



# DECEMBER 1999

## LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

## MADISON, WI

DANE COUNTY REGIONAL AIRPORT (MSN)

Lat: 43°08' N Long: 89°20' W Elev (Ground): 857 Feet

Time Zone: CENTRAL WBAN: 14837 ISSN #:0198-5736

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	42	29	36	8	23	31	29	0		0		0.0	0.00	29.27	30.22	12.5	18	12.6	26	18	22	18	01	
02	55	39	47	20	31	40	18	0	RA	0		0.0	T	28.97	29.90	8.7	18	8.9	20	19	15	18	02	
03	55*	49	52*	25	49	51	13	0	RA DZ BR	0		0.0	0.28	28.89	29.80	8.3	19	8.6	21	19	17	19	03	
04	49	39	44	18	45	45	21	0	RA FG+ BR	0		0.0	0.18	29.09	30.02	2.2	30	5.1	17	01	13	35	04	
05	39	28	34	8	25	30	31	0	RA BR	0		0.0	T	29.07	30.01	9.3	35	9.6	25	36	20	36	05	
06	34	20	27	2	20	26	38	0		0		0.0	0.00	29.22		0.9	21	5.3	13	02	10	01	06	
07	40	26	33	8	28	32	32	0	BR HZ	0		0.0	0.00	29.09	30.03	12.1	18	12.3	24	18	20	18	07	
08	47	31	39	15	32	35	26	0	BR	0		0.0	0.00	29.20	30.14	5.8	18	6.0	16	19	13	16	08	
09	42	30	36	12	36	37	29	0	RA DZ FG BR	0		0.0	0.20	29.15	30.09	2.0	33	3.3	13	34	9	32	09	
10	33	19	26	2	20	25	39	0		0		0.0	0.00	29.29	30.24	3.0	32	3.2	18	34	14	34	10	
11	38	16	27	4	24	26	38	0		0		0.0	0.00	29.27	30.23	4.7	17	5.4	23	17	20	17	11	
12	41	20	31	8	28	29	34	0	FG+ FZFG BR HZ	0		0.0	0.00	29.08	30.02	0.6	19	1.3	7	23	6	22	12	
13	33	20	27	5	28	29	38	0	FG+ FZFG BR	0		0.0	0.00	29.12	30.07	2.8	10	3.7	10	08	9	09	13	
14	36	26	31	9	31	32	34	0	RA SN BR	T		T	T	28.93	29.87	7.4	03	8.0	22	02	17	03	14	
15	34	29	32	10	31	32	33	0	DZ SN PL FG+ BR	1		0.9	0.10	28.73	29.66	5.4	30	6.3	21	28	15	29	15	
16	29	14	22	1	12	17	43	0	SN	1		T	T	29.04	30.00	6.7	29	6.8	21	31	15	29	16	
17	19	5	12	-9	7	12	53	0		1		0.0	0.00	29.28	30.25	5.4	02	5.7	15	01	13	02	17	
18	25	3	14	-7	8	13	51	0		1		0.0	0.00	29.34	30.32	2.9	16	3.3	12	18	10	18	18	
19	34	11	23	3	24	26	42	0	RA FZRA FZDZ SN PL BR	1		0.2	0.02	29.06	30.01	8.9	17	9.6	20	16	16	17	19	
20	33	0	17	-3	2	9	48	0	SN BR	1		0.3	0.02	29.06	30.02	11.4	26	11.8	28	27	20	27	20	
21	8	-5	2*	-18	-8	1	63	0		1		0.0	0.00	29.37	30.37	3.7	28	4.9	16	30	12	29	21	
22	12	1	7	-12	-1	5	58	0	SN BR	1		0.3	T	29.38	30.37	3.5	29	4.2	12	31	9	30	22	
23	13	-4	5	-14	1	5	60	0	SN BR HZ	1		0.9	0.03	29.31	30.30	2.6	24	5.1	18	23	14	24	23	
24	17	-6*	6	-13	2	7	59	0	BR HZ	2		0.0	0.00	29.48	30.47	3.1	28	4.7	13	21	9	22	24	
25	34	13	24	5	16	21	41	0	HZ	2		0.0	0.00	29.17	30.13	9.1	22	9.8	26	23	18	22	25	
26	39	20	30	12	10	22	35	0	SN	2		0.2	0.01	29.04	29.99	12.2	30	12.7	37*	31	26*	31	26	
27	20	10	15	-3	8	15	50	0	SN	2		0.4	0.02	29.12	30.08	5.8	32	8.5	24	01	22	01	27	
28	33	11	22	4	17	23	43	0	SN	2		T	T	28.72	29.66	4.7	26	8.1	25	22	18	22	28	
29	46	29	38	20	28	34	27	0		1		0.0	0.00	28.67	29.60	7.6	22	8.5	28	20	18	21	29	
30	39	27	33	16	28	32	32	0	BR	T		0.0	0.00	28.95	29.89	0.6	18	6.2	18	19	14	19	30	
31	40	25	33	16	24	30	32	0		T		0.0	0.00	29.07	30.01	5.0	22	7.5	20	19	15	19	31	
34.2		18.5	26.4	■ ■	20.3	24.9	38.4	0.0	< MONTHLY AVERAGES	TOTALS-->		3.2	0.86	29.11		2.5	24	7.0	<-- MONTHLY AVERAGES					
4.4		5.0	4.7	■ ■	<----- DEPARTURE FROM NORMAL ----->								- .98		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3									
DEGREE DAYS									GREATEST 24-HR PRECIPITATION: 0.28 DATE :03				GREATEST 24-HR SNOWFALL: 0.9 DATE :23+				GREATEST SNOW DEPTH: 2 DATE :28+				SEA LEVEL PRESSURE DATE TIME			
MONTHLY TOTAL DEPARTURE 1190 -152									SEASON TO DATE TOTAL DEPARTURE 2565 -382								MAXIMUM : 30.54 DATE :24 1053							
HEATING: 0 0									637 152								MINIMUM : 29.42 DATE :29 1553							
COOLING:									NUMBER OF DAYS WITH →				MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32 : 28				PRECIPITATION ≥ 0.01 INCH : 9			
													MAXIMUM TEMP ≤ 32 : 8				MINIMUM TEMP ≤ 0 : 4				PRECIPITATION ≥ 0.10 INCH : 4			
													THUNDERSTORMS : 0				HEAVY FOG : 4				SNOWFALL ≥ 1.0 INCH : 0			

