



JUNE 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

JUNE 2003
MINNEAPOLIS - ST. PAUL, MN

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		
																			SPEED	DIR	SPEED		DIR
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	72	49*	61	-3	41	51	4	0					0.00	29.13	30.03	3.2	11	5.1	18	21	10	06	01
02	70	53	62	-3	44	53	3	0					0.00	29.07	29.96	5.6	17	8.6	22	23	18	23	02
03	73	50	62	-3	47	54	3	0	RA				T	29.07	29.97	4.1	35	5.8	16	01	13	01	03
04	72	54	63	-3	52	56	2	0	TSRA RA				0.28	29.05	29.94	0.7	26	4.1	26	33	23	32	04
05	77	53	65	-1	52	58	0	0	BR				0.00	29.02	29.91	2.1	21	4.0	20	21	17	22	05
06	64	58	61	-5	56	58	4	0	RA BR				0.74	28.88	29.77	2.8	18	4.7	15	18	12	16	06
07	66	57	62	-5	55	58	3	0	RA BR				0.02	28.85	29.74	5.0	07	6.1	17	07	13	06	07
08	72	56	64	-3	55	57	1	0	RA				T	28.80	29.69	8.9	35	9.9	30	34	21	33	08
09	74	52	63	-4	52	58	2	0	RA				0.01	28.91	29.80	3.5	13	6.8	23	11	18	12	09
10	72	56	64	-3	58	60	1	0	RA DZ BR				T	28.79	29.67	6.4	03	10.0	23	11	18	12	10
11	68	53	61*	-6	51	55	4	0					0.00	28.97	29.86	7.9	10	9.5	22	12	20	12	11
12	73	56	65	-3	58	61	0	0	RA BR				T	28.90	29.78	6.6	14	7.5	21	13	17	13	12
13	82	64	73	5	57	64	0	8	BR HZ				0.00	28.97	29.85	5.7	35	6.9	26	01	15	33	13
14	82	59	71	2	53	61	0	6					0.00	29.17	30.05	4.7	06	6.2	24	10	15	06	14
15	84	59	72	3	54	62	0	7					0.00	29.21	30.10	1.0	10	3.1	14	05	10	14	15
16	89*	65	77	8	57	65	0	12					0.00	29.20	30.08	7.0	15	7.8	17	13	16	12	16
17	87	69	78	9	60	66	0	13	TS TSRA RA				T	29.08	29.96	1.0	18	5.0	23	01	18	03	17
18	84	65	75	6	54	62	0	10					0.00	29.06	29.94	8.2	01	8.8	28	02	18	03	18
19	79	58	69	0	49	58	0	4					0.00	29.22	30.11	5.0	12	7.0	21	05	15	12	19
20	83	59	71	1	42	56	0	6					0.00	29.19	30.07	10.3	17	10.5	24	16	21	16	20
21	88	58	73	3	49	60	0	8					0.00	29.02	29.90	12.9	17	13.0	29	16	23	17	21
22	83	70	77	7	62	67	0	12	RA				0.01	28.91	29.79	11.4	17	12.2	26	20	20	15	22
23	88	70	79*	9	67	71	0	14	TS TSRA RA BR				0.02	28.87	29.75	9.4	16	10.7	28	18	24	16	23
24	88	66	77	7	67	71	0	12	TS TSRA RA BR SQ				1.37	28.92	29.79	7.3	16	12.9	59*	02	47*	02	24
25	79	57	68	-2	63	65	0	3	TSRA RA BR				2.09	28.92	29.80	3.3	24	12.0	45	28	36	29	25
26	70	54	62	-8	49	55	3	0	RA				T	28.98	29.87	12.6	28	13.5	32	28	26	29	26
27	75	57	66	-5	54	59	0	1	RA				T	28.97	29.85	1.6	14	4.7	20	34	17	34	27
28	75	60	68	-3	58	61	0	3	TS RA				0.12	28.96	29.84	1.8	19	5.8	25	34	18	35	28
29	81	56	69	-3	54	61	0	4					0.00	29.14	30.03	6.5	29	7.2	24	32	20	31	29
30	83	61	72	0	54	62	0	7					0.00	29.23	30.12	0.5	22	2.7	13	31	12	18	30

