

Canadian Climate Normals 1971-2000

The minimum number of years used to calculate these Normals is indicated by a [code](#) for each element. A "+" beside an extreme date indicates that this date is the first occurrence of the extreme value. Values and dates in bold indicate all-time extremes for the location.

NOTE!! Data used in the calculation of these Normals may be subject to further quality assurance checks. This may result in minor changes to some values presented here.

WINNIPEG RICHARDSON INT'L A *
MANITOBA

Latitude: 49°55'00.000" N Longitude: 97°14'00.000" W Elevation: 238.70 m

Climate ID: 5023222

WMO ID: 71852

TC ID: YWG

* This station meets [WMO standards](#) for temperature and precipitation.

<u>Temperature:</u>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Code
Daily Average (°C)	-17.8	-13.6	-6.1	4	12	17	19.5	18.5	12.3	5.3	-5.3	-14.4	2.6	A
Standard Deviation	3.9	4.2	3.5	2.7	2.5	1.8	1.5	1.8	1.4	1.6	3.3	4.2	1.3	A
Daily Maximum (°C)	-12.7	-8.5	-1.1	10.3	19.2	23.3	25.8	25	18.6	10.8	-0.9	-9.7	8.3	A
Daily Minimum (°C)	-22.8	-18.7	-11	-2.4	4.8	10.7	13.3	11.9	6	-0.3	-9.6	-19.1	-3.1	A
Extreme Maximum (°C)	7.8	11.7	23.3	34.3	37	37.8	37.8	40.6	38.8	30.5	23.9	11.7		
Date (yyyy/dd)	1942/23	1958/25	1946/27	1980/21	1980/22	1995/17	1939/12	1949/07	1983/02	1992/01	1975/05	1939/06		
Extreme Minimum (°C)	-42.2	-45	-37.8	-26.3	-11.1	-3.3	1.1	0.6	-7.2	-17.2	-34	-37.8		
Date (yyyy/dd)	1943/20	1966/18	1962/01	1979/02	1958/01	1964/03	1972/03	1965/28	1965/26	1941/30	1985/30	1967/31		
<u>Precipitation:</u>														
Rainfall (mm)	0.2	2.5	7.5	21.5	58	89.5	70.6	75.1	51.9	31	6.1	1.6	415.6	A
Snowfall (cm)	23.1	14.2	15.8	10.1	0.8	0	0	0	0.4	5	21.4	19.8	110.6	A
Precipitation (mm)	19.7	14.9	21.5	31.9	58.8	89.5	70.6	75.1	52.3	36	25	18.5	513.7	A
Average Snow Depth (cm)	18	20	13	3	0	0	0	0	0	0	5	10	6	A
Median Snow Depth (cm)	17	21	13	2	0	0	0	0	0	0	4	10	6	A
Snow Depth at Month-end (cm)	20	19	7	0	0	0	0	0	0	2	8	14	6	A
Extreme Daily Rainfall (mm)	3.8	20	30	36	60.2	69.8	83.6	83.8	65	74.4	19	21.8		
Date (yyyy/dd)	1944/20	2000/25	1945/25	1986/30	1978/25	1984/21	1993/25	1962/11	1941/03	1949/10	2000/06	1982/02		
Extreme Daily Snowfall (cm)	23	23.6	35.6	22	21.1	0.3	0	0	5.8	24.6	27.7	21.6		
Date (yyyy/dd)	1989/07	1955/20	1966/04	1997/05	1967/01	1969/12	1938/01	1938/01	1984/24	1971/30	1958/17	1948/15		
Extreme Daily Precipitation (mm)	22.5	23.6	35.6	44.1	60.2	69.8	83.6	83.8	65	74.4	27.7	21.8		
Date (yyyy/dd)	1989/07	1955/20	1966/04	1986/30	1978/25	1984/21	1993/25	1962/11	1941/03	1949/10	1958/17	1982/02		
Extreme Snow Depth (cm)	91	89	85	61	18	0	0	0	2	18	55	81		
Date (yyyy/dd)	1956/30	1956/01	1956/09	1956/01	1967/02	1955/01	1955/01	1955/01	1984/25	1971/31	1955/23	1955/23		
<u>Days with Maximum Temperature:</u>														
<= 0 °C	29.1	23.7	15.8	2.7	0	0	0	0	0	1.4	16.6	27.6	116.9	A

