

Amanda Mulcan Lopez, Ph.D.

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EDUCATION

- 2021 Doctor of Philosophy in Geology** University of Houston (Houston, TX)
Dissertation: Heavy Metal Geochemistry of Sediments and Oysters from Galveston Bay, Texas
- 2014 Master of Science in Environmental Science** Florida Atlantic University (Boca Raton, FL)
Thesis: Environmental Siting Suitability Analysis for Commercial Scale Ocean Renewable Energy: A Southeast Florida Case Study
- 2011 Bachelor of Arts in Geological Sciences and History** University of Miami (Coral Gables, FL)
Minors in Ecosystem Science and Policy and Art

WORK EXPERIENCE

- Apr 2024 – present Technologist, Jet Propulsion Laboratory-Assistant Researcher Univ. of California, LA
Joint Inst. for Reg. Earth System Science and Engineering
- Jul 2021 – Apr 2024 NASA Postdoctoral Fellow, Jet Propulsion Laboratory-Visiting Assistant Researcher
Univ. of California, LA Joint Inst. for Reg. Earth System Science and Engineering
- Jan 2020 – May 2021 Graduate Research Assistant, Dept. Earth and Atmospheric Science, Univ. of Houston
- Jan 2017 – Jun 2017 Intern, Experimental Petrology Group, NASA Johnson Space Center
- Aug 2016 – Dec 2019 Graduate Teaching Assistant, Dept. Earth and Atmos. Science, Univ. of Houston
- Jan 2016 – Jun 2016 Adjunct Professor of Environmental Science, Broward College (online campus)
- Aug 2015 – May 2016 Adjunct Professor of Environmental Science, Lone Star College
- May 2014 – Jun 2015 Project Geologist, Tierra Consulting Group, Inc.
- Jan 2013 – May 2014 Graduate Teaching Assistant, Dept. of Geosciences, Florida Atlantic Univ.
- Sep 2011 – Dec 2012 Graduate Research Assistant, Geodesy Lab, Univ. of Miami Rosenstiel School of
Marine and Atmos. Science

PUBLICATIONS

- **Lopez, A.M.**, Lee, C.M., Hestir E.L., Berberian, L. A., Blackwood, C., Gierach, M. (2025e). Coastal resilience in the face of increasing wildfires: A land-sea perspective. *In review*.
- Xiang, C., Thompson, D.R., Green, R.O., Fahlen, J.E., Thorpe, A.K., Brodrick, P.G., Coleman, R.W., **Lopez, A.M.** and Elder, C.D. (2025d) Identification of False Methane Plumes for Orbital Imaging Spectrometers: A Case Study with EMIT. *Under revision*.
- Meshesha, T. W., Hestir, E.L., Harmon, T.C., **Lopez, A.M.**, Lee C.M., Mohammed I.N. (2025c). The effects of wildfire on watershed processes: A model-based comparison of two watersheds. *Under revision*.
- **Lopez, A.M.**, Meshesha, T. W., Lee C.M., Mohammed I.N., Hestir E.L., Harmon T.H., and Avouris, D. M. (2025b). Increased sediment loadings into coastal waters following wildfire: A remote sensing and modeling perspective. *Under revision*.
- Chadwick, K.D., et al. (2025a) Unlocking Ecological Insights from Subseasonal Visible-to-Shortwave Infrared Imaging Spectroscopy: The SHIFT Campaign. *Accepted for publication in Ecosphere*.
- Fahlen, J., Brodrick, P., Coleman, R.W., Elder, C., Thompson, D., Thorpe, A., Green, R.O., Green, J., **Lopez, A.M.**, Xiang, C. (2024) Sensitivity and Uncertainty in Matched-Filter-Based Gas Detection with Imaging Spectroscopy. *IEEE Transactions on Geoscience and Remote Sensing* 62: 1-10.

- **Lopez, A.M.**, Brandon, A.D., Ramos F.C., Fitzsimmons, J.N., Dellapenna T.M., Adams H.A. (2021a) Lead geochemistry of sediments in Galveston Bay estuary, Texas. *Environmental Advances* 4: 100057.
- **Lopez, A.M.**, Fitzsimmons, J.N., Dellapenna T.M., Adams H.A., Brandon, A.D. (2021b) A time-series of heavy metal geochemistry in sediments of Galveston Bay estuary, Texas, 2017-2019. *Science of the Total Environment* 806(2022): 150446.
- **Mulcan, A.**, Mitsova, D., Hindle, T., Hanson, H., Coley, C. (2015) Marine benthic habitats and seabed suitability mapping for potential ocean current energy siting offshore southeast Florida. *Journal of Marine Science and Engineering* 3(2): 276-298.
- Wdowinski, S., Hong, S.H., **Mulcan, A.**, Brisco, B. (2013) Remote sensing monitoring of tide propagation through coastal wetlands. *Oceanography* 26(3): 64-69.

