



# MAY 2003

## LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

# MINNEAPOLIS - ST. PAUL, MN

INTERNATIONAL AIRPORT (MSP)  
 Lat: 44° 52' N Long: 93° 13' W Elev (Ground): 871 Feet  
 Time Zone: CENTRAL WBAN: 14922 ISSN #: 0198-2745

DATE	TEMPERATURE °F							DEG DAYS BASE 65°		WEATHER	SNOW/ICE ON GND (IN)		PRECIPITATION (INCHES)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								DATE
	MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	0600 LST		1200 LST	2400 LST	2400 LST	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM						
																			5-SEC		2-MIN				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
01	71	42	57	3	36	48	8	0					0.00	29.03	29.93	8.3	03	10.2	28	03	23	03	01		
02	65	45	55	1	21	41	10	0					0.00	29.20	30.10	9.4	09	10.0	21	10	15	09	02		
03	68	45	57	3	37	48	8	0					0.00	29.16	30.06	10.9	15	11.3	26	15	23	14	03		
04	57	46	52	-3	43	47	13	0	RA BR				0.64	28.86	29.75	17.9	12	19.6	41	15	33	14	04		
05	51	46	49*	-6	47	48	16	0	RA DZ BR				0.18	28.64	29.54	8.1	05	9.0	22	09	18	09	05		
06	63	49	56	0	48	52	9	0	BR				0.00	28.92	29.81	3.2	11	5.7	16	11	14	10	06		
07	65	50	58	2	49	53	7	0					0.00	29.04	29.94	8.3	13	9.0	21	11	18	13	07		
08	63	48	56	-1	47	51	9	0	RA BR				0.44	29.00	29.90	12.7	11	13.3	33	09	26	09	08		
09	64	51	58	1	50	53	7	0	TSRA RA DZ BR				0.50	28.69	29.58	4.8	22	12.1	37	12	30	12	09		
10	57	46	52	-5	46	48	13	0	RA BCFG BR				0.73	28.73	29.63	4.7	32	6.7	28	02	18	36	10		
11	60	46	53	-5	43	47	12	0	TSRA RA BR				1.37	28.68	29.57	19.8	33	20.0	40	32	31	33	11		
12	67	47	57	-1	36	47	8	0					0.00	29.10	30.00	9.4	31	10.3	25	32	21	32	12		
13	70	42	56	-2	37	49	9	0	RA				0.02	29.09	29.98	4.9	14	5.6	20	17	15	14	13		
14	62	51	57	-2	50	53	8	0	RA DZ BR				0.76	28.96	29.86	11.8	11	12.7	32	12	28	12	14		
15	72	44	58	-1	44	52	7	0					0.00	29.09	29.99	2.6	09	5.1	16	09	12	09	15		
16	72	52	62	3	47	55	3	0					0.00	29.15	30.04	4.0	13	6.2	18	07	16	09	16		
17	74	54	64	4	49	56	1	0					0.00	29.19	30.09	6.2	14	6.9	22	13	18	13	17		
18	76	56	66	6	54	59	0	1	HZ				0.00	29.11	30.00	10.9	15	11.1	23	15	20	15	18		
19	66	48	57	-3	56	58	8	0	RA BR				0.94	29.11	30.00	3.5	30	11.7	35	32	25	33	19		
20	60	41*	51	-10	35	44	14	0					0.00	29.46	30.38	7.4	33	8.3	28	04	22	32	20		
21	63	43	53	-8	37	46	12	0					0.00	29.41	30.32	6.0	17	7.2	21	18	17	16	21		
22	52	48	50	-12	44	47	15	0	RA BR				0.35	29.32	30.23	6.9	10	8.2	18	10	15	09	22		
23	65	43	54	-8	44	49	11	0					0.00	29.29	30.20	1.9	06	3.5	16	07	13	06	23		
24	70	51	61	-1	40	50	4	0					0.00	29.17	30.07	1.7	03	4.6	13	33	10	33	24		
25	76	43	60	-3	37	50	5	0					0.00	29.19	30.09	5.3	03	6.4	26	04	18	05	25		
26	76	49	63	0	39	52	2	0					0.00	29.26	30.15	4.7	09	6.7	25	12	22	12	26		
27	82*	50	66	3	46	56	0	1	BCFG				0.00	29.19	30.08	2.7	26	4.1	21	30	17	31	27		
28	77	61	69*	6	48	58	0	4					0.00	29.06	29.94	14.6	34	15.3	39	33	32	34	28		
29	80	54	67	4	42	55	0	2	RA				T	28.95	29.84	5.3	21	7.4	20	20	15	18	29		
30	77	53	65	1	51	56	0	0	TS TSRA RA BR				0.21	28.69	29.57	9.0	33	16.8	45*	03	35*	03	30		
31	64	47	56	-8	39	47	9	0					0.00	29.16	30.06	8.7	03	9.2	30	04	25	02	31		
67.3 48.1 57.7 ■■											43.3 50.8 7.4 0.3		< MONTHLY AVERAGES		TOTALS->		6.14 29.06 29.96		2.3 08 9.5		<- MONTHLY AVERAGES				
-2.8 -.4 -1.6 ■■				<-----DEPARTURE FROM NORMAL----->										2.90		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3									
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 2.10 DATE :10-11				SEA LEVEL PRESSURE				DATE		TIME					
MONTHLY TOTAL DEPARTURE					SEASON TO DATE TOTAL DEPARTURE					GREATEST 24-HR SNOWFALL:				MAXIMUM				DATE		TIME					
HEATING: 228 6 7656 -176					COOLING: 8 -33 21 -24					NUMBER OF DAYS WITH				MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32: 0				PRECIPITATION ≥ 0.01 INCH: 11			
										MAXIMUM TEMP ≤ 32: 0				MINIMUM TEMP ≤ 0: 0				PRECIPITATION ≥ 0.10 INCH: 10							
										THUNDERSTORMS: 3				HEAVY FOG: 0				SNOWFALL ≥ 1.0 INCH: :							

