

Md. Shahabul Alam

Personal information:

Post-Doctoral Research Hydrologist

Pacific Climate Impacts Consortium, University of Victoria

Victoria, British Columbia, Canada V8N 6M2

Email: shahab@uvic.ca, sabuj1469@gmail.com

Phone: 306-914-5050

Research interests:

Hydrological modelling

Statistical downscaling

Uncertainty assessment due to climate change

Surface and subsurface hydrology

Water balance modelling

Education:

PhD, Civil, Geological and Environmental Engineering, University of Saskatchewan, Saskatoon, SK, Canada.

MSc, Civil and Geological Engineering, University of Saskatchewan, Saskatoon, SK, Canada.

MSc, Water Resources Engineering, Katholieke Universiteit Leuven and Vrije Universiteit Brussel, Belgium.

BSc, Civil Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh.

Work experience:

2020/01-present: Postdoctoral Research Hydrologist, Pacific Climate Impacts Consortium, University of Victoria.

2005/02-2018/10: Sub-Divisional Engineer/Assistant Engineer, Bangladesh Water Development Board, Dhaka, Bangladesh.

Peer-reviewed journal publications:

1. **Alam, M. S.**, S. L. Barbour, M. Huang, and Y. Li (2020), Using Statistical and Dynamical Downscaling to Assess Climate Change Impacts on Mine Reclamation Cover Water Balances. **Mine Water and the Environment**, doi: 10.1007/s10230-020-00695-6.
2. **Alam, M. S.**, S. L. Barbour, and M. Huang (2020), Characterizing uncertainty in the hydraulic parameters of oil sands mine reclamation covers and its influence on water balance predictions. **Hydrology and Earth System Sciences**, 24, 735-759, doi: 10.5194/hess-24-735-2020.

3. **Alam, M. S.**, S. L. Barbour, A. Elshorbagy, and M. Huang (2018), The impact of climate change on the water balance of oil sands reclamation covers and natural soil profiles. **Journal of Hydrometeorology**, 19, 1731-1752, doi: 10.1175/JHM-D-17-0230.1.
4. **Alam, M. S.** and A. Elshorbagy (2015), Quantification of the climate change-induced variations in Intensity-Duration-Frequency curves in the Canadian Prairies. **Journal of Hydrology**, 527, 990–1005, doi: 10.1016/j.jhydrol.2015.05.059.
5. Rafiq, R., **M. S. Alam**, M. M. Rahman, and I. Islam (2014), Conserving wetlands: Valuation of indirect use benefits of a wetland of Dhaka. **International Journal of Environmental Science and Development**, 5(1), 64-69, doi: 10.7763/IJESD.2014.V5.452.

Conference proceedings and presentations:

