



# AUGUST 2002

## 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					
																			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	84	63	74	1	61	66	0	9	RA				T	28.98	29.86	9.0	30	13.3	36	33	26	33	01	
02	77	58	68	-5	55	61	0	3					0.00	29.25	30.15	3.9	30	5.9	20	33	14	33	02	
03	74	63	69	-4	63	65	0	4	TS TSRA RA FG+ BR				2.36	29.17	30.05	6.0	11	9.9	32	32	25	32	03	
04	78	67	73	0	69	70	0	8	RA FG BR				T	29.21	30.09	3.8	03	5.7	15	02	12	03	04	
05	80	65	73	0	61	66	0	8					0.00	29.30	30.19	9.7	07	10.3	26	07	17	07	05	
06	73	61	67	-6	56	60	0	2					0.00	29.37	30.27	12.7	11	13.1	24	10	20	12	06	
07	79	61	70	-2	59	63	0	5					0.00	29.35	30.24	10.1	15	10.4	23	15	15	18	07	
08	81	64	73	1	62	66	0	8					0.00	29.31	30.20	8.3	17	9.1	18	20	15	16	08	
09	84	65	75	3	63	67	0	10					0.00	29.20	30.08	8.1	19	8.6	16	19	14	18	09	
10	81	67	74	2	62	66	0	9	TS TSRA RA BR				0.12	29.02	29.90	10.2	24	11.7	30	25	24	27	10	
11	89*	65	77*	5	67	71	0	12					0.00	28.97	29.85	5.4	20	7.6	22	22	18	22	11	
12	80	63	72	0	62	65	0	7	TS RA				0.01	28.95	29.83	8.1	25	10.2	31	24	24	23	12	
13	75	59	67	-5	55	60	0	2					0.00	28.99	29.87	3.9	28	5.8	17	30	14	34	13	
14	83	60	72	1	57	63	0	7					0.00	28.82	29.69	11.8	20	12.2	28	20	23	19	14	
15	79	65	72	1	59	64	0	7	TS TSRA RA				0.05	28.86	29.73	10.0	24	12.1	26	21	21	29	15	
16	82	59	71	0	58	63	0	6	TS TSRA BR				1.97	29.01	29.89	8.3	18	11.3	37	13	32*	13	16	
17	73	56	65	-6	53	59	0	0	TS TSRA RA BR				0.39	28.91	29.79	11.8	27	16.0	39*	28	31	15	17	
18	73	50*	62*	-9	50	56	3	0	RA				T	29.06	29.96	1.8	29	4.1	25	03	15	33	18	
19	74	54	64	-6	53	59	1	0					0.00	29.13	30.02	1.8	31	4.5	21	04	12	30	19	
20	79	56	68	-2	58	62	0	3	TS TSRA RA BR				0.94	29.13	30.03	9.6	14	10.2	22	14	17	13	20	
21	75	65	70	0	67	68	0	5	TS TSRA RA BR				2.00	28.99	29.87	6.4	12	8.6	31	34	25	34	21	
22	71	64	68	-1	64	66	0	3	DZ BR				T	29.15	30.04	6.7	05	7.8	17	07	15	02	22	
23	76	65	71	2	66	67	0	6	DZ BR				T	29.11	29.99	4.0	35	5.7	22	03	10	02	23	
24	84	62	73	4	66	68	0	8	BCFG BR				0.00	29.11	30.00	4.5	28	5.5	21	27	15	32	24	
25	84	64	74	5	64	67	0	9	MIFG BR				0.00	29.14	30.02	1.3	33	2.6	14	03	10	33	25	
26	83	65	74	6	64	68	0	9					0.00	29.16	30.05	4.3	09	5.3	16	05	13	09	26	
27	82	66	74	6	65	68	0	9					0.00	29.27	30.16	6.5	13	7.3	17	10	14	12	27	
28	81	67	74	7	67	69	0	9	TS TSRA RA BR				0.39	29.30	30.19	8.0	16	8.4	29	19	23	18	28	
29	81	68	75	8	67	69	0	10	RA BR				0.07	29.25	30.14	5.6	18	6.8	16	24	13	22	29	
30	80	64	72	5	62	66	0	7					0.00	29.30	30.19	8.3	16	8.6	18	17	16	16	30	
31	83	67	75	8	64	68	0	10	BR HZ				0.00	29.26	30.15	12.9	17	13.0	25	16	22	17	31	
79.3 62.5 70.9 ■■										< MONTHLY AVERAGES TOTALS->				8.30	29.13	30.02	2.5	16	8.8	<- MONTHLY AVERAGES				
-1.1 1.7 0.3 ■■										<-----DEPARTURE FROM NORMAL----->				4.25	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3									
DEGREE DAYS									GREATEST 24-HR PRECIPITATION: 2.94 DATE :20-21				SEA LEVEL PRESSURE DATE TIME											
MONTHLY TOTAL DEPARTURE									GREATEST 24-HR SNOWFALL: DATE :				MAXIMUM : 30.33 06 0753											
SEASON TO DATE TOTAL DEPARTURE									GREATEST SNOW DEPTH: DATE :				MINIMUM : 29.50 17 0253											
HEATING: 4 -16 4 -23									NUMBER OF DAYS WITH ➡				MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32 : 0				PRECIPITATION ≥ 0.01 INCH : 10			
COOLING: 195 5 846 206													MAXIMUM TEMP ≤ 32 : 0				MINIMUM TEMP ≤ 0 : 0				PRECIPITATION ≥ 0.10 INCH : 7			
													THUNDERSTORMS : 9				HEAVY FOG : 1				SNOWFALL ≥ 1.0 INCH :			