DECEMBER 1999  
MADISON, WI

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

MADISON, WI

DECEMBER 1999

MSN

WBAN # 14837

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			T		
03													03	0.02	0.03	0.06	0.08	0.03	T						03			0.28		
04													04			0.01	T	T	0.01	0.03	0.07	0.04	0.02		04			0.18		
05	T												05										T	T	05			T		
06													06												06			0.00		
07													07												07			0.00		
08													08												08			0.00		
09													09												09			0.00		
10													10	0.04	0.02	0.04	0.03	0.03	T					10			0.20			
11													11												11			0.00		
12													12												12			0.00		
13													13												13			0.00		
14													14												14			T		
15	0.01			T	T	T		0.01	T				15	T	T	T	T	0.01	0.01	0.01	T	0.01	T	0.01	15	0.09		0.10		
16	T			T									16												16			T		
17		T		T									17												17			0.00		
18													18												18			0.00		
19													19				T	T							19			0.02		
20	T	0.01	0.01	T	T	T							20									T	0.01	T	0.01	20			0.02	
21													21												21			0.00		
22													22												22			T		
23		T	T	T	T	T							23	T	T	T	T	T	T		0.01	T	T		23	0.01		0.03		
24													24												24			0.00		
25													25												25			0.00		
26													26												26			0.01		
27	0.01	T	0.01										27										T	0.01	27			0.02		
28													28												28			T		
29													29												29			0.00		
30													30												30			0.00		
31													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)												
Ending Date												
Ending Time (Hour/Min)												

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

**MADISON, WI  
DECEMBER 1999**

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.

Errata- No page 7 data available due quage failure.

