

SOPHIYA GYANWALI

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EDUCATION

- 2024-Present **Arizona State University, School of Geographical Sciences and Urban Planning**
Ph.D. in Geographic Information Science
- 2022-2024 **Virginia Tech, Department of Geography**
M.S. in Geography
Thesis Title: Relocation Attitudes Among Urban Residents along the US East Coast: A Spatial Perspective
- 2016-2020 **Kathmandu University**, Dhulikhel, Nepal
B.Sc. in Environmental Science

PUBLICATIONS

Published

- Kim, J., Karki, S., **Gyanwali, S.**, Chandramouli, V., David-John, B., Bloom, M. S., & Kim, J. (2026). From Presence to Perception: Quantifying Human Engagement with Urban Greenery Using an AI-Powered Wearable Eye-Tracking Device. *Urban Forestry & Urban Greening*, 129675.
- Gyanwali, S.**, Karki, S., Jang, K. M., Crawford, T., Zhang, M., & Kim, J. (2025). Implications for spatial non-stationarity and the neighborhood effect averaging problem (NEAP) in green inequality research: evidence from three states in the USA. *Journal of Geographical Systems*, 27(1), 7-30. (Selected as the JGS Editors' Choice Article)

Revise and Resubmit

- Gyanwali, S.**, Bukvic, A., Kim, J., & Crawford, T. Understanding Coastal Relocation: Linking Survey-Based Preferences and Place-Based Conditions. Submitted to *Risk Analysis*.
- Flores, A., Larson, K., **Gyanwali, S.**, Meerow, S. Does Official Flood Zone Status Shape Risk Perception? Evidence from Designated and Undesignated Flood Zones in Phoenix, Arizona. Submitted to *International Journal of Disaster Risk Reduction*.
- Jones, W., **Gyanwali, S.**, Sherman, J., Vujicic, Marko., Brickhouse, Tegwyn., Kim, J., & Zhang, M. A National Analysis of Overall and Medicaid-Participating Dental Clinics. Submitted to the *Journal of Public Health Dentistry*.

In Preparation

- Gyanwali, S.**, Flores, A., & Connor, D. Historical Urban Development Patterns in FEMA-designated and Undesignated Flood Zones: A Case Study of Greater Houston, Texas.
- Gyanwali, S.**, Syropoulos, S., & Eakin, H. Putting Behavior Back in its Place: Spatial Approaches to Environmental Psychology.
- Zhang, M., Lewis, A., **Gyanwali, S.**, Courtney, R., Cannizzo, F., Liu, L., Hildebrand, R., & Kim, J. Identifying Rural-Urban Disparities in Drive-Time Proximity and Telehealth Accessibility to Veterans Affairs Healthcare Services.
- Flores, A., Kim, Insoo., & **Gyanwali, S.** Longitudinal Spatial Disparities in Flood Insurance Uptake: A National Analysis of NFIP Coverage Using the Spatial Durbin Model.

CONFERENCE PRESENTATIONS

1. Gyanwali, S., Flores, A., Connor, D., & Meerow, S. Historical Urban Development and Social Vulnerability in Federally-Overlooked and FEMA Flood Zones. Natural Hazards Workshop Researcher's Meeting. Broomfield, CO. June 17, 2026.

2. **Gyanwali, S.,** Flores, A., Connor, D. Historical Urban Development Patterns in FEMA-designated and Undesignated Flood Zones: A Case Study of Greater Houston, Texas, ASFPM 2026, Milwaukee, WI.
3. **Gyanwali, S.,** Flores, A., Connor, D., & Meerow, S. Analyzing Urban Development and Social Vulnerability in Federally-Overlooked and FEMA Flood Zones. *Association of American Geographers Annual Meeting*. San Francisco, CA. March 20, 2026.
4. **Gyanwali, S.,** Flores, A., Connor, D., Yu, Y., Cliff, A. Analyzing Urban Development in Various Flood Zones, *Natural Hazards Workshop*. Broomfield, CO. [Poster Presentation]. July 13, 2025.
5. **Gyanwali, S.,** Flores, A., Connor, D., Yu, Y., Cliff, A. Analyzing Urban Development in Federally-Overlooked and FEMA Flood Zones in Greater Houston, Texas. *Association of State Floodplain Managers Annual Meeting*. New Orleans, LA. May 22, 2025.
6. **Gyanwali, S.,** Flores, A., Connor, D., Yu, Y., Cliff, A. Analyzing Urban Development in the FEMA Flood Zones and Federally-Overlooked Zones. *Association of American Geographers Annual Meeting*. Detroit, MI. March 28, 2025.
7. **Gyanwali, S.,** Flores, A., Connor, D., Yu, Y., Cliff, A. Analyzing Urban Development in Federally-Overlooked and FEMA Flood Zones in Greater Houston, Texas. *Institute for Social Science Research (ISSR) Annual Graduate Student Poster Contest*. Tempe, AZ. [Poster Presentation]. April 22, 2025.
8. **Gyanwali, S.,** Flores, A., Connor, D., Yu, Y., Cliff, A. Analyzing Urban Development in Federally-Overlooked and FEMA Flood Zones in Greater Houston, Texas. *Annual Urban Climate Research Center (UCRC) Poster Event*. Tempe, AZ. [Poster Presentation]. February 3, 2025.
9. **Gyanwali, S.,** Flores, A., Larson, K., Meerow, S. Comparing Perceptions of Flood Risk in FEMA and Federally-Overlooked Flood Zones in Metropolitan Phoenix, Arizona. *Central Arizona–Phoenix Long-Term Ecological Research Symposium*. Scottsdale, AZ. [Poster Presentation]. January 12, 2025.
10. **Gyanwali, S.,** Bukvic, B., Kim, J., & Crawford, T. Socioeconomic Drivers and Relocation Attitudes among Urban Residents along the US East Coast: A Spatial Perspective. *Southeastern Division of the American Association of Geographers Annual Meeting*. Norfolk, VA. [Poster Presentation]. November 19, 2023.
11. **Gyanwali, S.,** Kamruzzaman, M., Kafle, H. Long-term Analysis of Agricultural Drought over Bangladesh using Drought Severity Index”, *Indian Institute of Tropical Meteorology Symposium*. Kerala, India. [Poster Presentation]. November 24, 2021.

