Md Sariful Islam

Postdoctoral Research Associate
Media Lab, Massachusetts Institute of Technology
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Education

2018-23 **Virginia Tech**, Blacksburg, VA
Ph.D., Geospatial and Environmental Analysis, Dept. of Geography
Dissertation: Coastal Erosion Hazard in Bangladesh: Space-time Pattern Analysis and Empirical Forecasting, Impacts on Land Use/Cover, and Human Risk Perception.
Advisor: Thomas W. Crawford

2021-23 **Virginia Tech,** Blacksburg, VA
M.A., Data Analysis and Applied Statistics (DAAS), Dept. of Statistics

2021-23 **Virginia Tech**, Blacksburg, VA
Grad. Certificate, Remote Sensing

2021-23 **Virginia Tech**, Blacksburg, VA
Grad. Certificate, Geospatial Information Technology

2016-18 **Kent State University**, Kent, OH
M.A., Geography, Dept. of Geography
Thesis: Lightning Hazard Safety Measures and Awareness in Bangladesh
Advisor: Thomas W. Schmidlin

2014-16 **Bangladesh University of Engineering and Technology (BUET)**, Dhaka, Bangladesh
M.S., Water Resource Development, Institute of Water and Flood Management (withdrew after completing coursework).

2010-14 **Mawlana Bhashani Science and Technology University (MBSTU)**, Tangail, Bangladesh
B.S., Environmental Science and Resource Management, Dept. of Environmental Science and Resource Management (ESRM).

Professional Experience

2023-present **Postdoctoral Research Associate,** Space Enabled Research Group, Media Lab, Massachusetts Institute of Technology, Cambridge, MA.
2022-23 **Graduate Assistant** - Data Science, Office of Undergrad Education, Virginia Tech, Blacksburg, VA
2018-22 **Graduate Research Assistant**, Dept. of Geography, Virginia Tech, Blacksburg, VA.
2021-21 **Associate Collaborator**, Statistical Applications and Innovations Group (SAIG), Dept. of Statistics, Virginia Tech, Blacksburg, VA.
2016-18 **Graduate Teaching Assistant**, Dept. of Geography, Kent State University, Kent, OH.
2014-15 **Data Enumerator**, Bangladesh Centre for Advanced Studies, Dhaka, Bangladesh.

Research and Teaching Interests

- Coastal Environmental Change
- Natural Hazards and Disasters
- Risks and Vulnerabilities
- Physical and Environmental Geography
- Geographic Information and Systems (GIS)
- Geospatial and Environmental Data Science

- Satellite Earth Observations
- Environmental and Climate Justice
- Community Engaged Research
- Applied Statistics

Research Grant

2023 Investigating Drivers of Climate-Induced Displacement and Policy Responses in Bangladesh. ICCCAD IFSD Researcher Grant, International Center for Climate Change and Development (ICCCAD), Bangladesh. **PI** $3000 (pending).

2021-22 Coastal Erosion Hazard in Bangladesh: Space-time pattern analysis and empirical forecasting, impacts on land use/cover, and human risk perception. American Institute of Bangladesh Studies (AIBS). **PI** $3000.

2020-21 Pushed to the Edge: A socio-environmental analysis of climate gentrification along the East Coast of the United States. The Socio-Environmental Synthesis Center (SESYNC) Graduate Pursuit (NSF Funded) **PI** ~$50000.

Peer-reviewed Publications

Manuscripts

2023 [12]. **Islam, M.S.**, Roy, S., Tusher, T.R., Rahman, M., and Harris, R.C. (2023). Assessment of Spatio-Temporal Variations in $PM_{2.5}$ and Associated Long-Range Air Mass Transport and Mortality in South Asia. ***Remote Sensing***, 15(20), 4975.

