



DEPARTMENT OF TRANSPORT
METEOROLOGICAL BRANCH

GUIDE TO CANADIAN CLIMATIC DATA

BY

J.E. PARKER AND S.R. ANDERSON

CLI-6-69

OCTOBER 1, 1969



DEPARTMENT OF TRANSPORT
METEOROLOGICAL BRANCH

GUIDE TO CANADIAN CLIMATIC DATA

BY

J.E. PARKER AND S.R. ANDERSON

CLI-6-69

OCTOBER 1, 1969

PRICE \$1.00

U.D.C. 551.582.2 (71) (026)

| Amendment List | | Amendments made by | Date of Entry |
|--------------------------|------|--|---------------|
| Number | Date | | |
| TABLE OF CONTENTS | | | |
| | | | Page |
| | | Record of Amendments | iii |
| | | Foreword | v |
| | | Introduction | vii |
| | | Part I – National Data Index | I–1 |
| | | Part II – Regional and Provincial Data Index | II–1 |
| | | Part III – Local Data Index | III–1 |
| | | Part IV – Author Index | IV–1 |
| | | Part V – Subject Index | V–1 |
| | | Appendix – Publications in Preparation | VI–1 |

RECORD OF AMENDMENTS

[illegible]

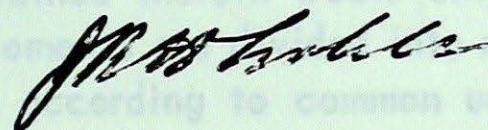
GUIDE TO CANADIAN CLIMATIC DATA

FOREWORD

INTRODUCTION

This Guide to Canadian Climatic Data has been compiled and published as a companion book to the Guide to the Climatic Maps of Canada, which was published in 1967. These Guides are designed to provide assistance to personnel engaged in supplying climatological services in the various Weather Offices of the Branch across Canada and in addition, we hope they will be useful references for other scientists and students of Canadian meteorology and climatology. Work on this Guide, initially undertaken by Mr. Anderson, and completed by Mr. Parker, has been carried out under the general direction of C.C. Boughner, Chief, Climatology Division, at Meteorological Branch Headquarters.

These publications that have detailed station tables. These tables usually contain monthly and annual means and extremes of temperature and precipitation, prevailing winds and average wind speed, and some data on the number of days with rain, snow, etc. It is felt that to index these tables under each element contained therein would only add needless repetition to the index. The listings for most elements, means, extremes, frequencies, etc., which have been arranged according to common usage. Therefore, "means" appear before "extremes" and "extremes" before "frequencies". A further subdivision is used so that references to data of values are grouped together as are references to seasonal, monthly and daily data.



J.R.H. Noble,
Director,
Meteorological Branch,
Department of Transport,
Toronto 181, Ontario.

The second section of the Guide contains references to climatic data from specific regions or provinces and is arranged similarly to the index of national references.

The third section, Local Index, contains references to climatic data published for specific cities. The arrangement of this part of the Guide is different than that of the other sections, in that each city is listed in alphabetical order and references to the articles are then listed below.

An Author Index, which consists of complete bibliographic references, follows the Local Index. It contains details about the data used and gives information on the available tables.

GUIDE TO CANADIAN CLIMATIC DATA

by

J.E. PARKER and S.R. ANDERSON

INTRODUCTION

This is the second in a series of publications designed to provide assistance to those engaged in supplying climatological information at Weather Offices across Canada and to students of Canadian climatology. The purpose of this publication is to make available a handy reference guide to the most recently published climatic data. This Guide is not a complete bibliography on any particular subject as the indexes contain references only to the latest publications containing summarized climatic data likely to be available in field offices. It will be necessary to keep this Guide amended regularly to ensure its continuing usefulness.

The Guide is divided into several sections, the first being an index to climatic data which have been published on a national basis. This index is arranged alphabetically by element with comprehensive tables being included under the heading General Climatological Tables. This has been done so as to be able to index under one heading those publications that have detailed station tables. These tables usually contain monthly and annual means and extremes of temperature and precipitation, prevailing winds and average wind speed, and some data on the number of days with rain, snow, etc. It is felt that to index these tables under each element contained therein would only add needless repetition to the index. The listings for most elements are divided into means, extremes, frequencies, etc., which have been arranged according to common usage. Therefore, "means" appear before "extremes" and "extremes" before "frequencies". A further subdivision is used so that references to data on annual values are grouped together as are references to seasonal, monthly and daily data.

The second section of the Guide contains references to climatic data from specific regions or provinces and is arranged similarly to the index of national references.

The third section, Local Index, contains references to climatic data published for specific cities. The arrangement of this part of the Guide is different than that of the other sections, in that each city is listed in alphabetical order and references to the articles are then listed below.

An Author Index, which consists of complete bibliographic references, follows the Local Index. It contains details about the data used and gives information on the available tables.

Information on forthcoming publication containing climatic data is given in the appendix.

It is the intention to issue amendments to this Guide periodically. To ensure its usefulness, users of these Guides should see that each amendment is entered upon receipt.

Climatology Division,
Meteorological Branch,
Department of Transport,
October 1, 1969

J.E. Parker
S.R. Anderson.

BAROMETRIC PRESSURE - Mean**Annual - Monthly**

Canada, Met. Br., 1966 - Mean sea-level pressure normals.

Canada, Met. Br., 1969 - Climatic Normals, Vol. III

BAROMETRIC PRESSURE (Diurnal) - Means**Monthly**

Cudbird, 1963, 1965 - Means, standard deviations, tendencies and extremes of pressure and temperature at selected Canadian stations.

Cudbird, 1964 - Diurnal averages of wind, atmospheric pressure and temperature at selected Canadian stations.

BRIGHT SUNSHINE - Mean No. of Hours**Annual - Monthly**

Canada, Met. Br., 1964 - Bright sunshine normals and averages.

Canada, Met. Br., 1969 - Climatic Normals, Vol. III

Daily

Thomas, 1963 - Sunshine data for planning aerial photography.

CLIMATIC REGIONS

Chapman and Brown, 1966 - The climates of Canada for agriculture.

CLOUDS - CEILING/VISIBILITY RELATIONSHIPS**Monthly**

Rogalsky, 1964 - Statistical climatic summaries for aviation at sixteen major Canadian airports.

CLOUDS - Mean Amounts and Percentage Frequencies**Annual - Monthly**

Canada, Met. Br., 1966 - Normal cloud statistics.

Canada, Met. Br., 1969 - Climatic Normals, Vol. III

DEGREE DAYS - (Growing) - Mean**Annual**

Boughner, 1964 - The distribution of growing degree-days in Canada.

Chapman and Brown, 1966 - The climates of Canada for agriculture.

Weekly

Boughner, 1964 - The distribution of growing degree-days in Canada.

DEGREE DAYS (Heating) - Mean

Annual

Canada, Met. Br., 1964 - Heating degree-day normals below 65°F based on the period 1931-1960.

Boyd, 1965 - Climatic information for building design in Canada.

Canada, Met. Br., 1965 - Heating degree-day normals below 55°F and 45°F based on the period 1931-1960.

Monthly

Canada, Met. Br., 1964 - Heating degree-day normals below 65°F based on the period 1931-1960.

Canada, Met. Br., 1965 - Heating degree-day normals below 55°F and 45°F based on the period 1931-1960.

EVAPORATION - Mean

Seasonal - Monthly

Robertson, 1964 - Evaporation measurements at research branch stations.

EVAPOTRANSPIRATION

Annual

Chapman and Brown, 1966 - The climates of Canada for agriculture.

FOG - Mean No. of Days, Hours

Annual - Monthly

Thomas, 1957 - Monthly Fog data.

FREEZING PRECIPITATION - Mean No. of Hours

Annual - Monthly

Canada, Met. Br., 1955 - Average monthly and annual number of hours with freezing drizzle and rain.

FROST - Mean Dates and Duration of Frost-Free Season

Annual

Boughner, Longley and Thomas, 1956 - Climatic summaries, Vol. III Frost data.

GENERAL CLIMATOLOGICAL TABLES

Annual - Monthly

Boughner and Thomas, 1960 - The climate of Canada.

GROWING SEASON - Mean Dates

Annual

Boughner, 1964 - The distribution of growing degree-days in Canada.

Chapman and Brown, 1966 - The climates of Canada for agriculture.

HUMIDITY (Dew Point, Mixing Ratio, Relative Humidity, Wet-Bulb Temperature) - Mean

Monthly

Canada, Met. Br., 1959 - Climatic summaries, Vol. II Humidity and wind data.

HUMIDITY (Wet-Bulb Temperature) - Frequency, No. of Hours

Monthly

Boughner, 1960 - Percentage frequency of dry-and wet-bulb temperatures from June to September at selected Canadian cities.

ICE - Mean Dates of Break-up and Freeze-up

Annual

Allen, 1964 - Break-up and Freeze-up dates in Canada.

PRECIPITATION - Mean

Annual

Boyd, 1965 - Climatic information for building design in Canada.

Chapman and Brown, 1966 - The climates of Canada for agriculture.

Canada, Met. Br., 1969 - Climatic Normals, Vol. II

Monthly

Canada, Met. Br., 1969 - Climatic Normals, Vol. II

Seasonal

Chapman and Brown, 1966 - The climates of Canada for agriculture.

PRECIPITATION - Mean Number of Days

Annual - Monthly

Canada, Met. Br., 1969 - Climatic Normals Vol. II

PRECIPITATION - Maximum in 24 Hours

Annual - Monthly

Canada, Met. Br., 1969 - Climatic Normals Vol. II

Daily

Canada, Met. Br., 1959 - Maximum precipitation reported on any one observation day 1931-1958.

RAINFALL - Mean

Annual - Monthly

Canada, Met. Br., 1969 - Climatic Normals Vol. II

RAINFALL - Mean Number of Days

Annual - Monthly

Canada, Met. Br., 1969 - Climatic Normals Vol. II

RAINFALL - Intensity, Return Periods

Boyd, 1965 - Climatic information for building design in Canada.

SNOW COVER - Mean Duration, Extremes, Mean Depths

Annual - Monthly

Potter, 1965 - Snow Cover.

SNOWFALL - Mean

Annual - Monthly

Thomas, 1964 - Snowfall in Canada.

Canada, Met. Br., 1969 - Climatic Normals Vol. II

SNOWFALL - Mean Number of Days

Annual - Monthly

Canada, Met. Br., 1969 - Climatic Normals Vol. II

SNOWFALL - Extremes

Seasonal - Monthly - Daily

Thomas, 1964 - Snowfall in Canada.

SNOW LOAD

Boyd, 1965 - Climatic information for building design in Canada.

SOIL TEMPERATURES - Mean

Monthly

Canada, Met. Br., 1965 - Average soil temperature.

TEMPERATURE - Mean

Annual

Canada, Met. Br., 1968 - Climatic Normals Vol. I

Monthly

Chapman and Brown, 1966 - The climates of Canada for agriculture.

Canada, Met. Br., 1968 - Climatic Normals Vol. I

TEMPERATURE - Extremes

Annual - Monthly

Canada, Met. Br., 1968 - Climatic Normals Vol. I

TEMPERATURE - Mean Extremes

Annual

Chapman and Brown, 1966 - The climates of Canada for agriculture.

Canada, Met. Br., 1968 - Climatic Normals, Vol. I

TEMPERATURE (Diurnal) - Mean

Monthly

Cudbird, 1963 and 1965 - Means, standard deviations, tendencies and extremes of pressure and temperature at selected Canadian stations.

Cudbird, 1964 - Diurnal averages of wind, atmospheric pressure and temperature at selected Canadian stations.

TEMPERATURE (Design)

Seasonal

Boyd, 1965 - Climatic information for building design in Canada.

TEMPERATURE (Variation)

Annual

Kendall and Anderson, 1966 - Standard deviations of monthly and annual mean temperature.

Monthly

Cudbird, 1963 and 1965 - Means, standard deviations, tendencies and extremes of pressure and temperature at selected Canadian stations.

Kendall and Anderson, 1966 - Standard deviations of monthly and annual mean temperature.

TEMPERATURE (Frequency)

Monthly

Boughner, 1960 - Percentage frequency of dry-and wet-bulb temperatures from June to September at selected Canadian cities.

Hagglund and Thompson - A study of sub-zero Canadian temperatures.

THUNDERSTORM (Frequency) - Mean No. of Days

Annual, Monthly

Kendall and Petrie, 1962 - The frequency of thunderstorm days in Canada.

Canada, Met. Br., 1969 - Climatic Normals, Vol. III

UPPER AIR (Freezing Level) - Percentage Frequencies

Annual

Titus, 1968 - Freezing level statistics for Canada.

UPPER AIR (Pressure Heights and Temperature) - Mean

Monthly

Titus, 1964 - Some observed relationships in connection with the tropopause over Canada

Titus, 1965 - Upper air climate of Canada - average, extreme and standard deviation values 1951-1960.

UPPER AIR (Pressure Heights and Temperature) - Extreme

Annual

Titus, 1965 - Upper air climate of Canada - average, extreme and standard deviation values 1951-1960.

WATER BALANCE - Mean

Annual

Que. Sanderson and Phillips, 1967 - Average annual water surplus in Canada.

Villeneuve, 1967 - Sommaire climatique du Québec.

WIND - Mean Speed, Direction Frequencies

Annual - Monthly

Canada, Met. Br., 1959 - Climatic Summaries, Vol. II Humidity and wind data.

WIND (Diurnal) - Mean Speed

Monthly

Cudbird, 1964 - Diurnal averages of wind, atmospheric pressure and temperature at selected Canadian stations.

WIND - Maximum Speeds

Canada, Met. Br., 1959 - Climatic summaries, Vol. II Humidity and wind data.

WINDS (Frequency) Maximum Speeds

Annual - Monthly

Canada, Met. Br., 1959 - Average frequency of daily maximum wind speeds.

Kendrew and Currie, 1955 - The climate of Canada.

WIND - Gust Speeds

Canada, Met. Br., 1959 - Climatic summaries, Vol. II Humidity and wind data.

Que. Boyd, 1965 - Climatic information for building design in Canada.

Bolduc and Villeneuve, 1964 - Sommaire climatique du Québec.

Villeneuve, 1967 - Sommaire climatique du Québec.

BRIGHT SUNSHINE - Percentage of Possible

Monthly

B.C.

Kendrew and Kerr, 1956 - The climate of British Columbia.

Ont.

Chapman and Thomas, 1963 - The climate of Ontario.

Que.

Bolduc and Villeneuve, 1964 - Sommaire climatique du Québec.

Villeneuve, 1967 - Sommaire climatique du Québec.

BAROMETRIC PRESSURE (Sea Level) - Mean

Annual - Monthly

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

BLOWING SNOW - Frequency

Monthly

B.C. and Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T.

Fraser 1964 - A study of winds and blowing snow in the Canadian Arctic.

Nfld.

Hare, 1952 - The climate of the island of Newfoundland.

BRIGHT SUNSHINE - Mean Number of Hours

Annual - Monthly

B.C.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.
Canada, Met. Br., (Periodical) - Climate of British Columbia, report for (year).

N.W.T., Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Ont.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

Que.

Bolduc and Villeneuve, 1964 - Sommaire héliométrique du Québec.

Villeneuve, 1967 - Sommaire climatique du Québec.

BRIGHT SUNSHINE - Percentage of Possible

Monthly

B.C.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

Ont.

Chapman and Thomas, 1968 - The climate of northern Ontario.

Que.

Bolduc and Villeneuve, 1964 - Sommaire héliométrique du Québec.

Villeneuve, 1967 - Sommaire climatique du Québec.

CLIMATIC REGIONS

Ont.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

Chapman and Thomas, 1968 - The climate of northern Ontario.

CLOUDS - Ceiling and Visibility Relationships

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T., Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Nfld.

Hare, 1952 - The climate of the island of Newfoundland.

Hare, Longley, et al, 1953 - The climate of Quebec and Labrador.

CLOUDS - Mean Amounts

Annual - Monthly

N.W.T.

Thompson, 1967 - The climate of the Canadian Arctic.

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

CLOUDS - Frequency, Amounts and Type.

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T.

Kendrew and Currie, 1955 - The climate of central Canada.

Vowinckel, 1962 - Cloud amount and type over the Arctic.

Alta. Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

DEGREE DAYS (Freezing - Thawing) - Mean and Extreme

Monthly

N.W.T.

Thompson, 1963 - Freezing and thawing indices in northern Canada.

Thompson, 1967 - The climate of the Canadian Arctic.

DEGREE DAYS (Growing) - Mean

Annual - Monthly

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

DEGREE DAYS (Heating) - Mean

Annual - Monthly

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

EVAPORATION - Mean

Seasonal - Monthly

Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Ont.

Richards and Rogers, 1964 - An investigation of the extremes of annual and monthly evaporation from Lake Ontario.

Richards, 1965 - Meteorological factors affecting Great Lakes water levels.

Que.

Bolduc and Villeneuve, 1965 - Sommaire des données évaporométriques du Québec.

Villeneuve, 1967 - Sommaire climatique du Québec.

FOG - Mean Number of Days

Annual - Monthly

N.W.T.

Thompson, 1967 - The climate of the Canadian Arctic.

FOG (Frequency) - Mean Number of Hours

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T., Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Nfld.

Hare, 1952 - The climate of the island of Newfoundland.

FREEZING PRECIPITATION - Frequency

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

Nfld.

Hare, 1952 - The climate of the island of Newfoundland.

Cott, 1966 - Severe ice storms in Newfoundland.

FROST - Mean Duration of Frost-Free Season

Annual

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Alta.

Kendrew and Currie, 1955 - The climate of central Canada.

Longley, 1967 - The frost-free period in Alberta.

Ont.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

Nfld.

Hare, 1952 - The climate of the island of Newfoundland.

FROST - Mean Dates of Frost-Free Season

Annual

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Ont.

Dermine, 1965 - Weather of the growing season in the clay belt of western Quebec and northern Ontario.

Alta.

Kendrew and Currie, 1955 - The climate of central Canada.

Longley, 1967 - The frost-free period in Alberta.

Que.

Dermine, 1965 - Weather of the growing season in the clay belt of western Quebec and northern Ontario.

FROST - Probabilities, Percentages**Annual****Que.**

Perrier, 1967 - Probabilités de gel au Québec.

GENERAL CLIMATOLOGICAL TABLES**Annual - Monthly****B.C., Y.T.**

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

Alta.

Kendrew and Currie, 1955 - The climate of central Canada.

McKay, Curry and Mann, 1963 - Climatic records for the Saskatchewan river headwaters.

N.W.T., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Nfld.

Hare, 1952 - The climate of the island of Newfoundland.

Hare, Longley, et al, 1953 - The climate of Quebec and Labrador

HAIL - Mean and Extreme Number of Days**Annual****N.W.T., Alta., Sask., Man.**

Kendrew and Currie, 1955 - The climate of central Canada.

HAIL - Mean and Extreme Number of Hours**Monthly****B.C., Y.T.**

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

HUMIDITY (Dew Point) - Mean**Monthly****B.C., Y.T.**

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T., Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

HUMIDITY (Mixing Ratio) - Mean

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

Ont.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

HUMIDITY (Relative Humidity) - Mean

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T., Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Ont.

Chapman and Thomas, 1968 - The climate of northern Ontario.

Que.

Bolduc and Villeneuve, 1966 - Sommaire des données hygrométriques du Québec.

Villeneuve, 1967 - Sommaire climatique du Québec.

HUMIDITY (Vapour Pressure) - Mean

Monthly

Ont.

