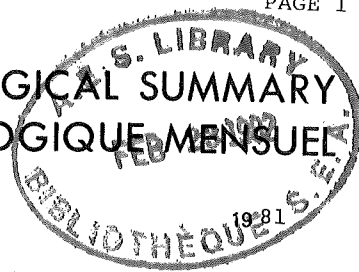




VOL ISS DEC 81  
MONTHLY METEOROLOGICAL SUMMARY. WIN  
NIPEG, MANITOBA

METEOROLOGICAL SUMMARY  
E MÉTÉOROLOGIQUE MENSUEL



MONTH/MOIS DECEMBER / DECEMBRE

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

LAT: 49 ° 54 ' N		LONG: 97 ° 14 ' W		ELEVATION: ALTITUDE:		METRES (ASL) MÈTRES (NMM) 239.6 M		STANDARD TIME USED: HEURE NORMALE UTILISÉE: CENTRAL											
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 AND DIRECTION DOMINANTE	MAXIMUM SPEED AND DIRECTION VITESSE MAXIMALE ET DIRECTION		HOURS HEURES		
	°C	°C	°C	BASE 18.0°C	BASE 5.0°C	%	%	mm	cm	mm	cm	km/h		km/h					
1	-1.5	-6.0	-3.8	21.8	0.0	92	83	Tr.	0.2	0.2	1	11.3	N	N20	0.0				
2	-2.0	-9.2	-5.6	23.6	0.0	95	83		Tr.	Tr.	1	14.1	S	S31	2.1				
3	-1.0	-4.4	-2.7	20.7	0.0	97	83	Tr.	Tr.	Tr.	1	12.5	SE/SSE	SSE 26*	0.0				
4	-2.9	-12.5	-7.7	25.7	0.0	93	71		0.4	0.2	1	10.5	W SSW	W 17*	6.7				
5	-3.1	-15.1	-9.1	27.1	0.0	85	76				1	14.3	S	SE 24	5.6				
6	-1.5	-4.7	-3.1	21.1	0.0	92	76				1	15.6	S	SE26*	2.0				
7	-2.5	-6.7	-4.6	22.6	0.0	94	75		0.8	0.6	1	17.0	NNW	NNW28*	1.8				
8	-5.3	-13.0	-9.2	27.2	0.0	92	71		0.8	0.2	2	15.4	N	N24*	5.2				
9	-7.9	-15.9	-11.9	29.9	0.0	86	72		Tr.	Tr.	2	8.5	S	SE15	5.8				
10	-3.7	-11.9	-7.8	25.8	0.0	89	70		1.3	1.3	2	27.5	SE	SSE 44	0.0				
11	-0.6	-5.0	-2.8	20.8	0.0	92	79				2	26.5	S	S48	1.2				
12	-4.2	-12.6	-8.4	26.4	0.0	85	62				1	8.0	NW	W13*	5.6				
13	-5.9	-12.7	-9.3	27.3	0.0	86	65		0.4	0.2	1	10.8	W	W24*	2.4				
14	-11.8	-20.8	-16.3	34.3	0.0	83	64		Tr.	Tr.	1	8.4	W	WNW26	7.6				
15	-13.5	-23.3	-18.4	36.4	0.0	87	71		Tr.	Tr.	1	3.8	N	N7*	3.3				
16	-14.9	-23.7	-19.3	37.3	0.0	87	71		Tr.	Tr.	1	11.3	NNW	NNW24	3.1				
17	-16.2	-21.7	-19.0	37.0	0.0	88	72		Tr.	Tr.	1	7.8	WNW	WNW17	7.7				
18	-15.0	-22.5	-18.8	36.8	0.0	87	71		Tr.	Tr.	1	12.5	S	S20	7.4				
19	-13.0	-21.2	-17.1	35.1	0.0	87	69		Tr.	Tr.	1	28.3	S	S43	7.1				
20	-6.0	-14.0	-10.0	28.0	0.0	91	79	0.5	Tr.	0.5	1	33.9	S	S46	0.3				
21	0.4	-7.1	-3.4	21.4	0.0	86	72	Tr.	Tr.	Tr.	1	17.5	SW	NW28	0.1				
22	-7.0	-13.0	-10.0	28.0	0.0	90	81		2.0	1.7	1	18.3	NNW	NNW31	0.0				
23	-12.8	-19.2	-16.0	34.0	0.0	86	75		1.0	0.8	2	18.8	WNW	WNW28*	0.9				
24	-10.8	-14.1	-12.5	30.5	0.0	86	76		0.4	0.2	2	11.0	W	WSW19*	0.5				
25	-11.3	-24.6	-18.0	36.0	0.0	87	68		0.2	Tr.	2	7.2	N	N22	7.5				
26	-9.4	-21.7	-15.6	33.6	0.0	87	75		0.3	Tr.	2	11.1	SSE	SSE17*	1.2				
27	-9.3	-27.5	-18.4	36.4	0.0	88	73		4.2	1.2	2	15.1	WNW	NW35	0.6				
28	-22.3	-29.4	-25.9	43.9	0.0	86	66		Tr.	Tr.	4	9.0	NNW	NW17*	4.4				
29	-20.7	-25.7	-23.2	41.2	0.0	79	60		Tr.	Tr.	3	17.7	SW	SW24*	7.7				
30	-22.0	-31.2	-26.6	44.6	0.0	87	71		Tr.	Tr.	3	7.8	calm	W17*	7.3				
31	-22.3	-31.3	-26.8	44.8	0.0	87	63		0.2	0.2	3	8.3	N	E15	6.5				
MEAN MOYENNE	-9.0	-16.8	-12.9	TOTAL 959.3	TOTAL 0.0	88	72	TOTAL	TOTAL 0.5	TOTAL 12.2	TOTAL 7.3		14.2	PREVAILING S	MAXIMUM S48	TOTAL 111.6			
NORMAL NORMALE	-9.2	-18.2	-13.7	983.0	0.0	89	72		0.8	23.9	22.9	MoEnd 13	19.5	S	55	86.2			
DEGREE-DAY SUMMARY - SOMMAIRE DE DEGRÉS-JOURS										DAYS WITH TOTAL PRECIPITATION: JOURS AVEC PRÉCIPITATIONS TOTALES: mm					DAYS WITH SNOWFALL: JOURS AVEC CHÔTE 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	959.3	1037.3	983.0	TOTAL FOR MONTH TOTAL DU MOIS	0.0	0.0	0.0	12	3	0	0	0	13	4	2	0	0		
ACCUMULATED SINCE JULY 1 DEPUIS LE 1 <sup>er</sup> JUILLET	2062.1	2338.8	2246.0	ACCUMULATED SINCE APRIL 1 DEPUIS LE 1 <sup>er</sup> AVRIL	1844.1	1916.3	1787.8												

UDC 561.506.1 ( )