2023 [11]. **Islam, M.S.**, Crawford, T.W., and Shao, Y. (2023), Evaluation of predicted loss of different land use and land cover (LULC) due to coastal erosion in Bangladesh. ***Frontiers in Environmental Science***, 11:1144686. https://doi: 10.3389/fenvs.2023.1144686

2023 [10]. Best, K., Jouzi, Z., **Islam, M.S.**, Kirby, T., Nixon, R., Hossan, A., and Richard, N. (2023). Typologies of multiple vulnerabilities and climate gentrification across the East Coast of the United States. ***Urban Climate***, 48, 101430. https://doi.org/10.1016/j.uclim.2023.101430

2022 [9]. **Islam, M. S**., & Crawford, T. W. (2022). Assessment of Spatio-Temporal Empirical Forecasting Performance of Future Shoreline Positions. ***Remote Sensing***, *14*(24), 6364. https://doi.org/10.3390/rs14246364

2022 [8]. Rahman, M. K., Crawford, T. W., & **Islam, M. S.** (2022). Shoreline Change Analysis along Rivers and Deltas: A Systematic Review and Bibliometric Analysis of the Shoreline Study Literature from 2000 to 2021. ***Geosciences,*** *12*(11), 410. https://doi.org/10.3390/geosciences12110410

2021 [7]. **Islam, M.S.,** Rahman, M., Tusher, T.R., Roy, S., Razi, M.A. (2021). Assessing the Relationship between COVID-19, Air Quality, and Meteorological Variables: A Case Study of Dhaka City in Bangladesh. ***Aerosol Air Quality Research*** 21, 200609. https://doi.org/10.4209/aaqr.200609

2021 [6]. **Islam, M. S.,** Tusher, T. R., Roy, S., & Rahman, M. (2021). Impacts of nationwide lockdown due to COVID-19 outbreak on air quality in Bangladesh: a spatiotemporal analysis. ***Air Quality, Atmosphere & Health***, *14*(3), 351-363. DOI: 10.1007/s11869-020-00940-5

2021 [5]. Crawford, T. W., Rahman, M. K., Miah, M. G., Islam, M. R., Paul, B. K., Curtis, S., & **Islam, M.S.** (2021). Coupled Adaptive Cycles of Shoreline Change and Households in Deltaic Bangladesh: Analysis of

a 30-Year Shoreline Change Record and Recent Population Impacts. ***Annals of the American Association of Geographers***, 1-23. DOI: 10.1080/24694452.2020.1799746

2020 [4]. Crawford, T.W.; **Islam, M.S.;** Rahman, M.K.; Paul, B.K.; Curtis, S.; Miah, M.G.; Islam, M.R. Coastal Erosion and Human Perceptions of Revetment Protection in the Lower Meghna Estuary of Bangladesh. ***Remote Sensing*** 2020, 12, 3108. DOI: 10.3390/rs12183108

2020 [3]. Paul, B. K., Rahman, M. K., Crawford, T., Curtis, S., Miah, M. G., Islam, M. R., & **Islam, M. S.** (2020). Explaining mobility using the Community Capital Framework and Place Attachment concepts: A case study of riverbank erosion in the Lower Meghna Estuary, Bangladesh. ***Applied Geography***, *125*, 102199. DOI: 10.1016/j.apgeog.2020.102199

2020 [2]. **Islam, M. S.,** & Schmidlin, T. W. (2020). Lightning hazard safety measures and awareness in Bangladesh. ***Natural Hazards***, 101(1), 103-124. DOI: 10.1007/s11069-020-03864-6.

2015 [1]. **Islam M.S.,** Anannya A.M., Rahaman M.S., and Rahman M. (2015). Present Situation of Water Supply and Sanitation at Karail Slum Dhaka. ***J. Environ. Sci. & Natural Resources***, 8(1): 161-163, 2015.

Book Chapters

2021 [2]. Paul, B.K., M.K. Rahman, T. Crawford, S. Curtis, M.G. Miah, R. Islam, and **M.S. Islam**. (2021). Coping Strategies of People Displaced by Riverbank Erosion in the Lower Meghna Estuary. In ***Living on the Edge*** (pp. 227-239). Springer, Cham. https://doi.org/10.1007/978-3-030-73592-0_13.

2021 [1]. Rahman M.K., Crawford T.W., Paul B.K., **Islam M.S.,** Curtis S., Miah M.G., and Islam M.R. (2021). Riverbank Erosions, Coping Strategies, and Resilience Thinking of the Lower-Meghna River Basin Community, Bangladesh. In ***Climate Vulnerability and Resilience in the Global South*** (pp. 259-278). Springer, Cham. https://doi.org/10.1007/978-3-030-77259-8_13.