Richards and Rogers, 1964 - An investigation of the extremes of annual and monthly evaporation from Lake Ontario.

PRECIPITATION - Mean

Annual - Monthly

B.C.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for British Columbia.

Canada, Met. Br., (Periodical) - Climate of British Columbia, report for (year).

Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

Canada, Met. Br., 1966 - Temperature and Precipitation data from Dew Line stations.

Thompson, 1967 - The climate of the Canadian Arctic.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Yukon and Northwest Territories.

PRECIPITATION - Mean (Cont'd.)

N.W.T.

Kendrew and Currie, 1955 - The climate of central Canada.

Canada, Met. Br., 1966 - Temperature and Precipitation data from Dew Line stations.

Thompson, 1967 - The climate of the Canadian Arctic.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Yukon and Northwest Territories.

Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Prairie Provinces.

Ont.

Richards, 1965 - Meteorological factors affecting Great Lakes water levels.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Ontario.

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

Canada, Met. Br., 1968 - Temperature and Precipitation Tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 - Temperature, and Precipitation tables for the Atlantic Provinces.

PRECIPITATION - Mean Number of Days

Annual - Monthly

B.C.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for British Columbia.

Y.T., N.W.T.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Yukon and Northwest Territories.

Alta., Sask., Man.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Prairie Provinces.

Ont.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Ontario.

Que.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Atlantic Provinces.

PRECIPITATION – Maximum in 24 Hours

Annual – Monthly

B.C.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for British Columbia.

Y.T., N.W.T.

Canada, Met. Br., 1961 – Greatest precipitation reported on any one day, 1941–1960, in Yukon and Northwest Territories.

Canada, Met. Br., 1966 – Temperature and Precipitation data from Dew Line stations.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Yukon and Northwest Territories.

Alta., Sask., Man.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Prairie Provinces.

Ont.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for Ontario.

Que.

Villeneuve, 1967 – Sommaire climatique du Québec.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Atlantic Provinces.

RAINFALL – Mean

Annual – Monthly

B.C.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for British Columbia.

Y.T., N.W.T.

Canada, Met. Br., 1966 – Temperature and Precipitation data from Dew Line stations.

Thompson, 1967 – The climate of the Canadian Arctic.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Yukon and Northwest Territories.

Alta., Sask., Man.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Prairie Provinces.

Ont.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for Ontario.

Que.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Atlantic Provinces.

RAINFALL - Mean (Cont'd.)

Seasonal

Ont.

Dermine, 1965 - Weather of the growing season in the clay belt of western Quebec and northern Ontario.

RAINFALL - Mean Number of Days

Annual - Monthly

B.C.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for British Columbia.

Y.T., N.W.T.

Canada, Met. Br., 1966 - Temperature and Precipitation data from Dew Line stations.
Thompson, 1967 - The climate of the Canadian Arctic.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Yukon and Northwest Territories.

Alta., Sask., Man.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Prairie Provinces.

Ont.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Ontario.

Que.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Atlantic Provinces.

Seasonal

Ont.

Dermine, 1965 - Weather of the growing season in the clay belt of western Quebec and northern Ontario.

RAINFALL - Intensity, Return Periods

Annual

B.C.

Storr, 1964 - Maximum one-day rainfall frequencies in northeastern British Columbia.

Ont.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

SMOKE – Mean Number of Hours.

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 – The climate of British Columbia and the Yukon Territory.

N.W.T., Alta., Sask., Man.

Kendrew and Currie, 1955 – The climate of central Canada.

SNOW COVER – Mean Duration, Extremes, Mean Depths

Annual

Ont.

Brown, McKay and Chapman, 1968 – The climate of southern Ontario.

SNOWFALL – Mean

Annual – Monthly

B.C.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for British Columbia.

Canada, Met. Br., (Periodical) – Climate of British Columbia, report for (year).

Y.T., N.W.T.

Canada, Met. Br., 1966 – Temperature and Precipitation data from Dew Line stations.

Thompson, 1967 – The climate of the Canadian Arctic.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Yukon and Northwest Territories.

Alta., Sask., Man.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Prairie Provinces.

Ont.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for Ontario.

Que.

Villeneuve, 1967 – Sommaire climatique du Québec.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 – Temperature and Precipitation tables for the Atlantic Provinces.

SNOWFALL - Mean Number of Days

Annual - Monthly

B.C.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for British Columbia.

Y.T., N.W.T.

Canada, Met. Br., 1966 - Temperature and Precipitation data from Dew Line stations.

Thompson, 1967 - The climate of the Canadian Arctic.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Yukon and Northwest Territories.

Alta., Sask., Man.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Prairie Provinces.

Ont.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Ontario.

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Atlantic Provinces.

SNOWFALL - Maximum in One-Day

Annual

Atlantic Provinces

Canada, Met. Br., 1960 - Maximum reported snowfall on any precipitation day at Atlantic Provinces stations, January 1941 - December 1959.

SNOWFALL - Frequencies

Annual - Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T., Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Ont., Que., N.B., N.S., P.E.I., Nfld.

Potter, 1955 - Annual snowfall in eastern Canada.

SOLAR RADIATION

Monthly

Ont.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

TEMPERATURE - Mean

Annual - Monthly

B.C.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for British Columbia.

Canada, Met. Br., (Periodical) - Climate of British Columbia, report for (year).

Y.T., N.W.T.

Canada, Met. Br., 1966 - Temperature and Precipitation data from Dew Line stations.

Thompson, 1967 - The climate of the Canadian Arctic.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Yukon Northwest Territories.

Alta., Sask., Man.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Prairie Provinces.

Ont.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Ontario.

Chapman and Thomas, 1968 - The climate of northern Ontario.

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

Canada, Met. Br., 1968 - Temperature and Precipitation Tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Atlantic Provinces.

TEMPERATURE - Extremes

Annual - Monthly

B.C.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for British Columbia.

Canada, Met. Br., (Periodical) - Climate of British Columbia, report for (year).

Y.T., N.W.T.

Canada, Met. Br., 1966 - Temperature and Precipitation data from Dew Line stations.

Thompson, 1967 - The climate of the Canadian Arctic.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the Yukon and Northwest Territories.

TEMPERATURE - Extremes (Cont'd.)

Alta., Sask., Man.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the
Prairie Provinces.

Ont.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Ontario.

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for Quebec.

N.B., N.S., P.E.I., Nfld.

Canada, Met. Br., 1968 - Temperature and Precipitation tables for the
Atlantic Provinces.

TEMPERATURE - Frequencies, Probabilities

Annual

N.W.T.

Thompson, 1967 - The climate of the Canadian Arctic.

Ont.

Brown, McKay Chapman, 1968 - The climate of southern Ontario.

Que.

Ouellet and Laporte, 1963 - Probabilité des température gélives a sept stations
du Québec.

Bolduc and Villeneuve, 1966 - Jours de chaleur au Québec.

Villeneuve, 1961 - Sommaire climatique du Québec.

N.B.

Hornstein, 1961 - Probabilities of freezing temperatures at Fredericton, N.B.,
Charlottetown, P.E.I., Kemptville, N.S. and Nappan, N.S.

N.S., P.E.I.

Hornstein, 1961 - Probabilities of freezing temperatures at Fredericton, N.B.,
Charlottetown, P.E.I., Kemptville, N.S. and Nappan, N.S.Petitpas and Hornstein, 1963 - Plant hardiness zone map - Nova Scotia and
Prince Edward Island.

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T.

Kendrew and Currie, 1955 - The climate of central Canada.

Thompson, 1967 - The climate of the Canadian Arctic.

TEMPERATURE - Frequencies, Probabilities (Cont'd.)

Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Que.

Bolduc and Villeneuve, 1966 - Jours de chaleur au Québec.

THUNDRESTORM (Frequency) - Mean Number of Days

Annual - Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

WATER BALANCE - Mean

Annual

All Regions

Sanderson and Phillips, 1967 - Average annual water surplus in Canada.

WATER TEMPERATURE - Mean

Monthly

Ont.

Millar, 1952 - Surface temperatures of the Great Lakes.

Richards and Rogers, 1964 - An investigation of the extremes of annual and monthly evaporation from Lake Ontario.

WIND - Mean Speed.

Annual

N.W.T.

Thompson, 1967 - The climate of the Canadian Arctic.

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T.

Kendrew and Currie, 1955 - The climate of central Canada.

Thompson, 1967 - The climate of the Canadian Arctic.

Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Ont.

Richards and Rogers, 1964 - An investigation of the extremes of annual and monthly evaporation from Lake Ontario.

Brown, McKay and Chapman, 1968 - The climate of southern Ontario.

WIND - Maximum Speeds

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T., Alta., Sask., Man.

Kendrew and Currie, 1955 - The climate of central Canada.

Que.

Villeneuve, 1967 - Sommaire climatique du Québec.

Nfld.

Hare, 1952 - The climate of the island of Newfoundland.

WIND - Direction Frequencies

Monthly

B.C., Y.T.

Kendrew and Kerr, 1956 - The climate of British Columbia and the Yukon Territory.

N.W.T.

Fraser, 1964 - A study of winds and blowing snow in the Canadian Arctic.

Thompson, 1967 - The climate of the Canadian Arctic.

WIND CHILL

Annual - Monthly

Y.T., N.W.T., Man., Ont.

Thomas and Boyd, 1957 - Wind chill in northern Canada.

YUKON TERRITORY

Watson Lake

Canada, Met. Br., 1968 - Hourly data summary - 60.

Whitehorse

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1967 - Hourly data summary - 10.

NORTHWEST TERRITORIES

Alert

Canada, Met. Br., 1968 - Hourly data summary - 68.

Baker Lake

Canada, Met. Br., 1968 - Hourly data summary - 53.

BRITISH COLUMBIA

Abbotsford

Canada, Met. Br., 1968 - Hourly data summary - 57.

Comox

Canada, Met. Br., 1967 - Hourly data summary - 20.

Fort Nelson

Canada, Met. Br., 1968 - Hourly data summary - 25.

Fort St. John

Canada, Met. Br., 1968 - Hourly data summary - 38.

Penticton

Canada, Met. Br., 1968 - Hourly data summary - 54.

Prince George

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1968 - Hourly data summary - 65.

Queen Charlotte Islands

Williams, 1968 - Climate of the Queen Charlotte Islands.

Vancouver

Canada, Met. Br., - Annual Meteorological Summary.

Harry and Wright, 1957 - The climate of Vancouver.

Canada, Met. Br., 1966 - Wind frequency tables (CDS#8-66).

Canada, Met. Br., 1967 - Hourly data summary - 1.

Victoria

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1968 - Hourly data summary - 83.

Canada, Met. Br., 1967 - Hourly data summary - 17 (Airport).

YUKON TERRITORY

Watson Lake

Canada, Met. Br., 1968 - Hourly data summary - 60.

Whitehorse

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1967 - Hourly data summary - 10.

NORTHWEST TERRITORIES

Alert

Canada, Met. Br., 1968 - Hourly data summary - 68.

Baker Lake

Canada, Met. Br., 1968 - Hourly data summary - 53.

NORTHWEST TERRITORIES (Cont'd.)

Cambridge Bay

Canada, Met. Br., 1967 - Hourly data summary - 21.

Coral Harbour

Canada, Met. Br., 1968 - Hourly data summary - 66.

Ennadai Lake

Canada, Met. Br., 1968 - Hourly data summary - 67.

Eureka

Canada, Met. Br., 1968 - Hourly data summary - 70.

Fort Simpson

Canada, Met. Br., 1967 - Hourly data summary - 8.

Fort Smith

Canada, Met. Br., 1968 - Hourly data summary - 36.

Frobisher Bay

Canada, Met. Br., 1968 - Hourly data summary - 48.

Isachsen

Canada, Met. Br., 1968 - Hourly data summary - 72.

Mould Bay

Canada, Met. Br., 1968 - Hourly data summary - 71.

Norman Wells

Canada, Met. Br., 1968 - Hourly data summary - 26.

Resolute

Longley, 1958 - Winds and visibility at Resolute, N.W.T.

Longley, 1958 - Temperature variations at Resolute N.W.T.

Thompson, 1962 - An analysis of terminal weather at Resolute.

Canada, Met. Br., 1968 - Hourly data summary - 69.

Sachs Harbour

Canada, Met. Br., 1968 - Hourly summary - 49 and 49A.

Yellowknife

Canada, Met. Br., 1968 - Hourly data summary - 78.

ALBERTA

Calgary

Canada, Met. Br., - Annual Meteorological Summary.

Pickering, 1955 - Frequency and variation of surface wind speeds during daylight hours at Calgary, Alta.

Canada, Met. Br., 1967 - Hourly data summary - 9.

Cold Lake

Canada, Met. Br., 1968 - Hourly data summary - 37.

ALBERTA (Cont'd.)

Coronation

Canada, Met. Br., 1968 - Hourly data summary - 51.

Edmonton

Canada, Met. Br., - Annual Meteorological Summary.

Kozub, 1964 - Heavy snowfalls at Edmonton.

Burrows, 1966 - Heavy rainfalls at Edmonton.

Canada, Met. Br., 1967-68 - Hourly data summaries - 59 Edmonton

Industrial Airport; -75, Edmonton International Airport; -23, Edmonton Namao Airport.

Fort McMurray

Canada, Met. Br., 1968 - Hourly data summary - 39.

Grande Prairie

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1968 - Hourly data summary - 77.

Lethbridge

Canada, Met. Br., 1968 - Hourly data summary - 43.

Medicine Hat

Canada, Met. Br., 1968 - Hourly data summary - 40.

Penhold

Canada, Met. Br., 1968 - Hourly data summary - 32.

Rocky Mountain House

Canada, Met. Br., 1968 - Hourly data summary - 47.

Vermilion

Canada, Met. Br., 1968 - Hourly data summary - 35.

Whitecourt

Canada, Met. Br., 1968 - Hourly data summary - 52.

SASKATCHEWAN

Moose Jaw

Canada, Met. Br., 1968 - Hourly data summary - 64.

North Battleford

Canada, Met. Br., 1968 - Hourly data summary - 76.

Regina

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1967 - Hourly data summary - 22.

Saskatoon

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1968 - Hourly data summary - 29.

MANITOBA

Churchill

Canada, Met. Br., 1967 - Hourly data summary - 15.

Gimli

Canada, Met. Br., 1968 - Hourly data summary - 80.

Portage la Prairie

Canada, Met. Br., 1968 - Hourly data summary - 82.

Rivers

Canada, Met. Br., 1968 - Hourly data summary - 33.

The Pas

Canada, Met. Br., 1968 - Hourly data summary - 31.

Winnipeg

Canada, Met. Br., - Annual Meteorological Summary.

Labelle, Brown and Hasinoff, 1966 - Climate of Winnipeg.

Canada, Met. Br., 1967 - Hourly data summary - 12.

ONTARIO

Ft. William (Lakehead Airport)

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1967 - Hourly data summary - 5.

Hamilton

Canada, Met. Br., - Annual Meteorological Summary.

Kenora

Canada, Met. Br., 1968 - Hourly data summary - 81.

London

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1967 - Hourly data summary - 6.

Mount Forest

Canada, Met. Br., - Annual Meteorological Summary.

North Bay

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1968 - Hourly data summary - 27.

Ottawa

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1967 - Hourly data summary - 4.

Simcoe

Canada, Met. Br., - Annual Meteorological Summary.

Sudbury

Canada, Met. Br., - Annual Meteorological Summary.

ONTARIO (Cont'd.)

Timmins

Canada, Met. Br., 1968 - Hourly data summary - 63.

Toronto

Canada, Met. Br., - Annual Meteorological Summaries (city and Malton Airport).
Shenfield and Slater, 1960 - Climate of Toronto.

Munn, Titus and Wilson, 1964 - A preliminary estimate of the inversion climatology along the Toronto lake shore.

Canada, Met. Br., 1966 - Wind frequency tables (CDS#8-66).

Canada, Met. Br., 1967 - Hourly data summary - 3 (Malton Airport).

Trenton

Canada, Met. Br., 1968 - Hourly data summary - 58.

Warton

Canada, Met. Br., 1967 - Hourly data summary - 7.

Windsor

Canada, Met. Br., 1968 - Hourly data summary - 42.

QUEBEC

Bagotville

Canada, Met. Br., 1968 - Hourly data summary - 61.

Fort Chimo

Canada, Met. Br., 1968 - Hourly data summary - 62.

Knob Lake

Tout, 1964 - The climate of Knob Lake.

Canada, Met. Br., 1967 - Hourly data summary - 18.

Mont Joli

Canada, Met. Br., 1968 - Hourly data summary - 55.

Montreal

Canada, Met. Br., - Annual Meteorological Summary (Dorval Airport).

Longley, 1954 - The climate of Montreal.

Canada, Met. Br., 1966 - Wind frequency table (CDS #8-66).

Gillespie, 1966 - Frequency of large daily rainfall amounts in the Montreal area.

Canada, Met. Br., 1967 - Hourly data summary - 2 (Dorval Airport).

Quebec

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1967 - Hourly data summary - 11.

St. Hubert

Canada, Met. Br., 1967 - Hourly data summary - 24.

Sept-Îles

Canada, Met. Br., 1967 - Hourly data summary - 16.

Val d'Or

Canada, Met. Br., 1968 - Hourly data summary - 79.

NEW BRUNSWICK

Chatham

Canada, Met. Br., 1968 - Hourly data summary - 73.

Fredericton

Canada, Met. Br., 1968 - Hourly data summary - 74.

Moncton

Canada, Met. Br., 1968 - Hourly data summary - 28.

St. John

Canada, Met. Br., 1968 - Hourly data summary - 56.

NOVA SCOTIA

Greenwood

Canada, Met. Br., 1968 - Hourly data summary - 44.

Halifax

Canada, Met. Br., - Annual Meteorological Summary.

Hornstein, 1960 - Daily rainfall maxima at Halifax, N.S.

Mushkat and Hornstein, 1962 - Heavy snowfalls at Halifax, N.S.

Hornstein, 1963 - Unusually high temperatures - Halifax, N.S.

Shearwater (Halifax)

Canada, Met. Br., 1968 - Hourly data summary - 34.

Sydney

Canada, Met. Br., 1968 - Hourly data summary - 41.

Yarmouth

Canada, Met. Br., 1968 - Hourly data summary - 50.

PRINCE EDWARD ISLAND

Charlottetown

Canada, Met. Br., 1968 - Hourly data summary - 46.

Summerside

Canada, Met. Br., 1968 - Hourly data summary - 45.

NEWFOUNDLAND

Gander

Strong, 1963 - Heavy snowfalls at Gander, Nfld.

Canada, Met. Br., 1967 - Hourly data summary - 19.

Goose

Canada, Met. Br., - Annual Meteorological Summary.

Kruger and Boucard, 1963 - Meteorology of Goose Airport, Lab.

Canada, Met. Br., 1967 - Hourly data summary - 13.

St. John's (Torbay)

Canada, Met. Br., - Annual Meteorological Summary.

Canada, Met. Br., 1967 - Hourly data summary - 14.

Stephenville

Canada, Met. Br., 1968 - Hourly data summary - 30.

ALLEN, W.T.R.

Break-up and freeze-up dates in Canada. Dept. of Transport, Met. Br., CIR-4116, ICE 17, October 1, 1964. 201 pp.

A presentation of the break-up and freeze-up dates of rivers and lakes in Canada. The data are based on records from 274 locations, relating to 97 rivers and 231 other bodies of water.

Content of Tables

The tables list information on break-up—the date on which the ice first moved or showed signs of breaking and the date on which the water was entirely clear of ice and freeze-up—the date on which ice first formed and the date on which the body of water was completely frozen over. Mean and extreme dates are given where 10 or more dates, not necessarily in consecutive years, are available.

