Dr. Asif Sajjad

Department of Environmental Sciences, Quaid-i-Azam University, Islamabad, Pakistan
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DOB: 01/01/1991, **Nationality**: Pakistani, **Gende**r: Male, **ORCID**: https://orcid.org/0000-0003-1921-8213

Job & Research Experiences

Ningbo University, China — 8 July 2026-Present
Postdoctoral Research Associate

Quaid-I-Azam University, Islamabad, PK — 13 Sep 2022 - Present
Assistant Professor
Department of Environmental Sciences, Quaid-I-Azam University, Islamabad, Pakistan

Bahauddin Zakariya University, Multan, PK — 01 Jan 2022 – 28 june 2022
Visiting Lecturer
Department of Geography, Bahauddin Zakariya University, Multan Pakistan

Government Postgraduate College, Sahiwal, PK — 03 Oct 2015 – 31 May 2016
College Teaching Interns
Department of Geography, Government Postgraduate College, Sahiwal Pakistan

Education Qualifications

Ph.D. in GIS and Cartography — 05 Sep 2017 – 31 Dec 2021
State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, Hubei, China
Supervisors: Prof. Chen Xiaoling and Prof. Dr. Lu Jianzhong
PhD-Thesis title: Riverine flood risk assessment using remote sensing and numerical modelling in Punjab floodplains in Pakistan.

MS (Geography) — 01 Sep 2012 - June 2015
Government College University, Lahore, Pakistan
Supervisors: Prof. Dr. Shakeel Mahmood
MSc-Dissertation title: Flood risk Management in District Muzaffargarh using Geoinformatics

BSc (Hons) (Geography) — 15 Sep 2008 - 15 July 2012
Government: College University, Lahore
Supervisors: Prof. Dr. Shakeel Mahmood
BSc-Dissertation title: Causes and damages of flood 2010 in central Indus Basin, District Muzaffargarh, Punjab, Pakistan

Technical Skills

- **GIS and Remote Sensing Software:** *ArcGIS, ArcGIS Pro, QGIS, ENVI, SNAP, ERDAS IMAGINE, RAS Mapper, Google Earth Engine*
- **Expertise in fluvial (Riverine) flood frequency analysis and 1-D and 2-D modelling** *using HEC-RAS Model to predict and simulate flood extent modelling with different return periods of floods in a specific floodplain region.*
- **Expertise in flood Susceptibility and vulnerability analysis** *using Multi-criteria Decision Making (MCDM) technique*
- **Expertise in various MCDM-based** applications of Environmental Sciences.
- **Skills in obtaining optical and RADAR satellite data**, *performing different analyses and*

classification, applying different satellite-derived spectral indices.

- **Statistical software:** *[MS Office (Excel, PowerPoint, and MS word), and SPSS.*
- **Excellent verbal and communication skills** *(evident from peer-reviewed journal publications and conference presentations)*

Honours &Awards

1. Top cited article in Transactions in GIS (Wiley, 2025): "Assessment of Urban Environmental Quality by Socioeconomic and Environmental Variables Using Open-Source Datasets" (published 2024).
2. Best international student award for excellent academic performance and outstanding comprehensive performance in the academic year 2020-2021, Wuhan University, China (2020 & 2021)
3. Publication award for referred articles indexed by SCI/SSCI in 2019 and 2020, LIESMARS, Wuhan University, China (2019 & 2020)
4. Chinese Scholarship Council Doctoral Scholarship – (2017-2021)
5. 1st Prize Award for best oral presentation award at "The 2018 International 2nd Graduate Workshop on Geo-Informatics" in LIESMARS- Wuhan University, China (2018)
6. Got Honour Code Certificate for completing the online course of "DART.ENVS.01.X: Introduction to Environmental Science" offered by Dartmouth College, New Hampshire, United States through edx. Certificate was issued on March 31st, 2015. Verified authenticity is given at https://verify.edx.org/cert/bb974df6da4542f9901fbc5762f43767 (2015)
7. Got Honour Code Certificate for completing the online course of "12.340x: Global Warming Science" offered by Massachusetts Institute of Technology (MIT), USA through edx. Honour code certificate was issued on May 14th, 2014. Verified authenticity of this certificate is given at https://verify.edx.org/cert/504f02b18c4f411eb90e790089ce550f (2014)
8. Got Honour Code Attestation for completing the online course of "ATOC185x: Natural Disasters" offered by McGill University, Canada through edx. Honour code certificate was issued on August 28th, 2014. Verified authenticity of this attestation is given at https://verify.edx.org/cert/897ed1da513444f189db19179080cebf (2014)

