



# Snowfall and Snow Depth for Canada 1943-1982, Version 1

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## USER GUIDE

### How to Cite These Data

As a condition of using these data, you must include a citation:

Walsh, J. E. 1996. *Snowfall and Snow Depth for Canada 1943-1982*, Version 1. [Indicate subset used]. Boulder, Colorado USA. NSIDC: National Snow and Ice Data Center.

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FOR QUESTIONS ABOUT THESE DATA, CONTACT [NSIDC@NSIDC.ORG](mailto:NSIDC@NSIDC.ORG)

FOR CURRENT INFORMATION, VISIT <https://nsidc.org/data/G00922>



National Snow and Ice Data Center

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# 1 DETAILED DATA DESCRIPTION

Data include monthly snowfall and end-of-month snow depth for 140 stations across Canada. Stations that maintained at least 20 years of data were chosen. The original data are from Atmospheric Environment Service Canadian Climate Centre and from NOAA's National Climatic Data Center. Data are divided into eight files by region or province: British Columbia (17 stations), Yukon and Northwest Territories (33 stations), Alberta (12 stations), Saskatchewan (115 stations), Manitoba (10 stations), Ontario (19 stations), Quebec (20 stations) and Atlantic Provinces (14 stations). Each data record contains a variable indicator to identify data as snow on the ground on the last day of the month (centimeters) or total snowfall for the month (millimeters). A list of stations, with latitude and longitude to hundredths of a degree, is included in documentation for this data set.

Data includes snowfall and end-of-the-month snow depth data for 140 stations across Canada. Stations that maintained at least 20 years of data were chosen. The data set was compiled by Dr. John Walsh, University of Illinois, Department of Atmospheric Sciences, from data obtained from the Canadian Climate Centre and from NOAA's National Climatic Data Center.

## 1.1 Format

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The data set contains 16 files, two files for each of eight regions. One file contains the end of month snow depth (in cm) while the other contains the total monthly snowfall (in mm).

## 1.2 File and Directory Structure

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The data set contains 16 files, two files for each of eight regions. One file contains the end of month snow depth (in cm) while the other contains the total monthly snowfall (in mm).

Table 1. File Name and Description

File	Description
al_depth.dat	The end of month snow depth for 12 stations in Alberta
al_fall.dat	The total monthly snowfall for 12 stations in Alberta
at_depth.dat	The end of month snow depth for 14 stations in the Atlantic Provinces
at_fall.dat	The total monthly snowfall for 14 stations in the Atlantic Provinces
bc_depth.dat	The end of month snow depth for 17 stations in British Columbia
bc_fall.dat	The total monthly snowfall for 17 stations in British Columbia
ma_depth.dat	The end of month snow depth for 10 stations in Manitoba
ma_fall.dat	The total monthly snowfall for 10 stations in Manitoba

File	Description
on_depth.dat	The end of month snow depth for 19 stations in Ontario
on_fall.dat	The total monthly snowfall for 19 stations in Ontario
qu_depth.dat	The end of month snow depth for 20 stations in Quebec
qu_fall.dat	The total monthly snowfall for 20 stations in Quebec
sa_depth.dat	The end of month snow depth for 115 stations in Saskatchewan
sa_fall.dat	The total monthly snowfall for 115 stations in Saskatchewan
yu_depth.dat	The end of month snow depth for 33 stations in Yukon and Northwest Territories
yu_fall.dat	The total monthly snowfall for 33 stations in Yukon and Northwest Territories

A list of observing stations with their latitude and longitude is included in the file stations.dat. Many stations converted to Nipher snow gauges during the period of record. The year and month of the change is recorded below. "No Nipher" indicates this station does not have a Nipher type snow gauge.