Publications (Under review)

Manuscripts

[5]. **Islam, M.S.**, Crawford, T.W., and Juran, L. Predicted and Actual Household Loss: Insights into Geophysical Vulnerability and Community Perceptions of Coastal Erosion Risks in Bangladesh. ***Journal of Environmental Management.***

[4]. Mitra, J.R., and **Islam, M.S**. Examining Social Disparities in Urban Heat Exposure in New Orleans, US. ***Urban Climate***.

[3]. Kirby, T., Nixon, R., Richard, N., Best, K., Jouzi, Z., **Islam, M.S.**, Hossan, A. Proposing a Framework for the Study of Climate Gentrification in the Coastal U.S.: A Systematic Review. ***Environmental Research Letters***.

[2]. Sarker, M.E., Nasrin, S., Hoque, M.M.M., Jolly, Y.N., **Islam, M.S.**, Akhter, S., Tusher, T.R. Road Dust-Associated Heavy Metal Pollution in Dhaka- the World's Fastest Growing Megacity: Extent and Spatial Distribution, Source Apportionment, Ecological and Human Health Risks. ***Human and Ecological Risk Assessment: An International Journal.***

[1]. Rahman, M.S., Ahmed, M.F., **Islam, M.S**., and Moniruzzaman, M. A review of the physicochemical features and phytoplankton community of the Bay of Bengal: Bangladesh perspective. ***Applied Phycology***.

Book Chapters

[1]. S. Roy, **M.S. Islam,** T.R. Tusher, S. Datta. Is urbanization a blessing or a spell for achieving sustainable water supply and sanitation for the megacity of Dhaka in Bangladesh? In ***Sustainable cities and South Asia*** edited by Subhash Anand. Springer

Publications (In preparation)

[3]. **Islam et al.** Assessing Multi-decadal Riverbank Erosion and Human Displacement along the eastern Bank of Jamuna River in Bangladesh. Target Journal: ***Geomatics, Natural Hazards, and Risks***.

[2]. **Islam et al**. Flood Inundation Mapping and Damage Assessment: A case study of 2022 flash flood in the Sylhet region of Bangladesh. Target Journal: ***Plos One.***

[1]. Rahman et al. Modeling Flash Flood Evacuation: A Case Study of Tahirpur Upazila in Sunamganj District, Bangladesh. Target Journal: ***Plos Water.***

Teaching

Kent State University (Teaching Assistant)

- Physical Geography (Online lab course).
  Spring 2018 – Enrollment: 89
  Fall 2016 – Enrollment: 66
- Physical Geography (In person lab course)
  Fall 2017 – Enrollment: 44
  Spring 2017 – Enrollment: 33

Virginia Tech (Guest Lecture)

- Course Name: Advanced Interdisciplinary Issues & Ethics in Water Resources
  Semester: Fall 2022
  Target audience:20 graduate and undergraduate students
  Title of lecture: Coastal Erosion Risk Modelling: Case of Coastal Bangladesh.

Awards and Honors

2024 Asian Development Bank (ADB) Travel grant, International Research Institute of Disaster Science (IRIDeS), Tohoku University, Sendai, Japan. ~$2000
2024 Full Financial Assistance, Environmental Data Science Summit 2024, National Center for Ecological Analysis and Synthesis (NCEAS), UC Santa Barbara, Santa Barbara, CA.
2023 **ESIP Community Fellow**, Earth Science Information Partners (ESIP), Severna Park, MD (2023 – 2024).
2023 Full Financial Assistance, Emerging Scholars Symposium 2023, Office for Equity and Diversity, East Carolina University, Greenville, NC.
2023 NASA UNBOUND for Coastal Issues (CI) Workshop 2023 participation grant, NASA, $1200
2023 **Best Poster** Award, OGIS Symposium 2023 poster competition, Virginia Tech. $400
2023 College of Natural Resource and Environment (CNRE) Travel Award, AAG Annual Meeting 2023, Virginia Tech. $600
2023 Graduate and Professional Students Senate (GPSS) Travel Award, AAG Annual Meeting 2023, Virginia Tech. $300
2022 Full financial assistance, Graduate Climate Conference 2022, University of Washington, Seattle.
2022 **Graduate Student Fellowship**, American Institute of Bangladesh Studies (AIBS).
2022 Conference Travel Award, PyCon-2022, Python Foundation. Salt Lake City, Utah. $960
2021 **A.B. Massey Outstanding PhD student of the year 2020**, Department of Geography, Virginia Tech.

