**F. Ryan Clark, PG**

**Senior Research Scientist | Deputy Director of Strategic Partnerships**

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## Education

## M.S. in Earth and Environmental Science, May 2003

Tulane University, New Orleans, Louisiana

## B.S. in Geology, May 1996

Louisiana State University, Baton Rouge, Louisiana

**Technical Experience:**

Water resources, ecosystem restoration, and flood hazard mitigation planning.

**Professional Experience:**

The Water Institute of the Gulf

* *Deputy Director of Strategic Partnerships 2020-Present*
* *Research Scientist 3 2018-Present*
* *Research Scientist 2 2013-2018*

ARCADIS 2006-2013

* *Project Scientist*

Louisiana Department of Natural Resources 2004-2006

* *Geologist III*

Environmental Resources Management 2003-2004

* *Geologist II*

## Tulane University Department of Earth & Environmental Science

* *Graduate Fellow* 1999-2003
* *Research Technician* 1998-1999

## Select Project Experience:

**Greater Baton Rouge Strategic Water Plan**

*Capital Area Groundwater Conservation Commission and Louisiana Coastal Protection and Restoration Authority*

*Technical Co-Lead*

Key member of project team, performing the ongoing strategic planning process for the state commission responsible for ensuring sustainable groundwater supply for the Baton Rouge area. Responsible for engaging with commissioners and stakeholders, identifying technical alternatives, calculation of groundwater supply and demand, technical engagement with United States Geological Survey and Louisiana State University, and technical writing.

**Texas Regional Flood Studies (Eastern and Central)**

*Texas General Land Office*

*Project Manager*

Managing ongoing Institute participation in two regional flood study teams. Lead author on first task, Data Management Plan for the Eastern Region, including extensive coordination with Central Region authors. Active engagement with overall teams and General Land Office project leaders.

**Louisiana Water Resources Assessment for Sustainability and Energy Management**

*Louisiana Department of Natural Resources-Office of Conservation and Coastal Protection and Restoration Authority (CPRA), Baton Rouge, Louisiana*

*Technical Lead*

Developed a statewide system to gage the sustainability of water resources in light of present and projected uses, assessed water resources sustainability in selected water bearing units, described the process used to conduct the assessment, and recommended additional information needed to improve the accuracy and reliability of data used.

**Prioritizing Additional Water Use Research for Louisiana**

*Louisiana Department of Natural Resources-Office of Conservation, funded by the United States Geological Survey (USGS) Water Use Data and Research (WUDR) program*

*Principal Investigator*

Developed the work plan to facilitate planning for the implementation of this program. summarizes the selected approach for Louisiana’s participation in the WUDR program, by providing a description of the current Louisiana water use program, including a summary of current water use research in Louisiana, with comparisons to national and regional reporting regimes and priorities; an outline of Louisiana’s priorities for improving water use research, reporting, and data collection; and a list of steps proposed to address priorities, with respect to USGS baseline data goals and standards. This includes justifications, cost estimates, and individual work plans for the proposed projects.

**Determining the Minimum Ecological River Inflow Needs of Louisiana Estuaries**

*Charles Lamar Family Foundation, Baton Rouge, LA*

*Proposal Lead, Principal Investigator*

The Institute developed a novel use for the state of the art computer model that has previously been used to determine the hydrologic, ecological, and land change effects of Louisiana coastal restoration projects from the Coastal Protection and Restoration Authority (CPRA) Coastal Master Plan. This project adapted the model to determine the ecological needs of the wetlands, swamps, and estuaries that communities in the region rely upon for their economic and social well-being. It illustrates how variations in the flow of rivers such as the Amite can have effects on the suitability of habitats for key fish and wildlife species, as well as how it affects the distribution of marsh vegetation types over time. The methods developed in this pilot study can be adapted and used in communities across Louisiana and around the world. It leverages the investments and advancements made during the development of the Coastal Master Plan and adds additional value for local communities.

**Geomorphic Changes to the Amite River Channel and Floodplain Induced by the August 2016 Flood in Louisiana**

*National Science Foundation RAPID Program and the Charles Lamar Family Foundation*

*Project Conception, Co-Proposal Lead, Analysis Lead*

This effort aimed to quantify the reshaping of the Amite River channel and its floodplain associated with the unprecedented flood of 2016. The objective is to conduct rapid response field operations in the mid and upper Amite Basin to gather data while the effects of the flood are undisturbed (high water marks and evidence of flow path and magnitude, sediment thicknesses and extents, grain size, etc.). These are critical to understanding (1) the geomorphic response to this event, (2) for ground truthing remote sensing imagery that were obtained and analyzed to document channel planform changes, and (3) to develop numerical models to analyze the event and predict morphological response to future events.

## Awards, Honors:

1. Innovation Award – Louisiana Innovation Month 2014. (Helped Institute secure award)
2. NASA Graduate Student Research Program Fellowship, 1999-2003
3. New Orleans Geological Society Graduate Student Scholarship, 2002
4. LSU Honor Scholarship, 1991-1995
5. New Orleans Geological Society Junior Scholarship, 1993
6. New Orleans Geological Society Sophomore Scholarship, 1992
7. Member, Sigma Gamma Epsilon, Earth Science Honor Society
8. Eagle Scout

**Teaching Experience:**

Introduction to Geology (Honors Lab), Tulane University

Professional Memberships:

Past President: Society for Ecological Restoration – Large-scale Ecosystem Restoration Section (2018-2020)

President: Society for Ecological Restoration – Large-scale Ecosystem Restoration Section (2016-2018)

Professional Registration:

Professional Geologist, Louisiana *#607*

**Committee Memberships:**

Planning & Program Committees – National Conference for Ecosystem Restoration 2020

Conference Co-Chair - National Conference for Ecosystem Restoration 2018

Planning & Program Committees – National Conference for Ecosystem Restoration 2016

American Society of Civil Engineers - Coasts, Oceans, Ports, and Rivers Institute – Louisiana Chapter 2013

**Community Services:**

**Cub Scouts:**

Den Leader (2015-2017)

**Our Lady of the Lake Children’s Hospital:**

Children’s Miracle Mansion – Volunteer Prime Contractor (2007)

ARCADIS Baton Rouge Charitable Fundraising Coordinator (2013)

**Emerge Center for Communication, Behavior, and Development:**

Volunteer Playground Builder (2014)

**Training Courses:**

1. Water Institute Project Planning and Implementation – *Instructor* – 2015 & 2016.
2. ARCADIS Quest – 2009 – The Netherlands. Delft 3D and Dutch flood protection training.
3. ADCIRC Workshop – 2010 – ERDC, Vicksburg, MS.
4. ARCADIS Fundamentals of Project Management - 2010 – 40-hour training.

**PEER REVIEWED PUBLICATIONS**

1. Melissa Baustian, F. Ryan Clark, Andrea S. Jerabek, Yushi Wang, Harris C. Bienn, and Eric D. White. Modeling Current and Future Freshwater Inflow Needs of a Subtropical Estuary to Manage and Maintain Forested Wetland Ecological Conditions. Journal of Ecological Indicators, November 2017.
2. Zach Cobell, Haihong Zhao, Hugh J. Roberts, F. Ryan Clark, and Shan Zou. Storm Surge and Wave Modeling for the Louisiana 2012 Coastal Master Plan (Publication). Journal of Coastal Research Special Issue, 2014.