BOLDUC, A. and G.O. VILLENEUVE

Sommaire héliométrique du Québec. Ministère des Richesses Naturelles du Québec, Service de Météorologie, M-13 Québec, 1964. 103p. et 15 cartes.

Content of Tables:

- | | | |
|----------|----------|---|
| Table IX | (1)–(30) | – Durée de l'insolation à (station). |
| X | | – Durée moyenne de l'insolation durant la période d'observation. |
| XI | | – Durée moyenne de l'insolation durant la période 1944–1963. |
| XII | | – Durée réelle de l'insolation par rapport à la durée possible durant la période 1944–1963. |
| XIII | | – Durée moyenne de l'insolation durant la période 1954–1963. |
| XIV | | – Durée réelle de l'insolation par rapport à la durée possible durant la période 1954–1963. |
| XV | | – Différences entre le pourcentage moyen d'insolation de la période 1954–1963 et celui de la période 1944–1963. |
| XVI | | – Pourcentages d'erreur entre la période 1954–1963 et la période 1944–1963 baser sur la période 1944–1963. |

BOLDUC, A. and G.O. VILLENEUVE

Sommaire des données évaporométriques du Québec. Ministère des Richesses Naturelles du Québec, Service de météorologie, M-15 Québec, 1965. 182p. 13 cartes.

Content of Tables:

- Table I - Données mensuelle d'évaporation (241 stations).
Table II - Évaporation moyenne par mois et par saison durant la période 1954-1963.
III - Évaporation moyenne par mois et par saison durant la période 1944-1963.
IV - Variation mensuelle moyenne de l'évaporation à quelques stations.
V - Variation annuelle de l'évaporation durant juin, juillet et août à quelques stations.

5 - Nombre moyen de jours humides durant la période 1955-64 (Hum. rel.: 80 - 100%).

6 - Nombre moyen de jours humides durant la période 1945-64 (Hum. rel.: 80 - 100%).

BOLDUC, A. and G.O. VILLENEUVE

Jours de chaleur au Québec. Ministère des Richesses Naturelles du Québec,
Service de Météorologie, MP-2 Québec, 1966. 7p. et 7 cartes.

Content of Tables:

Table II - Nombre moyen de jours de chaleur durant la période
1946-65.

BOLDUC, A. and G.O. VILLENEUVE

Sommaire des données hygrométriques du Québec. Ministère des Richesses Naturelles du Québec, Service de Météorologie, M-19 Québec, 1966.
43p. et 8 cartes.

Content of Tables:

Table 1 - Humidité relative moyenne (en %) à 14 heures durant la période 1955-64.

2 - Humidité relative moyenne (en %) à 14 heures durant la période 1945-64.

3 - Nombre moyen de jours secs durant la période 1955-64 (Hum. rel.: 0 - 49%).

4 - Nombre moyen de jours secs durant la période 1945-64 (Hum. rel.: 0 - 49%).

5 - Nombre moyen de jours humides durant la période 1955-64 (Hum. rel.: 80 - 100%).

6 - Nombre moyen de jours humides durant la période 1945-64 (Hum. rel.: 80 - 100%).

Content of Tables:

Frequency tabulations of hourly dry-and-wet-bulb temperatures are shown for each month, June to September. A consolidated summary of the frequency distribution is included which contains accumulated percentages above indicated values. The period of record varies between 7 to 10 years over the years 1947 to 1958.

BOUGHNER, C.C., R.W. LONGLEY and M.K. THOMAS

Climatic summaries for selected meteorological stations in Canada. Vol. III, Frost data. Dept. of Transport. Met. Div., Toronto, 1956. 94p.

This is a complete summary of data on the frost-free season in Canada.

Content of Tables:

All available data to the end of 1950 for stations with at least two years of record were used in preparing the table which shows the average frost-free period, average date of the last spring frost and average date of the first fall frost. Where at least three years of record were available the extreme dates for the spring and autumn frosts are included. When there were five years or more of data, the seasonal extremes of frost-free periods are shown.

Tables showing the probabilities of frost are given for 305 stations and are based on 29-40 years of record.

BOUGHNER, C.C.

Percentage frequency of dry-and wet-bulb temperatures from June to September at selected Canadian cities. Canadian Meteorological Memoirs No. 5, Dept. of Transport, Met. Br., 1960. 99p.

Tables showing the frequency of dry-and wet-bulb temperatures are given for 33 representative locations for use in connection with research, engineering, construction and air conditioning.

List of Stations:

| | | |
|---------------|-------------------------|----------------|
| Gander | Seven Islands | Saskatoon |
| Goose | Ft. William/Port Arthur | Calgary |
| St. John's | Kapuskasing | Edmonton |
| Charlottetown | London | Grande Prairie |
| Halifax | North Bay | Medicine Hat |
| Sydney | Ottawa | Penticton |
| Moncton | Toronto | Prince George |
| Saint John | Windsor | Vancouver |
| Bagotville | Churchill | Victoria |
| Montreal | Winnipeg | Whitehorse |
| Quebec | Regina | Yellowknife |

Content of Tables:

Frequency tabulations of hourly dry-and wet-bulb temperatures are shown for each month, June to September. A consolidated summary of the frequency distribution is included which contains accumulated percentages above indicated values. The period of record varies between 7 to 10 years over the years 1947 to 1958.

BOUGHNER, C.C., and M.K. THOMAS

The climate of Canada. Canada Year Book, Text 1959, page 23–50, Tables 1960, page 31–77. (Reprinted, Dept. of Transport, Met. Br., 1962. 74p).

Tables showing long-term averages and extremes on a monthly basis for 45 representative stations are shown.

List of Stations:

| | | |
|---------------|--------------------------|---------------|
| Gander | Kapuskasing | Fort Nelson |
| Goose Bay | London | Penticton |
| St John's | Nort Bay | Prince George |
| Charlottetown | Ottawa | Prince Rupert |
| Halifax | Port Arthur/Fort William | Vancouver |
| Sydney | Toronto | Victoria |
| Yarmouth | Churchill | Aklavik |
| Chatam | The Pas | Alert |
| Moncton | Winnipeg | Cambridge Bay |
| Saint John | Regina | Coral Harbour |
| Bagotville | Saskatoon | Fort Simpson |
| Knob Lake | Swift Current | Frobisher Bay |
| Montreal | Calgary | Resolute |
| Quebec | Edmonton | Whitehorse |
| Sept-Iles | Grande Prairie | Yellowknife |

Content of Tables:

| | |
|----------------------|--|
| Air temperature | – mean daily, mean of daily maximum, mean of daily minimum, mean of monthly maximum, mean of monthly minimum, absolute extreme highest recorded, absolute extreme lowest recorded. |
| Heating factor | – degree days below 65°F. |
| Relative humidity | – means for each of the four synoptic hours. |
| Precipitation | – rain mean amount, snow mean amount, total precipitation mean amount, number of days with rain and snow, maximum total precipitation in 24 hours. |
| Wind | – most prevalent direction with percentage, average speed. |
| Bright sunshine | – mean number of hours |
| Thunder | – mean number of days |
| Freezing temperature | – mean number of days. |

Period of Record:

| | |
|---------------|--|
| Temperature | – means 1921–50, extremes period of record |
| Humidity | – 1941–1950 |
| Precipitation | – 1921–1950 |

BOUGHNER, C.C.

The distribution of growing-degree days in Canada. Canadian Meteorological Memoirs No. 17, Dept. of Transport, Met. Br., 1964. 40p.

This report presents accumulated degree-days above 42°F calculated over a ten-year period for more than 200 Canadian stations.

Content of Tables:

Frost-free season

- average date beginning
- average date ending
- period (days)
- total growing degree-days

Effective growing season

- average date beginning
- average date ending
- period (days)
- total growing degree-days

Annual growing degree-days

- 10-year average (1950-59)
- 5-year average (1957-61)

Freeze free index

Weekly averages of growing degree-days

Weekly totals, averages and extremes

BOYD, D.W.

Climatic information for building design in Canada, 1965. Supplement No. 1 to the National Building Code of Canada. Associate Committee on the National Building Code, National Research Council, Ottawa. NRC No. 8329. 41p.

This booklet contains climatological design data for 582 Canadian municipalities.

Content of Tables:

Design temperature – winter 2½% and 1%
– summer July 2½% dry and wet bulb

Degree days below 65°F (annual)

15-minute rain (10-year return period)

One-day rain

Annual total precipitation

Ground snow load

Wind gust speed (30-year return period)

Wind pressure

Period of Record:

winter design temperature – 118 stations for the period 1951–60, rest of of stations estimated from these.

summer design temperature – 33 stations with 8–10 years over the period 1947–1958 were obtained from Canadian Meteorological Memoirs #5 and the rest were estimated using the mean annual maximum temperature map for 1921–1950.

degree days – computed means 1931–1960.

15-minute rainfall – based on all available data.

one-day rainfall – 1931–1958

annual total precipitation – 1921–1950

snow load – based on about 200 stations with 10–18 years of record.

wind loads – annual maximum hourly mileages for over 100 stations for periods of 10 to 22 years were used.

BROWN, D.M., G.A. MCKAY and L.J. CHAPMAN

The Climate of Southern Ontario. Climatological Studies Number 5, Dept. of Transport, Met. Br., 1968. 50p.

This is a comprehensive study of the Climate of Southern Ontario containing detailed information on most climatological elements.

Contents of Tables:

- Table 2 - Mean Temperatures for January and July at Four Locations near Latitude 44°N (1951-1960).
3 - Extreme Highest and Lowest Recorded Temperatures.
4 - Number of Occurrences of Daily Minimum Temperatures Falling Below -21°F (1931-1960).
5 - Probability of Frost for a Specified Number of Days After the Average Date of the Last Frost in Spring and Before Average Date of the First Frost in the Fall.
6 - Snow Cover Characteristics (1941-1960).
7 - Rainfall Intensity in Inches for Specified Durations and Frequencies for Southern Ontario.
8 - Mean Number of Hours of Bright Sunshine (1931-1960).
9 - Average Daily Solar Radiation Received on a Horizontal Surface.
10 - Mean Monthly Mixing Ratio.
11 - Mean Daily Wind Speed and Direction.
12 - Regional Climates.

BURROWS, W.R.

Heavy rainfalls at Edmonton. Dept. of Transport, Met. Br., CIR-4477, TEC-626, August 31, 1966. 33p.

This circular presents tables showing the frequency of heavy rainfalls during the summer months at Edmonton, based upon the period 1950 to 1965.

Content of Tables:

- Table I Precipitation amounts at Edmonton (normal, greatest and least monthly precipitation totals).
- II Number of daily rainfalls in various ranges by months at Edmonton in the summers of April 21 - September 30, 1950 - 1965.
- III Cumulative totals of number of daily rainfalls greater than various amounts by months at Edmonton in summers of April 21 - September 30, 1950 - 1965.
- IV Inches of rainfall and falls of 0.25 and 0.50 inches or more, and total for summer at Edmonton.
- V Number of storms of various ranges by month at Edmonton in periods April 21 - September 30, 1950 - 1965.

CANADA, METEOROLOGICAL BRANCH

Average monthly and annual number of hours with freezing drizzle and rain. (CDS#1-55),
October 26, 1955. 8p.

Data have been tabulated from 106 stations in Canada. Averages are based on periods
of from five to twelve years in each case.

Content of Tables:

Average number of hours with freezing drizzle and rain at stations in Canada
where hourly observations have been taken over the twenty-four hour period for
at least five years.

CANADA, METEOROLOGICAL BRANCH

Average frequency of daily maximum wind speeds. (CDS #8-59), September 24, 1959. 26p.

The wind frequency data in this climatic data sheet are based on the four year period from January 1955 to December 1958 at 130 stations. The data were abstracted from anemograph records.

Content of Tables:

These tables show the average number of days each month when the maximum wind speed maintained over one hour fell into any one of five different speed groups i.e. 0 to 18 mph, 19 to 24 mph, 25 to 31 mph, 32 to 38 mph and 39 and over mph.

CANADA, METEOROLOGICAL BRANCH

Maximum precipitation reported on any one observation day 1931-1958. (CDS#9-59).
(BC 14p., Alta. 10p., Sask. 9p., Man. 4p., Ont. 13p., Que. 9p., NB. 4p., NS. and
PEI 6p., Nfld. 3p.)

Content of Tables:

The maximum precipitation observed on a "precipitation day" at each official station of the Meteorological Branch is listed along with the period of record and the month and year of this occurrence.

CANADA, METEOROLOGICAL BRANCH

Climatic summaries for selected meteorological stations in Canada. Vol. II (revised) – Humidity and Wind, Dept. of Transport, Toronto, 1959. 141p.

This publication presents a comprehensive statistical summary of humidity and wind data from principal climatological stations throughout Canada.

Content of Tables:

Humidity – The monthly humidity data included in this publication are a summary of humidity observations made at approximately 200 meteorological stations during the decade 1941–1950. The data are presented in two tables. One table shows the mean values of the air temperature, the dew point and the relative humidity for each of the regular synoptic hours 0130, 0730, 1330 and 1930 E.S.T. or the times corresponding to these in the other times zones. The other table gives the means of the four synoptic hours of dry-bulb temperature, dew point, wet-bulb temperature, mixing ratio and relative humidity.

Wind – The wind data consist of tables showing the percentage frequency of winds and average wind speeds, and a table of wind extremes. The average wind tables are based on the period 1937–1954 and the extreme data on the period 1937–1958.

CANADA, METEOROLOGICAL BRANCH

Maximum reported snowfall on any precipitation day at Atlantic Provinces stations,
January 1941-December 1959. (CDS #5-60). 4p.

Content of Tables:

The maximum reported snowfall in any precipitation day for the available period
of record within the years 1941 to 1959 is listed for each station in the Atlantic
Provinces along with the date of occurrence.

CANADA, METEOROLOGICAL BRANCH

Greatest precipitation reported on any one observation day 1941-1960, Yukon and Northwest Territories. (CDS #8-61), October 13, 1961. 3p.

Content of Tables:

The maximum precipitation reported on any one observation day over the period 1941-1960 is listed for each station along with the period of record and the month and year of this occurrence.

CANADA, METEOROLOGICAL BRANCH

Bright sunshine normals and averages. (CDS #2-64), June 9, 1964. 7p.

This climatic data sheet contains preliminary information on the hours of bright sunshine at Canadian weather stations.

Content of Tables:

The data given in this climatic data sheet are based on the standard normal period 1931-1960. Mean monthly and annual number of hours of bright sunshine over this normal period are listed along with shorter period averages.

CANADA, METEOROLOGICAL BRANCH

Heating degree-day normals below 65°F based on the period 1931–1960. (CDS #5–64), October 30, 1964. 12p.

Heating degree-day normals are listed for 597 Canadian weather stations. Values for Victoria Gonzales Heights, Winnipeg A, Toronto and Halifax are based on series of daily heating degree-days over the period 1931 to 1960 while data from the other stations have been computed using a method devised by H.C.S. Thom using the monthly mean temperature and standard deviation.

Content of Tables:

Monthly and annual values of heating degree-days below 65°F are listed for each station. A code which explains the manner in which the normal has been calculated is also included.

CANADA, METEOROLOGICAL BRANCH

Heating degree-day normals below 55°F and 45°F based on the period 1931-1960.
(CDS #4-65), April 15, 1965. 22p.

Degree day normals below the bases 55°F and 45°F are listed for 597 Canadian stations. These data are based on the period 1931 to 1960 and were computed by a method devised by Thom using the monthly mean temperature and standard deviation.

Content of Tables:

Monthly and annual degree days below 55°F and 45°F are listed for each station. A code which explains manner in which the normal has been calculated is also included.

CANADA, METEOROLOGICAL BRANCH

Average soil temperature. (CDS #14-65), May 12, 1965. 4p.

This climatic data sheet presents a preliminary tabulation of average soil temperatures for fourteen Canadian stations.

List of Stations:

| | | |
|--------------------|---------------|---------------------|
| Vancouver UBC | Guelph OAC | La Pocatiere CDA |
| Haines Junction | Harrow CDA | Fredericton CDA |
| Fort Simpson CDA | Ottawa CDA | Charlottetown CDA |
| Fort Vermilion CDA | Toronto | St. John's West CDA |
| Swift Current CDA | Normandin CDA | |

Content of Tables:

Monthly average values of soil temperatures at the 1, 10, 20, 50 and 150 cm. levels are listed. The data are based on the available period within the years 1960-1964 and information for less than two years is not included. At the 1 and 10 cm levels both the early morning and late afternoon readings have been averaged but, due to the small diurnal variations at greater depths, only the averages for the afternoon observations are listed for the lower levels.

CANADA, METEOROLOGICAL BRANCH

Mean sea-level pressure normals. (CDS #1-66), March 7, 1966. 7p.

This report precedes a more permanent type of publication.

Content of Tables:

Monthly and annual mean sea level pressure normals are tabulated for all principal Canadian weather stations with an appreciable length of record over the period 1941-1960.

CANADA, METEOROLOGICAL BRANCH

Normal cloud statistics. (CDS #3-66), May 4, 1966. 15p.

This mimeographed climatic data sheet has been issued so as to make available the latest information on cloud normals and frequencies prior to publication in a more permanent form.

Content of Tables:

Monthly and annual mean cloud amounts and the percentage frequency of cloudiness in the ranges of 0 to 2 tenths, 3 to 7 tenths and 8 to 10 tenths are given for all principal Canadian weather stations with an appreciable length of record over the period 1941-1960.

CANADA, METEOROLOGICAL BRANCH

Temperature and precipitation data from DEW line stations. (CDS #5-66), July 13, 1966. 44p.

Climatological tables containing temperature and precipitation data for 42 sites in the Canadian Arctic along the Distant Early Warning (DEW) Line are presented.

Content of Tables:

The climatic tables in this report are based on the period 1960-1964 except for stations that closed in the summer of 1963 in which case average at these locations cover the full period of record, generally five to six years.

The tables contain (where available) monthly and annual values of: mean daily temperature; mean daily maximum and minimum temperature; extreme maximum and minimum temperature; mean rainfall; mean snowfall; mean total precipitation; maximum precipitation in 24 hours; number of days with measurable rain and snow.

Mean daily temperature, mean daily maximum and minimum temperature; extreme maximum and minimum temperature; mean rain, snow and total precipitation; number of days with measurable rain, snow and precipitation; and greatest precipitation in 24 hours are tabulated for approximately 1200 stations which have an appreciable length of record over the period 1931 to 1960.

The actual period of record used to compute the data for each element may be determined through the use of code numbers which follow the annual values in each of the stations.

CANADA, METEOROLOGICAL BRANCH

Wind frequency tables for Vancouver, Toronto and Montreal. (CDS #8-66),
November 25, 1966. 19p.

Tabular data of the frequency of surface wind direction by speed classes are shown
here.

Content of Tables:

The tables are based on hourly winds over the period 1956-1965 and show for each
month the 16 point and total wind direction frequencies by the following miles per
hour speed classes: calm, 1-3, 4-7, 8-12, 13-18, 19-24, 25-31, 32-38, 39-46,
47-54, 55-63, 64-75, ≥ 75 , and "all speeds". The tabulations also show the mean
wind speeds for each direction.

CANADA, METEOROLOGICAL BRANCH

Temperature and Precipitation Tables (Volumes I to VI). Dept. of Transport, Toronto, 1968.

Vol. I - British Columbia, 44p.

II - Yukon Territory and Northwest Territory, 21p.

