CLIMATE CHANGE IN NEWFOUNDLAND AND LABRADOR

Precipitation Patterns Are Changing

ANNUAL AVERAGE TOTAL PRECIPITATION

Province-wide annual precipitation is projected to rise by 18% by the end of the century.
A projected increase in the intensity of precipitation, and freezing rain is likely to also increase.

Newfoundland	1971-2000	2021-2050	2071-2100
St. John's	1396 mm	+5%	+9%
Gander	1087 mm	+7%	+15%
Corner Brook	1128 mm	+9%	+18%
Port aux Basques	1360 mm	+7%	+15%
St. Anthony	1015 mm	+8%	+17%

Labrador	1971-2000	2021-2050	2071-2100
Cartwright	932 mm	+8%	+20%
Goose Bay	858 mm	+10%	+25%
Nain	699 mm	+10%	+24%
Labrador City	832 mm	+11%	+27%
L'Anse au Loup	1010 mm	+9%	+20%

The Average Annual Total Percipitation and the number of Rainy and Snow days are projected under a high emissions scenario (SSP5-8.5 ensemble 50th percentile) for the baseline period (1971-2000) and the end of the century (2071-2100).

MORE RAINY DAYS, LESS SNOWY DAYS

Newfoundland	1971-2000		2021-2050		2071-2100	
St. John's	121	48	135	33	148	16
Gander	144	52	129	38	147	18
Corner Brook	118	79	136	62	160	36
Port aux Basques	123	61	141	43	162	19
St. Anthony	93	67	106	54	129	31

Labrador	1971-2000		2021-2050		2071-2100	
Cartwright	92	67	105	57	126	37
Goose Bay	91	58	102	51	121	36
Nain	69	67	80	62	102	45
Labrador City	88	80	99	76	116	69
L'Anse au Loup	98	74	115	60	140	35

[1]The relative increase in precipitation intensity is determined by comparing Maximum 1-Day Total Precipitation between the baseline period (1971-2000) and the end of the century (2071-2100) under the high emissions scenario (SSP5-8.5).

POTENTIAL IMPACTS

- Economic and safety concerns, and infrastructure failures due to increased inland and riverine flooding events.
- Long-term reduction in plowing costs anticipated due to less snow and ice.
- Infrastructure damages, transportation disruption, and landscape alteration due to intense precipitation.
- Soil erosion and vegetation damages due to heavy rainfall events.
- Disruptions to snow-dependent transportation in Labrador, impacting winter recreation and leading to socio-economic repercussions for Indigenous communities.
- Safety concerns to travel, potential avalanches and permafrost warming, and impacts to culturally significant wildlife caused by rain on snow events.

References:
1.https://climatedata.ca/
2.https://www.gov.nl.ca/ecc/files/publications-final-report-2018.pdf
3.https://www.gov.nl.ca/ecc/files/CBCL_CC-Risk-Assessment_Final-Report.pdf
4.https://www.gov.nl.ca/ecc/files/publications-climate-monitoring-capabilities-nl.pdf
5.https://nsidc.org/rain-on-snow

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