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MONTHLY METEOROLOGICAL SUMMARY

SOMMAIRE MÉTÉOROLOGIQUE MENSUEL

MONTH/MOIS JULY / JUILLET

19 77

AT/A WINNIPEG INT'L AIRPORT / AEROPORT INTERN, DE WINNIPEG

LAT: 49° 54' N		LONG: 97° 14' W		ELEVATION: 786		FEET (ASL) PIEDS (MER)		STANDARD TIME USED: HEURE NORMALE UTILISÉE:		CENTRAL STANDARD									
DATE	TEMPERATURE TEMPERATURE			DEGREE-DAYS DEGRÉS-JOURS		REL. HUMIDITY HUMIDITÉ REL.		THUNDERSTORM ORAGE	PRECIPITATION PRÉCIPITATIONS			SNOW ON GROUND NEIGE AU SOL	WIND VENT			BRIGHT SUNSHINE INSOLATION EFFECTIVE HEURES			
	MAXIMUM MAXIMALE	MINIMUM MINIMALE	MEAN MOYENNE	HEATING DE CHAUFFE	GROWING DE CROISSANCE	MAXIMUM MAXIMALE	MINIMUM MINIMALE		RAINFALL PLUIE (HAUTEUR)	SNOWFALL NEIGE (HAUTEUR)	TOTAL PRECIP. TOTALE		AVERAGE SPEED VITESSE MOYENNE	PREVAILING DIRECTION DOMINANTE	MAXIMUM SPEED AND DIRECTION VITESSE MAXIMALE ET DIRECTION				
	°C	°C	°C	BASE 18.0°C	BASE 5.0°C	%	%	mm	cm	mm	cm	km/h		km/h	HOURS HEURES				
1	22.4	10.0	16.2	1.8	11.2	95	44					20.3	WNW	NW 33	15.2				
2	27.6	9.2	18.4	0.0	13.4	94	39	1	10.1	10.1		22.7	SE, SSE	ESE 46	10.4				
3	24.9	16.2	20.6	0.0	15.6	98	47					12.5	NW	NW 28	15.1				
4	27.3	15.1	21.2	0.0	16.2	80	48		Tr.	Tr.		15.2	SE	S 30	10.7				
5	28.1	18.5	23.3	0.0	18.3	98	65	1	6.2	6.2		10.7	SE	SE 19*	4.1				
6	27.9	17.6	22.8	0.0	17.8	100	37		Tr.	Tr.		11.0	NW	NW 22	12.2				
7	26.2	13.0	19.6	0.0	14.6	91	30	1	3.6	3.6		17.5	W,WNW	NNW 37	10.7				
8	21.0	10.2	15.6	2.4	10.6	93	54		Tr.	Tr.		18.0	N	N 28	13.7				
9	23.6	9.5	16.6	1.4	11.6	95	39					10.2	S,SSE	S 17*	14.7				
10	26.3	14.7	20.5	0.0	15.5	86	58	1	2.3	2.3		23.0	S	SSE 33	6.7				
11	21.9	15.8	18.9	0.0	13.9	94	63	1	4.3	4.3		21.0	S	SSW 33	4.7				
12	25.5	14.4	20.0	0.0	15.0	90	39		Tr.	Tr.		18.5	NNW	NNW 30*	14.9				
13	20.1	14.8	17.5	0.5	12.5	96	62	1	41.0	41.0		16.8	SSE	NNE 28 *	0.0				
14	22.5	13.2	17.9	0.1	12.9	98	61		Tr.	Tr.		15.2	WNW	WNW 26	10.5				
15	25.5	12.0	18.8	0.0	13.8	87	42					15.4	W	S 24	12.0				
16	26.0	14.8	20.4	0.0	15.4	88	55	1	Tr.	Tr.		19.5	S	S 26*	14.9				
17	30.5	12.0	21.3	0.0	16.3	96	57	1	0.5	0.5		18.4	SSE	SSE 33	10.8				
18	31.6	17.8	24.7	0.0	19.7	97	40	1	Tr.	Tr.		11.0	E,ENE	E 22*	11.9				
19	26.0	13.4	19.7	0.0	14.7	96	54	1	Tr.	Tr.		14.7	N	NE 30	9.3				
20	24.0	10.2	17.1	0.9	12.1	91	40					17.0	NW	NW 30*	14.1				
21	25.7	11.3	18.5	0.0	13.5	91	39					8.3	S,NW	NW 13	15.3				
22	30.4	14.1	22.3	0.0	17.3	78	42					20.1	S	S 31	12.0				
23	29.4	15.2	22.3	0.0	17.3	86	33		Tr.	Tr.		12.4	N,SSW	N 28	13.5				
24	25.6	11.4	18.5	0.0	13.5	92	48		Tr.	Tr.		17.4	NNW	N 37*	14.2				
25	23.8	8.3	16.1	1.9	11.1	90	35					13.4	NNW	NNW 22	12.3				
26	27.0	9.9	18.5	0.0	13.5	84	31					9.7	S	SSW 22	9.1				
27	25.5	13.4	19.5	0.0	14.5	86	50					12.9	S	S 19	12.4				
28	27.7	12.4	20.1	0.0	15.1	94	47	1	1.6	1.6		18.1	NNE,SW	NW 35	9.5				
29	23.2	8.5	15.9	2.1	10.9	95	43		Tr.	Tr.		13.0	SE,ESE	ESE 20*	13.2				
30	23.2	14.4	18.8	0.0	13.8	96	69	1	15.0	15.0		19.8	W	W 31	1.3				
31	24.9	12.4	18.7	0.0	13.7	93	36		0.7	0.7		24.1	NNW	NNW 39	11.1				
MEAN MOYENNE	25.7	13.0	19.4	TOTAL 11.1	TOTAL 445.3	92	47	TOTAL 12	TOTAL 85.3	TOTAL 85.3		16.1	PREVAILING SOUTH DOMINANTE	MAXIMUM ESE 46	TOTAL 340.5				
NORMAL NORMALE	25.9	13.5	19.7	20.6	456.4			6.5	80.3	NIL	80.3	16.3	SOUTH	52	310.5				
DEGREE-DAY SUMMARY - SOMMAIRE DE DEGRÉS-JOURS										DAYS WITH TOTAL PRECIPITATION: JOURS AVEC PRÉCIPITATIONS TOTALES.					DAYS WITH SNOWFALL: JOURS AVEC CHÛTE DE NEIGE:				
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	mm					cm						
								0.2 OR MORE	1.0 OR MORE	2.0 OR MORE	10.0 OR MORE	50.0 OR MORE	0.2 OR MORE	1.0 OR MORE	2.0 OR MORE	10.0 OR MORE	50.0 OR MORE		
TOTAL FOR MONTH TOTAL DU MOIS	11.1	15.7	20.6	TOTAL FOR MONTH TOTAL DU MOIS	445.3	454.8	456.4	10	8	7	3	0	0	0	0	0			
ACCUMULATED SINCE JULY 1 ACCUMULÉE DEPUIS LE 1 ^{ER} JUILLET	11.1	15.7	20.6	ACCUMULATED SINCE APRIL 1 ACCUMULÉE DEPUIS LE 1 ^{ER} AVRIL	1315.8	1132.6	1042.7	10	8	7	3	0	0	0	0	0			