MAY 2003 MINNEAPOLIS - ST. PAUL, MN

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

# MINNEAPOLIS–ST.PAUL, MN

MAY 2003

MSP

WBAN # 14922

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note)	2400 LST	
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			Water	Equiv.
01													01												01		0.00		
02													02												02		0.00		
03													03												03		0.00		
04													04		T	0.02	0.01	0.12	0.11	0.13	0.15	0.07	0.03	T	04		0.64		
05	T	T	0.03	0.01	0.05	0.05	0.01	0.01	T				05	T	0.01	0.01	T						T	05		0.18			
06													06												06		0.00		
07													07												07		0.00		
08													08												08	0.42	0.44		
09	0.04	0.05	0.02	T	0.16	0.21	0.02	T	T				09	T	T				T	0.01	0.04	0.03	0.12	0.22	09		0.50		
10													10			T	0.07	0.07	0.01	0.09	0.14	0.10	0.04	0.06	0.15	10		0.73	
11	0.07	0.27	0.29	0.20	0.16	0.08	0.12	0.09	0.04	0.03	0.01	0.01	11	T											11		1.37		
12													12												12		0.00		
13													13											T	13		0.02		
14	0.01	0.03	0.13	0.35	0.22	0.02		T	T	T			14										T	T	0.02	14		0.76	
15													15												15		0.00		
16													16												16		0.00		
17													17												17		0.00		
18													18												18		0.00		
19													19			0.10	0.22	0.08	0.09	0.29	0.02	0.02	T	0.01	0.07	0.04	19		0.94
20													20												20		0.00		
21													21												21		0.00		
22													22		T	0.03	0.03	0.07	0.10	0.04	0.05	0.03	T	T	T	22		0.35	
23													23												23		0.00		
24													24												24		0.00		
25													25												25		0.00		
26													26												26		0.00		
27													27												27		0.00		
28													28												28		0.00		
29													29											T	29		T		
30	0.02	0.13		0.05									30											T	30		0.21		
31													31		0.01	T	T							T	31		0.00		

## MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	.09	.14	.20	.24	.27	.34	.41	.50	.55	.59	.70	.76
Ending Date	19	19	19	19	19	14	14	14	14	14	11	11
Ending Time (Hour/Min)	1246	1249	1247	1249	1255	0359	0411	0427	0440	0440	0324	0405

Date and time are not entered for TRACE amounts.

Note : The sum of the hourly totals is given when it differs from the daily total. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

## REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

\* = Extreme for the month (last occurrence if more than one)

T = Trace precipitation amount

+ = also occurs on earlier date

FG+ = Heavy fog, visibility .25 miles or less

BLANK entries denote missing or unreported data

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Precipitation is for the 24-hour period ending at the time indicated in the column heading.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

NORMALS ARE FOR THE YEARS 1971–2000

### WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
	PRECIPITATION	OBSCURATION	OTHER
BC Patches	DZ Drizzle	BR Mist	DS Duststorm
BL Blowing	GR Hail	DU Widespread Dust	FC Funnel Cloud
DR Low Drifting	GS Small Hail and/or Snow Pellets	FG Fog	+FC Tornado Waterspout
FZ Freezing	IC Ice Crystals	FU Smoke	PO Well-Developed Dust/Sand Whirls
MI Shallow	PL Ice Pellets	HZ Haze	SQ Squalls
PR Partial	RA Rain	PY Spray	SS Sandstorm
SH Shower(s)	SG Snow Grains	SA Sand	GL Glaze
TS Thunderstorm	SN Snow	VA Volcanic Ash	
VC In the Vicinity	UP Unknown Precipitation		

Intensity (as indicated on pages 4 to 6):  
'+' = Heavy    ' ' = Moderate    '- ' = Light

## MINNEAPOLIS–ST.PAUL, MN MAY 2003

Ceilorometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR–SS), or midnight to midnight (MN–MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0–2 oktas, Partly Cloudy = 3–6 oktas, Cloudy = 7–8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