## OBSERVATIONS AT 3-HOURLY INTERVALS

MADISON, WI

DECEMBER 1999

MSN

WBAN # 14837

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 Oktas		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 Oktas	VISIBILITY (MILES)	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
			SUNRISE: 0709		DEC 01	SUNSET: 1624										SUNRISE: 0715		DEC 07	SUNSET: 1622										
03	CLR	NC			10.00	30	20	27	66	13	18	29.44	30.39	03	CLR	NC			6.00	BR	26	23	25	88	8	16	29.16	30.11	
06	FEW	NC			10.00	29	21	26	72	15	17	29.37	30.32	06	CLR	NC			5.00	BR	30	26	29	85	16	17	29.11	30.06	
09	CLR	NC			10.00	32	21	28	64	13	18	29.32	30.27	09	FEW	NC			6.00	HZ	32	27	30	82	16	18	29.09	30.04	
12	CLR	NC			10.00	39	22	33	50	15	18	29.23	30.17	12	FEW	NC			10.00		38	28	34	68	16	18	29.05	30.00	
15	BKN	050			10.00	41	24	34	51	12	19	29.18	30.13	15	CLR	NC			10.00		40	29	35	65	14	18	29.01	29.96	
18	CLR	NC			10.00	37	25	32	62	7	17	29.18	30.12	18	CLR	NC			10.00		36	31	34	82	8	18	29.06	30.01	
21	CLR	NC			10.00	39	25	34	57	7	18	29.17	30.11	21	CLR	NC			9.00		36	31	34	82	13	19	29.09	30.03	
24	BKN	048			10.00	40	24	34	53	9	18	29.14	30.08	24	CLR	NC			8.00		35	32	34	89	10	19	29.11	30.05	
			SUNRISE: 0710		DEC 02	SUNSET: 1623										SUNRISE: 0716		DEC 08	SUNSET: 1622										
03	OVC	050			10.00	41	24	34	51	8	17	29.10	30.04	03	CLR	NC			6.00	BR	34	31	33	89	9	18	29.12	30.06	
06	OVC	060			10.00	42	24	35	49	8	18	29.05	29.99	06	CLR	NC			6.00	BR	33	30	32	89	9	18	29.14	30.08	
09	OVC	070			10.00	42	26	36	53	9	17	29.03	29.97	09	CLR	NC			6.00	BR	35	31	33	85	8	20	29.18	30.13	
12	OVC	042			10.00	47	27	39	46	9	19	28.97	29.89	12	CLR	NC			10.00		44	33	39	65	7	16	29.19	30.13	
15	OVC	039			10.00	50	32	42	50	13	18	28.91	29.83	15	CLR	NC			10.00		46	35	41	66	12	16	29.19	30.12	
18	OVC	037			10.00	50	35	43	57	7	16	28.91	29.83	18	CLR	NC			9.00		38	34	36	86	3	15	29.25	30.19	
21	OVC	031			10.00	50	41	46	71	8	16	28.88	29.80	21	CLR	NC			7.00		34	32	33	92	0	00	29.27	30.22	
24	OVC	041			10.00	55	47	51	74	13	19	28.84	29.76	24	OVC	036			6.00	BR	36	34	35	93	0	00	29.26	30.20	
			SUNRISE: 0711		DEC 03	SUNSET: 1623										SUNRISE: 0717		DEC 09	SUNSET: 1622										
03	OVC	085			10.00	54	48	51	80	16	19	28.85	29.76	03	OVC	031			7.00		38	36	37	93	0	00	29.24	30.18	
06	BKN	095			10.00	53	48	50	83	10	18	28.85	29.76	06	OVC	021			6.00	BR	38	36	37	93	0	00	29.20	30.14	
09	OVC	027			10.00	54	48	51	80	12	18	28.86	29.78	09	OVC	005			2.50	BR	42	40	41	92	3	19	29.19	30.13	
12	OVC	009			2.50	-RA BR	52	51	52	97	10	18	28.85	29.76	12	OVC	002			0.50	-RA FG	41	40	41	96	5	34	29.12	30.06
15	OVC	007			2.50	-RA BR	51	50	51	96	13	19	28.85	29.77	15	OVC	006			1.50	-RA BR	40	38	39	93	8	36	29.08	30.03
