

University of Washington  
Department of Earth & Space Sciences

**CLASS OF 2023!**  
*undergraduates*





Jin Yeh

“Yay!”











# Hannah Greany

Prepping a coral limestone thin section





# Safety First!







CAUTION  
MUD FLATS ARE  
DANGEROUS  
PLEASE KEEP OFF



GO  
BE  
KIND



# Griffin Easthouse

with a new friend  
in Shoshone







# Death Valley field work





# Isotope lab work in HF PPE





Educational outreach  
with the Pacific  
Northwest Seismic  
Network







Issac Bendon









Making pots  
out of fault  
gouge







Amorette  
Chiossi











Ava Kamm











Amanda  
Syamsul









AGU CENTRAL AGU CENTRAL

SKETCH YOUR SCIENCE



42

# 10,000 and Counting: Determining Boulder Grain Size Distribution and Constraining Error of Boulder Measurements Between Google Earth and Photogrammetry in the Eastern Himalaya

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<sup>1</sup>University of Washington, <sup>2</sup>University of Washington, <sup>3</sup>University of Washington, <sup>4</sup>University of Washington

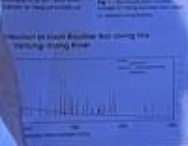
W UNIVERSITY OF WASHINGTON



andrew.grahamjohnson@uw.edu

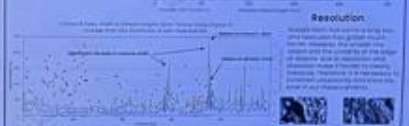
## A. Introduction

Understanding the grain size distribution of boulders is important for understanding erosion and transport in mountainous regions. However, measuring grain size distributions in the field is often difficult and time-consuming. We use Google Earth and photogrammetry to measure grain size distributions in the Eastern Himalaya.



## B. Gathering Data & Looking for Trends

Methods: We used Google Earth and photogrammetry to measure grain size distributions in the Eastern Himalaya. We used Google Earth to identify boulder fields and photogrammetry to measure grain size distributions. We used Google Earth to identify boulder fields and photogrammetry to measure grain size distributions.



Overall Trends: The grain size distribution of boulders in the Eastern Himalaya is generally bimodal. The grain size distribution of boulders in the Eastern Himalaya is generally bimodal. The grain size distribution of boulders in the Eastern Himalaya is generally bimodal.

## C. Uncertainty - Tuting

Methods: We used Google Earth and photogrammetry to measure grain size distributions in the Eastern Himalaya. We used Google Earth to identify boulder fields and photogrammetry to measure grain size distributions. We used Google Earth to identify boulder fields and photogrammetry to measure grain size distributions.



Results: The grain size distribution of boulders in the Eastern Himalaya is generally bimodal. The grain size distribution of boulders in the Eastern Himalaya is generally bimodal. The grain size distribution of boulders in the Eastern Himalaya is generally bimodal.

## D. Take Home message

Understanding the grain size distribution of boulders is important for understanding erosion and transport in mountainous regions. We use Google Earth and photogrammetry to measure grain size distributions in the Eastern Himalaya.

## E. Why should you care?

Understanding the grain size distribution of boulders is important for understanding erosion and transport in mountainous regions. We use Google Earth and photogrammetry to measure grain size distributions in the Eastern Himalaya.

## F. What's next?

Understanding the grain size distribution of boulders is important for understanding erosion and transport in mountainous regions. We use Google Earth and photogrammetry to measure grain size distributions in the Eastern Himalaya.



 **Graham Johnson**

Geological Society of America  
Cordilleran Section Meeting -  
2023 - Reno Nevada



Fieldwork at  
Dungeness  
Bluffs  
ESS 490:  
Advanced Field  
Methods with  
Professor Kathy  
Troost







# Exploring flood basalts in Eastern Washington

during a field trip for

ESS 211: Earth Processes

with Professor John Stone



# Julia Macray







# Zion National Park







ESS 463  
Death Valley  
March 2023











Olivia  
Beth  
Fraser





# Fieldwork on Rialto Beach







# Heather Rose Maran











Sandra Jensen

Monitoring erosional  
processes at Middlefork





Francesca Skene



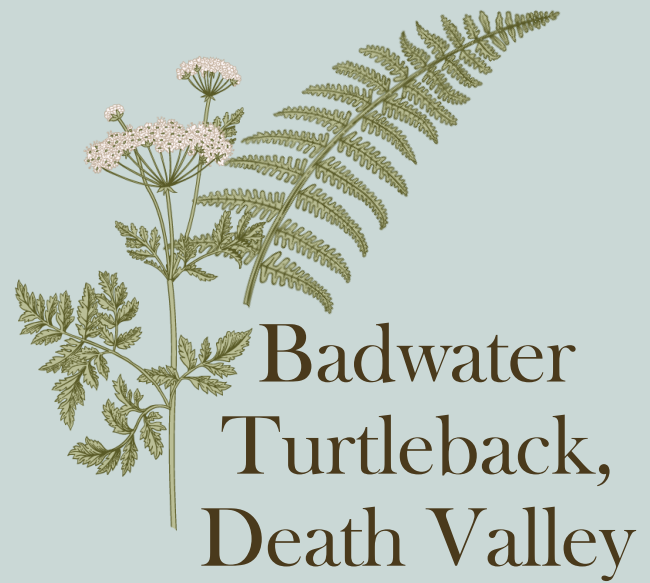




# Rainbow Basin, CA







Badwater  
Turtleback,  
Death Valley







# ESS Field School 2022





# Abby Sylvester

Meeting a duck friend during lunch break from taking gravitational measurements along Lake Washington