### ADDITIONAL NOTES:

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR–SS		MN–MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01							10.00	10.00	
02							10.00	10.00	
03							10.00	10.00	
04							2.00	10.00	
05							2.00	10.00	
06							2.00	10.00	
07							10.00	10.00	
08							6.00	10.00	
09							4.00	10.00	
10							4.00	10.00	
11							4.00	10.00	
12							10.00	10.00	
13							10.00	10.00	
14							1.75	10.00	
15							10.00	10.00	
16							9.00	10.00	
17							10.00	10.00	
18							3.00	10.00	
19							1.00	10.00	
20							10.00	10.00	
21							10.00	10.00	
22							5.00	10.00	
23							9.00	10.00	
24							10.00	10.00	
25							10.00	10.00	
26							9.00	10.00	
27							8.00	10.00	
28							10.00	10.00	
29							10.00	10.00	
30							5.00	10.00	
31							10.00	10.00	
<b>MONTHLY AVGS</b>							7.39	10.00	
<b>SUNSHINE (MINUTES)</b>									
Total:                      Possible: Percent Possible:									
<b>NUMBER OF DAYS WITH:</b>									
<b>SKY CONDITION</b>									
CLR   PTLY CLDY   CLOUDY   MISSING 31									
<b>MINIMUM VISIBILITY (MILES)</b>									
<=0.25    <=3.0    >=7.0 0            6            19									

