

Steven L. Dykstra

Assistant Professor
College of Fisheries and Ocean Science
University of Alaska Fairbanks

stevenldykstra@gmail.com
+1.616.822.6412
Google Scholar: Link

I research ocean-land-atmosphere interactions, focusing on river-marine transitions and the role of human impacts. By differentiating effects of climate change, natural variability, and the built environment, my research advances our scientific understanding of flood risks, global warming impacts, and predicting environmental change. Equally important is my **teaching of environmental stewardship** in academia, for outdoor education, and to diverse groups throughout the world.

EDUCATION

2021 **PhD in Marine Science**, Dauphin Island Sea Lab/University of South Alabama
(dissertation title: The role of river discharge on flooding and tides in the fluvial-marine transition)
2010 **Masters of Environmental Science**, Taylor University
2008 **Bachelors of Science in Geology**, Calvin University

PROFESSIONAL EXPERIENCE:

Academic:

2023 Aug start **Assistant Professor**, Oceanography Dept., University of Alaska Fairbanks
2021-2023 Jul **Postdoctoral Researcher**, Civil & Env. Eng. Dept., University of South Carolina
2022 **Temporary Faculty**, School of Earth, Ocean, Env., University of South Carolina
2021-2022 **Research Consultant**, California Polytechnic State University, San Luis Obispo
2019-2021 **DISL/FDA Research Fellow**, FDA Gulf Coast Seafood Laboratory
2015-2021 **Graduate Research Assistant**, Dauphin Island Sea Lab
2018-2019 **Graduate Teaching Assistant**, Marine Sci. Dep., University of South Alabama
2009 **Graduate Teaching Assistant**, Env. Sci./Chemistry Depts., Taylor University
2008-2009 **Graduate Research Assistant**, Env. Sci. Dept., Taylor University

Non-Academic Consulting and Teaching/Guiding:

2014-2015 **Surveyor**, Roosien & Associates
2014 **Trek Leader**, Expedition Therapy
2012-2013 **Hydrologist**, Global Partners International (Tajikistan)
2011-2012 **College Ministry Instructor/Leader**, Crossroads Bible Church
2010 **Environmental Engineer Intern**, Dynamic Solutions Int. (Vietnam)
2009 **Group Leader**, Intrepid Travel (North America)
2008 **Hydrogeology Intern**, Fishbeck, Thompson, Carr, and Hubert, Inc.
2005-2007 **Naturalist**, Kenai Fjords Tours (Alaska)
2002-2006 **Instructor/Coach**, MVP Athletic Club

SYNERGISTIC ACTIVITIES (recent)

2021-present *PI (Institutional)*, Assessing Sea-Level Rise and Flooding Changes in the Sacramento-San Joaquin Delta using Historical Records, U.S. Bureau of Reclamation & Delta Stewardship Counsel (CA) (first author manuscript in-prep)
2021-present *Contributor*, Geomorphic Versus Climatic Drivers of Changing Coastal Flood Risk, NSF PREEVENTS
2021-present *Contributor (Lead)*, The Impact of Harbor Modification on Coastal Floods: The case of Charleston, SC, USC ASPIRE Grant (2 first author manuscripts in-prep)

Steven L. Dykstra

- 2015-2021 *Member and Contributor*, Consortium for Oil Spill Exposure Pathways in Coastal River Dominated Ecosystems (CONCORDE), Gulf of Mexico Research Initiative
- 2016-2021 *Leader and Organizer*, Dauphin Island Sea Lab Weekly Study Group
- 2019-2020 *Contributor* to Core Investigative Team, NOAA Bottlenose Dolphin Unusual Mortality Event Along the Northern Gulf of Mexico
- 2015-2017 *Organizing Member*, CONCORDE Mentorship Program
- 2015 *Contributor*, Water Quality in Bangs Lake: Effects of Recurrent Phosphate Spills to a Coastal Estuary, Grand Bay National Estuary Research Reserve

PUBLICATIONS: PEER-REVIEWED (10, 1 in-review)