SELECTED PRESENTATIONS

- **Lopez, A.M.**, Hestir, E.L., Avouris, D. M., Lee, C.L., Mohammed, I.N., Harmon, T.C., Meshesha, T. W., Berberian, L. Tools to Assess Coastal Water Quality Impacts from Wildfires California Wildfires Conference; 2023 Oct 24-26; Simi Valley, CA.
- Mohammed, I. N., **Lopez, A.M.** Assessing the Impacts of Fires on Watershed Health NASA Applied Remote Sensing Training Program (ARSET); 2023 Jul 11; Virtual.
- **Lopez, A.M.**, Hestir, E.L., Avouris, D. M., Lee, C.L., Berberian, L., Mohammed, I.N., Harmon, T.C., Cavanaugh, K., Bell, T., Jepsen, S., Meshesha, T. W. Wildfire Impacts on Watershed Transport of Carbon to Coasts NASA Carbon Cycle & Ecosystems Joint Sciences Workshop; 2023 May 8-12; College Park, MD.
- **Lopez, A.M.**, Brandon, A.D., Fitzsimmons, J.N., Ramos F.C., Jensen C.C. Biogeochemistry of Heavy Metals in Galveston Bay. Texas Commission on Environmental Quality Galveston Bay Estuary Program Monitoring and Research Subcommittee Meeting; 2021 Jun 9; Virtual meeting.
- **Lopez, A.M.**, Brandon, A.D., Fitzsimmons, J.N., Ramos F.C., Jensen C.C. Lead Isotopes and Heavy Metal Concentrations in Galveston Bay, Texas Sediments. Geological Society of America Conference; 2020 Oct 26-30; Virtual meeting.
- **Lopez, A.M.**, Brandon, A.D., Fitzsimmons, J.N., Ramos F.C. Industrial Pollution in Galveston Bay, Texas: Evidence from Lead Isotopes in Estuarine Sediments. Goldschmidt Conference; 2019 Aug 18-23; Barcelona, Spain.
- **Lopez, A.M.**, Brandon, A.D., Fitzsimmons, J.N., Ramos F.C. Pb Isotopes and Heavy Metal Pollutants in Galveston Bay, Texas. University of Houston Dept. of Earth and Atmospheric Science Student Research Day Conference; 2019 Apr 26; Houston, TX.
- Markwith, S. H., Cooper, H., Kamerosky, A., Kunwar, R., Thibaut, C., **Mulcan, A.**, So, Y. 2014. Pre-restoration Assessment of fish and invertebrate communities at the Grassy Flats restoration area, Lake Worth Lagoon, Florida. Submitted to the Department of Environmental Resources Management, Palm Beach County, FL.
- **Mulcan, A.**, Wdowinski, S., Hong, S.H., and Brisco, B. 2012. Wetland InSAR as a Tool for Monitoring Ocean Tide Propagation through Coastal Wetlands. American Geophysical Union Conference; 2012 Dec 3-7; San Francisco, CA.

CONTRIBUTED ABSTRACTS

- Vander Kaaden, K.M., McCubbin F.M., Rowland R.L., Morris R.V., Reppart J.J., **Lopez A.M.**, Klima R.L. Synthesis and Characterization of Fe-Poor Olivine with Applications to Low Fe-O Planetary Surfaces. Lunar and Planetary Science Conference; 2018 Mar 19-23; The Woodlands, TX. LPI Contrib. No. 2083.

GRANTS, HONORS, AND AWARDS

- 2019 – 2021: Texas Commission on Environmental Quality Galveston Bay Estuary Program Monitoring & Research Subcommittee Research Grant
- 2019: University of Houston Student Research Day Conference 1st Place Oral Presentation Scholarship
- 2019: University of Houston 3-Minute Thesis Finalist Scholarship
- 2013 – 2014: Florida Atlantic University Graduate Grant
- 2011: Sigma Gamma Epsilon Earth Science Honor Society W.A. Tarr Award
- 2010 – 2011: Member and Vice President of Sigma Gamma Epsilon Earth Sciences Honor Society
- 2007 – 2011: University of Miami Dean's Scholarship

TEACHING

Students Advised/Mentored

- 2021 – present Lori Berberian (Univ. of California, Los Angeles, Geography) Ph.D. dissertation “Wildfires Impacts on California Kelp”
- 2021 – 2022 Rebecca Neuren (Loyola Marymount Univ., Civil/Environmental Engineering) Master's Thesis “California Wildfires and Coastal Water Quality”
- 2019 – 2020 Audrey Schmitt (Univ. of Houston, Geology) Undergraduate Senior Honor's Thesis “Tracing the Provenance of Modern Galveston Bay Sediments using Sr and Nd Isotopes and Major and Trace Elemental Abundances”
- 2018 – 2019 Perry Akrie (Univ. of Houston, Geology) Undergraduate Senior Honor's Thesis “Assessment of Industrial Sources for Heavy Metals in Galveston Bay Onshore Sediments Using Lead Isotopes”

Courses Taught

- Physical Geology Laboratory (Teaching Assistant, Univ. of Houston) *Fall 2019, Spring 2018, Spring and Fall 2017*
- Introduction to Climate Change (Teaching Assistant, Univ. of Houston) *Spring 2019*
- Environmental Geochemistry (Teaching Assistant, Univ. of Houston) *Fall 2018*
- Rocks and Minerals (Teaching Assistant, Univ. of Houston) *Fall 2016*
- Environmental Science I and II (Adjunct Professor, Lone Star College) *Spring 2016, Fall 2015*
- Environmental Science (Adjunct Professor, Broward College) *Spring and Summer 2016*
- History of the Earth and Life (Teaching Assistant, Florida Atlantic Univ.) *Spring 2013*
- Biogeography (Teaching Assistant, Florida Atlantic Univ.) *Spring 2013*
- The Blue Planet (Teaching Assistant, Florida Atlantic Univ.) *Spring 2014, Fall 2013*