

Climate Change Impacts to Winter Tourism

Temperature

- Daily average temperatures, daytime high temperatures, and nighttime low temperatures are projected to increase.
- Coldest temperatures are projected to increase fastest. The most significant change is expected in winter and projected changes show the largest increases in the Labrador interior and at high latitudes.
- Cold extremes are expected to decrease, whereas warm extremes will increase in intensity and frequency.
- Number of days with frost are expected to decrease, while thaw events and freeze-thaw may increase in winter.

Key Potential Impacts

- Reduced season length
- Poor snow and ice conditions
- Health and safety of visitors
- Reliability of forecast
- Snowmaking capabilities and costs
- Decreased number of users due to the perception of poor conditions
- Winter melting events impacting snow conditions



Photo Credit: Riccardo Bresciani

Wind and Winter Storms

- A possible increase in the intensities of extra-tropical storms (e.g., nor'easters, winter storms).
- Possible future increase in wind speeds.

Key Potential Impacts

- Forecast reliability
- Unpredictable operating schedule
- Increased frequency of closure or delays
- Downed trees and debris on trails
- Structural and aesthetic damages to facilities
- Reduced visibility
- Health and safety of visitors
- Power and communications interruption

Precipitation (Rain and Freezing Rain)

- Average daily precipitation is expected to increase throughout the province. In Newfoundland, widespread increases are expected by late century. Changes in Labrador are typically smaller.
- Precipitation intensity is expected to increase in all seasons with smaller expected changes in Labrador.
- Freezing rain will increase by mid-century (2050) over most of the province, but rising air temperatures will lead to a decrease in freezing rain towards the end of the century (2100).

Key Potential Impacts

- Ice buildup on trails/slopes/ski hills following freezing rain events
- Health and safety of visitors
- Potential extended closures
- Loads on buildings
- Structural and aesthetic damage to facilities
- Road closures and washout
- Deposited sediment and debris
- Increased repair and maintenance costs
- Damaged electrical and communications



Precipitation (Total Seasonal Snow, Winter Rain, and Rain on Snow)

- In locations/seasons with mean temperatures close to zero, there is likely to be less snow and more rain, but snow cover duration or snowfall extremes may continue to occur even as average conditions decrease.

- An increase in total annual snowfall is projected for the Torngat Mountain region.
- High latitudes are expected to have an increase in snowpack density.
- These changes also mean more rain falling in winter on frozen ground, as well as rain-on-snow days, in particular in southern regions.

Key Potential Impacts

- Reduced seasonal snow accumulation
- Washout and flood damage to trails
- Rain on snow creating slush
- Health and safety of visitors
- Structural damage to facilities from heavy rain on snow loads
- Facility flooding
- Deposited sediment and debris
- Increased repair and maintenance costs

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