

# JEDIDIAH ERNEST DALE

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

3205 GROOMS STREET  
AUSTIN, TX 78705

JEDALE@UTEXAS.EDU  
(631) 316-5001

## 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,*

*The Anthropocene, 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 & Geoarchaeology Laboratories
- Collects mineralogical and geochemical data using Olympus XRD/XRF instruments
- Measures major ion water chemistry via spectrophotometry
- 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

**UNIVERSITY OF TEXAS AT AUSTIN**, DEPARTMENT OF GEOGRAPHY AND THE ENVIRONMENT - AUSTIN, TX  
GRADUATE TEACHING ASSISTANT August 2018 – May 2019

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

**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 Paleoenvironmental 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 DEPARTMENT OF GEOGRAPHY AND THE ENVIRONMENT 2019

### **RECRUITMENT FELLOWSHIP**

UNIVERSITY OF TEXAS 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
- 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  
Department of Geography & the Environment  
The University of Texas at Austin  
beacht@austin.utexas.edu

Professor Clark Erickson  
Department of Anthropology  
University of Pennsylvania  
cerickso@sas.upenn.edu

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  
sediment@sas.upenn.edu