



# SEPTEMBER 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	87	66	77	11	66	69	0	12	TSRA RA HZ				0.09	29.04	29.92	8.9	16	11.7	28	09	24	09	01	
02	84	64	74	8	63	66	0	9	HZ				0.00	28.85	29.72	4.4	26	11.5	36	29	26	30	02	
03	82	57	70	5	54	60	0	5					0.00	29.12	30.01	7.1	27	7.5	23	29	18	27	03	
04	86	60	73	8	58	64	0	8					0.00	29.23	30.12	7.6	16	8.2	23	17	20	19	04	
05	84	67	76	11	63	67	0	11	TS TSRA RA FG+ BR				1.10	29.14	30.02	11.7	15	12.0	46*	29	39*	29	05	
06	88	64	76	12	68	71	0	11	TS TSRA RA BR				1.27	29.06	29.94	6.9	15	10.0	37	36	32	36	06	
07	92*	75	84*	20	69	73	0	19					0.00	29.08	29.96	9.8	19	10.3	23	23	18	18	07	
08	91	68	80	16	66	71	0	15					0.00	29.14	30.02	8.9	17	9.5	21	17	17	17	08	
09	89	75	82	19	67	72	0	17					0.00	29.12	29.99	7.4	23	8.8	22	23	18	24	09	
10	79	60	70	7	55	60	0	5	RA				0.16	29.19	30.08	10.3	34	11.3	31	33	26	32	10	
11	77	56	67	4	53	59	0	2					0.00	29.23	30.13	2.4	25	2.8	15	32	10	26	11	
12	80	58	69	7	56	61	0	4					0.00	29.12	30.01	5.9	24	6.2	20	25	16	23	12	
13	70	63	67	5	59	62	0	2	RA				T	29.04	29.93	3.7	22	4.7	23	22	17	22	13	
14	71	53	62	0	56	58	3	0	RA BR				0.13	29.04	29.93	4.8	34	6.9	29	02	22	35	14	
15	68	47	58	-3	47	52	7	0					0.00	29.27	30.18	2.4	16	4.3	15	17	13	18	15	
16	83	51	67	6	53	59	0	2					0.00	29.08	29.97	6.7	20	7.6	20	21	15	23	16	
17	80	56	68	8	55	61	0	3					0.00	28.98	29.86	9.4	16	10.0	24	17	20	17	17	
18	77	64	71	11	63	66	0	6	TSRA RA BR				0.03	28.72	29.60	11.6	14	11.9	26	12	24	12	18	
19	73	61	67	7	61	63	0	2	RA BR				T	28.67	29.54	5.3	32	8.1	24	03	18	30	19	
20	72	58	65	6	53	58	0	0	RA DZ				T	28.69	29.56	7.4	32	9.5	36	32	25	32	20	
21	65	52	59	0	41	50	6	0					0.00	29.03	29.93	8.3	27	8.6	24	29	21	29	21	
22	59	45	52	-7	38	45	13	0					0.00	29.19	30.10	8.6	28	9.2	29	30	23	29	22	
23	57	42	50*	-8	41	45	15	0	RA				0.02	29.19	30.10	4.6	29	10.7	37	31	29	33	23	
24	63	39	51	-7	39	46	14	0	RA BCFG				T	29.31	30.23	6.9	17	7.6	21	17	17	17	24	
25	58	45	52	-6	49	50	13	0	RA BR				0.70	29.20	30.11	2.1	02	7.4	23	04	16	03	25	
26	57	44	51	-6	43	46	14	0	RA DZ BR				0.29	29.13	30.04	5.3	03	6.3	22	05	13	05	26	
27	65	39*	52	-5	41	47	13	0	BCFG HZ				0.00	29.08	29.99	0.8	05	3.3	16	05	9	08	27	
28	55	46	51	-5	49	51	14	0	RA DZ BR				0.08	29.17	30.08	4.5	09	5.5	17	11	14	12	28	
29	62	53	58	2	57	57	7	0	TS RA BR				0.02	29.00	29.90	4.2	09	5.8	15	07	13	11	29	
30	84	62	73	17	59	64	0	8	TS RA				0.01	28.75	29.62	7.0	21	8.4	28	19	23	20	30	
74.6 56.3 65.5 ■■ 54.7 59.1 4.0 4.7 < MONTHLY AVERAGES TOTALS->													3.90	29.06	29.95	1.4	28	8.2	<- MONTHLY AVERAGES					
3.5 5.5 4.5 ■■ <-----DEPARTURE FROM NORMAL----->													1.21	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3										
DEGREE DAYS									GREATEST 24-HR PRECIPITATION: 2.37 DATE :05-06				SEA LEVEL PRESSURE DATE TIME											
MONTHLY TOTAL DEPARTURE									GREATEST 24-HR SNOWFALL: DATE :				MAXIMUM : 30.32 24 0853											
SEASON TO DATE TOTAL DEPARTURE									GREATEST SNOW DEPTH: DATE :				MINIMUM : 29.44 18 2353											
HEATING: 119 -59 123 -82									NUMBER OF DAYS WITH ➔		MAXIMUM TEMP ≥ 90: 2		MINIMUM TEMP ≤ 32: 0		PRECIPITATION ≥ 0.01 INCH : 12									
COOLING: 141 85 987 291											MAXIMUM TEMP ≤ 32 : 0		MINIMUM TEMP ≤ 0 : 0		PRECIPITATION ≥ 0.10 INCH : 6									
											THUNDERSTORMS : 6		HEAVY FOG : 1		SNOWFALL ≥ 1.0 INCH :									

