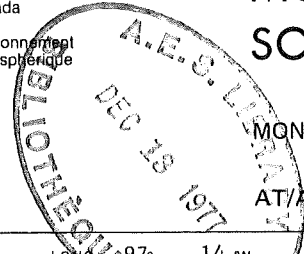


# MONTHLY METEOROLOGICAL SUMMARY SOMMAIRE MÉTÉOROLOGIQUE MENSUEL



MONTH/MOIS NOVEMBER / NOVEMBRE

19 77

AT/A WINNIPEG INT'L AIRPORT / A L'AEROPORT INTER, DE WINNIPEG, MANITOBA

LAT: 49° 54' N		LONG: 97° 14' W		ELEVATION: 786 FEET (ASL) / ALTITUDE: 786 PIEDS (MER)		STANDARD TIME USED: CENTRAL / HEURE NORMALE UTILISÉE:												
DATE	TEMPERATURE / TEMPÉRATURE			DEGREE-DAYS / DEGRÉS-JOURS		REL. HUMIDITY / HUMIDITÉ REL.		THUNDERSTORM / ORAGE	PRECIPITATION / PRÉCIPITATIONS			SNOW ON GROUND / NEIGE AU SOL	WIND / VENT			BRIGHT SUNSHINE / INSOLATION EFFECTIVE		
	MAXIMUM / MAXIMALE	MINIMUM / MINIMALE	MEAN / MOYENNE	HEATING / DE CHAUFFE	GROWING / DE CROISSANCE	MAXIMUM / MAXIMALE	MINIMUM / MINIMALE		RAINFALL / PLUIE (HAUTEUR)	SNOWFALL / NEIGE (HAUTEUR)	TOTAL PRECIP. / PRÉCIP. TOTALE		AVERAGE SPEED / VITESSE MOYENNE	PREVAILING DIRECTION / DIRECTION DOMINANTE	MAXIMUM SPEED AND DIRECTION / VITESSE MAXIMALE ET DIRECTION			
	°C	°C	°C	BASE 18.0°C	BASE 5.0°C	%	%		mm	cm	mm		km/h		km/h			
1	12.3	0.0	6.2	11.8	1.2	93	50				14.3	W	W 24	8.8				
2	17.8	0.0	8.9	9.1	3.9	76	27	Tr.		Tr.	27.5	S	S 43	5.5				
3	8.3	-2.6	2.9	15.1	0.0	72	47				19.9	W	W 26*	5.8				
4	7.8	-5.7	1.1	16.9	0.0	83	45				17.0	SSE	S 31	2.5				
5	9.9	2.3	6.1	11.9	1.1	84	53				15.4	S	S 31*	7.2				
6	13.0	4.8	8.9	9.1	3.9	89	70	Tr.		Tr.	18.5	SSE	S 24*	0.0				
7	11.7	7.2	9.5	8.5	4.5	95	78	0.2		0.2	18.9	S	S 26*	0.6				
8	7.6	0.5	4.1	13.9	0.0	88	60				20.6	NNW	NNW 31	0.0				
9	0.6	-3.5	-1.5	19.5	0.0	77	43				33.2	N	N 48	0.0				
10	1.9	-9.4	-3.8	21.8	0.0	86	52				16.0	NNW	N 24*	8.9				
11	-0.6	-6.5	-3.6	21.6	0.0	84	54		Tr.	Tr.	15.7	NNE	NNE 28	8.6				
12	0.4	-6.8	-3.2	21.2	0.0	85	58				29.8	S	S 44	6.1				
13	4.3	-6.0	-0.9	18.9	0.0	92	56				10.3	S	S 28*	7.2				
14	2.3	-6.9	-2.3	20.3	0.0	97	75				16.1	SSE	SSE 24*	2.1				
15	2.8	-3.2	-0.2	18.2	0.0	97	74	Tr.		Tr.	13.9	SSE	NW 22	0.0				
16	2.8	-1.2	0.8	17.2	0.0	100	66			4.2	0	27.1	NW	N 35	0.0			
17	-0.8	-7.2	-4.0	22.0	0.0	97	80			1.4	3	23.2	N	N 33	0.0			
18	-2.2	-10.8	-6.5	24.5	0.0	93	81			0.2	3	6.2	NW	NNW 17	3.2			
19	-4.6	-11.5	-8.1	26.1	0.0	93	84			0.8	3	11.2	SSE	E 24	0.0			
20	-4.4	-11.3	-7.9	25.9	0.0	96	86			17.2	6	51.2	NE	N 70	0.0			
21	-11.3	-20.0	-15.7	33.7	0.0	86	69			0.8	21	29.3	WNW	NW 59	6.1			
22	-15.2	-23.2	-19.2	37.2	0.0	87	73			Tr.	14	16.0	S	S 30	6.9			
23	-14.2	-22.5	-18.4	36.4	0.0	83	69			Tr.	14	17.7	NW	WNW 33	2.2			
24	-20.5	-25.3	-22.9	40.9	0.0	81	64				12	18.1	W	NW 26	7.1			
25	-13.2	-23.1	-18.2	36.2	0.0	84	65				12	21.0	W	WNW 26*	8.1			
26	-12.6	-22.5	-17.6	35.6	0.0	88	76				12	13.6	S	S 24	0.5			
27	-10.6	-17.4	-14.0	32.0	0.0	89	68			Tr.	12	8.0	calm	NE 19	2.9			
28	-8.7	-18.7	-13.7	31.7	0.0	89	83			0.4	12	12.7	SSW	S 26	1.8			
29	0.4	-11.5	-5.6	23.6	0.0	96	85			0.2	12	30.4	S	S 43*	0.0			
30	1.5	-9.0	-3.8	21.8	0.0	100	81			0.2	12	23.3	NW	NW 31*	0.0			
31																		
MEAN MOYENNE	-0.5	-9.0	-4.8	682.6	14.6	89	66	TOTAL	TOTAL	TOTAL	TOTAL		19.9	S DOMINANTE	N 70	102.1		
NORMAL NORMALE	-0.5	-8.4	-4.4	670.0	4.4					7.1	21.3	27.2		S	57	81.2		
DEGREE-DAY SUMMARY - SOMMAIRE DE DEGRÉS-JOURS									DAYS WITH TOTAL PRECIPITATION: JOURS AVEC PRÉCIPITATIONS TOTALES: mm					DAYS WITH SNOWFALL: JOURS AVEC CHÛTE DE NEIGE: cm				
BELOW 18°C / AU-DESSOUS DE 18°C	THIS YEAR / ANNÉE EN COURS	PREVIOUS YEAR / ANNÉE PRÉCÉDENTE	NORMAL / NORMALE	ABOVE 5°C / AU-DESSUS DE 5°C	THIS YEAR / ANNÉE EN COURS	PREVIOUS YEAR / ANNÉE PRÉCÉDENTE	NORMAL / NORMALE	0.2 OR MORE / OU PLUS	1.0 OR MORE / OU PLUS	2.0 OR MORE / OU PLUS	10.0 OR MORE / OU PLUS	50.0 OR MORE / OU PLUS	0.2 OR MORE / OU PLUS	1.0 OR MORE / OU PLUS	2.0 OR MORE / OU PLUS	10.0 OR MORE / OU PLUS	50.0 OR MORE / OU PLUS	
TOTAL FOR MONTH / TOTAL DU MOIS	682.6	714.7	670.0	TOTAL FOR MONTH / TOTAL DU MOIS	14.6	3.4	4.4	9	5	2	1	0	9	5	3	1	0	
ACCUMULATED SINCE JULY 1 / ACCUMULÉE DEPUIS LE 1 <sup>er</sup> JUILLET	1302.4	1391.0	1254.5	ACCUMULATED SINCE APRIL 1 / ACCUMULÉE DEPUIS LE 1 <sup>er</sup> AVRIL	1930.7	1886.4	1802.9											