AUGUST 2002  
MINNEAPOLIS-ST.PAUL, MN

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## MINNEAPOLIS–ST.PAUL, MN

AUGUST 2002

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	0.37	T	0.02	0.12	T	T	0.08	0.19	0.04	0.14	0.10	T	01	0.07	T	T	1.38	0.21	0.13	0.41	0.13	0.03		01			T	
02													02											0.00				
03													03											2.36				
04													04											T				
05													05											0.00				
06													06											0.00				
07													07											0.00				
08													08											0.00				
09													09											0.00				
10													10											0.12				
11													11											0.00				
12													12											0.01				
13													13											0.00				
14													14											0.00				
15													15											0.05				
16	16	T	T	0.06	0.16	0.23	0.81	0.52	0.19	16	1.97																	
17	17									0.39																		
18	18									T																		
19	19									0.00																		
20	20									0.94																		
21	0.43	0.77	0.22	0.01	0.02	0.08	0.19	0.04	0.14	0.10	T	21												21			2.00	
22												22												T				
23												23												T				
24												24												0.00				
25												25												0.00				
26	T	0.01						0.06					26														0.00	
27													27														0.00	
28													28														0.39	
29													29														0.07	
30													30														0.00	
31													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)	.34	.55	.79	1.05	1.39	1.51	1.55	1.58	1.59	1.62	1.73	1.90
Ending Date	03	03	03	03	03	03	03	03	03	03	03	03
Ending Time (Hour/Min)	1730	1735	1740	1745	1755	1805	1822	1839	1845	1924	1954	2025

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.

\* = 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

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

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

## WEATHER NOTATIONS

**MINNEAPOLIS—ST. PAUL, MN**  
**AUGUST 2002**

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.

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							.25	10.00	
04							.50	10.00	
05							10.00	10.00	
06							10.00	10.00	
07							10.00	10.00	
08							10.00	10.00	
09							10.00	10.00	
10							1.75	10.00	
11							10.00	10.00	
12							10.00	10.00	
13							10.00	10.00	
14							10.00	10.00	
15							8.00	10.00	
16							1.50	10.00	
17							10.00	10.00	
18							10.00	10.00	
19							10.00	10.00	
20							2.50	10.00	
21							1.00	10.00	
22							2.00	10.00	
23							6.00	10.00	
24							3.00	10.00	
25							6.00	10.00	
26							9.00	10.00	
27							8.00	10.00	
28							2.00	10.00	
29							2.50	10.00	
30							8.00	10.00	
31							6.00	10.00	
MONTHLY AVGS							7.06	10.00	

SUNSHINE (MINUTES)

Total: Possible:

Percent Possible:

NUMBER OF DAYS WITH:

SKY CONDITION

CLR PTLY CLDY CLOUDY MISSING

31

MINIMUM VISIBILITY (MILES)