SEPTEMBER 2002  
MINNEAPOLIS-ST.PAUL, MN

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## MINNEAPOLIS—ST.PAUL, MN

SEPTEMBER 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	T	0.04	T	T	0.04	0.01	0.02	0.01	0.04	0.01	0.02	0.01	01	T	0.01	T	T	0.01	T	T	T					01		0.09	
02													01													0.00			
03													02													0.00			
04													03													0.00			
05													04													0.00			
06													05													1.10			
07													06													1.27			
08													07													0.00			
09													08													0.00			
10													09													0.00			
11													10													0.16			
12													11													0.00			
13													12													0.00			
14													13													T			
15													14													0.13			
16	15	0.00																											
17	16	0.00																											
18	17	0.00																											
19	18	0.03																											
20	19	T																											
21	20	T																											
22	21	0.00																											
23	22	0.00																											
24	23	0.02																											
25	24	T																											
26	0.01	0.02	T	0.01	0.10	0.04	0.04	0.03	0.04	T			26	0.05	0.02	0.12	0.05	T	T	0.01	0.01	0.01	0.02	0.11	0.06	0.71	T	0.70	
27	T			T				0.03	0.04	T			27	T		0.01	0.04	T	0.02	0.01	0.01	0.01					27		0.00
28													28														0.08		
29													29														0.02		
30													30														0.01		

### MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	.22	.29	.33	.45	.63	.85	.91	1.01	1.08	1.15	1.20	1.23
Ending Date	05	05	06	06	06	06	06	06	06	06	06	06
Ending Time (Hour/Min)	1524	1528	0140	0147	0138	0152	0206	0228	0248	0306	0334	0358

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  
SEPTEMBER 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).

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							2.50	10.00	
02							6.00	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							.25	10.00	
06							1.25	10.00	
07							9.00	10.00	
08							10.00	10.00	
09							10.00	10.00	
10							10.00	10.00	
11							10.00	10.00	
12							10.00	10.00	
13							10.00	10.00	
14							4.00	10.00	
15							10.00	10.00	
16							10.00	10.00	
17							10.00	10.00	
18							5.00	10.00	
19							5.00	10.00	
20							8.00	10.00	
21							10.00	10.00	
22							10.00	10.00	
23							10.00	10.00	
24							10.00	10.00	
25							4.00	10.00	
26							6.00	10.00	
27							10.00	10.00	
28							2.50	10.00	
29							1.00	10.00	
30							9.00	10.00	
<b>MONTHLY AVGS</b>							7.77	10.00	
<p align="center"><b>SUNSHINE (MINUTES)</b></p> <p>Total:                  Possible:</p> <p align="center">Percent Possible:</p>									
<p align="center"><b>NUMBER OF DAYS WITH:</b></p> <p align="center"><b>SKY CONDITION</b></p> <p align="center">CLR   PTLY CLDY   CLOUDY   MISSING</p> <p align="center">30</p> <p align="center"><b>MINIMUM VISIBILITY (MILES)</b></p> <p align="center">&lt;=0.25      &lt;=3.0      &gt;=7.0</p> <p align="center">0                4                20</p>									