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

COMPARATIVE RECORDS RELEVÉS COMPARATIFS				MONTH MOIS		JULY / JUILLET			1977			
Temperature/Température — °Celsius Precipitation/Précipitation — Millimetres (mm) Rainfall/Hauteur de pluie — Millimetres (mm) Snowfall/Hauteur de neige — Centimetres (cm) Wind speed/Vitesse du vent — Kilometres per hour (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						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	31.6	18	31.5	18	33.9	42.2	11	1936	26.1	22, 24 25	1884	106
LOWEST TEMPERATURE TEMPÉRATURE LA PLUS BASSE	8.3	25	6.1	31	6.1	11.7	27, 30	1943 1935	1.1	3	1972	106
MEAN MONTHLY TEMPERATURE TEMPÉRATURE MENSUELLE MOYENNE	19.4		19.7		19.7	24.2		1936	15.4		1884	106
TOTAL MONTHLY RAINFALL HAUTEUR TOTALE MENSUELLE DE PLUIE	85.3		36.9		80.3	197.4		1953	13.5		1875	106
TOTAL MONTHLY SNOWFALL HAUTEUR TOTALE MENSUELLE DE NEIGE	N11.		N11.		N11.	N11.		N11.	N11.			
TOTAL MONTHLY PRECIPITATION PRÉCIPITATION TOTALE MENSUELLE	85.3		36.9		80.3	197.4		1953	13.5		1875	106
NO OF DAYS WITH MEASURABLE PRECIPITATION NOMBRE DE JOURS AVEC PRÉCIPITATION MESURABLE	10		8		11	18		1912 1938	5		1926 1939	94
GREATEST RAINFALL IN ONE DAY HAUTEUR DE PLUIE MAXIMALE EN UNE JOURNÉE	41.0	13	24.6	29		133.6	12	1914				106
GREATEST SNOWFALL IN ONE DAY HAUTEUR DE NEIGE MAXIMALE EN UNE JOURNÉE	N11.		N11.		N11.	N11.		N11.	N11.			
GREATEST PRECIPITATION IN ONE DAY PRÉCIPITATION MAXIMALE EN UNE JOURNÉE	41.0	13	24.6	29		133.6	12	1914				106
MAXIMUM RAINFALL RECORDED IN: HAUTEUR DE PLUIE MAXIMALE ENREGISTRÉE EN:												
5 MINUTES	7.1	13	15.0	29		17.8	16	1968				19
10 MINUTES	12.4	13	15.7	29		24.6	16	1968				19
15 MINUTES	15.2	13	16.0	29		35.3	16	1968				19
30 MINUTES	19.8	13	17.5	29		39.4	16	1968				19
60 MINUTES	20.3	13	20.1	29 29-		39.4	16	1968				19
24 CONSECUTIVE HOURS HEURES CONSECUTIVES	41.0	13	24.9	30		133.6	12	1914				106
MEAN WIND SPEED (km/h) VITESSE MOYENNE DU VENT (km/h)	16.1		16.9		16.3	20.9		1952	10.9		1972	57
MAXIMUM SPEED (1 min.) (km/h) VITESSE MAXIMALE (1 min.) (km/h)	ESE 46	2	NNW 46	15	52	NW 68	10	1946				39
MAXIMUM GUST SPEED (km/h) POINTE DU VENT MAXIMALE (km/h)	W 74	13	SSE 69	25	86	SSW 127	14	1959				33
TOTAL HOURS OF SUNSHINE TOTAL DES HEURES INSOLATION	340.5		348.4		310.8	367.7		1974	178.3		1912	78
MEAN STATION PRESSURE (kPa) PRESSION MOYENNE À LA STATION (kPa)	98.38		98.47		98.47	98.70		1956	98.20		1975	39
GREATEST STATION PRESSURE (kPa) PRESSION MAXIMALE À LA STATION (kPa)	99.85	21	99.56	3	99.54	100.04	4	1972				39
LEAST STATION PRESSURE (kPa) PRESSION MINIMALE À LA STATION (kPa)	96.73	11	97.21	13	97.15				96.28	1	1968	39
CLIMATOLOGICAL DATA FOR THE PAST DONNÉES CLIMATOLOGIQUES POUR LES						YEARS DERNIÈRE ANNÉES						
YEAR ANNÉE	MAXIMUM TEMP. MAXIMALE	MINIMUM TEMP. MINIMALE	MEAN TEMP. MOYENNE	RAINFALL HAUTEUR DE PLUIE	SNOWFALL HAUTEUR DE NEIGE	TOTAL PRECIP. 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	32.2	3.3	17.6	143.8		143.8	18.5	NW 58	312.6	41.7	394.4	
1969	34.4	7.2	18.5	101.3		101.3	14.3	NE 37	298.1	28.9	422.2	
1970	33.9	7.8	20.5	69.6		69.6	17.2	Nw 48	318.7	13.9	483.9	
1971	30.6	4.4	16.4	115.1		115.1	16.3	Nw 55	309.8	60.0	357.2	
1972	32.2	1.1	17.1	60.2		60.2	10.9	W 35	301.5	50.6	380.0	
1973	29.4	6.1	18.3	122.9		122.9	15.1	WSW 56	313.8	23.9	417.2	
1974	33.3	8.3	21.9	32.0		32.0	16.6	NW 48	367.7	4.4	527.2	
1975	35.5	7.0	21.5	58.2		58.2	15.0	S 47	357.8	12.0	510.6	
1976	31.5	6.1	19.7	36.9		36.9	16.9	NNW 46	348.4	15.7	454.8	
1977	31.6	8.3	19.4	85.3		85.3	16.1	ESE 46	340.5	11.1	445.3	