FELLOWSHIPS AND AWARDS

2026

- Bill Anderson Fund (BAF) Fellow
- ASFPM Foundation Student Paper Competition, First Place. Awarded: \$1600

2025

- Jeanne X. Kasperson Award for Outstanding Graduate Paper in Hazards, Risks, and Disasters Specialty Group
- Pat Gober Water Prize. Awarded: \$1000
Gyanwali, S., Flores, A., Connor, D., Yu, Y., Cliff, A. (2025). Analyzing Urban Development and Socioeconomic Disparities in the FEMA Flood Zones and Federally-Overlooked Zones.
- Institute for Social Science Research (ISSR) Graduate Student Poster Contest, First Place. Awarded: \$1200

2024

- Graduate Scholar Award (\$2000)
School of Geographical Sciences and Urban Planning, Arizona State University
- John F. Lounsbury Student Travel Fellowship (\$2,000),
School of Geographical Sciences and Urban Planning, Arizona State University
- Gilbert F. White Endowment (\$4,000),
School of Geographical Sciences and Urban Planning, Arizona State University

RESEARCH EXPERIENCES

Aug 2024 – Present

Research Assistant, Arizona State University

- Conduct literature reviews on urban development, flood policy, and environmental justice frameworks
- Examine historical urban development patterns and flood risk disparities in Greater Houston, Texas
- Prepare questionnaire for a national-level political and natural hazards survey

May 2023 – Aug 2023

Research Assistant, Virginia Tech

- Employed machine learning techniques on street-view images to estimate individual green space exposure levels
- Analyzed and visualized the spatial trends of disparity in green space exposure across the Appalachian Region

Sep 2021- Dec 2021

Research Associate, Bagmati Biome Project, Nepal

- Studied the effects of untreated wastewater discharge on increased antimicrobial resistance (AMR) and its implications for river restoration efforts across the local regional, and international scenario through an extensive literature review
- Maintained quality control standards and procedures for precise measurements of water quality data, compiled documentation, and analyzed incoming and existing data

Feb 2021 – Aug 2021

Research Assistant, Kathmandu Institute of Applied Sciences, Nepal

- Developed an effective drought monitoring system for Bangladesh using satellite and field-based datasets
- Conducted community interviews and surveys in districts severely affected by agricultural drought in Nepal

LEADERSHIP AND SERVICE

- **Graduate Student Representative**, School of Geographical Sciences and Urban Planning, Arizona State University, 2026-2027
- **Session Organizer**, XXI ISA World Congress of Sociology, Gwangju, July 2027
Session 27155: "Beyond Sectoral Recovery: Longitudinal and Integrative Approaches to Long-Term Disaster Recovery"
- **Co-convener**, AGU Fall Meeting, San Francisco, December 2026
Session NH017: "Coastal Resilience with Data-Driven Planning Approaches"
- **Session Organizer**, AAG, San Francisco, March 2026
Session: "Advancing Flood Mitigation, Adaptation, and Resilience: Interdisciplinary Approaches to a Persistent Hazard"
- **Student Volunteer**, SPARC Workshop, Arizona State University, February 2026
- **Volunteer**, Youth Conservation Camp Counselor, Virginia Tech, July 2023
- **Executive Member**, Nature and Social Concern Society, Kathmandu University, Aug 2019 –June 2020
- **Coordinator and Organizer**, World Environment Day, Kathmandu University, June 2019

SKILLS AND TOOLS

- **Software & Programming**: ArcGIS Suite (Pro, Online, Survey123, Dashboards), QGIS, Tableau, Qualtrics, QuestionPro, Google Earth Engine, ERDAS Imagine, Python, R, SPSS

- **Geospatial & Remote Sensing Skills:** Spatial analysis, raster and vector data processing, satellite image analysis (MODIS, Landsat), map design and visualization
- **Research:** Survey design and implementation (online and field-based), community interviews, literature reviews, academic writing and publishing