\* Indicates more than one occurrence of same speed but not necessarily the same direction.

COMPARATIVE RECORDS RELEVÉS COMPARATIFS		MONTH MOIS NOVEMBER / NOVEMBRE											19 77	
Temperature/Température Precipitation/Précipitation Rainfall/Hauteur de pluie Snowfall/Hauteur de neige Wind speed/Vitesse du vent Station pressure/Pression à la station	— Celsius — Millimetres (mm) — Millimetres (mm) — Centimetres (cm) — Kilometres per hour (km/h) — Kilopascals (kPa)	THIS MONTH CE MOIS-CI		PREVIOUS YEAR ANNÉE PRÉCÉDENTE		NORMAL NORMALE	RECORD FOR THE MONTH RECORD POUR LE MOIS						YEARS OF RECORD ANNÉES D'OBSERVATIONS	
		VALUE RELEVÉ	DATE	VALUE RELEVÉ	DATE		HIGHEST MAXIMUM ABSOLU			LOWEST MINIMUM ABSOLU				
							VALUE RELEVÉ	DAY JOUR	YEAR ANNÉE	VALUE RELEVÉ	DAY JOUR	YEAR ANNÉE		
HIGHEST TEMPERATURE TEMPÉRATURE LA PLUS ÉLEVÉE		17.8	2	13.3	1	10.6	23.9	5	1975	2.2	5	1972	106	
LOWEST TEMPERATURE TEMPÉRATURE LA PLUS BASSE		-25.3	24	-26.7	30	-21.7	-7.8	12	1899	-36.7	28	1875	106	
MEAN MONTHLY TEMPERATURE TEMPÉRATURE MENSUELLE MOYENNE		-4.8		-5.9		-4.4	1.3		1923	-13.9		1896	106	
TOTAL MONTHLY RAINFALL HAUTEUR TOTALE MENSUELLE DE PLUIE		0.6		Tr.		7.1	62.2		1918	Nil	(Several)		106	
TOTAL MONTHLY SNOWFALL HAUTEUR TOTALE MENSUELLE DE NEIGE		28.4		1.7		21.3	80.3		1955	Tr.		1928	106	
TOTAL MONTHLY PRECIPITATION PRÉCIPITATION TOTALE MENSUELLE		28.4		0.8		27.2	90.2		1955	0.8		1976 1976	106	
NO OF DAYS WITH MEASURABLE PRECIPITATION NOMBRE DE JOURS AVEC PRÉCIPITATION MESURABLE		9		1		10	20		1955	1		1901	94	
GREATEST RAINFALL IN ONE DAY HAUTEUR DE PLUIE MAXIMALE EN UNE JOURNÉE		.2	7, 29 30	Tr.			44.5	17	1918				106	
GREATEST SNOWFALL IN ONE DAY HAUTEUR DE NEIGE MAXIMALE EN UNE JOURNÉE		17.2	20	.8	25		31.0	10	1919				106	
GREATEST PRECIPITATION IN ONE DAY PRÉCIPITATION MAXIMALE EN UNE JOURNÉE		17.2	20	.8	25		44.5	17	1918				106	
MAXIMUM RAINFALL RECORDED IN: HAUTEUR DE PLUIE MAXIMALE ENREGISTRÉE EN:														
5 MINUTES		.2	7	Tr.	1, 18 25		1.3	14	1971				9	
10 MINUTES		.2	7	Tr.	1, 18 25		1.8	14	1971				9	
15 MINUTES		.2	7	Tr.	1, 18 25		2.0	14	1971				9	
30 MINUTES		.2	7	Tr.	1, 18 25		2.8	14	1971				9	
60 MINUTES		.2	7, 29 30	Tr.	1, 18 25		3.8	14	1971				9	
24 CONSECUTIVE HOURS HEURES CONSECUTIVES		.2	7, 29 30	Tr.	1, 18 25		44.5	17	1918				106	
MEAN WIND SPEED (km/h) VITESSE MOYENNE DU VENT (km/h)		19.9		20.3		20.3	25.4		1953	13.7		1972	57	
MAXIMUM SPEED (1 min.) (km/h) VITESSE MAXIMALE (1 min.) (km/h)		N70	20	WNW56	2	57	NW80	5	1952				39	
MAXIMUM GUST SPEED (km/h) POINTE DU VENT MAXIMALE (km/h)		N85	20	WNW78	2	81	NNW124	21	1960				32	
TOTAL HOURS OF SUNSHINE TOTAL DES HEURES INSOLATION		102.1		139.7	1976	81.2	139.7		1976	25.1		1944	78	
MEAN STATION PRESSURE (kPa) PRESSION MOYENNE À LA STATION (kPa)		98.46		98.72		98.63	99.19		1943	98.20		1949	39	
GREATEST STATION PRESSURE (kPa) PRESSION MAXIMALE À LA STATION (kPa)		100.25	11	100.62	12	100.52	101.5	1	24	1939			39	
LEAST STATION PRESSURE (kPa) PRESSION MINIMALE À LA STATION (kPa)		96.41	2	96.44	18	96.35				94.56	20	1962	39	
CLIMATOLOGICAL DATA FOR THE PAST DONNÉES CLIMATOLOGIQUES POUR LES													10	YEARS DERNIÈRE ANNÉES
YEAR ANNÉE	MAXIMUM TEMP. MAXIMALE	MINIMUM TEMP. MINIMALE	MEAN TEMP. MOYENNE	RAINFALL HAUTEUR DE PLUIE	SNOWFALL HAUTEUR DE NEIGE	TOTAL PRECI. TOTALE	MEAN WINDSPEED VITESSE MOYENNE DES VENTS	MAXIMUM WINDSPEED VITESSE MAXIMALE DES VENTS	HOURS SUNSHINE HEURES INSOLATION	HEATING DEGREE-DAYS DEGRÉS-JOURS DE CHAUFFE	GROWING DEGREE-DAYS DEGRÉS-JOURS DE CROISSANCE			
1968	9.4	-18.3	-2.4	Tr.	5.3	3.8	19.5	S 48	73.5	608.3				
1969	14.4	-18.9	-3.3	.3	11.7	9.4	18.5	NW 51	87.9	633.9	5.0			
1970	11.7	-23.3	-4.7	14.2	16.8	26.7	17.5	S 56	70.3	678.3				
1971	4.4	-23.9	-5.6	5.3	18.8	22.4	16.4	S 48	74.3	704.4				
1972	2.2	-21.7	-6.7	1.0	17.0	10.4	13.7	NNW42	51.6	737.2				
1973	3.3	-21.7	-7.5	6.9	37.1	40.1	16.6	W 42	77.6	760.6				
								S 42						
1974	11.7	-18.3	-3.3	.8	10.4	5.6	18.5	NW 45	87.8	635.6	2.2			
1975	23.9	-25.4	-2.0	2.3	15.5	13.0	16.4	S 40	122.9	598.4	28.9			
								NNE40						
1976	13.3	-26.7	-5.9	Tr.	1.7	0.8	20.3	WNW56	139.7	714.7	3.4			
1977	17.8	-25.3	-4.8	0.6	28.4	28.4	19.9	N 70	102.1	682.6	14.6			

November weather was sunnier than usual despite late November storms. The sun shone for 102 hours compared to normal sunshine of 81 hours, but the first severe winter storm hit Winnipeg earlier than usual. Near blizzard conditions blew into Winnipeg November 20, and brought the city to a stand-still for 24 hours.

Monthly temperatures averaged near normal at -4.8 degrees with extremes ranging from a high of 17.8 on November 2, to the low of -25.3 on November 24.

Precipitation came on 9 days and amounted to 28.4 mm compared to normal of 27.2 mm.