2020 **Interdisciplinary Graduate Education Program (IGEP) in Remote Sensing Fellowship**, Virginia Tech (2020 – 2023).
2020 **Graduate Research Fellow**, the National Socio-Environmental Synthesis Center, Annapolis, MD (2020 – 2023).
2020 Conference Travel Award, PyCon-2020, Python Foundation. $800.
2019 International Travel Grant, **European Geoscience Union** (EGU) to attend doctoral student workshop on Disaster Risk Reduction at the Centre of natural hazards and disaster science (CNDS), Uppsala University, Sweden. Amount: € 600 (~$670).
2019 Full Financial Assistance (NSF funded) from SESYNC, Maryland to attend a weeklong workshop on 7th Graduate Student Workshop on Socio-Environmental Synthesis.
2019 Conference Travel Award, PyCon 2019, Python Foundation. Amount: $480
2019 Full Financial Assistance (NSF funded) from SESYNC, Maryland to attend a weeklong workshop on Introduction to Spatial Agent Based Modeling.
2019 **UNESCO IGP scholarship** received to attend summer school on Researching Social Theories, Resources and Environment (ReSTORE) at University College Dublin, Dublin, Ireland. Amount: $1350
2018 Conference Travel Award, PyCon 2018, Python Foundation. Amount: $400
2017 Full financial assistance (**German Government Funded**) received to attend two weeklong summer school on Spatial Analysis using R at University of Koblenz-Landau, Germany. Amount: ~$2500
2017 Gandhi Graduate Research Award provided by Department of Geography, Kent State University, Kent, OH. Amount: $500
2017 International Travel Award, Bangladesh Sweden Trust Fund, Government of Bangladesh (2017). Amount: $300

Published Abstracts and Presentations

** Denotes presenter

2024 **Islam, M.S**.**, Kuwayama, Y, and Wood, D. (2024). Development of a Socioeconomic Vulnerability Index: Assessing Vulnerability to Drought in Angola. *AAG Annual Meeting 2024*, Honolulu, HI (Abstract Accepted).
2024 **Islam, M.S**.**, Crawford, T.W., and Wood, D. (2024). Walking on the Edge: Bangladesh's Erosion Realities, Geophysical Vulnerabilities, and Disproportionate Impacts on Different Demographics and Socioeconomic Groups. *International Conference on Big Data for Disaster Response and Management in Asia and the Pacific*, Tohoku University, Sendai, Japan. (Abstract Accepted).
2023 **Islam, M.S.****, Crawford, T.W., and Wood, D. (2023). Shifting coastlines, human displacement, and erosion risk vulnerabilities in Bangladesh. *American Geophysical Union (AGU) Fall Meeting 2023*, San Francisco, CA. (Abstract Accepted).
2023 **Islam, M.S.****, Ajisafe, F.** (2023). Assessing Accuracy of Greenhouse Gas Emission Inventories in a Multi-Municipality Metropolitan Area. *NASA Commercial SmallSat Data Acquisition (CSDA) meeting 2023*. Goddard Space Flight Center (GSFC), MD.
2023 Wood et al. (2023). Supporting Drought Management in Angola using Integrated Modeling of Environment, Vulnerability, Decision and Technology (EVDT). *NASA Water Resources Meeting 2023*, Huntsville, AL.
2023 **Islam, M. S.,**** Tusher, T. R., Roy, S., & Rahman, M. (2023). Assessing spatio-temporal variations in $PM_{2.5}$ pollution and associated mortality in the South Asian region. *Office of GIS symposium*, Virginia Tech, Blacksburg, VA.
2023 **Islam, M.S.****, Crawford, T.W. (2023) Evaluation of Predicted Loss of Different Land Use and Land Cover (LULC) due to Extreme Coastal Erosion: A Case of Lower Meghna River Region of Bangladesh. *AAG Annual Meeting 2023*, Denver, CO.
2022 **Islam, M.S.**** (2022). Assessing Multi-decadal Riverbank Erosion and Human Displacement along the eastern Bank of Jamuna River in Bangladesh. *Graduate Climate Conference*, University of Washington, Seattle, WA.