- Dykstra, S. L.**; Riche, G., Yankovsky, S. (**in-review**). Forcing conditions of cross-shelf plumes on a wide continental shelf, Winyah Bay, South Atlantic Bight. *Geophysical Research Letters*.
- Dykstra, S. L.**; Dzwonkowski, B.; Torres, R. (2022). The role of river discharge and geometric structure on diurnal tidal dynamics, Alabama, USA. *Journal of Geophysical Research: Oceans*. <https://doi.org/10.1029/2021JC018007>.
- Gadeken, K. J.; Clemo, W. C.; Ballentine, W.; **Dykstra, S. L.**; Fung, M.; Hagemeyer, A.; Dorgan, K. M.; Dzwonkowski, B. (2021). Transport of biodeposits and benthic footprint around an oyster farm, Damariscotta Estuary, Maine. *PeerJ*, <https://doi.org/10.7717/peerj.11862>.
- Dykstra, S. L.**; Dzwonkowski, B. (2021). The role of intensifying precipitation on coastal river flooding and compound river-storm surge events, northeast Gulf of Mexico. Special section: Floodplains as complex adaptive systems. *Water Resources Research*, <https://doi.org/10.1029/2020WR029363>.
- Axler, K. E.; Sponaugle, S.; Briseño-Avena, C.; Hernandez Jr., F.; Warner, S. J.; Dzwonkowski, B.; **Dykstra, S. L.**; Cowen, R. K. (2020). Variability in fine-scale distributions and predator-prey relations of larval fishes during a high discharge event in the northern Gulf of Mexico. Special issue: Latest advances in research on fish early life stages. *Marine Ecology Progress Series*, 650, <https://doi.org/10.3354/meps13397>.
- Greer, A. T.; Boyette, A. D.; Cruz, V. J.; Cambazoglu, M. K.; Dzwonkowski, B.; Chiaverano, L. M.; **Dykstra, S. L.**; Briseño-Avena, C.; Cowen, R. K.; Wiggert, J. D. (2020). Contrasting fine-scale distributional patterns of zooplankton driven by the formation of a diatom-dominated thin layer. *Limnology and Oceanography*, 22, <https://doi.org/10.1002/lno.11450>.
- Dykstra, S. L.**; Dzwonkowski, B. (2020). The propagation of fluvial flood waves through a backwater-estuarine environment. Special section: Coastal hydrology and oceanography. *Water Resources Research*, 55, <https://doi.org/10.1029/2019WR025743>.
- Dzwonkowski, B.; Fournier, S.; Reager, J. T.; Milroy, S.; Park, K.; Shiller, A. M.; Greer, A. T.; Soto, I.; **Dykstra, S. L.**; Sanial, V. (2018). Tracking sea surface salinity and dissolved oxygen on a river-influenced, seasonally stratified shelf, Mississippi Bight, northern Gulf of Mexico. *Continental Shelf Research*, <https://doi.org/10.1016/j.csr.2018.09.009>.
- Dzwonkowski, B.; Fournier, S.; Park, K.; **Dykstra, S. L.**; Reager, J. T. (2018). Water column stability and the role of velocity shear on a seasonally stratified shelf, Mississippi Bight, northern Gulf of Mexico. *Journal of Geophysical Research: Oceans*, <https://doi.org/10.1029/2017JC013624>.
- Greer, A. T.; Shiller, A. M.; Hofmann, E. E.; Wiggert, J. D.; Warner, S. J.; Parra, S. M.; Pan, C.; Book, J. W.; Joung, D.; **Dykstra, S. L.**; Krause, J. W.; Dzwonkowski, B.; Soto, I. M.; Cambazoglu, M. K.; Deary, A. L.; Briseño-Avena, C.; Boyette, A. D.; Kastler, J. A.; Sanial,

Steven L. Dykstra

V.; Hode, L.; Nwankwo, U.; Chiaverano, L. M.; O'Brien, S. J.; Fitzpatrick, P. J.; Lau, Y. H.; Dinniman, M. S.; Martin, K. M.; Ho, P.; Mojzsis, A. K.; Howden, S. D.; Hernandez, F. J.; Church, I.; Miles, T. N.; Sponaugle, S.; Moum, J. N.; Arnone, R. A.; Cowen, R. K.; Jacobs, G. A.; Schofield, O.; Graham, W. M. (2018). Functioning of coastal river-dominated ecosystems and implications for oil spill response: from observations to mechanisms and models, *Oceanography*, 31, 3, <https://doi.org/10.5670/oceanog.2018.302>.

Dzwonkowski, B.; Greer, A. T.; Briseño-Avena, C.; Krause, J. W.; Soto, I. M.; Hernandez, F. J.; Deary, A. L.; Wiggert, J. D.; Joung, D.; Fitzpatrick, P. J.; O'Brien, S. J.; **Dykstra, S. L.**; Lau, Y.; Cambazoglu, M. K.; Lockridge, G.; Howden, S. D.; Shiller, A. M.; Graham, W. M. (2017). Estuarine influence on biogeochemical properties of the Alabama shelf during the fall season, *Continental Shelf Research*, 140, 96–109, <https://doi.org/10.1016/j.csr.2017.05.001>.

Selected Manuscripts In-Preparation (first author):

Dykstra, S. L.; Viparelli, E.; Torres, R.; Yankovsky, S.; Talke, S. A. (**in-prep**). Storm Surge and Tidal Reflection in Convergent Estuaries with Dams, the case of Charleston, USA. Progress: *full manuscript*, Target: May 2023 to *JGR: Oceans*.

Dykstra, S. L.; Baranes, H. E.; Talke, S. A.; Jay, D. (**in-prep**). Quantifying sea level rise and multi-hazard risks along ocean-river gradients, Sacramento-San Joaquin Delta, USA. Target: August 2023 to *AGU Advances*.

Dykstra, S. L.; Jay, D. (**in-prep**). Role of tidal setup on river routing and delta flooding, Mobile-Tensaw bifurcation, Alabama. Progress: *3/4 written*, Target: September 2023 to *JGR: Oceans*.

AWARDS/FUNDING (funding secured: \$653,955)

2022 Assessing Sea-Level Rise and Flooding Changes in the Sacramento-San Joaquin Delta using Historical Records (\$529,805; Dykstra subcontract: \$50,000)- U.S. Bureau of Reclamation & California Delta Stewardship Counsel

2020, 2019 DISL/FDA Fellowship (\$27,000 x2)- Food and Drug Administration

2020 Virtual Student Travel Grant (\$1,000)- American Geophysical Union

2020, 2020 GSA Cares (\$200 x2)- Geological Society of America

2015-2019 Travel Grant (\$150 x5)- Marine Science Student Organization

2018, 2016 Dep. of Marine Science Travel Grant (\$1,500 x2)- Univ. of S. Alabama

2017 Best Presentation- Young Coastal Scientist and Engineers Conference

2017 GoMRI Scholar- Gulf of Mexico Research Initiative

2012-2013 Private donations and small grants (\$30,000)- for Global Partners projects

2010 Honorary Abstract Photographer- Geological Society of America

2008-2009 Research and Outreach Grant (\$15,000)- Indiana Space Grant Consortium

2008, 2009 Leland Boren Grant (\$10,000 x2)- Taylor University

Submitted but NOT funded:

2019 Postdoctoral Scholar Program, Woods Hole Oceanographic Institution, “Dynamic equilibrium of coastal morphology from tidal induced hydraulic jumps”, (\$93,375, Not Funded)

2019 Research Fellowship Program, Alabama Space Grant Consortium, “Connecting terrestrial watershed characteristics with their oceanic impact (COTCO)”, (\$30,409, Not Funded)

2017 Graduate Student Research Grant, Geological Society of America, “Sediment Exchange by Tide and Discharge” (\$2,500, Not Funded)

Steven L. Dykstra

- 2016 Graduate Student Research Grant, Geological Society of America, “Morphology driven transport at river mouths, tidal inlets, and their subsequent estuarine plumes” (\$2,500, Not Funded)
- 2015 Graduate Research Fellowship Program, National Science Foundation, “Hydrodynamics of Coastal Inlets and their subsequent estuarine plumes”, (\$114,000, Not Funded)

OUTREACH/SERVICE

- 2020-2021 Town of Dauphin Island Sensitive Wetland Management Plan
- 2015-2021 DISL events: Discovery Day, Boardwalk Talks, Coastal Cleanup
- 2013 International Student/Development Mentoring Program (Horizons International)
- 2012-2013 Zeravshan Valley Irrigation Development (Global Partners Tajikistan)
- 2002-2012 Student Ministry Leader & Mentor (Blytheville Hills/Crossroads Bible Church)
- 2010 Hanoi Municipal Arsenic Project (Dynamic Solutions Intl.- Vietnam)
- 2008-2009 Hoosier River Watch (Taylor University, Indiana DEM)
- 2006 Ngorongoro Conservation Area WASH (Hilfe für die Massai- Tanzania)
- Ongoing Reviewer: Water Resources Research (2023, 2022, 2021x2), Estuaries and Coasts (2021, 2020x3), AGU Advances (2022), Estuarine Coastal and Shelf Science (2023x2), Climatic Change (2022), I. J. Env. Res. and Public Health (2023), Env. Processes (2021), Continental Shelf Res. (2017x2)

COURSES INSTRUCTED (9 university sessions, 15 outdoor courses, 11 invited lectures)

University Courses Taught:

- 2022 Coastal Processes (UofSC: MSCI/GEOL 215) 1 session: Instructor of Record
- 2018-2019 Ocean Science Lab (USA: MAS 134L) 4 sessions: Teaching Assistant
- 2009 Geomorphology (TU: ENS 361) 1 session: Teaching Assistant
- 2009 General Chemistry I Lab (TU: CHE 201) 3 sessions: Teaching Assistant

Outdoor Education Courses Taught:

- 2013 Slot canyon geology (canyoneering; Expedition Therapy): 1 week
- 2013 Ponderosa Pine Forest Ecology (backpacking; Expedition Therapy): 1 week
- 2013 Wilderness First Aid (camping; Expedition Therapy): 1 week
- 2013 Wilderness Survival Skills (backpacking; Expedition Therapy): 1 week
- 2013 Novice Aviation and RC Development (various; Expedition Therapy): 1 week
- 2012 Spiritual Renewal on Coastal Lake MI (backpacking; CBC): 3 days
- 2011 Spiritual Renewal on Manitou Island (backpacking; CBC): 1 week
- 2011 Spiritual Renewal in Northern Hardwoods (various; CBC): 3 days
- 2009 Natural History of SW&SE US National Parks (various; Intrepid Travel): 3 weeks
- 2009 Geology of the Southwestern United States (various; Intrepid Travel): 3 weeks
- 2009 Coastal Process of California (various; Intrepid Travel): 1 week x2
- 2005/2007 Alaskan Coastal Processes (hike; Kenai Fjords Tours): 2 hours x100
- 2005/2007 Fox Island Natural History, AK (Kenai Fjords Tours): 1 hour x100
- 2005/2007 Plankton Community of Resurrection Bay, AK (Kenai Fjords Tours): 2 hours x10
- 2005/2007 Coastal Wildlife of Alaska (kayak; Kenai Fjords Tours/SCSC): 4 hours x10

University Invited Guest Lecturer:

- 2023, 2022 The Columbia River as a System (PSU: CE 581)
- 2022 Sediment Transport and River Mechanics (UofSC: ECIV 767)
- 2020 Physical Oceanography (USA: MAS 601)

Steven L. Dykstra

2019	Ocean Science (USA: MAS 134)
2019, 2017	Marine Sciences II (USA: MAS 332)
2018	Coastal Morphology & Processes (UWF: GEO 5225)
2017	Marine Sciences I (USA: MAS 331)
2009	Hydrogeology (TU: ENS 362)
2009	Geomorphology (TU: ENS 361)

MENTORING ACTIVITIES

Academic Mentoring:

2023-present	<i>Graduate Research Assistant, Nicole Webster (UAF): Committee Member</i>
2023-present	<i>Graduate Research Assistant, Isabella Moore (UofSC): Committee Member</i>
2022-present	<i>Graduate Research Assistant, Mahsa Ahmadpoor (UofSC)</i>
2022-present	<i>Graduate Research Assistant, William Logan (UofSC)</i>
2022-present	<i>Graduate Research Assistant, Reyna Sanchez Gomez (Cal Poly)</i>
2021-present	<i>Graduate Research Assistant, Lindsay Mullins (Mississippi State)</i>
2021-2022	<i>Graduate Research Assistant, Matt Lobo (Princeton/Portland State)</i>
2021-2022	<i>Undergrad/Graduate Estuary Fieldwork Techs, four students (UofSC)</i>
2021-2022	<i>Undergraduate Research Assistant, Olivia Szot (UofSC)</i>
2021-2022	<i>Graduate Research Assistant, Nick McGuire (Cal Poly)</i>
2016-2017	<i>Graduate Coastal Fieldwork Techs, numerous (USA, USM, UA, AU)</i>
2008-2009	<i>Graduate Student Outdoor Educators, 6 students (Taylor U.)</i>