<=0.25 <=3.0 >=7.0

1 7 19

## OBSERVATIONS AT 3-HOURLY INTERVALS

## MINNEAPOLIS-ST. PAUL, MN

AUGUST 2002

MSP

WBAN # 14922

HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)					
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Okta		DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL		SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Okta		DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL				
				VISIBILITY (MILES)																											
			SUNRISE: 0459														SUNRISE: 0505														
03	FEW	NC			10.00	83	69	73	63	21	22	28.76	29.62	03	FEW	NC				10.00	63	57	60	81	13	14	29.35	30.24			
06	SCT	NC			10.00	78	71	73	79	10	21	28.78	29.65	06	BKN	041				10.00	62	56	59	81	10	14	29.39	30.28			
09	OVC	013			10.00	76	67	70	74	23	34	28.91	29.78	09	OVC	041				10.00	65	58	61	78	9	15	29.40	30.30			
12	SCT	NC			10.00	77	58	65	52	23	33	29.00	29.89	12	FEW	NC				10.00	74	60	65	62	12	14	29.37	30.26			
15	FEW	NC			10.00	75	54	63	48	18	32	29.06	29.95	15	FEW	NC				10.00	78	61	67	56	13	19	29.32	30.21			
18	SCT	NC			10.00	73	53	61	50	15	32	29.11	29.99	18	FEW	NC				10.00	77	62	68	60	12	15	29.31	30.20			
21	SCT	NC			10.00	67	53	59	61	9	32	29.17	30.06	21	FEW	NC				10.00	71	59	64	66	7	15	29.32	30.22			
24	CLR	NC			10.00	63	53	57	70	8	33	29.21	30.10	24	SCT	NC				10.00	69	61	64	76	8	16	29.33	30.22			
			SUNRISE: 0460														SUNRISE: 0507														
03	CLR	NC			10.00	60	53	56	78	5	33	29.23	30.12	03	BKN	150				10.00	67	60	63	79	7	19	29.33	30.22			
06	FEW	NC			10.00	60	54	57	80	5	23	29.28	30.17	06	BKN	150				10.00	65	60	62	84	3	VR	29.37	30.27			
09	CLR	NC			10.00	69	56	61	63	5	VR	29.30	30.19	09	FEW	NC				10.00	72	60	65	66	12	21	29.37	30.26			
12	FEW	NC			10.00	72	52	60	50	9	28	29.29	30.18	12	FEW	NC				10.00	78	63	68	60	8	22	29.33	30.21			
15	FEW	NC			10.00	76	58	65	54	9	31	29.25	30.14	15	SCT	NC				10.00	80	62	69	54	9	17	29.30	30.19			
18	FEW	NC			10.00	75	56	64	52	7	31	29.22	30.11	18	SCT	NC				10.00	78	65	70	64	12	15	29.25	30.14			
21	BKN	250			10.00	69	58	62	68	3	30	29.22	30.11	21	FEW	NC				10.00	75	63	67	66	12	18	29.27	30.15			
24	BKN	150			10.00	67	59	62	76	5	16	29.25	30.14	24	FEW	NC				10.00	69	62	65	78	7	16	29.25	30.13			
			SUNRISE: 0501														SUNRISE: 0508														
03	SCT	NC			10.00	64	58	60	81	5	12	29.23	30.12	03	SCT	NC				10.00	69	62	65	78	7	23	29.27	30.16			
06	BKN	250			10.00	63	59	61	87	9	14	29.21	30.10	06	BKN	150				10.00	66	61	63	84	8	17	29.25	30.14			
09	OVC	200			10.00	69	60	64	73	9	16	29.20	30.09	09	BKN	250				10.00	74	61	66	64	9	24	29.25	30.13			
12	OVC	060			10.00	70	63	66	79	18	33	29.23	30.12	12	SCT	NC				10.00	81	62	69	53	8	21	29.21	30.10			
15	OVC	028			10.00	70	65	67	84	17	11	29.12	30.01	15	BKN	150				10.00	80	60	67	51	7	19	29.18	30.06			
18	OVC	002			0.25	68	67	67	96	15	04	29.06	29.96	18	BKN	100				10.00	79	65	70	62	7	17	29.14	30.03			
21	OVC	014			3.00	69	69	69	100	10	14	29.13	30.02	21	OVC	100				10.00	77	66	70	69	12	18	29.12	30.01			
24	OVC	006			5.00	70	68	69	93	5	16	29.14	30.03	24	OVC	130				10.00	73	64	67	74	8	19	29.11	29.99			
			SUNRISE: 0502														SUNRISE: 0509														
03	SCT	NC			10.00	68	68	68	100	0	00	29.11	30.00	03	BKN	150				10.00	71	63	66	76	8	18	29.05	29.93			
06	OVC	010			0.50	68	68	68	100	3	03	29.18	30.07	06	BKN	060				9.00	69	65	66	87	9	20	29.02	29.90			
09	OVC	010			6.00	71	69	70	94	7	VR	29.21	30.11	09	BKN	013				10.00	71	65	67	81	12	27	29.02	29.91			
12	OVC	020			10.00	75	70	72	84	3	VR	29.21	30.10	12	SCT	NC				10.00	78	59	66	52	18	27	29.01	29.90			
15	OVC	026			10.00	77	70	72	79	8	01	29.23	30.11	15	SCT	NC				10.00	80	57	66	45	21	27	29.00	29.88			
18	OVC	030			10.00	76	69	71	79	8	01	29.24	30.13	18	FEW	NC				10.00	80	59	67	49	12	25	28.99	29.87			
21	OVC	037			10.00	74	70	71	88	6	01	29.26	30.14	21	FEW	NC				10.00	75	60	66	60	9	22	29.00	29.87			
24	BKN	043			10.00	71	68	69	90	3	04	29.25	30.14	24	CLR	NC				10.00	73	60	65	64	10	24	29.00	29.88			
			SUNRISE: 0503														SUNRISE: 0510														
03	BKN	060			10.00	70	65	67	84	6	05	29.25	30.14	03	CLR	NC				10.00	69	60	64	73	10	25	29.00	29.87			
06	OVC	037			10.00	69	63	65	81	8	04	29.28	30.17	06	FEW	NC				10.00	66	61	63	84	0	00	29.02	29.91			
09	OVC	037			10.00	72	61	65	69	10	07	29.30	30.19	09	BKN	250				10.00	75	65	69	71	5	15	29.01	29.89			
12	SCT	NC			10.00	78	62	68	58	13	05	29.29	30.17	12	BKN	250				10.00	84	71	75	65	9	19	29.00	29.88			
15	SCT	NC			10.00	80	63	69	56	12	09	29.30	30.18	15	BKN	250				10.00	89	68	75	50	9	16	28.96	29.83			
18	SCT	NC			10.00	78	60	67	54	10	07	29.30	30.19	18	BKN	250				10.00	86	67	73	53	10	19	28.91	29.79			
21	CLR	NC			10.00	72	59	64	64	15	06	29.34	30.23	21	BKN	250				10.00	80	72	74	76	7	16	28.92	29.80			
24	CLR	NC			10.00	65	54	59	68	12	08	29.37	30.27	24	OVC	150				10.00	79	72	74	79	12	18	28.89	29.76			
			SUNRISE: 0504														SUNRISE: 0511														
03	CLR	NC			10.00	62	54	57	75	14	10	29.38	30.27	03	BKN	150				10.00	69	65	66	87	13	14	28.82	29.69			
06	BKN	200			10.00	61	55	58	81	14	11	29.42	30.32	06	BKN	130				10.00	69	64	66	84	9	29	28.92	29.79			
09	BKN	250			10.00	63	52	57	68	16	11	29.42	30.32	09	OVC	200				10.00	71	63	66	76	12	24	28.93	29.80			
12	BKN	200			10.00	67	54	59	63	14	10	29.40	30.30	12	OVC	180				10.00	73	64	67	74	16	26	28.97	29.84			
15	BKN	150			10.00	73	57	63	57	16	12	29.34	30.23	15	BKN	110				10.00	74	63	67	69	12	29	28.97	29.85			
18	SCT	NC			10.00	72	57	63	60	15	13	29.33	30.22	18	OVC	110				10.00	68	61	64	78	10	26	28.99	29.87			
21	SCT	NC			10.00	69	60	64	73	13	12	29.34	30.23	21	BKN	090				10.00	66	57	61	73	3	28	29.02	29.91			
24	SCT	NC			10.00	66	58	61	75	9	14	29.36	30.25	24	BKN	150				10.00	63	58	60	84	6	23	29.03	29.92			

