

Robert R. Twilley

Executive Director, Louisiana Sea Grant Program; Professor, Department of Oceanography and Coastal Science, Louisiana State University, Baton Rouge, LA 70803, Telephone: (225) 279 0353; FAX (225) 388 6423; email: rtwilley@lsu.edu

a. Professional Preparation:

B.S., East Carolina University, 1974; Biology ; M.S., East Carolina University, 1976; Biology Ph.D., University of Florida, 1982; Plant Ecology/Systems Ecology ; Postdoc, University of Maryland, Horn Point Laboratory, 1982-85; Coastal Oceanography,

Twilley is Executive Director of Louisiana Sea Grant, one of 32 university-based programs in the National Sea Grant College Program, based at LSU. Louisiana Sea Grant works to promote stewardship of the state's coastal resources through a combination of research, education and outreach programs critical to the cultural, economic and environmental health of Louisiana's coastal zone. Most of Dr. Twilley's research has focused on coastal wetlands both in the Gulf of Mexico, throughout Latin America, and in the Pacific Islands. Dr. Twilley has published extensively on global climate change, coastal restoration, and ecosystem ecology. He has been involved in developing ecosystem models coupled with engineering designs to forecast the rehabilitation of coastal and wetland ecosystems.

b. Appointments:

Executive Director, Louisiana Sea Grant Program, August 2012 to present

Professor, Department of Oceanography and Coastal Sciences, Louisiana State University, July 2004 to present

Vice President for Research, University of Louisiana at Lafayette, August 2010 to August 2012

Interim CEO, Louisiana Immersive Technologies Enterprise, University Research Park, Lafayette, LA, November 2010 to July 2012.

Associate Vice Chancellor, Office of Research and Economic Development, LSU, November 2006 to July 2010.

Director, Wetland Biogeochemistry Institute, Louisiana State University, July 2004 to June 2007.

Director and Founder, Center for Ecology and Environmental Technology, University of Louisiana at Lafayette, July 1999 to May 2004.

Professor - Department of Biology, University of Louisiana at Lafayette, August 1995 to July 2004.

Associate Professor - Department of Biology, University of Southwestern Louisiana. August 1988 to July 1995.

Assistant Professor - Department of Biology, University of Southwestern Louisiana. January 1986 to August 1988.

c. Coastal Activities - Louisiana

- Coastal Protection and Restoration Authority (CPRA) - Framework Development Committee
- Chief Scientist, CPRA: 2010
- Lead PI, Coastal Louisiana Ecosystem Assessment and Restoration (CLEAR): 2007 Master Plan
- Lead PI, Modeling Restoration for Louisiana Speaks, Regional Plan, 2007
- Testimonies to U.S. House and Senate subcommittees, CEQ, OMB, OSTP, and DOI on coastal Louisiana funding needs for restoration and protection; testimony to Brookings Institute Panel on post-Katrina recovery; testimony to state house and senate subcommittees on environment and natural resources;
- State of the Coast Steering Committee
- Chair, Technology Review Panel for Morganza to Gulf Hurricane Protection Project, Governor Office of Coastal Activities, Louisiana
- Science Advisor, Science and Engineering Board, Master Plan of Coastal Louisiana, Coastal Protection and Restoration Authority.
- Chair, Planning Committee, LA Board of Regents, Forum, 'Recovery and Discovery of Science: Post Katrina and Rita Forum, New Orleans, January - April 2006
- Member, Science and Technology Working Group, Louisiana Coastal Area Program Management

Team.

- Advisory Panel on Gulf Oil Spill, National Wildlife Federation, December 2010
- Louisiana Department of Wildlife and Fisheries - Artificial Reef Council
- The Water Institute of the Gulf - The Academic Liaison Group – Chair
- The Audubon Nature Institute - Technical Advisory Committee
- The Louisiana University Gulf Research Consortium
- Chair, Science and Engineering Review Team (SERT), Reviews for Coastal Protection and Restoration Authority; 2007-2008;
- Symposium Chair, 9th International Wetland Biogeochemistry Symposium, 21 – 23 March 2005, LSU, Included 150 participants from 12 countries
- Framework Development Team, Louisiana Coastal Restoration Comprehensive Plan, 2002

d. Coastal Activities – Professional

- Coastal and Estuarine Research Federation Board - President
- National Science Foundation, Workshop Chair, Coastal SEES Program
- Sea Grant Association Board
- Sea Grant Association Program Management Committee
- Board Member, Coalition to Restore Coastal Louisiana, Baton Rouge, LA
- Panel Member, National Research Council, Committee on Independent Scientific Review of Everglades Restoration Progress (CISRERP)
- PRIORITIZING AMERICA'S WATER RESOURCES INVESTMENTS: Budget Reform for Civil Works Construction Projects At the U.S. Army Corps of Engineers. *A Report by a Panel of the NATIONAL ACADEMY OF PUBLIC ADMINISTRATION*. February 2007. Technical Advisor
- Ecological Society of America, Rapid Response Team, Gulf Coast
- ESA/ERF briefing to Senate and House congressional staffers, October, 2005
- EDF/NWF briefing to congressional staffers, September 2005
- National Academy of Science, Review of NRC Report on Everglades Restoration Program, April 2006.
- US DOD, Defense Coastal/Estuarine Research Program Technical Advisory Committee, 2007 to present. Appointed Chair in 2009.
- Professional Organizations: Ecological Society of America; Estuarine Research Federation; Society of Wetland Science; AAAS
- Lead Author, ESA/UCS Author team: Twilley, R.R., E. Barron, H.L. Gholz, M.A. Harwell, R.L. Miller, D.J. Reed, J.B. Rose, E. Siemann, R.G. Welzel and R.J. Zimmerman. **2001**. *Confronting Climate Change in the Gulf Coast Region: Prospects for Sustaining Our Ecological Heritage*. Union of Concerned Scientists, Cambridge, MA and Ecological Society of America, Washington, DC.
- Member, Planning Committee, National Academy of Science, Roundtable on Environmental Health, Research, Medicine, 31 March 2006.
- Panel Member, Gulf Hypoxia Science Symposium, 25 April 2006, New Orleans, LA
- Fellow of the Center for Cultural and Eco-Tourism, University of Louisiana at Lafayette, 2004 to present
- Member, Planning Committee, Second Meeting of Mangrove Macrobenthos (MMM2), Griffith University, Australia, 2006

