Mine Water Solutions 2027
May 10-12, 2027 · Vancouver

SHORT COURSE

WATER BALANCE AND METEOROLOGY FOR MINE WATER MANAGEMENT

Date: May 10, 2026
Location: UBC, Vancouver BC
Duration: 4 hours
Delivery method: in-person only. The course will not be livestreamed or recorded.
*Information provided here is subject to change

Presenters:

- Gonzalo Donoso Quiroga, Associate Water Resources Engineer, WSP UK Ltd. – Mine Water
- Victor Munoz Saavedra, Technical Director, Surface Water and Climate Change, WSP UK Ltd. – Surface Water and Climate Change

Course summary:

Mine water balances sit at the centre of permitting, design, operations, and closure, yet they are only as sound as the meteorological data behind them and the decisions they inform. This one-day course walks practitioners through the complete journey, from raw weather data, through the construction and calibration of a defensible water balance, to the management climate change decisions that balance ultimately supports.

It deliberately bridges two disciplines usually taught apart: water management and meteorology, including climate change adaptation. A mine site is carried through every module, so participants see each concept connect into one coherent workflow rather than a set of isolated techniques.

The emphasis is on practical, defensible application. Participants will gain sufficient technical understanding to scope, specify, review, calibrate, and defend a mine water balance before clients, regulators, and peer reviewers, without becoming immersed in mathematical derivations. More detailed technical content and supporting equations will be provided in an optional take-home appendix.

The course is intended for water resources engineers, hydrologists, environmental and closure specialists, consultants, mine operators, regulators, and researchers involved in mine water management and climate resilience. While the core framework is based on conventional hydrological practice, dedicated modules will address the challenges of cold-region and high-elevation environments, including snowfall, snowmelt processes, precipitation undercatch, and long-term climate change impacts. Case studies and examples will reflect the conference themes of climate risk, resilience, closure planning, and sustainable mine water management.



Gonzalo Donoso is an Associate Director Water Resources Engineer with WSP UK, a Civil Engineer from the Technical University Federico Santa María, holding an MSc in Water Resources Engineering and Management from the University of Stuttgart. He brings around 25 years of experience in hydrology, hydraulics, and mine water management, with deep expertise in GoldSim water balance modelling across the full mine life cycle, from operations and permitting through to closure. His recent work spans the Tara Mine perimeter interceptor channel in Ireland, the High-Density Sludge pilot at El Soldado in Chile, the Ada Tepe operational and closure balances in Bulgaria, and long-running GoldSim modelling at Highland Valley Copper and Mount Polley in Canada. He has led water balance models, water management plans, and hydraulic structure designs for clients including Teck, Boliden, Anglo American, and Codelco across Canada, Chile, Mexico, and Europe.



Victor Munoz is a Technical Director, Surface Water and Climate Change with WSP UK. He holds an M.Eng. from the University of British Columbia and a Civil Engineering degree from the University of Chile. With more than 24 years of international experience, he specializes in meteorology, cold-region and high-elevation hydrology, climate change assessments and bias correction, water balance modelling, and long-term mine closure projections.

Victor is the lead author of Chapter 20 (Climate and Hydrology) in the SME Tailings Management Handbook and has presented technical work at the IAHR World Congress and IMWA symposia. His project experience spans Canada, the UK, Chile, Alaska, Greenland, Turkey, West Africa, and Australia, including major cold-region mining projects such as Red Dog (Alaska), Hope Bay, Meadowbank (Nunavut), Faro (Yukon), Nalunaq (Greenland), Red Mountain (British Columbia), Back River (Nunavut); and Tulsequah (British Columbia). Over his career, Victor has contributed to more than 100 projects worldwide involving meteorology, hydrology, climate change adaptation, and mine water management.