

# John Malito

curriculum vitae

University of North Carolina – Chapel Hill  
Department of Marine Sciences  
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## EDUCATION

**M.S. Marine Science**, University of North Carolina at Chapel Hill **Fall 2019- Fall 2021 (expected)**

**B.S. Environmental Science**: focus in Geographic Science, University of Texas at Austin **2018**  
• Dean's list, Cum Laude **2014, 2015**

## RESEARCH INTERESTS

Coastal morphodynamic modelling, coastal sediment transport processes, river delta evolution coupled with human change, impacts of climate change on Arctic continental shelves, remote sensing of alluvial terraces in the Amazon basin

## PROFESSIONAL EXPERIENCE

**Environmental Specialist** – CBD Civil Engineering & Surveying, Austin TX – \$20/hr – 40hr/wk **2018 – 2019**

- Conduct environmental assessments, mapping, and documentation for CBD projects within federal, state, and municipal environmental guidelines, including Phase I Environmental Assessments, Waters of the US assessments, Stormwater Pollution and Prevention Plans (SWPPP), and Environmental Resource Inventories.
- Manipulate LiDAR point clouds to create elevation rasters in order to assist company engineers as needed. ArcGIS editing and spatial analysis tools are used to create base maps, delineate streams, create topographic contours, calculate acreage of drainage basins, etc. using this data.

**GIS Intern** – Texas General Land Office - \$15/hr – 15hr/wk

**Spring 2018**

**GIS Intern** – City of Pflugerville Planning Dept. - \$10/hr – 19 hr/wk

**Spring, Summer 2017**

## RESEARCH EXPERIENCE

**Fate of Arctic Coastal Sediments** **2019-2021**

- NSF funded project aimed at modelling sediment transport and morphologic changes to the Alaskan Beaufort Shelf at decadal to centennial timescales. Leading to peer-reviewed publication by Fall 2021
- Using Delft3D – FLOW, we seek to develop a simple cross-shelf model considering present-day and projected scenarios of wave climate, storms, and shelf morphology to analyze potential transport and morphologic feedbacks in the rapidly changing Arctic.
- Integrates field data (seabed sediment textures, tidal data, bathymetric data, and wave & current time series) to build and validate a representative cross-shelf model of the Beaufort shelf.
- Advisors: Emily Eidam, Jaap Nienhuis

**Competition of Nearby River Deltas** **2021**

- Competition of Nearby River Deltas: How the Brazos River Delta closed the San Bernard River Mouth with the help of Coastal Infrastructure, Advisor: David Mohrig. Leading to peer-reviewed publication by Fall 2021
- Examines how the diversion of the Brazos River and construction of the Gulf Intracoastal Waterway near Freeport, TX led to the clogging of the mouth of the San Bernard River by sediments supplied by the Brazos. Documents the development of a complex engineered delta system with historical oceanographic data acquisition and flow measurements collected in situ via ADCP.

**Research Intern**- Long Institute for Latin American Studies

**August 2017- August 2018**

- Advisor: Edgardo Latrubesse, Professor, Department of Geography and the Environment, UT Austin
- Digitized geologic units from a high resolution DEM of the Solimoes river basin to show channel migration through time. Produce and interpret maps showing geologic units with the upper Amazon basin.

## **PRESENTATIONS**

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- **Seminar – UNC Marine Sciences Interdisciplinary Seminar Series**, Virtual, March 2021.  
*Climate-driven changes to carbon budgets on Arctic Shelves.*
- **Poster – Arctic Science Summit Weekly**, Lisbon (Virtual), March 2021.  
*A Shelf in Disequilibrium: how Arctic shelves may respond to climate-driven changes in sea states.* John Malito, Emily Eidam, and Jaap Nienhuis.
- **Seminar – UNC Marine Sciences Seminar Series**, Virtual, October 2020.  
*A New Arctic: Shelves in Disequilibrium.* John Malito, Emily Eidam, and Jaap Nienhuis.
- **Poster - AGU Fall Meeting**, San Francisco, Dec 10 2019. EP23E-2255  
*Competition of Nearby River Deltas: How the Brazos River Delta closed the San Bernard River Mouth with the help of Coastal Infrastructure.* John Malito and David Mohrig.