77.8	58.5	68.2	■ ■	54.1	60.2	1.0	4.3	< MONTHLY AVERAGES TOTALS-->		4.66	29.02	29.90	1.6	14	7.7	<-- MONTHLY AVERAGES					
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-1.2	0.7	- .2	■ ■	←-----DEPARTURE FROM NORMAL----->						0.32	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3									
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DEGREE DAYS				GREATEST 24-HR PRECIPITATION:				GREATEST 24-HR SNOWFALL:				SEA LEVEL PRESSURE						
MONTHLY		SEASON TO DATE		DATE		DATE		DATE		DATE		DATE		DATE		TIME		
TOTAL DEPARTURE		TOTAL DEPARTURE		: 30.16		: 20 0753		: 29.58		: 10 0953		: 30.16		: 20 0753		: 10 0953		
HEATING:	30	-14	7686	-190	NUMBER OF DAYS WITH		MAXIMUM TEMP ≥ 90: 0		MINIMUM TEMP ≤ 32: 0		PRECIPITATION ≥ 0.01 INCH:		9		PRECIPITATION ≥ 0.10 INCH:		5	
COOLING:	130	-16	151	-40	GREATEST SNOW DEPTH:		MAXIMUM TEMP ≤ 32: 0		MINIMUM TEMP ≤ 0: 0		PRECIPITATION ≥ 1.0 INCH:		:		:		:	
					THUNDERSTORMS: 6		HEAVY FOG: 0											

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

MINNEAPOLIS – ST. PAUL, MN

JUNE 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		T		
04													04	0.17	0.01	0.10	T								04		0.28		
05													05												05		0.00		
06						0.04	0.01	0.02	0.02	0.03	0.08	0.38	06	0.04	0.04	0.01	T	T	T		0.07	T		06		0.74			
07						0.01	0.01						07												07		0.02		
08													08	T	T	T									08		T		
09													09												09		0.01		
10			T	T	T								10	T	T	T						T		10		T			
11													11												11		0.00		
12													12												12		T		
13													13												13		0.00		
14													14												14		0.00		
15													15												15		0.00		
16													16												16		0.00		
17													17												17		T		
18													18												18		0.00		
19													19												19		0.00		
20													20												20		0.00		
21													21												21		0.00		
22													22	.01											22		0.01		
23		0.01	T			0.01	T						23												23		0.02		
24		0.05	0.03	0.05	0.01	T				T			24												24		1.37		
25	0.81	0.95	0.01	0.02	0.06	0.08	0.05	T			0.03	T	25						0.01	0.05				0.01	0.05	0.05	1.14	2.09	
26													26												26		T		
27													27												27		T		
28													28				T	0.04	.01						28		0.12		
29													29												29		0.00		
30													30												30		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)	.25	.46	.54	.67	.80	.98	1.29	1.45	1.80	2.23	2.77	2.92
Ending Date	25	25	25	25	25	24	25	25	25	25	25	25
Ending Time (Hour/Min)	0136	0137	0140	0137	0140	2354	0138	0023	0059	0138	0139	0140