III - Prairie Provinces, 56p.

IV - Ontario, 44p.

V - Quebec, 36p.

VI - Atlantic Provinces, 28p.

The volumes are intended to provide the latest normal, mean and extreme values of temperature and precipitation based on the standard normal period 1931 to 1960 in the case of averaged values, and for the total period of record to 1964 in the case of extreme values.

Content of Tables:

Mean daily temperature, mean daily maximum and minimum temperature; extreme maximum and minimum temperature; mean rain, snow and total precipitation; number of days with measurable rain, snow and precipitation; and greatest precipitation in 24 hours are tabulated for approximately 1200 stations which have an appreciable length of record over the period 1931 to 1960.

The actual period of record used to compute the data for each element may be determined through the use of code numbers which follow the annual values in each of the stations.

Vol. II - Precipitation

Contains separate tables showing mean monthly and annual total of rain, snow and precipitation; mean number of days with measurable fall of rain, snow and precipitation; and the maximum precipitation in 24 hours.

Vol. III - Sunshine, Cloud, Pressure and Thunderstorms

Statistical data for each element are tabulated in separate tables showing mean monthly and annual totals or normals for Hours of Bright Sunshine, Cloudiness, Mean Sea Level Pressure and Days with Thunderstorms.

* Note: Vol. IV, V and VI are in preparation and it is expected they will be available by the fall of 1969.

CANADA, METEOROLOGICAL BRANCH

Climate of British Columbia, report for (year). Dept. of Agriculture, British Columbia. Periodical.

Tables of temperature, precipitation and sunshine are compiled each year by the Weather Office, Gonzales Observatory in Victoria for all active and inactive stations throughout British Columbia and published by the Provincial Department of Agriculture in British Columbia. In addition to the actual data for a particular year, long-term averages and extremes are included where available.

Content of Tables:

The tables include monthly and annual values of mean temperature, extreme temperatures, total precipitation, snowfall, and hours of bright sunshine. Averages for active stations in operation from 5 to 10 years are computed annually until a 10-year average is obtained. Averages for stations in operation for long periods are based on readings averaged over a 30-year standard period, 1931-1960.

CANADA, METEOROLOGICAL BRANCH

Climatic Normals (Volumes I to VI). Dept. of Transport, Toronto, 1968-69.

Vol. I - Temperature, 66p.

II - Precipitation, 110p.

III - Sunshine, Cloud, Pressure and Thunderstorms, 24p.

IV - Humidity*

V - Wind*

VI - Frost*

The Climatic Normals series is intended to provide the latest normal, mean and extreme values arranged by element and is based on the standard normal period 1931 to 1960 in the case of averaged values, and for the total period of record to 1964 in the case of extreme values.

The volumes differ from other tables of normals in that the data are arranged by meteorological element and on a national rather than a regional basis.

Content of Tables:

Vol. I - Temperature

Separate tables of mean daily temperature; mean daily maximum temperature; mean daily minimum temperature; maximum temperature; and minimum temperature are tabulated for approximately 1200 stations which have an appreciable length of record over the period 1931 to 1960.

Vol. II - Precipitation

Contains separate tables showing mean monthly and annual total of rain, snow and precipitation; mean number of days with measurable fall of rain, snow and precipitation; and the maximum precipitation in 24 hours.

Vol. III - Sunshine, Cloud, Pressure and Thunderstorms

Statistical data for each element are tabulated in separate tables showing mean monthly and annual totals or normals for Hours of Bright Sunshine, Cloudiness, Mean Sea Level Pressure and Days with Thunderstorms.

* Note: Vol. IV, V and VI are in preparation and it is expected they will be available by the fall of 1969.

CANADA, METEOROLOGICAL BRANCH

Hourly Data Summaries, Dept. of Transport, Toronto, 1967-68.

A series of leaflets, one for each of 83 stations, consisting of 12 to 17 pages of tables based on 10 years of hourly data. Stations for which HDS' have been prepared are listed in the Local Data Index.

Content of Tables:

The tables usually included are:

- *1 - frequencies of dry-and wet-bulb temperatures.
- 2 - wind frequencies by direction and speed groups with weather contingencies.
- 3 - frequency of occurrence of thunderstorm, rain, snow, freezing precipitation, hail, fog and blowing snow.

*During the course of preparation of the Hourly Data Summaries it was decided that it would be desirable to include hourly average of dry-and wet-bulb temperatures, thus permitting a study of the diurnal curve of these elements. This was first implemented in HDS #22. The data omitted from earlier HDS' have been incorporated in CDS #2-68.

CANADA, METEOROLOGICAL BRANCH

Annual meteorological summaries. Periodicals prepared at 25 stations with varying number of pages.

There are 25 stations across Canada currently preparing Annual Meteorological Summaries. These publications contain detailed data for a particular year and include comparative data from previous years and a general climatological table of monthly and annual normals and extremes of climatic information for that location.

List of Stations:

| | | | |
|----------------|--------------|----------------|----------------------|
| Prince George | Regina | Mount Forest | Toronto/Bloor Street |
| Vancouver | Saskatoon | North Bay | Montreal |
| Victoria | Winnipeg | Ottawa | Quebec |
| Whitehorse | Fort William | Simcoe | Halifax |
| Calgary | Hamilton | Sudbury | Goose |
| Edmonton | London | Toronto/Malton | St. John's Torbay |
| Grande Prairie | | | |

Content of Tables:

A general climatological table is included in the annual summary and contains monthly and annual means and extremes of temperature, precipitation, wind and sunshine data. There are also sections containing the highest of daily maximum temperatures for each day, the lowest of the daily minimum temperatures for each day, and the daily mean temperatures for each day.

CHAPMAN, L.J. and D.M. BROWN

The climates of Canada for Agriculture. The Canada Land Inventory Report No. 3, Dept. of Forestry and Rural Development, Ottawa, 1966. 24p.

A number of climatological elements affecting agriculture are listed for various centers or regions across southern Canada.

Content of Tables:

A listing for 113 representative stations in southern Canada of the following climatic information is given in Table 1: annual degree days above 42°F; potential evapotranspiration; annual corn heat units; start and end of growing season; length of frost season; mean annual minimum and mean temperature for January and July; average annual water deficiency; May to September total precipitation; annual total precipitation; actual evapotranspiration and climatic classification.

CHAPMAN, L.J. and M.K. THOMAS

The Climate of Northern Ontario. Climatological Studies Number 6, Dept. of Transport, Met. Br., 1968. 58p.

This is a comprehensive study of the Climate of Northern Ontario containing detailed information on most climatological elements.

Content of Tables:

Table 1 - Mean dates of the last occurrence in spring and the first occurrence in autumn of 32°, 28° and 24°F based on the period 1931-1964.

2 - Mean values of relative humidity based on daily readings taken at 0130, 0730, 1330 and 1930 EST over the period 1941-1950.

3 - Mean monthly percent of possible bright sunshine based on the period 1931-1960.

4 - Regional climates of Northern Ontario.

Vancouver A, B.C.

Snag A, Y.T.

Whitehorse, Y.T.

Aklavik, N.W.T.

Fort Simpson, N.W.T.

Frobisher Bay, N.W.T.

Norman Wells, A. N.W.T.

Resolute A. N.W.T.

Edmonton A, Alta.

Ft William/Pt. Arthur, Ont.

Kapuskasing A, Ont.

London A, Ont.

North Bay A, Ont.

Ontario Uplands A, Ont.

Toronto-Milton A, Ont.

Tranton A, Ont.

Warton A, Ont.

Windsor A, Ont.

Sydney A, N.S.

Yarmouth A, N.S.

Charlottetown A, P.E.I.

Gander A, Nfld.

Goose A, Nfld.

St Andrews, Nfld.

St John's Terbay, Nfld.

CIR-4225

Ocean Station Papa

Alert, N.W.T.

Cambridge Bay, N.W.T.

Coral Harbour, N.W.T.

Eureka, N.W.T.

Fort Smith A, N.W.T.

Yellowknife A, N.W.T.

Calgary A, Alta.

Lethbridge A, Alta.

Medicine Hat A, Alta.

Prince Albert A, Sask.

Saskatoon A, Sask.

Swift Current A, Sask.

The Pas A, Man.

Kanora A, Ont.

Trout Lake, Ont.

White River, Ont.

Fort Chimo A, Ont.

Megantic A, Que.

Port Harrison, Que.

St Anthony, Nfld.

Content of Tables: -

The tables are arranged alphabetically within each province and each page contains twelve months of data. Each month contains eight lines with one for each three hourly observation commencing at 00 G.M.T. The mean, standard deviation, extremes and tendency of station pressure and air temperature are tabulated.

COTT, A.W.

Severe ice storms in Newfoundland. Dept. of Transport, Met. Br., CIR-4415, TEC-613, April 18, 1966. 20p.

This study presents information on the frequency of occurrence of freezing precipitation in Newfoundland, especially at St. John's.

Content of Tables:

Table I Hourly reports of freezing rain at St. John's, January 1956 to December 1964.

II Hourly reports of freezing drizzle at St. John's, January 1956 to December 1964.

V Frequency (%) of various wind strengths with freezing rain or freezing drizzle at St. John's.

CUDBIRD, B.S.V.

Means, standard deviations, tendencies and extremes of pressure and temperature at selected Canadian stations. Dept. of Transport, Met. Br., CIR-3787, TEC-448, January 14, 1963. 44p. Also CIR-4225, TEC-567, April 27, 1965. 25p.

These two circulars contain tabulations of means, standard deviations, tendencies and extremes of pressure and temperature at sixty Canadian land stations and Ocean Weather Station P. The data is based upon the available data observed within the decade 1951-1960.

List of Stations:

CIR-3787

| | | |
|------------------------|-----------------------------|-------------------------|
| Crescent Valley, B.C. | Grande Prairie A, Alta | Montreal Dorval A, Que. |
| Fort Nelson A, B.C. | Regina A, Sask. | Quebec A, Que. |
| Port Hardy A, B.C. | Churchill A, Man. | Sept-Iles A, Que. |
| Prince George, B.C. | Winnipeg A, Man. | Chatam A, N.B. |
| Sandspit A, B.C. | Armstrong A, Ont. | Shearwater A, N.S. |
| Vancouver A, B.C. | Ft William/Pt. Arthur, Ont. | Sydney A, N.S. |
| Snag A, Y.T. | Kapuskasing A, Ont. | Yarmouth A, N.S. |
| Whitehorse, Y.T. | London A, Ont. | Charlottetown A, P.E.I. |
| Aklavik, N.W.T. | North Bay A, Ont. | Gander A, Nfld. |
| Fort Simpson, N.W.T. | Ottawa Uplands A, Ont. | Goose A, Nfld. |
| Frobisher Bay, N.W.T. | Toronto Malton A, Ont. | St Andrews, Nfld. |
| Norman Wells, A N.W.T. | Trenton A, Ont. | St John's Torbay, Nfld. |
| Resolute A N.W.T. | Warton A, Ont. | |
| Edmonton A, Alta. | Windsor A, Ont. | |

CIR-4225

| | | |
|-----------------------|------------------------|---------------------|
| Ocean Station Papa | Calgary A, Alta. | Kenora A, Ont. |
| Alert, N.W.T. | Lethbridge A, Alta. | Trout Lake, Ont. |
| Cambridge Bay, N.W.T. | Medicine Hat A, Alta. | White River, Ont. |
| Coral Harbour, N.W.T. | Prince Albert A, Sask. | Fort Chimo A, Ont. |
| Eureka, N.W.T. | Saskatoon A, Sask. | Megantic A, Que. |
| Fort Smith A, N.W.T. | Swift Current A, Sask. | Port Harrison, Que. |
| Yellowknife A, N.W.T. | The Pas A, Man. | St Anthony, Nfld. |

Content of Tables:

The tables are arranged alphabetically within each province and each page contains twelve months of data. Each month contains eight lines with one for each three hourly observation commencing at 00 G.M.T. The mean, standard deviation, extremes and tendency of station pressure and air temperature are tabulated.

CUDBIRD, B.S.V.

Diurnal averages of wind, atmospheric pressure and temperature at selected Canadian stations. Dept. of Transport, Met. Br., CIR-4114, CLI-33, September 22, 1964. 43p.

Tabular data are presented for twenty stations showing the diurnal averages and changes of wind, atmospheric pressure and temperature.

List of Stations:

| | | | |
|---------------|-----------|--------------|-----------|
| Whitehorse | Vancouver | Winnipeg | Sept Iles |
| Coral Harbour | Calgary | Fort William | Moncton |
| Frobisher Bay | Edmonton | Toronto | Halifax |
| Yellowknife | Regina | Windsor | Gander |
| Prince George | Churchill | Montreal | Goose |

Content of Tables:

For each hour of each month there is a listing of means based on the period 1953-1962 of wind speed, pressure, temperature and wet bulb temperature. Also listed is the change during the previous hour.

DERMINE, P.

Weather of the growing season in the clay belt of western Quebec and northern Ontario.
Canada, Dept. of Agriculture, Publication No. 1234, 1965. 10p.

Content of Tables:

- Table 1 - Main weather conditions at three stations in the clay belt, averages for 1950-61 (May-Sept; degree days above 40° and 50°, and at least 0.01 and 0.1 inch rainfall).
- 2 - Average dates of the last frost in spring and the first in the fall, 1950-61.
- 3 - Average numbers of days in runs of at least 3, 6, and 10 days without rain in the growing season, 1950 to 1961.

FRASER, W.C.

A study of winds and blowing snow in the Canadian Arctic. Dept. of Transport, Met. Br., CIR-4162, TEC-548, December 31, 1964. 48p.

Tables of low visibility frequency and wind frequency distribution by speed groups and direction for the eight month period from October to May are presented for fifteen Arctic weather stations.

List of Stations:

| | | |
|----------------|---------------|-------------------|
| Aklavik-Inuvik | Churchill | Isachsen |
| Alert | Coral Harbour | Mould Bay |
| Baker Lake | Ennadai Lake | Nottingham Island |
| Cambridge Bay | Eureka | Resolute |
| Chesterfield | Frobisher Bay | Sachs Harbour |

List of Tables:

- Table I Percentage frequency of blowing snow (by month).
- II Percentage frequency of winds by directions and by specified speed groups.
- III Percentage frequency of winds in specified speed classes which cause blowing snow.
- IV Relation between the percentage frequency of winds 20 mph or more and the over-all blowing snow frequency.
- V Directions of winds most likely to cause blowing snow.
- VI Directions of winds most likely to cause blowing snow and frequency of blowing snow with these winds.
- VII Percentage frequency of visibility six miles or less.
- VIII Percentage frequency of visibility six miles or less when blowing snow was the cause.
- IX Percentage frequency of specified visibilities in blowing snow for three wind speed groups.

GILLESPIE, T.J.

Frequency of large daily rainfall amounts in the Montreal area. Dept. of Transport, Met. Br., CIR-4387, TEC-604, February 22, 1966. 14p.

This article presents information on high-intensity rainfall throughout the network of observing stations on or close to the Island of Montreal.

Content of Tables:

- Table I Values of \bar{x} and s_x (\bar{x} = average of observed one-day maximum rainfalls, s_x = standard deviation of observed one-day rainfalls, 9 stations)
- II Values of x_T (x_T = extreme one-day rainfall with return period T) (8 stations with 5, 10 and 25 year return periods).

- Appendix - Climatological tables of temperature and precipitation for 13 stations: Belle Isle, Bouchard, Cap, etc.
- Table 1 - Annual totals of precipitation and duration of winter
- Table 2 - Minimum temperature record (lowest temperature variations)
- Table 3 - Frequencies of minimum temperatures below -50°F and extreme minima in the decade.
- Table 4 - Longest periods per winter season with maximum temperatures at or below specified values.
- Table 5 - Occasions with maximum temperatures at or below -50°F.
- Table 6 - Reliability of frequency data (annual).
- Table 7 - Reliability of frequency data (coldest month).
- Table 8 - Average, standard deviation and quartile values for the frequency distributions of diurnal temperature variations at five stations.
- Table 9 - Percentage frequency at three stations of minimum temperatures in specified ranges during three decades.

HAGGLUND, M.G. and H.A. THOMSON

A study of sub-zero Canadian temperatures. Canadian Meteorological Memoirs No. 16, Dept. of Transport, Met. Br., 1964. 77p.

A climatic study of minimum air temperature frequencies of -10°F and lower at 47 Canadian locations, based on the ten-year period (Fall 1950 - Spring 1960).

List of Stations:

| | | |
|-----------------|------------------|---------------------------|
| Aklavik | Fort William | Quebec (Ancienne Lorette) |
| Alert | Fredericton | Regina |
| Baker Lake | Frobisher Bay | Resolute |
| Cambridge Bay | Gander | Revelstoke |
| Churchill | Goose | Sept Iles |
| Clyde | Isachsen | Smithers |
| Coppermine | Knob Lake | Snag |
| Coral Harbour | Medicine Hat | The Pas |
| Crescent Valley | Moosonee | Toronto (Malton) |
| Debert | Mould Bay | Trout Lake |
| Edmonton | Nitchequon | Watson Lake |
| Embarras | Norman Wells | Whitehorse |
| Ennadai Lake | North Bay | White River |
| Eureka | Ottawa (Uplands) | Winnipeg |
| Fort Chimo | Port Harrison | Yellowknife |
| Fort St. John | Prince George | |

Content of Tables:

- Table 1 - Terminal dates and durations of whole winter and depth of winter seasons.
- Table 2 - Minimum temperature frequencies and diurnal temperature variations.
- Table 3 - Frequencies of minimum temperatures lower than -50°F and extreme minima in the decade.
- Table 4 - Longest periods per winter season with maximum temperatures at/or below specified values.
- Table 5 - Occasions with maximum temperatures at/or below -50°F .
- Table 6 - Reliability of frequency data (annual).
- Table 7 - Reliability of frequency data (coldest month).
- Table 8 - Average, standard deviation and quartile values for the frequency distributions of diurnal temperature variations at five stations.
- Table 9 - Percentage frequency at three stations of minimum temperatures in specified ranges during three decades.

HARE, F.K.

The climate of the Island of Newfoundland: A geographical analysis. Geographical Bulletin, 2:36-88. 1952.

A detailed study of the climate of Newfoundland including tabular data of various climatological elements.

Content of Tables:

Table I - Deviations of monthly and annual precipitation from long-term normal at certain stations (3 stations).

II - The duration of frost free period at stations in Newfoundland (19 stations).

V - Frequency of fog at certain stations, expressed with the percentage fraction of all hourly observations 1944-47 (5 stations).

VI - Frequency of blowing and drifting snow at certain stations (5 stations).

VII - Frequency of freezing rain or drizzle at Gander, expressed as a percentage fraction of all observations 1944-47. Also thunderstorms, in hours per month.

VIII - Percentage of time when cloud base was below 500 feet and/or visibility was below one mile, based on hourly observations 1944-47 (3 Newfoundland stations).

IX - Frequency of thick fog at Cape Race.

X - Frequency of gales (2 stations).

Appendix - Climatological tables of temperature extremes and means, precipitation means, cloud amounts and days are presented for the following 13 stations: Belle Isle, Buchans, Cape Race, Channel (Port aux Basques), Corner Brook, Deer Lake, Fogo, Gander, Grand Bank, Grand Falls, Ramea-Burgeo, St. Georges, and St. John's.

HARRY, K.F. and J.B. WRIGHT

The Climate of Vancouver. Dept. of Transport, Met. Br., CIR-2985, TEC-258, Nov. 15, 1957. 51p.

This detailed report contains many tables of climatic data.