CLIMATOLOGICAL SUMMARY FOR JULY 1977AT WINNIPEG, MANITOBA

Winnipeg weather was normal during July except for thunderstorms, which occurred on 12 days to equal the record of 12 set in July 1953. No hail was reported, but several thunderstorms were severe. July 13 was the unlucky day when two heavy thundershowers quickly poured 41.0 mm. of rain that flooded some sections of the city. This storm generated a tornado that ripped apart buildings ten miles south of Winnipeg. Five days later a more severe tornado struck St. Malo, some 35 miles outside of the city, where three people died and buildings were destroyed.

Total rain fall for the month amounted to only 5mm. more than normal with 85.3 mm. being measured.

The sun shone on Winnipeg for 30 hours more than usual with a total duration of 340.5 hours, but temperatures were right on normal. The monthly mean averaged 19.4 degrees celsius compared to the normal 19.7C. July 18 was the warmest day with a maximum of 31.6C and July 25 hit the low of 8.3C.

DAILY WEATHER SUMMARY FOR JULY 1977AT WINNIPEG, MANITOBA

1. Below normal temperatures. Mostly sunny. Gusty northwest winds in the afternoon.
2. Normal temperatures. Sunny becoming cloudy in the afternoon. Thunder 2:23 p.m. to 6:21 p.m. Showers 2:30 p.m. to 6:32 p.m. Gusty southeast winds.
3. Above normal temperatures. Mostly sunny. Mostly light winds.
4. Above normal temperatures. Cloudy clearing by afternoon. Showers 7:10 a.m. to 8:11 a.m.
5. Above normal temperatures. Mostly cloudy. Light winds. Thunder 4:43 p.m. to 6:27 p.m. 7:21 p.m. to 7:32 p.m. Showers 3:41 a.m. to 10:29 a.m. 5:07 p.m. to 7:05 p.m. House hit by lightning. Heavy fog 11:49 p.m. continued.
6. Above normal temperature. Partly cloudy. Heavy fog to 2:19 a.m. 3:20 a.m. to 4:47 a.m. Light fog until mid-morning. Drizzle 1:38 a.m. to 2:10 a.m. Light winds.
7. Normal temperatures. Sunny becoming cloudy late afternoon. Thunder 7:05 p.m. to 9:25 p.m. Showers 5:45 p.m. to 9:25 p.m. Mostly light winds.
8. Below normal temperatures. Partly cloudy. Showers 10:10 a.m. to 10:13 a.m. 3:06 p.m. to 5:32 p.m.
9. Below normal temperatures. Mostly sunny. Light winds.
10. Normal temperature. Sunny becoming cloudy late morning. Thunder 9:04 p.m. to 10:27 p.m. Rain 10:40 a.m. to 2:15 p.m. 9:50 p.m. to 11:22 p.m. Mostly light winds.
11. Below normal temperatures. Mostly cloudy. Thunder 00:22 a.m. to 1:27 a.m. Showers 1:27 a.m. to 7:41 a.m. 10:42 a.m. to 10:41 p.m. Drizzle 10:50 p.m. continued. Mostly light winds.
12. Normal temperature. Mostly sunny. Drizzle to 2:11 a.m. Mostly light winds.
13. Devastating thunderstorms. Sky as dark as night at mid-day. Basements, subways flooded, cars stalled. Power outages. Telephones out. Lightning struck several buildings. Tornado near St. Adolphe. Roofs blown off. Buildings collapsed. Considerable property damage. Fort Richmond reported 90 MMS. St. Matthews and Wall Street 94 MMS. St. Boniface up to 71 MMS. some areas very little. Below normal temperatures. Cloudy. Strong west winds in the afternoon. Thunder 7:10 a.m. to 1:45 p.m. 6:45 p.m. to 7:57 p.m. 9:35 p.m. to 9:45 p.m. Showers 6:11 a.m. to 4:46 p.m. 6:08 p.m. to 10:12 p.m. Drizzle 10:12 p.m. to 11:16 p.m. Visibility restricted in thundershowers.
14. Below normal temperatures. Drizzle 2:27 a.m. to 3:44 a.m. Light fog in morning. Partly cloudy. Mostly light winds.
15. Near normal temperatures. Mostly sunny. Light winds.
16. Normal temperatures. Mostly sunny. Thunder 2:50 a.m. to 3:06 a.m. Showers 2:28 a.m. to 2:32 a.m. Light winds.
17. Above normal temperatures. Partly cloudy. Thunder 3:23 a.m. to 3:41 a.m. 5:14 a.m. to 6:03 a.m. 7:43 p.m. to 8:20 p.m. Showers 3:28 a.m. to 6:03 a.m. 7:50 p.m. to 8:10 p.m. Mostly light winds.
18. Killer tornado about 7:00 p.m. CST cut swath from 3/4 to 1 1/2 miles wide over 35 square miles from St. Malo to Rosa Manitoba. 3 dead over \$500,000 damage. Warm. Partly cloudy. Showers 6:59 p.m. to 7:02 p.m. Thunder 6:20 p.m. to 7:10 p.m. Light winds.
19. Above normal temperatures. Sunny becoming cloudy late morning. Thunder 12:50 p.m. to 2:51 p.m. Showers 1:51 p.m. to 2:24 p.m. Mostly light winds.
20. Normal temperatures. Mostly sunny. Mostly light winds.
21. Above normal temperatures. Sunny. Light winds.
22. Above normal temperatures. Partly cloudy. Mostly light winds.
23. Above normal temperatures. Mostly sunny. Light winds. Showers 10:09 a.m. to 10:41 a.m.
24. Below normal temperatures. Partly cloudy. Showers 1:03 a.m. to 1:10 a.m. 9:44 a.m. to 9:47 a.m. 5:26 p.m. to 5:34 p.m. Light winds except gusty north wind in afternoon.
25. Below normal temperatures. Partly cloudy. Light winds.
26. Below normal temperatures. Partly cloudy. Light winds.
27. Near normal temperatures. Mostly sunny. Light winds.
28. Near normal temperatures. Partly cloudy. Thunder 12:53 p.m. to 2:31 p.m. Showers 11:45 a.m. to 1:38 p.m. 6:05 p.m. to 6:10 p.m. Mostly light winds.
29. Below normal temperatures. Mostly sunny. Showers 10:55 p.m. continued. Light winds.
30. Near normal temperatures. Cloudy. Light fog in morning. Showers to 5:04 a.m. 11:43 a.m. to 11:42 p.m. Thunder 2:23 p.m. to 5:47 p.m. Mostly light winds, except gusty west wind in afternoon.
31. Near normal temperatures. Partly cloudy. Rain 00:35 a.m. to 2:19 a.m. 4:13 p.m. to 5:37 p.m. Gusty WNW wind in the afternoon.

