

**CLIMATOLOGICAL SUMMARY FOR MARCH 1988****AT WINNIPEG, MANITOBA**

March was nearly normal in most respects except temperature.

The average temperature for Winnipeg followed the regional trend to above normal values. Although there were some cold days in the month, ample sunshine made it seem warm even when below normal. The mean high, low and mean were 0.6, -9.6 and -4.5°C averaging 3.7°C above the normal values. Extremes for the month were 10.9°C on the 5th and 23rd (a daily record for the 5th) and -17.8°C on the 14th.

Precipitation was only slightly above normal. The total was 24.2 mm compared to a normal of 22.7 mm. There was a normal distribution of rain and snow - 4.2 mm and 22.2 cm.

Sunshine was slightly above normal at 187.4 hours and mean wind speed was slightly below normal at 18.1 km/h.

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**DAILY WEATHER SUMMARY FOR MARCH 1988****AT WINNIPEG, MANITOBA**

1. Cloudy with light snow. Temperatures above normal. Winds moderate with strong gusts.
2. Cloudy early morning becoming sunny by noon. Temperatures near normal. Winds light.
3. Sunny. Temperatures above normal. Winds light.
4. Sunny. Temperatures above normal. Winds light.
5. Cloudy with light rainshowers late evening. Temperatures above normal. Winds light.
6. Cloudy. Temperatures above normal. Winds light.
7. Cloudy with light snow. Temperatures above normal. Winds light becoming moderate.
8. Cloudy becoming sunny early morning. Temperatures above normal. Winds light.
9. Cloudy with a few sunny periods. Temperatures above normal. Winds light.
10. Cloudy with light rain. Temperatures above normal. Winds light becoming moderate.
11. Cloudy with light snow. Temperatures above normal. Winds moderate becoming strong with gusts.
12. Sunny. Temperatures below normal. Winds moderate with strong gusts.
13. Sunny. Temperatures below normal. Winds light.
14. Sunny. Temperatures below normal. Winds light.
15. Cloudy with a few sunny periods. Temperatures above normal. Winds light.
16. Sunny with a few cloudy periods in the afternoon. Temperatures above normal. Winds light.
17. Sunny. Temperatures above normal. Winds light becoming moderate with gusts.
18. Sunny. Temperatures above normal. Winds light becoming moderate.
19. Cloudy with some very light snow. Temperatures below normal. Winds light, occasionally moderate.
20. Cloudy with light snow becoming sunny in the afternoon. Temperatures below normal. Winds light.
21. Cloudy. Temperatures above normal. Winds light becoming moderate with strong gusts.
22. Cloudy. Temperatures above normal. Winds light.
23. Sunny. Temperatures above normal. Winds light becoming moderate with strong gusts in the afternoon.
24. Cloudy with rain showers during the day with snow beginning in the evening. Temperatures above normal. Moderate winds with a few strong gusts.
25. Snow and blowing snow. Near normal temperatures. Winds moderate to strong.
26. Cloudy clearing early morning. Below normal temperatures. Winds strong becoming light by noon.
27. Cloudy. Temperatures near normal. Winds moderate with occasional strong gusts.
28. Cloudy with snow in the morning. Temperatures slightly above normal. Winds moderate becoming light by mid morning.
29. Cloudy with snow flurries. Temperatures a little below normal. Winds moderate gusting to strong becoming light by evening.
30. A few clouds. Temperatures below normal. Winds light except briefly moderate in the afternoon.
31. Sunny. Temperatures near normal. Winds light becoming moderate in the late afternoon with strong gusts in the evening.