## OBSERVATIONS AT 3-HOURLY INTERVALS

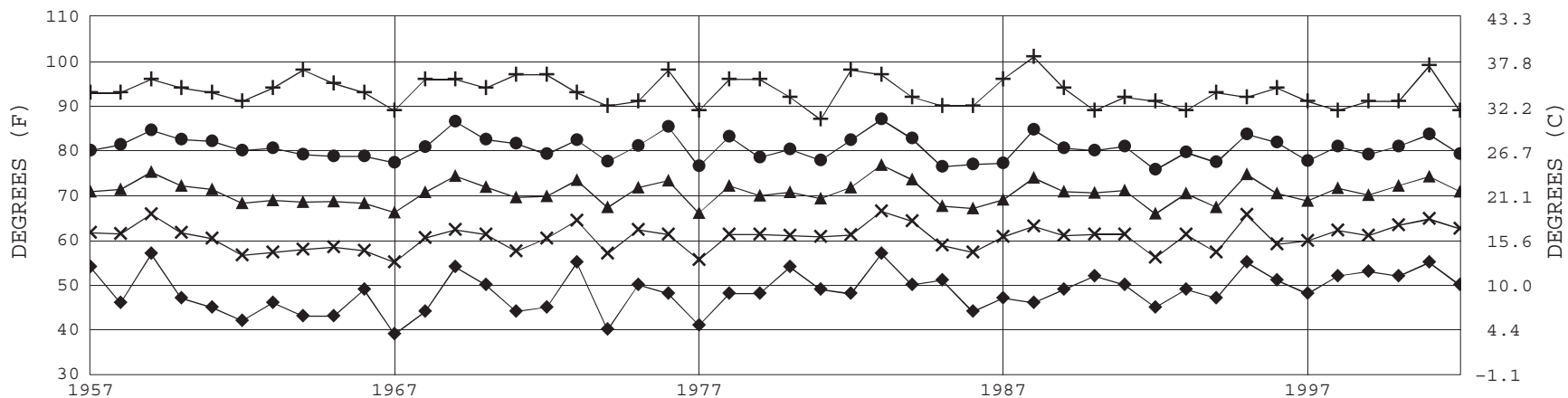
MINNEAPOLIS-ST. PAUL, MN  
AUGUST 2002 MSP WBAN # 14922

HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)			
	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT <small>Okta</small>		VISIBILITY (MILES)	DRY BULB	DEW POINT		WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION		SEA LEVEL	SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)		EFF CLD AMT <small>Okta</small>	VISIBILITY (MILES)	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
					SUNRISE: 0512	AUG 13			SUNSET: 1924										SUNRISE: 0520	AUG 19									
03	BKN	100			10.00	62	58	60	86	6	23	29.01	29.90	03	CLR	NC				10.00	58	54	56	87	5	32	29.07	29.96	
06	BKN	200			10.00	59	58	58	96	5	22	29.02	29.91	06	FEW	NC				10.00	56	53	54	90	5	35	29.10	29.99	
09	BKN	250			10.00	68	60	63	76	3	VR	29.01	29.91	09	CLR	NC				10.00	65	51	57	61	7	VR	29.15	30.04	
12	BKN	250			10.00	74	53	62	48	10	30	29.00	29.89	12	CLR	NC				10.00	70	50	59	49	0	00	29.17	30.06	
15	BKN	150			10.00	73	52	61	48	7	35	28.98	29.86	15	FEW	NC				10.00	73	53	61	50	3	29	29.14	30.03	
18	SCT	NC			10.00	74	51	61	45	7	28	28.95	29.83	18	CLR	NC				10.00	73	53	61	50	6	27	29.13	30.02	
21	CLR	NC			10.00	68	55	60	63	8	22	28.96	29.84	21	CLR	NC				10.00	68	56	61	66	6	22	29.14	30.03	
24	CLR	NC			10.00	63	56	59	78	5	23	28.93	29.80	24	CLR	NC				10.00	63	56	59	78	3	13	29.17	30.06	
					SUNRISE: 0514	AUG 14			SUNSET: 1922										SUNRISE: 0521	AUG 20									
03	CLR	NC			10.00	60	54	57	80	5	23	28.90	29.78	03	FEW	NC				10.00	60	54	57	80	5	16	29.18	30.07	
06	SCT	NC			10.00	61	52	56	72	7	22	28.90	29.78	06	FEW	NC				10.00	58	53	55	84	9	17	29.20	30.10	
09	SCT	NC			10.00	71	53	61	53	12	22	28.87	29.75	09	FEW	NC				10.00	66	54	59	65	9	15	29.20	30.09	
12	SCT	NC			10.00	80	54	64	41	20	20	28.79	29.67	12	FEW	NC				10.00	75	54	63	48	13	14	29.14	30.03	
15	SCT	NC			10.00	82	60	68	47	16	19	28.76	29.64	15	SCT	NC				10.00	78	60	67	54	12	15	29.07	29.96	
18	SCT	NC			10.00	81	61	68	51	18	19	28.73	29.60	18	OVC	040			-TSRA	10.00	73	63	67	71	7	15	29.09	29.99	
21	SCT	NC			10.00	76	62	67	62	14	17	28.75	29.62	21	OVC	070			-RA	9.00	68	66	67	93	12	11	29.11	30.00	
24	BKN	200			10.00	76	58	65	54	13	21	28.78	29.65	24	OVC	036				10.00	68	64	66	87	14	12	29.01	29.90	
					SUNRISE: 0515	AUG 15			SUNSET: 1921										SUNRISE: 0522	AUG 21									
03	BKN	130			10.00	72	56	62	57	16	21	28.76	29.63	03	OVC	015			2.00	+TSRA BR	65	65	65	100	8	14	29.03	29.92	
06	SCT	NC			10.00	70	56	62	61	12	21	28.77	29.65	06	OVC	004			7.00	-RA	65	65	65	100	12	13	29.00	29.88	
09	OVC	050			8.00	65	61	63	87	6	32	28.78	29.66	09	OVC	004			10.00	-RA	67	66	66	97	13	15	29.00	29.88	
12	BKN	150			10.00	73	64	67	74	12	29	28.85	29.72	12	BKN	070			10.00	69	67	68	93	14	12	28.97	29.85		