# OBSERVATIONS AT 3-HOURLY INTERVALS

# MINNEAPOLIS-ST. PAUL, MN

MAY 2003 MSP WBAN # 14922

HOUR (LST)	SATELLITE			WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE			WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)					
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)		EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL	SKY COVER		CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
<b>SUNRISE: 0503 MAY 01 SUNSET: 1917</b>																													
03	SCT	NC		10.00		47	45	46	93	3	31	28.99	29.88	03	SCT	NC		10.00		53	48	50	83	7	12	29.00	29.89		
06	SCT	NC		10.00		44	39	42	83	6	34	29.00	29.91	06	SCT	NC		10.00		51	48	50	89	6	09	29.02	29.92		
09	FEW	NC		10.00		59	39	49	48	9	01	29.02	29.93	09	SCT	NC		10.00		58	50	54	75	5	VR	29.04	29.94		
12	SCT	NC		10.00		66	36	51	33	5	VR	29.03	29.93	12	BKN	060		10.00		63	52	57	68	14	14	29.04	29.94		
15	SCT	NC		10.00		69	36	52	30	12	02	29.01	29.91	15	SCT	NC		10.00		64	51	57	63	13	14	29.03	29.93		
18	BKN	250		10.00		68	32	51	26	16	04	29.00	29.91	18	SCT	NC		10.00		62	49	55	62	8	14	29.04	29.94		
21	BKN	150		10.00		59	25	44	27	13	04	29.10	30.00	21	FEW	NC		10.00		57	48	52	72	9	14	29.08	29.98		
24	BKN	200		10.00		53	22	40	30	12	08	29.16	30.06	24	FEW	NC		10.00		52	48	50	86	6	14	29.10	30.00		
<b>SUNRISE: 0502 MAY 02 SUNSET: 1918</b>																													
03	SCT	NC		10.00		48	18	37	30	12	06	29.17	30.07	03	FEW	NC		10.00		49	46	47	90	7	08	29.12	30.02		
06	BKN	150		10.00		45	20	36	37	10	07	29.22	30.12	06	SCT	NC		10.00		49	45	47	86	9	09	29.12	30.02		
09	BKN	250		10.00		53	21	40	29	13	08	29.25	30.15	09	BKN	250		10.00		58	46	52	65	7	16	29.11	30.01		
12	BKN	250		10.00		60	24	45	25	8	09	29.23	30.13	12	OVC	200		10.00		62	46	54	56	14	12	29.06	29.96		
15	FEW	NC		10.00		63	22	45	21	10	07	29.18	30.09	15	OVC	047		10.00		62	46	54	56	12	14	29.01	29.91		
18	FEW	NC		10.00		63	22	45	21	9	09	29.16	30.07	18	OVC	100		10.00		62	45	53	54	23	12	28.89	29.78		
21	FEW	NC		10.00		57	23	43	27	12	11	29.18	30.09	21	OVC	100		10.00		55	49	52	80	13	09	28.81	29.70		
24	SCT	NC		10.00		52	27	41	38	7	13	29.21	30.11	24	OVC	022		6.00	RA BR	52	50	51	93	16	11	28.76	29.65		
<b>SUNRISE: 0500 MAY 03 SUNSET: 1919</b>																													
03	SCT	NC		10.00		48	26	39	42	8	12	29.21	30.11	03	OVC	013		10.00		52	50	51	93	13	11	28.64	29.53		
06	FEW	NC		10.00		46	34	41	63	0	00	29.24	30.14	06	OVC	032		7.00	-TSRA	53	51	52	93	12	08	28.58	29.46		
09	CLR	NC		10.00		57	40	49	53	12	17	29.23	30.13	09	OVC	008		8.00		56	54	55	93	12	23	28.58	29.46		
12	SCT	NC		10.00		66	41	53	40	14	18	29.18	30.08	12	OVC	018		10.00		57	51	54	81	20	24	28.65	29.54		
15	BKN	080		10.00		68	40	54	36	16	18	29.11	30.01	15	OVC	032		10.00		60	51	55	72	9	24	28.70	29.59		
18	BKN	075		10.00		66	42	54	42	16	17	29.07	29.97	18	BKN	055		10.00		59	49	54	69	14	27	28.77	29.66		
21	SCT	NC		10.00		60	39	50	46	14	15	29.09	29.99	21	SCT	NC		10.00		55	46	50	72	10	26	28.83	29.72		
24	CLR	NC		10.00		56	37	47	49	12	15	29.07	29.97	24	BKN	060		10.00		53	47	50	80	5	23	28.82	29.71		
<b>SUNRISE: 0459 MAY 04 SUNSET: 1920</b>																													
03	SCT	NC		10.00		52	38	45	59	15	13	29.02	29.91	03	FEW	NC		10.00		49	47	48	93	3	23	28.81	29.70		
06	BKN	200		10.00		52	39	46	61	20	13	28.96	29.85	06	SCT	NC		10.00	BCFG	47	46	46	97	0	00	28.81	29.70		
09	OVC	180		10.00		55	39	47	55	18	13	28.94	29.83	09	OVC	026		10.00		52	42	47	69	10	28	28.80	29.69		
12	OVC	150		10.00		57	43	50	60	24	14	28.86	29.75	12	BKN	034		10.00		55	44	49	67	8	30	28.79	29.69		
15	OVC	047		10.00		53	48	50	83	24	13	28.81	29.70	15	OVC	034		10.00	-RA	54	45	49	72	8	32	28.74	29.63		
18	OVC	050		4.00	-RA BR	48	48	48	100	23	09	28.76	29.65	18	OVC	033		10.00	-RA	51	49	50	92	6	02	28.67	29.57		
21	OVC	037		8.00	-RA	47	47	47	100	22	08	28.70	29.60	21	OVC	026		10.00	-RA	49	48	48	97	12	36	28.60	29.49		
24	OVC	022		10.00		47	46	46	97	15	08	28.62	29.52	24	OVC	010		6.00	-RA BR	48	47	47	96	17	35	28.51	29.39		
<b>SUNRISE: 0457 MAY 05 SUNSET: 1922</b>																													
03	OVC	021		6.00	-DZ BR	47	47	47	100	9	07	28.58	29.47	03	OVC	016		5.00	RA BR	47	46	46	97	18	34	28.46	29.34		
06	OVC	009		10.00	-RA	47	46	46	97	13	06	28.56	29.45	06	OVC	039		6.00	-RA BR	47	45	46	93	22	33	28.52	29.41		
09	OVC	012		8.00		49	47	48	93	13	05	28.56	29.44	09	OVC	016		8.00	-RA	49	47	48	93	20	33	28.57	29.46		
12	OVC	012		10.00		50	47	48	89	8	06	28.60	29.49	12	OVC	018		10.00	-RA	49	46	47	90	23	32	28.64	29.54		
15	OVC	007		2.50	-DZ BR	51	49	50	92	8	02	28.66	29.56	15	OVC	033		10.00		54	45	49	72	21	32	28.73	29.62		
18	OVC	012		10.00		50	48	49	93	9	01	28.71	29.61	18	OVC	060		10.00		59	38	49	46	25	33	28.82	29.71		
21	OVC	009		10.00		50	48	49	93	3	01	28.76	29.66	21	BKN	070		10.00		57	36	47	45	14	33	28.93	29.82		
24	OVC	005		8.00		49	48	48	97	0	00	28.78	29.67	24	BKN	200		10.00		51	40	46	66	10	30	28.98	29.88		
<b>SUNRISE: 0456 MAY 06 SUNSET: 1923</b>																													
03	OVC	020		3.00	BR	50	49	49	96	5	21	28.83	29.72	03	BKN	250		10.00		48	37	43	66	9	31	29.01	29.92		
06	OVC	055		2.50	BR	50	48	48	93	0	00	28.87	29.77	06	BKN	250		10.00		48	37	43	66	12	32	29.08	29.98		
09	OVC	012		7.00		53	49	51	86	3	28	28.92	29.81	09	BKN	250		10.00		55	34	45	45	15	33	29.13	30.03		
12	BKN	250		10.00		60	47	53	62	0	00	28.94	29.83	12	BKN	250		10.00		61	35	49	38	10	32	29.14	30.05		
15	OVC	075		10.00		61	48	54	63	8	08	28.94	29.83	15	SCT	NC		10.00		66	33	50	29	14	33	29.11	30.01		
18	BKN	200		10.00		63	47	54	56	8	12	28.95	29.84	18	SCT	NC		10.00		64	33	49	32	12	31	29.11	30.01		
21	OVC	045		10.00		59	49	54	69	8	09	28.98	29.87	21	FEW	NC		10.00		57	36	47	45	7	26	29.13	30.03		
24	BKN	130		10.00		57	47	52	69	12	10	29.00	29.89	24	CLR	NC		10.00		53	35	45	51	3	23	29.15	30.05		