DAILY WEATHER SUMMARY FOR NOVEMBER 1977AT WINNIPEG, MANITOBA

1. Mild. Sunny. Mostly light winds.
2. Mild. Cloudy clearing in afternoon. Light rain: 9:45 a.m. to 11:02 a.m. Gusty south to west winds morning and afternoon.
3. Above normal temperatures. Cloudy clearing in the afternoon. Mostly light winds but gusty west wind in the morning.
4. Near normal temperatures. Partly cloudy. Mostly light winds.
5. Above normal temperatures. Partly cloudy. Mostly light winds.
6. Mild. Cloudy. Drizzle: 7:32 p.m. to 8:05 p.m. Mostly light winds.
7. Mild. Cloudy. Drizzle: 10:24 a.m. to 10:33 a.m., 10:36 a.m. to 10:43 a.m., 10:47 a.m. to 1:54 p.m. Rain: 10:33 a.m. to 10:36 a.m., 10:43 a.m. to 11:17 a.m. Mostly light winds. Record high minimum temperature.
8. Above normal temperatures. Cloudy. Mostly light winds.
9. Above normal temperatures. Cloudy. Gusty north winds morning and afternoon.
10. Near normal temperatures. Sunny. Mostly light winds.
11. Near normal temperatures. Mostly sunny. Snow flurries: 5:40 a.m. to 7:15 a.m. Mostly light winds.
12. Near normal temperatures. Partly cloudy. Gusty south winds.
13. Above normal temperatures. Mostly sunny. Mostly light winds.
14. Above normal temperatures. Mostly cloudy. Heavy fog, visibility severely reduced: 5:23 a.m. to 8:25 a.m. Light fog till the afternoon. Mostly light winds.
15. Above normal temperatures. Cloudy. Rain: 4:16 a.m. to 4:54 a.m. Freezing drizzle: 4:54 a.m. to 5:56 a.m. Roads very icy, extremely dangerous. Numerous accidents. Light fog until the afternoon.
16. Above normal temperatures. Cloudy. Snow: 11:45 a.m. continued. Light fog afternoon and evening. Visibility reduced. Moderate northwest winds.
17. Near normal temperatures. Cloudy. Snow to 9:27 a.m. Snow pellets: 9:27 a.m. to 12:17 p.m., snow 12:17 p.m. to 6:10 p.m. Moderate winds. Visibility slightly reduced in morning.
18. Near normal temperatures. Mostly cloudy. Snow: 8:31 a.m. to 11:35 a.m. Light winds.
19. Below normal temperatures. Cloudy. Snow: 8:40 p.m. continued. Heavy fog: 7:11 a.m. to 8:19 a.m. Light fog rest of morning. Light winds.
20. Cloudy. Below normal temperatures. Snow all day. Blowing snow 4:43 a.m. continued. Visibility severely restricted all day-zero visibility 1:33 p.m. to 5:00 p.m. inclusive. Strong north winds. Devastating winter storm: City paralyzed Sunday afternoon till mid Monday morning. All roads blocked, cars buried under snow, transit halted, airport closed down, people stranded some on highways and rescued by snow-mobiles. Power outages, property damage from high winds gusting to 85 km per hour. Glass dome shattered at Fort Garry. Barn blew off its foundation at Glenlea. One man died of exposure.
21. Cold. Cloudy clearing late morning. Blowing snow to 6:45 a.m. Light snow to 9:00 a.m. Ice crystals 9:00 a.m. to 11:55 a.m. Visibility restricted in morning. Light ice fog. Strong gusty northwest winds in morning. One million dollars clean up operation continued. Schools and some businesses closed.
22. Cold. Mostly sunny. Ice crystals: 4:55 a.m. to 10:50 a.m. Light winds.
23. Very cold. Mostly cloudy. Snow: 2:10 p.m. to 9:10 p.m. Blowing snow: 8:40 p.m. to 9:05 p.m. Visibility restricted. Gusty northwest winds in the evening.
24. Very cold. Mostly sunny. Light winds. Record low maximum temperature.
25. Cold. Sunny. Mostly light winds.
26. Cold. Cloudy. Light winds.
27. Below normal temperature. Mostly cloudy. Light snow: 2:20 p.m. to 7:42 p.m. Ice crystals 9:55 p.m. to 10:20 p.m. Light winds.
28. Below normal temperatures. Mostly cloudy. Snow: 9:45 a.m. to 1:45 p.m. Light fog and smoke in the morning. Visibility reduced. Light winds.
29. Above normal temperatures. Cloudy. Freezing rain: 8:25 p.m. to 9:14 p.m. Snow: 9:14 p.m. to 11:05 p.m. Blowing snow: 9:27 a.m. to 2:46 p.m. Light fog in morning. Visibility reduced. Strong gusty south winds in afternoon. Roads icy.
30. Above normal temperatures. Cloudy. Freezing drizzle: 7:50 a.m. to 9:11 a.m. Snow: 6:15 a.m. to 12:37 p.m. Snow grains: 12:37 p.m. to 2:08 p.m. Snow: 1:56 p.m. continued. Light fog in morning. Visibility reduced. Gusty northwest winds in evening. Roads icy.