15	SCT	NC			10.00	78	60	67	54	15	29	28.87	29.74	15	BKN	031			10.00	74	69	71	85	8	15	28.95	29.83		
18	SCT	NC			10.00	76	58	65	54	20	26	28.91	29.78	18	BKN	100			10.00	74	70	71	88	3	VR	28.95	29.83		
21	CLR	NC			10.00	70	57	62	64	6	26	28.98	29.85	21	OVC	023			10.00	72	69	70	91	0	00	29.02	29.91		
24	CLR	NC			10.00	65	58	61	78	9	24	29.01	29.90	24	BKN	033			10.00	70	68	69	93	8	02	29.02	29.91		
					SUNRISE: 0516	AUG 16			SUNSET: 1919										SUNRISE: 0523	AUG 22									
03	CLR	NC			10.00	62	56	59	81	7	24	29.03	29.92	03	OVC	009			10.00	68	66	67	93	10	03	29.06	29.95		
06	FEW	NC			10.00	60	55	57	84	5	20	29.08	29.97	06	OVC	006			4.00	-DZ BR	64	63	63	96	9	03	29.11	30.00	
09	FEW	NC			10.00	72	54	61	53	9	23	29.08	29.97	09	OVC	006			2.00	-DZ BR	65	63	64	93	8	01	29.19	30.08	
12	BKN	250			10.00	78	56	65	47	6	VR	29.07	29.96	12	OVC	015			10.00	68	63	65	84	10	08	29.19	30.09		
15	BKN	250			10.00	81	58	67	46	16	18	29.01	29.90	15	OVC	017			10.00	70	64	66	82	7	VR	29.19	30.08		
18	BKN	120			10.00	75	60	66	60	12	15	28.93	29.81	18	OVC	027			10.00	70	64	66	82	7	06	29.18	30.07		
21	OVC	065			5.00	66	63	64	90	9	12	28.92	29.80	21	OVC	031			10.00	69	65	66	87	5	10	29.17	30.06		
24	OVC	029			3.00	65	63	64	93	22	16	28.80	29.67	24	OVC	035			10.00	68	65	66	90	5	07	29.14	30.03		
					SUNRISE: 0517	AUG 17			SUNSET: 1917										SUNRISE: 0524	AUG 23									
03	OVC	036			10.00	69	67	68	93	13	16	28.65	29.52	03	OVC	039			10.00	68	65	66	90	3	03	29.12	30.01		
06	OVC	200			10.00	67	62	64	84	20	27	28.77	29.64	06	OVC	010			6.00	-DZ BR	67	66	66	97	7	04	29.12	30.01	
09	OVC	024			10.00	62	53	57	73	26	29	28.90	29.78	09	OVC	049			6.00	BR	70	67	68	90	5	VR	29.11	30.00	
12	BKN	039			10.00	64	50	56	61	21	27	28.98	29.86	12	OVC	017			10.00	72	66	68	82	5	03	29.11	30.01		
15	SCT	NC			10.00	67	47	56	49	20	30	29.00	29.88	15	OVC	034			10.00	74	66	69	76	5	VR	29.09	29.98		
18	CLR	NC			10.00	67	44	55	44	21	29	29.02	29.91	18	BKN	250			10.00	74	66	69	76	8	29	29.06	29.94		
21	FEW	NC			10.00	61	47	54	60	8	27	29.04	29.93	21	BKN	150			10.00	68	65	66	90	6	32	29.07	29.96		
24	FEW	NC			10.00	57	48	52	72	0	00	29.05	29.94	24	SCT	NC			8.00		66	64	65	93	0	00	29.10	29.99	
					SUNRISE: 0518	AUG 18			SUNSET: 1916										SUNRISE: 0525	AUG 24									
03	CLR	NC			10.00	53	48	50	83	5	23	29.06	29.96	03	FEW	NC			6.00	BR	63	63	63	100	3	25	29.09	29.98	
06	CLR	NC			10.00	50	47	48	89	3	27	29.08	29.98	06	SCT	NC			7.00	BCFG	62	62	62	100	3	17	29.09	29.98	
09	FEW	NC			10.00	62	51	56	67	0	00	29.09	29.99	09	BKN	055			10.00	71	66	68	84	7	27	29.14	30.03		
12	FEW	NC			10.00	69	46	57	44	3	VR	29.07	29.97	12	SCT	NC			10.00	79	66	70	65	9	29	29.12	30.01		
15	SCT	NC			10.00	71	47	58	42	9	22	29.04	29.94	15	BKN	250			10.00	83	69	74	63	10					