1. **Alam, M. S.**, S. L. Barbour, M. Huang, and Y. Li (2019), Long-term performance of oil sands mine reclamation covers under high-resolution climate change projections. Proceedings of Tailings and Mine Waste Conference 2019, Vancouver, BC, November 17-20, 13 pp (Paper 7, podium presentation).
2. **Alam, M. S.**, S. L. Barbour, and M. Huang (2018), An evaluation of soil hydraulic parameter uncertainty on the hydrologic performances of oil sands reclamation covers. Proceedings of 71st Canadian Geotechnical Society Conference, GeoEdmonton 2018, Edmonton, Alberta, September 23-26, 8 pp (Paper 452).
3. **Alam, M. S.**, S. L. Barbour, M. Huang, and L. Doucette (2017), An Evaluation of Parameter Uncertainty in the Calibration of a Soil-Vegetation-Atmosphere-Transfer (SVAT) model for a Reclamation Cover on LOS. 70th Canadian Geotechnical Society Conference, GeoOttawa 2017, Ottawa, Ontario, October 2-4, 8 pp (Paper 304 and Poster presentation).
4. **Alam, M. S.**, S. L. Barbour, A. Elshorbagy, and M. Huang (2017), The Impact of Climate Change on the Performance of Oil Sands Reclamation Covers: A Comparison of Multiple General Circulation Models and Representative Concentration Pathways. Proceedings of 70th Canadian Geotechnical Society Conference, GeoOttawa 2017, Ottawa, Ontario, October 2-4, 8 pp (Paper 300 and Oral presentation).
5. **Alam, M. S.**, M. Huang, S. L. Barbour, and B. C. Si (2017), Characterizing temporal and spatial variability in Soil-Vegetation-Atmosphere-Transfer (SVAT) modelling of reclamation covers in Northern Alberta, Canada. Computational Modelling of Multi-Uncertainty and Multi-Scale Problems, COMUS17, Eccomas Thematic Conference, Porto, Portugal (Oral presentation).
6. Elshorbagy, A., and **M. S. Alam** (2015), Downscaling of Extreme Precipitation: Proposing a New Statistical Approach and Investigating a Taken-for-Granted Assumption. General Assembly of the European Geosciences Union, Vienna, Austria, April 12-17 (Abstract EGU2015-7872).
7. Nazemi, A., **M. S. Alam**, and A. Elshorbagy (2014), Uncertainties in Future Projections of Extreme Rainfall at Fine Scales: The Role of Various Sources. The 11th International Conference on Hydroinformatics, New York City, USA, August 17-21, 4 pp (Paper 1328).
8. **Alam, M. S.**, A. Nazemi, and A. Elshorbagy (2014), Quantifying the Climate Change-induced Variations in Saskatoon's Intensity-Duration-Frequency Curves Using Stochastic Rainfall Generators and K-nearest neighbors. General Assembly of the European Geosciences Union, Vienna, Austria, April 27- May 2 (Poster presentation EGU2014-4536).

Research reports:

1. Huang, M., **M. S. Alam**, S. L. Barbour, and B. C. Si (2017), Numerical modelling of the impact of cover thickness on the long-term water balance of reclamation soil covers over lean oil sands overburden. Report prepared for Syncrude Canada Ltd, pp. 39.
2. Elshorbagy, A., A. Nazemi, and **M. S. Alam** (2015), Analyzing the variations in intensity-duration-frequency (IDF) curves in the city of Saskatoon under climate change. CANSIM Series Report No. CAN-15-01, Centre for Advanced Numerical simulation (CANSIM), Department of Civil & Geological Engineering, University of Saskatchewan, Saskatoon, SK, Canada, pp. 167.

Software development:

SaskIDF – A tool for analyzing the variations in Intensity-Duration-Frequency (IDF) curves in the City of Saskatoon under Climate Change.

Text interviews:

1. Young Innovators: Water predictions help restore oilsands
 - The Saskatoon Star Phoenix, March 11, 2019. <https://thestarphoenix.com/news/local-news/young-innovators-water-predictions-help-restore-oilsands>
 - U of S Research website, March 11, 2019. <https://research.usask.ca/our-impact/highlights/student-success/young-innovators/2019/water-predictions-help-restore-oil-sands.php>
 - This Week e-newsletter, Global Institute for Water Security, March 19, 2019. https://mailchi.mp/a452ee6b9804/giws-e-news-feb_25_2019-566023?e=7557288a37

Academic awards:

1. Clarence R. Forsberg Memorial Scholarship, College of Engineering, University of Saskatchewan (2019-2020)
2. Clarence R. Forsberg Memorial Scholarship, College of Engineering, University of Saskatchewan (2018-2019)
3. Saskatchewan Innovation & Opportunity Scholarship (2016-2017)
4. Department of Civil and Geological Engineering Devolved Scholarship, University of Saskatchewan (2013-2014)
5. Belgium Govt. VLIR-UOS Scholarship (2008-2010)
6. University Dean's Scholarship for Academic Excellence, BUET (1999-2003)

Memberships:

1. Engineer-in-Training (EIT), Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) (2015-present)
2. Global Institute for Water Security (GIWS), University of Saskatchewan. Saskatoon, SK (2013-present)
3. The Institution of Engineers (IEB), Dhaka, Bangladesh (2005-present)