University (B. Crump and E. Spitz), University of Alaska Fairbanks (K. Iken, J. Kasper, and A. Mahoney), University of Toronto Mississauga (B. McMeans), and UT El Paso (V. Lougheed and C. Tweedie).*

2017-2020 A Predictive Model for Arctic Coastal Erosion, DOE, Sandia National Laboratories – Academic Alliance Partnership, Supplemental plus-up, $256,016. *This project included collaborators from Sandia National Labs (D. Bull, J. Frederick, A. Mota), University of Alaska Fairbanks (B. Jones, J. Kasper), and Integral Consulting (C. Jones).*

2016-2019 Collaborative Research: AON: The Arctic Great Rivers Observatory (Arctic-GRO), NSF-PLR-1602680, $171,037. *This project was linked with NSF grants to the Woods Hole Research Center (R.M. Holmes), Florida State University (R. Spencer), and University of New Hampshire (A. Shiklomanov).*

2014-2018 Where a River Slows: Investigating the Oscillic Freshwater Zone, NSF-EAR-1417433, $514,792. *This project included collaborators from the Jackson School of Geosciences (K. Moffett), the Department of Civil and Environmental*

Engineering (B. Hodges), and the Marine Science Institute (A. Hardison) at UT-Austin.

2014-2016 Expansion and Modernization of Stable Isotope Analysis Capabilities at the University of Texas Marine Science Institute, NSF-DBI-1418764, $349,582. *This project included collaborators from the UT Marine Science Institute (D. Erdner, and W. Gardner).*

2012-2015 Collaborative Research: Identification of nitrogen sources for toxic *Alexandrium* blooms using a novel species-specific tracer, δ^{15}N-saxitoxin, NSF-OCE-1232835, $113,429. *This project included a collaborator from the UT Marine Science Institute (D. Erdner) and was linked with NSF grants to the Virginia Institute of Marine Science (J. Smith), Woods Hole Oceanographic Institution (D. Anderson), and Stony Brook University (C. Gobler).*

2012-2016 The Arctic Great Rivers Observatory (Arctic-GRO), NSF-OPP-1107774, $2,633,299. *This project included collaborators from the Woods Hole Research Center (R.M. Holmes), Marine Biological Laboratory (B. Peterson), and Yale University (Peter Raymond).*

2011-2014 Developing and Applying an Integrated Multi-scale Earth System Modeling Framework to Study the Impacts of Changing Climate, Local Weather, and Land Use on Watersheds and Downstream Coastal Ecosystems, NASA-NNX11AE42G, $1,655,524. *This project included collaborators from UT-Austin (Z.-L. Yang, D. Maidment), UT San Antonio (H. Xie), Texas A&M University Corpus Christi (P. Montagna), and the US Forest Services (W.-M. Hao).*

2010-2013 Collaborative Research: Terrestrial Linkages to Microbial and Metazoan Communities in Coastal Ecosystems of the Beaufort Sea, NSF-OPP-1023582, $1,000,025. *This project included a collaborator from the UT Marine Science Institute (K. Dunton) and was linked with an NSF grant to the University of Maryland Center for Environmental Sciences (B. Crump).*

2011-2013 Integrating Studies of Glacier Dynamics and Estuarine Chemistry in the Context of Landscape Change in the Arctic Refuge, North and West Alaska Cooperative Ecosystem Studies Unit, $145,000. *This project included collaborators from the UT Marine Science Institute (K. Dunton) and the University of Alaska Fairbanks (M. Nolan).*

2008-2011 Collaborative Research: Chemical Weathering and Organic Carbon Export from Arctic Watersheds, North Slope, Alaska, NSF-OPP-0806827, $264,624. *This project was linked with NSF grants to the Department of Army Cold Regions Research and Engineering Laboratory (T. Douglas) and Northwestern University (A. Jacobson).*

2008-2011 Collaborative Research. IPY: Arctic Great Rivers Observatory (Arctic-GRO), NSF-OPP-0732821, $190,690. *This project was linked with NSF grants to Yale University (P. Raymond), the Woods Hole Research Center (R. Holmes), and the Marine Biological Laboratory (B. Peterson).*

2007-2010 Using Satellite Data and Fully Coupled Regional Hydrologic, Ecological and Atmospheric Models to Study Complex Coastal Environmental Processes, NASA-NNX07AL79G, $1,236,979. *This project included collaborators from UT-Austin (Z.-L. Yang, D. Maidment, G.-Y. Niu), UT San Antonio (H. Xie), and Texas A&M University Corpus Christi (P. Montagna).*

2005-2007 Synthesis and Scaling of Hydrologic and Biogeochemical Data on the North Slope and Coastal Zone of Alaska, NSF-OPP-0436118, $677,402. *This project included collaborators from the Georgia Institute of Technology (M. Stieglitz), Woods Hole Research Center (R.M. Holmes), and Marine Biological Laboratory (B. Peterson).*

PUBLICATIONS

Bristol, E.M., M.I. Behnke, R.G.M. Spencer, A.M. McKenna, M.A. Charette, M.B. Cardenas, and J.W. McClelland. 2026. Supra-permafrost groundwater is a source of highly biodegradable dissolved organic matter to the Arctic Ocean. *Environmental Science and Technology* 60, pp. 1819-1830, doi:10.1021/acs.est.5c08206.