## **FIELD EXPERIENCE**

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### **Sediment Transport in North Carolina Rivers**

**Summer 2020**

- Collected and analyzed cross-channel ADCP transects, CTD casts, and turbidity measurements with UNC Coastal Sediments lab at points along various North Carolina rivers to characterize sediment transport.

### **Coastal Ocean Dynamics in the Arctic (CODA)**

**Nov 2019**

- Cruise conducted aboard the R/V Sikuliaq from November 1<sup>st</sup> – 26<sup>th</sup>, 2019 under Chief Scientist Jim Thomson in the Chukchi and Beaufort Seas. Assisted Jim Thomson and team of coastal oceanographers with data collection for the CODA project aimed at analyzing the changing ice-wave interactions.
- Gathered preliminary datasets of bed textures, bathymetry, water column turbidity, CTD profiles, and recovered/deployed seafloor tripods and moorings. This data was provided by Jim Thomson to help guide the model development and field campaign planning for the Fate of Arctic Coastal Sediments project.

### **Pollutant Transport in North Carolina Rivers**

**Oct 2019**

- Assisted UNC undergraduate along with Dr. Emily Eidam collecting sediment cores in the Neuse River to be analyzed for buried farm-sourced pollutants.

### **Competition of Nearby River Deltas, San Bernard River, Texas**

**Jan 2017, June 2021**

- Collected bathymetry (sidescan sonar) and flow data with an ADCP along the intersection of the San Bernard river and Gulf Intracoastal Waterway. Interpreted fair-weather flow and bedform morphology to determine flow and sediment transport pathways at the intersection. Assisted by Jasmine Mason and David Mohrig, UT Austin

### **Characterization of Natural Levees on the Trinity River, Texas**

**May 2016**

- Project led by Hima Hassenruck-Gudipati and David Mohrig, Professor, UT Austin
- Assisted in sketching stratigraphy, collecting sediment, topographic data, and manual labor.

## **CODING & MODELLING EXPERIENCE**

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- Current research developing a cross-shore model of Arctic shelf profile evolution using Delft-3D-FLOW at decadal to centennial timescales.
- Other experience includes 2 years of coding experience in Matlab and Delft3D for research in coastal sediment transport, fundamental familiarity with Python (attended introductory workshops taught by UNC-Libraries), and multi-year experience with ArcGIS in academic and professional settings.

## **RELEVANT COURSEWORK**

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- Marine Geology, Sediment Transport, River Hydrology, Time Series Analysis, Chemical Oceanography, Physical Oceanography, Biological Oceanography, Weather & Climate, Geographic Information Systems, Scientific Writing, Remote Sensing, Geomorphology, the Anthropocene, Environmental Hazards, Introductory Geology, and Climate Change.

## **HONORS & AWARDS**

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<b>UNC Doctoral Merit Fellowship</b>	<b>2019 - 2020</b>
<b>UT Austin Top 10% Scholarship</b>	<b>2014 - 2018</b>
<b>World Class Champion, Blue Devils Drum Corps</b>	<b>2015</b>
<b>Life Scout, Boy Scouts of America Troop 172, 7 year active member</b>	

## **ORGANIZATIONS**

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<b>UT University Orchestra and Trumpet Studio,</b>	<b>2014- 2016</b>
<ul style="list-style-type: none"><li>• Performed in two concerts per semester with diverse orchestral &amp; trumpet repertoire</li><li>• Studio members met weekly for trumpet guest clinics and individual performances</li></ul>	
<b>Drum Corps International</b>	
<ul style="list-style-type: none"><li>• Blue Devils Drum and Bugle Corps</li><li>• Phantom Regiment Drum and Bugle Corps</li></ul>	<b>2015, 2016</b> <b>2013</b>
<b>Vandegrift High School Band Teaching Staff</b>	<b>2016-2018</b>
<b>Westlake High School Band Teaching Staff</b>	<b>2014-2016</b>

## **SKILLS**

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- Microsoft Office, DELFT 3D- FLOW, MATLAB, ESRI software, AutoCAD, ERDAS, Google Earth, QGIS, Jupyter Notebook, and LiDAR processing software LP360, QT Modeler, and VRMesh.

## **US Citizenship Status**

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- US Citizen – Born in US
- Registered for US Selective Service