Table 2. List of Observation Stations

Station ID	Station name	Year	Month	Station ID	Station name	Year	Month
1018620	Victoria Int'l A	1964	2	4051080	Cameo	no Nipher	
1113540	Hope A	1963	6	4071560	Choiceland	no Nipher	
1026270	Port Hardy A	1964	1	4064600	Loon Lake cda EPF	no Nipher	
1147620	South Slocan	no Nipher		4064150	La Ronge A	1966	10
1163780	Kamloops A	1963	8	4068340	Uranium City A	1964	11
1173210	Golden	no Nipher		4063560	Island Falls	1979	10
1088010	Tatlayoko Lake	no Nipher		4068840	Whitesand Dam	no Nipher	
1051350	Cape St. James	1966	10	5010485	Brandon cda	1962	1
1160900	Blue River N.	no Nipher		5023222	Winnipeg Int'l A	1953	10
1090660	Barkersville	no Nipher		5022760	Sprague	no Nipher	
1096450	Price George A	1962	11	5052880	The Pas A	1960	11
1087950	Tahtsa Lake West	no Nipher		5060520	Brochet A	1963	9
1054500	Langara	1965	11	5060600	Churchill A	1960	11
1077500	Smithers A	1963	11	5062922	Thompson A	1967	4
1183090	Germansen Landing	1963	8	5061000	Gilliam	no Nipher	
1192940	Fort Nelson A	1960	11	5061001	Gilliam A	1970	12

Station ID	Station name	Year	Month	Station ID	Station name	Year	Month
1192340	Dease Lake	1962	3	5061376	Island Lake	1970	12
2100700	Mayo A	1967	10	506B0M7	Norway House Forestry	1970	11
2100600	Fort Selkirk	no Nipher		6012198	Ear Falls	no Nipher	
2101100	Teslin A	1965	10	6025203	Mine Centre	no Nipher	
2101200	Watson Lake A	1960	11	6048261	Thunder Bay A	1960	11
2200900	Coppermine	1963	10	6010738	Big Trout Lake	1963	3
2201900	Fort Reliance	1966	1	6014350	Lansdowne House	1963	3
2202200	Fort Smith A	1965	12	6040325	Armstrong A	1960	11
2202400	Hay River A	1965	9	6019548	Winish	no Nipher	
2202570	Inuvik A	1962	1	6057590	Sault Ste. Marie 2	no Nipher	
2202680	Lady Franklin Point A	no Nipher		6053570	Hornepayne	no Nipher	
2202800	Norman Wells A	1962	1	6075425	Moosonee	1960	11
2203910	Tuktoyaktuk	no Nipher		6071712	Cochrane	no Nipher	
2203912	Tuktoyaktuk A	1973	10	6072225	Earlton A	1962	2
2204000	Wrigley A	1970	10	6085700	North Bay A	1960	11
2204100	Yellowknife A	1962	2	6119500	Warton A	1960	11
2300500	Baker Lake A	1962	10	6158655	Toronto Int'l A	1960	11
2300700	Chesterfield	1963	10	6136335	Pelee Island	no Nipher	
2301000	Coral Harbour A	1963	5	6133047	Grimsby	no Nipher	
2301100	Ennadai Lake	1963	10	6155854	Orono	no Nipher	
2400300	Alert	1966	6	6163156	Haliburton A	no Nipher	
2400654	Cape Dyer A	1963	9	7031360	Chelsea	no Nipher	
2400800	Clyde	1963	11	7028280	Stanstead	no Nipher	
2401030	Dewar Lakes	no Nipher		7020560	Beauceville	no Nipher	
2401200	Eureka	1964	9	7010720	Berthierville	no Nipher	
2402300	Frobisher Bay A	1962	8	7030457	Barrage Mercier	no Nipher	
2402350	Hall Beach A	1965	7	7098600	Val d'Or A	1962	10
2402900	Nottingham Island	no Nipher		7070451	BGEC Lac Chatevert	no Nipher	
2403500	Resolute A	1963	11	7060400	Bagotville A	1960	11
2403600	Resolution Island	no Nipher		7055120	Mont Jole A	1962	11