TEMPERATURES AT WINNIPEG INTERNATIONAL AIRPORT FOR THE MONTH OF NOVEMBER 1977

LOCAL STANDARD TIME

ALL TEMPERATURES IN DEGREES CELSIUS

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.	5.0	5.5	4.5	3.8	3.5	3.0	2.4	1.4	1.1	3.1	5.4	8.2	9.4	11.4	11.8	11.4	10.0	6.8	5.5	4.8	4.3	3.2	2.0	.6
2.	1.0	1.0	1.0	1.1	1.3	1.2	2.6	3.4	3.9	4.6	4.7	6.2	6.5	11.2	11.9	14.1	16.0	13.8	12.6	10.8	9.5	8.2	6.8	6.5
3.	6.8	6.5	5.2	3.7	4.5	4.1	3.2	2.9	3.8	5.0	6.0	7.0	7.0	7.5	7.1	6.8	6.4	4.3	2.7	1.3	1.0	1.3	1.2	.3
4.	-2.6	-2.7	-3.4	-3.7	-4.5	-5.7	-5.5	-5.1	-5.0	-6.0	-6.0	2.1	3.5	4.5	4.9	5.6	7.0	7.2	6.0	4.0	5.5	6.1	6.6	7.2
5.	7.7	8.0	7.4	6.8	6.0	4.6	4.5	3.5	2.4	3.6	6.3	8.0	7.9	8.8	9.6	9.8	8.4	7.4	6.6	5.6	5.4	5.4	5.1	3.7
6.	4.8	6.6	7.3	7.5	7.7	6.4	8.6	9.2	9.6	10.5	11.3	11.8	12.1	12.9	12.5	12.5	12.4	12.0	12.0	12.0	11.1	11.5	11.6	11.4
7.	11.2	11.0	10.5	10.3	10.0	10.0	10.0	9.8	9.7	9.9	10.2	10.3	10.6	10.9	11.4	11.4	11.4	10.8	9.7	8.6	7.6	7.2	7.6	7.7
8.	7.6	7.0	6.7	7.0	5.8	3.3	3.8	4.0	3.8	4.0	3.5	4.0	3.6	3.7	3.7	3.2	2.9	2.5	2.1	1.8	1.5	1.4	1.3	.7
9.	5.5	2.0	0.0	0.0	-5.5	-5.0	-1.0	-1.2	-1.4	-1.3	-1.0	-1.3	-1.1	.4	.4	.1	-.2	-.5	-1.0	-1.4	-1.6	-2.0	-2.4	-2.9
10.	-3.5	-4.0	-3.5	-6.0	-6.5	-7.3	-8.5	-9.3	-9.0	-5.9	-3.1	-1.2	-.2	-.5	1.0	1.6	1.1	-1.4	-4.1	-4.1	-5.0	-3.6	-3.4	-3.6
11.	-3.1	-3.0	-4.0	-2.5	-2.5	-2.0	-1.6	-2.5	-3.3	-3.4	-2.8	-2.3	-1.9	-1.5	-.9	-.9	-1.5	-3.2	-4.0	-5.1	-6.1	-6.2	-6.5	-6.5
12.	-5.9	-6.0	-6.2	-5.2	-5.7	-6.0	-6.2	-6.3	-6.0	-5.2	-3.6	-2.4	-.9	.1	-.4	-.6	-1.5	-2.0	-2.3	-2.4	-2.2	-2.5	-2.5	-2.8
13.	-3.0	-3.2	-3.3	-3.4	-3.4	-4.3	-5.4	-5.2	-5.1	-4.3	-2.6	-1.0	.6	2.1	3.0	3.4	3.7	.4	-1.8	-2.5	-1.9	-3.5	-5.3	-4.0
14.	-4.0	-4.0	-6.0	-6.2	-5.1	-5.6	-4.8	-5.1	-4.6	-4.2	-3.0	-2.5	-1.4	-.9	1.0	2.3	.8	-1.2	-1.8	-2.3	-2.4	-2.1	-1.6	-1.2
15.	-1.2	-1.4	-1.5	-1.8	-1.8	-1.9	-1.9	-1.8	-2.6	-2.9	-2.4	-1.9	-1.7	-.7	.7	1.2	1.5	1.8	.8	.8	2.0	2.4	2.5	2.2
16.	2.2	1.6	1.3	1.4	1.2	.0	-.5	-.5	.0	.7	1.8	2.1	2.5	1.4	1.2	.5	.2	.2	.0	.0	.0	-.5	-1.0	-1.0
