

POTENTIAL EFFECTS ON THE WATER RESOURCES OF TWO WATERSHEDS DUE TO FUTURE CLIMATE CHANGE

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ABSTRACT

The potential impacts of the future climate change on water resources were investigated for two southern British Columbia mountainous watersheds. The Canadian Centre for Climate Modelling Analysis General Circulation Model (CGCMa1) has been used to estimate changes in the precipitation and temperature. The U.B.C. Watershed Model (Version 4.0) was used to simulate the hydrological processes of the two study watersheds. In the simulations, apart from changes in precipitation and temperature, changes in the spatial distribution of precipitation with elevation, cloud cover, glacier extension, vegetation distribution, vegetation biomass production, and plant physiology were considered. The results showed that the future climate for both study watersheds would be wetter and warmer than the present climate affecting the amount and the distribution of the runoff.