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

COMPARATIVE RECORDS RELEVÉS COMPARATIFS		MONTH MOIS		DECEMBER / DECEMBRE						1981				
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 par heure (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	0.4	21	6.4	27	2.7	11.7	6	1939	-5.0	4	1927	110		
LOWEST TEMPERATURE TEMPÉRATURE LA PLUS BASSE	-31.3	31	-30.3	24	-32.7	-18.3	10	1877	-47.8	24	1879	110		
MEAN MONTHLY TEMPERATURE TEMPÉRATURE MENSUELLE MOYENNE	-12.9		-15.5		-13.7	-3.4		1877	-25.9		1879	110		
TOTAL MONTHLY RAINFALL HAUTEUR TOTALE MENSUELLE DE PLUIE	0.5		2.8		0.8	23.4		1877	Nil (several)			110		
TOTAL MONTHLY SNOWFALL HAUTEUR TOTALE MENSUELLE DE NEIGE	12.2		8.8		23.9	101.3		1909	0.5		1877	110		
TOTAL MONTHLY PRECIPITATION PRÉCIPITATION TOTALE MENSUELLE	7.3		11.0		22.9	101.3		1909	2.5		1892	110		
NO OF DAYS WITH MEASURABLE PRECIPITATION NOMBRE DE JOURS AVEC PRÉCIPITATION MESURABLE	12		14		11	17		1955	2 (several)			98		
GREATEST RAINFALL IN ONE DAY HAUTEUR DE PLUIE MAXIMALE EN UNE JOURNÉE	0.5	20	2.1	17*		15.2	22	1877				110		
GREATEST SNOWFALL IN ONE DAY HAUTEUR DE NEIGE MAXIMALE EN UNE JOURNÉE	4.2	27	2.7	15		30.5	26	1916				110		
GREATEST PRECIPITATION IN ONE DAY PRÉCIPITATION MAXIMALE EN UNE JOURNÉE	1.7	22	2.7	15*		30.5	26	1916				110		
MAXIMUM RAINFALL RECORDED IN: HAUTEUR DE PLUIE MAXIMALE ENREGISTRÉE EN:														
5 MINUTES														
10 MINUTES														
15 MINUTES														
30 MINUTES														
60 MINUTES														
24 CONSECUTIVE HOURS HEURES CONSECUTIVES	0.5	20	2.8	16-17		15.2	22	1877				110		
MEAN WIND SPEED (km/h) VITESSE MOYENNE DU VENT (km/h)	14.2		17.9		19.5	24.6		1943	12.5		1978	61		
MAXIMUM SPEED (1 min.) (km/h) VITESSE MAXIMALE (1 min.) (km/h)	S48	11	NNW56	12		NW74		(several)				43		
MAXIMUM GUST SPEED (km/h) POINTE DU VENT MAXIMALE (km/h)	S 74	20	NNW83	12	75	NW100	11	1946				35		
TOTAL HOURS OF SUNSHINE TOTAL DES HEURES INSOLATION	111.6		99.9		86.2	139.5		1978	31.7		1920	82		
MEAN STATION PRESSURE (kPa) PRESSION MOYENNE À LA STATION (kPa)	98.69		99.23		98.77	99.23		1980	98.29		1953	43		
GREATEST STATION PRESSURE (kPa) PRESSION MAXIMALE À LA STATION (kPa)	100.56	17	101.30	20 } 24 }	100.70	101.30	20	1980				43		
LEAST STATION PRESSURE (kPa) PRESSION MINIMALE À LA STATION (kPa)	95.80	21	96.68	17	96.38		24		94.71	17	1967	43		
CLIMATOLOGICAL DATA FOR THE PAST DONNÉES CLIMATOLOGIQUES POUR LES												TEN (10)	DIX	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			
1972	-3.9	-32.8	-19.2	0.3	27.7	25.4	16.6	S 51	121.3	1155.0				
1973	1.1	-37.8	-15.8	6.4	15.7	19.1	16.7	NNW 51	87.9	1046.7				
1974	4.4	-21.1	-8.6	Tr.	18.5	13.0	16.1	N 45	94.6	822.8				
1975	5.9	-33.7	-14.1	Tr.	18.9	17.1	17.9	ESE 47	96.0	995.4				
1976	3.0	-34.7	-18.5	Nil	20.6	18.2	19.1	S 52	106.4	1131.3				
1977	1.8	-33.8	-17.4	1.6	18.3	18.8	16.9	NNW 41	84.8	1098.7				
1978	0.3	-34.7	-17.8	Tr.	20.4	20.9	12.5	N 41						
1979	2.0	-28.4	-9.8	1.0	10.5	11.3	18.4	S 57	139.5	1109.1				
1980	6.4	-30.3	-15.5	2.8	8.8	11.0	17.9	S 56	104.3	862.8				
1981	0.4	-31.3	-12.9	0.5	12.2	7.3	14.2	NNW 56	99.9	1037.3				
								S48	111.6	959.3				

\* 3.0 Dec. 16-17 Precip. 1980

## CLIMATOLOGICAL SUMMARY FOR DECEMBER 1981

AT WINNIPEG, MANITOBA

December closed out with a mean temperature of  $-12.9^{\circ}\text{C}$  helping to make 1981 the third warmest year on record. The warmest day was  $0.4^{\circ}\text{C}$  on the 21st while the coldest night was  $-31.3^{\circ}\text{C}$  on the 31st. Snowfall of 12.2 cm and the total precipitation with 7.3 mm were both well below the normal. Sunshine was above normal with 111.6 hours. The average wind of 14.2 km/h was well below the normal of 19.5 km/h.