2022 **Islam, M.S.**** and Crawford, T.W. (2022). Changing Pattern of Coastline and its Impact on Land Use and Land Cover (LULC) in the Lower Meghna River Region of Bangladesh. *International Conference on Geomorphology*, Coimbra, Portugal.

2022 **Islam, M.S.**** and Crawford, T.W. (2022). Geospatial modeling of multidecadal shoreline movement in the lower Meghna River region of Bangladesh. *Natural Hazards Center Annual Meeting 2022*, Boulder, CO.

2022 **Islam, M.S.**** and Crawford, T.W. (2022). Spatio-temporal modeling of shoreline forecasting performance. *Office of GIS symposium 2022*, Virginia Tech, Blacksburg, VA.

2022 **Islam, M.S.**** and Crawford, T.W. (2022). Assessment of spatio-temporal empirical forecasting performance of future shoreline positions. *AAG Annual Meeting 2022*, New York City, NY.

2022 Best et al. (2022). Machine learning for climate gentrification research. *AAG Annual Meeting 2022*, New York City, NY.

2021 Crawford et al. (2021). Erosion Vulnerabilities, Risk Perception, and Human Adaptive Response in Ramgati Upazila, Bangladesh. *Southeastern Division of American Association of Geographers (SEDAAG) Annual Meeting* 2021. Florence, AL.

2021 Best et al. (2021). Identifying Climate Gentrification Across the East Coast of the United States: A Machine Learning Approach. *Managed Retreat Conference*, Columbia University, New York City, NY.

2021 **Islam, MS**.** (2021). Impacts of Nationwide Lockdown due to COVID 19 Outbreak on Air Quality in Bangladesh. *Office of GIS Symposium 2021,* Virginia Tech, Blacksburg, VA.

2020 Crawford et al. (2020). Perceptions of Revetment Protection in the lower Meghna Estuary of Bangladesh. *SEDAAG Annual Meeting*, 2020 (virtual).

2020 **Islam, M.S**.**, Crawford, T., Rahman, M., Miah, M.G., Islam, M.R., Paul, B., and Curtis, S. (2020). Coastal erosion, embankment protection and people's vulnerability in the lower Meghna region of Bangladesh: A comparison of pre- and post-embankment protection. *AAG Annual Meeting 2020,* Denver, CO (Virtual).

2020 Paul, B.**, Rahman, M., Crawford, T., Curtis, S., Miah, M.G., Islam, M.R., and **Islam, M.S.** (2020). Coping Strategies and Future Resettlement Options of People Displaced by Riverbank Erosion in the Lower Meghna Estuary, Bangladesh. *AAG Annual Meeting 2020*, Denver, CO (Virtual).

2019 **Islam, M.S**.**, Crawford, T., Rahman, M., Miah, M.G., Islam, M.R., Paul, B., and Curtis, S. (2019). Embankment protection and coastal vulnerability in Bangladesh: geospatial and social science perspectives. *SEDAAG Annual Meeting 2019,* Wilmington, NC.

2019 **Islam M.S.**** (2019). Detection of Urban Heat Island Intensity of a Mega City Using Sentinel 3 data. *Office of GIS Symposium 2019*, Virginia Tech, Blacksburg, VA.

2019 **Islam M.S.**** (2019). Lightning Hazard Safety Measures and Awareness in Bangladesh. *American Association of Geographers Annual Meeting 2019*, Washington DC.

2018 **Islam M.S.**** and Schmidlin T. (2018). Spatio-temporal analysis of lightning strikes and deaths in Bangladesh. *Southeastern Division of the Association of American Geographers Annual Meeting 2018*, Johnson City, TN.