18	OVC	090			4.00	BR	51	50	51	96	7	20	28.90	29.82	18	BKN	120			3.00	BR	37	36	37	96	0	00	29.11	30.06
21	OVC	006			3.00	BR	50	49	49	96	6	22	28.98	29.89	21	CLR	NC			9.00		33	30	32	89	6	31	29.12	30.06
24	OVC	005			2.50	BR	49	48	48	97	0	00	29.01	29.93	24	CLR	NC			10.00		30	25	28	82	8	33	29.10	30.05
			SUNRISE: 0712		DEC 04	SUNSET: 1623										SUNRISE: 0718		DEC 10	SUNSET: 1622										
03	OVC	003			2.00	BR	48	48	48	100	5	22	29.05	29.98	03	CLR	NC			10.00		28	22	26	78	0	00	29.16	30.10
06	OVC	001			0.50	FG	46	46	46	100	3	19	29.09	30.02	06	CLR	NC			9.00		27	21	25	78	0	00	29.18	30.12
09	VV	001			0.25	FG	44	44	44	100	5	24	29.13	30.06	09	CLR	NC			10.00		28	20	25	72	6	34	29.25	30.20
12	OVC	003			1.00	BR	46	45	46	96	5	24	29.12	30.05	12	FEW	NC			10.00		31	19	27	61	7	31	29.31	30.26
15	OVC	015			2.50	-RA BR	48	46	47	93	0	00	29.10	30.03	15	CLR	NC			10.00		32	20	28	61	6	31	29.35	30.30
18	OVC	003			5.00	-RA BR	45	44	45	97	9	35	29.09	30.02	18	CLR	NC			10.00		25	22	24	88	0	00	29.37	30.34
21	OVC	005			5.00	-RA BR	42	40	41	92	9	33	29.09	30.02	21	CLR	NC			10.00		22	20	21	92	0	00	29.39	30.35
24	OVC	075			5.00	-RA BR	39	37	38	93	9	35	29.03	29.97	24	CLR	NC			9.00		20	18	19	92	0	00	29.40	30.37
			SUNRISE: 0713		DEC 05	SUNSET: 1623										SUNRISE: 0719		DEC 11	SUNSET: 1622										
03	BKN	030			5.00	BR	38	35	37	89	8	34	29.03	29.96	03	CLR	NC			8.00		22	21	22	96	0	00	29.39	30.35
06	OVC	020			10.00		35	31	33	85	13	34	29.02	29.96	06	CLR	NC			7.00		17	17	17	100	0	00	29.37	30.34
09	OVC	020			10.00		32	25	29	75	13	34	29.04	29.98	09	CLR	NC			7.00		27	24	26	89	12	12	29.36	30.31
12	OVC	022			10.00		31	22	28	69	15	01	29.04	29.98	12	SCT	NC			10.00		35	27	32	72	18	17	29.30	30.25
15	OVC	026			10.00		32	21	28	64	8	35	29.03	29.98	15	SCT	NC			10.00		37	26	33	65	13	17	29.22	30.17
18	BKN	035			10.00		29	21	26	72	3	32	29.09	30.03	18	CLR	NC			10.00		31	26	29	82	8	16	29.18	30.14
21	BKN	033			10.00		29	21	26	72	8	32	29.15	30.10	21	CLR	NC			7.00		29	26	28	89	0	00	29.15	30.10
24	OVC	029			10.00		29	20	26	69	7	35	29.17	30.12	24	BKN	120			7.00		27	26	27	96	0	00	29.10	30.05
			SUNRISE: 0714		DEC 06	SUNSET: 1623										SUNRISE: 0720		DEC 12	SUNSET: 1623										
03	OVC	027			10.00		28	18	25	66	8	33	29.20	30.16	03	OVC	110			6.00	BR	29	27	28	92	3	01	29.09	30.03
06	OVC	025			10.00		25	19	23	78	3	32	29.24	30.19	06	BKN	100			3.00	BR	26	24	25	92	0	00	29.08	30.03
09	CLR	NC			10.00		28	20	25	72	5	01	29.26	30.21	09	SCT	NC			3.00	BR	31	28	30	89	0	00	29.07	30.02
12	SCT	NC			10.00		32	20	28	61	0	00	29.25	30.20	12	BKN	060			6.00	HZ	37	31	35	79	3	VR	29.06	30.01
15	CLR	NC			10.00		34	22	30	61	7	20	29.21		15	CLR	NC			6.00	HZ	40	32	37					