# OBSERVATIONS AT 3-HOURLY INTERVALS

## MINNEAPOLIS-ST. PAUL, MN

MAY 2003 MSP WBAN # 14922

HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)	
	SKY COVER	CEILING 100'S OF FT			OBSERVATION TIME (LST)	EFF CLD AMT Oktas	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL			SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Oktas	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)
<b>SUNRISE: 0447 MAY 13</b>					<b>SUNSET: 1931</b>					<b>SUNRISE: 0441 MAY 19</b>					<b>SUNSET: 1938</b>										
03	CLR	NC	10.00		46	39	43	77	3	22	29.15	30.06	03	OVC	034	9.00		65	60	62	84	10	14	29.02	29.91
06	CLR	NC	10.00		46	40	43	79	0	00	29.17	30.07	06	OVC	023	6.00	BR	65	61	63	87	12	16	29.02	29.91
09	FEW	NC	10.00		61	38	50	43	5	15	29.15	30.06	09	OVC	020	1.50	+RA BR	65	64	64	97	6	19	29.03	29.92
12	SCT	NC	10.00		68	33	51	27	9	15	29.12	30.01	12	OVC	019	3.00	-RA BR	66	65	65	96	8	22	29.00	29.89
15	BKN	250	10.00		69	34	52	27	7	15	29.05	29.95	15	OVC	009	10.00	-RA	62	60	61	93	18	31	29.04	29.93
18	BKN	250	10.00		68	34	51	28	9	15	29.01	29.92	18	OVC	019	5.00	-RA BR	51	48	50	89	18	33	29.19	30.09
21	OVC	120	10.00		64	36	50	35	8	12	28.99	29.88	21	OVC	032	10.00		51	44	48	77	15	33	29.30	30.20
24	OVC	075	10.00	-RA	58	47	52	67	7	15	28.98	29.86	24	FEW	NC	10.00		48	40	44	74	12	31	29.35	30.25
<b>SUNRISE: 0446 MAY 14</b>					<b>SUNSET: 1932</b>					<b>SUNRISE: 0440 MAY 20</b>					<b>SUNSET: 1939</b>										
03	OVC	055	6.00	-RA BR	54	52	53	93	10	09	28.94	29.83	03	CLR	NC	10.00		45	35	41	68	15	33	29.39	30.30
06	OVC	018	6.00	BR	53	52	52	96	10	09	28.94	29.83	06	SCT	NC	10.00		42	33	38	71	13	31	29.43	30.35
09	OVC	005	2.50	-DZ BR	55	54	54	96	9	10	28.94	29.83	09	BKN	034	10.00		47	36	42	66	13	33	29.48	30.40
12	OVC	015	10.00		59	53	56	81	21	12	28.95	29.84	12	SCT	NC	10.00		53	36	45	52	13	31	29.49	30.41
15	OVC	025	10.00		59	50	54	72	20	11	28.93	29.82	15	FEW	NC	10.00		57	35	47	44	6	31	29.48	30.40
18	BKN	033	10.00		58	48	53	70	15	13	28.96	29.85	18	FEW	NC	10.00		59	33	47	38	5	03	29.47	30.39
21	BKN	060	10.00		54	44	49	69	8	05	29.01	29.92	21	SCT	NC	10.00		53	35	45	51	5	08	29.48	30.40
24	SCT	NC	10.00		52	42	47	69	6	07	29.04	29.94	24	CLR	NC	10.00		46	42	44	86	0	00	29.49	30.41
<b>SUNRISE: 0445 MAY 15</b>					<b>SUNSET: 1933</b>					<b>SUNRISE: 0439 MAY 21</b>					<b>SUNSET: 1940</b>										
03	FEW	NC	10.00		46	43	45	89	5	36	29.06	29.97	03	CLR	NC	10.00		44	37	41	76	3	13	29.49	30.41
06	FEW	NC	10.00		49	45	47	86	3	VR	29.11	30.01	06	BKN	250	10.00		45	39	42	80	6	14	29.48	30.40
09	CLR	NC	10.00		60	45	52	58	0	00	29.12	30.02	09	OVC	250	10.00		56	35	46	46	12	19	29.47	30.39
12	FEW	NC	10.00		68	44	55	42	6	32	29.09	29.99	12	BKN	060	10.00		58	33	46	39	7	21	29.43	30.35
15	SCT	NC	10.00		70	40	54	34	12	11	29.07	29.97	15	BKN	070	10.00		62	34	49	35	12	21	29.37	30.28
18	SCT	NC	10.00		69	41	54	36	8	12	29.06	29.96	18	SCT	NC	10.00		62	39	51	43	12	15	29.32	30.23
