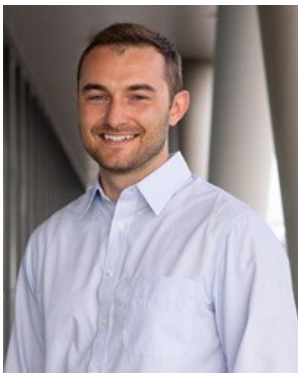

ORGANIZATION ROLE

Research Geoscientist

PROJECT ROLE / FOCUS AREAS

Coastal and marine geology

Regional sediment management

Large-scale coastal and deltaic evolution

Marine geophysics

EDUCATION

MS Marine Science, University of Southern Mississippi, 2018

BS Geology and Geological Oceanography, University of Rhode Island, 2014

ROB HOLLIS, MS

Research Geoscientist

Rob Hollis, Research Geoscientist, brings more than nine years of experience in coastal geology and oceanography to the Institute. Building upon previous technical roles working for various consulting and state agencies, Rob uses his understanding of natural processes to help inform coastal management and restoration decisions. At the Institute, he specializes in the creation of geologic frameworks to develop sediment resource inventories for coastal and marsh restoration projects.

Prior to joining the Institute, Rob worked as a coastal geologist at Applied Coastal Research & Engineering where he examined coastal subsidence rates along southern Louisiana for the Louisiana Coastal Master Plan, in addition to studying coastal and wetland change related to various climatic and engineering factors. Furthermore, he worked on various nearshore sediment budgets, coastal restoration monitoring, shoreline change, and flood risk vulnerability studies while at the Rhode Island Geological Survey.

Rob received a bachelor's degree in geology and geological oceanography from the University of Rhode Island and earned a master's degree in marine science with a concentration in coastal geology from the University of Southern Mississippi, where his work focused on barrier island and coastal system evolution in the northern Gulf of Mexico.

PROFESSIONAL EXPERIENCE

2022–Present: Research Scientist, The Water Institute

2019–2022: Coastal Geologist, Applied Coastal Research & Engineering

2016–2018: Research Assistant, University of Southern Mississippi

2014–2016: Research Associate II, Rhode Island Geological Survey

2013–2014: Research Assistant I, Rhode Island Geological Survey

SELECTED PROJECTS

Assessing Fate of Historic Carbon in Louisiana Deltaic Plain. *Chevron. (2023–Present). Technical Lead.* This project assesses the fluxes and sinks of soil organic carbon as marsh edges deteriorate and convert to open water over decadal and geological timescales. The results refine carbon crediting calculation assumptions for Louisiana's growing blue carbon market through marsh restoration.

Louisiana Sediment Management Plan Implementation. *LACPRA/ BOEM. (2022–Present). CO-PI.* This project aims to develop and implement a cost efficient exploration framework of unconventional sediment resources to be used for restoration projects in various coastal settings of Louisiana.

Texas Offshore Sediment Management Plan: Sediment Resource Inventory. *TX GLO/ BOEM (2022–Present). PI.* This project aims to develop unconventional sediment resources to be used in coastal restoration projects along the entire Texas coast in State and Federal waters.

Synthesis of Sediment Budget Assessments along the Northern Gulf of Mexico from the Pearl River to Apalachicola Bay. *USACE (2022). Technical Lead and Facilitator.* This project gathered previous sediment budgets and datasets to create a future regional sediment budget. Created web-based tool and data repository shaped by stakeholder input.

Recent Subsidence Trends in Southern Louisiana. *LACPRA. (2018–2022). Technical Lead.* This Applied Coastal Research & Engineering project was developed to measure short-term subsidence rates using high resolution geodetic GPS elevation measurements and water level records to inform restoration planning. Results are being included in the 2023 Coastal Master Plan.

Caminada Headland Beach and Dune Restoration Load Induced Subsidence Assessment. *LACPRA. (2019–2020). Technical Lead.* This Applied Coastal Research & Engineering project was developed to monitor the loading induced subsidence due beach replenishment fill placement compared to natural subsidence to improve restoration design standards.

Mississippi Sound and Offshore Sediment Resources Inventory: Late Quaternary Stratigraphic Evolution of the Inner Shelf *BOEM. (2016–2018). Technical Lead.* This project built upon prior subsurface investigations, developing a regional source to sink geological model to identify potential resource areas more efficiently in Mississippi/Alabama waters. The new stratigraphic framework helped refine the evolution of portions of the Mississippi/Alabama barrier island chain over the last 7,000 years.

Beach Special Area Management Plan. *RI CRMC. (2014–2016). Technical Support.* This RI Geological Survey collaborative project integrated shoreline erosion studies, flood risk vulnerability and hazard exposure to various sea-level projections and storm surge scenarios into a series of web-based tools and permitting design strategies. These were used to inform policy decisions and raise awareness to state and town managers and planners in Rhode Island.

SELECTED PUBLICATIONS

1. Hollis, R.J., Swartz, J., Khalil, S.M., Raynie, R.C., Miner, M.D., 2023. Sediment inventory in a mud-dominated deltaic plain: Implementation of Louisiana Sediment Management Plan. In: The proceedings of the coastal sediments 2023. p. 2805–2818. https://doi.org/10.1142/9789811275135_0256.
2. Gal, N.S., Wallace, D.J., Miner M.D., Hollis, R.J., Dike, C.H., Flocks, J.G., 2020, Holocene Formation of Horn Island, Mississippi, USA. Marine Geology 431, 106375 doi.org/10.1015/j.margeo.2020.106375
3. Oakley, B.A., Murphy, C., Lee, K.K., Hollis, R.J., Caccioppoli, B., King, J.W., 2020, Sediment deposition following construction of a breakwater harbor: Point Judith Harbor of Refuge, Rhode Island, USA. Journal of Marine Science and Engineering 8, 863 doi.org/10.3390/jmse8110863
4. Hollis, R.J., Wallace, D.J., Miner M.D., Gal, N.S., Dike, C.H., Flocks, J.G., 2019, Late Quaternary Evolution and Stratigraphic Framework Influence on Coastal Systems along the North-Central Gulf of Mexico, USA. Quaternary Science Reviews 223 1-24. doi.org/10.1016/j.quascirev.2019.105910
5. Oakley, B. A., Murphy, C., Varney, M., Hollis, R.J., 2019, Spatial Extent and Volume of the Shoreface Depositional Platform on the Upper Shoreface of the Glaciated Rhode Island South Shore. Estuaries and Coasts doi.org/10.1007/s12237-019-00594-2