## DAILY WEATHER SUMMARY FOR DECEMBER 1981

AT WINNIPEG, MANITOBA

All Times Central Standard  
Not Daylight

1. Mild. Cloudy. Snow flurries 11.06 AM to 11.38 AM. Snow 1.45 PM to 7.22 PM. Freezing rain 2.20 PM to 2.59 PM. Snow pellets 2.33 PM to 4.17 PM. Freezing drizzle 2.59 PM to 4.53 PM. Light fog in afternoon. Visibility restricted. Light winds.
2. Still mild. Mostly cloudy. Snow 8.11 PM continued. Mostly light winds but S gust to 41 km/hr in the late evening. Light fog morning and early afternoon - Visibility restricted.
3. Still mild. Cloudy. Freezing drizzle 3.57 PM to 5.21 PM. Snow to 3.42 AM. Light fog in the morning and afternoon. Visibility restricted. Mostly light winds but SSE gust to 37 km/hr in early morning. From 2nd to 3rd December 5cms of snow fall near Boisvevain and about 9 cms near Melita, Manitoba.
4. Above normal temp. Cloudy clearing mid morning. Snow 00.54 AM to 2.50 AM. Light winds.
5. Above normal temp. Sunny becoming cloudy late afternoon. Mostly light winds but S gust to 33 km/hr late afternoon.
6. Mild. Mostly cloudy. Mostly light winds but SSE gust to 56 km/hr in morning. Light fog in morning afternoon and late evening. Visibility restricted.
7. Mild. Mostly cloudy. Snow 7.15 PM continued. Visibility restricted. Mostly light winds but NNW gust to 37 km/hr in morning. Light fog early morning.
8. Above normal temp. Cloudy clearing late morning becoming cloudy again mid afternoon. Snow to 01.35 AM. 6.55 AM to 9.21 AM Ice crystals 6.55 AM to 11.45 AM. Snow 2.17 PM continued. Mostly light winds but N gust to 35 km/hr in afternoon. Drifting snow in afternoon.
9. Slightly above normal temp. Cloudy clearing mid morning. Snow to 00.15 AM. Ice crystals 3.09 PM to 5.50 PM. Light winds.
10. Above normal temp. Cloudy. Snow 00.24 AM to 00.40 AM 6.36 PM to 9.27 PM. Moderate winds with SSE gust to 61 km/hr in evening. Visibility reduced in snow. Drifting snow in evening.
11. Mild. Mostly cloudy. Moderate S winds with gust to 63 km/hr in early morning. Drifting snow. Light fog in morning and early evening. Visibility restricted.
12. Above normal temp. Sunny becoming cloudy mid-afternoon. Light winds.
13. Above normal temp. Sunny mid morning to early afternoon otherwise cloudy. Snow 1.44 P.M. to 3.50 PM. 6.53 PM continued. Mostly light winds but W gust to 35 km/hr in afternoon. Drifting snow and reduced visibility late evening.
14. Below normal temp. Mostly sunny. Snow to 01.27 A.M. Drifting snow in morning. Mostly light winds but WNW gust to 33 km/hr in early morning.
15. Below normal temp. Cloudy clearing early afternoon. Snow 11.20 AM to 12.20 PM. Light winds.
16. Below normal temp. Cloudy clearing mid morning. Ice crystals 01.56 AM to 4.46 PM. Light winds. Assiniboine River frozen over.
17. Below normal temp. Cloudy clearing mid-morning. Ice crystals 3.45 AM to 7.17 PM. Light winds. Fog east of airport.
18. Below normal temp. Sunny. Ice crystals 5.51 AM to 2.32 PM. Light winds. Ice fog over city in morning. Smoke over city in evening.
19. Below normal temp. Sunny. Ice crystals 3.33 PM continued. Moderate S winds gusting to 65 km/hr in evening. Smoke and ice fog over city in morning. Drifting snow afternoon and evening. Ice fog in evening. Visibility restricted.
20. Above normal temperatures. Cloudy. Ice crystals to 02.58 AM. Freezing rain 9.48 AM to 1.35 PM. Ice pellets 10.53 AM to 1.30 PM. Moderate S winds gusting to 74 km/hr in morning. Drifting snow. Roads icy. Visibility slightly restricted.
21. Mild. Cloudy. Snow pellets 10.24 AM to 12.07 PM. 2.43 PM to 3.12 PM. Freezing rain 11.29 AM to 11.57 AM. Snow flurries 1.18 PM to 1.27PM. Snow 3.20 PM to 8.17 PM - 10.38 PM continued. Roads icy. Mostly light winds but SWgust to 35 km. in morning.
22. Above normal temp. Cloudy. Snow to 6.25 PM. 9.09 PM continued. Ice crystals 6.25 PM continued. Mostly light winds but N gust to 39 km/hr late morning. Drifting snow afternoon and evening. Visibility restricted.
23. Slightly below normal temp. Cloudy. Ice crystals to 8.24 AM - 3.12 PM to 5.48 PM. Snow to 2.40 PM 8.37 PM continued. Mostly light winds with NW gust to 35 km/hr late morning. Drifting snow until late afternoon. Visibility restricted in snow.
24. Above normal temp. Cloudy. Snow to 9.34 AM - 1.14 PM to 1.54 PM. Flurries 3.34 PM to 5.17 PM. Snow 9.20 PM continued. Ice crystals 4.10 AM to 5.50 AM. 5.17 PM to 7.50 PM. Light winds. Numerous traffic accidents due to icy roads.
25. Below normal temp. Sunny. Snow to 00.52 AM. Mostly light winds but E gust to 37 km/hr early morning. Drifting snow in morning. Man dies of exposure near Bird, Manitoba.
26. Slightly above normal temp. Mostly cloudy. Snow 6.47 AM to 11.06 AM 12.45 PM to 3.50 PM 7.29 PM continued. Flurries 6.58 PM to 7.29 PM Ice crystals 11.06 AM to 12.20PM. Light winds.
27. Below normal temp. Cloudy. Snow to 2.25 PM. Ice crystals 6.23 AM to 8.50 AM. Visibility restricted in snow. Mostly light winds but WNW gust to 44 Km/hr in afternoon. Drifting snow afternoon and evening. Some bad traffic accidents near Steinbach due to icy roads.
28. Very cold. Partly cloudy. Ice crystals 10.10 AM to 4.35 PM. 9.56 PM continued. Snow 9.35 PM continued. Light winds.
29. Cold. Sunny. Snow to 00.25 AM. Ice crystals to 00.47 AM. Mostly light winds but W gust to 41 km/hr in late morning. Drifting snow.
30. Very cold. Sunny. Ice crystals 9.00 AM to 10.28 AM. Haze in morning. Visibility restricted. Light winds.
31. Very cold. Sunny. Snow 7.30 PM continued. Visibility restricted in evening. Light winds.