Non-Academic Mentoring:

2002-2021	Student Ministry, ~100 students (middle school through college)
2014	Wilderness Therapy, 8 students (Expedition Therapy)

Mentoring Programs Created:

2013	International Student Mentoring, part of Internship Program (Horizons Int.)
2011-2012	Christian Discipleship, Mentor-Mentee Trainings (Crossroads Bible Church)

SELECTED TRAININGS and CERTIFICATES (19)

2023	Arctic Chief Scientist Training Cruise (UNOLS:AICC & NSF:OPP)
2022	Sediment Transport and River Mechanics (UofSC: G. Parker/E. Viparelli)
2020	Grant Writing Workshop: NASA ROSES (NASA, AGU)
2020	Introduction to the Community WRF-Hydro Modeling System (NCAR, AGU)
2020	Python for Remote Sensing: Analysis, Visualization, and Workflow (AGU)
2020	Surface Processes: How to Build Coupled Models (CSDMS, GSA)
2020	NASA Data Made Easy: Getting Started with SAR (NASA, GSA)
2016	Summer School on Estuarine Physics (Univ. of Bordeaux: A. Valle-Levinson)
2016	Motorboat Operator Certification Course (Scientific Boating Safety Association)
2015	Environmental Fluids Dynamics Code Explorer Training (Dynamic Sol. Intl.)
2015	CPR and First Aid Instructor (ProTrainings)
2013	Wilderness First Responder (Wilderness Medicine Institute)
2012	Engaging Middle Eastern People Cultural Training (Horizons International)
2012	Advanced Personal Protection & Captivity Survival Course (Ft. Sherman)
2012	Pre Field Training (Pioneers International)
2011	Cultural Intelligence (Life International)
2010	Fundraiser Training (Pioneers International)
2009	Commercial Drivers License (Class B)

Steven L. Dykstra

2017

Gulf of Mexico Research Initiative: Global Applications for Local Circulation

<https://gulfresearchinitiative.org/grad-student-dykstra-sees-global-applications-local-ocean-circulation-maps/>

PUBLICATIONS: DATA and TOOLS (18 Data Publications, 1 Tool)

- Dykstra, S. L.**, R. Torres, E. Viparelli, S. A. Talke, A. E. Yankovsky (2022). Historical Water Level Data of the Greater Charleston Region (1975-1992), Previously Unpublished by NOAA, HydroShare, <http://www.hydroshare.org/resource/6426732916294b03950d5cc9ca15b252>
- Dykstra, S. L.**, R. Torres, E. Viparelli, S. Talke, A. E. Yankovsky (2022). Water Level and Temperature Data of the Greater Charleston Region (Ashley, Cooper, and Wando Rivers), Field Collected 2021 May-November, HydroShare, <http://www.hydroshare.org/resource/87a32300574b4489b1716d5ed058c085>
- Szot, O.; **Dykstra, S. L.** (2022). Longitudinal DEM Tool for the Extraction of River and Estuary Cross Sections. Published by GitHub, inc. https://github.com/onszot/longitudinal_DEM
- Dykstra, S. L.**; Dzwonkowski, B. (2020). The Thalweg and Sub-Tidal Flow of a Backwater-Estuarine Environment, Alabama; Gulf of Mexico Research Initiative Information & Data Cooperative Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/6tdw4xsv>
- Dykstra, S. L.**; Dzwonkowski, B.; O'Brien, S. (2018). Hydrographic CTD data of Main Pass and the Mobile Bay Plume (Spring 2017); Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N74X5644>
- Dykstra, S. L.**; Dzwonkowski, B.; O'Brien, S. (2018). Drifter Releases in the Ebb Tidal Plume of Main Pass, Mobile Bay, AL (Fall 2016); Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7FF3QQ5>
- Dykstra, S. L.**; Dzwonkowski, B.; Lockridge, G.; O'Brien, S. (2018). Drifter Releases in the Ebb Tidal Plume of Main Pass, Mobile Bay, AL, 2015-2016; Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7TX3CFP>
- Dzwonkowski, B.; **Dykstra, S. L.**; Lockridge, G. (2018). CTD data at Main Pass, Mobile Bay, April 19, 2016 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N75X279Z>
- Dzwonkowski, B.; Lockridge, G.; **Dykstra, S. L.** (2018). CTD data on Alabama shelf, April 2016 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7SQ8XS9>
- Dzwonkowski, B.; Lockridge, G.; **Dykstra, S. L.** (2018). CTD data at Main Pass, Mobile Bay, April 2016 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7NZ862C>
- Dzwonkowski, B.; **Dykstra, S. L.**; O'Brien, S.; Lockridge, G. (2018). CTD profiles collected during Fall survey (Sep 20 - Oct 29 2015) Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7ZP446V>
- Dzwonkowski, B.; Lockridge, G.; **Dykstra, S. L.** (2018). CTD profile data, Mobile Bay main pass, April 9, 2016 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7154FF5>
- Dzwonkowski, B.; Lockridge, G.; **Dykstra, S. L.** (2018). CTD profiles collected during Spring survey, April 5 2016 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N79C6VTC>