21	FEW	NC	10.00		64	46	54	52	0	00	29.10	29.99	21	FEW	NC	10.00		56	39	48	53	9	15	29.32	30.22
24	FEW	NC	10.00		59	47	53	64	5	23	29.12	30.01	24	FEW	NC	10.00		51	39	45	64	8	15	29.33	30.24
<b>SUNRISE: 0444 MAY 16</b>					<b>SUNSET: 1935</b>					<b>SUNRISE: 0438 MAY 22</b>					<b>SUNSET: 1941</b>										
03	SCT	NC	10.00		56	48	52	75	3	19	29.14	30.04	03	OVC	150	10.00		50	39	45	66	6	15	29.31	30.21
06	FEW	NC	9.00		54	49	51	83	5	21	29.16	30.06	06	OVC	085	10.00		50	38	44	63	8	13	29.32	30.22
09	FEW	NC	10.00		62	52	56	70	6	13	29.19	30.08	09	OVC	055	9.00	-RA	50	45	48	83	5	13	29.33	30.24
12	SCT	NC	10.00		70	51	59	51	3	VR	29.17	30.06	12	OVC	031	5.00	-RA BR	49	47	48	93	9	11	29.33	30.24
15	SCT	NC	10.00		70	47	57	44	9	08	29.13	30.02	15	OVC	055	7.00	-RA	51	49	50	92	10	11	29.29	30.20
18	SCT	NC	10.00		70	42	55	37	8	11	29.12	30.01	18	OVC	039	9.00		50	48	49	93	10	08	29.30	30.21
21	FEW	NC	10.00		66	43	54	43	6	13	29.15	30.04	21	OVC	047	10.00		50	47	48	89	9	05	29.33	30.24
24	CLR	NC	10.00		60	46	53	60	7	14	29.15	30.04	24	SCT	NC	10.00		48	45	47	89	6	07	29.33	30.24
<b>SUNRISE: 0443 MAY 17</b>					<b>SUNSET: 1936</b>					<b>SUNRISE: 0437 MAY 23</b>					<b>SUNSET: 1942</b>										
03	CLR	NC	10.00		56	46	51	70	5	13	29.18	30.08	03	SCT	NC	10.00		44	43	44	96	7	34	29.34	30.26
06	CLR	NC	10.00		55	48	51	77	6	12	29.22	30.11	06	SCT	NC	10.00		46	45	46	96	6	01	29.35	30.27
09	FEW	NC	10.00		62	51	56	67	5	15	29.24	30.13	09	CLR	NC	10.00		55	47	51	74	3	VR	29.36	30.27
12	SCT	NC	10.00		72	50	59	46	9	08	29.21	30.10	12	SCT	NC	10.00		61	45	53	56	7	13	29.32	30.22
15	SCT	NC	10.00		73	47	59	40	14	16	29.18	30.07	15	FEW	NC	10.00		64	42	53	45	3	VR	29.27	30.17
18	BKN	250	10.00		71	48	58	44	9	15	29.15	30.04	18	SCT	NC	10.00		63	38	51	40	0	00	29.24	30.15
21	FEW	NC	10.00		65	50	57	59	8	14	29.16	30.06	21	BKN	250	10.00		59	44	51	58	3	27	29.23	30.14
24	FEW	NC	10.00		61	50	55	67	5	12	29.20	30.09	24	BKN	250	10.00		52	49	50	89	0	00	29.21	30.11
<b>SUNRISE: 0442 MAY 18</b>					<b>SUNSET: 1937</b>					<b>SUNRISE: 0436 MAY 24</b>					<b>SUNSET: 1943</b>										
03	FEW	NC	9.00		59	51	55	75	10	14	29.19	30.09	03	OVC	150	10.00		53	45	49	74	3	09	29.18	30.09
06	BKN	200	3.00	HZ	57	52	54	83	7	14	29.18	30.07	06	OVC	150	10.00		53	44	49	72	0	00	29.19	30.09
09	BKN	200	6.00	HZ	63	54	58	73	10	14	29.14	30.03	09	OVC	150	10.00		61	44	52	54	6	07	29.19	30.09
12	OVC	200	10.00		72	56	62	57	13	16	29.10	29.99	12	OVC	100	10.00		66	37	52	34	5	09	29.17	30.08
15	OVC	250	10.00		75	53	62	46	17	16	29.04	29.93	15	BKN	150	10.00		68	30	50	24	5	VR	29.15	30.04
18	OVC	250	10.00		73	52	61	48	9	15	29.02	29.91	18	BKN	250	10.00		67	36	52	32	7	VR	29.13	30.03
21	OVC	090	10.00		70	56	62	61	12	14	29.04	29.93	21	FEW	NC	10.00		58	43	50	58	6	32	29.15	30.05
24	OVC	055	10.00		66	59	62	78	8	14	29.05	29.94	24	CLR	NC	10.00		54	42	48	64	6	33	29.16	30.06