Rawlins, M.A., C.T. Conolly, and J.W. McClelland. 2026. Hydrologic cycle intensification and permafrost thaw drive increasing freshwater and organic carbon inputs to northern Alaska estuaries. *Global Biogeochemical Cycles* 40, e2025GB008822, doi:10.1029/2025GB008822.

Tian, S., D. Li, T. Zhang, J.W. McClelland, I. Overeem, S.N. Lane, R.G.M. Spencer, E. Wohl, A. Sha, Y. Zhao, C. Miao, M. Ning, L. Yuan, and J. Ni. 2026. Increasing river sediment concentration and flux across the pan-Arctic. *Nature Geoscience*, doi:10.1038/s41561-026-01960-z.

McClelland, J.W., A.I. Shiklomanov, A. Suslova, M. Tretiakov, R.G.M. Spencer, S.E. Tank, and S. Zolkos. 2025. Arctic river discharge [in "State of the Climate in 2024"]. *Bulletin of the American Meteorological Society* 106 (8), pp. S332-S334, doi:10.1175/BAMS-D-25-0104.1.

Ruyle, B.J., J. Merder, R.G.M. Spencer, J.W. McClelland, S.E. Tank, and A.M. Michalak. 2025. Changes in the composition of nitrogen yields in large Arctic rivers linked to temperature and precipitation. *Global Biogeochemical Cycles* 39, e2025GB008639, doi:10.1029/2025GB008639.

Spera, A.C., J.W. McClelland, C. Demir, M.B. Cardenas, and J.A. Guimond. 2025. Saltwater inundation's concurrent effects on below-ground thermal hydrology and above-ground properties Arctic coastal tundra. *Science of the Total Environment* 1008, 180906, doi:10.1016/j.scitotenv.2025.180906.

Bristol, E.M., M.I. Behnke, R.G.M. Spencer, A. McKenna, B.M. Jones, D.L. Bull, and J.W. McClelland. 2024. Eroding permafrost coastlines release biodegradable dissolved organic carbon to the Arctic Ocean. *Journal of Geophysical Research – Biogeosciences* 129, e2024JG008233, doi:10.1029/2024JG008233.

Bullock, E.J., I.V. Schaal, M.B. Cardenas, J.W. McClelland, P.B. Henderson, and M.A. Charette. 2024. Seasonality of submarine groundwater discharge to an Arctic coastal lagoon. *Limnology and Oceanography* 69, pp. 1429-1438, doi:10.1002/lno.12585.

Demir, C., J.W. McClelland, E. Bristol, M.A. Charette, and M.B. Cardenas. 2024. Coastal supra-permafrost aquifers of the Arctic and their significant groundwater, carbon, and nitrogen fluxes. *Geophysical Research Letters* 51, e2024GL109142, doi:10.1029/2024GL109142.

Gordeev, V.V., O.S. Pokrovsky, A.V. Zhulidov, A.S. Filippov, T.Y. Gurtovaya, R.M. Holmes, L.S. Kosmenko, J.W. McClelland, B.J. Peterson, and S.E. Tank. 2024. Dissolved major and trace elements in the largest Eurasian Arctic rivers: Ob, Yenisey, Lena, and Kolyma. *Water* 16 (2), 316, doi:10.3390/w16020316.

Wei, H., X. Xu, A. Savoie, E. Schattle, A.K. Hardison, D.L. Erdner, and J.W. McClelland. 2024. Seasonal and nutrient controls on phytoplankton in the Aransas River tidal freshwater zone, Texas, USA. *Hydrobiologia* 851, pp. 1275-1290, doi:10.1007/s10750-023-05388-z.

Wilson, S.J. et al. (73 authors). 2024. Global subterranean estuaries modify groundwater nutrient loading to the ocean. *Limnology and Oceanography Letters* 9, pp. 411-422, doi:10.1002/lol2.10390.

Behnke, M.I., S.E. Tank, J.W. McClelland, R.M. Holmes, N. Haghipour, T.I. Eglinton, P.A. Raymond, A. Suslova, A.V. Zhulidov, T. Gurtovaya, N. Zimov, S. Zimov, E.A. Mutter, E. Amos, and R.G.M. Spencer. 2023. Aquatic biomass is a major source to particulate organic matter export in large Arctic rivers. *Proceedings of the National Academy of Sciences* 120 (12), e2209883120, doi:10.1073/pnas.2209883120.

Clark, J.B., A. Mannino, R.G.M. Spencer, S.E. Tank, and J.W. McClelland. 2023. Quantification of discharge-specific effects on dissolved organic matter export from major Arctic rivers from 1982-2019. *Global Biogeochemical Cycles* 37 (8), e2023GB007854, doi:10.1029/2023GB007854.

Guimond, J.A., C. Demir, B.L. Kurylyk, M.A. Walvoord, J.W. McClelland, and M.B. Cardenas. 2023. Wind-modulated groundwater discharge along a microtidal Arctic coastline. *Environmental Research Letters* 18, 094042, doi:10.1088/1748-9326/acf0d8.

McClelland, J.W., A.I. Shiklomanov, A. Suslova, M. Tretiakov, R.M. Holmes, R.G.M. Spencer, S.E. Tank, and S. Zolkos. 2023. Arctic river discharge [in "State of the Climate in 2022"]. *Bulletin of the American Meteorological Society* 104 (9), pp. S299-S301, doi:10.1175/BAMS-D-23-0079.1.