HOURLY TEMPERATURES AT WINNIPEG INTERNATIONAL AIRPORT FOR THE MONTH OF DECEMBER 1961

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	-5.5	-4.5	-5.8	-5.0	-4.5	-4.0	-4.5	-5.0	-5.4	-5.2	-4.4	-2.9	-2.1	-1.7	-1.9	-1.9	-2.0	-2.0	-2.0	-2.4	-2.6	-2.8	-3.3	-4.0
2	-3.9	-3.5	-3.9	-4.3	-4.2	-4.8	-5.9	-7.9	-8.0	-7.1	-5.1	-4.4	-5.5	-5.1	-4.7	-4.5	-4.0	-3.8	-3.5	-3.5	-3.6	-3.9	-4.1	-4.1
3	-4.1	-4.2	-4.2	-3.9	-3.9	-3.7	-3.4	-3.3	-3.2	-3.0	-2.8	-2.4	-2.2	-1.9	-1.5	-1.1	-1.4	-1.5	-1.3	-1.8	-2.1	-2.6	-3.6	-3.5
4	-3.2	-3.2	-3.5	-3.8	-3.8	-3.8	-3.8	-6.2	-7.5	-7.6	-6.2	-5.3	-4.5	-3.7	-3.5	-3.2	-3.4	-5.9	-7.1	-7.9	-9.7	-9.5	-10.0	-10.0
5	-11.5	-12.5	-12.7	-13.8	-14.5	-13.3	-12.5	-14.2	-14.9	-13.4	-11.9	-10.5	-8.8	-7.9	-7.0	-6.1	-5.4	-5.2	-4.9	-4.9	-4.7	-4.3	-3.9	-3.5
6	-3.1	-3.8	-3.7	-3.7	-3.6	-3.7	-4.2	-3.9	-3.7	-4.0	-3.4	-3.3	-3.4	-2.6	-1.8	-2.0	-2.5	-4.2	-3.7	-3.0	-2.9	-2.7	-2.6	-2.8
7	-2.7	-2.7	-2.6	-2.8	-3.3	-3.4	-2.7	-3.6	-4.0	-4.0	-4.5	-4.3	-4.3	-4.0	-4.0	-4.6	-4.6	-6.6	-5.3	-5.3	-5.1	-5.2	-5.4	-5.3
8	-5.5	-5.9	-7.9	-10.1	-8.3	-8.2	-8.5	-9.1	-9.6	-11.5	-12.3	-11.2	-10.6	-9.6	-9.0	-8.5	-9.0	-9.3	-10.6	-10.3	-9.9	-11.4	-11.3	-12.1
9	-12.6	-14.3	-15.5	-15.1	-13.5	-11.5	-11.5	-11.3	-11.0	-10.2	-9.3	-9.1	-8.7	-8.1	-8.1	-8.3	-8.6	-11.0	-11.3	-11.5	-12.0	-12.7	-12.4	-11.5
10	-11.6	-11.0	-11.1	-10.4	-10.0	-9.7	-9.2	-8.9	-8.4	-7.9	-7.0	-6.6	-6.0	-5.2	-5.0	-4.7	-4.6	-4.0	-3.9	-4.7	-4.6	-4.6	-3.9	-4.2
11	-4.1	-4.1	-4.2	-4.3	-4.1	-3.9	-4.1	-4.3	-4.2	-4.0	-3.5	-2.6	-1.9	-1.0	-1.0	-1.0	-1.0	-1.5	-1.9	-2.4	-3.4	-3.5	-4.5	-4.8
12	-5.0	-5.0	-6.4	-6.4	-6.4	-6.8	-9.5	-11.5	-12.5	-11.4	-11.0	-9.2	-7.9	-7.3	-7.0	-7.9	-8.0	-8.2	-9.4	-9.2	-8.8	-9.5	-9.7	-10.8
13	-10.0	-10.0	-9.7	-9.8	-10.0	-10.0	-10.6	-10.6	-9.8	-9.2	-8.2	-7.1	-6.4	-6.2	-6.9	-8.2	-9.1	-11.2	-12.1	-12.0	-11.6	-11.2	-11.4	-11.7
14	-11.9	-12.4	-13.1	-14.2	-16.2	-17.0	-17.3	-17.7	-18.8	-19.2	-17.3	-16.2	-15.0	-14.0	-14.0	-13.5	-14.7	-15.5	-17.5	-19.2	-19.4	-19.2	-20.0	-20.4
15	-19.5	-18.5	-20.2	-20.1	-20.3	-22.2	-20.4	-19.5	19.0	18.4	-16.5	-15.0	-14.7	-14.5	-14.3	-14.3	-15.5	-17.8	-18.3	-18.3	-18.8	-20.9	-21.5	-22.5
16	-23.3	-22.4	-21.5	-20.0	-18.5	-18.4	-18.5	-21.9	-21.8	-21.5	-19.5	-17.6	-17.0	-15.7	-15.2	-15.2	-16.0	-18.5	-19.2	-20.6	-20.5	-20.9	-21.1	-20.9
17	-21.3	-21.2	-21.3	-19.3	-20.5	-21.0	-20.2	-20.7	-20.7	-21.7	-21.0	-19.2	-18.2	-17.9	-16.8	-16.8	-17.4	-18.2	-18.2	-20.8	-19.9	-20.3	-19.1	-19.8
18	-20.1	-22.0	-21.3	-21.7	-22.5	-21.9	-21.0	-20.8	-21.2	-20.8	-19.9	-18.0	-16.3	-15.7	-15.1	-15.1	-15.6	-16.9	-17.5	-17.3	-18.0	-18.5	-19.1	-19.4
19	-19.8	-20.3	-20.4	-20.5	-20.8	-21.1	-21.0	-21.0	-21.0	-20.9	-19.3	-17.9	-15.7	-14.7	-14.5	-14.1	-16.0	-16.5	-15.8	-14.7	-14.3	-14.2	-13.8	-14.2
20	-3.2	-12.2	-11.5	-10.8	-10.8	-10.6	-10.5	-10.5	-10.8	-10.3	-9.6	-8.7	-8.0	-7.1	-6.5	-6.2	-6.1	-7.0	-7.6	-7.8	-7.7	-7.2	-6.8	-6.7
21	-6.9	-5.3	-2.8	-2.8	-4.3	-3.2	-2.5	-1.4	-1.4	-1.4	-1.4	-2	-2	-3	-2.6	-3.2	-3.6	-5.1	-5.4	-5.8	-6.2	-6.3	-6.5	-6.6
22	-7.1	-7.7	-8.1	-8.0	-8.1	-8.1	-8.0	-8.2	-8.0	-7.3	-7.7	-8.0	-8.2	-8.5	-8.6	-9.0	-9.5	-10.1	-10.6	-10.9	-11.5	-11.6	-12.3	-12.7
23	-13.0	-13.3	-13.7	-14.2	-14.7	-14.9	-15.3	-15.8	-16.2	-16.5	-16.2	-16.1	-16.0	-16.1	-16.1	-17.0	-18.1	-18.2	-18.9	-18.6	-18.9	-17.4	-15.1	-14.5
24	-13.9	-13.4	-13.0	-12.6	-12.5	-12.5	-12.5	-12.9	-13.1	-12.8	-13.0	-12.2	-11.7	-11.3	-11.2	-11.3	-11.3	-11.2	-13.0	-12.7	-11.8	-12.2	-12.2	-11.6
25	-11.4	-12.6	-14.1	-19.0	-19.4	-21.4	-21.8	-22.0	-22.8	-24.2	-23.2	-22.6	-17.5	-17.3	-16.9	-15.7	-18.7	-20.1	-19.9	-21.7	-21.3	-20.8	-21.1	-21.3
26	-20.7	-20.5	-21.5	-20.9	-20.0	-20.3	-19.2	-19.2	-19.8	-17.6	-15.3	-14.1	-13.1	-11.4	-10.4	-9.7	-9.5	-10.1	-10.3	-10.3	-11.0	-10.6	-10.3	-9.9
27	-9.7	-9.7	-9.8	-9.8	-9.9	-10.0	-10.4	-10.4	-10.4	-10.2	-10.0	-9.6	-10.2	-11.3	-13.4	-14.2	-18.0	-20.5	-21.8	-23.0	-23.6	-25.3	-26.5	-26.7
28	-27.5	-26.8	-28.8	-29.2	-28.7	-28.8	-28.6	-28.8	-27.8	-27.1	-25.5	-24.4	-23.6	-23.6	-24.0	-23.2	-23.5	-24.0	-25.3	-24.4	-24.5	-24.2	-23.5	-22.5
29	-22.4	-23.2	-23.4	-23.0	-23.6	-24.4	-24.3	-24.3	-24.4	-24.1	-23.7	-23.0	-22.5	-21.9	-21.3	-20.8	-20.7	-21.6	-22.7	-22.9	-22.8	-23.7	-24.2	-25.2
30	-25.1	-25.8	-26.3	-26.8	-27.8	-27.1	-28.6	-29.2	-31.0	-30.6	-28.0	-26.0	-25.4	-24.4	-23.0	-23.2	-23.9	-26.8	-26.5	-26.4	-27.1	-28.8	-29.6	-29.8
31	-29.5	-29.3	-29.9	-30.0	-29.9	-30.8	-31.2	-31.0	-31.0	-31.3	-30.0	-27.6	-24.8	-24.3	-23.8	-23.5	-24.1	-26.0	-26.0	-24.6	-27.5	-27.7	-23.1	-23.4

