

HOW WILL CLIMATE CHANGE IMPACT WATER QUANTITY FOR THE INDUSTRIAL HEARTLAND REGION?

Bruderheim, Gibbons and Lamont's water is supplied by the North Saskatchewan River (NSR) Subwatershed. The NSR begins in the Saskatchewan Glacier within the Columbia Icefields of Banff.

Researchers have noticed a slight reduction in the flow of the North Saskatchewan River since 1911.

The flow of other rivers draining the eastern slopes of the rocky mountains have also declined in recent years.

Climatic impacts on our watersheds can be hidden by inter-annual variability in precipitation levels.

Alberta is often referred to as 'The Land of the Extremes,' as we experience multi-year drought periods followed by periods of high precipitation. It is predicted that climate change will exacerbate this effect.

THE HYDROLOGY OF THE NSR

Researchers predict that climate change impacts will be more pronounced in watersheds where flows are reliant on the melt of cold-season snowpacks. This is characteristic of the snow-dominated watersheds of Alberta.

The summer flow of the NSR is maintained by glaciers and high elevation snowpack

WARMERS TEMPERATURES

The average annual temperature of the Industrial Heartland Region has risen by 2 degrees celsius in the last 120 years. The majority of this warming is occurring in our winter months, in which minimum daily temperatures have increased by 6 degrees celsius.

WHAT DOES THIS MEAN FOR THE NSR?

This warming results in reduced glacier ice and alpine snow pack. The Columbia Icefields, of which the NSR originates, have shrunk 22.5% since 1919.

Winters are expected to become even warmer and wetter, and the NSR's flow will begin occurring earlier in the spring. However, there may not be as much snowpack to sustain flow during the summer months.

HOW WILL WE BE EFFECTED?

Lower river levels in June and August may reduce water supply during the season where demand is typically highest.

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