Hour (LST)			Satellite		Weather	Temperature °F			Relative Humidity (Pct)	Wind		Pressure (Inches,Hg)		Hour (LST)			Satellite		Weather	Temperature °F			Relative Humidity (Pct)	Wind		Pressure (Inches,Hg)																																																																																																																																																																																																																																																																																																																																																				
	Sky Cover	Ceiling 100's Off	Observation Time (LST)	Eff ClD AMT Okta		Visibility (Miles)	Dry Bulb	Dew Point		Wet Bulb	Speed (MPH)	Direction Tens of Deg	Station		Sea Level	Sky Cover	Ceiling 100's Off	Observation Time (LST)		Eff ClD AMT Okta	Visibility (Miles)	Dry Bulb		Dew Point	Wet Bulb	Speed (MPH)	Direction Tens of Deg	Station	Sea Level																																																																																																																																																																																																																																																																																																																																																	
<div>SUNRISE: 0527      AUG 25      SUNSET: 1904</div> <div>03 SCT NC      7.00      67 65 66 93 3 25 29.14 30.02      03 SCT NC      7.00      67 63 64 87 10 00 29.15 30.03</div> <div>06 BKN 250      6.00 MIFG      65 64 64 97 0 00 29.15 30.04      06 SCT NC      6.00 HZ      68 63 65 84 12 17 29.31 30.20</div> <div>09 BKN 250      10.00      75 63 67 66 3 VR 29.16 30.05      09 BKN 250      9.00      73 64 67 74 14 17 29.32 30.21</div> <div>12 SCT NC      10.00      80 62 69 54 0 00 29.15 30.03      12 FEW NC      10.00      81 64 70 57 16 17 29.28 30.16</div> <div>15 BKN 250      10.00      83 60 68 46 3 25 29.11 30.00      15 FEW NC      10.00      83 66 72 57 17 16 29.23 30.11</div> <div>18 BKN 250      10.00      79 64 69 60 5 32 29.10 29.99      18 CLR NC      10.00      80 66 71 62 14 17 29.21 30.10</div> <div>21 SCT NC      10.00      75 62 67 64 5 06 29.13 30.01      21 FEW NC      10.00      75 65 69 71 13 17 29.21 30.09</div> <div>24 BKN 045      10.00      69 66 67 90 0 00 29.13 30.02      24 FEW NC      10.00      72 62 66 71 12 17 29.17 30.06</div> <div><div>SUNRISE: 0528      AUG 26      SUNSET: 1902</div><div>03 BKN 250      10.00      67 64 65 91 0 00 29.15 30.03</div><div>06 BKN 250      10.00      67 63 64 87 0 00 29.16 30.05</div><div>09 SCT NC      10.00      76 65 69 69 7 VR 29.16 30.05</div><div>12 BKN 250      10.00      80 64 70 58 10 09 29.15 30.04</div><div>15 BKN 250      10.00      82 63 70 53 6 VR 29.15 30.03</div><div>18 BKN 250      10.00      78 65 70 64 8 11 29.14 30.03</div><div>21 BKN 250      10.00      75 64 68 69 10 11 29.16 30.04</div><div>24 SCT NC      10.00      71 64 67 79 5 08 29.21 30.09</div><div><div>SUNRISE: 0529      AUG 27      SUNSET: 1901</div><div>03 CLR NC      10.00      68 64 66 87 5 07 29.21 30.10</div><div>06 SCT NC      8.00      66 64 65 93 5 06 29.26 30.15</div><div>09 SCT NC      10.00      72 66 68 82 8 13 29.29 30.17</div><div>12 BKN 250      10.00      79 66 70 65 10 15 29.30 30.18</div><div>15 SCT NC      10.00      81 65 70 58 9 15 29.29 30.17</div><div>18 BKN 250      10.00      77 65 69 66 9 14 29.27 30.16</div><div>21 SCT NC      10.00      74 65 68 74 8 12 29.29 30.17</div><div>24 BKN 250      10.00      70 65 67 84 6 13 29.30 30.19</div><div><div>SUNRISE: 0530      AUG 28      SUNSET: 1859</div><div>03 OVC 044      9.00      68 66 67 93 7 13 29.33 30.22</div><div>06 OVC 009      4.00 BR      67 66 66 97 10 13 29.34 30.23</div><div>09 BKN 055      8.00      72 67 69 84 8 17 29.34 30.23</div><div>12 BKN 250      10.00      80 68 72 67 9 16 29.30 30.19</div><div>15 OVC 250      10.00      79 67 71 67 12 15 29.29 30.17</div><div>18 OVC 250      10.00      78 68 71 71 12 17 29.22 30.11</div><div>21 BKN 250      8.00      72 67 69 84 6 15 29.26 30.15</div><div>24 SCT NC      7.00      