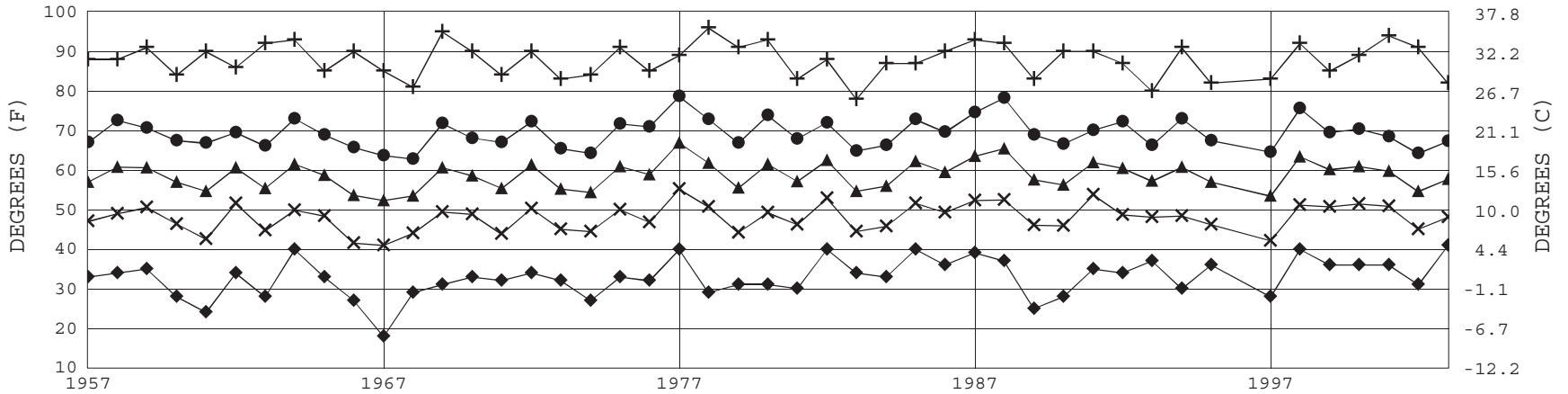
# OBSERVATIONS AT 3-HOURLY INTERVALS

# MINNEAPOLIS-ST. PAUL, MN

MAY 2003 MSP WBAN # 14922

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)	
	SKY COVER	CEILING		OBSERVATION TIME (LST)	EFF CLD AMT Okta		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION		SEA LEVEL	SKY COVER		CEILING	OBSERVATION TIME (LST)		EFF CLD AMT Okta	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG
SUNRISE: 0435 MAY 25							SUNSET: 1944							SUNRISE: 0431 MAY 31							SUNSET: 1950								
03	CLR	NC			10.00		49	39	44	69	0	00	29.17	30.06	03	BKN	025			10.00		52	43	48	72	17	02	29.09	29.99
06	FEW	NC			10.00		49	39	44	69	6	01	29.20	30.10	06	CLR	NC			10.00		47	37	42	69	10	02	29.16	30.07
09	FEW	NC			10.00		63	42	52	47	6	05	29.22	30.12	09	CLR	NC			10.00		52	36	45	55	9	03	29.19	30.10
12	SCT	NC			10.00		72	38	54	29	7	VR	29.20	30.10	12	CLR	NC			10.00		58	35	47	42	10	03	29.18	30.08
15	BKN	250			10.00		75	36	55	24	13	04	29.17	30.07	15	BKN	250			10.00		63	36	50	37	10	03	29.17	30.07
18	SCT	NC			10.00		72	33	53	24	8	02	29.16	30.06	18	BKN	250			10.00		61	38	50	43	3	36	29.16	30.06
21	FEW	NC			10.00		65	31	49	28	8	04	29.19	30.09	21	BKN	250			10.00		58	39	49	50	3	05	29.15	30.06
24	CLR	NC			10.00		55	34	45	45	6	01	29.22	30.11	24	BKN	200			10.00		53	44	49	72	0	00	29.18	30.09
SUNRISE: 0434 MAY 26							SUNSET: 1945							<b>3-HOURLY OBSERVATION NOTES</b>															
03	CLR	NC			10.00		52	36	45	55	5	03	29.21	30.11	Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, VV = Vertical Visibility = 8/8.														
06	FEW	NC			10.00		51	40	46	66	7	01	29.26	30.16	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.														
09	FEW	NC			10.00		64	44	54	48	10	11	29.29	30.19	NC = No ceiling detected.														
12	CLR	NC			10.00		73	39	55	29	13	09	29.28	30.18	& = Original observation contained additional weather elements.														
15	CLR	NC			10.00		75	36	55	24	8	11	29.25	30.15	See page 3 for additional notes.														
18	CLR	NC			10.00		73	36	54	26	5	15	29.23	30.13															
21	FEW	NC			10.00		68	38	53	33	0	00	29.26	30.15															
24	CLR	NC			10.00		55	49	52	80	0	00	29.27	30.16															
SUNRISE: 0434 MAY 27							SUNSET: 1946							<b>SUMMARY BY HOUR</b>															
03	CLR	NC			10.00		53	48	50	83	0	00	29.27	30.16	AVERAGES														
06	CLR	NC			8.00	BCFG	54	50	52	87	0	00	29.30	30.19															
09	CLR	NC			10.00		71	42	56	35	5	VR	29.28	30.17	RESULTANT WIND (MPH)														
12	FEW	NC			10.00		77	42	58	29	5	VR	29.24	30.13															
15	BKN	250			10.00		82	40	59	22	5	VR	29.16	30.05	HOUR (LST)														
18	BKN	250			10.00		81	42	60	25	10	27	29.09	29.98															
21	OVC	200			10.00		73	48	59	41	3	29	29.07	29.96	CEILOMETER														
24	OVC	100			10.00		70	56	62	61	7	26	29.04	29.93															
SUNRISE: 0433 MAY 28							SUNSET: 1947							EFF CLD AMT															
03	SCT	NC			10.00		63	57	59	81	7	30	29.01															29.90	
06	SCT	NC			10.00		63	52	57	68	12	33	29.04	29.93	DRY BULB														
09	CLR	NC			10.00		69	50	58	51	16	35	29.08	29.96															
12	FEW	NC			10.00		76	45	59	33	22	35	29.07	29.95	DEW POINT														
15	SCT	NC			10.00		77	47	60	35	23	35	29.04	29.93															
18	FEW	NC			10.00		74	44	58	34	16	36	29.04	29.93	WET BULB														
21	FEW	NC			10.00		68	42	54	39	8	33	29.07	29.96															
24	CLR	NC			10.00		62	42	52	48	7	34	29.07	29.96	RELATIVE HUMIDITY														
SUNRISE: 0432 MAY 29							SUNSET: 1948							STATION															
03	CLR	NC			10.00		56	45	50	67	6	32	29.05															29.94	
06	SCT	NC			10.00		56	46	51	70	0	00	29.06	29.96	SEA LEVEL														
09	BKN	250			10.00		70	48	58	46	7	25	29.05	29.94															
12	BKN	250			10.00		76	40	57	27	7	21	29.00	29.89	VISIBILITY (MILES)														
15	SCT	NC			10.00		78	40	58	26	8	23	28.92	29.80															
18	BKN	250			10.00		79	39	58	24	10	18	28.86	29.74	WIND SPEED (MPH)														
21	BKN	250			10.00		74	41	56	31	12	17	28.81	29.69															
24	BKN	150			10.00		72	36	54	27	14	19	28.73	29.61	SPEED														
SUNRISE: 0432 MAY 30							SUNSET: 1949							DIRECTION															
03	OVC	075			10.00		61	53	57	75	8	17	28.67															29.55	
06	CLR	NC			10.00		64	55	59	73	7	18	28.62	29.50	RESULTANT WIND (MPH)														
09	CLR	NC			10.00		73	52	61	48	21	27	28.57	29.43															
12	SCT	NC			10.00		76	47	59	36	24	30	28.53	29.39	HOUR (LST)														
15	OVC	027			6.00	-RA BR	61	58	59	90	13	30	28.57	29.45															
18	OVC	018			10.00		57	50	53	78	24	36	28.73	29.62	CEILOMETER														
21	OVC	023			10.00		55	47	51	74	26	02	28.89	29.78															
24	OVC	019			10.00		53	46	49	77	15	01	29.01	29.90	EFF CLD AMT														
																													DRY BULB

