

R. WAYNE WAGNER, JR.

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EDUCATION

University of California, Berkeley *2012*
Ph.D. in Civil and Environmental Engineering
Dissertation: Temperature and Tidal Dynamics in a Branching Estuarine System

University of California, Berkeley *2007*
M.S. in Civil and Environmental Engineering

University of New Orleans *2006*
M.S. in Secondary Math Education

Auburn University *2000*
B.S. in Civil Engineering

TEACHING EXPERIENCE

Tulane University *2025 - present*
professor of practice
river-coastal science and engineering
New Orleans, Louisiana, USA

Jesuit High School *2022 - 2025*
science teacher
physics
New Orleans, Louisiana, USA

University of New Orleans *2018 - 2022*
instructor of record
fluid mechanics, statics
New Orleans, Louisiana, USA

Brother Martin High School *2017 - 2018*
math teacher, cross country coach
algebra 1, algebra 2
New Orleans, Louisiana, USA

University of California, Berkeley *2007 - 2008*
graduate student instructor
fluid mechanics
Berkeley, California, USA

Archbishop Shaw High School *2003 - 2006*
science & math teacher, cross country & track coach, department chair
environmental science, physical science, physics, calculus
Marrero, Louisiana, USA

St. Martin's Episcopal School *2002*
middle school math teacher
algebra 1, middle school math
Metairie, Louisiana, USA

RESEARCH EXPERIENCE

University of New Orleans

postdoctoral fellow

Studied feedback between rivers, tides, and sediment on the Louisiana coast

2018 - 2022

New Orleans, LA, USA

University of Texas, Austin

research affiliate

Studied landscape change on the Mississippi River delta

2017 - 2019

Austin, Texas, USA

University of Texas, Austin

post-doctoral scholar

Coordinated large, multi-institutional effort to study a prograding delta on the coast of Louisiana

2012 - 2017

Austin, Texas, USA

University of California, Berkeley

graduate student

Investigated effects of climate change on California's delta

2006 - 2012

Berkeley, California, USA

PUBLICATIONS

Huntsman, B., Brown, L., Wulff, M., Knowles, N., **Wagner, W.**, and Feyrer, F. (2024) Climate Change Scenarios for Air and Water Temperatures in the Upper San Francisco Estuary: Implications for Thermal Regimes and Delta Smelt. *San Francisco Estuary and Watershed Science* 22(2)

Wagner, W., and Mohrig, D. (2019) Flow and Sediment Flux Asymmetry in a Branching Channel Delta. *Water Resources Research* 55

Cardenas, B., Swanson, T., Goudge, T., **Wagner, W.**, and Mohrig, D. (2019) The effect of remote sensing resolution limits on aeolian sandstone measurements and the reconstruction of ancient dune fields on Mars: Numerical experiment using the Page Sandstone, Earth. *Journal of Geophysical Research: Planets* 124(12)

Ma, H., Larsen, L., and **Wagner, W.** (2018) Ecogeomorphic Feedbacks that Grow Deltas. *Journal of Geophysical Research: Earth Surface* 123

Ayoub, F., Jones, C., Lamb, M., Holt, B., Shaw, J., Mohrig, D., and **Wagner, W.** (2018) Inferring surface currents within submerged, vegetated deltaic islands and wetlands from multi-pass airborne SAR. *Remote Sensing of Environment* 212

Sendrowski, A., Sadid, K., Meselhe, E., **Wagner, W.**, Mohrig, D., and Passalacqua, P. (2018) Transfer Entropy as a Tool for Hydrodynamic Model Validation. *Entropy* 20(1)

Wagner, W., Lague, D., Mohrig, D., Passalacqua, P., Shaw, J., and Moffett, K. (2017) Elevation Change and Stability on a Prograding Delta. *Geophysical Research Letters* 44

Shaw, J., Ayoub, F., Jones, C., Lamb, M., Holt, B., **Wagner, R.W.**, Coffey, T., Chadwick, T.A., and Mohrig, D. (2016) Airborne Radar Imaging of Subaqueous Channel Evolution in Wax Lake Delta, Louisiana, USA. *Geophysical Research Letters* 43(10)

Shaw, J., Mohrig, D., and **Wagner, R.W.** (2016) Flow patterns and morphology in a prograding river delta. *Journal of Geophysical Research: Earth Surface* 121(2)

Brown, L., Komoroske, L., **Wagner, R.W.**, Morgan-King, T., May, J., Connon, R., and Fangué, N. (2015) Coupled Downscaled Climate Models and Ecophysiological Metrics Forecast Habitat Compression for an Endangered Estuarine Fish. *PlosOne* 11(1)

Brown, L., W. Bennett, **R.W. Wagner**, T. Morgan-King, N. Knowles, F. Feyrer, D. Schoellhamer, M. Stacey, and M. Dettinger. (2013) Implications for Future Survival of Delta Smelt from Four Climate Change Scenarios for the Sacramento-San Joaquin Delta, California. *Estuaries and Coasts* 36(4)