17.	-8.0	-1.0	-1.0	-1.2	-1.8	-2.0	-2.2	-2.5	-2.3	-2.6	-2.7	-2.9	-2.6	-2.6	-2.7	-2.8	-3.0	-3.3	-3.5	-3.8	-3.7	-4.3	-4.8	-6.5
18.	-6.5	-5.3	-5.0	-4.7	-5.1	-5.6	-7.2	-6.6	-6.3	-5.7	-5.5	-5.4	-6.0	-3.6	-5.6	-5.5	-7.0	-7.3	-6.6	-6.6	-6.8	-8.2	-9.8	-10.5
19.	-10.0	-10.2	-9.4	-9.2	-8.7	-8.1	-8.0	-9.3	-10.0	-8.9	-9.5	-8.6	-6.5	-5.9	-5.9	-5.7	-5.6	-6.0	-6.0	-6.0	-5.5	-5.2	-4.9	-4.8
20.	-4.7	-4.8	-4.8	-4.6	-4.5	-4.6	-4.5	-4.6	-4.7	-4.5	-4.4	-4.5	-5.1	-5.6	-5.7	-5.6	-5.6	-6.0	-6.3	-6.0	-9.6	-10.0	-10.5	-10.7
21.	-11.3	-11.5	-11.9	-12.1	-12.9	-13.3	-13.6	-13.2	-14.0	-14.2	-14.7	-14.5	-13.3	-13.3	-14.0	-14.3	-14.5	-15.5	-16.7	-18.1	-18.5	-18.6	-18.6	-19.6
22.	-20.0	-20.5	-21.4	-22.0	-22.9	-22.8	-22.6	-22.7	-22.4	-21.9	-20.9	-19.0	-17.5	-17.5	-16.7	-16.0	-15.8	-15.5	-16.0	-17.8	-17.6	-18.6	-19.3	-21.9
23.	-22.1	-21.2	-22.0	-22.4	-20.5	-21.3	-21.7	-20.5	-20.1	-20.3	-18.7	-17.1	-16.6	-15.7	-15.1	-14.8	-15.1	-15.3	-15.0	-14.4	-15.2	-16.8	-19.2	-20.3
24.	-21.0	-21.6	-22.2	-23.9	-24.1	-24.4	-24.7	-24.9	-25.2	-24.5	-23.7	-22.6	-22.2	-21.5	-21.4	-21.2	-21.1	-21.5	-22.2	-22.6	-22.6	-22.8	-23.0	-24.1
25.	-23.0	-21.9	-22.0	-21.7	-21.5	-21.4	-21.6	-21.4	-21.3	-20.4	-18.9	-17.9	-16.8	-15.2	-14.2	-13.5	-13.5	-14.6	-14.4	-14.7	-15.6	-16.2	-17.2	-17.5
26.	-17.8	-18.9	-20.6	-21.3	-21.3	-21.7	-21.3	-20.9	-20.1	-19.7	-19.7	-19.0	-17.5	-16.9	-15.4	-15.2	-15.2	-13.8	-13.8	-12.6	-13.6	-13.5	-13.2	-13.2
27.	-13.5	-13.5	-15.3	-15.3	-15.0	-15.5	-15.9	-16.3	-15.2	-14.6	-12.5	-10.8	-10.8	-11.4	-11.3	-11.6	-11.6	-11.6	-11.6	-11.6	-11.5	-12.5	-14.8	-16.4
28.	-17.4	-15.6	-16.8	-16.7	-18.5	-18.7	-17.8	-17.8	-17.0	-15.2	-13.5	-13.0	-13.0	-10.5	-9.0	-8.8	-9.5	-10.6	-11.2	-9.6	-8.9	-11.2	-12.1	-12.4
29.	-11.3	-10.6	-10.2	-10.4	-8.2	-6.7	-5.6	-8.1	-9.7	-9.1	-9.0	-7.7	-7.3	-6.4	-5.1	-4.6	-3.9	-3.2	-2.7	-1.7	-1.2	-.4	.0	.2
30.	.4	.6	.3	.3	.6	1.3	1.3	-.1	-1.8	-2.4	-2.6	-2.5	-3.1	-4.0	-4.5	-5.2	-5.0	-6.0	-5.7	-7.6	-8.0	-8.1	-8.5	-8.9

