

Abhinav Shrestha

M.S. Student

Department of Earth and Spatial Sciences, College of Sciences

University of Idaho, Moscow, ID

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Education

- 2021-current **M.S.** Geography, Department of Earth and Spatial Sciences, College of Sciences, University of Idaho, Moscow, ID
Thesis topic: Evaluating methods of detecting forest insect damage and mortality using UAV data products in conifer forests of the western United States
Advisor: Dr. Jeffrey Hicke, Department of Earth and Spatial Sciences, University of Idaho
- 2015-2019 **B.A.** Biology and Environmental Science, Coe College, Cedar Rapids, IA
Honors: *Magna Cum Laude*, Phi Beta Kappa, Phi Kappa Phi
Senior Honors Thesis: GIS-Based Study on Topographical Preference of Common Tree Species in Palisades-Kepler State Park, IA
Advisor: Dr. Paula Sanchini, Department of Biology, Coe College

Research Experience

- 2022-current **Graduate Research Assistant**, NASA Commercial SmallSat Data Analysis (CSDA)
Project title: Using commercial satellite imagery to study insect outbreaks in the US:
Outbreak characteristics and evaluation of Landsat-based algorithms
Principle Investigator: Dr. Arjan Meddens, School of the Environment, Washington State University, Pullman, WA
- 2017-2019 **Undergraduate Researcher**, Department of Biology, Coe College, Cedar Rapids, IA
Senior Honors Thesis: GIS-based study on topographical preference of common tree species in Palisades-Kepler State Park, IA
Advisor: Dr. Paula Sanchini, Department of Biology, Coe College, Cedar Rapids, IA
- 2018 **GIS Research Technician**, Department of Psychology, Coe College, Cedar Rapids, IA
Project title: How roadway design affects cyclist-motorist interactions
Principle Investigators: Kei Yoshida and Dr. Benjamin Chihak, Department of Psychology, Coe College, Cedar Rapids, IA
- 2016 **Undergraduate Research Assistant**, Department of Chemistry, Coe College, Cedar Rapids, IA
Project title: Raman spectroscopy of phosphorylated and dephosphorylated proteins to provide insight on bio-cement produced by *Pectinaria gouldii* and *Phragmatopoma lapidosa*.
Principle Investigator: Dr. Maria Dean, Department of Chemistry, Coe College, Cedar Rapids

Professional Experience

- 2021-2022 **Graduate Teaching Assistant**, Department of Earth and Spatial Sciences, University of Idaho, Moscow, ID
Responsibilities: instructor for Physical Geography Lab (GEOG 100L), online course developer for Intermediate GIS course (GEOG 475) through University of Idaho's Center for Excellence in Teaching and Learning (CETL)
- 2019-2021 **Quality Control Lab Analyst**, Archer Daniels Midland (ADM), Cedar Rapids, IA
Responsibilities: perform daily analytical tests for process and final samples of products, perform maintenance, calibration, and troubleshooting of all analytical laboratory equipment, perform job cycle checks, blind sample testing, cross lab studies, and review and validate standard operating procedures (SOP)
- 2016-2019 **Lab Technician**, Department of Biology, Coe College, Cedar Rapids, IA
Responsibilities: prepare samples and solutions for quantitative analysis of genetic, tissue and microbiological experiments for all biology lab courses, maintain and update remote sensing equipment for field courses, maintain inventory of chemical stockroom, caretaker of plants and animals used for lab courses and research
- 2018 **IT Technician**, Department of Information Technology, Coe College, Cedar Rapids, IA
Responsibilities: update and maintain hardware and software of all computers, printers, and servers under Coe College IT supervision, provide technical support via in-person drop-ins and phone/email IT helpline
- 2018 **Undergraduate Tutor**, Department of Biology, Coe College, Cedar Rapids, IA
Responsibilities: help students troubleshoot issues regarding remote sensing and field data integration with ArcGIS, answer any GIS related questions pertaining to the Spatial Ecology course (BIO 290)

