Cold regions hydrological processes

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Course overview

Broadway bridge, Saskatoon, Canada
Photo: Alana Muenchrath

Schedule

Session 1.	**Challenges of cold regions hydrology** • Cold regions around the world • Overview of snow, soil, permafrost, glaciers, ice sheets
Session 2.	**Thermodynamics of cold regions hydrology** • Understanding energy, sensible and latent heat
Session 3.	**Snow processes** • Snow accumulation, distribution, melt • Snowmelt dominated hydrology
Session 4.	**Unfrozen soil processes** • Soil moisture, matric potential, and unsaturated flow • The soil water balance
Session 5.	**Frozen soil processes** • The soil freezing characteristic curve • The hydrological of seasonally frozen soils • Permafrost hydrology
Session 6.	**Modelling cold regions** • Building a snow/soil model – basic components • Modelling cold watersheds