# Studying an outcrop in the Chuckanut Mountains

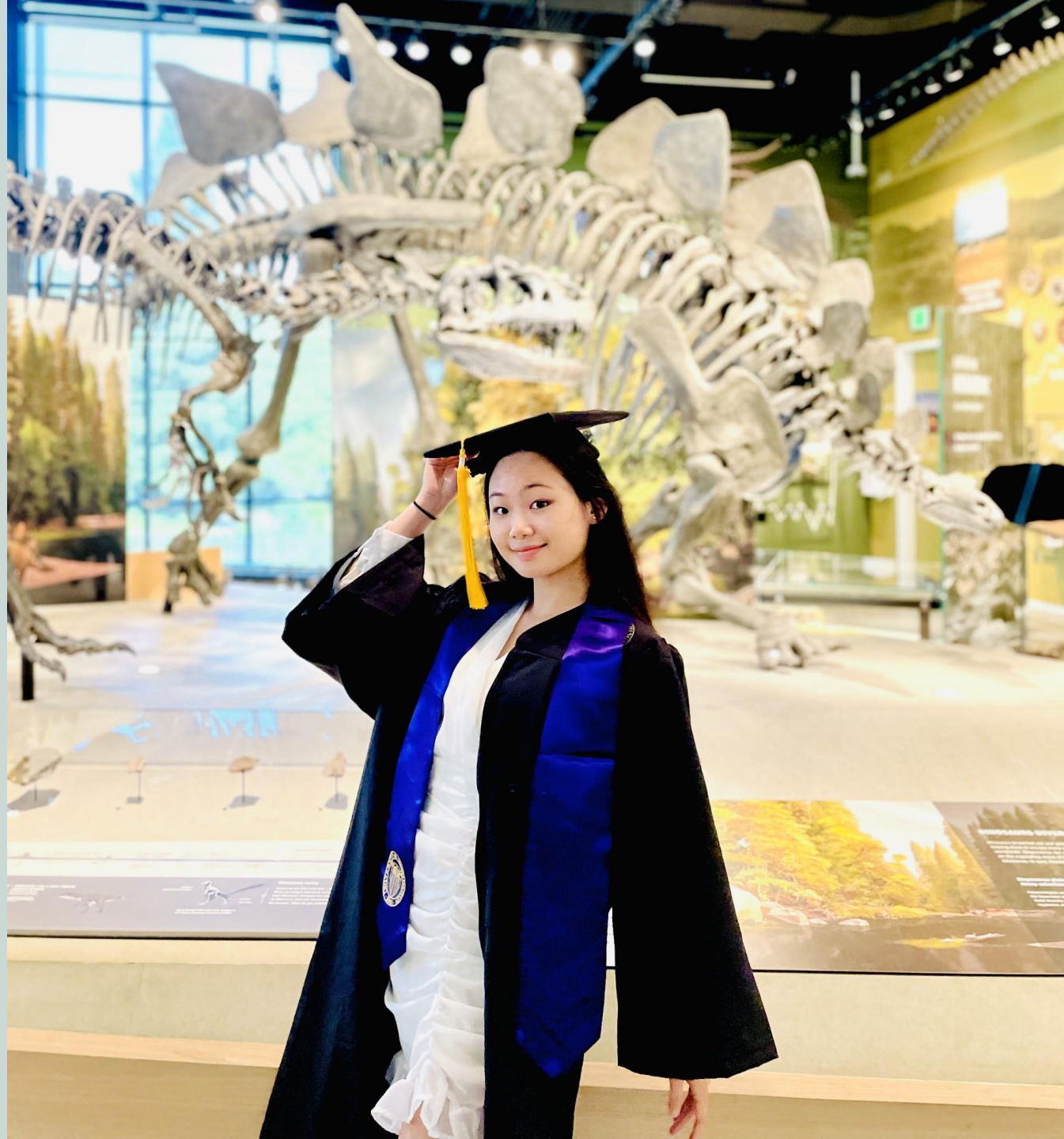






# Tin Yan Jessie So

*Ready for my paleo journey  
at the Burke Museum*







“Guess what dino fossil I found in Montana? Nice try, I don’t know either.”