Date	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	-91	-87	-92	-91	-66	-58	-57	-55	-68	-83	-118	-128	-134	-135	-127	-114	-114	-122	-133	-153	-190	-203	-194	-196
2	-203	-200	-198	-205	-203	-204	-203	-211	-206	-208	-212	-213	-203	-195	-182	-181	-190	-185	-181	-176	-190	-185	-188	-181
3	-188	-179	-179	-178	-175	-169	-168	-168	-168	-165	-146	-122	-107	-92	-105	-125	-123	-122	-116	-106	-116	-109	-116	-138
4	-129	-132	-136	-128	-142	-136	-132	-122	-106	-93	-81	-72	-67	-64	-63	-58	-58	-51	-49	-54	-52	-56	-57	-64
5	-68	-66	-65	-64	-66	-63	-63	-60	-57	-51	-35	-12	5	9	13	9	13	14	10	10	10	7	18	0
6	-5	-14	-12	-15	-19	-29	-35	-38	-35	-28	-18	-17	-18	-38	-29	-42	-34	-32	-35	-45	-53	-54	-54	-59
7	-54	-56	-58	-62	-64	-64	-65	-69	-70	-68	-62	-53	-50	-44	-37	-33	-25	-24	-27	-28	-29	-28	-30	-32
8	-36	-36	-36	-37	-41	-46	-60	-71	-79	-92	-79	-71	-66	-64	-54	-41	-43	-45	-58	-71	-75	-74	-56	-47
9	-51	-53	-60	-69	-63	-63	-63	-69	-66	-60	-52	-40	-34	-30	-23	-21	-19	-21	-28	-21	-21	-19	-16	-11
10	-12	-13	-12	-9	-9	-4	-5	-5	-5	-5	-2	-4	-4	-3	-6	-3	-1	-7	-6	-6	-12	-19	-23	-37
11	-51	-55	-69	-92	-110	-127	-144	-157	-157	-166	-152	-169	-177	-178	-168	-149	-151	-163	-157	-171	-174	-187	-182	-184
12	-185	-184	-189	-199	-204	-208	-214	-216	-220	-212	-207	-198	-194	-190	-185	-183	-181	-183	-188	-196	-199	-198	-194	-197
13	-199	-200	-201	-205	-208	-210	-212	-216	-212	-208	-203	-194	-188	-181	-177	-175	-179	-181	-162	-167	-170	-173	-175	-180
14	-179	-181	-193	-200	-204	-207	-218	-217	-204	-193	-176	-170	-182	-179	-174	-177	-178	-176	-176	-170	-161	-168	-166	-170
15	-169	-167	-167	-162	-161	-162	-164	-160	-162	-161	-146	-145	-140	-140	-138	-133	-139	-134	-132	-122	-118	-116	-126	-130
16	-135	-145	-148	-150	-155	-155	-162	-160	-142	-122	-105	-96	-89	-76	-76	-68	-62	-65	-58	-59	-62	-68	-54	-66
17	-62	-55	-46	-35	-38	-52	-73	-91	-97	-92	-92	-99	-105	-109	-111	-107	-119	-124	-127	-130	-127	-128	-132	-138
18	-131	-149	-148	-150	-149	-150	-148	-148	-134	-111	-111	-116	-127	-124	-122	-113	-118	-122	-119	-125	-124	-140	-162	-177
19	-182	-176	-165	-165	-162	-172	-175	-170	-166	-161	-160	-165	-176	-167	-168	-195	-203	-203	-216	-215	-216	-222	-228	-220
20	-212	-216	-212	-185	-176	-177	-174	-172	-167	-163	-154	-155	-151	-151	-150	-151	-148	-152	-145	-143	-138	-162	-157	
21	-159	-139	-157	-165	-172	-176	-167	-154	-140	-127	-119	-116	-110	-99	-86	-68	-52	-42	-35	-27	-31	-41	-27	-21
22	-13	-11	-15	-22	-35	-38	-35	-35	-33	-34	-30	-24	-19	-15	-11	-10	-11	-9	-7	-16	-22	-29	-25	-22
23	-27	-29	-43	-40	-31	-33	-51	-40	-14	-2	-1	-8	-21	-37	-16	-13	1	6	13	18	14	4	-1	-6
24	-10	-11	-11	-10	-8	-15	-17	-14	-5	4	9	15	22	16	16	14	19	23	15	6	6	4	2	2
25	2	1	0	0	0	0	0	0	0	1	-33	-47	-51	-44	-53	-62	-69	-72	-70	-79	-84	-88	-91	-95
26	-106	-108	-107	-109	-116	-124	-127	-135	-138	-138	-134	-129	-127	-121	-116	-106	-103	-106	-112	-116	-116	-127	-126	-127
27	-128	-118	-109	-110	-105	-92	-93	-90	-83	-79	-79	-70	-77	-71	-77	-71	-83	-67	-72	-73	-75	-73	-73	-78
28	-74	-73	-76	-77	-78	-73	-60	-34	-33	-30	-27	-21	-12	-63	-39	-40	-27	-63	-63	-52	-54	-55	-52	-50
29	-45	-33	-23	-46	-66	-76	-78	-91	-94	-98	-99	-94	-89	-100	-88	-95	-101	-115	-77	-97	-86	-89	-88	-105
30	-112	-116	-122	-130	-138	-133	-137	-140	-127	-119	-116	-110	-117	-103	-101	-98	-92	-87	-93	-105	-105	-116	-113	-113
31	-121	-116	-116	-120	-123	-127	-130	-118	-103	-90	-84	-97	-96	-92	-72	-69	-63	-57	-60	-58	-52	-48	-52	-53

