

JEDIDIAH ERNEST DALE

DEPARTMENT OF GEOGRAPHY AND THE ENVIRONMENT
THE UNIVERSITY OF TEXAS AT AUSTIN

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Education

UNIVERSITY OF TEXAS AT AUSTIN – AUSTIN, TX 2020 (*expected*)

Master of Arts in Geography

Advisor: Professor Timothy Beach

*Topical Coursework: Hydrogeomorphology, Spatial Hydrology, Wetlands & Floodplains,
Earth Surface Processes Seminar, Environmental Isotope Geochemistry*

UNIVERSITY OF PENNSYLVANIA – PHILADELPHIA, PA 2018

Bachelor of Arts in Earth Science, cum laude

Advisor: Professor Clark Erickson

Thesis: "A Remote Sensing Analysis of Burning Dynamics in the Llanos de Moxos"

Experience

UNIVERSITY OF TEXAS AT AUSTIN, DEPARTMENT OF GEOGRAPHY AND THE ENVIRONMENT - AUSTIN, TX
GRADUATE RESEARCH ASSISTANT June 2019 – *Present*

- Conducts research in Environmental Hydrology and Soils & Sediments Laboratories
- Analyzes water chemistry via spectrophotometry
- Prepares samples for ICP-MS & IRMS analysis
- Keeps lab in compliance with university EHS, and USDA Foreign Soil Import regulations
- Works with PIs and other graduate researchers to coordinate laboratory needs for ongoing projects

GRADUATE TEACHING ASSISTANT August 2018 – May 2019

- This Human World (Introductory Human Geography) - Fall 2018
- This Physical World (Introductory Physical Geography) - Spring 2019

UNIVERSITY OF PENNSYLVANIA, DEPARTMENT OF ANTHROPOLOGY - PHILADELPHIA, PA
RESEARCH ASSISTANT April 2017 – August 2018

- Technical lead on an interdisciplinary project the Precolumbian landscape of the Bolivian Amazon
- Project funded through NASA Space Archaeology Program
- Utilized multi-sensor remote sensing techniques for long term analysis of flood and fire regimes
- Applied hydrodynamic models for the assessment of human impacts on floodplain processes

GLOBAL WATER ALLIANCE - PHILADELPHIA, PA
PLANNING ASSISTANT October 2015 – October 2017

- Designed and taught lessons on water stewardship to Philadelphia high school students
- Contributed to the organization of conferences

BROOKHAVEN NATIONAL LABORATORY, COMPUTATIONAL SCIENCE INITIATIVE - UPTON, NY
STUDENT COLLABORATOR June – August 2014; June – August 2016

- Participated in Department of Energy Science Undergraduate Laboratory Internship Program
- Researched applications of machine learning to remote sensing
- Built a system for the automated ingestion of satellite imagery and feature extraction

UNITED STATES GEOLOGICAL SURVEY, NEW YORK WATER SCIENCE CENTER - CORAM, NY

INTERN

May – August 2015

- Contributed to ongoing surface and groundwater monitoring programs
- Applied field and laboratory techniques to the assessment of water and sediment quality
- Worked on project to integrate legacy groundwater well data into GIS based aquifer mapping model

Field Experience

Orange Walk District, Northwest Belize (1 month per year) 2018, 2019

- Collected lake and river bathymetry for integration with LiDAR data into a unified surface model
- Utilized side scan sonar to map woody debris concentrations in the Rio Bravo and its tributaries
- Used an Acoustic Doppler Current Profiler to quantify hydraulics and suspended sediment loads
- Collected lake cores for paleo-environmental reconstruction

White Sands National Monument, NM (1 week) 2017

- Conducted research on aeolian processes
- Geostatistically analyzed grain size distribution patterns over interacting barchan dunes

Long Island, NY (3 months) 2015

- Collected steam discharge data with ADCP
- Assisted in the maintenance and installation of tide and water quality monitoring stations

Presentations (* Indicates Presenter)

***Dale, J.**, Beach, T., Hutson, S., Krause, S., Eshelman, S., Bozarth, S. *Geoarcheological Investigation of Maya Landscape Adaptation In an Ancient Yucatan Agauda or Reservoir*. Geological Society of America Annual Meeting. Phoenix, AZ, September 2019.