HOURLY TEMPERATURES AT WINNIPEG INTERNATIONAL AIRPORT FOR THE MONTH OF JULY 1977

LOCAL STANDARD TIME

ALL TEMPERATURES IN DEGREES CELSIUS

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.	11.6	11.4	11.6	11.0	10.8	10.5	12.0	13.4	15.3	18.3	19.9	20.6	21.0	21.6	21.0	21.7	21.5	20.6	20.5	19.4	17.4	14.5	12.0	10.5
2.	10.7	10.7	10.4	10.5	9.7	10.4	10.4	16.2	18.2	20.0	21.9	22.6	24.4	26.1	27.2	20.6	23.2	20.6	20.5	20.6	20.6	19.7	19.8	18.6
3.	18.5	18.1	17.6	17.0	18.6	16.6	17.9	19.1	20.4	21.5	22.6	23.0	23.5	23.5	24.0	24.5	24.5	24.6	24.5	23.6	23.0	19.7	18.9	18.3
4.	17.7	16.4	16.7	16.4	15.2	15.6	17.0	17.4	18.1	21.8	22.8	24.9	25.8	26.4	26.5	26.6	26.7	26.9	26.8	25.3	24.4	22.5	21.7	21.3
5.	22.1	21.5	21.3	20.5	20.0	18.7	19.3	19.2	19.4	20.1	20.1	20.8	22.2	23.6	25.4	26.7	26.2	25.6	22.1	22.0	21.9	21.6	20.7	19.7
6.	18.5	19.1	20.0	20.0	18.1	17.5	15.0	20.4	21.6	22.7	24.2	24.5	25.1	26.7	26.7	27.2	26.9	27.3	25.1	24.0	22.8	22.0	21.6	20.5
7.	18.6	19.0	18.1	17.5	17.5	17.1	18.3	20.2	21.0	21.0	22.0	24.0	25.1	25.0	25.4	25.9	25.6	23.7	22.1	20.0	15.7	15.5	14.5	13.2
8.	13.0	11.9	13.0	12.0	10.4	10.3	11.0	12.5	14.0	14.7	16.2	16.5	16.8	17.3	18.4	18.2	19.5	17.1	16.4	17.5	16.5	15.5	14.1	11.5
9.	11.4	11.3	11.0	10.1	10.2	10.1	11.6	14.0	16.2	17.7	18.9	20.0	20.8	21.2	22.0	22.2	22.6	22.4	22.0	21.5	19.9	19.4	18.6	17.8
10	17.0	16.0	16.0	15.8	14.9	15.6	16.0	16.5	18.6	19.3	21.1	21.5	18.5	20.0	20.5	24.1	25.6	25.1	25.3	25.2	23.9	23.3	22.5	22.2
11	21.5	18.9	18.5	18.0	17.5	17.5	17.5	17.0	17.5	18.0	20.0	19.0	18.8	19.4	21.4	20.2	20.8	19.1	18.5	18.5	17.1	16.7	16.9	15.9
12	15.8	15.5	15.8	16.0	15.5	14.4	15.0	16.8	17.4	19.6	20.4	21.6	22.8	23.6	24.4	24.8	24.7	24.7	24.6	23.3	21.5	19.1	17.6	16.2
13	16.7	17.2	16.0	16.2	15.8	15.4	16.0	16.2	14.9	15.1	16.6	17.2	17.5	17.0	17.9	18.9	19.4	19.7	19.3	18.3	17.7	17.5	17.5	17.5
14	17.4	16.9	17.2	16.9	17.0	17.3	17.2	17.2	17.9	17.9	19.7	19.6	20.9	20.8	21.6	21.4	21.3	21.0	21.0	19.6	18.0	15.4	14.1	13.6
15	13.2	13.6	13.1	13.1	12.3	12.3	13.1	15.0	17.9	20.2	21.9	23.2	23.9	23.4	24.5	24.7	25.0	23.1	23.0	21.9	20.9	20.6	19.6	18.9