MEAN	-5.1	-5.0	-5.5	-5.6	-5.8	-5.9	-6.1	-6.3	-6.4	-5.7	-4.9	-3.9	-3.2	-2.5	-2.1	-2.1	-2.2	-2.9	-3.6	-4.0	-4.3	-4.6	-5.0	-5.5
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HOURLY METEOROLOGICAL TEMPERATURES AT WINNIPEG INTERNATIONAL AIRPORT FOR THE MONTH OF NOVEMBER 1977

LOCAL STANDARD TIME

ALL TEMPERATURES IN DEGREES CELSIUS

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.	4.0	4.3	3.0	3.0	2.6	2.3	1.8	1.0	.7	2.2	3.8	5.8	6.1	7.3	7.1	7.0	5.8	5.0	3.8	3.0	2.6	1.5	.4	-6
2.	-1.2	-1.5	-1.0	-1.0	-1.3	-1.4	.3	.7	1.1	2.5	1.8	2.7	4.0	5.7	6.1	7.9	7.8	7.0	5.3	4.4	3.8	3.2	2.7	-2.5
3.	3.0	2.7	2.0	2.0	.9	1.0	.8	.4	.3	1.0	2.0	3.0	3.5	3.6	3.0	3.1	3.3	1.5	.4	-1.4	-1.0	-1.4	-2.0	2.9
4.	-4.0	-4.0	-4.6	-4.7	-5.1	-5.3	-6.1	-5.9	-5.7	-2.3	-1.3	-3.3	.4	1.3	1.7	2.0	2.9	3.0	2.2	1.0	1.8	2.3	2.4	2.4
5.	3.6	4.2	4.1	4.0	3.5	2.9	2.7	2.1	1.4	2.1	3.8	4.7	4.6	5.0	5.8	5.6	5.1	4.9	3.6	3.0	3.0	3.2	3.1	2.4
6.	3.3	5.0	5.4	5.6	6.0	6.6	7.1	7.7	8.3	8.9	9.5	9.8	9.9	10.3	9.7	10.0	10.2	10.1	10.2	10.1	10.2	10.4	10.4	10.3
7.	10.1	10.0	9.7	9.5	9.4	9.4	9.4	9.2	9.3	9.4	9.7	9.0	10.2	10.6	10.6	10.1	9.4	9.0	8.1	7.6	6.5	5.6	6.9	6.9
8.	6.2	5.8	5.5	5.0	4.0	4.0	2.3	3.0	3.0	2.5	2.3	2.2	1.5	1.5	1.2	.8	.5	.2	.0	-2.2	-1.5	-1.2	-1.5	-1.5
9.	-1.6	-2.0	-2.0	-2.5	-2.5	-2.8	-3.0	-2.8	-2.8	-2.8	-2.5	-1.6	-1.6	-1.3	-1.3	-1.5	-3.6	-3.6	-3.5	-3.7	-3.8	-3.8	-4.0	-4.5
10.	-4.5	-5.0	-6.3	-6.7	-7.0	-7.7	-8.6	-9.5	-9.3	-6.6	-4.6	-2.7	-1.2	-1.5	-1.1	-1.1	-1.5	-6.0	-5.6	-5.3	-5.9	-4.5	-4.1	-4.4
11.	-4.1	-4.3	-4.7	-3.3	-4.3	-3.2	-2.4	-3.5	-4.3	-5.0	-4.4	-3.0	-3.8	-3.6	-3.2	-3.3	-4.0	-5.0	-5.4	-6.1	-6.8	-7.0	-7.1	-7.1
12.	-6.6	-6.5	-7.0	-7.0	-6.3	-6.4	-6.7	-7.0	-6.7	-6.2	-5.1	-4.5	-3.2	-2.2	-2.6	-3.0	-3.0	-3.6	-3.8	-3.9	-3.8	-3.9	-3.8	-3.8
13.	-3.9	-3.8	-3.9	-3.9	-3.9	-4.6	-5.7	-5.5	-5.4	-4.7	-3.6	-2.3	-1.1	-1.1	-1.3	.4	.8	-1.2	-2.9	-3.3	-2.7	-4.1	-5.7	-4.3
14.	-4.2	-5.1	-6.8	-6.3	-5.3	-5.9	-4.9	-5.2	-4.7	-4.3	-3.0	-2.6	-1.5	-1.3	-1.1	.8	-3.3	-2.0	-2.4	-2.8	-2.8	-2.4	-1.9	-1.5
15.	-1.5	-1.6	-1.6	-2.0	-2.0	-2.1	-2.1	-2.1	-2.8	-3.1	-2.6	-2.1	-1.9	-1.0	.0	.2	.4	.2	.0	.0	1.0	1.3	1.5	1.4