# ESS Field School 2022

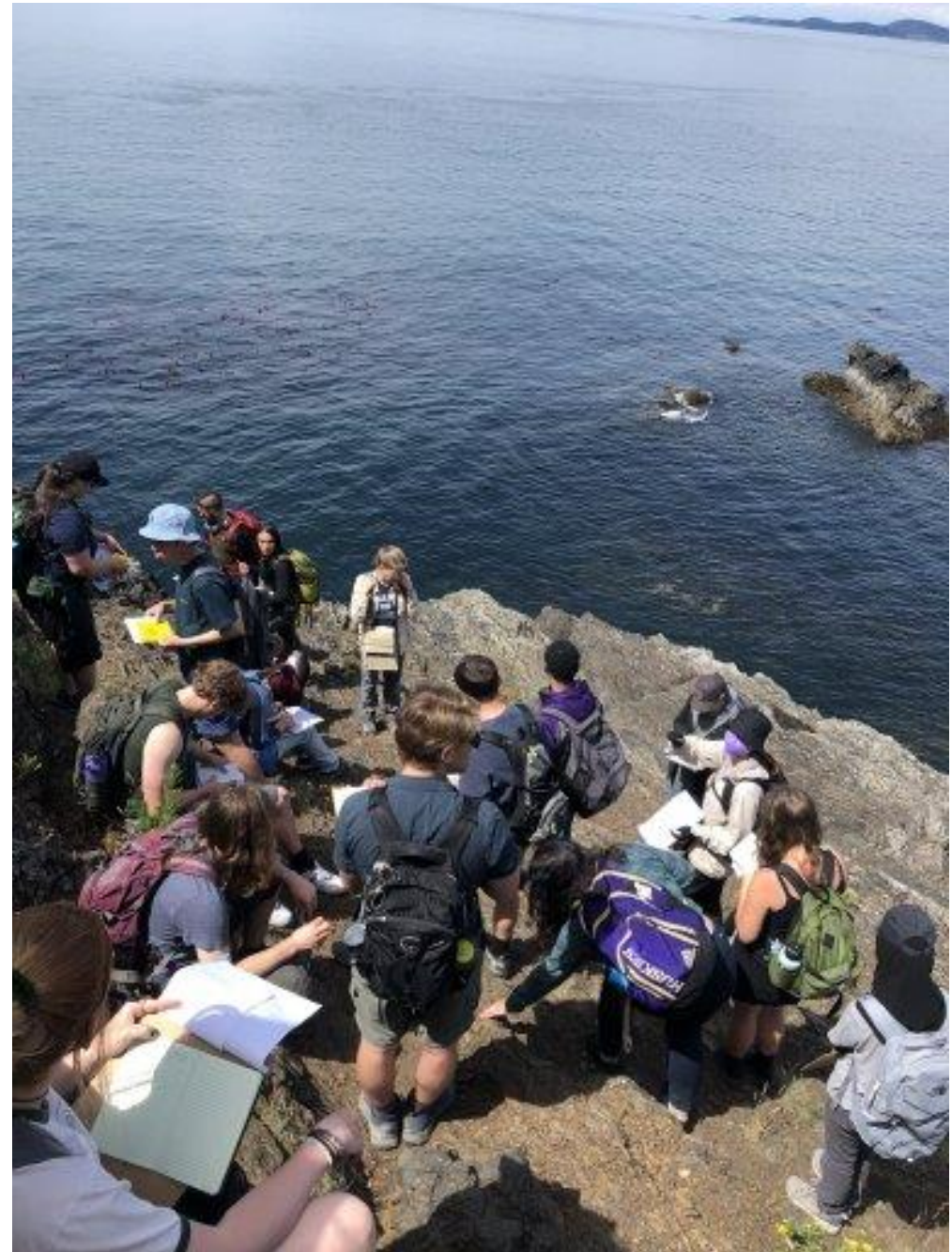
Ryan, Hunter, Graham, Andrew, Hannah & Heather







ESS Field  
School 2022  
at Rosario  
Head







# Marquis Richardson

Badwater Basin Salt Flats at  
Death Valley National Park





Cruisin' for  
a bruisin'







Field work at Sequim Bay State Park





Weijie Jay Li











Artificial rain in  
Professor John  
Stone's ESS 211:  
Earth Processes  
Class!





# Death Valley Monarch Canyon

ESS 463:

Structure and Tectonics  
with Professor Darrel Cowan



# Linh Vu











Reese Carroll







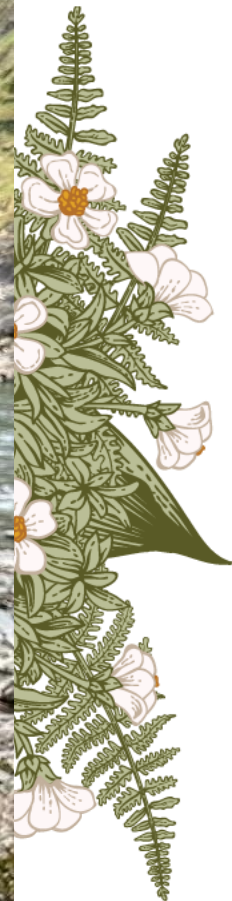












Anjali Manoj

















THE  
NORTH  
FACE





# Congratulations to all our graduating ESSers in the Class of 2023!!

We are so proud of you and  
can't wait to see what you do next!