16	18.9	18.2	18.3	17.3	16.6	16.1	16.7	18.6	20.7	22.4	24.0	24.8	25.1	25.2	25.5	25.2	25.2	24.3	24.3	21.9	19.8	17.5	15.7	15.1
17	15.0	13.5	12.3	12.2	12.2	13.2	15.0	16.6	17.5	18.9	21.3	23.3	25.5	26.5	28.6	29.0	29.1	29.6	29.6	29.4	29.3	28.9	28.3	25.8
18	23.5	21.6	20.8	20.8	19.9	18.4	18.8	21.3	23.3	25.7	26.8	27.1	27.2	29.6	30.0	30.5	30.7	29.4	27.4	26.5	25.8	23.5	22.6	21.1
19	20.2	20.2	19.2	19.0	18.8	18.6	18.8	20.7	22.7	22.9	24.4	25.3	25.5	23.4	21.6	22.5	21.1	22.8	21.1	19.7	18.3	14.2	15.6	14.3
20	13.6	13.4	12.0	11.5	10.8	10.5	12.5	15.4	18.0	19.4	21.0	21.8	22.5	22.9	23.0	23.4	23.4	23.0	23.1	21.1	19.6	13.3	16.3	14.5
21	14.1	13.8	12.7	12.0	11.9	11.5	12.9	15.0	18.6	19.6	21.5	22.2	23.4	24.1	24.6	25.1	24.9	24.6	24.3	23.6	21.1	19.9	18.5	18.0
22	16.0	16.4	15.7	14.9	14.4	14.4	15.1	17.1	20.2	22.9	24.8	25.5	25.6	27.6	29.0	28.6	28.7	27.6	26.7	27.0	25.1	24.2	22.6	21.7
23	20.5	19.7	19.4	18.5	15.7	15.4	17.0	20.0	22.5	24.6	24.6	24.4	27.7	27.6	28.6	28.5	28.4	27.0	26.9	25.5	22.5	19.2	17.3	16.8
24	16.6	18.0	15.9	15.0	14.2	13.4	15.9	17.8	18.6	21.6	21.8	23.2	24.3	24.6	21.2	22.2	21.9	22.0	19.5	19.6	17.6	14.3	12.4	11.9
25	11.6	10.6	9.5	9.5	9.2	8.3	10.0	13.5	17.2	19.3	20.5	21.1	21.6	22.4	23.1	22.5	22.4	22.2	21.3	19.8	17.8	17.1	14.9	14.2
26	13.5	12.7	10.5	9.9	10.7	11.1	12.6	15.6	18.2	20.5	22.2	23.3	24.0	24.4	26.4	26.0	24.7	25.0	24.0	23.4	20.6	19.4	18.9	17.4
27	17.5	16.9	14.1	14.1	14.0	13.4	14.8	18.5	19.4	20.5	21.2	22.3	23.1	24.2	23.0	23.5	23.1	23.0	22.9	21.9	20.2	18.2	17.9	16.3
28	15.5	14.8	14.4	14.1	14.2	14.2	14.2	16.6	19.2	21.2	23.3	24.6	25.3	27.0	25.3	23.2	22.6	23.2	19.2	18.8	18.3	17.1	16.5	13.1
29	12.4	12.5	11.1	9.9	9.1	8.7	10.5	13.8	15.8	17.2	17.4	18.0	19.4	20.5	21.6	21.1	22.1	22.5	21.7	22.1	19.5	19.3	19.1	18.3
30	17.5	16.5	16.9	16.3	15.5	15.4	15.4	16.4	16.4	16.4	16.4	18.5	19.3	20.3	22.3	16.6	16.2	14.4	14.6	15.4	16.1	15.2	15.2	15.2
31	14.5	13.4	13.1	13.1	13.0	12.5	12.5	14.0	16.3	17.6	19.4	20.8	22.2	23.3	23.3	23.7	24.5	17.6	17.4	16.7	17.1	14.0	13.9	13.3
MEAN	16.3	15.8	15.2	14.8	14.3	14.0	14.9	16.8	18.5	20.0	21.3	22.1	22.9	23.5	24.0	23.8	24.0	23.3	22.4	21.6	20.3	18.9	17.9	16.4

