

Nazmoon Nahar Sumiya

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GIScience for Resilience Lab

ACADEMIC BACKGROUND

PhD in Geography Department of Geography, Texas A&M University, Texas, USA Research: Environmental Health and GIScience	August 2023- Present
Master of Science in Pollution and Environmental Control University of Manchester, Manchester, United Kingdom Dissertation: Formation of SOA from Monoterpene Oxidation: A Comparative Study on α - Pinene and Limonene	October 2020 Classification: Distinction
Master of Science in Geography and Environment University of Dhaka, Dhaka, Bangladesh Thesis: Climate Change and Rice Production in Bangladesh: An Assessment Based on the Spatio-temporal Variability of Temperature, Rainfall and Groundwater Level	March 2017 CGPA: 3.90/4.00
Bachelor of Science in Geography and Environment University of Dhaka, Dhaka, Bangladesh	October 2014 CGPA: 3.80/4.00

PROFESSIONAL EXPERIENCES

Graduate Assistant Teaching (TA Responsibilities) Fall 2024 GEOG 213: Planet Earth Lab	Aug 2024 to Present
Spring 2024 GEOG 312: Data Analysis in Geography	Jan 2024 to May 2024
Fall 2023 GEOG 213: Planet Earth Lab	Aug 2023 to Dec 2023
Assistant Professor Department of Geography and Environment University of Dhaka, Dhaka, Bangladesh	1 July 2022 to Present
Lecturer Department of Geography and Environment University of Dhaka, Dhaka, Bangladesh	1 July 2018 to 30 June, 2022

RESEARCH EXPERIENCES

Assessment of Coastal and Marine Biodiversity Resources and Ecosystems to Implement the Blue Economy Action Plan (Team Member: GIS Expert) Funded by Department of Environment, Government of Bangladesh	May 2022 to June 2023
Remote Sensing Based Approach to analyze the Change of Health Status of the Forest Areas of the Southeastern Region of Bangladesh (PI) Funded by University of Dhaka Centennial Research Grant (3040 USD)	April 2022 to July 2023
Floating Treatment Wetland System (FTWS) - Sustainable green technology to remediate polluted surface water bodies in the COVID19-era (CoPI) Funded by Asia-Pacific Network for Global Change Research	September 2021 to Present
Eliciting the Impacts of Pre-monsoon Extreme Weather Events and Associated Factors on Rice Yields in Selected Areas of Bangladesh(CoPI) Funded by the Faculty of Earth and Environmental Sciences, University of Dhaka, Bangladesh	June 2021 to June 2022
Regional Concentration and Pattern of Manufacturing Industries in Bangladesh: An Environmental Analysis, Ministry of Science and Technology (CoPI) Funded by the National Science and Technology Fellowship, Ministry of Science and Technology, Bangladesh	July 2018 to June 2019

PUBLICATIONS

Chowdhury, P., Islam, R., Hossain, R.B. and **Sumiya, N.N.**, (2025).Evaluating machine learning algorithms for classifying urban heterogeneous landscapes using GEE. In Google Earth Engine and Artificial Intelligence for Earth Observation. Elsevier, 2025 379-397.

Sumiya, N.N., Hasan, M.U., Nusrat, M. and Hossain, M. (2024): A Review on Remote Sensing Based Forest Vegetation Health Assessment: Bangladesh Perspective, The Dhaka University Journal of Earth and Environmental Sciences , vol.12 , no.1 Faculty of Earth and Environmental Sciences, University of Dhaka, Dhaka, Bangladesh. , pp.107-121.

Ali, A.A.B., **Sumiya, N.N.**, Islam, M.S. (2023). Floods of Gorai-Madhumati and Arial Khan Rivers, Bangladesh. In: Islam, A., et al. Floods in the Ganga–Brahmaputra–Meghna Delta. Springer Geography. Springer, Cham. https://doi.org/10.1007/978-3-031-21086-0_22

Akter, F., Ahmed, A., **Sumiya, N. N.**, and Alam, N., (2022): Assessing the Impacts of Pre-monsoon Extreme Weather Events and Associated Factors on Rice Yield: A Study on Tahirpur Upazila of Sunamganj District, Bangladesh, *The Dhaka University Journal of Earth and Environmental Sciences*, 11(1), (in press).

Sumiya, N. N., Kabir, M.H., Khatun, H. and Nusrat, M. (2021): Unveiling the Concealed Vulnerabilities to Covid-19 of Low-Income People in Dhaka City: Consequences and Adjustments, *The Dhaka University Journal of Earth and Environmental Sciences*, 10(2), 9-20.

Khatun, H., **Sumiya, N.N.** and Ali, A. A. B. (2021): Achieving Sustainable Development Goals in Bangladesh: Does Population Density Matter?, *The Dhaka University Journal of Earth and Environmental Sciences*, 8(2), 1-15.

Sumiya, N.N., Hasan, M. U. and Khatun, H. (2019). "Climate Change and Crop Production in Bangladesh: Insights from the Impacts of Climate and Groundwater Variability on Rice Production" in proceedings of the International (SAARC) Youth Scientific Conference (IYSC) on Science and Technology for Prosperity: Connecting Lives with Land, Water and Environment held in Kathmandu, Nepal, 2019, 128-136.

Sumiya, N.N., Ali, A. A. B. and Kabir, M.H. (2019). "Flash Floods in the Northeastern Bangladesh: Looking Back-Moving Forward." in Hafiza Khatun, Abdul Baqee and Humayun Kabir (eds) *People at Risk: Disaster and Despair*, Disaster Research Training and Management Centre (DRTMC), University of Dhaka, 211-230.