d. Publications (10 most related to Coastal Louisiana out of 145 total)

1. Twilley, R. R. and V. H. Rivera-Monroy. **2009**. Sediment and nutrient tradeoffs in restoring Mississippi River Delta: Restoration vs Eutrophication. *Journal of Contemporary Water Research & Education* 141:1-6.
2. Paola, C., R. R. Twilley, D. A. Edmonds, W. Kim, D. Mohrig, G. Parker, E. Viparelli, and V. R. Voller. **2011**. Natural processes in delta restoration: Application to the Mississippi Delta. *Annual Review of Marine Science*, 3: 67-91.

3. Galloway, G., D. Boesch, and R. R. Twilley. **2009**. Restoring and protecting coastal Louisiana. *Issues in Science and Technology* Winter 2009:29-38.
4. Lorenzo-Trueba, J., V. R. Voller, C. Paola, R.R. Twilley, and A.E. Bevington. **2012**. Exploring the role of organic matter accumulation on delta evolution. *JOURNAL OF GEOPHYSICAL RESEARCH*, VOL. 117, F00A02, doi:10.1029/2012JF002339.
5. Twilley, R.R. et al. **2014**. Simulation Management Systems developed by the Northern Gulf Coastal Hazards Collaboratory (NG-CHC): An overview of cyberinfrastructure to support the coastal modeling community in the Gulf of Mexico. *Advances in Coastal and Marine Resources: Remote Sensing and Modeling* edited by Charles W. Finkl, Antonio H.F. Klein, and Christopher Makowski. Coastal Research Library (CRL) series. ISBN 978-3-319-06326-3. 460 pages
6. Day, J.W. Jr., D. F. Boesch, E. J. Clairain, G. P. Kemp, S. B. Laska, W. J. Mitsch, K. Orth, H. Mashriqui, D. R. Reed, L. Shabman, C. A. Simenstad, B. J. Streever, R R. Twilley, C C. Watson, J T. Wells, D F. Whigham. **2007**. Restoration of the Mississippi Delta: Lessons From Hurricanes Katrina and Rita. *SCIENCE* 315:1679-1684.
7. Karimpour, A., Q. Chen, and R.R. Twilley. **2015**. A field study of how wind waves and currents may contribute to the deterioration of saltmarsh fringe. *Estuaries and Coasts* DOI 10.1007/s12237-015-0047-z
8. Riekenberg, J., S. Bargu, and R.R. Twilley **2014**. Phytoplankton Community Shifts and Harmful Algae Presence in a Diversion Influenced Estuary *Estuaries and Coasts* DOI 10.1007/s12237-014-9925-z
9. Henry, K.M. and Twilley, R.R., **2013**. Nutrient biogeochemistry during the early stages of delta development in the Mississippi River deltaic plain. *Ecosystems*, 17: 327-343. DOI: 10.1007/s10021-013-9727-3
10. Henry, K.M. and Twilley, R.R., **2013**. Soil development in a coastal Louisiana wetland during a climate-induced vegetation shift from salt marsh to mangrove. *Journal of Coastal Research*, 29, 1273-1283. ISSN 0749-0208.

e. Funded Research Projects by National Science Foundation

1. National Science Foundation *Twilley, Bentley, Chen, et al.* (Co-PIs), \$548,851, 9/1/2014-8/31/2018: Coastal SEES Collaborative Research: Changes in actual and perceived coastal flood risks due to river management strategies. **EAR-1427389**
2. National Science Foundation *Morhig, Slingerland, Twilley, et al.*(Co-PIs) Subcontract amount (YR 1-3):. \$739,255. 9/15/11 to 8/31/16: *Frontiers in Earth System Dynamics (FESD): A Delta Dynamics Collaboratory.. National Science Foundation. From Headwaters to Coastal Deltas: A Sustainability Research Network to explore flooding and the complex interplay of climate, society, and the landscape.* September 2012 to August 2015. Submitted. \$ 1,260,000 **OCE-1135427**,
3. National Science Foundation *Kaiser, Twilley (Co-PIs)*, \$970,835, 10/1/2014-9/31/2018: *SI2-SSI: Collaborative Research: STORM: a Scalable Toolkit for an Open community supporting near Realtime high resolution coastal Modeling.*National Science Foundation. *Frontiers in Earth System Dynamics (FESD): A Delta Dynamics Collaboratory.* NSF Award Number: #OCE-1135427 . 9/15/11 to 8/31/16. Subcontract amount (YR 1-3): \$739,255. **ACI- 1339782**,
4. National Science Foundation Track II EPSCoR: *NGCHC (Northern Gulf Coastal Collaboratory).* NSF Award Number: #EPS-1010640. 10/1/10 to 9/30/13. Louisiana Budget: \$2,166,000.