Content of Tables:

Tables 1-12 - Monthly tables are given showing the highest, lowest and average values of: mean, mean maximum and mean minimum temperature; total precipitation; rainfall and snowfall; hours of sunshine; days with fog and where applicable days with rain, snow, frost, maximum 80°F or more and thunderstorms. Also included are extremes of maximum and minimum temperature and the greatest 24-hour precipitation, plus 24-hour snowfall amounts in the winter months.

13 - Precipitation measurements showing greatest rainfall for selected periods.

14 - Probability of a dry day in percent.

15 - Average length of wet and dry periods.

16 - Percentage of all dry and all wet periods which are of given lengths.

17 - Longest wet and dry spells on record.

18 - Percentage frequency of wind at Vancouver Airport.

19 - Average wind speed at Vancouver Airport.

20 - Average and extreme number of days with strong winds at Vancouver Airport.

21 - Monthly summary of degree-days below 65°F.

HORNSTEIN, R.A.

Daily rainfall maxima at Halifax, N.S. Dept. of Transport, Met. Br., CIR-3414, TEC-338, October 24, 1960. 19p.

This circular examines daily rainfall amounts at Halifax.

Content of Tables:

- | | |
|---------|---|
| Table I | Maximum daily rainfall at Halifax, N.S. |
| II | Distribution of daily rainfalls of two inches or more. |
| III | Distribution of daily rainfalls of three inches or more. |
| IV | Number of days with various rainfall amounts. |
| V | 24-hour rainfall at 0.01% probability level. |
| VI | 24-hour rainfall at 0.01% probability level. |
| VII | 24-hour rainfall at 0.01% probability level. |
| VIII | Lower limit of unusual or exceptional rainfall in a 24-hour period. |

HORNSTEIN, R.A.

Probabilities of freezing temperatures at Fredericton, N.B., Charlottetown, P.E.I., Kemptville, N.S. and Nappan, N.S. Dept. of Agriculture, Publication 1111, April 1961. 13p.

Content of Tables:

- Table 1 – Probabilities of freezing temperatures in the spring at Fredericton, N.B.
- 2 – Probabilities of freezing temperatures in the autumn at Fredericton, N.B.
- 3 – Probabilities of freezing temperatures in the spring at Charlottetown, P.E.I.
- 4 – Probabilities of freezing temperatures in the autumn at Charlottetown, P.E.I.
- 5 – Probabilities of freezing temperatures in the spring at Kemptville, N.S.
- 6 – Probabilities of freezing temperatures in the autumn at Kemptville, N.S.
- 7 – Probabilities of freezing temperatures in the spring at Nappan, N.S.
- 8 – Probabilities of freezing temperatures in the autumn at Nappan, N.S.

HORNSTEIN, R.A.

Unusually high temperatures - Halifax, N.S. Dept. of Transport, Met. Br., CIR-3899, PUB-191, October 7, 1963. 8p.

This circular presents tables showing the frequency of temperatures of 90°F or more at Halifax, based upon the period 1874 to 1963.

Content of Tables:

Table I Frequency of temperatures in nineties by 1°F ranges - Halifax
Halifax, N.S.

II Dates and values of temperatures in the nineties -
Halifax, N.S.

III Temperatures in the nineties chronologically by
calendar dates - Halifax, N.S.

KENDALL, G.R. and A.G. PETRIE

The frequency of thunderstorm days in Canada. Dept. of Transport, Met. Br.,
CIR-3688, TEC-418, June 21, 1962. 17p and 9 figs.

The monthly and annual average number of days with thunderstorms are tabulated for
all principal weather stations and are based on the period 1941-60.

Content of Tables:

- Table I - Average number of days with thunderstorms.
II - Probability of obtaining "C" occurrences or more
on random sampling from a Poisson population with
mean value as shown at the head of each column.

Number 4, Dept. of Transport, Met. Br., 1966. 18p and 16 figs.

daily temperatures for 195 Canadian stations. Included in the text are discussions of the definition, calculation and accuracy of the standard deviation values.

Monthly and annual standard deviations of mean temperature are listed for all principal Canadian weather stations for the period 1931-60.

KENDREW, W.G. and B.W. CURRIE

The Climate of Central Canada. Queen's Printer, Ottawa, 1955. 194p.

This book deals with the climate of that part of the country lying between the Rocky Mountains on the west and Hudson Bay and the Great Lakes on the east from the International border to the Arctic coast. Physical controls and climatic elements are described in detail.

Content of Tables:

| | | | |
|------------------|---|------------|----------|
| Table 3 | – Mean monthly evaporation from standard 4 ft. tank. | 7 | stations |
| 4 | – Mean and extremes of the annual number of days with hail. | 2 | " |
| 5 | – Mean annual frequency of smoke. | 4 | " |
| 6 | – Mean increase in temperature (°F in 100 ft.) between the 4 ft. level and the top of a mast about 100 ft. high. | 2 | " |
| 11,44,79,116,152 | – Mean monthly speed of wind. | 2,3,7,5,4, | " |
| 12,47,81,117,153 | – Mean speed of wind by directions. | 1,4,7,3,2 | " |
| 13 | – Mean monthly frequencies (number of days) of wind speeds at A.M. and P.M. observations. | 4 | " |
| 14,45,82,118,154 | – Extreme wind speeds. | 1,4,7,3,2 | " |
| 15,46,80,119,155 | – Mean percentage frequencies of wind speeds. | 1,3,2,3,1 | " |
| 16,49,84,120,158 | – Highest and lowest number of subarctic and arctic days. | 3,3,1,2,2 | " |
| 17,50,85,121,156 | – Percentage of departures of the monthly mean by 5°-10° and by more than 10° from long period means. | 2,1 | " |
| 18,51,86,122,157 | – Highest and lowest maxima and minima. | 3,3,2,1,2 | " |
| 19 | – Variability of monthly extremes. | 3 | " |
| 20,52,87,123,156 | – Frost period. | 6,4,9,3,3 | " |
| 21,53,88,124,160 | – Mean dew-point, relative humidity and mixing ratio. | 3,3,2,2,1 | " |
| 22,54,89,125,162 | – Mean number of days with small, medium and large amounts of cloud, all levels, at morning and afternoon hours of observation. | 6,4,2,2,2 | " |
| 23,56,126,163 | – Mean percentages of hours with clear, cloudy and overcast sky. | 2,1,2,1 | " |
| 24,55,90,127,161 | – Mean monthly duration of low cloud and sky obscured. | 7,3,3,2,2 | " |

Content of Tables (Cont'd.)

| | | | |
|------------------------|---|-----------|----------|
| Table 25,57,91,128,164 | - Mean number of hours with various cloud forms. | 3,3,4,2,2 | stations |
| 26,58,92,129,165 | - Mean percentages of hours with low cloud, middle cloud and convectional cloud. | 2,1,1,2,2 | " |
| 27,60,95,132,168 | - Mean annual number of hours with intensities of precipitation. | 3,1,2,2,2 | " |
| 28,61,96,133,169 | - Precipitation, mean, highest and lowest. | 3,3,7,4,3 | " |
| 29,62,97,134,170 | - Percentage of annual precipitation with specified ranges. | 2,2,4,4,3 | " |
| 30,63,98,135,171 | - Highest and lowest totals of rain in a month. | 2,2,3,1,2 | " |
| 31,64,99,136,172 | - May to September; percentage probabilities of precipitation within the ranges indicated falling on days with any precipitation. | 2,2,6,3,3 | " |
| 32,65,100,137,173 | - Mean monthly lengths of droughts. | 2,2,3,3,2 | " |
| 33,67,105,140,177 | - Percentage frequencies of annual snowfalls within the specified ranges. | 2,3,6,3,4 | " |
| 34,66,104,139,176 | - Mean aggregate snowfall in inches at the end of the specified months. | 2,3,6,3,4 | " |
| 35,69,106,143,178 | - Percentage frequencies of monthly snowfalls within specified ranges. | 2,3,2,1,1 | " |
| 36,70,107,142,179 | - Highest and lowest monthly snowfalls. | 2,2,4,1,2 | " |
| 37,71,108,144,180 | - Percentage frequencies of aggregate snowfalls within the specified ranges at the end of each of the winter months. | 2,3,4,1,2 | " |
| 38,72,109,181 | - Mean and extreme values of the annual number of days with hail. | 6,6,4,2 | " |
| 39,74,111,147,182 | - Mean number of days with specified ranges of horizontal visibility at morning and afternoon observations. | 3,3,3,2,2 | " |
| 40,73,112,148,184 | - Mean number of days with fog, in brackets the highest number in month and the highest and lowest in a year. | 4,4,2,2,4 | " |
| 41,76,113,149,185 | - Mean annual number of hours with types of fog. | 4,1,3,2,3 | " |

Content of Tables (Cont'd.)

| | | | |
|-------------------------|---|-----------|----------|
| Table 42,75,110,145,183 | – Smoke; mean number of hours in which atmospheric obscurity due to smoke was observed. | 2,1,1,1,2 | stations |
| 43,77,114,150,186 | – Mean number of hours with specified ceilings and associated visibilities. | 3,2,3,2,2 | " |
| 59,93,130,166 | – Mean monthly sunshine. | 3,4,3,2 | " |
| 68,141 | – Annual snowfalls, mean and extremes. | 2,2 | " |
| 94,131,167 | – Mean number of hours of sunshine and highest and lowest number of overcast days on record, in the months with highest and lowest mean sunshine. | 6,6,3 | " |
| 101,138,174 | – Expected frequencies of stated periods without rain. | 1,1,1 | " |
| 102 | – Mean diurnal periodicity of precipitation. | 1 | " |
| 103 | – Rainfall intensities. | 1 | " |
| 146 | – Mean annual number of dust storms, by decades. | 2 | " |
| 175 | – Number of days in 10 years with winds of the specified directions and percentage of rain days for each direction. | 1 | " |

Detailed station tables are given as tables 43a, 78, 115, 151 and 187.

They include monthly and annual values of:

| | |
|---------------------|--|
| pressure | – mean sea level; |
| temperature | – daily mean, mean daily maximum, mean daily minimum, mean of monthly maximum and minimum, extremes; |
| relative humidity | – mean at 18 GMT, shown as the equivalent L.S.T.; |
| precipitation | – mean total, maximum in 24 hours, mean snowfall; |
| number of days with | – rain \geq .01 in., snow depth \geq .1 in., frost, fog, gale \geq 39 m.p.h., thunder; |
| percentage of time | – clear sky or overcast sky. |
| cloud amounts | – mean of four synoptic hours and for each synoptic hour; |
| wind directions | – percentage frequencies based on four synoptics. |

Stations:

| | |
|-----------|---|
| Table 43a | – Fort Good Hope, Fort Resolution, Fort Simpson and Fort Smith; |
| Table 78 | – Aklavik, Baker Lake, Chesterfield, Churchill, Coppermine; |
| Table 115 | – Beaverlodge, Beatton River, Edmonton, Fort Nelson, Fort St. John, North Battleford, Prince Albert, Saskatoon; |
| Table 151 | – Calgary, Medicine Hat, Regina, Swift Current; |
| Table 187 | – Brandon, Norway House, Rivers, The Pas, Winnipeg. |

KENDREW, W.G. and D. KERR

The Climate of British Columbia and the Yukon Territory. Queen's Printer, Ottawa, 1956. 222p.

This comprehensive study includes tables of many climatic elements. The period of record the data represents is usually included as part of each table.

Content of Tables:

| | | | |
|-----------------|---|-----------|----------|
| Table 3,7,11,63 | - Mean monthly speed of wind. | 9,7,3,11 | stations |
| 4,8,12,66 | - Extreme wind speeds. | 8,6,2,10 | " |
| 5,9,13,65 | - Mean speed of wind by directions. | 9,8,3,10 | " |
| 6,10,14,64 | - Wind direction and speed (percentage frequencies) according to time of day. | 10,8,6,12 | " |
| 15 | - Mean temperature and precipitation at representative stations. | 44 | " |
| 16 | - Temperatures on the littoral, west-east series of stations showing increasing continentality. | 7 | " |
| 17 | - Mean temperature and precipitation at neighbouring stations, showing effect of altitude and exposure. | 7 | " |
| 18 | - Temperature data for stations in the North Interior. | 3 | " |
| 19 | - Temperature data for stations in the South Interior. | 7 | " |
| 20,76 | - Variability of minimum temperature in January, maximum in July. | 12,4 | " |
| 21,77 | - Variability of mean daily maximum and minimum temperatures in January and July. | 12,4 | " |
| 22,78 | - Percentage frequencies of departures of monthly temperatures from long period means. | 12,3 | " |
| 23,79 | - Number of cases with specified differences of mean temperature between pairs of successive Januarys and between successive July's. | 12,3 | " |
| 24 | - Mean interdiurnal variability of mean temperature. | 2 | " |
| 25 | - Mean number of arctic (min. $\leq -40^{\circ}$), subarctic (max. $\leq 0^{\circ}$) and cold winter day days ($\leq 0^{\circ}$). | 4 | " |
| 26,75 | - Mean number of tropical (max. $\geq 86^{\circ}$), summer (max. $\geq 77^{\circ}$) and temperate (max. $\geq 60^{\circ}$) days. | 7,3 | " |

Content of Tables (Cont'd.)

| | | | |
|-------------|--|-------|----------|
| Table 27,74 | - Mean number of "thaw days". | 4,4 | stations |
| 28,69 | - Mean dates of periods with specified daily temperatures. | 8,3 | " |
| 29,70 | - Mean dates of periods with mean daily maximum temperatures 43° or over. | 4,60 | " |
| 30,71 | - Mean dates of periods with mean daily minimum temperatures 32° or over. | 5,4 | " |
| 31,73 | - Dates and duration of frost-free period. | 33,10 | " |
| 32 | - Frost-free period, showing influence of topography. | 9 | " |
| 33,80 | - Humidity; mean dew-point (and dry-bulb temperature), relative humidity (%), and mixing ratio (g/kg.) (early morning and afternoon). | 10,9 | " |
| 34 | - Percentage frequencies of the specified mean cloud amounts (all forms) in early morning and afternoon. | 19 | " |
| 35,82 | - Mean monthly duration (hours) of low cloud (in tenths of sky covered), and of sky obscured (by fog. etc.) | 13,6 | " |
| 36,83 | - Mean number of hours with specified cloud forms. | 8,7 | " |
| 37 | - Sunshine; mean monthly number of hours of bright sunshine. | 9 | " |
| 38 | - Mean number of days with duration of sunshine within the specified percentages of the possible. | 4 | " |
| 39 | - Precipitation, monthly means of Bella Bella (coast), Ocean Falls (30 miles inland) and Bella Coola (65 miles inland), showing the effect of distance from the sea. | 3 | " |
| 40 | - Mean annual precipitation and seasonal distribution. | 20 | " |
| 41,87 | - Intensity of precipitation, mean number of hours. | 10,7 | " |
| 42 | - Snowfall on littoral and coast mountains. | 5 | " |
| 43 | - Snowfall in North Interior. | 6 | " |
| 44,89 | - Highest and lowest records of precipitation. | 7,4 | " |
| 45,90 | - Mean annual precipitation and extreme records. | 28,4 | " |
| 46,91 | - Variability of annual precipitation. | 30,4 | " |
| 47,92 | - Snowfall, highest and lowest records. | 11,4 | " |

Content of Tables (Cont'd.)

| | | | |
|-------------|---|-------|----------|
| Table 48,93 | - Percentage frequencies of monthly snowfalls within specified ranges. | 9,4 | stations |
| 49,94 | - Percentage frequencies of yearly snowfall within specified ranges. | 9,4 | " |
| 50 | - Thunder, number of hours within which thunder is heard. | 19 | " |
| 51,96 | - Hail, number of hours, mean, highest, and lowest records. | 9,6 | " |
| 52 | - Freezing rain (or drizzle) and sleet, mean number of hours within which recorded. | 18 | " |
| 53,97 | - Mean number of days with specified ranges of horizontal visibility at morning and afternoon observations. | 22,10 | " |
| 54 | - Fog, moderate and dense. (Visibility $\frac{1}{2}$ mile or less). | 10 | " |
| 55,98 | - Number of hours with obstruction to vision, mean, highest and lowest records. | 10,8 | " |
| 56 | - Blowing or drifting snow, mean number of hours. | 18 | " |
| 57,100 | - Smoke, number of hours, mean, highest and lowest. | 9,5 | " |
| 58 | - Mean number of hours with ceiling 500 feet or less. | 19 | " |
| 59,101 | - Mean number of hours with specified ceilings and associated visibilities. | 6,4 | " |
| 67 | - Temperature data for representative groups of stations. | 13 | " |
| 68 | - Winter temperature at Snag and Dawson City. | 2 | " |
| 72 | - Mean number of arctic (min. $\leq -40^\circ$) sub-arctic (max. $\leq 0^\circ$) days. | 4 | " |
| 81 | - Mean number of days with small (0-2 tenths), medium (3-7), and large (8-10) amount of cloud, all levels, at morning and afternoon hours of observation. | 10 | " |
| 84 | - Mean precipitation, distribution over the year. | 13 | " |
| 85 | - Snow, average depth on ground. | 11 | " |
| 86 | - Snow on ground, greatest and least depths. | 2 | " |
| 88 | - Number of hours with records (mean, highest, and lowest) of fall of snow pellets, sleet and freezing rain or drizzle. | 7 | " |

Content of Tables (Cont'd.)

| | | | |
|----------|--|---|----------|
| Table 95 | - Thunderstorms, hours of occurrence, mean, highest and lowest records. | 5 | stations |
| 99 | - Number of hours (mean, highest and lowest records) in which blowing or drifting snow and blowing dust were observed. | 7 | " |

Detailed tables are given as Appendix I and II showing monthly and annual values of:

| | |
|---------------------|--|
| pressure | - mean sea level; |
| temperature | - daily mean, mean daily maximum, mean daily minimum, mean of monthly maximum and minimum, extremes; |
| relative humidity | - mean at 16:30 P.S.T. or 15:30 Y.S.T.; |
| precipitation | - mean total, maximum in 24 hours, mean snowfall; |
| number of days with | - rain \geq .01 in., snow depth \geq .1 in., frost, fog, gale \geq 39 m.p.h., thunder; |
| percentage of time | - clear sky or overcast sky. |
| cloud amounts | - mean of four synoptic hours and for each synoptic hour; |
| wind directions | - percentage frequencies based on four synoptics. |

These tables are available for 35 B.C. 8 Y.T. and 1 N.W.T. stations. They are as follows:

| | | | |
|-----------------|--------------------|-------------------|------------------|
| Abbotsford | Glacier | Port Hardy | Dawson City |
| Barkerville | Kamloops | Prince George | Dease Lake |
| Bella Coola | Kelowna | Prince Rupert | Finlay Forks |
| Bull Harbour | Kleena Kleene | Princeton | Frances Lake |
| Carmi | Langara | Quesnel | Mayo Landing |
| Comox | Lytton | Smithers | Smith River |
| Copper Mountain | Masset | Vancouver Airport | Snag |
| Cranbrook | Old Glory Mountain | Vancouver City | Teslin |
| Crescent Valley | Pachena Point | Victoria | Watson Lake |
| Dog Creek | Patricia Bay | Aishihik | Whitehorse |
| Estevan Point | Penticton | Atlin | Aklavik (N.W.T.) |

KOZUB, G.C.

Heavy snowfalls at Edmonton. Dept. of Transport, Met. Br., CIR-4076, TEC-526, 24 July 1964. 29p.

