

Building resiliency in a changing climate: Lessons from wildfires

July 21, 2025

Key insights

- **Climate impacts are shaking up water quality.** Wildfires and other climate-related events are increasing organic matter variability, making water quality less predictable. Utilities need to be ready for more frequent, extreme and unexpected events that can overwhelm traditional treatment systems.
- **Focus on treatability, not just treatment.** To stay ahead, utilities need to understand how their watersheds behave, especially under stress. Flexibility in treatment systems and a deeper grasp of watershed dynamics are key to consistently meeting water quality standards.
- **Smarter, more adaptive monitoring.** Long-term and event-based monitoring is essential. Tracking indicators like turbidity and UV254 helps utilities spot subtle or sudden changes in water quality before they become bigger problems.
- **One size doesn't fit all.** Every watershed is different. Collaborative, site-specific solutions—like partnerships between municipalities and researchers, pilot testing new technologies, and avoiding cookie-cutter approaches—can make a big difference in post-wildfire recovery and resilience.

Speakers

“Natural disturbance threats to water quality and treatability are generally understood on wildland landscapes...The challenge is anticipating their extent and implications in a given setting.”



Dr. Monica Emelko,
University of Waterloo

“The more we collaborate and share knowledge, the better equipped we are to adapt and respond to the evolving challenges climate change brings to our water systems.”



Antoine Rempp,
Regional Municipality of
Wood Buffalo