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 JUNE 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							8.00	10.00	
04							7.00	10.00	
05							6.00	10.00	
06							2.50	10.00	
07							2.00	10.00	
08							9.00	10.00	
09							10.00	10.00	
10							6.00	10.00	
11							10.00	10.00	
12							6.00	10.00	
13							3.00	10.00	
14							10.00	10.00	
15							10.00	10.00	
16							10.00	10.00	
17							10.00	10.00	
18							10.00	10.00	
19							10.00	10.00	
20							10.00	10.00	
21							10.00	10.00	
22							10.00	10.00	
23							5.00	10.00	
24							1.75	10.00	
25							.75	10.00	
26							10.00	10.00	
27							10.00	10.00	
28							4.00	10.00	
29							10.00	10.00	
30							10.00	10.00	
MONTHLY AVGS							8.10	10.00	
SUNSHINE (MINUTES)									
Total: Possible: Percent Possible:									
NUMBER OF DAYS WITH:									
SKY CONDITION									
CLR PTLY CLDY CLOUDY MISSING 30									
MINIMUM VISIBILITY (MILES)									
<=0.25 <=3.0 >=7.0 0 4 23									

OBSERVATIONS AT 3-HOURLY INTERVALS

MINNEAPOLIS-ST. PAUL, MN

JUNE 2003 MSP WBAN # 14922

HOUR (LST)	SKY COVER	CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
			OBSERVATION TIME (LST)	EFF CLD AMT Okta			DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL				OBSERVATION TIME (LST)	EFF CLD AMT Okta			DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
SUNRISE: 0430						JUN 01	SUNSET: 1951						SUNRISE: 0428						JUN 07	SUNSET: 1956									
03	BKN	150			10.00		51	43	47	74	3	05	29.17	30.07	03	OVC	008			5.00	BR	58	56	57	93	5	10	28.84	29.72
06	BKN	180			10.00		52	39	46	61	3	15	29.17	30.07	06	OVC	025			3.00	BR	57	56	56	96	3	04	28.87	29.76
09	BKN	200			10.00		62	37	50	40	5	16	29.18	30.08	09	BKN	036			10.00		63	55	58	76	8	09	28.88	29.77
12	SCT	NC			10.00		67	38	52	35	5	25	29.15	30.05	12	OVC	055			10.00		63	54	58	73	6	08	28.87	29.76
15	BKN	250			10.00		71	39	54	31	7	16	29.11	30.01	15	OVC	075			10.00		65	54	59	68	10	07	28.85	29.74
18	BKN	250			10.00		71	40	55	32	5	13	29.08	29.97	18	BKN	049			10.00		64	56	59	75	8	07	28.84	29.72
21	FEW	NC			10.00		66	43	54	43	7	06	29.08	29.97	21	BKN	055			10.00		61	56	58	84	7	06	28.84	29.72
24	FEW	NC			10.00		60	44	52	56	7	09	29.07	29.97	24	OVC	075			10.00		59	56	57	90	6	02	28.80	29.69