Content of Tables:

- Table I - Snowfall amounts at Edmonton, normal monthly snowfall, least monthly and greatest monthly snowfalls.
- II - Number of daily snowfalls of various ranges in inches by months at Edmonton in the winters 1944-45 to 1962-63.
- III - Accumulative totals of the number of daily snowfalls greater than various amounts by months at Edmonton.
- IV - Inches of snow in falls of 2 inches or more and total for winter at Edmonton.
- V - Number of snowstorms of various ranges in inches by months at Edmonton.
- VI - Snowstorms of 4 inches or more.
- X - Average hours per month of low visibility (below 500 ft) and VFR minimums (1945-60).
- XI - Percentage frequency of low visibility and fog ceilings by month for Goose Bay (1950-57).
- XII - Percentage frequency of low ceilings for given wind directions, Goose Bay (1950-57).
- XIII - Percentage frequency of low visibility for given wind directions, Goose Bay (1950-57).
- XIV - Frequency of occurrence of potential moderate ice criticality, 1962.
- XV - Critical temperatures for ice, fog formation, 1962.
- XVI - Cumulative totals of number of snowfalls exceeding various amounts, 1941-62.
- XVII - Percentage frequency of dry periods of various lengths at Winnipeg (1874-60).
- XVIII - Number of years with dry periods of over 14 days (1874-60).
- XIX - Percentage frequency of wet periods of various lengths (1874-60).
- XX - Number and percentage of months either wet or dry (1874-60).
- XXI - Major wet and dry periods (1874-60).
- XXII - Percentage frequency of winds from various directions at Stevenson Field Airport (1939-60).
- XXIII - Percentage frequency of strong winds (greater than 30 m.p.h.) from various directions at Winnipeg (1939-60).
- XXIV - Monthly and annual average wind speed (1939-60).
- XXV - Frequency of daily maximum wind speeds.
- XXVI - Average number of days with fog per month (1941-60) (7 cities).

KRUGER, H.B., and A.A. BOUCAUD

Meteorology of Goose Airport, Labrador. Dept. of Transport, Met. Br., CIR-3859, TEC-474, July 10, 1963. 40p.

This report presents a detailed examination of the climate of Goose Airport.

Content of Tables:

- Table I Growing season statistics (1942-61).
II Sunshine statistics.
III Temperature statistics (1942-62).
IV Break-up and freeze-up data (incomplete records 1947-61).
V Precipitation statistics rainfall and snowfall (1942-62).
VI Frequency of occurrence of freezing precipitation (1942-62).
VII Frequency of thunderstorms (1942-62).
VIII Days with measurable precipitation (1942-62).
IX Strong wind statistics (1942-62).
X Average hours per month and range of occurrence of ceilings and visibilities below GCA, range and VFR minimums (1945-60).
XI Percentage frequency of low visibilities and low ceilings by month for Goose Airport.
XII Percentage frequency of low ceilings for given wind directions, Goose Bay (1950-57).
XIII Percentage frequency of low visibilities for given wind directions Goose Bay (1950-57).
XVI Frequency of occurrence of potential moderate ice criteria.
XV Critical temperatures for ice, fog formation.

LABELLE, J.J., B.J. BROWN and M.D. HASINOFF

Climate of Winnipeg. Dept. of Transport, Met. Br., CIR-4437, CLI-35, June 7, 1966.
57p. and 25 figs.

This study of the climate of Winnipeg includes detailed tables of most climatological elements.

Content of Tables:

- Tables 1-12 - Monthly tables are given showing the highest, lowest and average values of: mean, mean maximum and mean minimum temperature; rainfall; snowfall; total precipitation; sunshine hours and percent; days with precipitation and, when applicable, days below -30°F , -20°F ; days above 32°F , 80°F , 85°F , 90°F ; days with frost and days with thunder. Also included are the following extreme data and date: maximum and minimum temperature; greatest and least daily range; greatest 24-hour rain and snowfall; maximum 1-hour wind speed and maximum gust speed.
- 13 - Growing degree-day normals (1921-50) (8 centers).
- 14 - Heating degree-days below 65°F (1931-60).
- 15 - Probability of a heating season having a degree-day total greater than or less than the specified amount (1874-1963).
- 16 - Number and length of hot spells at Winnipeg (1933-1962).
- 17 - Probability of a hot spell of a given duration lasting one more day (1933-62).
- 18 - Number of snowfalls of various ranges, January 1941 - December 1962.
- 19 - Cumulative totals of number of snowfalls exceeding certain amount, 1941-62.
- 20 - Percentage frequency of dry periods of various lengths at Winnipeg (1874-60).
- 21 - Number of years with dry periods of over 14 days (1874-60).
- 22 - Percentage frequency of wet periods of various lengths (1874-60).
- 23 - Number and percentage of months either wet or dry (1874-60).
- 24 - Major wet and dry periods (1874-60).
- 25 - Percentage frequency of winds from various directions at Stevenson Field Airport (1939-60).
- 26 - Percentage frequency of strong winds (greater than 30 m.p.h.) from various directions at Winnipeg (1939-60).
- 27 - Monthly and annual average wind speed (1931-60).
- 28 - Frequency of daily maximum wind speeds.
- 29 - Average number of days with fog per month (1941-50) (7 cities).

Content of Tables (Cont'd.)

- Table 30 - Number of hours when fog was reported at Winnipeg (1945-54).
- 31 - Average relative humidity (1939-63).
- 32 - Percentage of time the humidity index equals or exceeds certain values.
- 33 - Average number of hours with freezing drizzle and rain (1943-54).
- 34 - Floods at Winnipeg.

LONGLEY, R.W.

The Climate of Montreal. Queen's Printer, Ottawa, 1954. 46p.

This detailed study of the climate of Montreal contains tables of most climatological elements based upon all available data.

Content of Tables:

- Tables 1-12 - Monthly tables are given showing the highest, lowest (with date) and average values of: mean temperature, maximum temperature, minimum temperature, rainfall, snowfall, total precipitation, days with precipitation, 24-hour rain and snow, sunshine in hours and percent, and the following information when applicable: days with frost; days below zero; days with thunderstorms; first and last measurable snow; first and last trace of snow; first and last frost.
- 13 - Number of degree days for each month of a normal heating season at Dorval, and also cumulative totals.
 - 14 - Average and maximum number of very warm and oppressive days for each month.
 - 15 - Distribution by months of the dates of the beginning of absolute droughts, dry spells and dry months.
 - 16 - Soil moisture and moisture deficiency at Montreal under normal conditions.
 - 17 - Dry periods.
 - 18 - Wet periods.
 - 19 - Probability of a dry day in percent.
 - 20 - Number of days with thunderstorms and days with one inch of precipitation during the period January 1878 - March 1951.
 - 21 - Percentage frequency of the winds at Dorval.
 - 22 - Average wind speed at Dorval.
 - 23 - Average and extreme number of days with strong winds at Dorval by months.
 - 24 - Average temperature, precipitation and sunshine at selected North American cities.

LONGLEY, R.W.

Winds and visibility at Resolute, Northwest Territories. Dept. of Transport, Met. Br., CIR-3039, TEC-269, April 23, 1958. 8p.

Winds and visibilities at Resolute are studied for the winter months which are defined as being from October 1st until May 31st.

Content of Tables:

Table I - Observations at Resolute, October to May inclusive, divided according to wind speed and visibility.

II - Percentage of times when the wind is over 9 mph or over 19 mph when the visibility is reduced below specified values.

III - Hours per month, October to May inclusive, with various wind directions, wind speeds, and visibility conditions.

LONGLEY, R.W.

Temperature variations at Resolute, Northwest Territories. Roy. Meteor. Soc., Quart. J., 84:362:459-463. October 1958.

Temperature data for Resolute are used for the period October 1947 to March 1957. Data for 16 months of the period were lacking and so the results are based on 8 or 9 years of observation.

Content of Tables:

Table 1 - Standard deviations of the departures of temperature from smoothed curves.

2 - Values of the mean change of temperature for specified 6-hour periods, of the standard deviation of these changes, and the standard error of the mean changes at Resolute.

| | | | |
|------------|-------------|---------------|------------------------------|
| Calgary | Harmattan | Mountain View | Waterton Park Headquarters |
| Cardston | High River | Nordegg | Waterton - Barry River |
| Claresholm | Jasper | Olds | Waterton Lakes - River Cabin |
| Corway | Kananaskis | Pakiska | Whitescourt |
| Coolspur | Lake Louise | Pincher Creek | Whitescourt Forestry |
| | Warden Sm. | | Yano Tinda |

Content of Tables:

Table VI - Detailed climatological tables are given for each of the above stations including such information as the latitude, longitude, elevation, remarks on exposure and details on the observation programme. These tables include the available monthly and annual values of: mean precipitation, rain, snow, total precipitation, days with 0.01 inch of precipitation, days with 0.1 inch of snow; heaviest 24-hour precipitation in inches, 2.3-year return period, 10-year return period, 30-year return period, heaviest and the year; month-and snow depth-return periods, heaviest and year; mean temperature, daily, daily maximum, daily minimum, monthly maximum, monthly minimum; extreme temperatures, maximum and minimum with the year; mean dew point and relative humidity for the four main synoptic hours; monthly average sunshine - duration and hours, percent of possible, duration for hours ending between 05 and 20 LST; percentage of cloud cover for the four main synoptic hours; wind - mean wind speed, mean maximum one-hour wind, maximum one-hour wind and the year, direction and value of the peak gust; percentage frequency of winds and average wind speeds.

VII - Average precipitation from storage gauge records - means and the period of record for the months October to May, May to October and annual values are listed for 95 stations.

LONGLEY, R.W.

The Frost-Free Period in Alberta. Can. J. Plant Sci., 47:239-249, 1967.

A study of the frost-free period in Alberta based upon a uniform period 1951-1964. The study showed that in many parts of Alberta the frost-free period was significantly longer than those reported prior to 1950.

Content of Tables:

Table 1 - Mean frost-free period to 1950 and mean dates, last spring and first fall frosts for the period 1951-1964.

McKAY, G.A., G.E. CURRY and A.S. MANN

Climatic records for the Saskatchewan River headwaters. Dept. of Agriculture, Prairie Farm Rehabilitation Administration, Engineering Branch, 1963. 82p.

Detailed climatological tables are shown for all available stations located west of a generalized 4000-foot contour line and east of the Continental Divide. A few fringe area stations are included.

List of Stations:

| | | | |
|---------------------|----------------|---------------|------------------------------|
| Anthracite | Coleman | Levet L.O. | Rocky Mountain House |
| Athabaska Falls | Cowley Airport | Lundbreck | Saskatchewan River Crossing |
| Banff | Edson | Lynden | Turner Valley |
| Brazeau | Entrance | Mayburn | Waterton Park (Mountain |
| Caldwell Hillspring | Exshaw | Maycroft | View Birdseye) |
| Calgary | Harmattan | Mountain View | Waterton Park Headquarters |
| Cardston | High River | Nordegg | Waterton – Barry River |
| Claresholm | Jasper | Olds | Waterton Lakes – River Cabin |
| Carway | Kananaskis | Pekisko | Whitecourt |
| Coalspur | Lake Louise | Pincher Creek | Whitecourt Forestry |
| | Warden Stn. | | Yana Tinda |

Content of Tables:

- Table VI – Detailed climatological tables are given for each of the above stations including such information as the latitude, longitude, elevation, remarks on exposure and details on the observation programme. These tables include the available monthly and annual values of: mean precipitation, rain, snow, total precipitation, days with 0.01 inch of precipitation, days with 0.1 inch of snow; heaviest 24-hour precipitation in inches, 2.3-year return period, 10-year return period, 30-year return period, heaviest and the year; month-end snow depth-return periods, heaviest and year; mean temperature, daily, daily maximum, daily minimum, monthly maximum, monthly minimum; extreme temperatures, maximum and minimum with the year; mean dew point and relative humidity for the four main synoptic hours; monthly average sunshine – duration and hours, percent of possible, duration for hours ending between 05 and 20 LST; percentage of cloud cover for the four main synoptic hours; wind – mean wind speed, mean maximum one-hour wind, maximum one-hour wind and the year, direction and value of the peak gust; percentage frequency of winds and average wind speeds.
- VII – Average precipitation from storage gauge records – means and the period of record for the months October to May, May to October and annual values are listed for 95 stations.

MILLAR, F.G.

Surface temperatures of the Great Lakes. J. Fish. Res. Bd. Can., 9:7:329-376. 1952.

In this survey of surface waters of the Great Lakes temperatures were continuously recorded by thermographs installed on the condenser intakes of steamships. The period of record was between 1935 and 1941.

Content of Tables:

Table I - Monthly mean temperatures near the surface of the Great Lakes.

II - Average surface water temperature of lakes as a whole.

III - Standard deviations and serial correlation coefficients.

IV - Probable errors of the normals.

| | | | |
|--|---------------|-------------|---------------------|
| Waterloo Park (Mountain View Birdseye) | Maybourn | Entrance | Bonff |
| Waterloo Park Headquarters | Maycroft | Exshaw | Brazee |
| Waterloo - Barry River | Mountain View | Hormation | Caldwell Hillspring |
| Waterloo Lakes - River Cabin | Nordegg | High River | Calgary |
| Whitcomb | Olds | Jasper | Cardston |
| Whitcomb Forestry | Pekisko | Kananaskis | Clareholm |
| Yano Tinda | Pincher Creek | Lake Louise | Corway |
| | | Worden Str. | Coalspur |

Content of Tables:

| | |
|--|---|
| Table VI - Detailed climatological tables are given for each of the above stations including such information as the latitude, longitude, elevation, remarks on exposure and details on the observation programme. These tables include the available monthly and annual values of: mean precipitation, rain, snow, total precipitation, days with 0.01 inch of precipitation, days with 0.1 inch of snow, heaviest 24-hour precipitation in inches, 2.3-year return period, 10-year return period, 30-year return period, heaviest and the year; month-end snow depth-return periods, heaviest and year; mean temperature, daily, daily maximum, daily minimum, monthly maximum, monthly minimum; extreme temperatures, maximum and minimum with the year; mean dew point and relative humidity for the four main synoptic hours; monthly average sunshine - duration and hours, percent of possible, duration for hours ending between 05 and 20 LST; percentage of cloud cover for the four main synoptic hours; wind - mean wind speed, mean maximum one-hour wind, maximum one-hour wind and the year, direction and value of the peak gust; percentage frequency of winds and average wind speeds. | VII - Average precipitation from storage gauge records - means and the period of record for the months October to May, May to October and annual values are listed for 95 stations. |
|--|---|

MUNN, R.E., R.L. TITUS and H.J. WILSON

A preliminary estimate of the inversion climatology along the Toronto lake shore.
Dept. of Transport, Met. Br., CIR-4123, TEC-539, October 6, 1964.

This circular presents specific inversion documentation for the Metropolitan Toronto area.

Content of Tables:

- Table I Number of consecutive days with average wind speed equal to or less than 5.0 mph at Toronto Island during the period January 1941 - August 1964 inclusive.
- II Percentage frequency of occurrence of inversions at Scarborough.
- III Percentage frequency of inversions with respect to surface wind speed at Scarborough.
- IV Frequency of occurrence and median values for surface based inversions with respect to the thickness and the intensity of the inversion at Scarborough.
- V Frequency of occurrence and median values for non-surface space inversion below 3000 feet with respect to the height of the base of the inversion and the temperature change in the inversion at Scarborough.
- VI Ratio $F1/F2$ for various wind speed classes at Toronto Island Airport during daylight hours for April to August where $F1$ = frequency of off water winds, and $F2$ = frequency of off land winds.
- VII Percentage frequency of lake-to-land winds at Toronto Island Airport.
- VIII Percentage frequency of occurrence of wind speeds equal to or greater than 30 mph at Toronto Island Airport.

MUSHKAT, C.M. and R.A. HORNSTEIN

Heavy snowfalls at Halifax, Nova Scotia. Dept. of Transport, Met. Br., CIR-3780, TEC-446, 20 Dec. 1962. 10p.

Content of Tables:

- Table 1 - Snowfall amounts at Halifax: normal, least and greatest; greatest 24-hour snowfall.
- 2 - Number of snowfalls of various ranges by months at Halifax in the years 1950 to 1961.
- 3 - Accumulative totals of the number of snowfalls greater than various amounts by months at Halifax in the years 1950 to 1961.
- 4 - Inches of snow in falls of 4 inches or more and total for winter at Halifax.
- 5 - Frequency of snowfalls per winter of 4 inches or more.
- Appendix - Heavy snowfalls at Halifax and details of each snowfall of 4 inches or more during the period 1950-1961 are listed giving the times of beginning and ending of snowfall, the number of inches of snow, the depth of snow on the ground before and after the "storm", and the temperature shortly after the end of the "storm".

OUELLET, C.E. and G. LAPORTE

Probabilité des températures gélives à sept stations du Québec. Canada Dept. of Agriculture, Publication 1186, 1963. 24p.

Content of Tables:

- Table 1 - Probabilité des températures gélives du printemps, à la Pocatière, Qué.
2 - Probabilité des températures gélives de l'automne, à la Pocatière, Qué.
3 - Probabilité des températures gélives du printemps, à L'Assomption, Qué.
4 - Probabilité des températures gélives de l'automne, à L'Assomption, Qué.
5 - Probabilité des températures gélives du printemps, à Sainte-Clotilde, Cté Chateauguay, Qué.
6 - Probabilité des températures gélives de l'automne, à Sainte-Clotilde, Cté Chateauguay, Qué.
7 - Probabilité des températures gélives du printemps, à Port-Daniel, Qué.
8 - Probabilité des températures gélives de l'automne, à Port-Daniel, Qué.
9 - Probabilité des températures gélives du printemps, à Lennoxville, Qué.
10 - Probabilité des températures gélives de l'automne, à Lennoxville, Qué.
11 - Probabilité des températures gélives du printemps, à Normandin, Qué.
12 - Probabilité des températures gélives de l'automne, à Normandin, Qué.
13 - Probabilité des températures gélives du printemps, à Amos, Qué.
14 - Probabilité des températures gélives de l'automne, à Amos, Qué.
15 - Périodes sans gelée (jours) à 7 stations du Québec selon que différents températures gélives du printemps et de l'automne sont considérées.
16 - Caractère de la saison sans gelée à 7 stations du Québec.
17 - Longueur de la saison sans gelée à 7 stations du Québec (basée sur la probabilité de 50 pour-cent d'une température de 32°).

PERRIÉR, R.

Probabilités de gel au Québec. Service de Météorologie, Ministère des Richesses Naturelles. M-23, 1967. 127p., 7 cartes.

Content of Tables:

- Table I - Position géographique des stations météorologiques.
- II - Comparaison des températures minimales les 29, 30 et 31 Août à cinq stations de la région de Joliette.
- III - Probabilité des températures de gel.
- 1 - Par régions.
 - 2 - Par stations.
- 3 - Probabilité des températures gélives de l'automne, à Port-Daniel, Qué.
- 4 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 5 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 6 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 7 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 8 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 9 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 10 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 11 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 12 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 13 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 14 - Probabilité des températures gélives de l'automne, à L'Annoyville, Qué.
- 15 - Périodes sans gelée (jours) à 7 stations du Québec selon des différents températures gélives de l'automne et de l'hiver sont considérées.
- 16 - Caractère de la saison sans gelée à 7 stations du Québec.
- 17 - Longueur de la saison sans gelée à 7 stations du Québec (passée sur la probabilité de 50 pour-cent d'une température de 32°).

PETITPAS, J.E.R. and R.A. HORNSTEIN

Plant hardiness zone map - Nova Scotia and Prince Edward Island. Dept. of Transport, Met. Br., CIR-3892, TEC-478, September 19, 1963. 5p.