Administrative Responsibilities

- Advisor of Climate and Geospatial Innovation Lab, Department of Environmental Sciences, Quaid-I-Azam University, Islamabad, Pakistan
- Student Affairs Incharge "Department of Environmental Sciences, Quaid-I-Azam University, Islamabad, Pakistan (31st Dec 2022-1st Feb 2024)
- Postgraduate Course Coordinator, Department of Environmental Sciences, Quaid-I-Azam University, Islamabad (1st Feb 2024- 1st August 2025)
- In-charge, Quaidian Disaster Risk Management Society, Quaid-I-Azam University, Islamabad (15th Jan 2023 till to date)
- External Examiner of various national universities for Master and undergraduate dissertation defense.

Reviewing Responsibilities

- Reviewer of 40 international research journals

Research Supervision

- Supervised 9 MPhil and 11 BS student Dissertations in the Department of Environmental Sciences, Quaid-I- Azam University, Islamabad, Pakistan.
- 3 Doctoral students are under supervision.

Publications

1. Khursheed, N.; **Sajjad, A*.;** Iqbal, M.; Aslam, R.W. Multi-Temporal Assessment of Bimodal Monsoon Flood Dynamics and Agricultural Exposure Using Integrated Sentinel-1 SAR and Sentinel-2 Optical Data in Punjab, Pakistan. *GeoHazards* **2026**, *7*, 114. https://doi.org/10.3390/geohazards7040114l
2. Tabassum, A.; Sajjad, A***.;** Sajid, G.H.; Aslam, R.W. Mapping Compound Flood Risk in Dera Ismail Khan, Pakistan: An Integrated Remote Sensing and GIS-Based Analytic Hierarchy Process (AHP)

Approach. **Remote Sens Earth Syst Sci 2026** 9, 49. https://doi.org/10.1007/s41976-026-00298-9

