

Smriti Shrestha

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EDUCATION

Master of Science in Geography

Oklahoma State University | Stillwater, Oklahoma

Expected: May 2026

GPA: 4.0

- Specialization: Geospatial Technologies

Bachelor of Science in Environmental Sciences

Kathmandu University | Dhulikhel, Nepal

May 2023

GPA: 3.91

PROFESSIONAL EXPERIENCE

Graduate Research Assistant

Oklahoma State University | Stillwater, Oklahoma

August 2024 – Present

- Conduct a literature review for the USGS project, “Optimizing Invasive Plant Management: Integrating Remote Sensing and Climate Sciences,” using critical thinking, research skills, and Zotero to support proposal development.
- Perform climate analysis for the project by extracting, validating, and analyzing data in R to develop a climate classification system.
- Utilize GIS and programming to assess environmental factors affecting invasive species distribution to provide insights for effective management strategies.

Teaching Assistant

Kathmandu University | Dhulikhel, Nepal

August 2023 – July 2024

- Instructed undergraduate laboratory classes in Environmental Engineering and Science, on “Wastewater practical” and “Soil practical,” using communication and lab skills to enhance education, earning positive evaluations.
- Assisted course instructor in “GIS Lab” and “Environmental Modeling Lab,” teaching GIS and Python to enhance students’ spatial analysis and technical skills, preparing them for academic and professional use.
- Conducted “Air Pollution Practical” sessions on air quality analysis and control, providing hands-on experience to enhance student learning in environmental science.
- Graded assignments and exams with a focus on fairness and accuracy, supporting a transparent evaluation process.

Environmental Assistant

Nepal Electricity Authority | Kathmandu, Nepal

June 2023 – July 2023

- Drafted Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) reports, leveraging strong written communication and analytical skills to produce approved reports that facilitated project implementation, ultimately improving energy access and enhancing the quality of life in rural communities.
- Developed topographic, land use, and administrative unit maps utilizing ArcGIS Pro and QGIS to create visualizations for determining the placement of transmission lines.

- Conducted environmental site assessments for two transmission line projects, utilizing fieldwork precision and stakeholder engagement to gather practical site data and incorporate community feedback into project planning.

INTERNSHIP AND FELLOWSHIP EXPERIENCE

Environmental Intern

February 2023 – June 2023

Nepal Electricity Authority | Kathmandu, Nepal

- Assisted the Environmental Assistant in conducting literature reviews and preparing EIA reports, utilizing research skills to support the approval of reports, enabling successful project implementation.
- Supported the Environmental Assistant in preparing study area maps, applying GIS skills to analyze spatial data and create accurate visual representations, which contributed to informed decision-making and successful project planning.

Sustainability Fellow

September 2020 – November 2020

Himalayan Climate Initiative | Kathmandu, Nepal

- Conducted site feasibility assessments using cost-benefit analysis and soil moisture tests, applying regulatory knowledge and fieldwork to select the optimal site balancing environmental, social, and economic factors.
- Led the implementation of the 'Rainwater Harvesting System with Rain Garden' project in a local school, utilizing negotiation, fundraising, written and verbal communication, and collaboration with multiple stakeholders to secure approvals and funding (~USD 500), leading to the successful completion of the project.

ACADEMIC PROJECTS

Evaluation of Relationship between Heavy Metal Concentration and the Abundance of *Lespedeza cuneata*