Steven L. Dykstra

- Dzwonkowski, B.; Lockridge, G.; **Dykstra, S. L.** (2018). Drifter data at Main Pass, Mobile Bay Release 1 (2015/09/04) Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7ZW1HW9>
- Dzwonkowski, B.; **Dykstra, S. L.**; O'Brien, S.; Lockridge, G. (2018). CTD profiles, Main Pass, Mobile Bay, Alabama, April 3, 2016 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7D50KCT>
- Wiggert, J. D.; O'Brien, S. J.; **Dykstra, S. L.**; Dzwonkowski, B.; Wallace, D. J.; Lockridge, G. (2018). Total Suspended Solids in situ data, northern Gulf of Mexico, Mobile Bay river plume, March-April 2016 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N74Q7S2Z>
- Wiggert, J. D.; O'Brien, S. J.; **Dykstra, S. L.**; Dzwonkowski, B.; Wallace, D. J.; Lockridge, G. (2018). LISST-100X (type B) grain size distribution, northern Gulf of Mexico, Mobile Bay river plume, October 2015 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7J1016T>
- Wiggert, J. D.; O'Brien, S. J.; **Dykstra, S. L.**; Dzwonkowski, B.; Wallace, D. J.; Lockridge, G. (2018). LISST-100X (type B) grain size distribution, sediment distribution, Mobile Bay river plume, March-April 2016 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N7D798F3>
- Wiggert, J. D.; O'Brien, S. J.; **Dykstra, S. L.**; Dzwonkowski, B.; Wallace, D. J.; Lockridge, G. (2018). Total Suspended Solids in situ data, northern Gulf of Mexico, Mobile Bay river plume, October 2015 Consortium for Oil Spill Exposure Pathways in Coastal River-Dominated Ecosystems (CONCORDE). <https://doi.org/10.7266/N78G8HRT>

RESEARCH PRESENTATIONS: PRESENTOR (29, 7 invited)

- Dykstra, S. L.**, Viparelli, E.; Szot, O.; Talke, S. A.; Yankovsky, A. E.; Torres, R. (2022, Dec). Water Level Trend Variability from Tidal Oscillations, Charleston Harbor, USA. American Geophysical Union Fall Conference. Poster presentation in Chicago, IL.
- Dykstra, S. L.** (2022, Oct). Differentiating climate change, natural variability, and direct human impacts in coastal environments. College of Fisheries and Ocean Science Seminar, University of Alaska Fairbanks. **Invited** oral presentation in Fairbanks, AK.
- Dykstra, S. L.**, Baranes, H.; Talke, S. A.; Jay, D. (2022, Oct). The many factors influencing sea level trends and variability in deltas. Physics of Estuaries and Coasts Conference. Oral presentation in Perth, Australia.
- Dykstra, S. L.** (2022, Mar). River, tide, and storm surge interactions in natural and engineered channels, the Tombigbee-Alabama Delta and Charleston Harbor System. School of Earth, Ocean, and Environment Seminar, University of South Carolina. **Invited** oral presentation in Columbia, SC.
- Dykstra, S. L.** (2022, Feb). Longitudinal shifts of tide-river dynamics. Delta Seminar at the University of Texas at Austin. **Invited** oral presentation.
- Dykstra, S. L.**, Dzwonkowski, B. (2021, Dec). The role of intensifying precipitation on coastal river flooding and compound river-storm surge events, northeast Gulf of Mexico. American Geophysical Union Fall Conference. **Invited** oral presentation in New Orleans, LA.
- Dykstra, S. L.**, Torres, R.; Yankovsky, A. E.; Szot, O., Viparelli, E. (2021, Dec). The role of dams on tides and storm surge, Charleston Harbor. American Geophysical Union Fall Conference. Poster presentation in New Orleans, LA.

