



### **Session Title**

Estimating Impacts of Changing Precipitation Extremes on Urban Flood Hazard and Risk

### **Format**

Presentations

### **Participants**

Robin Bourke, Public Safety Canada (Moderator)

Sara Karam, PhD, P.Eng, Public Safety Canada

Karl Chastko, MSc, Public Safety Canada

Julie Van de Valk, EIT, Public Safety Canada

### **Description**

This session explores how changes in precipitation extremes driven by climate change are influencing urban flood hazard and risk. Cities are increasingly exposed to intense rainfall events that exceed the capacity of existing drainage and infrastructure systems, leading to more frequent and severe pluvial flooding. Understanding these changes is critical for designing resilient urban environments and updating risk management strategies.

The session invites contributions that quantify the impacts of shifting precipitation patterns on urban flooding using observational data, climate model projections, or hydrological and hydraulic simulations. Topics may include downscaling of extreme rainfall, model validation, assessment of exposure and vulnerability, addressing challenging in pluvial and urban flood estimation, and evaluation of adaptation or mitigation measures.

By bringing together experts in climate science, hydrology, and urban planning, the session aims to identify methods and tools that improve prediction and management of flood risk in a changing climate.

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