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Grace Medley, M.S.

Coastal Scientist

EXPERTISE

Experienced in modeling 3-dimensional hydrodynamics of coastal systems with structured grids. Modeling experience includes: Storm surge, wave modeling, sediment transport, estuarine circulation, as well as applied modeling of the effects of dredging. Experienced in leading fieldwork campaigns to collect hydrodynamic and hydrographic data using ADCP's, CTD's and Current Meters. Experienced in processing, analyzing and visualizing coastal oceanographic data.

QUALIFICATION SUMMARY

- Numerical hydrodynamic modeling experience with ROMS, CWOAST, STWAVE and SLOSH
- Programming experience using MATLAB, Python, Linux/Vi
- Experienced in data management, analysis and visualization
- Experienced in planning and conducting coastal oceanographic field work
- Strong written and verbal communication skills
- ESRI ArcGIS, SMS, Microsoft Office

WORK EXPERIENCE

2019-Present	Coastal Scientist, Woods Hole Group, Inc.
2017-2019	Research Assistant, Coastal Physical Oceanography, University of Rhode Island Graduate School of Oceanography
2015-2017	Volatile Organics Analyst, ESS Laboratory, Div. of Thielsch Engineering Inc.

Education

2019 – M.S.
Oceanography
University of Rhode Island
2015 – B.A.
Environmental Geoscience
Connecticut College

Licenses and Registrations

CPR and First Aid

Professional Affiliations

- New England Estuarine Research Society
- Geological Society of America

Publications & Presentations

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KEY PROJECTS

MassDOT Coastal Flood Risk Model- Coastal Scientist/Modeler
ADCIRC was used to create a comprehensive flood risk assessment for the coastal areas of the State of Massachusetts for present conditions as well as four future year conditions.

Philadelphia Water Department Continuous Water Quality Monitoring- Coastal Scientist
Conducted quality assurance analysis for the continuous water quality monitoring of the Delaware River estuary.

Providence River and Harbor Dredged Material Management Plan- Modeler
Used the ROMS model applied to Narragansett Bay to model CAD Cell placement scenarios in the Providence River Estuary for the upcoming Providence River and Harbor Dredging Project conducted by the Army Corps of Engineers.

PUBLICATIONS & PRESENTATIONS

Medley, G. 2019. Models of Circulation in the Providence River Estuary. University of Rhode Island Master's Thesis, Kingston, RI.

Medley, G., Kincaid, C., and Rosa, K. 2018. Dredging for Environmental Benefit: Models of the Flushing Dynamics of the Providence River Estuary. NEERS Fall 2018 Meeting, SMAST, New Bedford, MA.

Medley, G. and Kincaid, C. 2018. Strategic Dredging for Water Quality Enhancement in the Providence River: A Hydrodynamic Modeling Study using ROMS. Department of Homeland Security EPSCoR Spring 2018 Research Symposium, Kingston, RI.

Thompson, D. Fixler, S., Zhao, A., Iezzi, A., Medley, G. and Roberts, K. 2017. Natural pool-riffle formation and maintenance by large wood in a gravel-bed river impacted by in-stream structures built in the 1930's and 1940's. AGU Fall Meeting 2017, San Francisco, CA.

Medley, G. and Thompson, D. 2015. Wind, Waves and Surge: Analysis of the Movement and Post-Storm Recovery of Bushy Point Beach in Groton, CT. Geological Society of America Northeastern Conference 2015, Bretton Woods, NH.

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