Steven L. Dykstra

- Dykstra, S. L. (2021, Mar).** The role of river discharge on flooding and tides in the fluvial-marine transition. University of South Alabama PhD Defense. Oral presentation. [youtube.com/watch?v=jegetUWPtSA](https://www.youtube.com/watch?v=jegetUWPtSA)
- Dykstra, S. L., Dzwonkowski, B. (2020, Dec).** Linking global precipitation intensification to coastal river and compound flooding. American Geophysical Union Fall Conference. Oral presentation.
- Dykstra, S. L. (2020, Nov).** River flow in coastal environments. Woods Hole Oceanographic Institution Applied Ocean Physics & Engineering Seminar. **Invited** oral presentation.
- Dykstra, S. L. (2020, Nov).** Determining the timing and magnitude of river discharge events for shellfish closures. Dauphin Island Sea Lab Seminar. Oral presentation.
- Dykstra, S. L., Dzwonkowski, B. (2020, Sep).** River flood wave dynamics in a deltaic-estuarine environment. September EuroCoast Meeting. **Invited** oral presentation hosted online by Utrecht University, Netherlands.
- Dykstra, S. L., Dzwonkowski, B. (2019, Dec).** The increasing frequency of coastal flooding, northeast Gulf of Mexico Watersheds. American Geophysical Union Fall Conference. Poster presentation in San Francisco, CA.
- Dykstra, S. L., Dzwonkowski, B. (2019, Nov).** Predictable to flashy: drainage efficiency in northeast Gulf of Mexico Watersheds. Coastal & Estuarine Research Federation Conference. Oral presentation in Mobile, AL.
- Dykstra, S. L. (2019, Oct).** A “fresh” approach for aquaculture closures. Dauphin Island Sea Lab Seminar. Oral presentation in Dauphin Island, AL.
- Dykstra, S. L., Dzwonkowski, B., Parra, S. M., Warner, S., Book, J. W., Moum, J., Greer, A. T., Briseño-Avena, C. (2019, Feb).** Shelf convergence and transport near an ebb tidal delta in the Mississippi Bight, northern Gulf of Mexico. Gulf of Mexico Oil Spill & Ecosystems Science Conference. Poster presented in New Orleans, LA.
- Dykstra, S. L., Dzwonkowski, B. (2018, Oct).** Impacts of an inland basin on an estuarine system in Coastal Alabama. Physics of Estuaries and Coastal Seas Meeting. Poster presented in Galveston, TX.
- Dykstra, S. L., Dzwonkowski, B. (2018, Sep).** The role of a fluvial flood wave in the coastal region of Alabama. Alabama Water Resources Conference. Poster presented in Orange Beach, AL.
- Dykstra, S. L., Dzwonkowski, B. (2018, Mar).** A Shifting Tidal Flood Limit in the Coastal Environment. University of South Alabama Annual Graduate Research Forum. Poster presented in Mobile, AL.
- Dykstra, S. L., Dzwonkowski, B. (2018, Mar).** Freshwater Discharge in Coastal Alabama. Gulf of Mexico Graduate Student Symposium. Talk presented in Dauphin Island, AL.
- Dykstra, S. L., Dzwonkowski, B. (2018, Feb).** The Role of Freshwater Discharge on Coastal Transport. Gulf of Mexico Oil Spill & Ecosystems Science Conference. Poster presented in New Orleans, LA.
- Dykstra, S. L., Dzwonkowski, B. (2017, Dec).** Spatial Shifts in Tidal-Fluvial Environments. American Geophysical Union Conference. Poster presented in New Orleans, LA.
- Dykstra, S. L., Dzwonkowski, B., O’Brien, S. J., Lockridge, G. (2017, Feb).** Seasonal Variability in Ebb Tidal Plumes. Gulf of Mexico Oil Spill & Ecosystems Science Conference. Talk presented in New Orleans, LA.
- Dykstra, S. L., Dzwonkowski, B., Lockridge, G., O’Brien, S. J., Wiggert, J. (2016, Mar).** Drifter Observations of an Ebb Tidal Plume Dispersion and Circulation in a Critical Estuary-Shelf

Steven L. Dykstra

Environment, Main Pass, Mobile, AL. Graduate Research Forum at the University of South Alabama. Poster presented in Mobile, AL.

Dykstra, S. L., Dzwonkowski, B., Lockridge, G., O'Brien, S. J., Wiggert, J. (2016, Mar).

Lagrangian Observations of a Tidal Plume through an Ebb Tidal Delta. Gulf of Mexico Graduate Student Symposium. Talk and poster presented at the Gulf Coast Research Lab (USM) in Ocean Springs, MS.

Dykstra, S. L., Dzwonkowski, B., Lockridge, G., O'Brien, S. J., Wiggert, J. (2016, Feb).

Lagrangian Observations of an Ebb Tidal Plume under Low Discharge Conditions, Main Pass, Mobile Bay, AL. Ocean Sciences Conference (AGU, ASLO, TOS). Talk presented in New Orleans, LA.

Dykstra, S. L., Dzwonkowski, B., Lockridge, G., O'Brien, S. J., Wiggert, J. (2016, Feb).

Drifter Observations of an Ebb Tidal Plume Dispersion and Circulation in a Critical Estuary-Shelf Environment, Main Pass, Mobile, AL. Gulf of Mexico Oil Spill & Ecosystems Science Conference. Poster presented in Tampa, FL.

Dykstra, S. L., Dzwonkowski, B., Lockridge, G. (2015, Nov). Hydrodynamic Transport in a Shallow, Micro-Tidal Salt Marsh System, Bangs Lake, MS. Geological Society of America Annual Conference. Poster presented in Baltimore, MD.

Dykstra, S. L. (2010, Aug). Hydrological Internship in Southeast Asia. **Invited** talk and poster presented at Randall Environmental Science Center, Taylor University, Upland, IN.

RESEARCH PRESENTATIONS: COLLABORATOR (25, +1 scheduled)

Jay, D., M. Lobo, P. Matte, **S. L. Dykstra**, S. Innocenti, S. A. Talke (2023, Oct). Varieties of non-stationary tides in tidal rivers. 5th World's Largest Rivers Conference. Presentation in Vienna, Austria.

Yankovsky, A. E., **S. L. Dykstra**, G. Ricche (2023, Apr). Forcing of cross-shelf plumes on a wide continental shelf. European Geophysical Union Conference. Presentation in Vienna, Austria.

Viparelli, E., W. Logan, M. Ahmadpoor, R. Torres, **S. L. Dykstra** (2023, Apr). Gravel-sand transition in the mixed bedrock-alluvial Congaree River, SC. Preliminary results on gravel mobility. European Geophysical Union Conference. Presentation in Vienna, Austria.

Talke, S. A., N. McGuire, **S. L. Dykstra**, H. Baranes, S. Lee (2023, Apr). Is flood risk in the Sacramento-San Joaquin Delta increasing?. California State University-Water Conference. Presentation in Monterey, CA.

Hardy, D., **Dykstra, S. L.**, (2023, Jan). Storm-tide ditch flooding effects on the Gullah/Geechee of Sapelo Island. Georgia Coastal Ecosystems LTER Annual Meeting.

Czapiga, M. J., **Dykstra, S. L.**, Parker, G., Viparelli, E. (2022, Dec). Basin Controls on the Channel Morphodynamics of Juvenile River Deltas. American Geophysical Union Fall Conference. Poster presentation in Chicago, IL.