3. Qadri, J.A.; **Sajjad, A*.;** Khan, A.H.A. Spatiotemporal Modeling of Mangrove Carbon Stock Along Pakistan's Coast Using Multi-Sensor Sentinel and Landsat Data. **Sensors** 2026, *26*, 4117. https://doi.org/10.3390/s26134117
4. **Sajjad A*.;** Tabassum, A.; Mazhar, N. Flood Risk Modeling Using Analytic Hierarchy Process in Dera Ismail Khan, Khyber Pakhtunkhwa, Pakistan. In: Mahmood, S. (eds) **Flood Risk Reduction. Springer, Cham**. 2026. https://doi.org/10.1007/978-3-032-12225-4_13
5. Mumtaz, S.; **Sajjad, A*.;** Aslam, R.W.; Sajid, G.H.; Mazhar, N. Monitoring snow cover change in the Yasin River basin using MODIS snow products and Landsat-derived water indices (2003–2023). **Environ Monit Assess** 2026, 198, 154
6. Altaf, F.; Muhammad, T.; Nadeem, S.; **Sajjad, A.;** Iqbal, M. Quantifying key drivers of atmospheric methane across Pakistan using a machine learning approach. **Environ Monit Assess** 2026, 198, 110.
7. Mazhar, N.; Ahmad, M.; Tahir, T.; Abbas, S.; Iqbal, M.; **Sajjad, A*.** Assessing Climate Change-Induced Food Security Risks for Rural Communities in South Punjab, Pakistan. **EQ** 2025, 36, 1-27.
8. Zahra, H.; **Sajjad, A***.; Sajid, G.H.; Iqbal, M.; Khan, A.H.A. Identification of Groundwater Recharge Potential Zones in Islamabad and Rawalpindi for Sustainable Water Management. **Water** 2025, 17, 3392.
9. Tabassum, A.; **Sajjad, A*.;** Sajid, G.H.; Ahmad, M.; Iqbal, M.; Khan, A.H.A. Assessing Recharge Zones for Groundwater Potential in Dera Ismail Khan (Pakistan): A GIS-Based Analytical Hierarchy Process Approach. **Water.**2025,17:1586.
10. Rehman, B.;Khalifa,W.M.A.; Mirza,C.R.; Butt, T.A.; Manan, N.; **Sajjad,A.;** Toqeer,M.; Siddiqui, G.F.; Yousaf,S.; Iqbal,M. Salt tolerance potential of native plant species and halophilic bacteria from Bahadur Khel and Khewra, Pakistan. **Kuwait Journal of Science.** 2025, 52(3): 100428.
11. **Sajjad,** A*.; Ahmad, M.; Aslam, R.W.; Bibi, M.; Tabassum, A. Remote Sensing-Based Flash Flood Mapping and Damage Assessment in Dera Ismail Khan, Khyber Pakhtunkhwa, Pakistan. **Environ. Monit. Assess. 2025,** 197: 447.
12. **Sajjad,** A*.; Ahmad, M.; Tariq, R.; Iqbal, M.; Farooq, R.; Ali, W.; Ali, A. Assessment of Community Perceptions on Drinking Water Quality and Its Implications for Human Health in Islamabad, Pakistan: A Comprehensive Analysis. **Desalination Water Treat. 2025**, 321: 101055.
13. Chaoyong, W.; Aslam, RW.; Quddoos, A.; Naz, I.; Tariq, A.; Ullah,S.; **Sajjad, A.;** Soufan, W.; Almutairi, KF. "SAR image integration for multi-temporal analysis of Lake Manchar Wetland dynamics using machine learning". **Scientific Report**, 2024, 14: 26669.
14. Mazhar, N.; Fatima,T.; Nasar-u-Minallah,m.; **Sajjad, A.;** Abbas, S. "Spatio-Temporal Monitoring and Risk Mapping of Glacial Lake Outburst Flood in Hunza Valley, Pakistan". **Proceedings of the Pakistan Academy of Sciences: A. Physical and Computational Sciences**, 2024, 61(3): 865. https://doi.org/10.53560/PPASA(61-3)865.
15. Lingye1, T,; Saleem, N,; Aslam, RW,; **Sajjad, A*,;**Naz, I,; Tariq, A,; Alzahrani,H. "Assessment of Urban Environmental Quality by Socio-Economic and Environmental Variables Using Open Sources Datasets". **Transactions in GIS,** 2024, 28: 2526-2544.
16. Naz, I.; Fan, H.; Aslam, RW.; Tariq, A.; Quddoos, A.; **Sajjad, A*.;** Soufan, W.; Almutairi, KF.; Ali, F. "Integrated geospatial and geostatistical multi-criteria evaluation of urban groundwater quality using water quality indices". **Water, 2024,** 16, 2549.
17. **Sajjad, A*.;** Lu, J.; Chen, X,; Yousaf, Y,; Mazhar, N,; Shuja, S. "Flood hazard assessment in Chenab River basin using hydraulic simulation modeling and remote sensing". **Nat Hazards, 2024**, 120, 7679–7700.
18. Aslam, R.W.; Shu, H.; Yaseen, A; **Sajjad, A.;** Zain ul Abidin, S. **"**Identification of time-varying wetlands neglected in Pakistan through remote sensing techniques". *E***nviron Sci Pollut Res**. **2023,** 30, 74031–74044
19. **Sajjad, A***.; Lu, J.; Aslam, R.W.; Ahmad, M. "Flood Disaster Mapping Using Geospatial Techniques: A Case Study of the 2022 Pakistan Floods"**. *Environ. Sci. Proc.* 2023,** *25*, 78

20. **Sajjad, A*,;** Lu, J.; Chen, X. Chisenga, C.; Mazhar, N. **"**Rapid assessment of riverine flood inundation in Chenab floodplains using remote sensing data" **Geoenvironment Disasters, 2023,**10,9.