SUNRISE: 0430						JUN 02	SUNSET: 1952						SUNRISE: 0427						JUN 08	SUNSET: 1956									
03	OVC	200			10.00		59	45	52	60	9	12	29.06	29.95	03	OVC	039			10.00		58	56	57	93	12	02	28.75	29.63
06	BKN	100			10.00		58	46	52	65	6	13	29.07	29.96	06	OVC	008			10.00		56	54	55	93	13	01	28.76	29.64
09	OVC	200			10.00		64	47	55	54	8	16	29.07	29.96	09	OVC	010			10.00		57	52	54	83	13	34	28.79	29.67
12	OVC	200			10.00		70	42	55	37	13	14	29.05	29.94	12	BKN	049			10.00		65	55	59	70	10	03	28.79	29.68
15	OVC	200			10.00		69	37	53	31	9	13	29.04	29.93	15	BKN	200			10.00		70	51	59	51	9	35	28.78	29.67
18	OVC	180			10.00		63	46	54	54	14	23	29.06	29.96	18	BKN	100			10.00		63	55	58	76	13	33	28.84	29.73
21	BKN	200			10.00		57	45	51	64	9	23	29.10	29.99	21	FEW	NC			10.00		59	56	57	90	5	32	28.88	29.77
24	SCT	NC			10.00		54	46	50	75	0	00	29.11	30.01	24	BKN	120			9.00		57	56	56	96	5	29	28.88	29.77
SUNRISE: 0429						JUN 03	SUNSET: 1953						SUNRISE: 0427						JUN 09	SUNSET: 1957									
03	BKN	080			10.00		53	46	49	77	0	00	29.10	30.00	03	CLR	NC			10.00		55	53	54	93	6	32	28.90	29.78
06	OVC	200			8.00		54	46	50	75	8	36	29.11	30.01	06	FEW	NC			10.00		55	52	53	90	0	00	28.95	29.84
09	BKN	200			10.00		60	46	53	60	10	34	29.10	30.00	09	FEW	NC			10.00		63	50	56	63	3	VR	28.98	29.87
12	BKN	250			10.00		68	48	57	49	5	VR	29.07	29.96	12	BKN	250			10.00		69	51	59	53	5	34	28.97	29.85
15	BKN	070			10.00		70	46	57	42	8	36	29.03	29.92	15	BKN	250			10.00		73	49	59	43	9	17	28.93	29.82
18	BKN	070			10.00		69	46	57	44	3	VR	29.01	29.91	18	BKN	250			10.00		72	51	60	48	10	13	28.87	29.75
21	BKN	180			10.00		63	48	55	60	3	15	29.05	29.94	21	BKN	200			10.00		69	53	60	57	14	12	28.86	29.74
24	BKN	130			10.00		62	50	55	65	0	00	29.05	29.94	24	OVC	040			10.00		64	58	60	81	18	12	28.79	29.67
SUNRISE: 0429						JUN 04	SUNSET: 1953						SUNRISE: 0427						JUN 10	SUNSET: 1958									
03	BKN	250			10.00		58	52	55	81	0	00	29.04	29.93	03	OVC	090			10.00		63	59	61	87	10	12	28.73	29.61
06	OVC	150			7.00		57	52	54	83	3	VR	29.06	29.95	06	OVC	007			9.00		62	60	61	93	9	12	28.70	29.58
09	BKN	200			9.00		67	54	59	63	5	VR	29.06	29.95	09	OVC	012			10.00		66	59	62	78	3	16	28.70	29.58
