Apogee Instruments SI-111 Infrared Radiometer
Hydrology

Dr. William Quinton of the Wilfrid Laurier University has studied the hydrology of cold regions in Canada, where snowmelt runoff is a big contributor to local hydrology.

In one study, Dr. Quinton measured several variables in Yukon Territory, Canada, as a snowdrift containing 10,820 cubic meters of snow melted into runoff. Infrared radiometers mounted on a meteorological tower recorded the soil temperature at the downslope edge of the drift.

Application Summary

Summary
Measuring ground surface temperature to measure snow runoff

Apogee Sensors Used
SI-111

Contributing Organization
Dr. William Quinton of the University of Wilfrid Laurier

Location
Yukon Territory, Canada

Reference Article

Reference Image:
Variation in the net all-wave radiation measured at the surface of the snowdrift and the meltwater percolation reaching the base of the melting snow drift in 2003.

Image: Conceptual view of the hillslope under study. The photograph shows an aerial view across the crest of the hillslope that is covered by a late-lying snowdrift. The drift constitutes a single hydrological response unit (HRU). The 70 m distance between downslope edge of the drift and the stream bank is divided into 7 HRUs each of 10 m length. Together the HRUs represent a 1 m wide strip extending from the drift (HRU 1) down to the stream bank (HRU 8).