Jessica Chassereau Sullivan

Associate Professor of Geology
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As an Associate Professor at UofSC Aiken, I am committed to excellence in teaching, research, and service. My scholarly pursuits are focused on understanding the process-form relationships in intertidal and fresh water wetland ecosystems. I combine field observation, GIS and numerical modeling to advance our knowledge of the coastal zone response to sea level rise and anthropogenic change.

EDUCATION:

University of South Carolina	Marine Science	B.S.	2005
University of South Carolina	Geological Sciences	Ph.D.	2015

APPOINTMENTS:

Associate Professor, UofSC Aiken, Aiken SC, 2022-present
Assistant Professor, UofSC Aiken, Aiken SC, 2016-2022
Scientist IV, South Florida Water Management District, West Palm Beach FL, 2015-2016
Graduate Research Assistant, UofSC – Columbia SC, 2009-2015
GIS Analyst, City of Columbia, Columbia SC, 2007-2009
GIS Technician, City of Charleston, Charleston SC, 2006-2007
Climatology Intern, South East Regional Climate Center, Columbia SC, 2005-2006
Undergraduate Research Assistant, Univ. South Carolina, Columbia SC, 2003-2005

TEACHING EXPERIENCE:

University of South Carolina Aiken
Associate Professor: Geology 363, GIS in the Sciences
Associate Professor: Geology 103, Environmental Earth Science
Associate Professor: Geology 401, Environmental Geomorphology
Associate Professor: Geology 490, Senior Seminar
Associate Professor: Geology 303, Meteorology
Associate Professor: Geology 398, The Anthropocene

University of South Carolina
Teaching Assistant: Geology 315, Surface and Near Surface Processes
Laboratory Coordinator: Geology 103, Environmental Geology
Laboratory Instructor: Geology 502, Principles of Coastal Geomorphology
Laboratory Instructor: Geology 103, Environmental Geology

PEER-REVIEWED PUBLICATIONS:

1. Van der Steeg, S., Torres, R., Viparelli, E., Xu, H., Elias, E. and **Sullivan, J**. (*2022*), Floodplain surface-water circulation dynamics: Congaree River, South Carolina, *Water Resources Research*.
2. Van der Steeg, S., Xu, H., Torres, R., Elias, E., **Sullivan, J**., Viparelli, E., Shelley, D., and Lakshmi, V., (*2021*), A Novel Approach for Quantifying Floodplain Water Surface Gradients: Congaree River, South Carolina, USA, *Geophysical Research Letters*.
3. **Sullivan, J.C**., J. Grubb**, R. Willis*, D. Boozer**, B. Flickinger**, and C.E. Dixon** (2020), Cohesive channel response to watershed urbanization: Insights from the Sand River, Aiken SC. *Water*. 12, 3441, doi:10.3390/w12123441.
4. Xu H*., S. Van der Steeg*, **J.C. Sullivan,** D. Shelley, V. Lakshmi, E. Viparelli, and R. Torres (2020). Ephemeral channel systems of a low-relief, low-gradient floodplain: comparison of automatic extraction methods. *Water Resources Research*, 56, e2020WR027603. https://doi.org/10.1029/2020WR027603.
5. **Sullivan, J.C.,** Y. Wan and R. Willis**. (2020). Modeling Floodplain Inundation, Circulation, and Residence Times Under Changing Tide and Sea-Levels. *Estuaries and Coasts*. https://doi.org/10.1007/s12237-020-00709-0.
6. **Sullivan, J.C**., R. Torres, A. Garrett. (2019). Intertidal Creeks and Overmarsh Circulation in a Small Salt Marsh Basin, *Journal of Geophysical Research – Earth Surface*. 124. https://doi.org/10.1029/2018JF004861.
7. **Sullivan, J.C**., R. Torres, A. Garrett, J. Blanton, C. Alexander, M. Robinson, T. Moore, J. Amft, and D. Hayes (2015). Complexity in Salt Marsh Circulation for a Semienclosed Basin. *Journal of Geophysical Research – Earth Surface*. 120. doi:10.1002/2014JF003365.
8. **Chassereau, J.E**., J.M. Bell, and R. Torres. (2011). A Comparison of GPS and Lidar Salt Marsh DEMs, Earth Surface Processes and Landforms. 36. 177-1775. doi:10.1002/esp.2199.
9. Allard J., B.D. Keim, **J.E. Chassereau**, and D. Sathiaraj (2009), Spuriously Induced Precipitation Trends in the Southeast United States, Theoretical Applied Climatology, 96, 173-177, doi:10.1007/s00704-008-0021-9.