69 67 68 93 7 15 29.25 30.14</div><div><div>SUNRISE: 0531      AUG 29      SUNSET: 1857</div><div>03 OVC 055      6.00 BR      68 66 67 93 3 VR 29.26 30.14</div><div>06 BKN 100      4.00 BR      69 66 67 90 0 00 29.27 30.16</div><div>09 OVC 050      5.00 BR      70 68 69 93 7 18 29.27 30.16</div><div>12 OVC 150      9.00      78 68 71 71 12 22 29.26 30.15</div><div>15 BKN 150      10.00      79 68 72 69 6 20 29.23 30.11</div><div>18 BKN 200      10.00      80 66 71 62 8 19 29.21 30.10</div><div>21 SCT NC      10.00      73 68 70 84 7 15 29.24 30.13</div><div>24 SCT NC      10.00      69 65 66 87 8 15 29.27 30.16</div><div><div>SUNRISE: 0533      AUG 30      SUNSET: 1855</div><div>03 CLR NC      10.00      66 63 64 90 6 16 29.29 30.17</div><div>06 SCT NC      9.00      64 61 62 90 6 14 29.32 30.21</div><div>09 FEW NC      10.00      72 62 66 71 10 18 29.32 30.21</div><div>12 BKN 250      10.00      77 62 68 60 12 19 29.31 30.20</div><div>15 BKN 250      10.00      79 61 68 54 8 16 29.30 30.19</div><div>18 BKN 250      10.00      75 62 67 64 9 14 29.29 30.18</div><div>21 BKN 250      10.00      70 63 66 79 7 14 29.29 30.18</div><div>24 BKN 250      8.00      70 63 66 79 12 17 29.31 30.19</div></div></div></div></div></div>																																																																																																																																																																																																																																																																																																																																																																														
<div>3-Hourly Observation Notes</div> <div>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. &amp; = Original observation contained additional weather elements. See page 3 for additional notes.</div>																																																																																																																																																																																																																																																																																																																																																																														
<div>Summary by Hour</div> <table><tr><th rowspan="3">Hour (LST)</th><th colspan="10">Averages</th><th colspan="2">Resultant Wind (MPH)</th></tr><tr><th rowspan="2">Ceilometer</th><th rowspan="2">Eff ClD AMT</th><th rowspan="2">Dry Bulb</th><th rowspan="2">Dew Point</th><th rowspan="2">Wet Bulb</th><th rowspan="2">Relative Humidity</th><th colspan="2">Pressure (Inches,Hg)</th><th rowspan="2">Visibility (Miles)</th><th rowspan="2">Wind Speed (MPH)</th><th rowspan="2">Speed</th><th rowspan="2">Direction</th></tr><tr><th>Station</th><th>Sea Level</th></tr><tr><td>01</td><td></td><td></td><td>68</td><td>62</td><td>64</td><td>82</td><td>29.11</td><td>30.00</td><td>9.65</td><td>7</td><td>4</td><td>17</td></tr><tr><td>02</td><td></td><td></td><td>67</td><td>61</td><td>63</td><td>83</td><td>29.11</td><td>30.00</td><td>9.39</td><td>7</td><td>3</td><td>17</td></tr><tr><td>03</td><td></td><td></td><td>66</td><td>61</td><td>63</td><td>84</td><td>29.11</td><td>30.00</td><td>9.26</td><td>7</td><td>4</td><td>18</td></tr><tr><td>04</td><td></td><td></td><td>65</td><td>61</td><td>63</td><td>86</td><td>29.12</td><td>30.00</td><td>9.13</td><td>7</td><td>2</td><td>17</td></tr><tr><td>05</td><td></td><td></td><td>65</td><td>61</td><td>62</td><td>87</td><td>29.12</td><td>30.01</td><td>9.19</td><td>7</td><td>2</td><td>17</td></tr><tr><td>06</td><td></td><td></td><td>65</td><td>61</td><td>62</td><td>87</td><td>29.13</td><td>30.02</td><td>8.40</td><td>7</td><td>3</td><td>17</td></tr><tr><td>07</td><td></td><td></td><td>66</td><td>61</td><td>63</td><td>84</td><td>29.14</td><td>30.03</td><td>8.45</td><td>7</td><td>3</td><td>17</td></tr><tr><td>08</td><td></td><td></td><td>68</td><td>61</td><td>64</td><td>79</td><td>29.15</td><td>30.04</td><td>8.65</td><td>8</td><td>2</td><td>19</td></tr><tr><td>09</td><td></td><td></td><td>70</td><td>61</