2016 **Islam M.S.**, Uddin M.N., Rahman M.**, and Muttaqi T. (2016). Organic Farming Prospects and Constraints in Bangladesh: a case study of Daynna Union of Tangail Sadar Upazila; *International Conference on Sustainable Development 2016,* University of Liberal Arts Bangladesh (ULAB), Dhaka, Bangladesh.

2015 Huq F.F., Habib M.A., and **Islam M.S**.** (2015). Assessing the impacts of recreational activities on the quality of water at Hatir Jheel area of Dhaka City. *International Conference on Recent Innovation in Civil Engineering 2015,* Dhaka University of Engineering and Technology (DUET), Gazipur, Bangladesh.

Invited Talk

2023 Modeling water related issues using satellite earth observations and social science data. *East Carolina University*, Greenville, NC.

2023 Supporting sustainable development by assessing environmental, social, policy and technical factors using satellite earth observations. *Media Lab*, MIT, Cambridge, MA.

2023 Using Earth Observation when assessing environmental, social, policy and technical factors to support sustainable development. *Media Lab*, MIT, Cambridge, MA.

2023 How is wildfire risk affecting socially vulnerable locations in the United States? A comparison study of the Pacific Northwest and Southern Appalachia. *NASA Ames Research Center*, Mountain View, CA. (Virtual).
2022 Evaluation of Data Driven Future Shoreline Prediction Performance. *The NHERI Graduate Student Council General Meeting*. (Virtual).
2019 Coastal erosion risk and people's vulnerability at the lower Meghna Region of Bangladesh. *Water Resources Institute*, Virginia Tech, Blacksburg, VA.

Professional Training and Workshops

2023 Emerging Scholars Symposium, East Carolina University, Greenville, NC.
2023 Understanding Needs to Broaden Outside Use of NASA Data (UNBOUND) for Coastal Issues workshop organized by Old Dominion University and Virginia Tech funded by NASA. (Virtual).
2023 New England Future Faculty Workshop, Northeastern University, Boston, MA. (Virtual).
2022 Climate Change AI Summer School 2022, Climate Change AI (Virtual).
2022 Young Voices of Science (YVoS) Spring Cohort, Hubbard Brook Research Foundation. (Virtual)
2022 Inclusive Leadership: The Power of Workplace Diversity online course offered by the University of Colorado Boulder through Coursera.
2022 Gender and Sexuality: Diversity and Inclusion in the Workplace online course offered by the University of Pittsburgh through Coursera.
2021 Creating an Inclusive Climate course offered by InclusiveVT at Virginia Tech (2021).
Inclusive Advising: How Student Identities Matter course offered by InclusiveVT at Virginia Tech (2021).
2021 Systematic Review and Meta-Analysis Deep Dive Workshop, Virginia Tech, Blacksburg, VA.
2020 Graduate Leaders in Socio-Environmental Synthesis Workshop, SESYNC, Annapolis, MD.
2019 Summer School on Researching Social Theories, Resources and Environment (ReSToRE) at University College Dublin (UCD), Dublin, Ireland.
2019 Doctoral Student Workshop on Disaster Risk Reduction at Centre of Natural Hazards and Disaster Science (CNDS), Uppsala University, Uppsala, Sweden.
2019 Short Course on "Introduction to Spatial Agent-Based Modeling" at Socio-Economic Synthesis Centre (SESYNC), Annapolis, MD.
2019 7th Graduate Student Workshop on Socio-Environmental Synthesis at Socio-Economic Synthesis Centre (SESYNC), Annapolis, MD.
2019 Geospatial Analysis in R workshop. Arranged by SESYNC at AAG Annual Meeting 2019, Washington DC.
2019 Machine Learning in ArcGIS workshop. ESRI Federal GIS Conference 2019, Washington DC.
2019 Spatial Data Mining I: Essentials of Cluster Analysis workshop. ESRI Federal GIS Conference 2019, Washington DC.
2019 Doing More with Commercial Drones workshop. ESRI Federal GIS Conference 2019, Washington DC.
2019 Introduction to Big Data Offered by University of California San Diego on Coursera.
2019 Spatial Data Science and Applications offered by Yonsei University offered through Coursera. Dec 2018 - 2019.
2018 GEONATURA: Applied Geomatics to Social and Environmental Issues Jointly Offered by University of Glasgow, TU Delft, New University of Lisbon and University of Florence on Miriadax. May – June 2018.
2018 Introduction to Spatial Analysis and Maps with Python. *Python workshop at PyCon 2018.* 9 – 17 May 2018, Cleveland, Ohio.
2018 Google Earth Engine Advanced Topics Workshop. *Google Ann Arbor*. 20 February 2018, Ann Arbor, MI.
2017 Summer University on Spatial Ecotoxicology and Eco-Toxicological Risk Assessment using an open community approach. Institute of Environmental Science, University of Koblenz-Landau, Landau Germany.
2017 Training on Introduction to Synthetic Aperture Radar Organized by NASA ARSET (June 28- July 06, 2017).
2017 Training on Remote Sensing of Land Indicators for Sustainable Development Goal 15 conducted by NASA ARSET (June 20- June 22, 2017).