12	BKN	150			10.00		71	50	59	47	8	19	29.03	29.92	12	OVC	025			10.00		67	61	63	81	13	34	28.72	29.61
15	OVC	085			10.00		64	48	55	56	0	00	29.07	29.97	15	OVC	011			10.00		62	57	59	84	14	01	28.81	29.69
18	OVC	120			10.00		65	50	57	59	5	14	29.03	29.93	18	OVC	018			10.00		61	54	57	78	14	01	28.86	29.75
21	SCT	NC			10.00		62	53	57	73	3	VR	29.04	29.93	21	OVC	020			8.00		59	54	56	83	8	01	28.93	29.81
24	SCT	NC			10.00		57	55	56	93	0	00	29.05	29.94	24	BKN	028			10.00		57	52	54	83	9	03	28.94	29.83
SUNRISE: 0428						JUN 05	SUNSET: 1954						SUNRISE: 0427						JUN 11	SUNSET: 1958									
03	SCT	NC			7.00		56	53	54	90	0	00	29.05	29.95	03	BKN	031			10.00		53	51	52	93	6	03	28.96	29.85
06	BKN	200			7.00		56	52	54	87	0	00	29.06	29.95	06	BKN	038			10.00		55	50	52	83	6	04	28.97	29.86
09	SCT	NC			10.00		66	51	58	59	3	14	29.07	29.96	09	OVC	025			10.00		60	43	51	53	10	09	29.00	29.89
12	SCT	NC			10.00		74	49	60	41	6	23	29.04	29.93	12	OVC	033			10.00		64	54	58	70	9	11	29.00	29.88
15	BKN	250			10.00		76	52	62	43	16	23	29.00	29.89	15	OVC	036			10.00		65	53	58	66	10	11	28.99	29.88
18	SCT	NC			10.00		71	52	60	51	3	VR	28.99	29.87	18	BKN	040			10.00		66	52	58	61	13	11	28.95	29.84
21	FEW	NC			10.00		68	52	59	57	3	14	28.98	29.86	21	SCT	NC			10.00		62	52	56	70	14	13	28.95	29.84
24	OVC	250			10.00		64	52	57	65	0	00	28.97	29.85	24	BKN	200			10.00		58	51	54	78	9	13	28.93	29.81
SUNRISE: 0428						JUN 06	SUNSET: 1955						SUNRISE: 0427						JUN 12	SUNSET: 1959									
03	OVC	150			10.00		60	54	57	80	7	16	28.95	29.83	03	BKN	200			9.00		56	53	54	90	6	13	28.93	29.82
06	OVC	038			7.00	-RA	59	57	58	93	5	18	28.94	29.83	06	OVC	042			7.00		58	53	55	84	8	13	28.93	29.82
09	OVC	015			7.00	-RA	60	58	59	93	7	17	28.93	29.81	09	OVC	150			10.00		60	55	57	84	6	15	28.92	29.81
12	OVC	013			6.00	-RA BR	59	57	58	93	3	19	28.89	29.78	12	BKN	250			10.00		69	59	63	70	9	15	28.89	29.78
15	OVC	065			10.00	-RA	60	57	58	90	6	28	28.85	29.73	15	OVC	029			10.00		71	61	65	71	7	24	28.88	29.76
18	BKN	080			10.00		63	54	58	73	0	00	28.81	29.70	18	OVC	045			10.00		73	62	66	69	3	13	28.87	29.75
21	OVC	041			6.00	-RA BR	58	55	56	90	3	VR	28.84	29.72	21	BKN	250			10.00		70	62	65	76	8	10	28.88	29.77
24	OVC	007			6.00	BR	58	57	57	97	5	12	28.84	29.73	24	SCT	NC			7.00		65	62	63	90	6	12	28.89	29.77

