Climate Change and the Newfoundland & Labrador

Winter Tourism Industry

Natural Resources Canada | Ressources naturelles Canada | Canada | Newfoundland & Labrador | Funded by the Department of Environment and Climate Change

What to expect by the 2030s for a high emissions scenario

Warmer Winters

Colder temperatures will happen much less frequently

+3.5°C average winter Temperature increase

27% less deep freeze events

Shorter Winters

Later Winters and earlier Springs

Duration from first to last snowfall 3-4 weeks shorter

4% less Average total winter snowfall

Wetter Winters

More rainy days and heavier rainfalls

1.5x average total winter rain

1-2 winter rain events over 10 mm.

Shrinking Snowpacks

Thinner snowpacks and less days with snow cover

19% less average snow depth

10% less days with snow cover more than 15cm

Shorter Snow-making Season

Negligible changes in average Winter humidity

For operating temperatures below		
-2°C	-5°C	-10°C
by 3 weeks	by 3 weeks	by 4 weeks

Potential Operational Impacts Of Climate Change

- Increased frequency of **temporary closures**
- Increased **grooming and maintenance** requirements
- More **wet or icy conditions** creating health and safety concerns
- **Shorter operating season** lengths due to shorter winters and **less snow**
- Winter recreation operations **typically close** during days with **more than 10 mm** of rain.
- **Increased snowmaking** and snow storage capacities **required** to maintain operations.
- Snowmaking will **start later** and **end earlier**
- **Equipment** with higher snowmaking temperatures will have **longer operating seasons**

All future changes are calculated relative to the historical baseline of 1981 – 2010.

Understanding the impacts of climate change allows the industry and local operators to prepare and adapt to future conditions, unlocking new and innovative ways to successfully operate during the winter season.

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What to expect by the 2050s for a high emissions scenario

Warmer Winters

Colder temperatures will happen much less frequently

+5.6°C average winter Temperature increase

44% less deep freeze events

Shorter Winters

Later Winters and earlier Springs

Duration from first to last snowfall 5-6 weeks shorter

14% less Average total winter snowfall

Wetter Winters

More rainy days and heavier rainfalls

3x average total winter rain

2-3 winter rain events over 10 mm.

Shrinking Snowpacks

Thinner snowpacks and less days with snow cover

32% less average snow depth

25% less days with snow cover more than 15cm

Shorter Snow-making Season

Negligible changes in average Winter humidity

For operating temperatures below		
-2°C	-5°C	-10°C
by 6 weeks	by 6 weeks	by 7 weeks

Potential Operational Impacts Of Climate Change

- Increased frequency of **temporary closures**
- Increased **grooming and maintenance** requirements
- More **wet or icy conditions** creating health and safety concerns
- **Shorter operating season** lengths due to shorter winters and **less snow**
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