Note/Avies: 1. Climatological Day/Journée climatologique 0001 C.S.T. - 0000 C.S.T.  
 2. Hours are C.S.T./Les heures sont a 1 heure normale de la localite  
 3. Unit/Unité = 0.1°C

WINDS (km/h) AT:  
DES VENTS (km/h) A:

WINNIPEG INTERNATIONAL AIRPORT  
AEROPORT INTERN. DE WINNIPEG

MONTH: MARCH  
MOIS: MARS

1988  
1988

Page 4.

Date	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Peak Gust Rafale Max	Hour/Date Heure/Date			
1	S	SSE	SSE	SSE	SSW	SSW	SW	WNW	NW	WNW	NW	NW	NW	NNW	NW	N	NNW	N	NNW	N	N	N	N	N	N	NW	1021		
2	N	N	NNW	NNW	N	N	NNW	NNW	NNW	N	N	N	N	W	NNW	NNW	W	NNW	N	NW	W	W	S	S	S	59			
3	S	S	S	S	S	S	S	S	S	SSW	S	SSW	WSW	WSW	WSW	W	W	WNW	WNW	WNW	N	NE	C	N	N	4			
4	C	C	C	S	C	C	C	WSW	WSW	WSW	W	W	SSW	S	S	SW	SW	SW	SW	SSW	SSW	SSW	SSW	S	SSW	33	2315		
5	S	S	S	S	S	SSW	S	SSW	SSW	SSW	SW	SW	WSW	SW	WSW	WSW	SW	S	S	SW	S	WSW	W	NNW	N	44	2330		
6	N	N	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	WNW	NW	N	NNW	N	N	NNE	NE	ENE	E	ESE	E	ESE	NNW	37	0159		
7	ESE	SE	SE	SE	SE	ESE	ESE	E	E	E	E	E	E	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE	33	1945	
8	NE	NNE	NNE	NNE	N	NNE	N	N	NNW	NNW	N	N	N	NNW	NNW	NNW	WNW	WNW	WNW	W	W	W	W	W	W	W	W		
9	W	SSW	SSW	S	SSW	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	SSE	33	1607
10	SSE	SSE	ESE	SE	SE	ESE	ESE	E	SE	E	E	E	E	E	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	48	2257
11	ENE	ENE	ENE	ENE	NE	ENE	NE	ENE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NE	NNE	NE	NE	NE	NNE	59	1642	
12	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	N	N	N	NNE	NNE	N	N	N	N	N	N	N	NNE	N	54	1340	
13	NNE	N	N	N	N	N	N	N	N	N	N	NNE	N	N	N	NNE	N	NNE	NE	NNE	N	WNW	NW	NW	NNE	N	44	1059	
14	NW	NNW	NNW	NNW	NW	NNW	NNW	NW	NNE	NNE	NNE	NNE	N	N	NNE	N	N	N	N	N	N	N	N	N	N	N	43	1535	
15	N	NNW	NNW	NNW	NW	NNW	NNW	NNW	NNW	N	N	N	N	N	N	N	N	N	N	N	N	NE	NE	WNW	C	N	35	0959	
16	W	C	W	WSW	S	S	S	SSW	SSW	S	S	SSW	SSW	SW	W	WSW	NW	NNW	NNW	NW	C	S	S	SSW	S	S	6		