OBSERVATIONS AT 3-HOURLY INTERVALS

MINNEAPOLIS-ST. PAUL, MN

JUNE 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
03	BKN	042			SUNRISE: 0426	JUN 13			SUNSET: 1959					03	CLR	NC			SUNRISE: 0426	JUN 19			SUNSET: 2002					
06	SCT	NC		6.00	BR		66	63	64	90	0	00	28.89	29.77	06	CLR	NC			60	51	55	72	3	33	29.17	30.06	
09	SCT	NC		3.00	BR		64	63	63	96	0	00	28.93	29.81	09	CLR	NC			63	50	56	63	5	VR	29.22	30.11	
12	SCT	NC		10.00			73	61	66	66	12	35	28.96	29.84	12	CLR	NC			71	51	60	49	10	13	29.27	30.16	
15	SCT	NC		10.00			79	60	67	52	9	35	28.96	29.84	15	FEW	NC			75	48	60	39	8	13	29.26	30.15	
18	SCT	NC		10.00			82	56	66	41	8	36	28.97	29.85	18	FEW	NC			78	44	59	30	8	08	29.22	30.11	
21	FEW	NC		10.00			79	48	61	34	13	34	28.98	29.86	21	CLR	NC			77	47	60	35	8	16	29.19	30.09	
24	FEW	NC		10.00			71	51	60	49	6	36	29.02	29.91	24	CLR	NC			70	47	57	44	7	14	29.20	30.09	
03	FEW	NC		10.00			66	53	59	63	6	34	29.07	29.95	03	CLR	NC			63	48	55	58	7	15	29.23	30.12	
06	BKN	250		10.00			62	53	57	73	3	01	29.11	29.99	06	FEW	NC			61	46	53	58	8	16	29.24	30.13	
09	SCT	NC		10.00			61	55	58	81	6	03	29.15	30.04	09	CLR	NC			63	44	53	50	8	18	29.26	30.15	
12	SCT	NC		10.00			73	56	63	55	9	07	29.19	30.08	12	CLR	NC			73	45	58	37	9	16	29.27	30.16	
15	SCT	NC		10.00			79	53	64	41	9	03	29.19	30.08	15	CLR	NC			78	38	57	24	13	17	29.23	30.12	
18	SCT	NC		10.00			80	51	63	37	9	10	29.17	30.05	18	CLR	NC			82	37	58	20	14	18	29.16	30.04	
21	FEW	NC		10.00			79	51	63	38	7	08	29.15	30.04	21	CLR	NC			81	36	57	20	13	18	29.10	29.99	
24	SCT	NC		10.00			72	53	61	52	6	03	29.18	30.06	24	CLR	NC			72	41	56	33	9	15	29.10	29.99	
03	CLR	NC		10.00			68	54	60	61	7	09	29.21	30.10	03	CLR	NC			66	41	53	40	12	16	29.08	29.97	
06	FEW	NC		10.00			63	56	59	78	0	00	29.21	30.10	06	FEW	NC			62	43	52	50	8	16	29.09	29.97	
09	SCT	NC		10.00			65	56	60	73	3	03	29.23	30.12	09	SCT	NC			61	46	53	58	10	16	29.09	29.97	
12	SCT	NC		10.00			74	59	65	60	3	14	29.25	30.14	12	FEW	NC			75	49	60	40	15	19	29.06	29.94	
15	SCT	NC		10.00			79	53	64	41	5	31	29.23	30.11	15	BKN	250			84	52	65	33	13	17	29.02	29.90	
18	FEW	NC		10.00			81	51	63	35	8	14	29.21	30.09	18	BKN	250			87	50	65	28	17	16	28.97	29.84	
21	CLR	NC		10.00			82	49	63	32	3	VR	29.19	30.07	21	BKN	250			85	49	64	29	15	17	28.95	29.83	
24	CLR	NC		10.00			77	52	62	42	5	08	29.19	30.08	24	BKN	250			78	52	63	40	10	16	28.95	29.82	