Geographic Analysis I | Oklahoma State University | Stillwater, Oklahoma

April 2025

Advisor: Dr. Jon Comer

Future Impacts of Climate-Induced Hydrologic Changes on Human Water Security

Global Water Resources Seminar | Oklahoma State University | Oklahoma

April 2025

Advisor: Dr. Thomas Lavanchy

Estimation of Linkage between Phenology and Climate Using Remote Sensing

Remote Sensing | Oklahoma State University | Stillwater, Oklahoma

December 2024

Advisor: Dr. Hamed Gholizadeh

Study of Cultural and Socio-economic Characteristics of Thapathali Squatter Area

Urbanization and Sustainable Development | Kathmandu University | Nepal

November 2022

Advisor: Dr. Nani Raut

Threats, Impacts and Mitigating Measures to Ghodaghodi Lake Complex

Fundamentals of Aquatic Ecology | Kathmandu University | Nepal

November 2022

Advisor: Dr. Smriti Gurung

Data Requirements for Watershed Management Plan

Integrated Watershed Management | Kathmandu University | Nepal

November 2022

Advisor: Dr. Bikash Adhikari

Relationship between Air Pollution and Ethics

Environmental Sociology & Human Ecology | Kathmandu University | Nepal

September 2021

Advisor: Dr. Bibhuti Ranjan Jha

Land Management Plan of Mahalaxmi Municipality

Soil Science and Land Management | Kathmandu University | Nepal

October 2020

Advisor: Dr. Bed Mani Dahal

Selection of Plant Species Based on Drought Factors

Bioengineering | Kathmandu University | Nepal

June 2021

Advisor: Dr. Bikash Adhikari

Portable Greenhouse with Drip-Irrigation System

Engineering Project | Kathmandu University | Nepal

April 2019

Advisor: Dr. Sabita Aryal Khanna

PUBLICATIONS

Shrestha, S., G. Maskey, and R. B. Kayastha. 2023. Assessment of climate change effects on the hydrological regime of Bagmati River basin using SWAT model. *Journal of Hydrology and Meteorology* 11 (1): 28–41. <https://doi.org/10.3126/jhm.v11i1.59663>.

Byanju, A., D. Pradhananga, B. Dhungana, A. Maharjan, and **S. Shrestha**. Linking science communication with communities about nature-based solutions: A case study of floating treatment wetland systems. *Community Science*. (In Review)

ACADEMIC PRESENTATIONS

Shrestha S., G. Maskey, and R. B. Kayastha. 2023. Assessment of climate change effects on the hydrological regime of Bagmati River basin using SWAT model. Poster presentation at the GEOMountains Hindu Kush Himalaya Workshop, ICIMOD, Lalitpur, November.

TECHNICAL SKILLS

Data Analysis: Python, R, Google Earth Engine, IBM SPSS, GeoDA, SWAT model

Data Visualization: ArcGIS Pro, QGIS, ENVI

Languages: Nepali (Native), Hindi (Intermediate), English (Proficient)

AWARDS AND SCHOLARSHIPS

Jerry Croft and Family Award in Geography Education (\$1900)	2025
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Robert E. Norris Field Research Award (\$1000)	2025
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Nepal Student Medal 'A' (Awarded by the government for being the school topper)	2023
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KU Merit Scholarship (Awarded every semester as the class topper: \$2880)	2018 – 2023
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ORGANIZATIONS

Member , IUCN Climate Crisis Commission	2024/25
Executive Member , Nepalese Student Association at OSU	2024/25
Member , YOUNGO: Official Youth Consistency of the UNFCCC	2023/24
Country Ambassador (Nepal), Eco-Network, Bangladesh	2022/23
Vice President , Inner Wheel Club of Kirtipur Millenials	2022/23
Member , Nature and Social Concern Society (NSCS)	2018 – 2023
International Service Organizer , Inner Wheel Club of Kirtipur Millenials	2021/22
Member , Rotaract Club of Kathmandu University	2020/21
Member , Amnesty International Kathmandu University Youth Network	2018/19

VOLUNTEERING

GIS Day at the Capitol	March 2025
North Zone Vice Chancellors' Meet	February 2024
Academia-Industry Meet	December 2023
Monsoon Expedition 2022	May-September 2022
US Study Abroad Student Engagement Program	August 2022
Hult Prize at Kathmandu University	March 2022
Nepalese Youth for Climate Action	2021/22
Nature and Social Concern Society (NSCS) day	August 2020
Himalayan Knowledge Conclave (HKC)	August 2020
Sustainability Discourse	June 2020
COVID-19 Community-Based Tracking	April 2020

RELEVANT COURSEWORK AND TRAININGS

Lead4Success Leadership Training (Hargis Leadership Institute at OSU)	2025
Introduction to Zotero (Oklahoma State University Library)	2024
GEOMountains: Interdisciplinary Monitoring, Data & Capacity Sharing (ICIMOD)	2023
Empowering Women in Geospatial Information Technology (ICIMOD)	2023
Data Analysis with Python (IBM)	2023
Applications of Satellite Generated Atmospheric & Climatic Datasets (PLUS)	2023
Creeping Environmental Problems (UNESCO Fulbright)	2023
Data Analysis with R Programming (Google)	2023
Envisioning Spatial Analysis through SuperMap GIS (SuperMap)	2021
Introduction to GIS Mapping (University of Toronto)	2021
Environmental Management & Ethics (Technical University of Denmark)	2021
Getting started with GIS (ESRI)	2021
Ecology: Ecosystem Dynamics & Conservation (AMNH)	2021

REFERENCES

Dr. Yuting Zhou Assistant Professor Department of Geography Oklahoma State University yuting.zhou@okstate.edu Relationship: Graduate advisor	Dr. Rijan Bhakta Kayastha Professor Department of Environmental Science and Engineering, Kathmandu University rijan@ku.edu.np Relationship: Undergraduate advisor
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