ANDREW COURTOIS

THE WATER INSTITUTE OF THE GULF

Company Role
Field Geologist

Education
M.Sc.
Geology,
Louisiana State University
2018

B.Sc.
Earth and Environmental Science,
University of New Orleans
2016

Areas of Expertise
- Coastal geology
- Sediment dynamics
- Conducting field research

Organizations and Affiliations
- American Association of Petroleum Geologists
- American Geophysical Union
- Phi Kappa Phi
- Society of Earth and Environmental Scientists-University of New Orleans
- Sigma Gamma Epsilon
- Coalition to Restore Coastal Louisiana

Experience Profile
Andrew Courtois, Louisiana native, graduated in 2018 from Louisiana State University with a master's degree in geology. Courtois graduated from the University of New Orleans in 2016 with a bachelor's degree in Earth and environmental science with a geology concentration. During his time at the University of New Orleans, he assisted in leading field campaigns for sediment sampling as part of the state's Barrier Island Comprehensive Monitoring Program. Previously, as a graduate research assistant at Louisiana State University, Courtois focused his research on using natural radiotracers to study fluvial sediment deposition and dispersal on the Mississippi River delta front to gain a better understanding what areas were prone to submarine landslide activity.

Professional Experience
The Water Institute of the Gulf — Mar. 2019-Present
- *Field Geologist*

Louisiana State University
- *Project Manager* — Jan. 2019- Mar. 2019
- *Research Assistant* — Jan. 2017- Dec. 2018

University of New Orleans
- *Undergraduate Student Worker* — May 2015- Dec. 2016

Key Project Experience
Lowermost Mississippi River Management Program, ongoing

Crowd-Sourced Hydrographic Data to Inform a Near-Real Time Shoaling Forecasting Tool at the Port of New Orleans, ongoing

Investigation of Flow, Nutrient, and Sediment Fluxes Through the Passes of Barataria Basin, 2019

Mass Wasting Processes and Products of the Mississippi River Delta Front: Data Synthesis and Observation, 2016-2017

Barrier Island Comprehensive Monitoring Program (Sediment Sampling), 2015-2016

Selected Projects

Lowermost Mississippi River Management Program (ongoing)
Assistant Project Manager. Assist in the synthesis of historical dredging records, developing a geomorphology workplan and real time forecasting workplan for the lowermost Mississippi River, and developing a regional sediment management strategy for the Mississippi River below Venice.

Crowd-Sourced Hydrographic Data to Inform a Near-Real Time Shoaling Forecasting Tool at the Port of New Orleans (ongoing)
Develop and implement work plan to harvest crowd-sourced hydrographic data from vessels working on the Mississippi River to create a near-real time shoaling forecasting tool to help inform Port of New Orleans operations.

Investigation of Flow, Nutrient, and Sediment Fluxes Through the Barataria Basin Inlets (2019)
Conducted fieldwork at the Barataria Basin inlets to improve Basin Wide Model fluxes through the inlets. Data collection included hydrodynamics, suspended sediment, and nutrients. Responsible for data collection, data processing, and assisting in report writing.

Mississippi River surveys (January 2019 – March 2019)
Project manager at LSU for a Louisiana Coastal Protection and Restoration Authority project surveying the Mississippi River where duties include sample collection, data management, grain size analysis and overseeing laboratory staff.

A Regional Survey of River-plume Sedimentation on the Mississippi River Delta Front (2017-2018)
As a graduate research assistant, thesis research focused on using natural radiotracers to study fluvial dispersal of Mississippi River sediment. As part of this work, duties included sample collections using Vibracore, Piston core, Multicore, and Cone Penetrometer; geochemical analysis (7-Beryllium, 234-Thorium, 210-Lead); quantifying sedimentation rates using natural radiotracers, grain size analysis, processing X-radiograph images of core slabs, and interpretation of seismic and bathymetric data.

Barrier Island Comprehensive Monitoring Program for Louisiana's Coastal Master Plan (2015-2016)
As part of this work as a student worker at the University of New Orleans, duties included leading field campaigns, sediment sample collection and analysis, and assisting in report writing.

Selected Publications

1. Georgiou, I.Y., Kulp, M.A., Brown, M., Courtois, A., Flocks, J.G., Tuten, T., 2017, Louisiana Barrier Island Comprehensive Monitoring Program (BICM) Phase 2 - 2016 Characterization of Surficial Sediments in the Western and Eastern Chenier Plain and Atchafalaya and Wax Lake Delta Regions: Part A - Data Collection, Sample Processing and Products. Prepared for Louisiana Coastal Protection and Restoration Authority (CPRA) by Pontchartrain Institute for Environmental Sciences, Baton Rouge, LA and New Orleans, LA, 15 p.
2. Georgiou, I.Y., Kulp, M.A., Brown, M., Courtois, A., Flocks, J.G., Tuten, T., 2017B, Louisiana Barrier Island Comprehensive Monitoring Program (BICM) Phase 2 - 2016 Characterization of Surficial Sediments in the Western and Eastern Chenier Plain and Atchafalaya and Wax Lake Delta Regions: Part B - Data Collection, Sample Processing and Products. Prepared for Louisiana Coastal Protection and Restoration Authority (CPRA) by Pontchartrain Institute for Environmental Sciences, Baton Rouge, LA and New Orleans, LA, 7 p.
3. Kulp, M.A., Georgiou, I.Y., Brown, M., Courtois, A., Flocks, J.G., Tuten, T., 2015, Louisiana Barrier Island Comprehensive Monitoring Program (BICM) Phase 2 - 2015 Characterization of Surficial Sediments in the Early Lafourche Delta, Late Lafourche Delta, Modern Delta, and Chandeleur Islands Regions: Part A - Data Collection, Sample Processing and Products. Prepared for Louisiana Coastal Protection and Restoration Authority (CPRA) by Pontchartrain Institute for Environmental Sciences, Baton Rouge, LA and New Orleans, LA, 16 p.
4. Kulp, M.A., Georgiou, I.Y., Brown, M., Courtois, A., Flocks, J., and Tuten, T., 2017B, Louisiana Barrier Island Comprehensive Monitoring Program (BICM) Phase 2 - 2015 Characterization of Surficial Sediments in the Early Lafourche Delta, Late Lafourche Delta, Modern Delta, and Chandeleur Islands Regions: Part B – Sediment Sample Distribution Maps, submitted to Louisiana Coastal Protection and Restoration Authority 10 pp.
5. Ramatchandirane C., Courtois, A., Di Leonardo D.R., Eckland, A.C., Georgiou, I., Miner, M., and Yocum, T. (2019). Investigation of flow and water constitutent 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