03	CLR	NC		10.00			69	57	62	66	0	00	29.20	30.09	03	BKN	110			75	53	62	46	13	17	28.97	29.84	
06	SCT	NC		10.00			66	58	61	75	5	14	29.21	30.10	06	BKN	085			72	55	62	55	13	18	28.95	29.82	
09	SCT	NC		10.00			69	57	62	66	6	17	29.23	30.12	09	BKN	150			70	56	62	61	3	VR	28.98	29.85	
12	SCT	NC		10.00			77	59	66	54	9	15	29.23	30.11	12	OVC	045			75	59	65	58	12	19	28.97	29.84	
15	SCT	NC		10.00			85	54	66	35	7	16	29.22	30.10	15	OVC	200			73	66	68	79	17	13	28.88	29.75	
18	SCT	NC		10.00			87	53	66	31	5	VR	29.18	30.06	18	OVC	050		-RA	79	67	71	67	14	17	28.90	29.78	
21	SCT	NC		10.00			85	56	67	37	13	13	29.15	30.03	21	OVC	060			81	67	72	62	10	15	28.87	29.74	
24	BKN	200		10.00			78	57	65	48	9	14	29.17	30.05	24	BKN	065			79	69	72	72	13	14	28.85	29.72	
03	BKN	085		10.00			75	56	64	52	10	17	29.17	30.05	03	BKN	090			78	68	71	71	13	17	28.86	29.73	
06	BKN	200		10.00			73	54	62	51	7	15	29.16	30.03	06	OVC	070		8.00	74	69	71	85	7	15	28.86	29.73	
09	OVC	150		10.00			70	54	61	57	6	15	29.13	30.01	09	OVC	150		-TSRA	70	68	69	93	7	06	28.88	29.75	
12	BKN	150		10.00			73	56	63	55	5	20	29.12	30.01	12	BKN	150			70	66	67	87	8	17	28.93	29.81	
15	SCT	NC		10.00			79	62	68	56	0	00	29.10	29.98	15	SCT	NC			80	68	72	67	12	14	28.85	29.72	
18	SCT	NC		10.00			85	64	71	50	8	32	29.03	29.91	18	SCT	NC			86	64	71	48	15	18	28.87	29.74	
21	SCT	NC		10.00			86	62	70	45	8	28	29.00	29.88	21	SCT	NC			87	67	73	51	8	15	28.87	29.75	
24	SCT	NC		10.00			79	65	70	62	6	24	29.02	29.90	24	SCT	NC			81	68	72	65	9	13	28.88	29.76	
03	FEW	NC		10.00			69	62	65	78	6	13	29.04	29.92	03	OVC	065		10.00	76	69	71	79	12	14	28.87	29.75	
06	SCT	NC		10.00			68	61	64	78	0	00	29.01	29.89	06	OVC	100		-TSRA	72	63	66	73	30	20	28.88	29.75	
09	SCT	NC		10.00			68	62	64	81	3	VR	29.05	29.93	09	BKN	200			70	65	67	84	9	08	28.88	29.75	
12	SCT	NC		10.00			76	63	68	64	12	35	29.07	29.95	12	BKN	250			74	65	68	74	6	28	28.99	29.86	
15	FEW	NC		10.00			81	59	67	47	12	02	29.06	29.95	15	OVC	037			76	67	70	74	18	17	28.92	29.79	
18	FEW	NC		10.00			81	47	61	30	13	01	29.04	29.93	18	BKN	150			85	71	75	63	10	17	28.95	29.83	
21	CLR	NC		10.00			79	43	59	28	18	03	29.04	29.93	21	BKN	060			85	75	78	72	10	12	28.89	29.76	
24	CLR	NC		10.00			72	46	58	40	12	01	29.09	29.98	24	OVC	008		2.00	85	73	77	68	10	16	28.88	29.75	
							65	48	56	54	5	02	29.14	30.03					+TSRA BR	66	65	65	96	17	07	28.93	29.80	