td><td>64</td><td>75</td><td>29.15</td><td>30.04</td><td>9.16</td><td>8</td><td>3</td><td>20</td></tr><tr><td>10</td><td></td><td></td><td>72</td><td>61</td><td>65</td><td>70</td><td>29.15</td><td>30.04</td><td>9.42</td><td>9</td><td>4</td><td>18</td></tr><tr><td>11</td><td></td><td></td><td>74</td><td>61</td><td>66</td><td>66</td><td>29.15</td><td>30.04</td><td>9.84</td><td>9</td><td>3</td><td>19</td></tr><tr><td>12</td><td></td><td></td><td>75</td><td>61</td><td>66</td><td>62</td><td>29.15</td><td>30.03</td><td>9.97</td><td>11</td><td>3</td><td>22</td></tr><tr><td>13</td><td></td><td></td><td>76</td><td>61</td><td>67</td><td>60</td><td>29.14</td><td>30.03</td><td>10.00</td><td>10</td><td>3</td><td>20</td></tr><tr><td>14</td><td></td><td></td><td>77</td><td>61</td><td>67</td><td>59</td><td>29.13</td><td>30.02</td><td>10.00</td><td>11</td><td>4</td><td>21</td></tr><tr><td>15</td><td></td><td></td><td>77</td><td>61</td><td>67</td><td>58</td><td>29.12</td><td>30.01</td><td>10.00</td><td>10</td><td>3</td><td>20</td></tr><tr><td>16</td><td></td><td></td><td>77</td><td>61</td><td>67</td><td>58</td><td>29.12</td><td>30.00</td><td>10.00</td><td>11</td><td>3</td><td>19</td></tr><tr><td>17</td><td></td><td></td><td>77</td><td>61</td><td>67</td><td>60</td><td>29.11</td><td>30.00</td><td>9.97</td><td>10</td><td>3</td><td>18</td></tr><tr><td>18</td><td></td><td></td><td>76</td><td>61</td><td>67</td><td>63</td><td>29.11</td><td>29.99</td><td>9.69</td><td>10</td><td>2</td><td>20</td></tr><tr><td>19</td><td></td><td></td><td>74</td><td>62</td><td>66</td><td>67</td><td>29.11</td><td>30.00</td><td>9.94</td><td>9</td><td>2</td><td>17</td></tr><tr><td>20</td><td></td><td></td><td>72</td><td>62</td><td>66</td><td>71</td><td>29.12</td><td>30.01</td><td>9.53</td><td>8</td><td>3</td><td>16</td></tr><tr><td>21</td><td></td><td></td><td>71</td><td>62</td><td>66</td><td>74</td><td>29.13</td><td>30.02</td><td>9.52</td><td>8</td><td>3</td><td>15</td></tr><tr><td>22</td><td></td><td></td><td>70</td><td>62</td><td>65</td><td>77</td><td>29.14</td><td>30.02</td><td>9.60</td><td>7</td><td>4</td><td>16</td></tr><tr><td>23</td><td></td><td></td><td>69</td><td>62</td><td>65</td><td>79</td><td>29.13</td><td>30.02</td><td>9.68</td><td>8</td><td>5</td><td>16</td></tr><tr><td>24</td><td></td><td></td><td>68</td><td>62</td><td>64</td><td>80</td><td>29.13</td><td>30.02</td><td>9.39</td><td>7</td><td>4</td><td>17</td></tr></table>																												Hour 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Level	01			68	62	64	82	29.11	30.00	9.65	7	4	17	02			67	61	63	83	29.11	30.00	9.39	7	3	17	03			66	61	63	84	29.11	30.00	9.26	7	4	18	04			65	61	63	86	29.12	30.00	9.13	7	2	17	05			65	61	62	87	29.12	30.01	9.19	7	2	17	06			65	61	62	87	29.13	30.02	8.40	7	3	17	07			66	61	63	84	29.14	30.03	8.45	7	3	17	08			68	61	64	79	29.15	30.04	8.65	8	2	19	09			70	61	64	75	29.15	30.04	9.16	8	3	20	10			72	61	65	70	29.15	30.04	9.42	9	4	18	11			74	61	66	66	29.15	30.04	9.84	9	3	19	12			75	61	66	62	29.15	30.03	9.97	11	3	22	13			76	61	67	60	29.14	30.03	10.00	10	3	20	14			77	61	67	59	29.13	30.02	10.00	11	4	21	15			77	61	67	58	29.12	30.01	10.00	10	3	20	16			77	61	67	58	29.12	30.00	10.00	11	3	19	17			77	61	67	60	29.11	30.00	9.97	10	3	18	18			76	61	67	63	29.11	29.99	9.69	10	2	20	19			74	62	66	67	29.11	30.00	9.94	9	2	17	20			72	62	66	71	29.12	30.01	9.53	8	3	16	21			71	62	66	74	29.13	30.02	9.52	8	3	15	22			70	62	65	77	29.14	30.02	9.60	7	4	16	23			69	62	65	79	29.13	30.02	9.68	8	5	16	24			68	62	64	80	29.13	30.02	9.39	7	4	17
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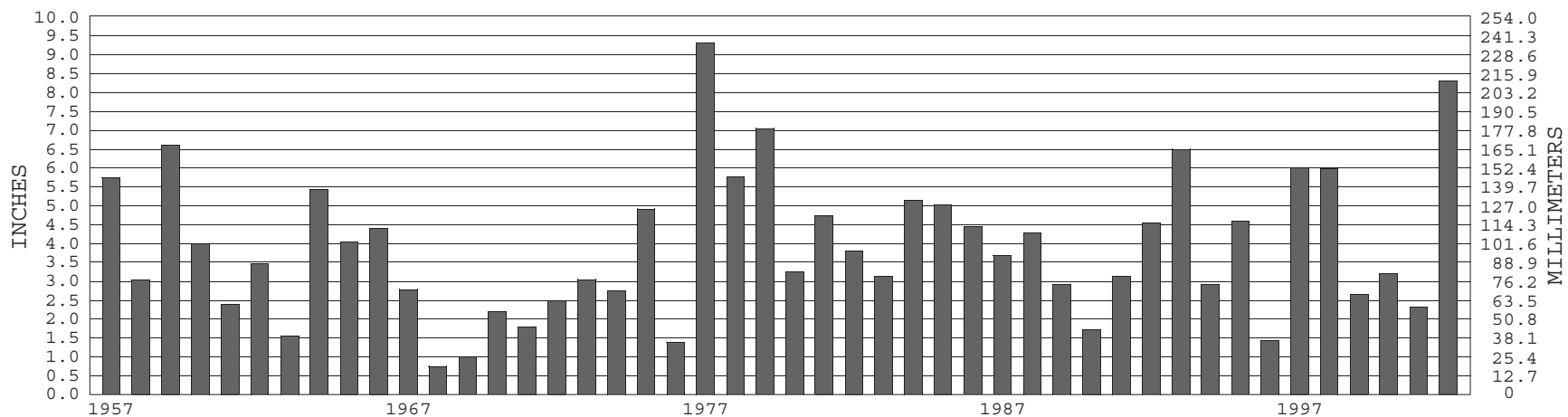
# MINNEAPOLIS-ST. PAUL, MN AUGUST TEMPERATURES



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

Long-Term (1957-2002) Mean: 70.6    1961-1990 Normal: 70.6

# MINNEAPOLIS-ST. PAUL, MN AUGUST PRECIPITATION



Long-Term (1957-2002) Mean Monthly Total: 3.90

1961-1990 Normal: 4.05



AUGUST 2002

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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