



Klondike River and Yukon River at Dawson Ice Breakup Forecast

April 26, 2023 at 3:00 p.m.

Key message

Water levels began rising on April 21. Forecast uncertainty is currently high owing to the delayed thaw.

Klondike River: High Flooding potential if flows increase rapidly.

Yukon River: Moderate probability of sudden rise in water levels starting next week.

Winter and early spring conditions

On average, winter 2022-2023 temperatures were above average. Snowpack in the Dawson area is above average, while upstream basins also have average to above average snowpack (refer to the [April 2023 Snow Bulletin](#)). Ice thickness measurements vary from above to below average based on location, as a consequence of the dynamic freeze-up.

Temperatures have been cool across the Yukon during April, with above average precipitation and more overcast days than usual. This has delayed visible signs of ice degradation. The current conditions increase the likelihood for ice jamming and high water levels during breakup.

Current conditions

Daytime highs above zero with overnight freezing has led to a slow initiation of snowmelt across the territory. Temperatures peaked around April 20 and then cooled off again. Most streams and rivers are showing a limited response to snowmelt. This includes slowly increasing water levels on the Pelly, Stewart and Yukon Rivers. The Klondike River has shown minimal response to date. The ice cover is still intact and snow-covered on most Yukon rivers.

Weather forecast

The current Environment Canada forecast for Dawson calls for a mix of sun and cloud into the weekend with daytime highs above zero and overnight lows below freezing. Starting on Sunday, overnight lows are expected to remain above freezing. Scattered snow and minimal rain are forecast for most of Yukon from the Klondike to the South over the next few days. There is potential for rain in the Klondike region on Monday.

Breakup forecast

Water levels have started slowly rising and the rate of rise is expected to slowly increase as warmer daily maximum temperatures return over the next few days. A potentially significant rise in upstream freezing elevations in the coming days may result in more rapid increases in discharge. It is too early to judge how resistant the ice cover is but the lack of visible degradation at this time suggests a dynamic breakup is likely with a potential for ice jam flooding. A sudden sustained rise of air temperatures above 15°C is likely to result in a more severe breakup.

Klondike River: Minor Ice movements and water level increases are expected in the coming days. Ice jamming could happen if flows increase rapidly. Flooding probability is considered high with the current conditions and weather forecast.

Yukon River: The ice cover remains mostly intact with minimal areas of early deterioration showing. While model uncertainty is high, current model results indicate that the Yukon River at Dawson is unlikely to breakup prior to May 4, unless temperatures exceed forecast daytime highs and the rate of water level rise increases more rapidly than expected. The potential for a sudden rise in water levels caused by ice jamming is considered moderate in Dawson starting next week.

The situation is being closely monitored. Any relevant information or observations are appreciated.

Contact

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