16.	1.4	.6	.0	-1.1	-1.3	-1.4	-1.8	-1.8	-1.3	-1.0	.3	.4	.4	.8	.7	.2	.0	.1	.0	.0	.0	.0	.0	-1.0
17.	-1.2	-1.1	-1.1	-1.6	-2.2	-2.4	-2.3	-2.6	-2.5	-3.0	-3.2	-3.4	-3.4	-3.5	-3.4	-3.5	-3.6	-3.6	-4.0	-4.0	-4.0	-4.5	-5.2	-6.7
18.	-6.7	-5.6	-5.3	-5.1	-5.5	-5.8	-7.3	-6.7	-6.4	-6.0	-5.9	-5.7	-6.4	-4.4	-6.1	-6.0	-7.2	-7.4	-6.7	-6.7	-6.8	-8.2	-9.8	-10.5
19.	-10.0	-10.2	-9.4	-9.2	-8.8	-8.2	-8.0	-9.4	-10.0	-9.0	-9.5	-8.7	-6.7	-6.0	-6.0	-6.1	-6.0	-6.3	-6.3	-6.3	-6.0	-5.6	-5.2	-5.0
20.	-5.0	-5.0	-5.0	-4.8	-4.8	-4.8	-4.7	-4.7	-4.8	-4.6	-4.5	-4.5	-5.2	-5.7	-5.8	-5.7	-5.7	-6.1	-6.4	-8.1	-9.7	-10.1	-10.6	-10.8
21.	-11.4	-11.6	-12.1	-12.3	-13.1	-13.5	-13.8	-13.3	-14.1	-14.4	-14.8	-14.6	-13.7	-13.7	-14.4	-14.8	-15.0	-15.9	-16.9	-18.2	-18.6	-18.7	-18.7	-19.7
22.	-20.0	-20.5	-21.4	-22.0	-22.8	-22.7	-22.7	-22.6	-22.3	-21.9	-21.0	-19.1	-17.7	-17.0	-16.3	-16.0	-15.7	-16.1	-16.9	-17.6	-17.6	-18.6	-19.3	-21.9
23.	-22.1	-21.2	-22.0	-22.4	-20.5	-21.3	-21.7	-20.5	-20.1	-20.3	-18.8	-17.2	-16.8	-16.0	-15.2	-15.0	-15.2	-15.5	-15.4	-14.9	-15.6	-17.0	-19.4	-20.4
24.	-21.2	-21.8	-22.3	-24.0	-24.2	-24.5	-24.9	-25.0	-25.3	-24.6	-23.8	-22.7	-22.2	-21.5	-21.5	-21.2	-21.1	-21.6	-22.4	-22.7	-22.7	-22.9	-23.1	-24.3
25.	-23.1	-22.0	-22.1	-21.8	-21.6	-21.6	-21.8	-21.6	-21.5	-20.6	-19.1	-18.1	-17.0	-15.3	-14.3	-13.6	-13.6	-15.2	-14.8	-15.0	-16.1	-16.5	-17.3	-17.6
26.	-17.9	-18.9	-20.6	-21.3	-21.3	-21.7	-21.7	-21.3	-20.9	-20.1	-19.8	-19.1	-17.6	-17.1	-15.6	-15.3	-15.3	-13.9	-13.9	-12.9	-13.6	-13.5	-13.3	-13.3
27.	-13.5	-13.7	-13.9	-15.0	-15.4	-15.1	-15.5	-15.9	-16.3	-15.3	-14.8	-13.0	-11.5	-12.1	-11.8	-12.0	-12.0	-12.0	-12.0	-12.0	-11.8	-12.6	-14.8	-16.4
28.	-17.3	-15.6	-16.7	-16.6	-18.4	-18.6	-17.7	-17.8	-17.8	-17.0	-15.2	-13.5	-13.1	-10.6	-9.2	-9.1	-9.8	-10.4	-11.3	-9.6	-10.1	-11.3	-12.2	-12.4
29.	-11.3	-10.7	-10.3	-10.6	-8.2	-5.7	-5.6	-8.1	-8.7	-9.2	-9.2	-8.0	-7.6	-6.7	-5.5	-5.0	-4.4	-3.6	-3.1	-2.2	-1.7	-.8	-.2	-1.1
30.	.1	.0	-.3	-.2	.0	.6	.8	-.1	-2.1	-2.8	-3.1	-3.0	-3.5	-4.4	-4.9	-5.5	-5.2	-6.2	-7.0	-7.8	-8.2	-8.3	-8.7	-9.2