17	W	W	WNW	WNW	NW	WNW	WNW	WNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NW	41	1530	
18	WNW	NW	WNW	WNW	W	W	W	W	W	W	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	NNW	NE	NNE	NE	NW	44	1613	
19	NE	NNE	N	NNW	N	N	N	N	N	N	N	N	NNE	NE	NNE	NE	NNE	NNE	NNE	NE	NE	NE	NE	NE	NE	NNE	41	1503	
20	ENE	NE	NE	ENE	ESE	SE	SE	SE	SE	ESE	SSE	SSE	SSE	ESE	SSE	C	ENE	NNW	C	SSW	S	S	SE	SE	SE	7			
21	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	S	S	SSE	SSE	SSE	SSE	SW	S	65	1515		
22	S	S	SW	WNW	NW	NNW	N	N	NNE	NE	NNE	NE	NE	NE	NE	NE	ENE	NNE	NE	NE	N	C	C	ESE	2				
23	NW	N	E	SSE	WSW	SW	SE	S	SSE	SSW	S	S	S	S	S	S	S	S	S	S	S	S	SSE	SSE	SSE	S	46	1630	
24	SE	SSE	SSE	SE	SE	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	ESE	E	ESE	ESE	E	ESE	NE	NE	ESE	44	1510	
25	NNE	N	NNW	NNW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NNW	NNW	NNW	N	N	N	NNW	65	1905	
26	N	N	N	N	N	N	N	NNW	N	NNW	N	N	N	N	N	NNW	NNE	NE	NE	NE	ENE	NE	C	E	N	59	0014		
27	E	E	ESE	SE	SE	SE	SE	ESE	SE	ESE	ESE	ESE	ESE	SE	SE	ESE	E	E	ESE	ESE	ESE	ESE	ESE	ESE	ESE	SE	56	1228	
28	ESE	SE	ESE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SSE	S	WSW	WSW	SSW	WSW	WSW	WSW	SW	SSW	SSW	SW	SSW	SE	SE	44	0417	
29	SSW	SW	W	WNW	WNW	WNW	W	W	WNW	WNW	W	W	W	W	WNW	W	W	W	NW	WNW	WNW	WNW	W	WNW	WNW	WNW	48	0447	
30	W	W	WSW	W	W	W	W	W	W	W	W	W	W	WNW	WNW	NNW	NNW	NNW	NNW	N	NW	C	W	W	NW	NW	33	1240	
31	WNW	WSW	SW	C	SW	SW	C	SSW	SSW	S	SSW	SSW	SW	SW	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	S	46	2315	

Note/Avis: 1. Climatological Day/Journée climatologique 0001 C.S.T. - 0000 C.S.T.  
 2. Hours are C.S.T./Les heures sont a 1'heure normale de la localite  
 3. Unit/Unite = 1.0 km/h  
 4. C = Calm/Calme  
 5. M = Missing/Manquant  
 6. \* Indicates first of more than one occurrence of the same speed/  
 Indique le premier de plusieurs de la meme vitesse