OBSERVATIONS AT 3-HOURLY INTERVALS

MINNEAPOLIS-ST. PAUL, MN
JUNE 2003 MSP WBAN # 14922

Main data table with columns for Hour (LST), Sky Cover, Ceiling, Visibility, Temperature (Dry Bulb, Dew Point, Wet Bulb), Wind (Speed, Direction), Pressure (Station, Sea Level), and Weather. Includes sunrise and sunset times for each day.

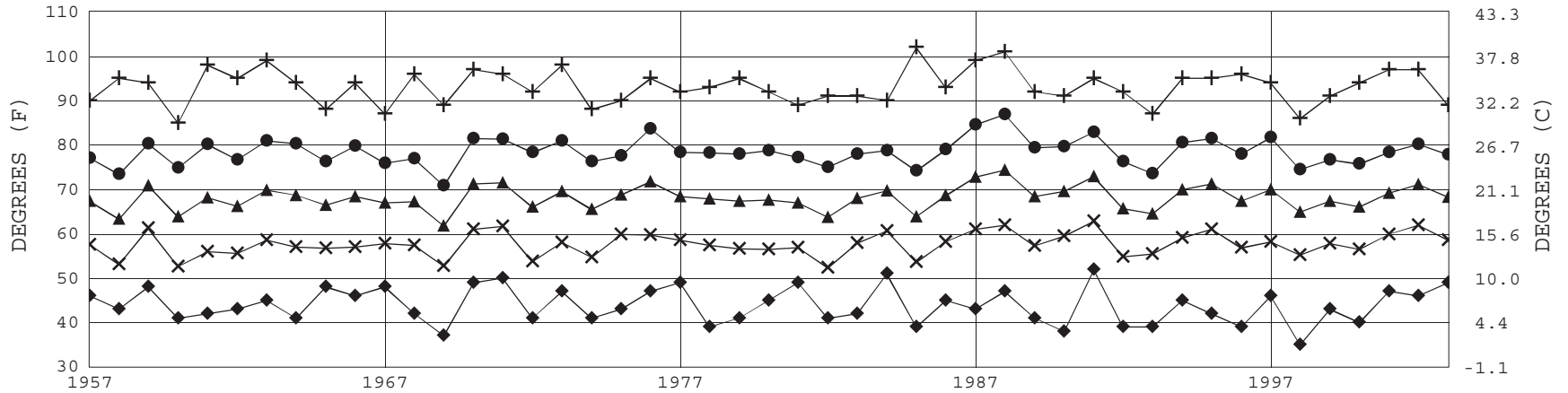
3-HOURLY OBSERVATION NOTES

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. Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC= No ceiling detected. & = Original observation contained additional weather elements. See page 3 for additional notes.

SUMMARY BY HOUR

Summary by hour table with columns for Hour (LST), Averages (Ceilometer, Eff Clld Amt, Dry Bulb, Dew Point, Wet Bulb, Relative Humidity, Pressure Station/Sea Level, Visibility, Wind Speed/Direction), and Resultant Wind (Speed, Direction).

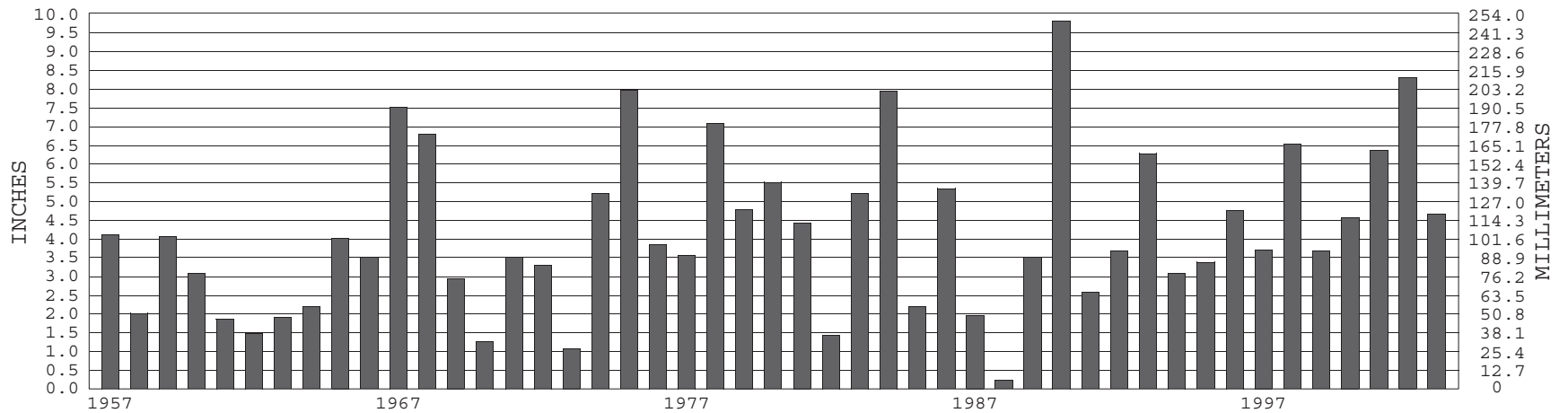
MINNEAPOLIS-ST. PAUL, MN JUNE TEMPERATURES



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

Long-Term (1957-2003) Mean: 68.0 1961-1990 Normal: 68.4

MINNEAPOLIS-ST. PAUL, MN JUNE PRECIPITATION



Long-Term (1957-2003) Mean Monthly Total: 4.18

1961-1990 Normal: 4.34



JUNE 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.

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