MEAN -12.4 -12.8 -13.1 -13.3 -13.4 -13.5 -13.9 -12.9 -12.7 -13.0 -12.0 -11.2 -10.7 -10.5 -10.5 -11.1 -12.1 -12.5 -12.8 -13.0 -13.3 -13.2 -13.3

HOURLY WETBULB TEMPERATURES AT WINNIPEG INTERNATIONAL AIRPORT FOR THE MONTH OF DECEMBER 1981  
 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.	-6.0	-5.0	-6.1	-5.5	-5.0	-4.8	-4.3	-5.3	-5.6	-5.5	-4.7	-3.3	-2.7	-2.3	-2.2	-2.2	-2.3	-2.5	-2.6	-3.0	-3.2	-3.5	-4.0	-4.5
2.	-4.4	-4.0	-4.3	-4.6	-5.0	-6.0	-7.9	-7.9	-8.0	-7.1	-5.5	-5.0	-5.7	-5.1	-4.8	-4.6	-4.3	-4.2	-4.0	-4.0	-4.1	-4.1	-4.3	-4.3
3.	-4.3	-4.4	-4.3	-4.1	-3.9	-3.7	-3.5	-3.3	-3.3	-3.3	-3.1	-2.8	-2.5	-2.1	-1.8	-1.6	-1.5	-1.9	-2.0	-2.2	-2.6	-3.1	-4.1	-4.0
4.	-3.9	-3.8	-3.8	-4.0	-4.3	-4.3	-4.3	-6.4	-7.5	-7.7	-6.6	-6.1	-5.5	-5.0	-4.8	-4.4	-4.6	-6.4	-7.5	-8.1	-9.5	-10.3	-10.3	-10.3
5.	-11.7	-12.7	-12.8	-14.0	-14.7	-13.5	-12.7	-14.3	-15.0	-13.6	-12.1	-10.8	-9.1	-8.3	-7.5	-6.7	-6.1	-5.9	-5.8	-5.8	-5.5	-5.1	-4.7	-4.2
6.	-3.8	-4.6	-4.4	-4.4	-4.4	-4.4	-4.8	-4.6	-4.3	-4.5	-4.0	-3.8	-3.9	-3.1	-2.7	-3.0	-3.2	-5.2	-4.0	-3.5	-3.5	-3.2	-3.2	-3.2
7.	-3.0	-2.9	-2.8	-3.3	-3.7	-3.8	-3.4	-4.2	-4.5	-4.5	-5.3	-5.0	-5.0	-4.8	-5.0	-5.6	-5.6	-7.2	-5.8	-5.8	-5.5	-5.5	-5.8	-5.7
8.	-5.9	-6.1	-6.1	-10.1	-8.3	-8.5	-8.7	-9.3	-9.8	-11.7	-12.5	-11.0	-11.0	-10.1	-9.6	-9.0	-8.6	-9.2	-11.3	-10.8	-10.5	-12.0	-11.8	-12.6
9.	-13.0	-14.5	-15.7	-15.2	-13.8	-11.9	-12.1	-11.9	-11.7	-11.3	-10.7	-10.0	-9.7	-9.2	-8.6	-8.8	-10.0	-11.3	-11.3	-11.7	-12.8	-12.5	-11.6	-11.6
10	-11.7	-11.1	-11.2	-10.6	-10.3	-10.0	-9.6	-9.4	-9.1	-8.5	-7.9	-7.6	-7.0	-6.4	-6.1	-5.8	-5.6	-5.2	-5.0	-5.0	-5.1	-5.0	-4.6	-5.0
11	-4.9	-4.8	-4.9	-4.9	-4.7	-4.4	-4.4	-4.6	-4.6	-4.4	-4.0	-3.1	-2.5	-2.0	-2.1	-1.8	-1.6	-2.0	-2.2	-2.7	-3.8	-4.7	-5.2	-5.2
12	-5.5	-5.6	-6.8	-6.8	-7.2	-7.2	-9.8	-11.7	-12.6	-11.6	-11.2	-9.9	-8.8	-8.6	-8.3	-8.0	-9.0	-9.1	-10.0	-9.8	-9.3	-10.0	-11.1	-11.1
13	-10.3	-10.2	-10.0	-10.1	-10.2	-10.2	-10.8	-10.8	-10.0	-9.6	-8.8	-8.0	-7.6	-7.4	-7.9	-8.9	-10.1	-11.7	-12.5	-12.6	-12.0	-11.5	-11.5	-11.8
14	-12.1	-12.7	-13.4	-14.6	-16.4	-17.1	-17.4	-17.8	-18.9	-19.3	-17.5	-16.3	-15.2	-14.6	-14.6	-14.2	-15.3	-15.9	-17.7	-19.3	-19.4	-19.2	-20.0	-20.4
15	-19.5	-18.6	-20.2	-20.1	-20.2	-22.1	-20.3	-19.5	-19.0	-18.4	-16.7	-15.4	-15.0	-14.8	-14.7	-14.7	-15.7	-17.8	-19.4	-18.4	-18.8	-21.0	-21.5	-22.5
16	-23.4	-22.4	-21.4	-20.0	-18.5	-18.5	-18.6	-21.9	-21.8	-21.5	-19.5	-17.7	-17.2	-16.0	-15.6	-15.5	-16.3	-18.7	-19.3	-20.6	-20.6	-21.0	-21.2	-21.0
17	-21.4	-21.3	-20.3	-19.5	-20.6	-21.0	-20.3	-20.8	-20.8	-21.8	-21.0	-19.2	-18.3	-17.9	-16.9	-16.9	-17.5	-18.3	-18.3	-20.8	-20.8	-21.3	-21.0	-21.0
18	-20.1	-21.9	-21.3	-21.7	-22.4	-21.8	-21.0	-20.8	-21.2	-20.8	-19.9	-18.0	-16.4	-16.0	-15.9	-15.5	-15.8	-17.1	-17.6	-17.5	-18.0	-18.5	-19.1	-19.7
19	-19.8	-20.3	-20.5	-20.6	-20.8	-21.1	-21.0	-21.0	-21.1	-21.0	-19.5	-18.1	-16.0	-15.1	-15.0	-14.6	-16.2	-16.7	-16.0	-14.9	-14.4	-14.3	-13.8	-14.3
20	-13.4	-12.4	-11.7	-11.1	-11.1	-10.8	-10.9	-10.9	-11.0	-10.6	-9.8	-9.0	-8.3	-7.4	-6.9	-6.6	-6.5	-7.2	-7.6	-7.9	-7.8	-7.3	-7.1	-7.1
21	-7.2	-5.8	-3.8	-3.8	-5.0	-4.3	-3.6	-2.6	-2.5	-1.7	-1.6	-1.0	-1.0	-1.9	-3.2	-4.1	-4.4	-5.8	-6.3	-6.6	-6.8	-6.9	-7.1	-7.3
22	-7.7	-8.2	-8.5	-8.3	-8.4	-8.3	-8.2	-8.4	-8.1	-7.5	-8.0	-8.2	-8.4	-8.3	-9.0	-9.3	-9.8	-10.4	-10.8	-11.1	-11.7	-12.0	-12.4	-12.8
23	-13.1	-13.4	-13.8	-14.3	-14.8	-15.0	-15.3	-15.9	-16.3	-16.7	-16.4	-16.3	-16.2	-16.3	-16.3	-17.2	-18.2	-18.3	-19.0	-18.7	-18.9	-18.4	-14.7	-14.7
24	-14.1	-13.7	-13.3	-12.9	-12.8	-12.7	-12.9	-13.2	-13.2	-13.1	-13.3	-12.6	-12.1	-11.7	-11.6	-11.7	-11.7	-11.5	-13.1	-12.8	-12.0	-12.4	-11.9	-11.9
25	-11.5	-13.0	-14.5	-19.3	-19.6	-21.5	-21.9	-22.0	-22.8	-24.1	-23.2	-22.6	-22.1	-17.6	-17.2	-16.1	-18.9	-20.1	-19.9	-21.6	-21.2	-20.8	-21.1	-21.3
26	-20.7	-20.6	-21.5	-20.9	-20.0	-20.3	-19.3	-19.3	-19.9	-17.8	-15.5	-14.3	-13.2	-11.6	-10.7	-10.0	-9.9	-10.4	-10.6	-10.6	-11.1	-10.8	-10.6	-10.1
27	-9.9	-9.9	-10.0	-10.0	-10.1	-10.2	-10.6	-10.5	-10.5	-10.3	-10.1	-9.8	-10.4	-11.5	-13.5	-14.4	-18.1	-20.6	-21.9	-23.1	-23.7	-25.3	-26.5	-26.7
28	-27.5	-26.8	-28.8	-29.1	-28.6	-28.7	-28.5	-28.7	-27.8	-27.1	-25.5	-25.1	-24.5	-23.8	-24.1	-23.3	-23.6	-24.1	-25.3	-24.4	-24.5	-24.3	-23.6	-22.6
29	-22.6	-23.4	-23.5	-23.1	-23.8	-24.6	-24.5	-24.5	-24.6	-24.3	-23.2	-22.7	-22.7	-22.1	-21.5	-21.0	-21.1	-21.9	-23.0	-23.1	-22.9	-23.8	-24.2	-25.2
30	-25.1	-25.8	-26.3	-26.7	-27.7	-27.0	-28.5	-29.1	-31.0	-30.6	-28.0	-26.0	-25.4	-24.5	-23.0	-23.2	-23.9	-26.8	-26.5	-26.4	-27.1	-28.7	-29.5	-29.7
31	-29.4	-29.2	-29.8	-29.9	-29.8	-30.7	-31.1	-30.9	-31.0	-31.2	-30.0	-27.6	-25.0	-24.5	-23.9	-23.7	-24.4	-26.0	-26.0	-24.7	-27.5	-27.7	-23.1	-23.5