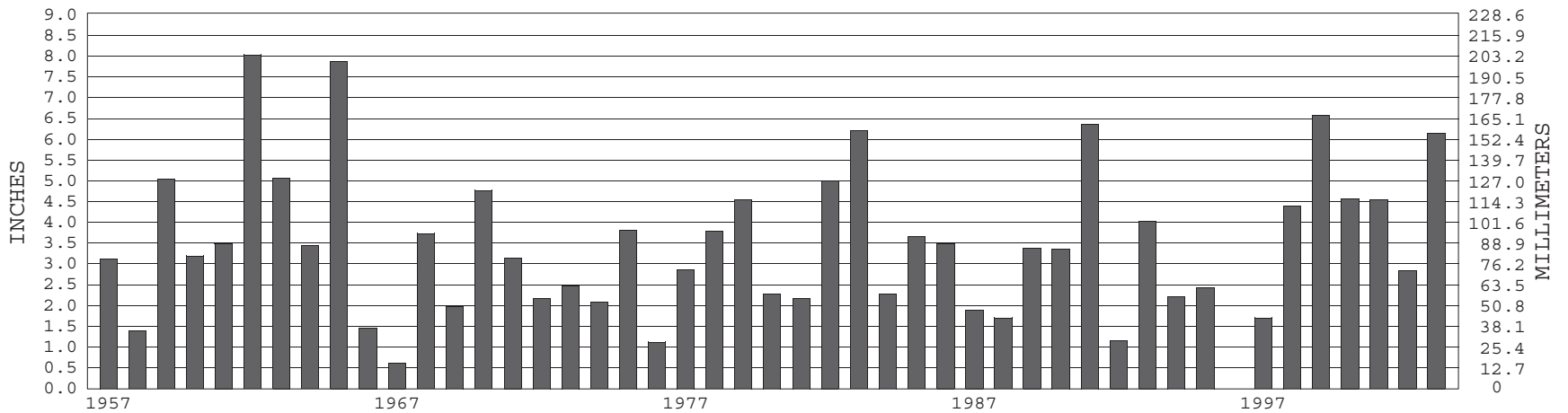
### MINNEAPOLIS-ST. PAUL, MN MAY TEMPERATURES



+ Extreme Max.      ● Mean Max.      ▲ Mean      × Mean Min.      ◆ Extreme Min.

Long-Term (1957-2003) Mean: 57.4      1961-1990 Normal: 59.3

### MINNEAPOLIS-ST. PAUL, MN MAY PRECIPITATION



Long-Term (1957-2003) Mean Monthly Total: 3.44

1961-1990 Normal: 3.24



MAY 2003

MINNEAPOLIS—ST.PAUL, MN

# LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

*I certify that this is an official publication of the National Oceanic and Atmospheric Administration (NOAA). It is compiled using information from weather observing sites operated by NOAA—National Weather Service / Department Of Transportation—Federal Aviation Administration and received at the National Climatic Data Center (NCDC), Asheville, North Carolina 28801.*

DIRECTOR

NCDC now offers an annual online subscription for the **Edited Local Climatological Data Publication**. When you purchase this subscription service, you will have **immediate online access** to all previous publications back to July 1996 and all publications thereafter until the expiration of the subscription. Your subscription is valid for one year after purchase. **The total cost is \$29 for online delivery (including back issues) compared to \$34 for offline delivery.** To order this and other subscriptions on-line with your credit card, go to: [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov) and choose subscriptions.

We welcome your questions or comments, please contact us at  
Toll Free Number (866) 742—3322 (voice)  
Fax Number :(304) 726—4409  
TDD : 828—271—4010  
or Email : [ncdc.info@noaa.gov](mailto:ncdc.info@noaa.gov)  
Local Climatological Data is available at [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

For address correction, please return a photocopy of this page to Subscription Services indicating changes

NCDC Subscription Services Center  
310 State Route 956 Building 300  
Rocket Center, WV 26726

OFFICIAL BUSINESS. PENALTY FOR PRIVATE USE \$300

FIRST CLASS  
POSTAGE AND FEES PAID  
NOAA  
PERMIT G—19