

ASIF ISHTIAQUE

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Sustainability, Roy Blunt Hall 367A,
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EMPLOYMENT

August 2022- Present	Assistant Professor School of Earth, Environment and Sustainability Missouri State University Springfield, USA
September 2019 – June 2022	Postdoctoral Research Fellow School for Environment & Sustainability University of Michigan, Ann Arbor, USA
August 2014 – May 2019	Graduate Teaching Assistant School of Geographical Sciences and Urban Planning Arizona State University, Tempe, USA
May 2016 – August 2016	Graduate Research Associate School of Sustainability Arizona State University, Tempe, USA
February 2012 – May 2012	Undergraduate Intern United States Agency for International Development (USAID) Dhaka, Bangladesh Project: Integrated Protected Area Co-management

EDUCATION

2014 – 2019	PhD	School of Geographical Sciences and Urban Planning Arizona State University, Tempe, USA Dissertation: <i>Multilevel governance of climate adaptation management in coastal areas: Evidence from Bangladesh.</i> Committee: Hallie Eakin (Co-Chair), Netra Chhetri (Co-Chair), Soe Myint.
2011 – 2013	MS	Major: Disaster Management Department of Geography & Environment, University of Dhaka, Bangladesh.
2007 – 2011	BS	Department of Geography & Environment, University of Dhaka, Bangladesh.

RESEARCH INTERESTS

Climate change adaptation; Sustainability; Disaster Management;
Food security; Resilience and Vulnerability; Agriculture and Urban Systems;
Environmental justice; Land use/land cover change.

PEER-REVIEWED JOURNAL ARTICLES

* indicates mentored students

For the most recent updates, see: [Google Scholar profile](#)

- 2026 1. Donkor, D.*, Dogwiler, T., Luo, J., and **Ishtiaque, A.** (2026) [Plant hardiness zone mapping for the conterminous USA using the Empirical Bayesian Kriging Regression Prediction method](#). *Applied Geography* 189: 103927.

- 2025 2. Raihan, R.S. and **Ishtiaque, A.** (2025) [Roles and nature of public participation in climate adaptation in coastal South Asia](#). *Discover Environment* 3 (1): 166.
3. Shah, S.* and **Ishtiaque, A.** (2025) [Adaptation to Glacial Lake Outburst Floods \(GLOFs\) in Hindu-Kush Himalaya: A review](#). *Climate* 13 (3): 60.

- 2024 4. **Ishtiaque, A.**, Krupnik, T., Krishna, V., Uddin, M.N., Aryal, J.K., Srivastava, A.K., Kumar, S., Shahzad, M.F., Bhatt, R., Gardezi, M., Bahinipati, C.S., Nazu, S.B., Ghimire, R., Anik, A.R., Sapkota, T., Ghosh, M., Subedi, R., Sardar, A., Uddin, K.M.Z., Khatri-Chhetri, A., Rahman, M.S., Singh, B., Jain, M. (2024) [Overcoming barriers to climate-smart agriculture in South Asia](#). *Nature Climate Change* 14: 111-113.
Media coverage: [Forbes](#), [Down to Earth](#), [Phys.Org](#), [Farms.com](#), [myScience.org](#), [Genetic Literacy Project](#), [Mirage News](#), [The Business Standard](#).
5. Solomon, D., **Ishtiaque, A.**, Agarwal, A., Gray, J., Lemos, M.C., Moben, I., Singh, B., Jain, M. (2024) [The role of rural circular migration in shaping weather risk management for smallholder farmers in India, Nepal, and Bangladesh](#). *Global Environmental Change* 89: 102937.
6. Umashaanker, M., Solomon, D., Rao, P., Singh, S., **Ishtiaque, A.**, Singh, B., Poonia, S., Agrawal, A., Jain, M. (2024) [Groundwater irrigation is critical for adapting wheat systems to warming temperatures in Northeast India](#). *Environmental Research: Food Systems* 1: 021002.
7. Vij, S., Stock, R., **Ishtiaque, A.**, Gardezi, M. and Zia, A. (2024) [Power in climate change policymaking in South Asia](#). *Climate Policy* 24(1): 104-116.