Tank, S.E., J.W. McClelland, R.G.M. Spencer, AI. Shiklomanov, A. Suslova, F. Moatar, R.M.W. Amon, L.W. Cooper, G. Elias, V.V. Gordeev, C. Guay, T.Y. Gurtovaya, L.S. Kosmenko, E.A. Mutter, B.J. Peterson, B. Peucker-Ehrenbrink, P.A. Raymond, P.F. Schuster, L. Scott, R. Staples, R.G. Striegl, M. Tretiakov, A.V. Zhulidov, N. Zimov, S. Zimov, and R.M. Holmes. 2023. Recent trends in the chemistry of major northern rivers signal widespread Arctic change. *Nature Geosciences* 16, pp. 789-796, doi:10.1038/s41561-023-01247-7.

Wei, H., X. Xu, A.E. Jones, A.K. Hardison, K.B. Moffett, and J.W. McClelland. 2022. Tidal freshwater zones modify the forms and timing of nitrogen export from rivers to estuaries. *Estuaries and Coasts* 45, pp. 2414-2427, doi:10.1007/s12237-022-01112-7.

Zolkos, S., A.V. Zhulidov, T.Y. Gurtovaya, V.V. Gordeev, S. Berdnikov, N. Pavlova, E.A. Kalko, Y.A. Kuklina, D.A. Zhulidov, L.S. Kosmenko, A.I. Shiklomanov, A. Suslova, B.M. Geyman, C.P. Thackray, E.M. Sunderland, S.E. Tank, J.W. McClelland, R.G.M. Spencer, D.P. Krabbenhoft, R. Robarts, and R.M. Holmes. 2022. Multidecadal declines in particulate mercury and sediment export from Russian rivers in the pan-Arctic basin. *Proceedings of the National Academy of Sciences*, 119, e2119857119, doi:10.1073/pnas.2119857119.

Baker, K.D., C.T.E. Kellogg, J.W. McClelland, K.H. Dunton, and B.C. Crump. 2021. The genomic capabilities of microbial communities track seasonal variation in environmental conditions in Arctic lagoons. *Frontiers in Microbiology* 12, 601901, doi:10.3389/fmicb.2021.601901.

Behnke, M.I., J.W. McClelland, S.E. Tank, A.M. Kellerman, R.M. Holmes, N. Haghipour, T.I. Eglinton, P.A. Raymond, A. Suslova, A.V. Zhulidov, T. Gurtovaya, N. Zomov, S. Zimov, E.A. Mutter, E. Amos, and R.G.M. Spencer. 2021. Pan-Arctic riverine dissolved organic matter: Synchronous molecular stability, shifting sources and subsidies. *Global Biogeochemical Cycles* 35, e2020GB006871, doi:10.1029/2020GB006871.

Bristol, E.M., C.T. Connolly, T.D. Lorenson, B.M. Richmond, A.G. Ilgen, R.C. Chones, D.L. Bull, M. Kanevskiy, G. Iwahana, B.M. Jones, and J.W. McClelland. 2021. Geochemistry of coastal permafrost and erosion-driven organic matter fluxes to the Beaufort Sea near Drew Point, Alaska. *Frontiers in Earth Science* 8, 598933, doi:10.3389/feart.2020.598933.

Connolly, C.T., B.C. Crump, K.H. Dunton, and J.W. McClelland. 2021. Seasonality of dissolved organic matter in lagoon ecosystems along the Alaska Beaufort Sea coast. *Limnology and Oceanography* 66, pp. 4299-4313, doi:10.1002/lno.11962.

Holmes, R.M., A.I. Shiklomanov, A. Suslova, M. Tretiakov, J.W. McClelland, L. Scott, R.G.M. Spencer, and S.E. Tank. 2021. River discharge [in "State of the Climate in 2020"]. *Bulletin of the American Meteorological Society* 102 (8), pp. 290-292, doi:0.1175/BAMS-D-21-0086.1.

Holmes, R.M., A.I. Shiklomanov, A. Suslova, M. Tretiakov, J.W. McClelland, L. Scott, R.G.M. Spencer, and S.E. Tank. 2021. River Discharge. *Arctic Report Card 2021*, doi:10.25923/zevf-ar65.

Rawlins, M.A., Connolly, C.T., and J.W. McClelland. 2021. Modeling terrestrial dissolved organic carbon loading to western Arctic rivers. *Journal of Geophysical Sciences – Biogeosciences* 126, e2021JG006420, doi:10.1029/2021JG006420.

Xu, X., H. Wei, G. Barker, K. Holt, S. Julian, T. Light, S. Melton, A. Salamanca, K.B. Moffett, J.W. McClelland, and A.K. Hardison. 2021. Tidal freshwater zones as hotspots for biogeochemical cycling: Sediment organic matter decomposition in the lower reaches of

two south Texas rivers. *Estuaries and Coasts* 44, pp. 722-733, doi:10.1007/s12237-020-00791-4.

Connolly, C.T., M.B. Cardenas, G.A. Burkart, R.G.M. Spencer, and J.W. McClelland. 2020. Groundwater as a major source of dissolved organic matter to Arctic coastal waters. *Nature Communications* 11, 1479, doi:10.1038/s41467-020-15250-8.

Jones, A.E., A.K. Hardison, B.R. Hodges, J.W. McClelland, and K.B. Moffett. 2020. Defining a riverine tidal freshwater zone and its spatiotemporal dynamics. *Water Resources Research* 56, e2019WR026619, doi:10.1029/2019WR026619.

