

M SHAHRIAR SONET

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EDUCATION

The University of Texas Dallas

PhD in Geospatial Information Sciences

2024-2029

Texas Tech University

MS in Geography & the Environment

2022-2024

Bangladesh University of Professionals

MSS in Disaster & Human Security Management

2020-2021

Bangladesh University of Professionals

BSS in Disaster & Human Security Management

2016-2019

RESEARCH INTEREST

Natural Hazards | Land Cover Dynamics | Hydrology | Remote Sensing | Wildfire | GeoAI

RESEARCH EXPERIENCE

Peer Reviewed Publications

- Sonet, M. S.**, & Reygadas, Y. (2025). Unveiling four decades of spatiotemporal climate trends in Texas (1981–2023). *Journal of Hydrology: Regional Studies*. <https://doi.org/10.1016/j.ejrh.2025.102539>
- Sonet, M. S.**, Hasan, M. Y., Kafy, A. A., & Shobnom, N. (2025). Spatiotemporal analysis of urban expansion, land use dynamics, and thermal characteristics in a rapidly growing megacity using remote sensing and machine learning techniques. *Theoretical and Applied Climatology*. <https://doi.org/10.1007/s00704-024-05264-3>
- Sonet, M. S.**, Hasan, M. Y., Chakma, S., & Al Kafy, A. (2024). Assessing tropical cyclone impacts in coastal Bangladesh: a change detection analysis on cyclone bulbul using geospatial analysis and remote sensing techniques. *International Journal of Disaster Risk Reduction*. <https://doi.org/10.1016/j.ijdr.2024.104726>
- Altuwaijri, H.A.,...,**Sonet, M. S.** (2025). Biophysical parameters and land surface temperature dynamics in arid urban environments: A comprehensive machine learning approach. *Environ Earth Sci* 84, 434 (2025). <https://doi.org/10.1007/s12665-025-12427-6>
- Hasan, M. Y., ..., **Sonet, M. S.**, et al. (2025). Hydrogeochemical Characterization and Human Health Risk Assessment for Heavy Metal Contamination in Coastal Aquifers: A case study in Satkhira District, Bangladesh. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2025.180640>
- Sonet, M. S.**, Hasan, M. Y. & Kafy, A.A., (2025). Machine Learning-Enhanced Precipitation Forecasting in Arid Regions: Advancing Climate Modelling Techniques in Lubbock, Texas (Under review: *Theoretical & Applied Climatology*)

Conference Presentations

- MS Sonet**, [Forecasting Rainfall Anomalies in Arid Landscapes: A Machine Learning Approach for Enhanced Environmental Management in Lubbock, Texas](#) (AAG Annual Meeting 2024)

2. **MS Sonet**, S Chakma, [Impact Assessment of Community Vulnerability in Cyclone Bulbul and Analyzing Change Detection Impacts by Geospatial Techniques](#) (AAG Annual Meeting 2023)
3. N Jahan, **MS Sonet**, A Nayan, [Natural Hazards Triggered Early Marriage: A Case Study on Kajipur Upazilla, Sirajganj](#) (Conference Paper, Chittagong University Research & Higher Study Society 2022)

TEACHING EXPERIENCE

The University of Texas Dallas: Health & Environmental GIS, Digital Earth, Smart & Sustainable Cities
 Texas Tech University: Global Environmental Science, Introduction to GIS, Exploring Spatial Database, WebGIS

PROFESSIONAL EXPERIENCE

Geospatial Information Sciences, The University of Texas Dallas

Graduate Teaching Assistant *Aug 2024 – Current*

Department of Geosciences, Texas Tech University

Graduate Research Assistant *May 2024 – Aug 2024*

Department of Geosciences, Texas Tech University

Graduate Teaching Assistant *Aug 2022 – May 2024*

World Health Organization (WHO) | Bangladesh Centre for Communication Programs

Program Officer *Jan 2022 – Jul 2022*

Ministry of Water Resources | CEGIS, Bangladesh

Research Consultant, Remote Sensing Division *May 2020 – Dec 2021*

TECHNICAL SKILLS

Programming: Python, Java, R	Spatial analysis: ArcGIS, QGIS, ENVI, Google Earth Engine
Data analysis: SPSS, STATA, Tableau	Others: Microsoft Office, Adobe Products

AWARDS & FELLOWSHIPS

- Pioneer Student Research Grant Award – The University of Texas at Dallas, 2025-2026
- Provost Scholarship – The University of Texas at Dallas, 2024-2029
- Larry McIver Memorial Scholarship in Geography – Texas Tech University, 2023-2024
- Department of Geosciences Scholarship – Texas Tech University, 2023-2024
- Department of Geosciences Fellowship – Texas Tech University, 2022-2023
- Geography Excellence Scholarship – Texas Tech University, 2022-2023
- Bangladesh Sweden Trust Fund Travel Grant 2022-2023
- Three Dean's Merit List in master's program, Bangladesh University of Professionals, Fall 2019-20

SERVICES

Editorial Board Member

Earth Sciences Journal (e-ISSN: 2328-5982)

Journal Reviewer

Elsevier: Journal of Hydrology, Egyptian Journal of Remote Sensing, City and environment interactions

Taylor and Francis: International Journal of Digital Earth, City and Environment Interactions

Springer: Theoretical and Applied Climatology, Urban Sustainability, Environmental Monitoring and Assessment, Journal of Coastal Conservation, Discover Sustainability, Discover Cities

Wiley: Geo: Geography and Environment, **SPG:** American Journal of Remote Sensing