- 2023 8. **Ishtiaque, A.** (2023) [US farmers' adaptations to climate change: A systematic review of adaptation-focused studies in the US agriculture context](#). *Environmental Research: Climate* 2 (2): 022001.
9. Prutzer, E., Patrick, A., **Ishtiaque, A.**, Vij, S., Stock, R., Gardezi, M. (2023) [Climate smart irrigation and responsible innovation in South Asia: A systematic mapping](#). *Ambio* (Available online)
10. Estoque R., **Ishtiaque, A.**, Parajuli, J., Athukorala, D., Rabby, Y.W., and Ooba, M. (2023)

- [Has the IPCC's revised vulnerability concept been well adopted?](#). *Ambio* 52: 376-389.
11. Lewis, D., Rahman, M.F., Twinomuhangi, R., Haque, S., Huq, N., Huq, S., Ribbe, L., **Ishtiaque, A.** (2023) [University-based researchers as knowledge brokers for climate policies and action](#). *The European Journal of Development Research* 35(3): 656-683.
 - 2022
 12. **Ishtiaque, A.**, Estoque, R., Eakin, H., Parajuli, J., and Rabby, Y.W. (2022) [IPCC's current conceptualization of 'vulnerability' needs more clarification for climate change vulnerability assessments](#). *Journal of Environmental Management* 303: 114246.
 13. **Ishtiaque, A.**, Singh, S., Lobell, D., Singh, B., Fishman, R., Jain, M. (2022) [Prior season crop management constrains farmer adaptation to warming temperature: Evidence from the Indo-Gangetic Plains](#). *Science of the Total Environment* 807(2): 151671.
 14. Gardezi, M., Semhar, M., Stock, R., Vij, S., Ogunyiola, A., **Ishtiaque, A.** (2022) [Prioritizing climate smart agriculture \(CSA\): An organizational and temporal review](#). *WTREs Climate Change*. WCC755.
 - 2021
 15. **Ishtiaque, A.**, Eakin, H., Chhetri, N., Vij, S., Rahman, F., Huq, S. (2021) [Multilevel governance in climate adaptation in Bangladesh: structure, processes, and power dynamics](#). *Regional Environmental Change* 21: 75.
 16. **Ishtiaque, A.**, Stock, R., Vij, S., Eakin, H., and Chhetri, N. (2021) [Beyond the barriers: An overview of mechanisms driving barriers to adaptation in Bangladesh](#). *Environmental Policy & Governance* 31: 316-329.
 17. Vij, S., Biesbroek, R., Stock, R.J., Gardezi, M., **Ishtiaque, A.**, Groot, A., Termeer, K. (2021) ['Power Sensitive Design Principles' for climate change adaptation policy-making in South Asia](#). *Earth System Governance* 9: 100109.
 18. Ali, U., Wang, J., Ullah, A., **Ishtiaque, A.**, Javed, T. and Nurgazina, Z. (2021) [The impact of climate change on the economic perspectives of crop farming in Pakistan: Using the Ricardian Model](#). *Journal of Cleaner Production* 308: 127219.
 - 2020
 19. **Ishtiaque, A.**, Masrur, A., Rabby, Y.W., Jerin, T., and Dewan, A. (2020) [Remote sensing-based research for monitoring progress towards SDG 15 in Bangladesh: A review](#). *Remote Sensing* 12 (4): 691
 20. Rabby, Y.W., **Ishtiaque, A.**, and Rahman, M.S. (2020) [Evaluating the effects of Digital Elevation Models in landslide susceptibility mapping in Rangamati district, Bangladesh](#). *Remote Sensing* 12 (17): 2718.
 21. Stock, R.J., Vij, S., and **Ishtiaque, A.** (2020) [Powering and puzzling in climate change adaptation policies in Bangladesh & India](#). *Environment, Development and Sustainability* 23: 2314-2336.
 - 2019
 22. **Ishtiaque, A.**, Eakin, H., Chhetri, N., Myint, S., Dewan, A., and Kamruzzaman, M. (2019) [Examining coastal vulnerability frameworks at multiple levels of governance using spatial MCDA approach](#). *Ocean & Coastal Management* 171: 66-79.
 23. Chhetri, N., Stuhlmacher, M., and **Ishtiaque, A.** (2019) [Nested pathways to adaptation](#). *Environmental Research Communications* 1: 015001.
 - 2018
 24. Estoque, R., Myint, S.W., Wang, C., **Ishtiaque, A.**, Aung, T.T., Ooba, M., Emerton, L.,

Mon, M.S., Wang, Z., and Fan, C. (2018) [A new estimate of mangrove forest cover changes in Myanmar \(2000 to 2014\): Assessing Environmental Impacts](#). *Global Change Biology* 24 (11): 5391-5410.