Involvement, Service & Engagement

- 2016-2019 **Executive Board Member**, International Club, Coe College, Cedar Rapids, IA
Roles: President (2018-2019), Vice President (2017-2018), and Public Relations Officer (2016-2017)
Responsibilities: organize events that promote cultural diversity within the general student body and local community, act as liaisons that represent the international student body to work with the Office of International Student Affairs and the Office of Student Development at Coe College
- 2017-2019 **International student representative**, Diversity and Inclusion Collaboration Committee, Coe College, Cedar Rapids, IA
Responsibilities: organize collaborative events with student leaders from identity-based student organizations at Coe College advocating for cultural diversity and minority representation

- 2016-2017 **Public Relations Officer**, Multicultural Fusion Club, Coe College, Cedar Rapids, IA
Responsibilities: coordinate communications between members, general student body, and local communities to promote participation for events organized by the club
- 2016 **International Student Orientation Leader**, Office of International Student Affairs, Coe College, Cedar Rapids, IA
Responsibilities: coordinate and oversee events that comprise of the International Student Orientation, mentor international students to ease their transition into a new environment

Publications & Presentations

- Shrestha, A.** (2019). GIS-Based Study on Topographical Preference of Common Tree Species in Palisades-Kepler State Park, IA. Defended and submitted as an honors thesis to the Coe College Department of Biology.
- Shrestha, A., & Sanchini P.** (2019). A Geographic Information System (GIS)-Based Study on Topographical Preference of Common Tree Species in Palisades-Kepler State Park. Presentation given at Coe College Student Research Symposium 2019.
- Shrestha, A., Obiesie, C., & Sanchini, P.** (2018). Distribution of Oaks (*Quercus* spp.) in Forests of Palisades-Kepler Park, Linn County, Iowa. Poster presented at Coe College Student Research Symposium 2018.
- Yoshida, K., **Shrestha, A., & Chihak, B.** (2018). How Roadway Design Affects Cyclist-Motorist Interactions. Poster presented at 2018 Tri-State Undergraduate Psychology Research Conference at Loras College, Dubuque, IA.

Honors & Awards

- 2021-current **Graduate Assistantship**, Department of Earth and Spatial Sciences, University of Idaho, Moscow, ID (\$94,389)
- 2015-2019 **Global Leadership Full-tuition Scholarship**, Coe College, Cedar Rapids, IA (\$155,000)
- 2019 **DeJong Biology Research Award** for outstanding honors research in biology, Department of Biology, Coe College, Cedar Rapids, IA
- 2019 **Phi Beta Kappa**, National Honors Society
- 2019 **Phi Kappa Phi**, National Honors Society

Relevant Courses & Skills

University of Idaho (2021-current)

Courses: Remote Sensing with UAS, Data Wizardry in Environmental Science (R-programming course), Remote Sensing/GIS Integration, Global Climate Change, Advanced Forest Entomology, Fire Ecology, Statistical Analysis

Coe College (2015-2019)

Courses: Urban Ecology, Environmental Microbiology, Analytical Chemistry, Behavior and Ecology of Vertebrates, Field Botany

Software, Programming Languages, & Instruments

R-programming language, RStudio, ArcGIS Pro, QGIS, ERDAS Imagine, Agisoft Metashape, CloudCompare, Emlid Studio, Trimble GeoX7 GPS receiver, ProMark 220 GPS receiver, TruPulse Laser Rangefinder, High Performance Liquid Chromatography (HPLC), Gas Chromatography (GC), Combustion Analyzer, Ion Chromatography (IC)

Languages

English (Native), Nepali (Native), Hindi (Native), Urdu (Intermediate)

Professional References

Dr. Jeffrey Hicke, Professor (Advisor), Department of Earth and Spatial Sciences, University of Idaho, Moscow, ID. Email: jhicke@uidaho.edu

Dr. Jason Karl, Associate Professor of Rangeland Ecology and Harold F. and Ruth M. Heady Endowed Chair of Rangeland Ecology, Department of Forestry, Rangeland, and Fire Sciences, University of Idaho, ID. Email: jkarl@uidaho.edu

Dr. Arjan Meddens, Assistant Professor, School of the Environment, Washington State University, Pullman, WA. Email: arjan.meddens@wsu.edu

Dr. Paula Sanchini, Henry and Margaret Haegg Professor of Biology and Environmental Science Administrative Coordinator, Department of Biology, Coe College, Email: psanchin@coe.edu