2015 Hands-on training on Remote Sensing and GIS in water management, Institute of Water and Flood Management (IWFM), BUET, Dhaka, Bangladesh.

Field Experience

2019 Drone survey on land cover dynamics and tree mortality in the White Mountain region of Virginia.
2018 Social survey on lightning perceptions and awareness in Bangladesh.
2016 Focus Group Discussion (FGD) and household survey on climate change impacts and resilience in Northern Bangladesh
2015 Social survey and participatory mapping on water supply and sanitation in Karail slum in Dhaka city, Bangladesh.

Technical Skills

- Programming Language- Python, R, Google Earth Engine (GEE)
- Geoinformatics- ArcMap, ArcGIS pro, ArcGIS online, QGIS, IDRISI (TerrSet), ENVI, ERDAS Imagine, SNAP etc.
- Others- Zotero, Qualtrics, ATLAS.ti, DSAS (USGS), LaTeX, SPSS, SAS JMP, Minitab, Surfer, Tableau, Arc SWAT etc.

Service and Professional Activities

2023	Judge, Dennis Dean Undergraduate Research and Creative Scholarship Conference, Virginia Tech.
2022 - 2023	Editor, Community Change Journal, Virginia Tech.
2022&2023	Reviewer, GPSS Research Grant Proposal, Virginia Tech.
2022	Reviewer, 38th GPSS Research Symposium, Virginia Tech.
2021 – present	Member, Natural Hazards Engineering Research Infrastructure (NHERI) Graduate Student Council (GSC).
2021 - 2022	Member, Bangladesh Delta Plan 2100 – Youth Action Track, ICCCAD, Bangladesh.
2020 – present	**Journal Reviewer**: Agriculture (2), Applied Sciences, Atmosphere (2), Environmental Pollution (2), International Journal of Environmental Research and Public Health, Journal of Marine Science and Engineering (2), MAPAN, Remote Sensing (2), and Sustainability

Media Activities

[2]. SESYNC blog: *One Year Later: Climate gentrification Graduate Pursuit reflects on professional and personal growth*. https://www.sesync.org/news/thu-2021-06-24-1751/one-year-later-climate-gentrification-graduate-pursuit-reflects-on. Posted on June 24, 2021.

[1]. Future Cities Podcast. *Climate Gentrification in Coastal Cities*. https://open.spotify.com/episode/0xRIRWSQQnQIuTKT1yGhKV?si=2IQma8YcSJyJitelj7bdRA&nd=1. Posted on December 1, 2021.

Additional Activities

2021	Volunteer, the Natural Hazards Center workshop, University of Colorado Boulder, CO.
2019	Conference Assistant, AAG Annual Meeting 2019, Washington DC.
2019	Volunteer, ESRI Federal GIS Conference 2019, Washington DC.
2018	Volunteer, Appalachian Trail Conservancy (ATC).
2014 - 2016	Advisor and Teacher at Biddanondo, a non-profit organization, works for educating street children in Dhaka, Bangladesh.

2015 - 2016 General Member at Green Channel Foundation, works for improving the environment of the Dhaka city, Bangladesh.

Professional Affiliation

- American Association of Geographers (AAG)
- American Geophysical Union (AGU)
- Southeastern Division of the Association of American Geographers (SEDAAG)
- Natural Hazards Engineering Research Infrastructure (NHERI)