Deming, A. C.; D. Moore, D., T. Morgan, M. Russell, G. Vasquez, L. Albrittain, B. Baldrice, B. Mase, E. Fougères, K. Colegrove, A. Costidis, B. Dzwonkowski, **S. L. Dykstra**, T. Rowles, L. Garrison, J. Litz, D. Fauquier (2021, Aug). Exposure to low salinity waters identified as cause of the 2019 Northern Gulf of Mexico Bottleneck Dolphin Unusual Mortality Event. Wildlife Disease Association Conference. Oral presentation.

Dzwonkowski, B.; Coogan, J.; Lehter, J.; Lockridge, G.; Hagemeyer, A.; **Dykstra, S. L.** (2020, Dec). Assessing potential environmental impacts of the unprecedented 2019 opening of the Bonnet Carré Spillway on Mississippi Bight. Bays and Bayous Symposium. Oral presentation.

Steven L. Dykstra

- Coogan, J., Dzwonkowski, B., Lehrter, J., Du, J., **Dykstra, S. L.** (2020, Feb). Hydrographic variability in Mobile Bay associated with coastal upwelling and downwelling. Ocean Sciences Conference. Poster presentation in San Diego, CA.
- Elliott, E. A., Rodriguez, A. B., McKee, B. A., **Dykstra, S. L.** (2019, Nov). Stirring things up: estuarine sediment dynamics during non-equilibrium conditions. Coastal & Estuarine Research Federation Conference. Oral presentation in Mobile, AL.
- Dzwonkowski, B., Coogan, J., Lehrter, J., Wilson, J., Lockridge, G., **Dykstra, S. L.**, Hagemeyer, A., Robertson, A., Miller, M., Krause, J., DeBois, J., Pickering, R. (2019, Oct). Bonnet Carre Spillway 2019 event: Environmental Impacts in Mississippi Bight? Gulf States Fisheries Commission: 70th Annual Meeting. Oral presentation in Biloxi, MS.
- O'Brien, S. J., **Dykstra, S. L.**, Parra, S. M., Dzwonkowski, B., Book, J. W., Pan, C., Dinniman M. S., Fitzpatrick, P. J., Lau, Y. H., Cambazoglu, K., Hofmann, E., Wiggert, J. W. (2019, Mar). Increased Suspended Sediment Concentration in Mississippi Bight in Spring 2016 evaluated using Acoustic Doppler Current Profiler Data and a Synthesis Numerical Model. US Hydro 2019 Conference. Oral presentation in Biloxi, MS.
- Dzwonkowski B., Coogan, J., Fournier, S., Park, K., Milroy, S., Shiller, A., Greer, A., **Dykstra, S. L.**, Soto, I., Sanial, V., Leheter, J., Reager, J. T. (2019, Feb). Shelf bottom dissolved oxygen conditions and their impacts on adjacent estuarine systems in a region of fresh water influence, Mississippi Bight. Gulf of Mexico Oil Spill and Ecosystem Science Conference. Poster presentation in New Orleans, LA.
- Book, J. W., Parra, S. M., **Dykstra, S. L.**, Dzwonkowski, B., Howden, S. D., Warner, S. J., Moum, J. N., Pan, C., Cambazoglu, M. K., Fitzpatrick, P. J. (2019, Feb). A case study of inertial oscillations and dynamics offshore of Mobile Bay. Gulf of Mexico Oil Spill and Ecosystem Science Conference. Oral presentation in New Orleans, LA.
- Parra, S. M., Book, J. W., Moum, J. N., Warner, S. J., Dzwonkowski, B., **Dykstra, S. L.**, Soto, I. M., Howden, S. (2019, Feb). Wind-driven mixing of the Mobile Bay plume in the northern Gulf of Mexico shelf. Gulf of Mexico Oil Spill and Ecosystem Science Conference. Poster presented in New Orleans, LA.
- O'Brien, S. J., **Dykstra, S. L.**, Parra, S. M., Dzwonkowski, B., Book, J. W., Pan, C., Dinniman, M. S., Fitzpatrick, P. J., Lau, Y. H., Cambazoglu, K., Hofmann, E., Wiggert, J. D. (2019, Feb). Suspended sediment transport in Mississippi Bight during two cold front events in Spring 2016. Gulf of Mexico Oil Spill and Ecosystem Science Conference. Poster presented in New Orleans, LA.
- Greer, A. T.; Boyette, A. D.; Cambazoglu, K.; Cruz, V. J.; **Dykstra, S. L.**; Dzwonkowski, B.; Pan, C.; Chiaverano, L. M.; Briseño-Avena, C.; Cowen, R. K.; Wiggert, J. D. (2019, Feb). Plankton thin layer mechanism of formation and cascading ecological impacts in the northern Gulf of Mexico. Gulf of Mexico Oil Spill and Ecosystem Science Conference. Poster presented in New Orleans, LA.
- Dzwonkowski, B., Coogan, J., Fournier, S., Park, K., Milroy, S., Shiller, A., Greer, A., **Dykstra, S. L.**, Soto, I., Sanial, V., Leheter, J., Reager, J.T. (2019, Jan). Tracking sea surface salinity and oxygen in the Mississippi Bight: Shelf to Estuary Connectivity. GoMRI Synthesis Conference. Oral presented in St. Petersburg, FL.
- Wiggert, J., Pan, C., Dinniman, M., Lau, Y., Fitzpatrick, P., O'Brien, S. J., Bouchard, C., Quas, L., Miles, T., Cambazoglu, M. K., **Dykstra, S. L.**, Dzwonkowski, B., Jacobs, G., Church, I., Hofmann, E. (2018, Feb). Controls on Planktonic Dynamics in the Mississippi Bight by