** denotes graduate student authors; ** denotes undergraduate authors*

CONFERENCE PRESENTATIONS:

1. Van der Steeg, S., Torres, R. and **Sullivan, J**. Complexity in floodplain circulation. Utrecht University Seminar, Jan 2024.
2. Van der Steeg, S., Torres, R., Viparelli, E., Xu, H., Elias, E., **Sullivan, J**. A framework for estimating floodplain hydraulic connectivity. Technical University of Munich seminar. Jan 2024.
3. **Sullivan, J**., Van der Steeg, S., Chassereau, J., and Sullivan, JR. Field observations of flow and sedimentation in three ACE Basin Marshes, SC, USA. American Geophysical Union Fall Meeting. San Francisco, CA. December, 2023.

4. **Sullivan, J**., Spain, J., Sullivan R., and Chassereau, J. Field measurements of water levels and current velocity in 3 ACE Basin, SC salt marshes. ACE Basin Research Symposium, Edisto Island, SC. October, 2022.
5. Ahmadpoor, A., Van der Steeg S., Xu H., Logan W., Torres, R., **Sullivan, J**. and Viparelli, E. Overbank deposition rates and grain sizes in the Congaree River floodplain, SC. American Geophysical Union Fall Meeting. Chicago IL, December 2022.
6. **Sullivan J.C**., R. Torres and A. Garrett, Intertidal Creeks and Overmarsh Circulation for a Small Salt Marsh Basin, Coastal and Estuarine Research Federation (CERF) Biennial meeting, Mobile AL, 2019.
7. **Sullivan J.C**., R. Torres and A. Garrett, Intertidal Creeks and Overmarsh Circulation for a Small Salt Marsh Basin, American Geophysical Union Fall Meeting, Washington DC, 2018.
8. **Sullivan J.C.** , From the Salt Marsh to the Coastal River Floodplain: The role of Topography in Inundation, Circulation, and Residence Time, CSRA Geological Society October Meeting, USCA, Aiken, SC, 2016.
9. **Sullivan J.C.,** From the Salt Marsh to the Coastal River Floodplain: The Role of Topography in Inundation, Circulation and Residence Time, Sigma Xi Spring Meeting, SFWMD Headquarters, West Palm Beach, FL, 2016.
10. **Sullivan J.C.,** Yongshan Wan, and Marion Hedgepeth**,** Modeling Inundation and Residence Time of Salt Water on the Loxahatchee River Floodplain, Indian River Lagoon Symposium, Fort Pierce, FL, 2015.
11. **Sullivan J.C**., M. Robinson, R. Torres, A. Garrett, J. Blanton, J. Amft, D. Hayes, and C. Alexander, Complexity in overmarsh circulation for a semienclosed basin, Young Coastal Scientists and Engineers Conference, University of Delaware, DE, 2014.
12. **Sullivan J.C.**, A.J. Garrett, and R. Torres, The Role of Microtopography and Intertidal Creeks on Overmarsh Circulation. American Geophysical Union Fall Meeting, San Francisco CA, 2013.
13. **Chassereau J.E**., Controls on Overmarsh Circulation, Department of Biology Seminar, University of Antwerpen Belgium, 2012.
14. **Chassereau J.E.,** J.M. Bell, and R. Torres, A Comparison of GPS and Lidar Salt Marsh DEMs, Coastal and Estuarine Research Federation Conference, Daytona Beach FL, 2011.
15. **Chassereau J.E**., J.M. Bell, and R. Torres, A Comparison of GPS and Lidar Salt Marsh
16. DEMs, American Geophysical Union Fall Meeting, San Francisco CA, 2010.

SYNERGISTIC ACTIVITIES:

1. Teaching and curriculum development of introductory and upper level undergraduate course in Environmental Geology, Geomorphology, GIS, Introductory Meteorology, and the Anthropocene.
2. Mentoring independent undergraduate research projects that engage students in field work, data processing and analysis, and spatial modeling.

3. Active member of AGU, CERF, SERS, and CSRAGS.
4. Invited guest speaker for the CSRAGA, USCA seminar series, SRNL/USCA Science on Tap, and the 2020 ACE Basin NERR Research Symposium.
5. Active volunteer for a wide range of K-12 outreach programs for STEM education in Aiken County public schools.

GRANTS AND AWARDS:

2021	NSF CAREER (PI)	$808,863
2021	RISE (PI)	$6,000
2019-20	ASPIRE I (PI)	$15,000
2018	USC RISE (PI)	$6,000
2016	NASA EPSCor (CoPI)	$725,000
2014	PADI Foundation (PI)	$2,000
2010-14	USC Travel Award	$2,500
2011	USC Grad Student Day, 1st place	$500
2009 – 2011	STEM Fellowship	
2001 – 2005	Gamma Beta Phi National Honors Society	