Pedrazas, M.N., M.B. Cardenas, C. Demir, J.A. Watson, C.T. Connolly, and J.W. McClelland. 2020. Absence of ice-bonded permafrost beneath an Arctic lagoon revealed by electrical geophysics. *Science Advances* 6, eabb5083, doi:0.1126/sciadv.abb5083.

Tank, S.E., J.E. Vonk, M.A. Walvoord, J.W. McClelland, I. Laurion, and B.W. Abbott. 2020. Landscape matters: Predicting the biogeochemical effects of permafrost thaw on aquatic networks with a state factor approach, *Permafrost and Periglacial Processes*, doi:10.1002/ppp.2057.

Zolkos, S., D.P. Krabbenhoft, A. Suslova, S.E. Tank, J.W. McClelland, R.G.M. Spencer, A. Shiklomanov, A.V. Zhulidov, T. Gurtovaya, N. Zimov, S. Zimov, E.A. Mutter, L. Kutny, E. Amos, and R.M. Holmes. 2020. Mercury Export from Arctic Great Rivers. *Environmental Science and Technology*, 54 (7), pp. 4140–4148, doi:10.1021/acs.est.9b07145.

Drake, T.W., R.M. Holmes, A.V. Zhulidov, T. Gurtovaya, P.A. Raymond, J.W. McClelland, and R.G.M. Spencer. 2019. Multi-decadal climate-induced changes in Arctic tundra lake geochemistry and geomorphology. *Limnology and Oceanography* 64, pp. S179–S191, doi:10.1002/lno.11015.

Glibert, P.M., J.J. Middelburg, J.W. McClelland, and J. Vander Zanden. 2019. Stable isotope tracers: Enriching our perspectives and questions on sources, fates, rates and pathways of major elements in aquatic systems. *Limnology and Oceanography* 64, pp. 950-981, doi:10.1002/lno.11087.

Holmes, R.M., A.I. Shiklomanov, A. Suslova, M. Tretiakov, J.W. McClelland, R.G.M. Spencer, and S.E. Tank. 2019. River Discharge [in "State of the Climate in 2018"]. *Bull. Amer. Meteor. Soc.*, 100 (9), pp. 161–163, doi:10.1175/2019BAMSStateoftheClimate.1.

Jones, A.E., A.K. Hardison, B.R. Hodges, J.W. McClelland, and K.B. Moffett. 2019. An expanded rating curve model to estimate river discharge during tidal influences across the progressive-mixed-standing wave systems. *PLoS One* 14 (12), e0225758, doi:10.1371/journal.pone.0225758.

Kellogg, C.T.E., J.W. McClelland, K.H. Dunton, and B.C. Crump. 2019. Strong seasonality in Arctic estuarine microbial food webs. *Frontiers in Microbiology* 10, 2628, doi:10.3389/fmicb.2019.02628.

Wild, B., A. Andersson, L. Bröder, J. Vonk, G. Hugelius, J.W. McClelland, W. Song, P.A. Raymond, and Ö. Gustafsson. 2019. Rivers across the Siberian Arctic unearth the

patterns of carbon release from thawing permafrost. *Proceedings of the National Academy of Sciences*, 116 (21), pp. 10280-10285, doi:10.1073/pnas.1811797116.

Armstrong, C.T., D.L. Erdner, J.W. McClelland, M.P. Sanderson, D.M. Anderson, C.H. Gobler, and J.L. Smith. 2018. Impact of nitrogen chemical form on the isotope signature and toxicity of a marine dinoflagellate. *Marine Ecology Progress Series* 602, pp. 63-76, doi:10.3354/meps12619.

Burke, A., T.M. Present, G. Paris, E.C.M. Rae, B.H. Sandilands, J. Gallardet, B. Peucker-Ehrenbrink, W.W. Fischer, J.W. McClelland, R.G.M. Spencer, B.M. Voss, and J.F. Adkins. 2018. Sulfur isotopes in rivers: Insights into global weathering budgets, pyrite oxidation, and the modern sulfur cycle. *Earth and Planetary Science Letters* 496, pp. 168-177, doi:10.1016/j.epsl.2018.05.022.

Connolly, C.T, M.S. Khosh, G. Burkart, T.A. Douglas, R.M. Holmes, A.D. Jacobson, S.E. Tank, and J.W. McClelland. 2018. Watershed slope as a predictor of fluvial dissolved organic matter and nitrate concentrations across geographical space and catchment size in the Arctic. *Environmental Research Letters*, 13, 104015, doi:10.1088/1748-9326/aae35d.

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Harris, C.M., N.D. McTigue, J.W. McClelland, and K.H. Dunton. 2018. Do high Arctic coastal foods webs rely on a terrestrial carbon subsidy? *Food Webs*, e00081, doi:10.1016/j.fooweb.2018.e00081.

Holmes, R.M., A.I. Shiklomanov, A. Suslova, M. Tretiakov, J.W. McClelland, R.G.M. Spencer, and S. E. Tank. 2018. River Discharge. *Arctic Report Card 2018*. [https://arctic.noaa.gov/Report-Card/Report-Card-Archive]

Li Yung Lung, J.Y.S., S.E. Tank, C. Spence, D. Yang, B. Bonsal, J.W. McClelland, and R.M Holmes. 2018. Seasonal and geographic variation in dissolved carbon biogeochemistry of rivers draining to the Canadian Arctic Ocean and Hudson Bay. *Journal of Geophysical Research – Biogeosciences* 123, pp. 3371–3386, doi:10.1029/2018JG004659.

