

# PRINCIPLES OF HYDROLOGY: A CLASSROOM IN THE MOUNTAINS



By Amber Penner and James Bomhof

Every January since 2010, a small cohort of water enthusiasts convene in the Kananaskis Valley, Alberta, to participate in a 10-day hydrology course. Led by Dr. John Pomeroy, this course is co-organized by the University of Saskatchewan Centre for Hydrology and the Canadian Society for Hydrological Sciences (CSHS).

The course is based out of the University of Calgary Biogeoscience Institute, a field station in the heart of the Kananaskis Valley and just a short drive from the Marmot Creek Research Basin. This basin has a long history of hydrological research. Established in 1962 as an experimental basin during International Hydrological Decade, it was a real-world laboratory to test different hydrological hypotheses, such as the impact of different forest covers on adjacent streams. After being shut

down in the 1980s, it was re-activated in 2005 and continues to support a wide range of monitoring and modelling programs. It is an ideal setting to learn and experience the varied aspects of hydrology in Canada.

Dr. Pomeroy and a team of subject-matter experts provide lectures to graduate-level students and hydrological professionals from all across Canada and the world. The Principles of Hydrology course covers fundamental topics: the hydrological cycle, precipitation, interception and evapotranspiration, infiltration, and river hydraulics. It also focuses on processes that are relevant to Canada including snowmelt and snowcover depletion, glaciers and river ice formation, and prairie pothole hydrology.

Topics are covered through a mix of classroom lectures and field trips in remote mountain locations, and

include hands-on experience with snow surveys, as well as demonstrations that lead to an understanding of the instrumentation for atmospheric, glacial, and stream data collection. In addition to the extensive hydrological information that this course provides, it also offers phenomenal opportunities for networking, self-led outdoor adventures (e.g., snowshoeing and hiking), and daily views that take your breath away!

This is just one of the many courses that CSHS offers throughout Canada. CSHS also provides students and professionals with opportunities to learn about hydrological modelling at the University of Waterloo, and streamflow measurements at the L'Institut national de la recherche scientifique field station. To learn more and to register for these courses, please visit [www.cshs.cwra.org](http://www.cshs.cwra.org). 

*\*Photos courtesy of Amber Penner*