COMPARATIVE RECORDS AT: RELEVÉS COMPARATIFS À:		<b>WINNIPEG INTERNATIONAL AIRPORT AÉROPORT INTERN. DE WINNIPEG</b>				MONTH MOIS	<b>MARCH MARS</b>			19	88			
Temperature/Température — ° Celsius Precipitation/Précipitation — Millimetres/millimètres (mm) Rainfall/Hauteur de pluie — Millimetres/millimètres (mm) Snowfall/Hauteur de neige — Centimetres/centimètres (cm) Wind speed/Vitesse du vent — Kilometres/h / kilomètres/h (km/h) Station pressure/Pression à la station — Kilopascals (kPa)		THIS MONTH CE MOIS-CI		PREVIOUS YEAR ANNÉE PRÉCÉDENTE		NORMAL NORMALE	RECORD FOR THE MONTH RECORD POUR LE MOIS							
		VALUE RELEVÉ	DAY JOUR	VALUE RELEVÉ	DAY JOUR		HIGHEST EVER MAXIMUM ABSOLU			LOWEST EVER MINIMUM ABSOLU			NO OF YEARS N <sup>O</sup> D'ANNÉES	
						VALUE RELEVÉ	DAY JOUR	YEAR ANNÉE	VALUE RELEVÉ	DAY JOUR	YEAR ANNÉE			
HIGHEST TEMPERATURE (MAXIMUM) TEMPÉRATURE MAXIMALE		10.9	5*	9.9	21		23.3	27	1946				117	
LOWEST TEMPERATURE (MINIMUM) TEMPÉRATURE MINIMALE		-17.8	14	-26.0	9					-38.9	10	1880*	117	
MEAN MONTHLY TEMPERATURE TEMPÉRATURE MENSUELLE MOYENNE		-4.5		-4.7		-8.2	1.6	1878	-16.1		1899		117	
TOTAL MONTHLY RAINFALL HAUTEUR TOTALE MENSUELLE DE PLUIE		4.2		1.4		3.3	67.8	1945	0.0		1956*		117	
TOTAL MONTHLY SNOWFALL HAUTEUR TOTALE MENSUELLE DE NEIGE		22.2		12.6		21.1	76.2	1904	0.8		1946		117	
TOTAL MONTHLY PRECIPITATION PRÉCIPITATION TOTALE MENSUELLE		24.2		13.3		22.7	76.2	1904	1.5		1939		117	
NO OF DAYS WITH MEASURABLE PRECIPITATION NOMBRE DE JOURS AVEC PRÉCIPITATION MESURABLE		8		9		9	17	1944*	3		SVRL		117	
GREATEST RAINFALL IN ONE DAY HAUTEUR DE PLUIE MAXIMALE EN UNE JOURNÉE		3.2	24	1.2	18		32.0	9	1878				117	
GREATEST SNOWFALL IN ONE DAY HAUTEUR DE NEIGE MAXIMALE EN UNE JOURNÉE		10.8	7	3.8	16		38.1	4	1935				117	
GREATEST PRECIPITATION IN ONE DAY PRÉCIPITATION MAXIMALE EN UNE JOURNÉE		9.2	7	4.0	31		38.1	4	1935				117	
MAXIMUM RAINFALL RECORDED IN: HAUTEUR DE PLUIE MAXIMALE ENREGISTRÉE EN:														
5 MINUTES		M		M			0.8	10	1973				36	
10 MINUTES		M		M			1.0	10	1973				36	
15 MINUTES		M		M			1.8	10	1973				36	
30 MINUTES		M		M			2.7	30	1982				36	
60 MINUTES		M		M			4.1	30	1982				36	
24 CONSECUTIVE HOURS HEURES CONSÉCUTIVES		M		M			32.0	9	1878				117	
MEAN WIND SPEED (km/h) VITESSE MOYENNE DU VENT (km/h)		18.1		15.8		19.3	25.6	1944	12.6		1924		68	