## OBSERVATIONS AT 3-HOURLY INTERVALS

MADISON, WI

DECEMBER 1999

MSN

WBAN # 14837

HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE ° F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)			SATELLITE		WEATHER	TEMPERATURE ° F				WIND		PRESSURE (INCHES, HG)									
			OBSERVATION TIME (LST)	EFF CLD AMT Okta													OBSERVATION TIME (LST)	EFF CLD AMT Okta																	
	SKY COVER	CEILING 100'S OF FT				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 Okta	VISIBILITY (MILES)													
SUNRISE: 0720						DEC 13						SUNSET: 1623						SUNRISE: 0725						DEC 19						SUNSET: 1624					
03	VV	000			0.00	FZFG	26	24	25	92	0	00	29.09	30.04	03	CLR	NC			7.00	14	11	13	88	0	00	29.20	30.16							
06	VV	001			0.13	FZFG	29	26	28	89	3	13	29.11	30.06	06	OVC	006			2.00	-SN	BR	22	21	22	96	10	16	29.16	30.12					
09	OVC	004			0.75	BR	28	24	27	85	0	00	29.15	30.10	09	OVC	007			2.00	BR		25	23	24	92	14	18	29.13	30.09					
12	VV	001			0.06	FG	33	31	32	92	5	15	29.14	30.09	12	OVC	005			2.00	BR		29	27	28	92	10	17	29.09	30.05					
15	OVC	001			0.75	BR	33	32	33	96	6	11	29.13	30.08	15	OVC	007			1.50	-FZDZ	BR	31	29	30	92	10	16	29.01	29.97					
18	VV	001			0.25	FZFG	31	31	31	100	3	13	29.12	30.07	18	OVC	007			2.00	BR		31	30	31	96	8	15	28.98	29.92					
21	VV	001			0.25	FZFG	31	30	31	96	7	09	29.11	30.06	21	OVC	015			1.50	BR		32	31	32	96	10	17	28.91	29.85					
24	SCT	NC			2.00	BR	28	27	28	96	6	01	29.07	30.02	24	OVC	010			2.00	BR		33	31	32	92	9	24	28.86	29.80					
SUNRISE: 0721						DEC 14						SUNSET: 1623						SUNRISE: 0725						DEC 20						SUNSET: 1625					
03	BKN	021			3.00	BR	29	28	29	96	9	04	29.04	29.99	03	OVC	014			4.00	-SN	BR	26	22	25	84	20	27	28.87	29.81					
06	SCT	NC			3.00	BR	30	28	29	92	12	01	28.98	29.93	06	SCT	NC			10.00	16	8	14	71	14	27	28.92	29.87							
09	CLR	NC			2.00	BR	32	31	32	96	13	03	28.95	29.89	09	SCT	NC			10.00	9	-1	7	64	13	27	29.00	29.96							
12	OVC	012			7.00		36	33	35	89	10	03	28.91	29.85	12	SCT	NC			10.00	11	-1	9	58	17	25	29.03	29.99							
15	OVC	012			10.00		36	32	34	86	8	02	28.90	29.84	15	BKN	034			10.00	8	-4	6	57	14	26	29.07	30.03							
18	OVC	016			6.00	-SN BR	34	32	33	92	8	02	28.90	29.83	18	CLR	NC			10.00	4	-7	2	60	9	26	29.20	30.18							
21	OVC	004			6.00	BR	34	32	33	92	5	09	28.88	29.81	21	CLR	NC			10.00	2	-6	1	69	5	25	29.26	30.24							
24	OVC	006			2.50	-SN BR	33	32	33	96	3	09	28.82	29.75	24	CLR	NC			10.00	0	-8	-1	69	8	30	29.26	30.24							
SUNRISE: 0722						DEC 15						SUNSET: 1623						SUNRISE: 0726						DEC 21						SUNSET: 1625					
03	OVC	002			1.00	-DZ BR	33	33	33	100	0	00	28.75	29.68	03	CLR	NC			10.00	-2	-11	-3	65	8	29	29.33	30.31							
06	OVC	001			1.00	PL BR	32	32	32	100	5	04	28.69	29.62	06	CLR	NC			10.00	-4	-11	-5	71	3	VR	29.37	30.36							
09	OVC	002			1.00	BR	32	32	32	100	3	30	28.67	29.61	09	CLR	NC			10.00	-3	-11	-4	68	7	28	29.39	30.40							
12	OVC	006			3.00	BR	33	32	33	96	9	31	28.64	29.58	12	CLR	NC			10.00	4	-8	2	57	5	VR	29.38	30.38							
15	OVC	013			2.50	-SN BR	34	31	33	89	7	30	28.67	29.60	15	CLR	NC			10.00	8	-5	6	55	0	00	29.37	30.37							
