

# BRYNNYDD HAMILTON

brynnnydd@mit.edu

## EDUCATION

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**MIT-WHOI Joint Program in Oceanography**

*expected: 2026*

Ph.D. in Physical Oceanography

**Northeastern University**

*May 2021*

B.S. in Physics, Minor in Geology

Summa Cum Laude

## RESEARCH EXPERIENCE

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**MIT-WHOI Joint Program**

September 2021 - Present

*Graduate Research Assistant*

- Applying inverse methods to assess Common Era sea surface conditions from benthic foraminiferal records
- Assessing signal-to-noise ratios of potential temperature changes in the Atlantic Ocean in CMIP models

**Northeastern University: Earth Surface System Lab**

September 2019 - July 2021

*Honors in the Discipline Project*

- Completed senior thesis project using the USACE's HEC-RAS modelling framework and GIS to model theoretical sediment transport into oxbow lakes during extreme river discharge events

*Research Coop*

- Performed data analysis in Python on hydrological and climatic datasets, including NCEP/NCAR reanalysis, GFAS river discharge, USGS river gage data, and CESM-LME ensembles
- Assisted field work searching for slackwater deposits and future study sites on the Ohio River, as well as retrieving sediment core samples from oxbow lakes on the Missouri and Ohio rivers.
- Completed particle-size analysis on sediment core samples

## PUBLICATIONS

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- S.E. Muñoz, **B. Hamilton**, B. Parazin. (2023) Contrasting ocean-atmosphere dynamics mediate flood hazard across the Mississippi River basin. *Earth Interactions*, doi: 10.1175/EI-D-22-0015.1
- C. Wiman, **B. Hamilton**, S.G. Dee, S.E. Muñoz. (2021) Reduced lower Mississippi discharge during the Medieval Era. *Geophysical Research Letters*, doi: 10.1029/2020GL091182
- S.E. Muñoz, T.J. Porter, A. Bakkelund, J. Nusbaumer, S.G. Dee, **B. Hamilton**, L. Giosan, J.E. Tierney. (2020) Lipid biomarker record documents hydroclimatic variability of the Mississippi River basin during the Common Era. *Geophysical Research Letters*, doi: 10.1029/2020GL087237

## EXTRACURRICULAR

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**Through the Porthole**

December 2021 - Present

- Writes and edits for a newsletter intended to demystify graduate school to undergraduate students, prospective graduate students, and incoming graduate students

**Summer Math Review**

August 2022

- Designed and taught a 1.5 hour summer math review course in probability and statistics for incoming MIT-WHOI Joint Program students

## TECHNICAL SKILLS

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**Computer Languages**

Julia, Python, MATLAB, L<sup>A</sup>T<sub>E</sub>X

**Technical**

Git, Emacs, Linux