

Daniel J. Nowacki

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Education

- Doctor of Philosophy** 2015
University of Washington — School of Oceanography
Thesis title: Sediment dynamics in tidal systems spanning a range of fluvial influence
Adviser: Andrea Ogston
- Master of Science in Engineering (Civil)** 2010
University of Washington — Department of Civil & Environmental Engineering
Thesis title: Sediment removal from the Columbia River plume using a control volume formulation
Adviser: Alexander Horner-Devine
- Bachelor of Science in Computer Engineering** 2004
Syracuse University — College of Engineering & Computer Science
Summa cum laude · Physics Minor

Employment

- Research Oceanographer** 2015–present
U.S. Geological Survey — Coastal & Marine Geology Program, Woods Hole, MA
3/2015–3/2017 as Mendenhall Postdoctoral Research Fellow
Observations and numerical modeling of hydrodynamics and sediment transport in lagoons and salt marshes; wave–vegetation interaction; data standardization and reproducibility; execution of field operations in diverse and challenging environments
- Graduate Research Assistant** 2009–2015
University of Washington — School of Oceanography, Seattle, WA
Sediment transport of the tidal Mekong and Amazon rivers involving several intensive field efforts; observational and numerical investigations of tidal-flat sediment transport
- Graduate Research Assistant** 2008–2009
University of Washington — Dept. of Civil & Environmental Engineering, Seattle, WA
Sediment dynamics of the tidal Columbia River plume
- Hydrologist** 2004–2008
U.S. Geological Survey — National Research Program, Reston, VA
Surface-water and hyporheic-flow field investigations in the Florida Everglades

Skills, Training, &c.

- Hydrodynamic/wave model (SWAN, SWASH, Delft3D, ROMS, COAWST) compilation, configuration, execution, and analysis in parallel-computing environments
- Expert computational skills including time-series analysis, rapid interfacing with novel data sources, data QA/QC and archival in netCDF, shell scripting, Linux/UNIX system administration
- Software tools and languages including scientific Python stack, MATLAB, Perl, FORTRAN, GIS. GitHub repository: <https://github.com/dnowacki-usgs>
- Varied and extensive field-based scientific research experience on four continents
Ship/field time: 60+ days tidal Amazon River, Brazil; 25+ days Mekong River estuary, Vietnam; 20+ days Chincoteague Bay, MD/VA; 20+ days Grand Bay, AL/MS; 20+ days

Jamaica Bay & Great South Bay, NY; 40+ days Waipaoa shelf, New Zealand; 7 days
 Sego Sandstone, Book Cliffs, UT; 20+ days Willapa tidal flats, WA; 14 days
 Washington/Oregon shelf; 50+ days Florida Everglades

- Instrumentation design and integration
- Small boat operation experience in support of scientific research; US DOI MOCC certified
- U.S. Government B-3 aviation training; OSHA forklift operator training
- Written and conversational spoken Spanish

Teaching

Graduate Teaching Assistant	2012, 2013
OCEAN 410: Marine Geology & Geophysics	
OCEAN 201: Introduction to Oceanography Lab	
University of Washington — School of Oceanography	
Guest Lecturer	2012, 2013
Friday Harbor Labs Marine Sedimentary Processes Research Apprenticeship	
University of Washington — School of Oceanography	

Grants, Activities, Awards, and Scholarships

USGS Mendenhall Research Fellowship	2015
Two-year Federal postdoctoral appointment with the USGS Coastal & Marine Geology Program	
Pan-American Advanced Studies Institute	2013
Short course: “Toward a Sustained Operational River-to-Shelf Observation & Prediction System for the Amazon”	
Universidade Federal Fluminense, Niteroi, Brazil	
School of Oceanography Innovation Grant	2013
Development of an underwater imaging system (\$2,000)	
National Defense Science & Engineering Graduate (NDSEG) fellowship	2010–2013
Three-year tuition and salary award for study leading to a Ph.D (\$189,681)	
Engineers Without Borders USA, University of Washington chapter	2008–2011
Active graduate-student member; served on two assessment and implementation trips to Andean Bolivia in 2009 and 2011	
USGS/DOI STAR Award	2007
U.S. Geological Survey	
Institute of Electrical and Electronics Engineers (IEEE) Best Senior Design Project Implementation Award	2004
Syracuse University	

Professional Memberships

American Geophysical Union

Peer-Reviewed Publications

Ogston, A.S., Allison, M.A., McLachlan, R.L., **Nowacki, D.J.**, and Stephens, J.D., 2017,
 How tidal processes impact the transfer of sediment from source to sink: Mekong River
 collaborative studies, *Oceanography* 30, doi:10.5670/oceanog.2017.311.

