**Diana R. Di Leonardo, P.G.**

**Research Scientist I, The Water Institute of the Gulf**

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**Education:**

**M.S. in Geology, January 2013**

Oregon State University, Corvallis, Oregon

**B.A. in Geosciences, May 2010**

Hamilton College, Clinton, New York

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**Research Interests:**

Coastal and riverine systems, natural hazards, sediment transport.

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**Professional Experience:**

**The Water Institute of the Gulf 2018-Present**

* ***Research Scientist I***

**Tulane University 2013-2019**

* ***Laboratory Supervisor I 2016-2019***
* ***Laboratory Specialist 2013-2016***

**Teaching Experience:**

Graduate Teaching Assistant, CEOAS, Oregon State University 2010-2012

* Introductory geology labs and field courses

**Training Courses:**

* XBeach Basic Course, Deltares – 2020 – Basics of setting up and running the XBeach numerical model
* XBeach Advanced Course, Deltares – 2020 – Advanced topics in XBeach, including model set up and running for non-hydrostatic, vegetation, and gravel cases
* CARIS – 2016 – Basic multibeam and sidescan data processing
* Geoprobe – 2016 – Direct push, hydraulic coring
* Boater Education course – 2010 – Small boating license

**Professional Registration:**

Professional Geologist, Louisiana #1298

**Recent Projects:**

**Capital Area Groundwater Conservation Commission: Phase 2: Long Term Strategic Planning for Water Resources**

*Capital Area Groundwater Conservation Commission*

*Project Manager, Geologist (ongoing)*

Organize a large team of Water Institute scientists and subcontractors to provide science for decision making. Work on groundwater geology and subsidence aspects of the project. The Capital Area Groundwater Conservation Commission will use the data and information provided by this project to make critical aquifer management decisions.

**SmartPort**

*US Economic Development Administration*

*Geologist, Coder (ongoing)*

Developing tools for ports along the Mississippi River, including a shoaling forecast tool using crowdsourced data from tug boats in the river. The shoaling forecast will be supported by hydraulic modeling to predict shoaling locations and time scales to inform port dredging operations.

**Louisiana Coastal Neotectonics Workshops and Panel Report**

*Coastal Protection and Restoration Authority (CPRA), Baton Rouge, Louisiana*

*Project Manager (on going)*

Organized a panel of experts in neotectonics, delta sedimentation, sedimentology, subsidence, and seismology to review the existing data and studies on neotectonics and subsidence in Louisiana to provide a forum for the discussion of neotectonics and its potential impacts on management of coastal natural resources. Researched and invited expert speakers to the panel.

**Northern Gulf of Mexico Sediment Availability and Allocation Program**

*Gulf of Mexico Alliance*

*Project Manager, Geologist (ongoing)*

Developing a GIS based tool to enable efficient searching of sediment resource data to aid coastal restoration projects. Coordinate team of Water Institute and APTIM scientists.

**Port Fourchon: Coastal Evolution Management for a Resilient Working Coast**

*National Fish and Wildlife Foundation, Partnership for Our Working Coast (Greater Lafourche Port Commission, Shell, Chevron, Danos)*

*Assistant Project Manager, Geologist (ongoing)*

Organize a large multi-disciplinary team of scientists including geologists, social scientists, ecologists, and modelers for a transdisciplinary effort that seeks to model the landscape and ecosystem evolution around Port Fourchon for the next 30 years to plan the best beneficial use of dredge sediment. Highly involved in every aspect of the project from modeling to meetings with stakeholders.

**Louisiana Coastal Master Plan: Barrier Island Digital Elevation Model**

*Coastal Protection and Restoration Authority (CPRA), Baton Rouge, Louisiana*

*Geologist*

Developed, as part of a team, an empirical barrier island model for the 2023 Louisiana Coastal Master Plan that predicts barrier island evolution based on past trends. Worked on data analysis to calculate retreat rates, developing model parameters, and defining model input condition.

**Advancement of the Southeast Conservation Adaptation Strategy (SECAS) for Project-Scale Planning: Chandeleur Islands (Breton National Wildlife Refuge) Restoration**

*U.S. Fish and Wildlife Service*

*Geologist, Modeler*

Built an XBeach model to aid in understanding how to characterize the geomorphic evolution and ecosystem value of the Chandeleur Islands with and without restoration action. This work included developing and evaluating metrics for characterizing the restoration and conservation value of barrier islands that could inform the application of the Southeast Conservation Adaptation Strategy (SECAS) Southeast Conservation Blueprint.

**Vegetation Thresholds for Sedimentation**

*National Academies of Science*

*Geologist*

Worked on field data collection and analysis of data from coastal Louisiana to study the impacts of vegetation on sediment delivery to and deposition on marshes. Developed data processing workflows.