Cloern, J., N. Knowles, L. Brown, D. Cayan, M. Dettinger, T. Morgan, D. Schoellhamer, M. Stacey, M. van der Wegen, **R.W. Wagner**, and A. Jassby. (2011) Projected Evolution of California's San Francisco Bay-Delta-River System in a Century of Climate Change. PlosOne 6(9)

Wagner, R.W., M. Stacey, L. Brown, and M. Dettinger. (2011) Statistical Models of Temperature in the Sacramento-San Joaquin Delta Under Climate-Change Scenarios and Ecological Implications. Estuaries and Coasts 34(3)

PRESENTATIONS

Wagner, W., Miller, K., Hiatt, M., and Mohrig, D. (2017) Sand Transport, Shear Stress, and the Building of a Delta. American Geophysical Union Fall Meeting

Miller, K., Chamberlain, E., Esposito, C., Fernandes, A., Mohrig, D., and **Wagner, R.W.** (2016) Variation in dominant grain size across the Mississippi River Delta. American Geophysical Union Ocean Sciences Meeting

Wagner, R.W., Lague, D., Mohrig, D., Passalacqua, P., Shaw, J., and Moffett, K. (2016) The Time-Lapse Delta: Quantifying Landscape Change on a Prograding Delta Top. American Geophysical Union Fall Meeting

Wagner, R.W., Stacey, M., and Mohrig, D. (2015). Tidal Effects on Sediment Routing in a Branching System. American Geophysical Union Fall Meeting

Wagner, R.W., K. Moffett, and D. Mohrig (2015). Land Building and Feedbacks on Wax Lake Delta. University of Texas Deford Lecture (Invited Talk)

Wagner, R.W., K. Moffett, P. Passalacqua, and D. Mohrig (2014). Elevation Change in Coastal Louisiana: Looking for Stable States in a Rapidly Prograding Fluvial Delta. American Geophysical Union Fall Meeting

Wagner, R.W., K. Moffett, and D. Mohrig (2013). Testing the bi-stable topographic state hypothesis on a rapidly prograding coastal fluvial delta. American Geophysical Union Fall Meeting

Wagner, R.W. and M.T. Stacey (2012). Tidal Propagation in a Branching Tidal Estuary. American Geophysical Union Chapman Conference (Poster)

Wagner, R.W. and M.T. Stacey (2012). Tidal Propagation in a Branching Tidal Estuary. Physics of Estuaries and Coastal Seas Symposium (Poster)

Wagner, R.W. and M.T. Stacey (2012). Thermal Variability within a Complex Branching Estuarine System. American Geological Union Ocean Sciences Meeting (Poster)

Wagner, R.W. and M.T. Stacey (2010). Thermal Variability within a Complex Branching Estuarine System. Bay-Delta Science Conference

Wagner, R.W., M.T. Stacey, L.R. Brown, and M. Dettinger (2010). Ecologic Response to Climate-Change Induced Water Temperature Changes in the Sacramento-San Joaquin Delta. Salmonid Restoration Conference (Invited Talk)

Wagner, R.W., M.T. Stacey, L.R. Brown, and M. Dettinger (2009). Ecologic Response to Climate-Change Induced Water Temperature Changes in the Sacramento-San Joaquin Delta. Coastal and Estuarine Research Federation Conference

Wagner, R.W. and M.T. Stacey (2008). Statistical Models of Water Temperature in the Delta under Climate-Change Scenarios: A CASCaDE Project. CALFED Science Conference

FIELD EXPERIENCE

Wax Lake Delta, Louisiana, USA	<i>2012 - 2017</i>
Designed, built, and maintained real-time system to monitor water quality and sediment dynamics	
Trinity River, Texas, USA	<i>2015 - 2016</i>
Observed bedform movement across normal to backwater transition	
North Loup River, Nebraska, USA	<i>2013</i>
Studied sand dune migration in a low-turbidity river	
Northern California, USA	<i>2007 - 2012</i>
Gathered data in bays, ocean canyons, restored salt marshes, coastal rivers, and hypoxic lagoons	
Suisun Bay, California, USA	<i>2011</i>
Coordinated multi-institution study of seasonal salt fluxes	
Sacramento-San Joaquin Delta, California, USA	<i>2009 - 2010</i>
Led field campaign to measure thermal variability in a small tidal slough	
Russian River, California, USA	<i>2008</i>
Observed hydrodynamics of the lower reaches of a intermittently open and closed estuary	

AWARDS AND CERTIFICATIONS

Motorboat Operator Training Course	United States Department of the Interior	<i>2008</i>
Departmental Fellowship	University of California, Berkeley	<i>2006 - 2007</i>
Teacher of the Year	Archbishop Shaw High School	<i>2005 - 2006</i>
Fundamentals of Engineering Certification	State of Alabama	<i>2002</i>
Cross Country Letterman	Auburn University	<i>1997 - 2000</i>
National Merit Scholar	National Merit Scholarship Corporation	<i>1996</i>