18	OVC	014			2.00	-SN BR	32	31	32	96	8	28	28.75	29.68	18	BKN	120			10.00	4	-4	3	69	0	00	29.37	30.37							
21	OVC	014			2.00	-SN BR	32	30	31	92	8	28	28.80	29.74	21	BKN	100			10.00	8	-4	6	57	5	27	29.40	30.40							
24	OVC	016			2.00	-SN BR	29	25	28	85	13	32	28.86	29.80	24	SCT	NC			10.00	5	-3	4	69	6	27	29.37	30.37							
SUNRISE: 0723						DEC 16						SUNSET: 1623						SUNRISE: 0726						DEC 22						SUNSET: 1626					
03	OVC	028			9.00	-SN	26	22	25	84	9	30	28.91	29.85	03	OVC	046			2.00	-SN		6	1	5	80	3	26	29.37	30.37					
06	BKN	020			10.00		20	12	18	71	12	29	28.98	29.93	06	OVC	075			5.00	-SN	BR	6	2	5	83	3	28	29.37	30.37					
09	CLR	NC			10.00		16	8	14	71	10	29	29.04	30.00	09	CLR	NC			10.00	6	0	5	76	3	28	29.38	30.37							
12	CLR	NC			10.00		19	9	16	65	10	28	29.07	30.03	12	FEW	NC			10.00	9	1	7	70	7	31	29.39	30.38							
15	CLR	NC			10.00		21	8	18	57	7	28	29.06	30.02	15	CLR	NC			10.00	11	-2	8	56	7	29	29.35	30.33							
18	CLR	NC			10.00		18	10	16	71	0	00	29.10	30.07	18	BKN	120			10.00	6	-1	5	73	3	31	29.37	30.36							
21	CLR	NC			10.00		15	11	14	84	0	00	29.13	30.09	21	FEW	NC			10.00	3	-4	2	72	5	27	29.38	30.37							
24	CLR	NC			8.00		14	11	13	88	0	00	29.16	30.12	24	CLR	NC			10.00	1	-6	0	72	6	VR	29.40	30.39							
SUNRISE: 0723						DEC 17						SUNSET: 1624						SUNRISE: 0727						DEC 23						SUNSET: 1626					
03	BKN	100			10.00		12	7	11	80	5	04	29.14	30.11	03	CLR	NC			10.00	-3	-8	-4	79	5	28	29.39	30.39							
06	OVC	075			10.00		12	6	11	77	13	03	29.15	30.12	06	OVC	110			10.00	-1	-8	-2	72	3	VR	29.38	30.38							
09	OVC	090			10.00		14	7	12	73	7	02	29.23	30.19	09	OVC	080			9.00	-SN		5	1	4	83	7	26	29.36	30.35					
12	BKN	090			10.00		17	10	15	74	10	01	29.27	30.24	12	BKN	085			9.00	-SN		9	2	8	73	7	VR	29.32	30.30					
15	BKN	080			10.00		19	8	16	62	9	01	29.30	30.27	15	OVC	023			0.75	-SN	BR	11	7	10	84	6	21	29.24	30.23					
18	CLR	NC			10.00		13	7	12	77	0	00	29.38	30.36	18	OVC	034			1.00	-SN	BR	12	8	11	84	6	20	29.22	30.20					
21	CLR	NC			10.00		8	5	7	87	0	00	29.42	30.40	21	OVC	024			2.50	-SN	BR	11	9	10	92	5	01	29.26	30.24					
24	CLR	NC			10.00		5	3	5	91	0	00	29.41	30.40	24	CLR	NC			6.00	HZ		5	1	4	83	6	34	29.33	30.31					
SUNRISE: 0724						DEC 18						SUNSET: 1624						SUNRISE: 0727						DEC 24						SUNSET: 1627					
03	CLR	NC			9.00		4	1	3	88	0	00	29.40	30.39	03	CLR	NC			7.00	3	0	2	87	8	33	29.41	30.40							
06	CLR	NC			9.00		3	0	2	87	0	00	29.39	30.38	06	CLR	NC			8.00	-3	-8	-4	79	0	00	29.46	30.45							
09	CLR	NC			9.00		10	7	9	87	0	00	29.39	30.38	09	CLR	NC			10.00	3	1	3	91	3	VR	29.52	30.51							
12	CLR	NC			10.00		21	10	18	62	5	17	29.35	30.32	12	CLR	NC			9.00	12	3	10	67	6	31	29.52	30.50							
15	CLR	NC			10.00		25	13	21	60	7	16	29.30	30.27	15	BKN	120			10.00	16	5	13	62	6	26	29.50	30.49							
18	CLR	NC			10.00		22	11	19	63	7	18	29.28	30.25	18	FEW	NC			10.00	10	4	9	76	0	00	29.50	30.50							
21	BKN	025			10.00		19	10	17	68	6	15	29.28	30.25	21	BKN	070			9.00	16	9	14	74	8	22	29.45	30.44							
24	CLR	NC			9.00		18	12	16	77	7	15	29.24	30.21	24	CLR	NC			9.00	15	6	13	67	6	21	29.47	30.45							