**PEER REVIEWED PUBLICATIONS**

1. Di Leonardo, Diana and Ruggiero, Peter, 2015. Regional Scale Sandbar Variability: Observations from the Pacific Northwest. Continental Shelf Research (95), 74-88. http://dx.doi.org/10.1016/j.csr.2014.12.012
2. Stephens, J.D., M.A. Allison, D.R. Di Leonardo, H.D. Weathers III, A.S. Ogston, R.L. McLachlan, F. Xing, E.A. Meselhe. 2017. Sand dynamics in the Mekong River channel and export to the coastal ocean. Continental Shelf Research (147), 38-50.
3. Esposito, C. R., Di Leonardo, D., Harlan, M., Straub, K. M. 2018. Sediment Storage Partitioning in Alluvial Stratigraphy: The Influence of Discharge Variability. Journal of Sedimentary Research, 88(6), 717–726. doi: 10.2110/jsr.2018.36

**CONFERENCE PROCEEDINGS AND PRESENTATIONS**

1. Di Leonardo, Diana R., Melissa Baustian, Martijn Bregman, Zach Cobell, Andrew Courtois, Soupy Dalyander, Christine DeMyers, Christopher Esposito, Ioannis Georgiou, Scott Hemmerling, Hoonshin Jung, Brett McMann, Francesca Messina, Michael Miner, Brendan Yuill. 2020. “Coastal Evolution Management for a Resilient Working Coast: Incorporating Local Knowledge into Numerical Modeling in Port Fourchon, Louisiana, USA.” Geological Society of America Annual Meeting. Conference Presentation. Abstracts with Programs.
2. Di Leonardo, Diana R., Michael D. Miner, Colleen McHugh, Tim Carruthers, Ryan Clark, Zachary Cobell, Soupy Dalyander, Christine DeMyers, Scott Hemmerling, Brendan Yuill. 2019. “The Role of Geosciences in Coastal Community Resilience Strategies: A Case Study at Port Fourchon in the Mississippi River Delta Plain, USA.” Geological Society of America Annual Meeting. Conference Presentation. Abstracts with Programs, v. 51, no. 5, paper no. 226-5, doi: 10.1130/abs/2019AM-338836. <https://gsa.confex.com/gsa/2019AM/webprogram/Paper338836.html>
3. Di Leonardo, Diana R., Mead Allison, Robin McLachlan, and Andrea Ogston. 2017. Suspended Sediment Character in the Tidal Mekong River: Observations from LISST Profiling.” Geological Society of America Annual Meeting. Conference Presentation.
4. Di Leonardo, Diana R. and Mead Allison 2016. **“**Suspended Sediment Character in the Tidal Mekong River: Observations from LISST Profiling.” Ocean Sciences Meeting. Conference Poster.
5. Stephens, John Drew, Diana R. Di Leonardo, Harry D. Weathers, and Mead Allison. “Suspended and Bedload Sand dynamics in the Mekong River Channel and Export to the Coastal Ocean.” Ocean Sciences Meeting. Conference Poster.

**TECHNICAL REPORTS**

1. Allison, M., Carruthers, T., Clark, R., Di Leonardo, D., Hemmerling, S., Meselhe, E., Moss, L., Weathers, D., White, E., & Yuill, B. (2018). Partnership for Our Working Coast: Port Fourchon Phase 1 Technical Report. *Technical Report*, 215.
2. Allison, M.A., Marsh, J.K., Di Leonardo D.R., Eckland, A.C., Ramatchandirane C., Weathers H.D., (2018). Bonnet Carré 2018 Flood Response. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.
3. Allison, M.A., Di Leonardo D.R., Eckland, A.C., Ramatchandirane C., Weathers H.D., (2018). Mid-Breton Technical Team Field Data Support. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.
4. Allison, M.A., Di Leonardo D.R., Eckland, A.C., Ramatchandirane C., Weathers H.D., (2018). Mid- Barataria Technical Team Field Data Support. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.
5. Allison, M.A., Ramatchandirane C., Di Leonardo D.R., Esposito, C.R., Meselhe, E.A., and Weathers H.D. (2018). Calcasieu Salinity Control Project: Data Collection Phase II. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.
6. The Water Institute of the Gulf (2019). Identifying Sediment Sources and Optimizing Placement of Dredge Material to Protect Critical Infrastructure – Port of Lake Charles. The Water Institute of the Gulf. Prepared for and funded by the Port of Lake Charles. Baton Rouge, LA.
7. Ramatchandirane C., Courtois, A., Di Leonardo D.R., Eckland, A.C., Georgiou, I., Miner, M., and Yocum, T. (2019). Investigation of flow and water constituent fluxes through the tidal inlets of the Barataria Basin. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.