- 2017**
25. **Ishtiaque, A.**, Sangwan, N., and Yu, D. (2017) [Robust-yet-fragile nature of partly engineered coastal social-ecological systems: a case study of coastal Bangladesh](#). *Ecology & Society* 22 (3): 5.
 26. **Ishtiaque, A.**, Shrestha, M., and Chhetri, N. (2017) [Rapid urbanization in the Kathmandu valley, Nepal: Monitoring land use land cover dynamics with Landsat imagery](#). *Environments* 4 (4): 72. (Invited paper, SI: Sustainable Territorial Management)
 27. **Ishtiaque, A.** and Nazem, N. I. (2017) [Household level disaster induced losses and rural-urban migration: Experience from world's one of the most disaster affected countries](#). *Natural Hazards* 86: 315-326.
- 2016**
28. **Ishtiaque, A.** and Chhetri, N. (2016) [Competing policies to protect mangrove forest: A case from Bangladesh](#). *Environmental Development* 19: 75-83.
 29. **Ishtiaque, A.**, Myint, S.W., and Wang, C. (2016) [Examining the ecosystem health and sustainability of world's largest mangrove forest using multi-temporal MODIS products](#). *Science of the Total Environment* 569-570: 1241-1254.

MANUSCRIPTS UNDER REVIEW AND IN PREPARATION

1. Nuzhat, S.*, Ishtiaque, A., Meenar, M., and Rahman, M.S. () Mapping urban and peri-urban farming in New Jersey: A multi-method evaluation of OBIA and Deep Learning approaches. *Remote Sensing Letters* (in revision)
2. Garcia-Medina, M., Euler, M., Almekinders, C., Ishtiaque, A., Krishna, V., Jain, M. () Context matters: Farmer perceptions and climate adaptation across four maize systems in Mexico. *Climate Risk Management* (under review)
3. Nuzhat, S.* and Ishtiaque, A. () Marginalization as Non-participation: Analyzing the factors of marginalization in climate adaptation. (in preparation)
4. Ishtiaque, A., Shah, S.*, et al. () Transformative adaptation required to reduce GLOF vulnerability in Pakistan. (in preparation)

PRESENTATIONS

Oral Presentations

* represents presenting author

1. **Ishtiaque, A.***, Nuzhat, S., and Shah, S. (2025) Demystifying marginalization: Understanding the factors of marginalization in adaptation to extreme weather events. *AAG Conference 2025* held on March 24 – 28 in Detroit, Michigan, USA.
2. **Ishtiaque, A.*** and Nuzhat, S. (2024) Examining climate smart agriculture adoption in South Asia: Leveraging machine learning models to identify the key factors. *AAG Conference 2024* held on April 16 – 20 in Honolulu, Hawaii, USA.