***Dale, J.**, Krause, S., Luzzadder-Beach, S., Beach, T. *Production and Pollution: Geoarchaeological and Paleoenviromental Potential of a Northwest Belize Laguna*. American Association of Geographers Annual Meeting. Washington DC, April 2019.

***Dale, J.**, Erickson, C., and Beach, T. *Remote Sensing of Burning Dynamics in the Domesticated Landscape of the Bolivian Amazon*. Southwest Division of the American Association of Geographers Annual Meeting. Baton Rouge, LA, October 2018.

*Erickson, C., ***Dale, J.** *Precolumbian Water Management in Engineered Landscapes of the Bolivian Amazon*. Presentation at The Penn Museum. Philadelphia, PA August 2018.

Erickson, C., ***Dale, J.**, Wdowinski, S., Thayn, J., Nicoll, J., and Rowley, R. *Flood Regimes, Earthworks, and Water Management in the Domesticated Landscapes of The Bolivian Amazon*. Presented in the symposium *Anthropogenic Rainforest: Landscape Management in the Amazon Before the European Conquest*, Annual Meeting of the Society for American Archaeology, Washington DC, April 2018.

*Cisek, D., Mahajan, M., **Dale, J.**, Pepper, S., Lin, Y., and Yoo, S. *A transfer learning approach to parking lot classification in aerial imagery*. In *IEEE: New York Scientific Data Summit (NYSDS)*, 2017 New York. IEEE-Xplore.

*Cisek, D., ***Dale, J.**, Pepper, S., Mahajan, M., and Yoo, S. *Parking lot delineation and object detection using a localized Convolutional Neural Network*. In *IEEE: New York Scientific Data Summit (NYSDS)*, 2016 New York. IEEE-Xplore.

Honors and Awards

VESELKA GRADUATE RESEARCH TRAVEL GRANT

UNIVERSITY OF TEXAS AT AUSTIN DEPARTMENT OF GEOGRAPHY AND THE ENVIRONMENT 2019

RECRUITMENT FELLOWSHIP

UNIVERSITY OF TEXAS AT AUSTIN DEPARTMENT OF GEOGRAPHY AND THE ENVIRONMENT 2018

PETRONELLA VAN WEEZEL AWARD

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF GERMANIC LANGUAGES AND LITERATURES 2016

SEG/ANADARKO SCHOLARSHIP

SOCIETY OF EXPLORATION GEOPHYSICISTS 2014

Affiliations

- American Association of Geographers (AAG)
- Geological Society of America (GSA)
- American Geophysical Union (AGU)
- Society of American Archaeologists (SAA)

Service

Webmaster - University of Texas at Austin Graduate Association of Geography and the Environment

Alumni Interviewer - Penn Club of Austin

Skills

Languages

- Dutch (Elementary)
- Spanish (Elementary)

Programming Languages

- Python
- MATLAB
- Bash

Software

- ArcGIS (w/ ArcPy)
- QGIS/GRASS (w/ PyGRASS)
- Google Earth Engine
- HEC-RAS
- WinRiver II/VMT
- Linux System Administration

Field & Laboratory Techniques

- ADCP
- Sidescan sonar
- X-Ray Diffraction
- X-Ray Fluorescence
- Laser diffraction particle sizer
- Spectrophotometry

References

Professor Timothy Beach
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The University of Texas at Austin
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Professor Clark Erickson
Department of Anthropology
University of Pennsylvania
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Professor Sheryl Luzzadder-Beach
Department of Geography & the Environment
The University of Texas at Austin
slbeach@austin.utexas.edu

Professor Douglas Jerolmack
Department of Earth & Environmental Science
University of Pennsylvania
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