This paper presents a hardiness zone map for the provinces of Nova Scotia and Prince Edward Island based on average minimum temperatures. In addition, a tabular listing of minimum temperature return periods of 10, 15, 20 and 25 years is provided for 35 Nova Scotia and three Prince Edward Island communities.

Content of Tables:

- Table I - Return period (10, 15, 20 and 25 years) temperature ($^{\circ}\text{F}$) - II
II - Period of record; average minimum temperature, where the period of record was long enough; and lowest minimum temperature with year of occurrence.

Content of Tables:

- Table 1 - Percentage probabilities of seasonal snowfall limits (Ontario and Quebec stations).
2 - Percentage probabilities of seasonal snowfall limits (Atlantic Provinces).
3-9 - Percentage probabilities of monthly snowfall amounts - Toronto, Montreal, Quebec, Clarke City (Seven Islands), Chatham, Halifax and St. John's.

PICKERING, C.

Frequency and variation of surface wind speeds during daylight hours at Calgary, Alberta.
 Dept. of Transport, Met. Div., CIR-2594, TEC-206, Jan. 10, 1955. 7p.

This study is based on data taken from wind abstracts at Calgary Municipal Airport covering a 12-year period 1942-1953.

Content of Tables:

Table I - Summary of 12-year average wind speed in m.p.h. for daylight hours.

II - Percentage of daylight hours average wind speed exceeding 15 miles per hour.

POTTER, J.G.

Annual snowfall in eastern Canada. Proceedings, Eastern Snow Conference, Vol. III, 12th meeting, Burlington, Vt., February 10-11, 1955. p 36-47.

Variability of snowfall at the major centres in eastern Canada is shown by probability tables.

List of Stations:

| | | |
|-------------|---------------|------------|
| Windsor | Montreal | Chatham |
| London | Quebec | St. John |
| Toronto | Halifax | St. John's |
| Southampton | Sydney | Gander |
| Parry Sound | Yarmouth | Goose Bay |
| Ottawa | Charlottetown | |

Content of Tables:

- Table 1 - Percentage probabilities of seasonal snowfall limits (Ontario and Quebec stations).
- 2 - Percentage probabilities of seasonal snowfall limits (Atlantic Provinces).
- 3-9 - Percentage probabilities of monthly snowfall amounts - Toronto, Montreal, Quebec, Clarke City (Seven Islands), Chatham, Halifax and St. John's.

POTTER, J.G.

Snow Cover. Climatological Studies Number 3, Dept. of Transport, Met. Br., 1965. 69p.

Information on the duration and depth of snow cover based on 20 winters is presented for 188 principal climatological stations.

Content of Tables:

The earliest, latest, median and arithmetic mean of the date of the first and last snow cover (1 inch or more); number of days with snow cover; the least, greatest, median and arithmetic mean of the depth of snow cover at the end of each month, and the winter maximum depth are listed for each station.

RICHARDS, T.L. and G.K. RODGERS

An investigation of the extremes of annual and monthly evaporation from Lake Ontario. Proceedings 7th Conference on Great Lakes Research, April 1964. Pub. No. 11, Great Lakes Research Division, The University of Michigan. p 283-293.

Content of Tables:

- Table 1 - Estimates of evaporation from Lake Ontario.
2 - Monthly lake/land wind and humidity ratios for the Great Lakes.
3 - Mean wind speeds Toronto, Trenton, Rochester and Syracuse, 1950-1963.
4 - Mean vapour pressure Toronto, Trenton, Rochester and Syracuse, 1950-1963.
5 - Computed surface water temperatures for Lake Ontario, 1950-1963.
6 - Monthly and annual evaporation estimates for Lake Ontario, modified mass transfer technique, 1950-1963.

RICHARDS, T.L.

Meteorological factors affecting Great Lakes water levels. Dept. of Transport, Met. Br., CIR-4182, TEC-553, February 2, 1965. 17p.

Content of Tables:

**Table III Means and extremes of annual basin precipitation Great Lakes
1900 - 1963.**

IV Estimates of evaporation from Lake Ontario.

**V Monthly and annual evaporation estimates from Lake Ontario
(modified mass transfer technique) 1950 - 1963.**

ROBERTSON, G.W.

Evaporation measurements at research branch stations. Canada Dept. of Agriculture, Publication No. 1210, 1964. 31p.

This report contains details of all evaporation measurements taken at research branch stations of the Department of Agriculture up to 1960. At time of publication records were taken from 37 stations across Canada.

Content of Tables:

Table 2 - Average monthly and seasonal evaporation in inches from free water surface at the station.

3 - Monthly evaporation in inches at the stations.

| | | |
|---------|--|----|
| Table 1 | Monthly evaporation in inches at the stations | 1 |
| 2 | Wind direction frequency for ceilings 300 feet and/or visibility 1/2 mile and wind speed 15 mph. | 2 |
| 3 | Yearly normal monthly percentage frequency of conditions below the ranges | 3 |
| 4 | Prairie Provinces | 4 |
| 5 | Drainage basins, Prairie Provinces | 5 |
| 6 | Drainage basins, Ontario | 6 |
| 7 | Drainage basins, Quebec | 7 |
| 8 | Average annual climatic water surplus for stations in | 8 |
| 9 | British Columbia | 9 |
| 10 | Drainage basins, British Columbia | 10 |
| 11 | Average annual climatic water surplus for stations in | 11 |
| 12 | Northwest Territories and Yukon | 12 |
| 13 | Drainage basins, Northwest Territories and Yukon | 13 |
| 14 | Average annual climatic water surplus for stations in | 14 |
| 15 | Canada by political unit | 15 |
| 16 | Average annual water surplus in Canada by political unit | 16 |

ROGALSKY, J.

Statistical climatic summaries for aviation at sixteen major Canadian airports. Dept. of Transport, CIR-4061, TEC-525, June 25, 1964. 44p.

This is a statistical presentation of station or terminal climatological data which are useful to Meteorological and Aviation interests.

List of Stations:

| | | | |
|-----------|----------|----------|------------|
| Vancouver | Regina | London | St. John |
| Edmonton | Winnipeg | Toronto | Halifax |
| Calgary | Lakehead | Ottawa | St. John's |
| Saskatoon | Windsor | Montreal | Gander |

Content of Tables:

Table 1 Monthly diurnal frequencies over the period 1953-1962 of ceiling and visibility conditions below the following limits

ceiling 300 feet and/or visibility $\frac{3}{4}$ mile

ceiling 200 feet and/or visibility $\frac{1}{2}$ mile

ceiling 100 feet and/or visibility $\frac{1}{4}$ mile

2 Wind direction frequency for ceilings 300 feet and/or visibility $\frac{3}{4}$ mile and wind speed 15 mph.

3 Ten year normal monthly percentage frequency of conditions below the ranges

ceiling 300 feet and/or visibility $\frac{3}{4}$ mile

ceiling 200 feet and/or visibility $\frac{1}{2}$ mile

ceiling 100 feet and/or visibility $\frac{1}{4}$ mile.

SANDERSON, M.E. and D. PHILLIPS

Average annual water surplus in Canada. Climatological Studies Number 9, Dept. of Transport, Met. Br., 1967. 76p.

This study presents an inventory of Canada's water resources, based on a climatic method of determining runoff or water surplus.

Content of Tables:

- Table 1 - Average annual water balance at four Canadian stations.
2 - Average annual climatic water surplus for stations in the Maritime Provinces.
3 - Drainage basins. Maritime Provinces.
4 - Average annual climatic water surplus for stations in Quebec.
5 - Average annual climatic water surplus for stations in Newfoundland and Labrador.
6 - Drainage basins. Quebec.
7 - Drainage basins. Newfoundland and Labrador.
8 - Average annual climatic water surplus for stations in Ontario.
9 - Drainage basins. Ontario.
10 - Average annual climatic water surplus for stations in the Prairie Provinces.
11 - Drainage basins. Prairie Provinces.
12 - Average annual climatic water surplus for stations in British Columbia.
13 - Drainage basins. British Columbia.
14 - Average annual climatic water surplus for stations in Northwest Territories and Yukon.
15 - Drainage basins. Northwest Territories and Yukon.
16 - Average annual water surplus in Canada by political unit.

SHENFELD, L. and D.F.A. SLATER

The climate of Toronto. Dept. of Transport, Met. Br., CIR-3352, TEC-327, June 8, 1960. 52p.

This detailed study of the climate of Toronto includes tables of most climatological elements based on all available data.

Content of Tables:

- Table 1-12 - Monthly tables are given showing the highest, lowest and average values of: mean temperature, mean maximum temperature, mean minimum temperature, total precipitation, rainfall, snowfall, sunshine in hours and percent, greatest rain and snowfall in 24 hours, extreme temperatures, days with precipitation, days with thunderstorms, days with frost and, when applicable, days below zero and days above 90°F.
- 13 - Monthly degree days August 1957 - July 1958 at Malton Airport, Islington, Toronto City and Toronto Island Airport.
 - 14 - Cumulative degree days.
 - 15 - The probability of any heating year at Toronto having a total degree day value greater or less than certain values.
 - 16 - Degree day values and design temperatures localities in Metropolitan Toronto.
 - 17 - Wind frequency in percent.
 - 18 - Average wind speed for each direction.
 - 19 - Frequency of strong winds and record maximums.
 - 20 - Longest dry and wet spells on record.
 - 21 - Relative humidity.
 - 22 - Humidity index.
 - 23 - Average humidity index for specified hours.

STORR, D.

Maximum one-day rainfall frequencies in northeastern B.C. Dept. of Transport, Met. Br., CIR-4015, TEC-513, April 13, 1964. 3p.

Tabulations of rainfall intensity for four stations in northeastern B. C., based upon the period of available records.

List of Stations:

Baldonnel, Fort St. John, Fort Nelson, Hudson Hope.

Content of Tables:

Table I - Return period values of one-day rainfall.

STRONG, G.S.

Heavy snowfalls at Gander, Nfld. Dept. of Transport, Met. Br., CIR-3905, TEC-485, 9 Oct. 1963. 14p.

Frequency of heavy snowstorms at Gander based on data for the period January 1955 to June 1963 are tabulated.

Content of Tables:

- Table 1 - Snowfall amounts at Gander, Nfld. - mean monthly, least and greatest, maximum 24-hour snowfall, mean annual, greatest and lowest annual and some of greatest monthly snowfalls.
- 2 - Twenty-four hour snowfall amounts: accumulative totals of number of days with.
- 3 - Number of snowfalls of various amounts at Gander for the years 1955 to 1962.
- 4 - Ten heavy snowfalls at Gander.
- 5 - Snowfalls of 4 inches or more at Gander compared to total snowfall.
- 6 - Earliest and latest snowfalls at Gander.
- 7 - Number of heavy snowfalls (4 inches or more) per winter at Gander.
- 8 - Snowfall amounts by season at Gander.

THOMAS, M.K.

Monthly fog data. Dept. of Transport, Met. Br., CIR-2944, CLI-15, July 23, 1957. 11p.

This circular presents discussions of the definition of fog and visibilities in fog.

Tabulations of monthly and annual values of occurrences of fog are listed for 112 stations.

Content of Tables:

Table I - Mean monthly and annual number of days with fog (visibility less than $5/8$ of a mile) - period 1941-1950.

II - Number of hours when fog was reported (visibility less than $5/8$ of a mile) - Vancouver, Winnipeg, Toronto and Gander.

III - Average number of days with fog or more than 10 hours of fog per month - Vancouver, Winnipeg, Toronto and Gander.

Table I - Mean monthly and annual number of days with fog (visibility less than $5/8$ of a mile) - period 1941-1950. (Vancouver, Winnipeg, Toronto and Gander).

V - Diurnal variation of duration of bright sunshine - Vancouver, Winnipeg, Toronto and Gander.

VI - Average number of days each month with X or more hours of continuous bright sunshine beginning with specific hours - Vancouver, Winnipeg, Toronto and Gander.

THOMAS, M.K. and D.W. BOYD

Wind chill in northern Canada. *The Canadian Geographer*, 10:29-39, 1957.

This article on windchill includes a table of wind chill values for eight Canadian and two Antarctic stations.

List of Stations:

| | |
|--------------|----------------------------|
| Winnipeg | Alert |
| Churchill | Snag |
| Chesterfield | Toronto |
| Baker Lake | Bay of Whales, Antarctica. |
| Resolute | Cape Denison, Antarctica. |

Content of Tables:

Table 1 - Mean monthly and annual wind chill factors for selected stations.

THOMAS, M.K.

Sunshine data for planning aerial photography. *The Canadian Surveyor*, 17:1:36-46.
March, 1963.

This report, based upon data for the period 1950-1961, presents tables on the variations and diurnal variations of sunshine for various locations across Canada.

Content of Tables:

- Table I - Average daily duration of bright sunshine. (hours)
(12 stations).
- II - Average number of days with 5 or more consecutive hours
of bright sunshine. (9 stations).
 - III - Average number of days with 10 or more consecutive hours
of bright sunshine. (9 stations).
 - IV - Average number of days per month with the duration of
consecutive bright sunshine hours equalling or exceeding
specific values. (Vancouver, Saskatoon and Quebec).
 - V - Diurnal variation of durations of bright sunshine. (hours)
(Vancouver, Saskatoon and Quebec).
 - VI - Average number of days each month with X or more hours of
continuous bright sunshine beginning with specific hours.
(Vancouver, Saskatoon and Quebec).
 - 7 - Frequency of wind speeds with ceilings less than 1000 feet and/or
visibilities less than 3 miles (period 1954-1960) Resolute, N.W.T.
 - 8 - Frequency of ceilings less than 1000 feet and/or visibilities less
than 3 miles (below VFR limits) at Inuvik, N.W.T. during the
period 1954-1960 inclusive.
 - 9 - Frequency of ceilings less than 1000 feet and/or visibilities less
than 3 miles (below VFR limits) at Mould Bay, N.W.T. during the
period 1954-1960 inclusive.
 - 10 - Frequency of ceilings less than 1000 feet and/or visibilities less
than 3 miles (below VFR limits) at Gander, Newfoundland during the
period 1954-1960 inclusive.
 - 11 - Frequency of ceilings less than 1000 feet and/or visibilities less
than 3 miles (below VFR limits) at St. John's (Torboy), Newfoundland
during the period 1954-1960 inclusive.
 - 12 - A comparison at several stations of frequency of ceilings less than
1000 feet and/or visibilities less than three miles (below VFR limits)
during the period 1954-1960 inclusive.

THOMAS, M.K.

Snowfall in Canada. Dept. of Transport, Met. Br., CIR-3977, TEC-503, January 24, 1964. 16p.

Tables of average and extreme snowfall data are included in this study on snowfall in Canada.

Content of Tables:

- Table I - Mean monthly and annual snowfall at selected major cities based on the period 1931-60 (14 stations).
- II - Mean monthly and annual snowfall at selected airports based on the period 1951-60 (30 stations).
- III - Winter, monthly and daily extremes of snowfall at selected major cities based on the period of record up to 1963 (44 stations).

THOMPSON, H.A.

An Analysis of Terminal Weather at Resolute. Dept. of Transport, Met. Br., CIR-3627, TEC-402, March 27, 1962. 17p.

This aviation climatology study is based upon 3-hourly synoptic and climatological data for the period January 1954 through December 1960.

Content of Tables:

- Table 1 - Occurrences of ceilings less than 1000 feet and/or visibilities less than 3 miles (below VFR conditions) at Resolute, N.W.T. during the period 1954-1960 inclusive.
- 2 - Occurrences of ceilings less than 500 feet and/or visibilities less than 1 mile (below IFR landing limits) at Resolute, N.W.T. during the period 1954-1960 inclusive.
- 3 - Occurrences of ceilings less than 300 feet and/or visibilities less than $\frac{1}{2}$ mile (below IFR take-off limits) at Resolute, N.W.T. during the period 1954-1960 inclusive.
- 4 - Relationship between wind direction and below VFR weather at Resolute, N.W.T. during the period 1954-1960 inclusive.
- 5 - Frequency of wind directions with ceilings less than 1000 feet and/or visibilities less than 3 miles at Resolute, N.W.T.
- 6 - Relationship between wind speed and below VFR weather at Resolute, N.W.T. during the period 1954-1960 inclusive.
- 7 - Frequency of wind speeds with ceilings less than 1000 feet and/or visibilities less than 3 miles (period 1954-1960) Resolute, N.W.T.
- 8 - Frequency of ceilings less than 1000 feet and/or visibilities less than 3 miles (below VFR limits) at Isachsen, N.W.T. during the period 1954-1960 inclusive.
- 9 - Frequency of ceilings less than 1000 feet and/or visibilities less than 3 miles (below VFR limits) at Mould Bay, N.W.T. during the period 1954-1960 inclusive.
- 10 - Frequency of ceilings less than 1000 feet and/or visibilities less than 3 miles (below VFR limits) at Gander, Newfoundland during the period 1954-1960 inclusive.
- 11 - Frequency of ceilings less than 1000 feet and/or visibilities less than 3 miles (below VFR limits) at St. John's (Torbay), Newfoundland during the period 1954-1960 inclusive.
- 12 - A comparison at several stations of frequency of ceilings less than 1000 feet and/or visibilities less than three miles (below VFR limits) during the period 1954-1960 inclusive.

THOMPSON, H.A.

Freezing and thawing indices in northern Canada. Proceedings of the First Canadian Conference on Permafrost. p 18-36, National Research Council of Canada, Associate Committee on Soil and Snow Mechanics, Technical Memorandum No. 76. Ottawa, January 1963. 18p.

Freezing and thawing degree days are used to relate climatic effects for frost action. Degree day data for about 40 stations are computed for practically all stations in northern Canada which have continuous climatological records during the period from July 1949 to December 1959.

Content of Tables:

- Table 1 - Average and extreme values of freezing index (degree days).
- 3 - Average and extreme values of thawing index (degree days).
- 4 - Accumulation of freezing degree-days during the first 30 days of freezing season.
- 5 - Accumulation of thawing degree-days during the first 30 days of thawing season.

THOMPSON, H.A.

The Climate of the Canadian Arctic. The Canada Year Book 1967, page 55-74. (Reprint, Dept. of Transport, Met. Br., 1967. 32p.)

A study of the Climate of the Canadian Arctic showing averages and extremes for a number of climatological elements for 18 representative stations.

List of Stations:

| | | |
|---------------|---------------|-------------------|
| Aklavik | Clyde | Isachsen |
| Alert | Coppermine | Mould Bay |
| Arctic Bay | Coral Harbour | Nottingham Island |
| Baker Lake | Eureka | Resolute |
| Cambridge Bay | Frobisher Bay | Resolution Island |
| Chesterfield | Holman | Sachs Harbour |

Content of Tables:

Air Temperature: - Mean daily, mean of daily maximum, mean of daily minimum, mean of monthly maximum, mean of monthly minimum, absolute extreme highest recorded, absolute extreme lowest recorded.
 - Percentage frequency of days with minimum temperatures at or below (-10°F , -20°F , -30°F , -40°F).

Clouds: - Mean cloud amount - tenths of sky covered.

Precipitation: - Rain mean amount, snow mean amount, total precipitation mean amount, number of days with rain and snow.

Wind: - Most prevalent direction with percentage, average speed.

Fog: - Mean number of days with fog, visibility less than $5/8$ mile.

Blowing Snow: - Mean number of days with blowing snow, visibility 6 miles or less.

Degree Days - Freezing and thawing degree days, temperature below 32°F , above 32°F .