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$\delta^{13}C_{DIC}$, $^{87}Sr/^{86}Sr$, $\delta^{44/40}Ca$, and $\delta^{44/42}Ca$) measurements. *Geochimica et Cosmochimica Acta* 217, pp. 399-420, doi: 10.1016/j.gca.2017.07.042.

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HONORS

2024	Frontiers Plant Prize, Canada National Champion (co-author on selected paper)
2015	*Water Resources Research* Editor's Choice Award
2010	UT-Austin College of Natural Sciences Teaching Excellence Award
1998-1999	NSF-NATO Postdoctoral Fellowship in Science and Engineering
1996-1997	Outstanding Teaching Fellow Award, Boston University
1994-1996	Waquoit Bay Fellowship, Boston University
1994	Arthur G. Humes Alumni Award, Boston University

PROFESSIONAL SOCIETY MEMBERSHIPS

American Geophysical Union
Association for the Sciences of Limnology and Oceanography
Coastal and Estuarine Research Federation

PROFESSIONAL SERVICE

Editorial Contributions

2014-2025	Associate Editor, *Global Biogeochemical Cycles*
2013-2018	Associate Editor, *Estuarine Coastal and Shelf Science*
2010-2011	Guest editor and primary organizer of a special "Feature" on the Arctic system that includes 5 synthesis papers for *Estuaries and Coasts*

Organization of Conference and Workshop Sessions

2025	Co-convener of "Nutrient and Trace Element Biogeochemistry in the Cryosphere session, AGU Fall Meeting, New Orleans
2022	Co-convener of "Synergies between Measurements and Modeling in LTER Research" session, LTER All Scientists Meeting, Pacific Grove
2021	Co-convener of "Shifting Baselines and Paradigms in Arctic Coastal Science" session for CERF, held virtually
2019	Co-convener of "Hydrological, Chemical, and Biological Connectivity Across Coastal Watersheds and Estuaries" session at the AGU Fall meeting, San Francisco
2019	Co-convener of "Changing Biogeochemistry and Ecology across Polar Aquatic Systems in the 21st Century" session at the ASLO Aquatic Sciences Meeting, Puerto Rico
2017	Co-convener of "Anthropogenic Impacts on Nutrient Cycling in Freshwater Ecosystems" session at the AGU Fall meeting, New Orleans
2017	Co-convener of "Arctic Land-Ocean Connections – From Inland to Coastal Waters" session at the CERF meeting in Providence
2017	Co-convener of "Tidal Freshwater Zones: Bridging Riverine and Coastal Science" session at the CERF Fall meeting, Providence

2016	Co-convener of "Biogeochemical Cycling in the Cryosphere" session at the AGU Fall Meeting, San Francisco
2015	Co-convener of "Connectivity between Arctic Lagoons and Adjacent Ecosystems: Nutrients to Nekton" session, 23rd biennial Coastal and Estuarine Research Federation meeting, Portland
2010	Co-convener of "Biogeochemical Responses to a Changing Arctic" session at the AGU Fall Meeting, San Francisco
2009	Discussion leader (invited) for "Allochthonous Inputs" session at the Gordon Research Conference on Polar Marine Science, Lucca, Italy
2007	Co-convener of "Arctic Estuarine Ecosystems: Sources, Transport, and Fate of Riverine Inputs" session at the 19th biennial Estuarine Research Federation meeting, Providence
2006	Co-convener of "The Arctic Ocean Coast: Where the Land, Sea and Lower Atmosphere Meet" session at the AGU Fall Meeting, San Francisco
2005	Co-convener of "Changes in the Arctic Freshwater Cycle: Identification, Attribution, and Impacts at Local to Global Scale" session at the AGU Fall Meeting, San Francisco
2003	Co-convener of 1st International Pan Arctic River Transport of Nutrients Organic Matter and Suspended Sediments (PARTNERS) Workshop, Woods Hole

National Committees

2018-2019	NSF Long Term Ecological Research (LTER) Program, Decadal Review Committee

Local Committees and Administrative Positions

2024-present	MBL, Retirement Plan Committee
2026	MBL, Promotion Review Committee (Kristin Gribble)
2025	MBL, Faculty Search Committee (Hibbitt Imaging Scientist)
2025	MBL, Promotion Review Committee (Blair Paul)
2024-2025	MBL, Ecosystems Center, Stable Isotope Lab committee
2019-2022	UT Austin, Jackson School of Geosciences, Appointments Committee (aka Promotion and Tenure committee)
2011-2022	UT Austin, Department of Marine Science, Assistant Graduate Adviser
2010-2022	UT Austin, Department of Marine Science, Academic Assessment Committee (Chair from 2012-2022)
2022	UT Austin, Packard Fellowship internal review committee
2021	UT Austin, Packard Fellowship internal review committee
2020	UT Austin, College of Natural Sciences, Stengl-Wyer Selection Committee
2019-2020	UT Austin, Marine Science Insitute, MarineGeo – Smithsonian Committee
2019-2020	UT Austin, Marine Science Institute, Marine Operations Committee (Chair)
2016-2019	UT Austin, Marine Science Institute, Core Laboratories Committee
2011-2018	UT Austin, Graduate Portfolio Program in Integrated Watershed Studies (Chair)
2012-2015	UT Austin, Department of Marine Science, Awards Committee (Chair)
2010-2012	UT Austin, Department of Marine Science, Seminar Committee (Chair)