MEAN -13.0 -13.1 -13.4 -13.6 -13.7 -13.7 -14.1 -14.3 -14.1 -14.3 -12.4 -11.6 -11.2 -11.0 -11.0 -11.5 -12.5 -12.9 -13.0 -13.2 -13.5 -13.4 -13.6

INTERNATIONAL AIRPORT FOR THE MONTH OF DECEMBER 1961

ABSTRACT OF THE WIND AT WINNIPEG  
ALL TIMES ARE C.S.T. VELOCITY IN KILOMETERS PER HOUR

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	TIME (CST)
1	W 4	C 0	WNW 7	W 6	WNW 7	WNW 11	W 13	WNW 11	WNW 13	W 9	WNW 13	N 9	N 13	N 17	N 17	N 20	N 15	N 11	N 13	N 11	N 13	N 17	N 9	NW 11		
2	NW 9	N 7	NW 9	N 6	W 4	C 4	W 4	C 4	W 4	C 4	SSW 4	SSW 9	SSW 20	SSW 24	S 22	S 26	S 24	S 20	S 24	S 20	S 24	S 24	S 26	S 31	S 41	22.12
3	S 22	SSE 26	SSE 15	SSE 17	SE 15	ESE 9	ESE 9	ESE 9	SE 9	SE 7	SSE 6	S 9	SSW 7	SSW 24	SSW 24	SSW 26	SSW 24	SSW 20	SSW 24	SSW 20	SSW 24	SSW 24	SSW 26	SSW 31	SSE 37	00.20
4	W 7	W 13	W 15	W 17	W 13	WNW 6	WNW 6	WNW 2	WNW 2	WNW 2	WNW 13	WNW 17	WNW 6	WNW 13	WNW 17	WNW 13	WNW 11	WNW 9	WNW 11	WNW 11	WNW 11	WNW 9	WNW 7	WNW 6		
5	S 11	SSW 11	S 9	S 7	S 7	S 11	S 11	S 11	S 11	S 15	S 15	S 19	S 17	S 15	S 17	S 17	S 17	S 15	S 15	S 15	S 15	S 19	S 19	SSE 19	S 33	17.04
6	SE 13	ESE 17	ESE 19	ESE 26	SE 19	SE 17	SE 22	SE 19	SE 22	SE 20	SSE 22	SSE 20	SSE 22	SSE 26	SSE 22	SSW 13	SSW 7	SSW 0	SSW 6	SSW 6	SSW 6	SSW 11	SSW 11	SSW 11	SSE 56	09.31
7	NW 20	NW 19	NW 22	NW 22	NW 24	NW 22	NW 28	NW 22	NW 28	NW 24	NW 28	NW 24	NW 22	NW 22	NW 19	NW 19	NW 7	NW 9	NW 6	NW 0	NW 7	NW 7	NW 9	NW 9	NW 37	07.16
8	N 11	N 11	N 19	N 20	N 24	N 15	N 15	N 20	N 20	N 20	N 20	N 19	N 17	N 17	N 24	N 24	N 20	N 13	N 13	N 13	N 13	N 9	N 6	N 0	N 35	15.43
9	C 0	W 6	WSW 6	WSW 4	C 0	SSW 7	SSW 7	SSW 7	SSW 11	SSW 9	SSW 13	SSW 11	SSW 11	SSW 13	SSW 13	SSW 13	SSW 11	SSW 9	SSW 7	SSW 7	SSW 7	SSW 9	SSW 11	SSW 15	SSE 61	20.47
10	S 11	SE 9	SE 15	SE 17	SE 24	SE 22	SE 28	SE 26	SE 24	SE 28	SE 26	SE 31	SE 28	SE 28	SE 28	SE 30	SE 28	SE 35	SE 33	SE 41	SE 44	SE 35	SE 39	SE 41	S 63	00.15
11	S 41	S 41	S 39	S 48	S 33	S 35	S 33	S 30	S 31	S 33	S 30	S 33	S 30	S 22	S 26	S 19	S 19	S 17	S 17	S 13	S 13	S 13	S 13	S 13		
12	WSW 9	WSW 13	WSW 13	WSW 13	NW 13	WNW 9	WNW 11	WNW 9	WNW 7	WNW 6	WNW 9	WNW 7	WNW 7	WNW 7	WNW 11	WNW 11	WNW 6	WNW 2	WNW 6	WNW 6	WNW 6	WNW 7	WNW 4	WNW 0		
13	C 0	C 0	C 4	SSW 4	SSW 6	SSW 4	SSW 9	SSW 7	SSW 9	SSW 9	SSW 9	SSW 17	SSW 17	SSW 17	SSW 20	SSW 15	SSW 24	SSW 13	SSW 9	SSW 15	SSW 9	SSW 13	SSW 20	SSW 24	W 35	15.38
14	WNW 26	WNW 24	WNW 15	WNW 13	WNW 11	WNW 11	WNW 9	WNW 11	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 4	WNW 33	00.39
15	N 7	N 6	N 2	N 2	N 2	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	C 0	N 4	N 6	N 7	N 6	N 4	N 4	N 4	N 4	N 4	N 4		
16	NW 4	WNW 9	C 0	N 6	C 0	WNW 6	WNW 9	WNW 7	WNW 13	WNW 15	WNW 20	WNW 24	WNW 22	WNW 17	WNW 17	WNW 17	WNW 13	WNW 9	WNW 15	WNW 13	WNW 13	WNW 15	WNW 15	WNW 13		

17	WNW W	WNW WNW	WNW WNW	WNW WNW	WNW W	W	NW	WNW WNW	NW	NNW	C	C	C	C	0	0	0	6	6	6	7	S	65	20.12
	13 13	17 13	9 9	11 13	9 7	9 7	9 7	9 9	7 6	4 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	6 6	6 6	6 6	7 7	S	65	20.12
18	S S	S S	S S	SSE S	S S	S S	SSW S	SSE S	SSE S	SSE S	SSE S	SSE S	SSE S	SSE S	SSE S	SSE S	SSE S	S S	S S	S S	S S	S	74	04.03
	7 6	4 9	9 7	9 11	9 9	13 13	15 13	15 13	19 17	17 15	17 15	17 15	17 15	17 15	17 15	17 15	17 15	19 19	19 19	19 19	19 19	S	74	04.03