Period of Record:

Temperature - means 1951-60, extremes 1935-60.

Precipitation - 1951-60.

TITUS, R.L.

Some observed relationships in connection with the tropopause over Canada. Dept. of Transport, Met. Br., CIR-4090, TEC-533, August 13, 1964. 13p.

This is a presentation of frequency distributions of various observed elements in relation to the altitude of the first tropopause. Tabulations were computed for the four separate months—February, May, August and November, for the period 1955–1959.

Content of Tables:

- | | |
|---------|--|
| Table I | Altitude of the first tropopause. |
| II | Temperature of the first tropopause. |
| III | Tropopause mean temperature. |
| IV | Percentage of ascents reporting an inversion at the tropopause. |
| V | Percentage of ascents reporting a low or middle overcast at release. |
| VI | Percentage of ascents reporting cirriform cloud at release. |
| VII | Percentage of ascents reporting rising, falling and steady pressure tendencies prior to release. |
| VIII | Percentage of ascents reporting pressure tendencies of the following amounts prior to release. |
| IX | Frequency of second tropopause relative to the altitude of the first tropopause. |
| X | Percentage of observations reporting a second tropopause. |
| XI | Frequency of occurrence of the maximum wind level at each of the specified number of one kilometer altitude class intervals below or above that of the first tropopause. |

TITUS, R.L.

Upper air climate of Canada - average, extreme and standard deviation values 1951-1960.
Dept. of Transport, Met. Br., Toronto, 1965. 70p.

The climatological statistics pertaining to the upper air over Canada presented in this publication are based on radiosonde observations taken at Canadian locations during the period 1951-1960.

List of Stations:

| | | |
|----------------|---------------------------|---------------|
| Aklavik-Inuvik | Fort Chimo | Port Hardy |
| Alert | Fort Nelson | Port Harrison |
| Arctic Bay | Fort Smith | Prince George |
| Argentia | Frobisher Bay | Resolute |
| Baker Lake | Goose | Sable Island |
| Churchill | Isachsen | Sachs Harbour |
| Clyde | Maniwaki | Sept-Iles |
| Coppermine | Moosonee | Stephenville |
| Coral Harbour | Mould Bay | The Pas |
| Edmonton | Nitchequon | Trout Lake |
| Eureka | Norman Wells | Whitehorse |
| | Ocean Weather Station "P" | |

Content of Tables:

Average monthly values of altitude, temperature and relative humidity for all available standard pressure surfaces up to 100 mb., for each station are tabulated. The maximum and minimum altitude and temperature values observed with the dates of occurrence, and the standard deviation values pertaining to altitude and temperature for the 850, 700, 500, 300, 200, 150 and 100 mb. standard pressure surfaces are also included. In addition, there is a listing of the extreme values for the station network as a whole for each month for each of the seven pressure surfaces.

24 Depth of snow on the ground.

25 Dates of the last and first measurable snow and trace of snow.

26 Total rainfall.

27 Number of days with measurable precipitation (.01" or more).

28 Number of days with .04" or more precipitation.

29 Number of rain days (.01" or more).

30 Average fall per rain day.

31 Number of snow days (.01" or more - water equivalent).

32 Average fall per snow day (in inches - water equivalent).

33 Heaviest precipitation in 24 hours.

34 Duration of wet spells.

35 Distributions of the dates of beginning of absolute droughts, dry spells, dry months and wet spells.

36 Periods of dry spells.

37 Duration of dry spells.

TITUS, R.L.

Freezing level statistics for Canada. Climatological Studies Number 12, Dept. of Transport, Met. Br., 1968. 40 p.

A presentation of various freezing level statistics for upper air station locations in Canada in the form of percentage frequency of occurrence of certain characteristics pertaining to the freezing level or the altitude of certain temperature regimes.

Content of Tables:

- Table 1 - Percentage frequency of ascents with temperatures less than 0°C at all levels above the surface and above specified altitudes.
- 2 - Percentage frequency of ascents with temperatures equal to/or greater than 0°C at the surface and at all levels below specified altitudes.
- 3 - Average thickness (in hundreds of feet) of surface-based layers with temperatures less than 0°C topped by a layer with temperatures equal to/or greater than 0°C .
- 4 - Maximum altitude (by class intervals of 1000 feet) of the boundary between a surface-based layer in which all temperatures are less than 0°C and an overlying layer in which temperatures are equal to/or greater than 0°C .
- 5 - Percentage frequency of ascents with a single freezing level and a surface temperature equal to/or greater than 0°C .
- 6 - Percentage frequency of ascents with more than one freezing level and a surface temperature equal to/or greater than 0°C .
- 7 - Percentage frequency of ascents with one or more freezing levels and a surface temperature less than 0°C .

TOUT, D.G.

The Climate of Knob Lake. McGill Sub-Arctic Research Laboratory, Research Paper No. 17, Geography Department, Publication 10, 1964. 236p.

The climatological statistics pertaining to the climate of Knob Lake are based on meteorological observations taken at Knob Lake during the period 1955-1962.

Content of Tables:

- Table 2 Percentage frequency of air masses at Knob Lake.
- 3 The seasons of Knob Lake.
 - 4 Mean daily temperature.
 - 5 Five-year running means of summer temperature.
 - 6 Five-year running means of midwinter temperature.
 - 7 Mean daily maximum temperatures.
 - 8 Mean daily minimum temperatures.
 - 9 Mean daily range of temperature.
 - 10 Extreme maximum temperatures.
 - 11 Extreme minimum temperatures.
 - 12 Number of zero days (minimum in the screen of 0°F or lower).
 - 13 Five-year running means of annual temperature.
 - 14 Annual range of temperature.
 - 15 Length of the frost-free period.
 - 16 Five-year running means of the length of the frost-free period.
 - 17 Number of days with air frost (screen minimum of 32.4°F or less).
 - 18 Length of the period of thaw.
 - 19 Length of the growing season.
 - 20 Length of the period with a mean daily temperature of 50°F or higher.
 - 21 Total precipitation.
 - 22 Percentage of the total annual precipitation recorded in each season.
 - 23 Total snowfall.
 - 24 Depth of snow on the ground.
 - 25 Dates of the last and first measurable snow and trace of snow.
 - 26 Total rainfall.
 - 27 Number of days with measurable precipitation (.01" or more).
 - 28 Number of days with .04" or more precipitation.
 - 29 Number of rain days (.01" or more).
 - 30 Average fall per rain day.
 - 31 Number of snow days (.01" or more - water equivalent).
 - 32 Average fall per snow day (in inches - water equivalent).
 - 33 Heaviest precipitation in 24 hours.
 - 34 Duration of wet spells.
 - 35 Distributions of the dates of beginning of absolute droughts, dry spells, dry months and wet spells.
 - 36 Periods of dry spells.
 - 37 Duration of dry spells.

Content of Tables (Cont'd.)

- Table 38 Number of days with freezing precipitation.
 39 Number of hours with freezing precipitation.
 40 Number of days with a thunderstorm.
 41 Mean number of hours with various cloud type 1955-60.
 42 Number of days with fog (visibility less than 5/8 mile).
 43 Number of days with blowing snow.
 44 Percentage of possible sunshine.
 45 Total sunshine.
 46 Number of days with no recordable sunshine.
 47 Mean daily sunshine.
 48 Maximum duration of sunshine in one day.
 49 Mean monthly duration of sunshine for each hour of the day for the period 1955-61, in hundredth of an hour.
 50 Wind speed.
 51 Prevailing wind direction.
 52 Windchill thresholds.
 53 Mean monthly windchill factors (1955-59) at Knob Lake weather station.

APPENDIX

APPENDIX "B" - Monthly climatological summaries.

Detailed tables for each month for the following elements are given:

- | | |
|---------------|--|
| temperature | - mean, mean daily maximum, mean daily minimum, extreme maximum, extreme minimum, mean daily range, zero days, and days with air frost. |
| precipitation | - total, rainfall, snowfall, rain days, snow days, average fall per rain day, average fall per snow day, 24-hour precipitation, days with freezing precipitation, days with blowing snow, and depth of snow on ground. |
| sunshine | - total, mean daily, percentage of possible, days with no sun. |
| wind | - mean speed. |

VILLENEUVE, G.O.

Sommaire climatique du Québec (Volume I). Ministère des Richesses Naturelles, Service de Météorologie, M-24, 1967. 168p.

Content of Tables:

- | | |
|---------|---|
| Table I | - Durée moyenne de l'insolation durant la période 1954-1963. |
| II | - Durée réelle de l'insolation par rapport à la durée possible durant la période 1954-1963. |
| III | - Durée moyenne de l'insolation durant la période 1944-1963. |
| IV | - Durée réelle de l'insolation par rapport à la durée possible durant la période 1944-1963. |
| V | - Durée moyenne de l'insolation durant toute la période d'observation. |
| VI | - Durée réelle de l'insolation durant la période 1931-1960. |
| VII | - Température moyenne. |
| VIII | - Température maximum moyenne. |
| IX | - Température minimum moyenne. |
| X | - Température maximum absolue. |
| XI | - Température minimum absolue. |
| XII | - Degrés-jours de froid (au-dessous de 65 degrés F). |
| XIII | - Degrés-jours de froid (au-dessous de 55 degrés F). |
| XIV | - Degrés-jours de froid (au-dessous de 45 degrés F). |
| XV | - Nombre moyen de jours de chaleur durant la période 1946-1965. |
| XVI | - Nombre probable de degrés-jours quotidiens de croissance d'après la température moyenne mensuelle. |
| XVII | - Date de la probabilité de 50 pourcent d'une température de 32 degrés F. et d'une température de 28 degrés F. d'après les valeurs de la période 1931-1960. |
| XVIII | - Différences entre la température de gazon (y) et la température minimum sous abri (x) durant les étés 1965 et 1966. |
| XIX | - Précipitation totale. |
| XX | - Précipitation de neige. |
| XXI | - Précipitation maximale en 24 heures. |
| XXII | - Nébulosité moyenne. |
| XXIII | - Fréquence de la nébulosité 0-2. |
| XXIV | - Fréquence de la nébulosité 3-7. |
| XXV | - Fréquence de la nébulosité 8-10. |
| XXVI | - Humidité relative moyenne à 14 heures durant la période 1955-64. |
| XXVII | - Humidité relative moyenne à 14 heures durant la période 1945-64. |
| XXVIII | - Nombre moyen de jours secs durant la période 1955-64 (Hum. rel. : 0-49%). |
| XXIX | - Nombre moyen de jours secs durant la période 1945-64 (Hum. rel. : 0-49%). |

Content of Tables (Cont'd.)

- Table XXX - Nombre moyen de jours humides durant la période 1955-64 (Hum. rel. : 80-100%).
- XXXI - Nombre moyen de jours humides durant la période 1945-64 (Hum. rel. : 80-100%).
- XXXII - Évaporation moyenne par mois et par saison durant la période 1954-63.
- XXXIII - Évaporation moyenne par mois et par saison durant la période 1944-63.
- XXXIV - Fréquence moyenne des vitesses maximales quotidiennes du vent (en jours).
- XXXV - Pression atmosphérique moyenne au niveau de la mer.
- XXXIV - Nombre de jours avec indice d'inflammabilité extrême (13-16) par mois dans les peuplements résineux récemment exploités.
- XXXVII - Nombre de jours avec indice d'inflammabilité extrême (13-16) par mois dans les peuplements résineux inexploités.
- XXXVIII - Nombre de jours avec indice d'inflammabilité extrême (13-16) par mois dans l'ensemble des peuplements forestiers attribués à chaque station météorologique.

VOWINCKEL, E.

Cloud amount and type over the Arctic. McGill University, Arctic Meteorology Research Group, Publication in Meteorology No. 51, June 1962. 27p., plus maps and tables.

This is a presentation of cloud data north of latitude 65°N in tabular and chart form. The data are computed from all available data at approximately 200 stations, the number varying slightly from month to month due to the different duration of expedition stations.

Content of Tables:

- Table I Cloud type frequencies, per cent, Resolute.
- II Frequency of Ns at Chesterfield Inlet and Baker Lake.
- III Frequency of cloud types, per cent, latitudinal means.
- IV Cloud types, Arctic-Antarctic, per cent.
- V Water content of clouds.
- VI Mean deviation from latitudinal average of per cent cloudiness.

APPENDIX

- I Mean monthly cloudiness (per cent) along latitudes.
- II Mean seasonal frequency (per cent) of cloud types along latitudes.

| | | |
|--|--|--|
| Barometric | | |
| Blowing | | |
| Bright | | |
| Ceiling | | |
| Climatic | | |
| Clouds | | |
| Degree days | | |
| Degree days | | |
| Degree days | | |
| Evaporation | | |
| Evapotranspiration | | |
| Fog | | |
| Freezing precipitation | | |
| Frost | | |
| Frost free | | |
| General climatic | | |
| Growing degree days | | |
| Growing season | | |
| Hail | | |
| Heating degree-days | | |
| Humidity | | |
| Ice | | |
| Mixing ratio | | |
| Precipitation | | |
| Pressure | | |
| Radiation | | |
| Rainfall | | |
| Relative humidity | | |
| Sky cover | | |
| Smoke | | |
| Snow cover | | |
| Snowfall | | |
| Snow load | | |
| Soil temperature | | |
| Solar radiation | | |
| Temperature | | |
| Thunderstorm | | |
| Upper air (freezing level) | | |
| Upper air (pressure heights - temperature) | | |
| Vapor pressure | | |
| Water balance | | |
| Water temperature | | |
| Wet-bulb temperature | | |
| Wind | | |
| Wind chill | | |

WILLIAMS, G.D.V.

Climate of the Queen Charlotte Islands, in "Flora of the Queen Charlotte Islands", p. 15-49, (J.A. Calder and R.L. Taylor, Ed.), Queen's Printer, Ottawa, 1968.

This is detailed review of the Climate of the Queen Charlotte Islands including tables on a number of climatic elements.

Content of Tables:

- Table 1 - Climatological stations on the Queen Charlotte Islands; geographical position, elevation, and period of record.
- 2 - Annual temperature and precipitation data for Langara, Masset, Sandspit, and Cape St. James for the period 1947-1963.
 - 3 - Date of last spring frost and first fall frost, and length of frost-free period at Langara, Masset, Sandspit, and Cape St. James.
 - 4 - The percentage of days with minimum temperatures below 50°F, 32°F, and 20°F for the period 1947-63 at Langara, Cape St. James, and Sandspit.
 - 5 - Rainfall averages and extremes, in inches, at Langara, Masset, Tlell, Sandspit, and Cape St. James.
 - 6 - Snowfall averages and extremes, in inches, at Langara, Masset, Tlell, Sandspit, and Cape St. James.
 - 7 - Precipitation, in inches, at weather stations on the Queen Charlotte Islands.
 - 8 - Precipitation frequencies for weather stations on the Queen Charlotte Islands.
 - 9 - Average number of days per month with measurable precipitation at Langara, Masset, Sandspit and Cape St. James.
 - 10 - Percentage frequencies and average speeds by direction of wind at Cape St. James and Sandspit.
 - 11 - Average monthly percent relative humidity at Alliford Bay, Cape St. James, Langara, and Masset.

| | National | Regional |
|--|----------|-----------------|
| Air pressure see barometric pressure | - | - |
| Barometric pressure | I - 1 | II - 1 |
| Blowing snow | - | II - 1 |
| Bright sunshine | I - 1 | II - 1 |
| Ceiling and visibility see clouds | - | - |
| Climatic regions | I - 1 | II - 2 |
| Clouds | I - 1 | II - 2 |
| Degree days (freezing - thawing) | - | II - 2 |
| Degree days (growing) | I - 1 | II - 3 |
| Degree days (heating) | I - 2 | II - 3 |
| Evaporation | I - 2 | II - 3 |
| Evapotranspiration | I - 2 | - |
| Fog | I - 2 | II - 3 |
| Freezing precipitation | I - 2 | II - 4 |
| Frost | I - 2 | II - 4, 5 |
| Frost free season see Frost | - | - |
| General climatological tables | I - 2 | II - 5 |
| Growing degree-days see degree days | - | - |
| Growing season | I - 3 | - |
| Hail | - | II - 5 |
| Heating degree-days see degree days | - | - |
| Humidity | I - 3 | II - 5, 6 |
| Ice | I - 3 | - |
| Mixing ratio see humidity | - | - |
| Precipitation | I - 3, 4 | II - 6, 7, 8 |
| Pressure see barometric pressure | - | - |
| Radiation see solar radiation | - | - |
| Rainfall | I - 4 | II - 8, 9 |
| Relative humidity see humidity | - | - |
| Sky cover see clouds | - | - |
| Smoke | - | II - 10 |
| Snow cover | I - 4 | II - 10 |
| Snowfall | I - 4 | II - 10, 11 |
| Snow load | I - 5 | - |
| Soil temperature see temperature | - | - |
| Solar radiation | - | II - 12 |
| Temperature | I - 5, 6 | II - 12, 13, 14 |
| Thunderstorm | I - 6 | II - 14 |
| Upper air (freezing level) | I - 6 | - |
| Upper air (pressure heights - temperature) | I - 6 | - |
| Vapor pressure see humidity | - | - |
| Water balance | I - 7 | II - 14 |
| Water temperature | - | II - 14 |
| Wet-bulb temperature see humidity | - | - |
| Wind | I - 7 | II - 15 |
| Wind chill | - | II - 15 |

CANADIAN CLIMATIC DATA IN PREPARATION FOR PUBLICATION

by the
METEOROLOGICAL BRANCH

A number of publications containing additional climatological data are in preparation at the Climatology Division, Meteorological Branch Headquarters. A brief description of each and the expected publication date is listed below.

(1) Climatic Normals - Volumes IV, V and VI

In addition to Volumes I, II and III which are in print, Volume IV (Humidity), Volume V (Wind) and Volume VI (Frost), should be published by late 1969.

(2) CDS #3-68 - Winter Snowfall Averages and Extremes

This data sheet presents snowfall averages and extremes in tabular form and will be available in 1969. The averages are computed for the period 1931-1960, whereas the extremes of seasonal snowfall are based on the entire period of record at each station to the end of the 1967-68 season. A listing of recorded total snowfall at each station for the past three winters is also included.

(3) CDS #1-69 - Monthly Fog Data

This climatic data sheet contains the mean monthly and annual number of occurrences of fog with visibility less than 5/8 of a mile. Data for approximately 200 stations, are based on available years of record during the period 1941-1960. It is expected that this publication will be available in 1969.

(4) Climatological Studies Number 7 - Daily Temperature and Precipitation Occurrences in Ontario

This publication presents tables showing the probabilities of certain temperature and precipitation amounts in Ontario. It is planned to publish this study by late 1969.

(5) CDS #3-69 - Growing Degree Days

This data sheet presents growing degree-day normals for approximately 150 Canadian stations. The data are based on accumulated degree days above 42°F, calculated over the period 1953-1967. This publication is expected to be available early in 1969.

(6) Climatological Studies Number 11 - Le Climat du Québec/The Climate of Quebec

A comprehensive study of the climate of the Province of Quebec. Included are tables of a number of climatological elements. It is expected that this publication will be available late in 1969.

(7) Climatological Studies Number 15 - The Climate of Montreal

This detailed study of the climate of Montreal contains tabular data of most climatological elements. This publication should be available late in 1969.

(8) CDS #5-69 - Average Soil Temperatures

This datasheet is intended to replace CDS #14-65 and is expected to be available in 1969. Monthly averages are to be listed for both the early morning and late afternoon readings of soil temperatures taken over the period 1960-1968.