3. **Ishtiaque, A.*** and Jain, M. (2023) Wheat Production in India will decline by 2050. Paper presented at the *AAG Conference 2023* held on March 23 – 27 in Denver, Colorado, USA.
4. **Ishtiaque, A.*** and Jain, M. (2022) Prior cropping season decisions constrain farmers to adapt: Evidence from Indo-Gangetic Plains. *AAG Conference 2022* held on February 25 – March 01 (online).
5. **Ishtiaque, A.** and Eakin, H.* (2019) Multilevel adaptation governance in Bangladesh. *Earth System Governance Conference* held on November 6 – 8 in Oaxaca, Mexico.
6. **Ishtiaque, A.*** (2019) How do barriers emerge in adaptation governance in Bangladesh: A mechanism-based explanation. *Sustainability and Development Conference* held on October 11 – 14 at Ann Arbor, Michigan, USA.
7. **Ishtiaque, A.*** (2019) Multilevel adaptation governance in Bangladesh: Structure, processes, power dynamics. *AAG Conference 2019* held on April 03 – 07 in Washington DC, USA.
8. **Ishtiaque, A.*** (2018) Multilevel governance of climate change vulnerability management in coastal social-ecological systems: Evidence from Bangladesh. *AAG Conference 2018* held on April 10 – 14 in New Orleans, Louisiana, USA.
9. **Ishtiaque, A.*** and Yu, D. J. (2017) Resilient-yet-vulnerable: A case of scale challenges posed by adaptation actions in coastal Bangladesh. *AAG Conference 2017* held on April 05 – 09 in Boston, Massachusetts, USA.
10. Myint, S.W.*, Wang, C., and **Ishtiaque, A.** (2017) A space-time analysis approach to tackle some emerging environmental issues. *Annual World Bank Conference on Land and Poverty* held on March 20 – 24 in Washington DC, USA.
11. **Ishtiaque, A.***, Myint, S.W., and Wang, C. (2016) Modeling spatiotemporal dynamics in Sundarban. *AAG Conference 2016* held on March 29 – April 02 in San Francisco, California, USA.
12. **Ishtiaque, A.*** and Yu, D. J.* (2015) Robustness of a coupled infrastructure system: A case of Southwest Bangladesh. *Conference on Complex Systems (CCS)* held on September 28-October 02 in Tempe, Arizona, USA.

Poster Presentations

1. Rahman, M.S.*, Meenar, M., Abott, N.M., and **Ishtiaque, A.** (2026) Integrating Sentinel-1 and Sentinel-2 time series with dynamic time warping for orchard mapping in New Jersey. *AAG Conference 2026* held on March 17-21 in San Francisco, California, USA.
2. Jain, M.*, Prudente, V., Deshpande, M.V., Bhattarai, N., **Ishtiaque, A.**, Singh, B. (2025) Adaptation and mitigation in India's wheat belt: Tradeoffs between crop yield, agricultural residue burning, and groundwater depletion. *American Geophysical Union (AGU) Conference* held on December 15-19 in New Orleans, Louisiana, USA.
3. Rahman, M.S.*, Nuzhat, S., **Ishtiaque, A.**, and Meenar, M. (2025) Mapping urban and peri-urban farming in New Jersey: A multi-method evaluation of OBIA and Deep Learning approaches. *American Geophysical Union (AGU) Conference* held on December 15-19 in New Orleans, Louisiana, USA.
4. Ogunyila, A.*, Gardezi, M., Michael, S., **Ishtiaque, A.**, May, C., Stock, R., and Vij, S. (2020) Prioritizing Climate Smart Agriculture (CSA): An organizational analysis. *SDSU Data Science Symposium* held on February 11-12 in Brookings, South Dakota, USA.
5. **Ishtiaque, A.***, Chhetri, N., and Eakin, H. (2018) Structural analysis of multilevel adaptation governance network in Bangladesh. *American Geophysical Union (AGU) Conference* online platform.
6. **Ishtiaque, A.** and Shrestha, M.* (2018) Urbanization in the Himalayas?: Detecting loss of agricultural land due to urban growth in the Kathmandu valley, Nepal. *CAP-LTER 20th Annual All Scientists Meeting* held on January 5 in Tempe, Arizona, USA.

7. **Ishtiaque, A.***, Nazem, N. I. and Jerin, T. (2015) Natural disaster induced losses at household level: A study on the disaster affected migrants. *American Geophysical Union (AGU) Conference* held on December 14-18 in San Francisco, California, USA.
8. Jerin, T.* and **Ishtiaque, A.** (2015) Groundwater Depletion in Dhaka City, Bangladesh: A spatio-temporal analysis. *American Geophysical Union (AGU) Conference* held on December 14-18 in San Francisco, California, USA.

