# HAMED SHARIF, M.A.Sc.

HYDROLOGY CONSULTANT



## EDUCATION

M.A.Sc., Water Resources Science, University of British Columbia, Canada, January 2024 B.Sc., Civil and Environmental Engineering, Sharif University of Technology, Iran, July 2021

## **PROFESSIONAL REGISTRATION**

Engineer in Training, EGBC

## SUMMARY

Hamed is a water resources engineer/hydrologist with a strong academic background and interdisciplinary experience in the mining and environmental sectors. After earning his M.A.Sc. degree, he joined Robertson GeoConsultants Inc. in May 2024. Since then, Hamed has contributed to mine water management and environmental assessment projects across Canada, Australia, and Chile, applying a range of technical and modeling skills to complex water-related challenges.

Hamed specializes in developing semi-distributed hydrological models, water and load balance simulations, and interactive decision-support tools. Hamed has hands-on expertise in ArcGIS Pro, R, GoldSim, and Python, and applies data-driven techniques, stochastic modeling, and geospatial analysis to support design, prediction, and optimization of water systems. His work includes flood studies, development of water and load balance models, and creation of dynamic web applications for visualizing model outputs from GoldSim.

# PROFESSIONAL HISTORY

2024-present:Hydrology Consultant, Robertson GeoConsultants Inc.2021-2024:Graduate Research Assistant, University of British Columbia

# PROJECT EXPERIENCE

#### MINE CLOSURE PLANNING

#### Langlois Mine Site, Québec (2024-present) for Breakwater Resources

- Conducted flood studies to estimate the 100-year peak design discharge for the design of a collection ditch in the mill area.
- Processed and gap-filled climate and hydrometric data to support the development of a sitewide water and load balance model.
- Calibrated the coupled CemaNeige-GR4J snow and hydrological model for the mine site region.
- Developed and calibrated a site-wide water and load balance model to simulate the impact of underground mine water pumping to the TSF on effluent discharge over a 5-year period under two climate scenarios.

• Authored a technical report documenting the methodology, calibration, and results of the water and load balance model.

## Los Bronces Mine Site, Chile (2024-present) for Anglo American Sur

- Updated climate and hydrometric datasets to support the extension of a site-wide water and load balance model.
- Estimated constituent concentrations for the Rio Mapocho Valley using observed data and the USGS LOADEST software.
- Developed a containerized implementation of the coupled hydrological and water/load balance model using GoldSim.
- Assessed the effects of various remediation scenarios for the Confluencia and Paso Marchant areas.
- Processed LiDAR data for the San Francisco diversion tunnel and conducted geospatial analyses in R to estimate tailings elevation during the Perez Caldera TSF removal.
- Evaluated constituents' concentrations downstream of the Perez Caldera TSF using stochastic modeling across multiple load pathways and climate conditions.
- Presented stochastic modeling results and remediation scenario assessments to the client.

## Rum Jungle Mine Site, Australia (2024-present) for Northern Territory Government

- Delineated catchments and stream networks for the East Branch of the Finniss River.
- Created an interactive web map using the Leaflet JS package to visualize catchments and stream networks at multiple zoom levels.
- Developed an interactive R Shiny application enabling users to dynamically update the flowsheet showing mean annual discharge or loads based on selected constituent, desired unit, and period.
- Deployed and maintained the application on GitHub throughout the project, incorporating requested features and model updates.
- Performed geospatial analysis using ArcGIS Pro and ArcPy to estimate waste rock area and volume.
- Analyzed terrain and spatial data in ArcGIS Pro to determine the optimal location and geometry of an earth-filled dam for the backfilling campaign.
- Designed and produced 2D and 3D geospatial map layouts for inclusion in the site-wide water and load balance model report.

# PEER-REVIEWED PUBLICATIONS

Sharif, H., & Ameli, A. A. (2025). Searching for functional simplicity of stormflow generation. Water Resources Research, 61, e2024WR037179. https://doi.org/10.1029/2024WR037179

# CONFERENCE PRESENTATION

Sharif, H. (2025), "StormBase: an R package to objectively identify and analyze runoff events", In Canadian Water Resources Association National Conference, Penticton, BC, Canada, May 2025.

Sharif, H., & Ameli, A. A (2023). "How do simple catchments behave? A functional large-sample hydrology assessment of event flow generation mechanisms", AGU23 meeting.

Sharif, H., & Ameli, A. A (2023). "Data-guided exploration of streamflow generation mechanism: A global-scale analysis", EGU23 meeting.