Steven L. Dykstra

- Estuarine-Shelf Exchange Processes. Ocean Science Conference. Oral presented in Portland, OR.
- Pan, C., Dinniman, D., Fitzpatrick, P., Lau, Y. H., Cambazoglu, M. K., Parra, S. M., Hofmann, E., Dzwonkowski, B., Warner, S., O'Brien, S. J., **Dykstra, S. L.**, Wiggert, J. (2018, Feb). Simulating the Dynamics and Water Properties of Mississippi Sound and Bight Using the CONCORDE Synthesis Model. Gulf of Mexico Oil Spill & Ecosystems Science Conference. Oral presented in New Orleans, LA.
- Book, J., Parra, S. M., Dzwonkowski, B., **Dykstra, S. L.**, Warner, S., Moum, J. N., Howden, S. D. (2018, Feb). Temporal Varying Spatial Patterns in Mobile Bay Outflow. Gulf of Mexico Oil Spill & Ecosystems Science Conference. Poster presented in New Orleans, LA.
- Wiggert J., Pan C., Dinniman M., Lau Y., Fitzpatrick P., O'Brien S. J., Bouchard C., Quas L., Miles T., Cambazoglu M. K., **Dykstra S.L.**, Dzwonkowski B., Jacobs G., Church I., Hofmann E. (2017, Dec). Impacts of Suspended Sediment and Estuarine – Shelf Exchange Pathways on Shelf Ecosystem Dynamics in the Northern Gulf of Mexico. American Geophysical Union Conference. Poster presented in New Orleans, LA.
- Pan C., Dinniman, M., Fitzpatrick, P., Lau, Y. H., Cambazoglu, M. K., Parra, S. M., Hofmann, E., Dzwonkowski, B., Warner, S., O'Brien, S. J., **Dykstra, S. L.**, Wiggert, J. (2017, Dec). Exploring the Circulation Dynamics of Mississippi Sound and Bight Using the CONCORDE Synthesis Model. American Geophysical Union Conference. Talk presented in New Orleans, LA.
- O'Brien, S. J., **Dykstra, S. L.**, Quas, L., Dzwonkowski, B., Howden, S., Wallace, D. J., Church, I., Schofield, O., Miles, T., Wiggert, J. D. (2017, Feb). Characterizing Spatial and Temporal Changes of the Suspended Particulate Matter in the Mississippi Sound and Mississippi Bight. Gulf of Mexico Oil Spill & Ecosystems Science Conference. Talk presented in New Orleans, LA.
- O'Brien, S. J., Fitzpatrick, P., Dzwonkowski, B., **Dykstra, S. L.**, Wallace, D. J., Church, I., Wiggert, J. (2016, Feb). Multivariate analysis of the influences of oceanic and meteorological processes on suspended particulate matter distributions in Mississippi coastal waters. Ocean Sciences Conference (AGU, ASLO, TOS). Poster presented in New Orleans, LA.
- Guebert, M. D., **Dykstra, S. L.** (2009, Apr). Collaborative Outreach and Civic Engagement through Stream Monitoring and Geospatial Watershed Assessment. Geological Society of America North-Central Section Meeting. Presentation conducted from Northern Illinois University, Rockford, IL.
- Guebert, M. D., **Dykstra, S. L.** (2009, Oct). Local Land and Water: Collaborative Stream Monitoring and Geospatial Watershed Assessment. Geological Society of America Annual Meeting. Presentation conducted from Oregon Convention Center, Portland, OR.

ACKNOWLEDGEMENT in PEER-REVIEW PUBLICATION (6)

- Yankovsky, A. E., Fribance, D. B., Cahl, D., & Voulgaris, G. (2022). Offshore Spreading of a Supercritical Plume Under Upwelling Wind Forcing: A Case Study of the Winyah Bay Outflow. *Frontiers in Marine Science*, 8. <https://doi.org/10.3389/fmars.2021.785967>
- Coogan, J., B. Dzwonkowski, K. Park, and B. Webb (2020), Observations of Restratification after a Wind Mixing Event in a Shallow Highly Stratified Estuary, *Estuaries and Coasts*, 43(2), 272–285, doi:10.1007/s12237-019-00689-w.
- Dinápoli, M. G., C. G. Simionato, and D. Moreira (2020), Nonlinear Interaction Between the Tide and the Storm Surge with the Current due to the River Flow in the R'io de la Plata, *Estuaries and Coasts*, 1–21, doi:10.1007/s12237-020-00844-8.

Steven L. Dykstra

- Many, G., Bourrin, F., Durrieu de Madron, X., Ody, A., Doxaran, D., Cauchy, P. (2018), Glider and satellite monitoring of the variability of the suspended particle distribution and size in the Rhône ROFI, *Progress in Oceanography*, 163, 123–135, doi:10.1016/j.pocean.2017.05.006.
- Montiel, D., Lamore, A., Stewart, J., Dimova, N. T. (2018), Is Submarine Groundwater Discharge (SGD) Important for the Historical Fish Kills and Harmful Algal Bloom Events of Mobile Bay? *Estuaries and Coasts*, 42(2), 470–493, doi:10.1007/s12237-018-0485-5.
- Lockridge, G., Dzwonkowski, B., Nelson, R., Powers, P. (2016), Development of a Low-Cost Arduino-Based Sonde for Coastal Applications, *Sensors* 2013, Vol. 13, Pages 7872-7883, 16(4), 528, doi:10.3390/s16040528.