19	S S	S S	SSE SSE	S S	S S	S S	SSE S	S S	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	S S	S S	S S	S S	S	65	20.12
	20 20	24 17	20 20	20 20	22 22	31 35	28 33	41 31	31 31	31 31	31 31	31 31	31 31	31 31	31 31	31 31	31 31	33 33	33 33	33 33	33 33	S	65	20.12
20	S S	S S	SSE S	S S	S S	S S	SSE SSE	S S	S S	SSE S	S S	S S	S S	S S	S S	S S	S S	S S	S S	S S	S S	S	74	04.03
	41 37	41 43	44 41	33 41	33 46	39 37	26 41	37 30	39 30	28 26	22 20	22 20	22 20	22 20	22 20	22 20	22 20	19 19	19 19	19 19	19 19	S	74	04.03
21	S SSW	SW SW	SW SW	SW SW	SW SW	SW W	WSW NW	WNW WNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	W W	W W	W W	W W	SW	35	03.16
	17 17	22 22	17 20	15 17	15 13	20 15	19 28	17 17	13 24	17 15	13 13	13 13	13 13	13 13	13 13	13 13	13 13	15 15	15 15	15 15	13 13	SW	35	03.16
22	W W	W W	SW W	WNW NW	NNW N	NNW N	N N	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	NNW NNW	N N	N N	N N	N N	N	39	11.06
	13 15	13 9	9 6	2 4	22 24	31 28	26 28	28 22	24 22	24 22	24 22	24 22	24 22	24 22	24 22	24 22	24 22	W W	W W	W W	W W	N	39	11.06
23	NW NW	NW NW	WNW WNW	WNW NW	NW NW	WNW WNW	WNW WNW	NW NW	WNW WNW	W W	W W	W W	W W	W W	W W	W W	W W	W W	W W	W W	W W	NW	35	11.12
	24 22	20 20	19 17	26 26	22 20	28 28	22 28	22 24	13 15	13 13	9 9	9 9	9 9	9 9	9 9	9 9	9 9	W W	W W	W W	W W	NW	35	11.12
24	W W	W W	WNW W	WNW W	WSW WSW	WSW W	SSW S	S S	S S	S S	S S	S S	S S	S S	S S	S S	S S	W W	W W	W W	W W	W	37	00.06
	13 13	15 11	7 6	13 4	7 6	9 11	13 7	9 11	13 9	13 9	13 9	13 9	13 9	13 9	13 9	13 9	13 9	W W	W W	W W	W W	W	37	00.06
25	NNW N	N N	NW NNW	NW NNW	C C	C C	N C	ENE E	S S	SE SE	SE SE	SE SE	SE SE	SE SE	SE SE	SE SE	SE SE	E E	E E	E E	E E	E	37	00.06
	17 22	13 15	7 9	11 6	7 7	0 0	2 2	0 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	W W	W W	W W	W W	E	37	00.06
26	S S	SSE SE	SSE S	S S	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	SSE SSE	S S	S S	S S	S S	E	37	00.06
	13 9	6 13	13 13	9 11	15 15	17 15	17 15	17 15	17 15	17 15	17 15	17 15	17 15	17 15	17 15	17 15	17 15	S S	S S	S S	S S	E	37	00.06
27	C S	SSE SSE	C W	WNW NNE	NW NW	NNW NNW	C N	SSW S	S S	SSW SSW	SSW SSW	SSW SSW	SSW SSW	SSW SSW	SSW SSW	SSW SSW	SSW SSW	WNW	WNW	WNW	WNW	WNW	44	15.47
	0 4	6 0	0 2	2 2	4 7	11 20	30 30	35 31	30 26	24 22	24 22	24 22	24 22	24 22	24 22	24 22	24 22	WNW	WNW	WNW	WNW	WNW	44	15.47
28	NW NW	WNW WNW	WNW W	NW NW	WNW NNW	C N	C N	SSW S	S S	SSW SSW	SSW SSW	SSW SSW	SSW SSW	SSW SSW	SSW SSW	SSW SSW	SSW SSW	W W	W W	W W	W W	W	41	11.40
	17 15	6 6	9 11	9 11	6 4	6 0	2 0	4 9	13 13	7 7	13 13	13 13	13 13	13 13	13 13	13 13	13 13	W W	W W	W W	W W	W	41	11.40
29	SW SW	WSW SW	SW SW	SW SW	WSW WSW	WSW W	WSW W	WSW W	WSW W	WSW W	WSW W	WSW W	WSW W	WSW W	WSW W	WSW W	WSW W	WSW	WSW	WSW	WSW	W	41	11.40
	17 19	11 22	17 22	17 22	24 20	17 22	17 22	24 24	19 13	15 15	15 15	15 15	15 15	15 15	15 15	15 15	15 15	WSW	WSW	WSW	WSW	W	41	11.40
30	W WSW	W W	W C	C C	C C	C C	NNW C	NNW N	N N	NNE NNE	N N	NNE NNE	N N	NNE NNE	N N	NNE NNE	N N	W W	W W	W W	W W	W	41	11.40
	17 13	17 9	11 9	6 0	0 0	0 0	7 0	6 13	9 15	13 9	6 9	6 9	6 9	6 9	6 9	6 9	6 9	W W	W W	W W	W W	W	41	11.40
31	N NNE	N NNW	NNW NNW	NW NW	NNW N	NNW N	NNW N	NNW N	NNW N	NNW N	NNW N	NNW N	NNW N	NNW N	NNW N	NNW N	NNW N	W W	W W	W W	W W	W	41	11.40
	9 11	4 6	13 13	13 7	11 6	9 7	13 11	11 9	7 7	0 15	6 0	6 0	6 0	6 0	6 0	6 0	6 0	W W	W W	W W	W W	W	41	11.40