HOURLY WET-BULB TEMPERATURES AT WINNIPEG INTERNATIONAL AIRPORT FOR THE MONTH OF JULY 1977
 LOCAL STANDARD TIME

DATE	ALL TEMPERATURES IN DEGREES CELSIUS																							
	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.	10.8	10.6	11.0	10.6	10.5	10.0	11.0	12.1	14.0	15.4	15.3	14.8	14.1	14.9	14.5	14.7	14.8	13.5	13.4	13.3	12.5	12.5	10.4	9.3
2.	9.7	9.2	8.6	8.8	8.0	8.0	9.1	10.9	12.4	14.5	15.5	16.1	16.2	17.0	18.3	18.1	18.0	17.9	19.1	18.8	18.1	17.8	17.4	17.4
3.	12.0	17.7	17.3	16.7	16.4	16.4	17.5	18.0	18.1	18.2	18.6	17.6	17.3	17.0	17.1	17.3	18.2	17.9	17.0	17.8	18.1	17.0	16.4	15.8
4.	15.0	14.0	13.9	13.5	13.2	13.6	14.0	14.6	14.8	14.8	16.2	17.0	18.0	18.7	18.6	18.9	19.1	20.1	19.8	20.1	20.3	19.8	19.4	18.8
5.	12.0	17.4	17.3	17.3	17.4	17.5	17.6	17.7	17.8	18.6	19.3	19.7	20.8	21.2	21.4	21.7	22.0	22.0	21.5	21.5	21.1	21.8	20.3	19.5
6.	18.4	19.1	20.0	20.0	18.1	17.5	17.5	19.5	19.4	19.3	19.2	18.6	18.6	19.3	18.6	18.3	17.3	17.3	17.1	18.0	17.9	17.5	17.7	17.1
7.	16.4	16.0	15.9	15.9	15.6	15.6	15.5	15.8	16.3	16.5	16.9	18.0	17.0	16.3	15.6	15.1	15.5	14.5	15.3	14.4	13.9	13.3	12.5	12.5
8.	12.3	11.6	12.0	10.7	9.7	9.8	10.1	10.9	10.8	11.2	11.5	11.9	11.7	12.6	13.5	13.3	14.1	13.2	14.5	14.0	14.0	13.1	12.2	11.0
9.	10.7	10.8	10.4	9.5	9.9	9.6	10.9	12.5	13.5	13.9	14.4	14.5	14.4	13.5	14.3	14.3	14.3	14.6	14.5	14.5	14.5	14.2	13.5	13.5
10	13.4	13.0	13.0	13.0	12.6	12.6	13.4	14.4	14.4	15.1	16.5	17.0	16.9	17.7	18.5	19.6	20.0	19.6	19.7	19.5	19.3	18.7	18.0	17.8
11	17.5	17.6	17.5	17.1	17.0	17.0	16.8	16.5	17.0	18.0	17.8	16.8	16.7	15.9	16.8	16.6	16.5	16.1	16.2	15.8	16.0	15.4	15.0	15.3
12	15.3	14.5	14.3	13.9	13.2	13.2	13.3	13.8	13.9	14.6	14.9	15.2	15.5	15.2	15.9	16.6	17.1	16.6	15.9	16.3	16.1	15.4	14.4	13.7
13	13.2	13.0	12.8	13.3	13.1	13.0	13.2	13.6	13.3	14.3	15.1	15.1	15.2	16.6	16.6	17.1	17.5	17.7	17.9	17.8	17.4	17.1	17.1	17.1
14	17.1	16.7	16.9	16.8	16.8	17.0	17.0	16.7	17.0	17.4	16.8	17.2	17.4	17.7	17.0	16.5	16.5	16.9	16.2	15.6	15.0	13.4	12.4	12.1
15	12.1	12.3	11.8	11.6	11.2	10.9	11.3	12.5	14.4	15.6	16.1	16.9	17.1	16.1	16.2	17.4	18.9	16.3	16.2	16.9	16.5	16.1	15.7	15.3