## MADISON, WI

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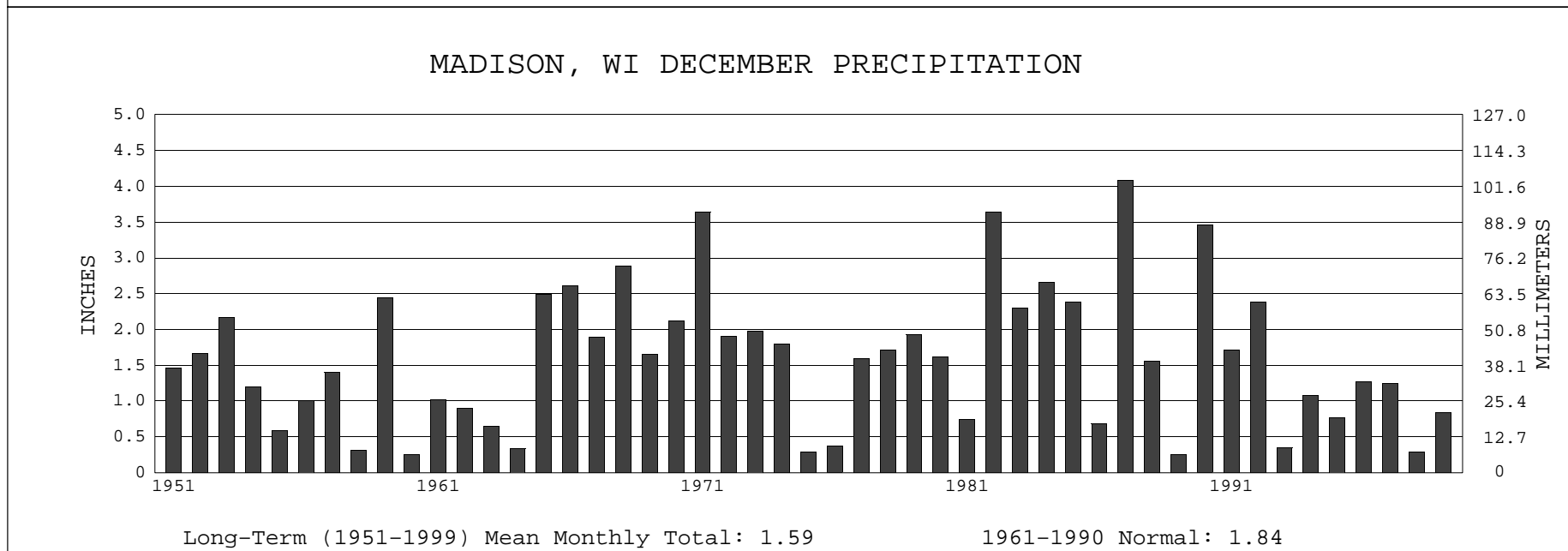
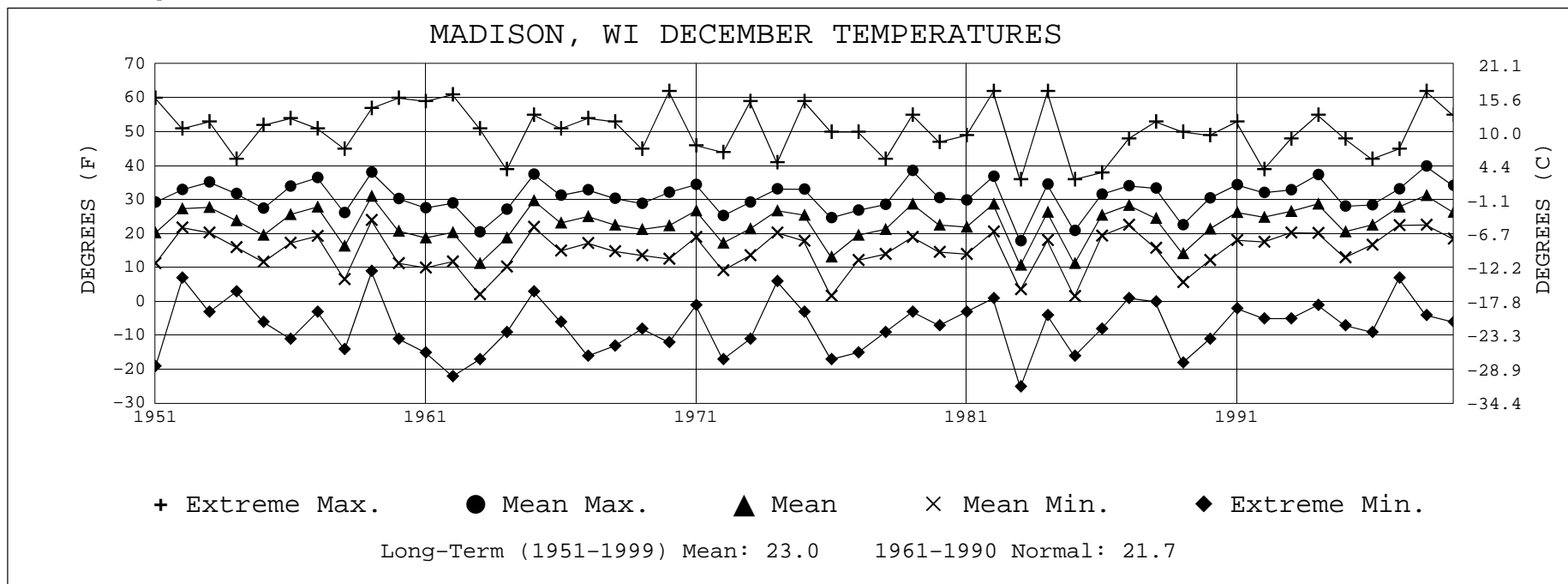
MSN

