Rising air temperatures have profoundly impacted British Columbia (BC) mountain ecosystems, including its Interior Wetbelt. This region supports the sole interior temperate rainforest, or perhaps more appropriately “snowforest”, of North America. This snowforest encompasses about 30,500 km$^2$ and contains trees in excess of 1500 years old. This region is predicted to be one of the more vulnerable biogeoclimatic zones in BC due to forest operations and climate change. Given the projected climate change in high latitude and altitude areas, this project analyzes the contemporary and potential future climate of BC’s Interior Wetbelt and explores the possible environmental and ecohydrological impacts of climate change on the snowforest.

ClimateBC data, independently validated with in-situ observations, are used to infer the contemporary and potential future climatic state of the area. ClimateBC provides spatially-interpolated climatic fields at a horizontal resolution of 5 km. Projections based on two climate models (CGCM2, HadCM3) and two carbon scenarios (A2, B2) are then assessed to infer the range of possible trends in climate for the region.

These models project an increase in air temperature and precipitation but a decrease in snowfall. Loss of snow as a storage medium has the potential to negatively affect the forest. Without upstream snowmelt contributions to groundwater, risk of the toe-slope trees becoming desiccated in summer months is high. Work will be done to monitor the snowpack and groundwater flows in the area to determine localized impacts. Trends in this interconnected ecosystem can assist in determining impacts of climate change to northern climates.