16	15.4	14.8	15.1	15.1	15.0	14.9	15.3	14.4	17.8	18.9	20.3	20.6	20.6	20.1	20.7	19.7	19.5	18.6	18.1	17.5	16.3	14.8	13.8	13.3
17	13.1	12.4	11.6	11.8	12.4	12.4	14.1	15.1	15.8	16.7	18.4	19.0	20.0	21.2	23.1	23.4	25.0	23.6	24.6	25.4	25.5	23.9	22.2	21.3
18	21.8	20.7	20.2	20.4	19.2	17.7	17.8	19.2	19.3	20.0	21.0	21.9	20.9	20.6	20.1	21.5	22.5	21.4	22.5	22.2	22.2	20.8	19.6	19.6
19	19.3	19.4	18.7	18.3	18.3	18.5	18.5	19.5	19.2	19.3	19.0	19.3	18.9	18.8	18.2	18.0	17.1	17.4	16.5	15.0	14.1	13.3	12.5	12.5
20	12.0	11.3	10.7	10.4	9.8	9.8	10.6	13.0	14.6	15.4	16.5	14.8	15.2	15.0	15.3	15.5	15.1	15.1	15.4	15.1	15.2	15.1	14.2	12.5
21	12.2	11.4	11.6	11.0	10.9	10.8	11.4	13.4	15.4	15.8	15.7	15.6	16.1	16.2	16.0	16.1	16.3	16.1	15.8	15.9	15.3	14.5	13.6	13.8
22	13.8	13.2	12.9	12.7	12.0	12.7	13.0	15.8	17.0	17.6	18.0	18.0	18.9	20.0	20.4	19.4	19.6	19.5	19.4	19.7	19.1	18.3	17.4	16.6
23	15.2	15.9	15.6	15.2	13.9	14.1	15.1	15.5	18.1	19.4	18.5	17.0	17.5	18.2	17.9	17.6	17.5	18.3	18.0	18.6	17.5	16.1	15.1	14.7
24	15.1	15.6	14.2	13.7	13.0	12.6	14.3	15.9	16.8	16.8	16.6	17.1	17.0	18.4	16.8	16.2	15.6	15.6	15.4	14.0	13.0	11.7	10.6	10.0
25	9.8	9.3	8.6	8.6	8.3	7.5	8.9	11.3	12.6	11.7	13.0	13.3	12.9	13.7	14.1	13.6	13.6	13.5	14.1	14.1	13.2	12.1	11.6	11.0
26	10.6	10.4	9.9	8.3	9.2	9.7	10.4	12.2	13.0	15.1	15.0	14.7	14.7	14.3	14.2	15.8	15.6	15.2	15.0	15.0	14.5	14.0	13.8	13.0
27	12.8	12.6	11.4	11.4	11.4	11.1	12.0	14.3	15.0	15.6	16.2	16.7	16.9	17.2	17.2	16.8	16.7	16.8	16.7	16.7	15.7	14.9	15.2	14.5
28	14.2	13.8	13.7	13.5	13.6	13.3	13.4	14.8	16.1	17.4	18.2	18.8	18.7	19.0	19.3	18.5	18.4	17.8	17.0	15.3	15.3	14.4	13.9	12.4
29	11.9	12.0	10.6	8.5	8.7	8.3	9.8	12.3	13.1	13.1	12.4	12.5	13.3	13.5	14.1	14.0	14.6	15.5	15.0	14.9	14.5	14.5	14.1	14.1
30	14.2	14.5	14.5	14.4	15.1	15.0	14.9	15.7	15.5	15.5	15.6	17.0	18.2	17.7	18.4	15.2	14.3	13.8	13.9	15.3	14.9	14.3	14.9	14.9
31	13.9	12.6	12.1	12.2	12.1	11.9	11.5	12.9	14.6	15.1	15.0	15.4	15.3	14.8	14.4	14.6	15.3	14.2	14.0	14.7	14.2	12.8	12.7	12.5
MEAN	14.3	14.0	13.6	13.4	13.1	12.9	13.5	14.7	15.5	16.2	16.6	16.7	16.9	17.0	17.3	17.2	17.3	17.0	16.9	16.9	16.5	15.8	15.2	14.6