- Fricke, A.T., Nittrouer, C.A., Ogston, A.S., **Nowacki, D.J.**, Asp N.E., Souza Filho, P.W.M., da Silva, M.S., 2017, River tributaries as sediment sinks: Processes operating where the Tapajós and Xingu rivers meet the Amazon tidal river, *Sedimentology*, doi:10.1111/sed.12372.
- Nowacki, D.J.**, Beudin, A., Ganju, N.K., 2017, Spectral wave dissipation by submerged aquatic vegetation in a back-barrier estuary, *Limnology & Oceanography*, doi:10.1002/lno.10456.
- Ganju, N.K., Suttles, S.E., Beudin, A., **Nowacki, D.J.**, Miselis, J.L., Andrews, B.D., 2016, Quantification of storm-induced bathymetric change in a back-barrier estuary, *Estuaries and Coasts*, doi:10.1007/s12237-016-0138-5.
- Nowacki, D.J.**, Ogston, A.S., Nittrouer, C.A., Fricke, A.T., Van, P.D.T., 2015, Sediment dynamics in the lower Mekong River: transition from tidal river to estuary, *Journal of Geophysical Research: Oceans*, doi:10.1002/2015JC010754.
- Nowacki, D.J.**, Ogston, A.S., 2013, Water and sediment transport of channel-flat systems in a mesotidal mudflat: Willapa Bay, Washington, *Continental Shelf Research*, doi:10.1016/j.csr.2012.07.019.
- Nowacki, D.J.**, Horner-Devine, A.R., Nash, J.D., Jay, D.A., 2012, Rapid sediment removal from the Columbia River Plume, *Continental Shelf Research* 35, doi:10.1016/j.csr.2011.11.013.
- Harvey, J.W., Noe, G.B., Larsen, L.G., **Nowacki, D.J.**, McPhillips, L.E., 2011, Field flume reveals aquatic vegetation's role in sediment and particulate phosphorus transport in a shallow aquatic ecosystem, *Geomorphology* 126, doi:10.1016/j.geomorph.2010.03.028.
- Harvey, J.W., Schaffranek, R.W., Noe, G.B., Larsen, L.G., **Nowacki, D.J.**, O'Connor, B.L., 2009, Hydroecological factors governing surface water flow on a low-gradient floodplain, *Water Resources Research* 45, doi:10.1029/2008wr007129.

Publications Under Review or in Preparation

- Nowacki, D.J.** et al., Storm-driven suspended-sediment fluxes in a back-barrier lagoon: Chincoteague Bay, MD/VA, in revision at *Marine Geology*.
- Nowacki, D.J.** et al., Seasonal, tidal, and geomorphic controls on sediment import to Amazon River tidal floodplains, submitted to *Earth Surface Processes and Landforms*.
- Nowacki, D.J.** et al., Sediment fluxes in a massively eroding salt-marsh complex, to be submitted to *Estuaries and Coasts*.

Technical Reports

- Suttles, S.E., Ganju, N.K., Brosnahan, S.M., Montgomery, E.T., Dickhudt, P.J., Beudin, A., **Nowacki, D.J.**, and Martini, M.A., 2017, Summary of oceanographic and water-quality measurements in Chincoteague Bay, Maryland and Virginia, 2014–15, *U.S. Geological Survey Open-File Report* 2017-1032.
- Schaffranek, R.W., Stewart, M.A., and **Nowacki, D.J.**, 2007, Surface-Water Exchange through Culverts along State Road 9336 within Everglades National Park, 2004-2005, *U.S. Geological Survey Data Series* 358.

Presentations (As First Author Only)

- Nowacki, D.J.**, Ganju, N.K., Suttles, S.E., Hydrodynamics and sediment transport in a rapidly eroding salt-marsh complex, Coastal and Estuarine Research Federation 24rd Biennial Conference, 5–9 November 2017, Providence, RI.
- Nowacki, D.J.**, Beudin, A., Ganju, N.K., Response of suspended-sediment fluxes to storms in a back-barrier estuary, Chincoteague Bay, MD/VA, USA, 2016 Ocean Sciences Meeting, 21–26 February 2016, New Orleans, LA.
- Nowacki, D.J.**, Ganju, N.K., A field and numerical study of wave attenuation by submerged

- vegetation in Chincoteague Bay, Coastal and Estuarine Research Federation 23rd Biennial Conference, 8–12 November 2015, Portland, OR.
- Nowacki, D.J.**, Ogston, A.S., Nittrouer, C.A., Fricke, A.T., Souza-Filho, P.W.M., Asp, N.E., Tidal-channel flow and sediment transport in environments influenced by the tidal Amazon River, Brazil, 2014 Ocean Sciences Meeting, 23–28 February 2014, Honolulu, HI.
- Nowacki, D.J.**, Ogston, A.S., Nittrouer, C.A., Fricke, A.T., Souza-Filho, P.W.M., Asp, N.E., Dynamics of sediment transport in large tropical tidal rivers via observations in the Mekong and Amazon, AGU Fall Meeting, 9–13 December 2013, San Francisco, CA.
- Nowacki, D.J.**, Ogston, A.S., Nittrouer, C.A., Souza-Filho, P.W.M., Silva, M.S., Silveira, O.F., Fricke, A.T., The Amazon tidal river as a missing link in the transport of water and sediment to the ocean, University of Washington Water Symposium, 18 April 2012, Seattle, WA.
- Nowacki, D.J.**, Ogston, A.S., Nittrouer, C.A., Souza-Filho, P.W.M., Silva, M.S., Silveira, O.F., Fricke, A.T., Water and sediment transport in the Amazon tidal river and its tributaries, Ocean Sciences Meeting, 20–24 February 2012, Salt Lake City, UT.
- Nowacki, D.J.**, Ogston, A.S., 2011, Multiple scales of controls on sediment transport in intertidal flats: tidal stage, storms, and seasons, AGU Chapman Conference on Source to Sink Systems Around the World and Through Time, 24–27 January 2011, Oxnard, CA.
- Nowacki, D.J.**, Ogston, A.S., 2010, Water-surface elevation controls on sediment-transport dynamics in channel-flat environments of intertidal flats, AGU Fall Meeting, 15–17 December 2010, San Francisco, CA.
- Nowacki, D.J.**, Ogston, A.S., Nittrouer, C.A., 2010, Water-surface elevation controls on sediment-transport dynamics in channel-flat environments of intertidal flats, AGU Ocean Sciences Meeting, 22–26 February 2010, Portland, OR.
- Nowacki, D.J.**, Horner-Devine, A.R., Nash, J.D., Jay, D.A., 2009, Turbulent Removal of Sediment from a Buoyant River Plume, Coastal and Estuarine Research Federation 20th Biennial Conference, 1–5 November 2009, Portland, OR.

Professional References

Available upon request.