MEAN -5.9 -5.9 -6.2 -6.4 -6.5 -6.6 -6.7 -6.9 -7.0 -6.4 -5.8 -5.0 -4.4 -3.9 -3.6 -3.5 -3.8 -4.3 -4.6 -5.1 -5.3 -5.5 -5.9 -6.3

ABSTRACT OF THE WIND AT WINNIPEG INTERNATIONAL AIRPORT FOR THE MONTH OF NOVEMBER

ALL TIMES ARE C.S.T. VELOCITY IN KILOMETERS PER HOUR

STARTING HOUR	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 GUSTS	HOUR
1	W 11	WSW 13	W 15	W 17	W 19	W 17	W 19	W 13	W 13	W 13	W 13	WSW 11	W 15	W 15	WSW 22	W 24	W 24	W 13	W 9	W 9	W 11	W 11	WSW 11	WSW 13	WNW 33	15 CST
2	SSW 15	S 20	S 19	S 22	S 24	S 22	S 22	S 31	S 33	S 37	S 35	S 35	S 39	S 39	S 43	S 30	S 39	W 28	W 31	W 24	W 20	W 19	WSW 20	W 63	16 CST	
3	W 24	WSW 20	WSW 19	WSW 22	W 24	W 22	W 22	W 26	W 26	W 24	W 26	WSW 24	WSW 24	WSW 24	WSW 26	WSW 20	WSW 19	W 9	W 7	WSW 9	W 11	W 15	W 22	WNW 39	11 CST	
4	NW 11	W 13	W 9	SSE 2	SSE 4	SSE 6	SSE 13	S 9	S 11	SSE 13	SSE 11	SSE 17	SSE 19	SSE 22	SSE 24	SSE 24	SSE 22	SSE 22	SSE 22	SSE 19	SSE 26	SSE 28	SSE 31	S 52	00 CST	
5	S 31	S 31	S 26	S 28	S 20	S 17	S 17	S 17	S 15	SSW 11	SSW 11	SSW 11	N 15	NE 11	NE 9	NNE 9	NE 9	ENE 13	ENE 11	ENE 15	ENE 11	ENE 15	ENE 11	S 52	01 CST	
6	ENE 6	E 11	E 13	E 15	E 19	E 17	E 17	E 19	E 17	E 19	E 17	SSE 19	SSE 22	SSE 25	S 24	S 24	S 22	S 22	SSE 22	SSE 19	SSE 22	SSE 19	SSE 24	S 37	15 CST	
7	SSE 22	S 22	S 26	S 24	S 22	S 22	S 22	S 22	S 22	S 22	S 22	S 22	S 20	S 17	S 15	SSW 17	S 15	S 17	S 17	S 17	S 13	SSW 15	SSW 13	S 35	03 CST	
8	WSW 9	SSW 9	SSW 15	SSW 24	WSW 22	WSW 19	WSW 22	WSW 22	WSW 26	WSW 30	WSW 22	WSW 31	WSW 26	WSW 28	WSW 19	WSW 19	WSW 15	WSW 15	WSW 15	WSW 19	WSW 20	WSW 24	WSW 26	NNW 41	12 CST	
9	NNW 22	N 24	N 24	N 30	N 33	N 31	N 31	N 30	N 28	N 30	N 37	N 41	N 48	N 46	N 39	N 39	N 33	N 37	N 30	NNW 30	N 33	N 35	NNW 30	N 65	14 CST	
10	N 24	N 24	NNW 19	NNW 20	NNW 19	NNW 15	NNW 17	NNW 15	NNW 15	NNW 19	NNW 11	NNW 13	NNW 13	NNW 9	NNW 13	NNW 13	NNW 13	NNW 7	NNW 11	NNW 15	NNW 15	NNW 22	NNW 11	NNW 35	21 CST	
11	WSW 15	WSW 19	WSW 24	WSW 24	WSW 19	WSW 24	WSW 28	WSW 22	WSW 26	WSW 26	WSW 19	WSW 15	WSW 15	WSW 9	WSW 11	WSW 7	WSW 7	WSW 7	WSW 9	WSW 9	WSW 9	WSW 9	WSW 13	N 35	08 CST	
12	SE 9	S 15	SSE 15	S 17	S 19	S 22	S 24	S 28	S 30	SSE 35	S 37	S 43	S 44	S 41	S 39	S 41	SSE 35	SSE 35	S 31	S 33	S 33	S 33	S 26	S 67	18 CST	
13	S 24	S 28	S 28	S 24	S 15	S 15	S 15	S 7	SSE 7	SSE 0	C 0	NNE 4	NE 7	E 2	NE 4	C 4	NNE 4	NNE 4	ESE 4	SF 6	SE 7	SE 13	SSE 13	S 39	01 CST	
14	SSE 9	S 7	S 11	S 11	SSE 11	SSE 11	SSE 13	SSE 11	SSE 11	SSE 17	SSE 19	SSE 19	SSE 19	SSE 17	SSE 22	SSE 22	SSE 17	SSE 17	SSE 20	SSE 24	SSE 19	SSE 20	SSE 24	S 35	21 CST	
15	S 19	SSE 17	SSE 17	SSE 13	SSE 11	SSE 19	SSE 17	SSE 15	SSE 13	SSE 15	SSE 15	SSE 9	SSE 7	SSE 11	WSW 11	WSW 6	WSW 6	N 6	N 6	NW 9	NW 17	NW 22	NNW 22			