Sumiya, N.N. and Khatun, H. (2018). A Comparative Assessment of Changes in Groundwater Level in Khulna, Rajshahi and Sylhet Cities of Bangladesh. In: Hafiza Khatun, Nasreen Ahmad, A.Q.M. Mahbub and Humayun Kabir (eds) *Environment and Sustainable Development in Bangladesh: Geographical Perspectives*, Department of Geography and Environment, University of Dhaka, 77-96.

Sumiya, N.N. and Khatun, H. (2017). Spatio-temporal Variation of Groundwater Level in Bangladesh, in M. Shahidul Islam and Md. Khalequzzaman (eds) *Sustainable Development Goals and Bangladesh Environment*, Proceedings of the Special Conference on Sustainable Development Goals and Environment held in Dhaka on January 14-15, 2017.

Sumiya, N. N. and Khatun, H. (2016). Groundwater Variability in Bangladesh: Assessment based on Rainfall Variation and Use of Water in Irrigation, *Journal of the Asiatic Society of Bangladesh Science*, 42(2), 177-189.

Khatun, H and **Sumiya, N.N.** (2015). Spatial Pattern of Street Food in Dhaka City, *Oriental Geographer*, 56(1), 97-112.

SKILLS

GIS and RS Software	ArcGISPro, ArcGIS, ERDAS Imagine
Statistical Software	R/RStudio, Python, SPSS, and STATA
Microsoft Office	Word, PowerPoint, Excel, and Outlook
Others Software	Google Earth Pro and Igor 64
Laboratory skill	Water quality analysis (gravimetric, volumetric and colorimetric analyses), air and noise quality assessment.

AWARDS AND SCHOLARSHIPS

Department of Geography Graduate Student Travel Award 2023-24, Texas A&M University, College Station.	March 2025
AAG Travel Award for Geospatial Cyberinfrastructure Workshop: Building High-Performance, Ethical, and Secured Geospatial Software Funded by NSF	April 2024
Department of Geography Graduate Student Travel Award 2023-24, Texas A&M University, College Station.	April 2024
University of Dhaka Book Prize For securing First position in MSc. examination	January 2021

Commonwealth Scholarship Commonwealth Scholarship Commission, UK For MSc. in Pollution and Environmental Control at the University of Manchester, England	September 2019 to September 2020
National Science and Technology Fellowship Ministry of Science and Technology, Bangladesh For MSc. Thesis in Geography and Environment, University of Dhaka	April 2015 to May 2016
Dean's Award of Faculty of Earth and Environmental Sciences, University of Dhaka for securing First position in BSc. examination	May, 2016
University of Dhaka Talent Pool Scholarship For securing First position in BSc. examination	January 2015
A.Q.M. Mohiuddin Foundation Scholarship For securing the highest CGPA in BSc. examination	2015
Siraj-Majeja Trust-Fund Scholarship For obtaining highest CGPA among female students in BSc. examination	2014

PRESENTATIONS

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- “Quantifying Health Burden Disparities Driven by Air Pollution Exposure” presented at AAG Annual Meeting 2025 on 28 March, 2025.
 - “Understanding the PM_{2.5}-induced Human Health Outcomes: A Study on Greater Houston, Texas” presented at AAG Annual Meeting 2024 on 16 April, 2024.
 - “Remote Sensing based Approach to Analyze the Change of Health Status of the Forest Areas of the South Eastern Region of Bangladesh” funded by the University of Dhaka Centennial Research Grant (Phase II), presented on 26 July, 2023 at the Department of Geography and Environment, University of Dhaka.
 - “Climate Change and Crop Production in Bangladesh: Insights from the Impacts of Climate and Groundwater Variability on Rice Production” presented in International (SAARC) Youth Scientific Conference (IYSC) on Science and Technology for Prosperity: "Connecting Lives with Land, Water and the Environment" 5-6 June, 2019, Kathmandu, Nepal.
 - “Little Climate Champion: An Approach to Make Climate Resilient Generation”, presented in “Child Centered Disaster Risk Reduction, Climate Change Adaptation and Comprehensive School Safety: A Researchers- Practitioners-Policy Makers Symposium” organized by C&A Foundation, BRAC, BRAC University, Save the Children on 09-10 April, 2018.
 - “Waterlogging, Environment Degradation and Health Risks in Dhaka Metropolitan Region”, presented in BAPA-BEN Special Conference on Flood, Waterlogging and Landslides in Bangladesh on 12-13 January, 2018.
 - “A Comparative Assessment of Changes in Groundwater Level in Rajshahi, Sylhet and Khulna City of Bangladesh”, paper presented in “15th Bangladesh International Geographical Conference– 2017” organized by Bangladesh National Geographical Association, Jahangirnagar University, on 24 November, 2017, Dhaka, Bangladesh.

- “Spatio-temporal Variation of Groundwater Level in Rice Growing Seasons in Bangladesh”, paper presented in “Conference on Sustainable Development Goals and Environment” organized by BAPA and BEN on 14-15 January, 2017, Dhaka, Bangladesh.

TRAININGS

- Training on Environment and Environmental Law, Bangladesh Environmental Lawyers Association (BELA), Dhaka, Bangladesh, December 26-30, 2021.
- Training on Numerical Weather Prediction (NWP) System, Baron Services Inc. at University of Dhaka, Bangladesh, March 15- April 21, 2021.
- Training on Stata and Applied Statistics, Institute of Statistical Research and Training, University of Dhaka, Bangladesh, March 02- April 06, 2017.
- Knowledge Development Training on Climate Change, at Centre for Climate Change and Environmental Research, C3ER, BRAC University, Dhaka, Bangladesh, June 02 – June 04, 2016.