MAXIMUM SPEED (2 min. mean) (km/h) VITESSE MAXIMALE (moyenne sur 2 min.) (km/h)		WNW48	25	N 43	8		WNW81	13	1982				50	
MAXIMUM GUST SPEED (km/h) POINTE DU VENT MAXIMALE (km/h)		S 65	21*	S 54	3		N 113	4	1966				42	
TOTAL HOURS OF SUNSHINE TOTAL DES HEURES INSOLATION		187.4		155.7		176.2	217.4	1970	103.0		1903		107	
MEAN STATION PRESSURE (kPa) PRESSION MOYENNE À LA STATION (kPa)		98.75		99.09		98.82	99.83	1947	98.09		1945		50	
GREATEST STATION PRESSURE (kPa) PRESSION MAXIMALE À LA STATION (kPa)		100.26	31	101.28	9		101.80	12	1951				50	
LEAST STATION PRESSURE (kPa) PRESSION MINIMALE À LA STATION (kPa)		95.73	25	97.24	31				95.01	12	1982		50	
CLIMATOLOGICAL DATA THIS MONTH FOR THE PAST DONNÉES CLIMATOLOGIQUES CE MOIS-CI POUR LES												TEN / DIX	YEARS DERNIÈRE ANNÉES	(10)
YEAR ANNÉE	MAXIMUM TEMP. TEMP. MAXIMALE	MINIMUM TEMP. TEMP. MINIMALE	MEAN TEMP. TEMP. MOYENNE	RAINFALL HAUTEUR DE PLUIE	SNOWFALL HAUTEUR DE NEIGE	TOTAL PRECIP. PRECIP. TOTALE	MEAN WIND SPEED VITESSE MOYENNE DES VENTS	MAXIMUM WIND SPEED VITESSE MAXIMALE DES VENTS	SUNSHINE HOURS HEURES INSOLATION	HEATING DEGREE-DAYS DEGRES-JOURS DE CHAUFFE	GROWING DEGREE-DAYS DEGRES-JOURS DE CROISSANCE	COOLING DEGREE-DAYS DEGRES-JOURS DE REFRIGERATION		
1979	4.2	-26.6	-9.9	8.1	38.1	45.3	20.5	WSW 63	142.7	864.2	0.0			
1980	8.0	-30.7	-10.0	Tr.	13.6	13.2	14.9	NNW 56	206.4	868.4	0.0			
1981	14.8	-16.8	-1.0	5.8	7.6	14.6	15.5	N 43	201.2	589.7	3.0			
1982	8.2	-26.4	-7.3	25.2	9.4	35.8	23.4	WNW 81	178.4	782.2	0.0			
1983	6.7	-16.1	-4.7	40.4	27.0	65.6	18.1	NW 48	133.6	702.6	0.0			
1984	10.3	-27.4	-7.1	2.6	12.0	11.7	15.2	NNW 59	195.5	776.2	0.1			
1985	9.2	-21.4	-2.8	4.0	2.8	6.8	18.9	SSE 46	206.9	643.9	0.0			
1986	11.9	-26.7	-4.4	3.0	16.9	14.2	15.6	WNW 43	189.4	693.3	7.0			
1987	9.9	-26.0	-4.7	1.4	13.3	12.6	15.8	N 43	155.7	704.4	0.9			
1988	10.9	-17.8	-4.5	4.2	24.2	22.2	18.1	WNW 48	187.4	697.9	0.0			

Note/Avis: 1. Climatological Day/Journée climatologique 00 01 C S.T. - 00 00 C S.T.  
 2. Normal/Normale 1951-1980  
 3. Extremes for period of record/Extrêmes pour la période de registre  
 4. Maximum rainfall recorded in: may overlap calendar days/Hauteur de pluie maximale enregistrée en: peut-être pour plus d'une journée du calendrier  
 5. \* Indicates most recent occurrence/Indique le plus récent  
 6. \* Indicates first of more than one occurrence/Indique le premier de plusieurs