ABSTRACT OF THE WIND AT WINNIPEG INTERNATIONAL AIRPORT FOR THE MONTH OF JULY 1977

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	WNW 22	WNW 19	WNW 19	WNW 20	WNW 20	WNW 28	WNW 28	WNW 20	WNW 20	WNW 20	WNW 28	WNW 22	WNW 30	WNW 31	WNW 30	WNW 33	WNW 31	WNW 30	WNW 24	WNW 15	WNW 11	WNW 4	WNW 0	WNW 0	NW 52	15 CST
2	SSW 9	SSE 4	SSE 11	SSE 9	SSE 11	SE 28	SE 28	SE 26	SE 20	SE 28	SE 28	FSE 24	SE 28	SE 44	ESE 46	ESE 35	SE 35	SE 28	SSE 30	SE 30	SSE 24	SSE 26	SSE 20	SSE 15	SE 63	14 CST
3	S 19	SSW 13	SW 9	WSW 13	WNW 11	WNW 17	WNW 13	WNW 17	WNW 15	WNW 15	WNW 20	WNW 28	WNW 28	WNW 17	WNW 17	WNW 15	WNW 13	WNW 7	WNW 7	WNW 7	WNW 0	WNW 0	WNW 4	WNW 9	WNW 35	12 CST
4	SSF 7	SE 9	SE 7	SE 11	SE 13	SE 11	SE 13	SE 13	SSE 22	SSE 28	SSE 30	SSE 26	SSE 28	SSE 28	SSE 20	SSE 20	SSE 22	SSE 17	SSE 13	SSE 11	SSE 6	SSE 4	SSE 0	SSE 11	SSE 39	14 CST
5	SE 13	SE 17	ESE 17	ESE 17	ESE 15	ESE 15	ENE 13	ENE 13	SSE 19	SSE 19	SE 11	SE 6	SE 7	SE 4	SE 7	C 0	N 4	N 13	WNW 19	SSE 7	SSE 13	SSE 9	SSE 7	C 0		
6	NW 4	C 0	NNW 9	NW 6	WNW 6	WNW 11	WNW 22	WNW 17	WNW 15	WNW 15	WNW 17	WNW 13	WNW 17	WNW 11	WNW 13	WNW 11	WNW 11	WNW 17	WNW 6	WNW 7	WNW 9	WNW 11	WNW 0	WNW 15		
7	WNW 13	WNW 11	WNW 7	WNW 17	WNW 20	WNW 15	WNW 11	WNW 24	WNW 20	WNW 24	WNW 19	WNW 19	WNW 28	WNW 17	WNW 17	WNW 19	WNW 20	WNW 17	WNW 11	WNW 7	WNW 37	WNW 22	WNW 13	WNW 13	WNW 56	20 CST
8	NW 11	NNW 13	N 19	NNW 17	NNW 19	NNW 26	NNW 26	NNW 26	NNW 28	NNW 26	NNW 26	NNW 26	NNW 24	NNW 24	NNW 24	NNW 26	NNW 22	NNW 26	NNW 13	NNW 11	NNW 7	NNW 7	NNW 0	NNW 0	N 37	10 CST
9	W 6	W 6	WSW 6	WSW 6	C 0	C 0	C 0	S 6	S 13	S 13	S 9	S 13	SSW 15	SSW 15	SSW 17	SSW 17	SSW 17	SSW 17	SSW 15	SSW 15	SSW 11	SSW 13	SSW 9	SSW 13		
10	SSE 22	S 13	S 17	SSE 20	SSE 22	SSE 24	S 20	SSE 28	SSE 28	SSE 33	SSE 28	SSE 28	SSE 13	SSE 17	SSE 26	SSE 26	SSE 26	SSE 31	SSE 22	SSE 22	SSE 24	SSE 20	SSE 24	SSE 30	SE 44	10 CST
11	S 30	SSW 19	ESE 22	SSE 19	SSE 22	SSE 26	SSE 26	SSE 20	SSW 24	SSW 24	SSW 20	SSW 24	SSW 26	SSW 24	SSW 26	SSW 33	SSW 17	SSW 9	SSW 6	SSW 11	SSW 17	SSW 26	SSW 20	SSW 20	SSW 44	01 CST
12	NNW 22	NNW 28	NNW 26	NNW 24	NNW 24	NNW 24	NNW 30	NNW 26	NNW 26	NNW 24	NNW 24	NNW 24	NNW 19	NNW 17	NNW 13	NNW 7	NNW 7	NNW 0	NNW 6	NNW 9	NNW 7	NNW 11	NNW 11	NNW 9	NNW 46	03 CST
13	S 11	SSE 19	SSE 11	SSE 15	SSE 13	SSE 13	SSE 17	SSE 17	SSE 20	SSE 15	SSE 15	SSE 15	SSE 11	SSE 11	SSE 20	SSE 22	SSE 17	SSE 13	SSE 20	SSE 24	SSE 28	SSE 24	SSE 19	SSE 20	W 74	13 CST
14	N 11	NW 11	NW 17	NW 7	NW 13	NW 7	NW 11	NW 11	NW 20	NW 24	NW 20	NW 24	NW 26	NW 26	NW 24	NW 24	NW 24	NW 20	NW 15	NW 15	NW 9	NW 9	NW 7	NW 15	NNW 37	14 CST
15	W 11	WSW 9	WSW 11	WSW 11	WSW 11	WSW 15	WSW 15	WSW 13	WSW 17	WSW 15	WSW 19	WSW 15	WSW 13	WSW 13	WSW 17	WSW 17	WSW 17	WSW 20	WSW 19	WSW 19	WSW 15	WSW 24	WSW 22	WSW 20		