FACTORS OF 1200 WATTS/SQ.M. OR LESS ARE SHOWN AS 0

DAY	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	1256	1301	1301	0	0	0	0	0	0	0	0	1279	1312	1276	1312	1274	1223	1213	1257	1216	1271	1298	1349	0
4	0	0	0	0	0	0	0	0	0	0	1219	1246	0	0	0	0	0	0	0	0	1238	0	0	0
5	1290	1319	1325	0	0	0	1319	1368	1368	1436	1301	1415	1329	1266	1271	1243	0	1293	0	0	1227	1214	1271	0
6	0	0	0	0	1260	0	0	1249	0	1253	1232	1206	1232	1245	0	0	0	0	0	0	0	0	0	0
7	0	0	0	1212	1229	1254	1229	1239	1253	1313	1330	1263	1253	1229	1223	0	0	0	0	0	0	0	0	0
8	0	0	1331	1402	1372	1419	1350	1303	1415	1479	1505	1438	1386	1354	1446	1429	1396	1270	1315	0	0	0	0	0
9	0	0	0	0	0	0	0	1284	0	1284	0	1270	1220	1234	1240	1235	0	0	0	0	0	0	0	0
10	1293	0	1365	1379	1367	1471	1429	1486	1448	1409	1419	1385	1418	1355	1348	1355	1334	1374	1357	1436	1453	1396	1395	1417
11	1414	1414	1406	1459	1364	1370	1378	1371	1337	1345	1342	1279	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	1290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	1252	1246	1326	1275	1450	1327	0	1393	0	1327	1475	1539
14	1570	1564	1427	1417	1426	1501	1458	0	1501	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1630	1627	1594	1662	1606	0	0	1557	1612	0	0	1576	1566	1661	1677	1632	1602	1557	0	1616	1609	1606	1668	1674
18	0	0	0	0	0	0	0	0	1571	0	0	1531	1526	1462	1489	1565	1545	1544	1516	1557	1695	1676	1695	1703
19	1754	1771	1774	1843	1710	1798	1794	1794	1794	1825	1771	1851	1808	1692	1746	1795	1782	1800	1775	1803	1773	1735	1783	1812
20	1379	1694	1696	1681	1693	1661	1599	1657	1610	1684	1610	1563	1434	1528	1484	1409	1478	1437	1440	1427	1378	1336	1295	1319
21	1265	1217	1212	1212	0	1203	0	0	0	0	0	0	0	0	1263	0	0	0	1322	1233	1213	0	1223	0
22	1204	1260	1234	0	0	0	0	1354	1402	1491	1462	1452	1476	1490	1439	1484	1476	1459	1533	1517	1505	1505	1518	0
23	1584	1568	1552	1568	1585	1559	1535	1707	1721	1676	1635	1742	1659	1742	1662	1722	1534	1585	1558	0	0	1394	1426	0
24	1408	1393	1424	1322	0	0	1366	0	0	0	1310	1342	0	0	0	1284	1330	0	0	1487	1424	1471	1357	1293
25	1411	1544	1414	1509	0	0	1568	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	1612	0	0	0	1591	1608	1567	0	1530	1556	1495	1497	1427	1411	0	0	1276	1294	1300	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	1246	1415	1552	1592	1723	1716	1833	1871	1887	1896	1949	1853	1891	1942
28	1923	1851	0	0	0	1791	0	1791	0	0	0	0	0	0	0	1696	1711	0	1723	0	1770	1796	1718	0
29	1761	1829	1635	1896	1916	1824	1940	1973	1907	1815	1920	1780	1879	1891	1870	1751	1612	1639	1724	1730	1675	1702	1770	0
30	1847	1765	1885	0	1762	0	0	0	0	0	0	0	0	0	1687	0	1851	1786	0	0	0	0	0	0
31	0	1806	0	0	1889	1916	1928	0	1855	0	0	0	0	1720	1646	1638	0	0	0	1793	0	0	0	0

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 SUMMARY  
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 GREATER THAN 1400 WATTS/SQ.M. 1500 WATTS/SQ.M. 1900 WATTS/SQ.M. GREATER THAN 2300 WATTS/SQ.M.  
 107 112 10 0  
 NUMBER OF HOURS= 15 13 4 0  
 NUMBER OF DAYS= 15 13 4 0  
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