Adam S. Lucas
C. V.

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RESEARCH EXPERIENCE

Undergraduate Researcher
Modeling the role of frontal ablation in the 21st century evolution of lake-terminating glaciers on the Juneau Icefield, Alaska, U.S.A.
Appalachian State University | Project Advisor: Dr. William Armstrong

- Used the Open Global Glacier Model (OGGM) to model the effects of frontal ablation on the lake-terminating glaciers of the Juneau Icefield.
- Preliminary results show that frontal ablation makes up a small amount of mass loss in the future evolution of some lake-terminating glaciers (Gilkey & Meade glaciers), and a large amount of mass loss on others (Field Glaciers), dependent on water depth and glacial overdeepening length.

EDUCATION

Appalachian State University | B.S. in Environmental Science, Concentration in Earth Systems
Expected May 2024

- Minor in Geology & Minor in Mathematics
- GPA: 3.85/4.0
- *Member,* Geology and Environmental Science Club

South Point High School | High School Diploma
August 2016 - June 2020

- GPA: 4.46 / 4.5
- *Member,* SPHS Marching Band
- *Member,* SPHS Environmental Science Club
- *Member,* National Honor Society

CONFERENCES / MEETINGS

American Geophysical Union | San Francisco, December 2023

Lucas, A., Armstrong, W., McNeil, C., Sutherland, D., Overeem, I., & Campbell, S. Modeling the role of frontal ablation in the 21st century evolution of lake-terminating glaciers on the Juneau Icefield, Alaska, U.S.A. AGU Fall Meeting, December 2023.

Southeast Friends of the Pleistocene Field Meeting | Linville Falls, Spring 2022

- Attended a field presentation on the formation of Linville Gorge, NC, by the process of stream capture.

WORK EXPERIENCE

Undergraduate Research Assistant **March 2023 - Current**
Appalachian State Geological and Environmental Sciences | Boone, NC

- Modeled frontal ablation on the Juneau Icefield as part of a project advised by Dr. William Armstrong at Appalachian State University.

Answersphere (Geology Tutor) **August 2022 - Current**
Appalachian State Geological and Environmental Sciences | Boone, NC

- Assisted students in studying for introduction to geology and environmental science classes and answered their geology questions.

Construction Quality Technician **May 2022 - August 2022 & December 2022 - January 2023**
Shield Engineering Inc. (now part of CDG Inc.) | Charlotte, NC

- Ran both field and lab tests to determine the quality of construction materials in order for construction to continue for residential and industrial projects for companies such as Duke Energy and Charlotte-Mecklenburg Schools.
- Field Testing - Dynamic Cone Penetrometer, Hand Auger Borings, and Rebar Inspections.
- Lab Testing - Proctor tests, Atterberg Limits, Compressive Strength of Concrete Cylinders and Grout Prisms, Moisture Content of Soil and Bark, and Grain Size Analysis.

Teaching Assistant **January 2022 - April 2022**
Appalachian State Geological and Environmental Sciences | Boone, NC

- Assisted the professor in teaching students in a class of 20 students.
- Answered student's questions and helped students with rock identification.

VOLUNTEERING/OUTREACH

App. State Geological and Environmental Science (GES) Outreach
Events Include:

- Schiele Museum Fossil Fair (Spring 2022 & 2023)
- Hiddenite Celebration of the Arts (Fall 2022 & 2023)
- GES Open House (Spring & Fall 2022)
- Live Staking with the Watuaga Riverkeeper (Spring 2022)
- Cove Creek Cleanup (Spring 2023)

App. State College of Arts and Science Corps
Events Include:

- Morgan Science Lecture Series Greeter
- App. State Open House (Fall 2023)

App. State GES Peer Mentor

- Assisted underclassmen and transfer students with classes and finding opportunities in the geosciences at App. State.

App. State GES Community Building Student Committee (formerly DEI)

- Committee works to build a strong and diverse community within the App. State GES Department, by planning social events, sharing career opportunities, and building equity and diversity.

FIELD EXPERIENCE

- Geologic Mapping of a Portion of the Appalachian Trail
- GPR to Locate Unmarked Graves
- Seismic Refraction Survey to Determine Depth to Bedrock
- Tracer & Slug Tests
- Soil Identification
- Soil Bearing Capacity & Compaction Test
- Electrical Resistivity Survey

TECHNOLOGY/SOFTWARE

- MATLAB
- Python
- Open Global Glacier Model
- ENVI
- QGIS
- Adobe Suite
- Microsoft Suite

AWARDS/HONORS

- Appalachian Excellence Scholarship (App. State, Fall 2020)
- Promising New Major Award (GES Department, Spring 2022)
- Undergraduate Research Assistantship (GES Department, Fall 2023)
- Departmental Honors (GES Department, expected Spring 2024)

RELEVANT COURSES

- Hydrogeology
- Quantitative Data Analysis in Earth & Environmental Science
- Introduction to Geophysics
- Quantifying Environmental Change
- Geological Field Methods
- Environmental Field Methods
- Calculus 1, 2, & 3
- Linear Algebra
- Environmental Remote Sensing
- Principles of Structural Geology & Tectonics
- Global Biogeochemical Cycles
- Preparation for Careers in Earth & Environmental Sciences
- Geospatial Technology in a Changing World
- Differential Equations

PROFESSIONAL MEMBERSHIPS

- Geological Society of America (2021 - 2022)
- American Geophysical Union (2023 - Present)