OUTREACH

1. **Ishtiaque, A.**, (2020, July 21) Empower BWDB for effective flood management. *New Age*.
<https://www.newagebd.net/article/111654/empower-bwdb-for-effective-flood-management>

TEACHING

- Missouri State University
 - GRY 135: Principles of Weather and Climate (Fall'22-26; Spring'23-26)
 - GRY 108: Principles of Sustainability (Fall'24-26; Spring'24-26)
 - GRY 100: World Regional Geography (online) (Fall'25)
 - GRY 351: Sustainable Management of Natural Resources (Spring'23-26)
 - GRY 545/645: Global Environmental Change (Fall'23)
 - GRY 597/697: Data Analysis with R (Fall'24)
- University of Michigan
 - EAS 501: Social Vulnerability to Environmental Change (Spring'22)
- Arizona State University
 - GPH 112: Introduction to Physical Geography (Lab) (Fall'14-17; Spring'15-18)
 - GPH 314: Global Change (online) (Summer'18)

GRANTS

- NASA (\$300,000). "Unearthing the urban agriculture – environment connection: Implications for practice and policies." (2024-26)
PI: Mahbubur Meenar, Co-I: Asif Ishtiaque
- Missouri State University Faculty Summer Fellowship (\$6000) "Toward Equitable Resilience: Exploring Marginalization in Climate Adaptation Strategies in Bangladesh." (2024)
PI: Asif Ishtiaque.
- +Policy Research Supplement Virginia Tech (\$10500). "Responsible innovation and governance of climate smart irrigation technologies in the Hindu Kush Himalayas" (2020)
PI: Maaz Gardezi, Co-I: A.Ishtiaque, S. Vij, R. Stock

AWARDS

- Professional Development Award 2021: University of Michigan Postdoctoral Association
- ASU College of Liberal Arts & Science Graduate Excellence Award 2018.
- Jeanne X. Kasperson Student Paper Award, AAG Hazards, Risks & Disasters Specialty Group (AAG 2018)
- Matthew G. Bailey Fellowship, Arizona State University 2016
- Travel Award 2016-2019: ASU Graduate Professional Student Association
- Bangladesh-Sweden Trust Fund Travel Award 2015
- Dhaka University Merit Grant 2011

GRADUATE STUDENTS and their ACHIEVEMENTS

- Md. Iftiaz Ahammad (Chair; 2025-2027)
- Samiha Nuzhat (Chair; 2023 – 2025)
 - Pursued a PhD at the University of South Carolina after finishing the MS.
 - Received fully funded PhD offers from 7 universities: Penn State, U of Georgia, U of Delaware, UT Dallas, U of South Carolina, Florida State.
 - Selected to participate in the fully funded summer school on 'Leveraging Artificial Intelligence for Environmental Sustainability' organized by the NSF's Institute for Geospatial Understanding.
- Sobia Shah (Chair; 2023 – 2025)
 - Joined UNDP as a Consultant after finishing the MS.
 - Selected to participate in the fully funded summer school on 'Leveraging Artificial Intelligence for Environmental Sustainability' organized by the NSF's Institute for Geospatial Understanding.
- Daniel Donkor (Chair; 2023 – 2025)
 - Pursued a PhD at the University of Oklahoma after finishing the MS.
 - Achieved an outstanding poster award at the 32nd Annual Einhellig Graduate Interdisciplinary Forum 2024.
- Kaiser Mostafiz (Committee member; 2024 – 2026)
 - Pursued a PhD at Central Florida University after finishing the MS.
- Bezali Danso (Committee member; 2024 – 2026)
 - Pursued a PhD at Michigan State University after finishing the MS.
- Ali Muhammad (Committee member; 2024-2026)
 - Joined the City of Fort Wayne, Indiana, as a GIS Analyst after finishing the MS.
- Juan Lopez-Sierra (Committee member; 2024-2026)
- Yetimoni Kpeebe (Committee member; 2022 – 2024)
 - Pursued a PhD at the University of North Carolina- Charlotte after finishing the MS.
- Bradley Bateman (Committee member; 2025 – 2027)

PROFESSIONAL SERVICES

- Reviewer of the IPCC Sixth Assessment Report (First-order draft).
- Session Chair at AAG 2017.
- Research Grant Reviewer: ASU Graduate Professional Student Association.
- Travel Grant Reviewer: ASU Graduate Professional Student Association.

- General Secretary at Bangladesh Student Association, Arizona State University.
- Founding General Secretary at the *Environment Club*, Department of Geography & Environment, University of Dhaka, Bangladesh.
- Organizer of the UN-WOMEN activism against Gender Violence.
- Special issue editor of *Discover Environment* journal.
- Reviewed articles for 40+ journals.