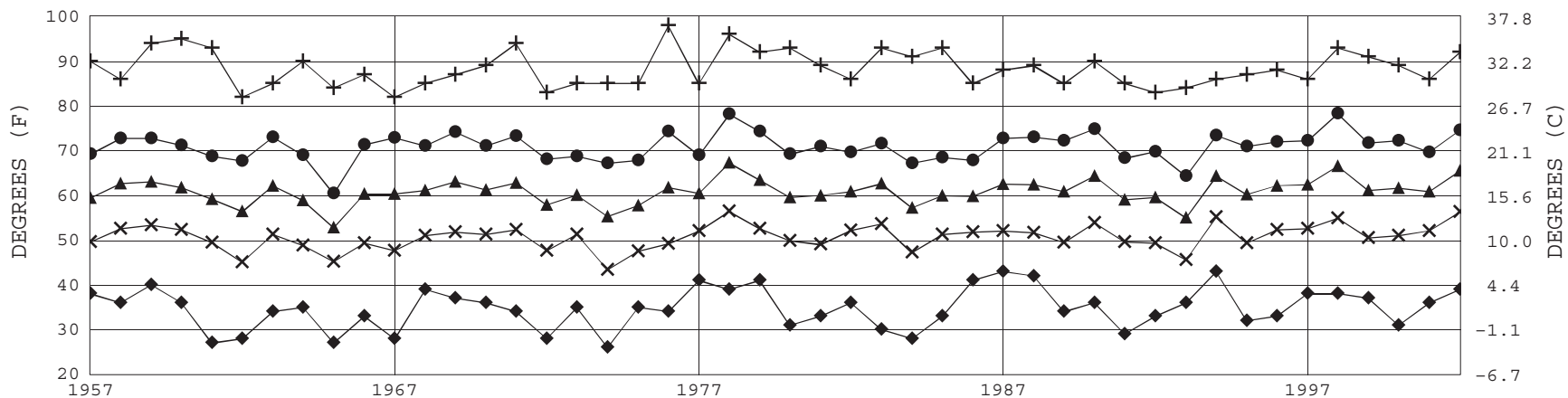








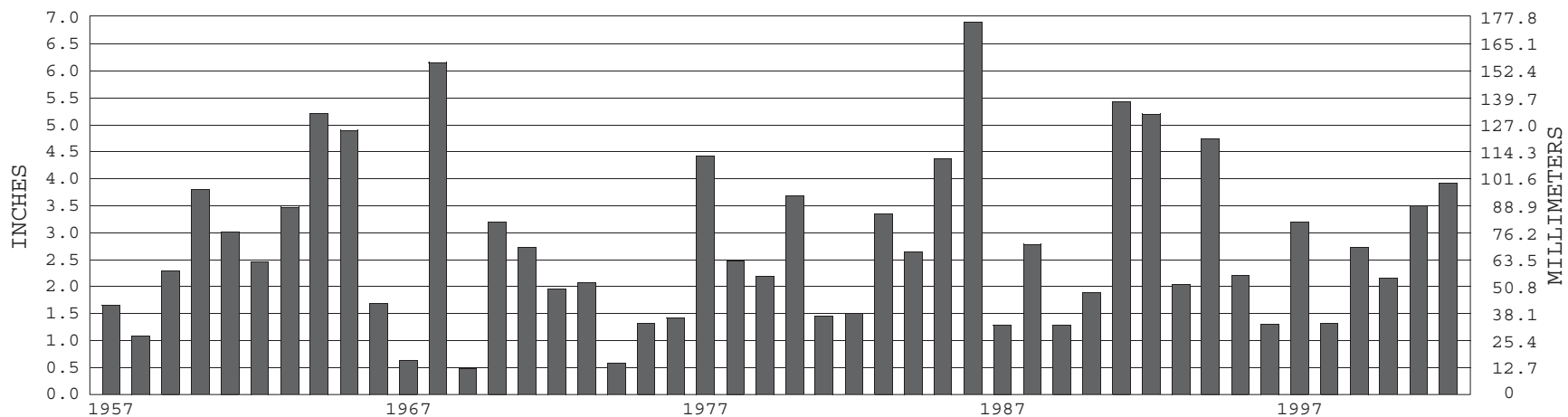
# MINNEAPOLIS-ST. PAUL, MN SEPTEMBER TEMPERATURES



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

Long-Term (1957-2002) Mean: 60.8      1961-1990 Normal: 61.0

# MINNEAPOLIS-ST. PAUL, MN SEPTEMBER PRECIPITATION



Long-Term (1957-2002) Mean Monthly Total: 2.78

1961-1990 Normal: 2.69



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MINNEAPOLIS—ST. PAUL, MN

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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

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