WBAN # 14837

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 Oktas		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 Oktas	VISIBILITY (MILES)	Dry Bulb		Dew Point	Wet Bulb	Speed (MPH)	DIRECTION TENS OF DEG	Station	SEA LEVEL
03	CLR	NC			8.00	13	4	11	67	9	23	29.41	30.39	03	CLR	NC			10.00	33	24	30	70	9	29	29.06	30.00		
06	OVC	015			6.00	14	8	13	77	7	21	29.37	30.35	06	CLR	NC			10.00	26	21	24	81	5	26	29.09	30.04		
09	BKN	017			6.00	18	12	16	77	12	20	29.29	30.26	09	CLR	NC			10.00	30	24	28	79	5	VR	29.14	30.09		
12	CLR	NC			6.00	25	16	22	69	13	22	29.19	30.15	12	CLR	NC			10.00	35	24	31	64	7	27	29.13	30.08		
15	CLR	NC			6.00	30	21	27	69	12	20	29.05	30.01	15	CLR	NC			10.00	39	23	33	53	7	21	29.08	30.03		
18	CLR	NC			7.00	28	22	26	78	14	22	28.99	29.95	18	CLR	NC			10.00	34	24	30	67	10	18	29.05	30.00		
21	CLR	NC			9.00	30	24	28	79	7	VR	28.94	29.88	21	CLR	NC			10.00	33	27	31	78	12	19	28.99	29.93		
24	CLR	NC			10.00	33	26	30	75	7	27	28.88	29.82	24	CLR	NC			10.00	36	28	33	73	12	20	28.97	29.90		
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 Visibilty = 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																													
Hour (LST)	Ceilometer	EFF CLD AMT	Dry Bulb	Dew Point	Wet Bulb	RELATIVE HUMIDITY	PRESSURE (INCHES,HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	RESULTANT WIND (MPH)																		
							Station	SEA LEVEL			Speed	Direction																	
01			25	20	24	82	29.11	30.06	7.25	6	2	24																	
02			25	19	23	78	29.11	30.06	7.36	6	2	24																	
03			25	19	23	80	29.11	30.06	7.42	7	3	26																	
04			25	19	23	79	29.10	30.06	7.66	7	3	25																	
05			24	19	23	80	29.11	30.06	7.50	6	2	25																	
06			24	18	22	81	29.11	30.06	7.44	7	2	24																	
07			23	18	22	81	29.12	30.07	7.17	7	2	24																	
08			23	18	22	81	29.12	30.07	7.42	6	2	23																	
09			25	19	23	79	29.12	30.08	7.56	8	2	24																	
10			27	20	25	77	29.13	30.09	7.23	8	3	26																	
11			28	20	26	74	29.13	30.08	7.60	9	3	23																	
12			30	21	27	72	29.11	30.06	7.94	9	3	25																	
13			31	21	28	70	29.09	30.04	7.88	9	3	24																	
14			31	21	28	68	29.09	30.04	7.82	8	3	25																	
15			31	21	28	68	29.09	30.04	7.87	8	3	22																	
16			31	22	28	71	29.10	30.04	7.92	8	3	23																	
17			29	21	27	75	29.10	30.05	7.98	6	2	21																	
18			28	21	26	78	29.11	30.06	7.88	5	2	21																	
19			27	21	25	78	29.11	30.06	7.77	6	2	23																	
20			27	21	25	80	29.11	30.06	7.65	6	3	21																	
21			27	21	25	80	29.11	30.06	7.63	6	3	22																	
22			26	21	25	81	29.11	30.06	7.31	5	3	22																	
23			26	21	25	82	29.11	30.06	7.41	5	3	23																	
24			26	21	24	82	29.10	30.05	7.19	6	3	24																	

## SUMMARY BY HOUR

HOUR (LST)	AVERAGES									RESULTANT		
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES, HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	WIND (MPH)	
							STATION	SEA LEVEL			SPEED	DIRECTION
01			25	20	24	82	29.11	30.06	7.25	6	2	24
02			25	19	23	78	29.11	30.06	7.36	6	2	24
03			25	19	23	80	29.11	30.06	7.42	7	3	26
04			25	19	23	79	29.10	30.06	7.66	7	3	25
05			24	19	23	80	29.11	30.06	7.50	6	2	25
06			24	18	22	81	29.11	30.06	7.44	7	2	24
07			23	18	22	81	29.12	30.07	7.17	7	2	24
08			23	18	22	81	29.12	30.07	7.42	6	2	23
09			25	19	23	79	29.12	30.08	7.56	8	2	24
10			27	20	25	77	29.13	30.09	7.23	8	3	26
11			28	20	26	74	29.13	30.08	7.60	9	3	23
12			30	21	27	72	29.11	30.06	7.94	9	3	25
13			31	21	28	70	29.09	30.04	7.88	9	3	24
14			31	21	28	68	29.09	30.04	7.82	8	3	25
15			31	21	28	68	29.09	30.04	7.87	8	3	22
16			31	22	28	71	29.10	30.04	7.92	8	3	23
17			29	21	27	75	29.10	30.05	7.98	6	2	21
18			28	21	26	78	29.11	30.06	7.88	5	2	21
19			27	21	25	78	29.11	30.06	7.77	6	2	23
20			27	21	25	80	29.11	30.06	7.65	6	3	21
21			27	21	25	80	29.11	30.06	7.63	6	3	22
22			26	21	25	81	29.11	30.06	7.31	5	3	22
23			26	21	25	82	29.11	30.06	7.41	5	3	23
24			26	21	24	82	29.10	30.05	7.19	6	3	24





**DECEMBER 1999  
MADISON, WI**

# **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

## **NOTICE**

Effective July 1, 1996, the National Weather Service & Federal Aviation Administration began using the METAR format for Hourly Observations.

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