2005-2010 UT Austin, College of Natural Sciences, Undergraduate Scholarship Committee
2008-2010 UT Austin, Marine Science Institute, Library Committee
2007-2010 UT Austin, Department of Marine Science, Course and Curriculum Committee

COURSES TAUGHT

Graduate

Coastal Watersheds, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Spring 2009, Spring 2011, Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2018, Spring 2020, Spring 2022 (MNS 393 – Topic 11, formerly MNS 383 – Topic 17)

Coastal Watersheds Discussions, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Spring 2019 (MNS 293)

Global Change, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Fall 2009, Fall 2012 (MNS 383)

Isotope Ecology, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Fall 2017, Fall 2019 (MNS 193 – Topic 2)

Marine Biogeochemistry, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Fall 2021 (MNS 482C)

Marine Isotope Geochemistry, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Fall 2006 (MNS 383 – Topic 14)

Seminar in Marine Science, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Spring 2007 (MNS 191, Topic: Coastal Watershed Science and Land-Sea Coupling in the Face of Environmental Change)

Supervised Teaching in Marine Science, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Spring 2008, Fall 2011 (MNS 398T)

Undergraduate

Coastal Watersheds field/lab course, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Summer 2007, Summer 2008, Summer 2010, Summer 2011, Summer 2012, Summer 2014, Summer 2015 (MNS F152T)

Lab Studies In Marine Ecology, Department of Marine Science, The University of Texas at Austin, Port Aransas, Texas, Fall 2016, Fall 2018 (MNS 120L)

Marine Ecological Processes, Universidade de São Paulo, São Paulo, Brazil, Winter 1999

Land-Water Interactions components (lecture and lab) of Semester in Environmental Science Core Course, Ecosystems Center, Marine Biological Laboratory, Woods Hole, Massachusetts, Fall 2023, Fall 2024, Fall 2025

Stable Isotopes in Ecosystem Studies, Department of Biology (Marine Program), Boston University, Woods Hole, Massachusetts, Spring 1998

Other

Environmental track of Logan Science Journalism Program, Marine Biological Laboratory, Woods Hole, Massachusetts, Spring 2024, Spring 2025, Spring 2026

MENTORING

Graduate students in McClelland Lab

Aquanette Sanders	M.S. 2023
Emily Bristol	Ph.D. 2023
Xin Xu	Ph.D. 2020
Hengchen Wei	Ph.D. 2020
Craig Connolly	Ph.D. 2019
Claire Griffin	Ph.D. 2016
Matt Khosh	Ph.D. 2015
Stephanie Smith	M.S. 2015
Karen Bishop	M.S. 2012
Rae Mooney	M.S. 2009

Postdoctoral Researchers in McClelland Lab

Elizabeth Elmstrom, 2024 - present
Tara Connelly, 2012 – 2014
Amy Townsend-Small, 2006 – 2007

Graduate Student Advisory Committee Member

Oriane Yvin, Florida State University	Ph.D. candidate
Nicholas Deshaies, Bridgewater State University	M.S. candidate
Alina Spera, UT El Paso	Ph.D. 2024
Brian Kim, Virginia Institute of Marine Science	Ph.D. 2024
Cansu Demir, UT Austin, Jackson School of Geosciences	Ph.D. 2024
Seungwon Chung, UT Austin, Jackson School of Geosciences	Ph.D. 2023
Danny Fraser, UT Austin, Department of Marine Science	M.S. 2023
Sarah Douglas, UT Austin, Department of Marine Science	Ph.D. 2022
Victoria Congdon, UT Austin, Department of Marine Science	Ph.D. 2021
Arley Muth, UT Austin, Department of Marine Science	Ph.D. 2020
Micaela Pedrazas, UT Austin, Jackson School of Geosciences	M.S. 2020
Spencer Keyser, UT Austin, Department of Marine Science	M.S. 2019
John O'Connor, UT Austin, Department of Marine Science	M.S. 2019
Meaghan Cuddy, UT Austin, Department of Marine Science	M.S. 2018
Kaijun Lu, UT Austin, Department of Marine Science	Ph.D. 2018
Matt Kaufman, UT Austin, Department of Marine Science	Ph.D. 2018
Allan Jones, UT Austin, Jackson School of Geosciences	Ph.D. 2017
Nick Reyna, UT Austin, Department of Marine Science	M.S. 2016
Shuting Liu, UT Austin, Department of Marine Science	Ph.D. 2016
Carrie Harris, UT Austin, Department of Marine Science	M.S. 2015
John Mohan, UT Austin, Department of Marine Science	Ph.D. 2015
Peter Zamora, UT Austin, Jackson School of Geosciences	Ph.D. 2015
Evan Turner, Texas A&M Corpus Christi	Ph.D. 2014
Aubrey Lashaway, UT Austin, Department of Marine Science	M.S. 2013

