# Snow cover parametrization in Canadian atmospheric and hydrological models

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Snow exerts a strong influence on energy and moisture fluxes at the land surface, and thus on weather and climate. In northern drainage basins, snowmelt is typically the most important hydrological event of the year. It is therefore important to account for it realistically in atmospheric and hydrological models.

This paper will present recent advances in snow modelling that have been made with CLASS (Canadian Land Surface Scheme), the land surface model that is used operationally with the Canadian GCM and is now being implemented as a option for use with the suite of Canadian NWP models. Extensive testing of CLASS has been done against field data, and improvements have been made in the algorithms for snow densification, interception by vegetation, thermal structure, and water percolation through the snow pack. The effects of these changes on the surface fluxes and on the runoff rate will be demonstrated.