Station ID	Station name	Year	Month	Station ID	Station name	Year	Month
2403800	Spence Bay	no Nipher		7056120	Port Daniel	no Nipher	
2500600	Cambridge Bay A	1962	8	7052960	Grindstone Island	1963	12
2502600	Isachsen	1962	12	7095000	Mistassini Post	no Nipher	
2502700	Mould Bay A	1962	12	7047910	Sept-Iles A	1962	10
2503650	Sachs Harbour A	1966	5	7045400	Natashquan	1964	2
3031F5F	Claresholm Meadow Creed	no Nipher		7095480	Nitchequon	1963	5
3034480	Medicine Hat A	1960	11	7103536	Kuujuuarapik A	1963	9
3050520	Banff	1962	1	7117825	Schefferville A	1961	9
3025480	Red Deer A	1962	1	7103282	Inukjuak A	1963	10
3064040	Lovett Lodge	no Nipher		7113534	Kuujuuaq A	1962	10
3012208	Edmonton Mun. A	1960	11	7111080	Cape Hope's Advance	1963	8
3012280	Elk Point	no Nipher		8206500	Yarmouth A	1960	11
3062880	Goose Mtn. Lodge	no Nipher		8205090	Shearwater A	1960	11
3070560	Beaverlodge cda	1960	11	8104900	Saint John A	1959	12
3072520	Fairview	1963	11	8300300	Charlottetown A	1963	1
3062693	Fort McMurray A	1963	1	8205700	Sydney A	1960	11
3072720	Fort Vermillion cda	1960	11	8101000	Chatham A	1961	12
4018960	Willmar	no Nipher		8401200	Colinet	no Nipher	
4012400	Estevan A	1962	4	8401700	Gander Int'l A	1960	11
4016560	Regina	1960	11	8401300	Corner Brook	no Nipher	
4028040	Swift Current A	1962	9	8403800	Stephenvilles A	1967	1
4019080	Yorkton A	1964	12	8401400	Daniel's Harbour	1962	11
4057120	Sasakatoon A	1960	11	8501100	Cartwright	1963	10
4083320	Hudson Bay	1962	10	8501900	Goose A	1961	9
4045600	N. Battleford A	1962	2	8502400	Hopedale	1964	2

### 1.3 File Naming Convention

Each 97-character record within a file contains one year of data. Each record is as follows:

Station ID Yr Var January February March April May ....

Characters 7 3 3 7 7 7 7 7 x 7

- Station ID: Station identification number
- Yr: Last 3 digits of year (e.g. 958 = 1958)
- Var: Variable indicator is 39 for snow on ground, last day of month (cm) or 49 for total snowfall during month (mm)
- Monthly Values are composed of three parts:
  - Character 1: Sign character
  - Character 2-6: Value of variable (99999 indicates missing)
  - Character 7: Flag character, if blank, the value of the variable is valid. "M" indicates a missing value, "E" indicates an estimated value, and "T" indicates a trace amount.

## 1.4 File Size

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The entire data set is 2.16 MB.

## 1.5 Parameter or Variable

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Monthly snowfall total and end-of-the-month snow depth

### 1.5.1 Sample Data Record

```
8101000 943 49 -99999M000739 000544 000188 000000T000000 000000 000000 000000 000000 000236 000208
8101000 944 49 000363 000846 000279 000351 000000 000000 000000 000000 000000 000015 000500 000747
8101000 945 49 001895 001031 000363 000079 000089 000000 000000 000000 000000 000000T000267 000216
8101000 946 49 000528 000907 000025 000653 000000T000000 000000 000000 000000 000013 000033 000528
8101000 947 49 000269 000493 000282 000102 000000 000000 000000 000000 000000 000000T000038 000437
```

## 2 DATA ACQUISITION AND PROCESSING

### 2.1 Data Acquisition Methods

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Snow depth data was obtained using a snow measuring rod.

## 3 REFERENCES AND RELATED PUBLICATIONS

### 3.1 Related Data Collections

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- [Historical Soviet Daily Snow Depth Version 2 \(HSDSD\)](#)

- [Rand Corporation Mean Monthly Global Snow Depth](#)
- Also search [NSIDC's catalog](#) for many other snow data sets.

## 4 CONTACTS AND ACKNOWLEDGMENTS

### Acknowledgments

This data set is maintained at NSIDC with support from the NOAA National Geophysical Data Center.

## 5 DOCUMENT INFORMATION

### 5.1 Publication Date

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Unknown

### 5.2 Date Last Updated

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26 November 2020