Nathan McTigue, UT Austin, Department of Marine Science	Ph.D. 2013
Megan Nims, UT Austin, Department of Marine Science	M.S. 2012
Jena Campbell , UT Austin, Department of Marine Science	Ph.D. 2012
Il-Nam Kim, UT Austin, Department of Marine Science	Ph.D. 2012
Chris Wilson, UT Austin, Department of Marine Science	Ph.D. 2011
Sarah Wallace, UT Austin, Department of Marine Science	M.S. 2011
Jennifer H. Gillespie, UT Austin, Department of Marine Science	Ph.D. 2011
Avier Montalvo, UT Austin, Department of Marine Science	M.S. 2010
Shin Nakayama, UT Austin, Department of Marine Science	Ph.D. 2009
Christa Smith, UT Austin, Department of Marine Science	M.S. 2009
Leah Hurley, UT Austin, Department of Marine Science	M.S. 2008

Undergraduate Research Supervision

Tatum Huegel (Whitman College), NSF-REU intern, Summer 2025
Rafael Beaudoin (University of Chicago), SES student, Fall 2025
Alex Jones (Dickinson College), SES student, Fall 2023
Anna Watson (University of Chicago), SES student, Fall 2023
Allison Savoie (Wright State University), NSF-REU intern, Summer 2017
Spyder Julian (UT Austin), undergraduate research for credit, Spring 2017
Grayson Barker (Appalachian State), NSF-REU intern, Summer 2016
Ana Salamanca (TAMU – Corpus Christi), NSF-REU intern, Summer 2016
Kylie Holt (UT Austin), undergraduate research for credit, Spring 2016
Tricia Light (Scripps College), NSF-REU intern, Summer 2015
Sierra Melton (Colorado College), NSF-REU intern, Summer 2015
Mike Ward (UT Austin), undergraduate research for credit, Summer 2014
John O'Connor (Villanova), NSF-REU intern, Summer 2014
Eric Atwood (UT Austin), undergraduate research for credit, Spring 2014
Jonathan Avila (UT Austin), undergraduate research for credit, Spring 2014
Jessica Smith (Trinity College), NSF-REU intern, Summer 2013
Steven Cao (UT Austin), undergraduate research for credit, Summer 2011
Jessica Casillas (UT Austin), undergraduate research for credit, Summer 2011
Jennifer Klingshirn (UT Austin), undergraduate research for credit, Summer 2011
Steven Cao (UT Austin), NSF-REU intern, Summer 2010
Dylan Brandenberg (Black Hills State University), NSF-REU intern, Summer 2009
Brian Peters (University of Miami), NSF-REU intern, Summer 2009
Katherine Napier (UT Austin), undergraduate research for credit, Summer 2008
Stephanie Bulloch (UT El Paso), NSF-REU intern, Summer 2008
Nicholas Klein (Augustana College), NSF-REU intern, Summer 2008
Chad Wagoner (Western Washington U), NSF-REU intern, Summer 2007
Stephanie Diaz (California State, Fullerton), NSF-REU intern, Summer 2007
Philip Riekenberg (UT Austin), undergraduate thesis project, Summer-Fall 2006
Breton Frazer (MIT), NSF-REU intern, Summer 2006

RECENT PRESENTATIONS (2020 to present)

Presentations to Scientific Community by McClelland

McClelland, J.W., J. Holtzer, J. Xue, Z. Liu, and N. Weston. 2026. Linkages between lability and amino acid content of dissolved organic nitrogen. Plum Island Ecosystems LTER annual meeting, Woods Hole.

McClelland, J.W. 2026. Watershed inputs and coastal ecosystem responses in a rapidly changing Arctic. Woodwell Climate Research Center seminar, Falmouth.

McClelland, J.W. 2026. Watershed inputs and coastal ecosystem responses in a rapidly changing Arctic. Marine Biological Laboratory seminar (faculty meeting), Woods Hole.

McClelland, J.W., E. Elmstrom, J. Holtzer, J. Guimond, A. Spera, J. Hung, and S. Natali. 2025. Saltwater intrusion alters soil porewater biogeochemistry along an Arctic coastline. American Geophysical Union Fall Meeting, Washington DC.

McClelland, J.W., E.M. Bristol, K.H. Dunton, C.G. Griffin, V.L. Lougheed, N.D. McTigue, A.C. Spera, and C.E. Tweedie. 2025. Seasonal and spatial patterns in aquatic carbon along Alaska's Beaufort Sea coast. Alaska Marine Science Symposium, Anchorage.

McClelland, J.W., E.M. Bristol, M.I. Behnke, M.B. Cardenas, M.A. Charette, C. Demir, and R.G.M. Spencer. 2024. Inputs of organic matter to Arctic coastal waters. American Geophysical Union Fall Meeting, Washington D.C.

McClelland, J.W., E.M. Bristol, K.H. Dunton, C.G. Griffin, V.L. Lougheed, N.D. McTigue, A.C. Spera, and C.E. Tweedie. 2024. Seasonal and spatial patterns in aquatic carbon along Alaska's Beaufort Sea coast: Contemporary drivers and anticipated climate change effects. American Geophysical Union Fall Meeting, Washington D.C.

McClelland, J.W., B.W. Abbott, S.E. Tank, and M.A. Walvoord. 2023. Evolving conceptual models of climate change impacts on aquatic biogeochemistry in the Arctic. Association for the Sciences of Limnology and Oceanography Aquatic Sciences Meeting, Palma de Mallorca.

McClelland, J.W., E. Bristol, B. Jones, R. Spencer, and D. Bull. 2021. Leaching and lability of dissolved organic matter from eroding permafrost at Drew Point, Alaska. Beaufort Lagoon Ecosystems LTER annual meeting, virtual.