Below 5 °C	706.3	526.3	344.9	89.6	7.5	0	0	0	2.7	58.7	312.1	601.5	2649.7	A
Below 10 °C	861.3	667.6	498.1	197	45	2.4	0	0.3	27.6	161.1	458.3	756.5	3675.2	A
Below 15 °C	1016.3	809	653.1	333.7	127.6	26.9	3.5	12.5	105.8	303.5	608	911.5	4911.4	A
Below 18 °C	1109.3	893.8	746.1	421.6	200.1	67.7	20.9	41.3	178.8	395.5	698	1004.5	5777.5	A
Soil Temperature:														
at 5 cm depth (AM obs) (°C)	-5	-4.7	-2.3	1.1	7.1	13.5	16.9	16.5	12.4	6.8	1.2	-3	5	C
at 5 cm depth (PM obs) (°C)	-4.9	-4.6	-2	2.9	10.6	17	20.5	19.4	14.3	7.9	1.4	-2.9	6.7	C
at 10 cm depth (AM obs) (°C)	-4.3	-4.3	-2.2	1	6.9	13.3	17	16.9	13.2	7.7	2	-2.2	5.4	C
at 10 cm depth (PM obs) (°C)	-4.3	-4.3	-2.1	1.7	8.5	14.9	18.6	18.1	13.8	8	2	-2.2	6	C
at 20 cm depth (AM obs) (°C)	-3.5	-3.8	-2	0.7	6.3	12.7	16.6	16.8	13.6	8.4	2.8	-1.3	5.6	C
at 20 cm depth (PM obs) (°C)	-3.6	-3.8	-1.9	0.8	6.7	13	16.8	17	13.5	8.2	2.8	-1.4	5.7	C
at 50 cm depth (AM obs) (°C)	-1.4	-2.3	-1.4	0	4.1	10.3	14.5	15.7	13.7	9.6	4.9	0.9	5.7	C
at 100 cm depth (AM obs) (°C)	1	-0.2	-0.3	0.1	2.2	7.2	11.6	13.6	13.1	10.4	6.8	3.3	5.7	C
at 150 cm depth (AM obs) (°C)	2.6	1.4	0.8	0.8	1.6	5.1	9.3	11.8	12.3	10.7	8	4.9	5.8	C
at 300 cm depth (AM obs) (°C)	6.4	5.4	4.5	3.9	3.6	3.6	4.7	6.3	7.6	8.3	8.3	7.6	5.9	C
Bright Sunshine:														
Total Hours	120.1	137.8	178.4	239.1	286.2	283.2	317.5	280.2	186.4	147.1	95.6	100.3	2371.8	C
Days with measurable % of possible daylight hours	25	23.5	26.1	27.4	29.2	29	30.3	30.2	27	26.1	21.5	22.4	317.8	C
Extreme Daily Date (yyyy/dd)	9	11.7	12.4	14.1	15.4	16	15.7	14.6	12.8	10.7	9.2	8		C
	1993/28	1986/22	1994/29	1978/30	1971/31	1979/16	1972/17	1976/05	1985/08	1975/02	1978/02	1978/06		
Humidex:														
Extreme Humidex Date (yyyy/dd)	6.3	11.1	18.8	34.1	40.2	46.1	44.7	45.5	45.9	34.3	23.9	9.3		
	1986/11	1958/25	1967/30	1980/21	1988/31	1996/27	1966/17	2001/04	1983/02	1961/06	1975/05	1982/02		
Days with Humidex >= 30	0	0	0	0.2	2.3	6.3	12.7	11.1	1.8	0	0	0	34.5	A
Days with Humidex >= 35	0	0	0	0	0.4	1.9	4.4	3.4	0.4	0	0	0	10.5	A
Days with Humidex >= 40	0	0	0	0	0	0.4	0.6	0.4	0.1	0	0	0	1.5	A
Wind Chill:														
Extreme Wind Chill Date (yyyy/dd)	-56.4	-57.1	-48.8	-35.8	-20.8	-7.4	-0.1	-3.9	-11.5	-24.2	-48.1	-50.6		
	1966/28	1996/01	1962/01	1954/02	1967/02	1964/03	1972/03	1982/27	1965/26	1991/30	1958/29	1989/20		
Days with Wind Chill < -20	26.2	19.8	11.4	1.3	0	0	0	0	0	0.2	8.3	21.7	89.1	A
Days with Wind Chill < -30	18.4	11.5	4	0.2	0	0	0	0	0	0	1.9	13.1	49	A
Days with Wind Chill < -40	7.2	2.9	0.3	0	0	0	0	0	0	0	0.1	3.5	14	A
Humidity:														
Average Vapour Pressure (kPa)	0.2	0.2	0.4	0.5	0.9	1.3	1.6	1.5	1	0.7	0.4	0.2	0.7	A

Average Relative Humidity - 0600LST (%)	78.1	80.2	82.3	79.9	77	81.5	86.5	87.7	86.5	83.8	84.1	79.8	82.3	A
Average Relative Humidity - 1500LST (%)	73.4	73.7	69.2	50.6	44.5	52.1	53.6	51.5	53.6	57.9	72.3	75.4	60.6	A
Pressure:														
Average Station Pressure (kPa)	98.9	98.9	98.8	98.7	98.5	98.3	98.4	98.5	98.5	98.6	98.7	98.8	98.6	A
Average Sea Level Pressure (kPa)	102	102	101.8	101.6	101.4	101.2	101.3	101.4	101.4	101.5	101.7	101.9	101.6	A
Radiation:														
Extreme Global - RF1 (MJ/m2)	8.9	15.4	22.1	27.9	32.9	33.8	32.7	28.9	22.9	15.6	9.6	6.4		
Date (yyyy/dd)	1979/31	1962/28	1975/30	1966/30	1964/28	1963/20	1965/05	1958/02	1962/01	1977/02	1963/01	1964/04		
Extreme Diffuse - RF2 (MJ/m2)	5.7	8.5	13.1	17.2	14	19.5	17.5	18.1	11	9.7	5.4	4		
Date (yyyy/dd)	1978/27	1991/28	1979/31	1989/10	1980/20	1998/25	1990/08	1990/01	1977/01	1999/13	1988/01	1978/04		
Visibility (hours with):														
< 1 km	11.3	10.7	10.8	3.4	1	1	1.4	1	1.6	5.1	8.8	7.1	63.1	A
1 to 9 km	109.4	86.5	81.5	33.3	17.1	19	13.6	16.5	22.4	41.6	90.8	108.4	640.1	A
> 9 km	623.3	580.8	651.7	683.4	725.9	700	728.9	726.5	696	697.3	620.4	628.6	8062.9	A
Cloud Amount (hours with):														
0 to 2 tenths	247.2	215.9	247.5	250.6	228	198.3	246.6	262	216.7	213.2	169.8	231.1	2726.9	A
3 to 7 tenths	106.7	105.6	117.1	145.2	166.2	179.3	215.5	196.8	161.7	135	100.9	104.9	1734.8	A
8 to 10 tenths	390.1	356.4	379.4	324.2	349.8	342.4	281.9	285.3	341.6	395.9	449.4	408.1	4304.3	A

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