21. **Sajjad, A.;** Lu, J.; Chen, X.; Chisenga, C.; Mazhar, N.; Nadeem, B. "Riverine Flood mapping and impact assessment using remote sensing technique: A case study of Chenab flood-2014 in Multan district, Punjab, Pakistan". ***Natural Hazards, 2022,*** 110, 2207–2226.
22. **Sajjad, A.;** Mahmood, S.; Rahman, A. U. "Cause and damage analysis of 2010 flood disaster in district Muzaffar Garh, Pakistan". ***Natural Hazards*****, 2021,** *107*, 1681-1692.
23. Mazhar, N.; Shirazi, S. A.; Javid, K.; **Sajjad, A**. "Application of unmanned aerial vehicles (UAVs) for precision agriculture, in selected wheat fields of Rajanpur". ***Pakistan Geographical Review, 2021,*** 76, 213-223.
24. Waqas, H.; Lu, L. Xing, J.; **Sajjad, A.** "Flash Flood Susceptibility Assessment and Zonation Using an Integrating Analytic Hierarchy Process and Frequency Ratio Model for the Chitral District, Khyber Pakhtunkhwa, Pakistan". ***Water, 2021,*** 13,1650.
25. **Sajjad, A.;** Lu, J.; Chen, X.; Chisenga, C.; "Operational monitoring and damage assessment of riverine flood-2014 in the lower Chenab plain, Punjab, Pakistan, using remote sensing and GIS techniques". ***Remote Sensing, 2020***, *12*, 714.
26. **Sajjad, A.;** Lu, J.; Chen.; Saleem, N. "Rapid riverine flood mapping with different water indexes using flood instances Landsat-8 images". ***5th International Electronic Conference on Water Sciences,2020***. https://doi.org/10.3390/ECWS-5-08049
27. Basit, M.; **Sajjad, A.;** Mahmood, Z.; Sohail, M. "Spatial assessment of transgender population: The deprived community on Pakistan". ***Arts and Social Science, 2020,*** 1, 1–12. https://doi.org/10.34154/2020-ASSJ-0202-01-12/euraass
28. **Sajjad, A.;** Lu, J.; Chen, X.; Chisenga, C.; Mahmood, S. "The riverine flood catastrophe in August 2010 in South Punjab, Pakistan: potential causes, extent and damage assessment. ***Appl. Ecol. Environ. Res., 2019***, 17, 14121-14142.
29. Mahmood, S.; Rahman, A. U.; **Sajjad, A.** Assessment of 2010 flood disaster causes and damages in district Muzaffargarh, Central Indus Basin, Pakistan. ***Environmental Earth Sciences*****, 2019**. *78*, 63.
30. Saleem, N.; Huq, M.; Twumasi, N. Y. D.; Javed, A.; **Sajjad, A.** "Parameters derived from and/or used with digital elevation models (DEMs) for landslide susceptibility mapping and landslide risk assessment: a review". ***ISPRS International Journal of Geo-Information*****, 2019**, *8*, 545.
31. Basit, M.**; Sajjad, A.** "Female Deficit: Trends and Patterns of Sex Ratio in Pakistan, Directing Census-2017" ***Asian Journal of Multidisciplinary Studies, 2019***, 7(1).

Conference Presentations and Workshops

1. **Published 2** Abstracts for oral presentation and Poster presentation at the 9th International Electronic Conference on Water Sciences (Recent Advances in Water Sciences under a Variable and Changing Environment), held (online) from November 11–14, 2025, organized by MDPI, Switzerland.
2. Participated in the CPJRC Training Workshop on Resource and Environment Scientific data sharing and Disaster Emergency Response along CPEC on August 23-27, 2025, at Quaid-I-Azam university, Islamabad
3. **Participated** in the International Training Workshop on climate change and water safety effects along CPEC jointly organized by China-Pakistan Joint Research Center on Earth Sciences (CPJRC) and Pakistan Academy of Sciences on 9-14 April 2025
4. **Published** 4 Abstracts for oral presentation and Poster presentation at the 8th International Electronic Conference on Water Sciences, held (online) from October 14–16, 2024, organized by MDPI.
5. **Participated** in the International Training Workshop on Resource and Environment Scientific data sharing along the "Belt and Road organized by Institute of Geographical Sciences and Natural resources research, Chinese Academy of Sciences Beijing, China on 4-18 Nov 2023
6. **Participated i**n the International Training Workshop on Natural Disaster Monitoring, Prevention and Mitigation Technology along CPEC organized by China-Pakistan joint research center on Earth Sciences at Quaid-I-Azam University, Islamabad on 22-25 Oct 2023.
7. **Organized and chaired** the 1st International Conference on Waste Business and Management, held on September 12–13, 2023, at Quaid-i-Azam University, Islamabad.
8. **Published a proceeding paper** in the 7th International Electronic Conference on Water Sciences (March 15–30, 2023). DOI: 10.3390/ECWS-7-14312.

9. **Organized and chaired** the 2nd International Conference on Climate Change and Environment, held on January 11–13, 2023, at Quaid-i-Azam University, Islamabad.
10. **Presented 2 Papers** at the International Conference on Geography and Global Sustainability (ICGSS), organized by the Department of Geography, University of Colombo, Sri Lanka, on December 9–10, 2021.
11. **Published a proceeding Paper** in the 5th International Electronic Conference on Water Sciences (November 16–30, 2020). DOI: 10.3390/ECWS-5-08049.
12. **Publication and Presentation of** an abstract at the 3rd LIESMARS International Graduate Workshop on Geoinformatics, held at Wuhan University, Hubei Province, China, from June 25–28, 2019.
13. **Presented a paper** at the 2nd International Workshop on Artificial Intelligence and Big Data Analysis (AIABDA 2018), held in Macao on April 23–25, 2018.
14. **Publication and Presentation** of an abstract at the 2nd LIESMARS International Graduate Workshop on Geoinformatics, held at Wuhan University, Hubei Province, China, from July 8–11, 2018.

The above statements are true & correct to the best of my knowledge and belief.

Dr Asif Sajjad