McClelland, J.W., T.Y. Gurtovaya, R.M. Holmes, L. Scott, F. Moatar, A.I. Shiklomanov, A. Suslova, R.G. Spencer, S. Tank, and A. Zhulidov. 2021. Shifting biogeochemistry in Arctic rivers: Patterns emerging from 17+ years of sampling by the Arctic Great Rivers Observatory. American Geophysical Union Fall Meeting, New Orleans.

McClelland, J.W. 2021. Beaufort Lagoon Ecosystems Long Term Ecological Research. Arctic-COLORS Synthesis Workshop, virtual.

McClelland, J.W. and K.H. Dunton. 2021. Beaufort Lagoon Ecosystems Long Term Ecological Research: Chasing fundamental truths in a rapidly changing environment. 26th Biennial Coastal and Estuarine Research Federation meeting, virtual.

McClelland, J.W. 2020. Land-ocean coupling in the Arctic: Chasing fundamental truths in a rapidly changing environment. Marine Biological Laboratory, Ecosystems Center seminar, virtual.

McClelland, J.W., C. Bonsell, E. Bristol, K. Dunton, A. Hardison, and N. McTigue. 2020. Organic matter dynamics in Arctic lagoons: Linking seasonal and spatial patterns to terrestrial inputs and ocean exchange. Alaska Marine Science Symposium, Anchorage.

Presentations to Sci. Community by Students, Postdocs, & Other Personnel in McClelland Lab

Elmstrom, E., J. Holtzer, J. McClelland, J. Guimond, A. Spera, J. Hung, and S. Natali. 2025. Saltwater intrusion alters soil porewater biogeochemistry along an Arctic coastline. Postdoc Symposium, Marine Biological Laboratory, Woods Hole.

Holtzer, J., J. Xue, Z. Liu, N. Weston, and J. McClelland. 2025. Nitrogen mineralization potential of dissolved organic matter across PIE. Plum Island Ecosystems LTER annual meeting, Woods Hole.

Holtzer, J., J. Xue, Z. Liu, and J. McClelland. 2024. Seasonal and spatial variations in lability of dissolved organic matter across PIE. Plum Island Ecosystems LTER annual meeting, Woods Hole.

Sanders, A., J.W. McClelland, E.M. Bristol, Z. Liu, and J. Xue. 2023. Dissolved amino acids in Arctic coastal groundwater: Indicators of organic matter sources and lability. American Geophysical Union Fall Meeting, San Francisco.

Bristol, E., C. Demir, I. Schaal, M.B. Cardenas, M.A. Charette, and J.W. McClelland. 2022. Dissolved organic matter in an Arctic subterranean estuary. American Geophysical Union Fall Meeting, Chicago.

Bristol, E., A. Sanders, C. Demir, M.A. Charette, M.B. Cardenas, and J.W. McClelland. 2022. Dissolved organic matter and nutrients across an Arctic subterranean estuary. Long Term Ecological Research All Scientists Meeting, Pacific Grove.

Bristol, E., C. Demir, B. Cardenas, and J. McClelland. 2022. Dissolved organic matter in Arctic coastal groundwater. Beaufort Lagoon Ecosystems LTER annual meeting, virtual.

Sanders, A., J. McClelland, and B. Cardenas. 2022. Dissolved nitrogen in coastal groundwater. Beaufort Lagoon Ecosystems LTER annual meeting, virtual.

Bristol, E., B. Jones, D. Bull, and J.W. McClelland. 2021. Geochemical characterization of coastal permafrost: Results from Drew Point, Alaska. Beaufort Lagoon Ecosystems LTER annual meeting, virtual.

Bristol, E.M., C.T. Connolly, T.D. Lorenson, B.M. Richmond, A.G. Ilgen, R.C. Choens, D.L. Bull, M. Kaneviskiy, G. Iwahana, B.M. Jones, R.G.M. Spencer, and J.W. McClelland. 2021. European Geosciences Union General Assembly, virtual.

Bristol, E.M. C.T. Connolly, M.I. Behnke, S. Bosman, R.G. Spencer, J. Chanton, B.M. Jones, D.L. Bull, and J.W. McClelland. 2021. Biodegradability of organic matter eroding along the Alaska Beaufort Sea coast. American Geophysical Union Fall Meeting, New Orleans.

Bristol, E.M., R. Spencer, B.M. Jones, D.L. Bull, and J.W. McClelland. 2021. Leaching and biolability of dissolved organic matter from eroding bluffs along the Alaska Beaufort Sea coast. Alaska Marine Science Symposium, virtual.

Connolly, C.T., J.W. McClelland, M.A. Rawlins, and J. Koch. 2021. Dissolved organic carbon inputs and sources along the Canning River continuum, North Slope of Alaska. 26th Biennial Coastal and Estuarine Research Federation meeting, virtual.

Outreach Presentations

McClelland, J.W. 2025. Arctic futures: New frontiers, opportunities and challenges. Ecosystems Center 50th Anniversary symposium, Marine Biological Laboratory, Woods Hole.

Giblin, A., J. McClelland, S. Natali, R. Rowe, and C. Ward. 2024. Why we should care about the Arctic, Part II: An Arctic Science Panel. Falmouth Forum, Marine Biological Laboratory, Woods Hole.

McClelland, J.W. 2023. Climate change impacts on river chemistry and watershed export in the Arctic. Knights Science Journalism talk, Marine Biological Laboratory, Woods Hole.