



# OCTOBER 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): 858 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	55	39	47	-8	36	42	18	0	RA BR	0		0.0	0.21	29.11	30.04	2.9	33	5.5	20	27	13	02	01				
02	50	32	41	-13	34	38	24	0	RA DZ BR	0		0.0	0.13	29.23	30.18	5.7	32	6.2	20	29	15	29	02				
03	44	32	38	-16	33	36	27	0	RA	0		0.0	0.16	29.39	30.34	7.5	02	8.1	21	02	17	02	03				
04	52	29	41	-13	34	39	24	0		0		0.0	0.00	29.35	30.30	2.2	26	5.2	14	22	10	21	04				
05	63	44	54	1	40	46	11	0		0		0.0	0.00	29.14	30.08	4.8	23	7.2	22	24	16	22	05				
06	56	33	45	-8	36	41	20	0		0		0.0	0.00	29.30	30.25	4.1	09	5.3	20	12	16	12	06				
07	72	37	55	3	41	49	10	0		0		0.0	0.00	29.14	30.07	10.3	16	10.9	24	16	21	16	07				
08	67	43	55	3	50	53	10	0	RA FG+ BCFG BR	0		0.0	0.04	29.01	29.92	4.2	21	5.9	18	31	15	19	08				
09	74	39	57	5	48	52	8	0	FG+ BR	0		0.0	0.00	29.10	30.03	3.6	18	3.8	16	16	13	18	09				
10	71	44	58	7	49	54	7	0	BCFG BR	0		0.0	0.00	29.14	30.06	3.6	30	6.2	21	30	16	32	10				
11	67	39	53	2	36	44	12	0		0		0.0	0.00	29.37	30.32	2.0	16	2.5	15	14	11	16	11				
12	74	50	62*	11	48	55	3	0		0		0.0	0.00	29.03	29.95	10.9	19	11.0	29	18	23	19	12				
13	65	30	48	-2	39	43	17	0	RA BR	0		0.0	0.07	29.10	30.03	7.4	33	7.5	25	33	18	33	13				
14	61	29	45	-5	34	41	20	0		0		0.0	0.00	29.13	30.07	8.8	18	9.1	25	19	21	18	14				
15	78*	43	61	12	46	53	4	0	TSRA VCTS	0		0.0	T	28.84	29.76	9.3	18	9.6	22	17	17	17	15				
16	69	42	56	7	48	51	9	0	RA BR	0		0.0	0.26	29.02	29.94	5.8	29	8.1	24	19	18	21	16				
17	48	33	41	-8	32	38	24	0		0		0.0	0.00	29.25	30.20	4.8	30	5.8	20	31	15	31	17				
18	50	28	39	-9	33	37	26	0		0		0.0	0.00	29.25	30.20	1.6	18	2.8	9	16	9	16	18				
19	55	41	48	0	33	41	17	0		0		0.0	0.00	29.20	30.14	5.2	24	7.2	18	29	15	23	19				
20	49	35	42	-5	29	37	23	0		0		0.0	0.00	29.24	30.18	4.8	24	6.0	18	23	14	22	20				
21	66	41	54	7	36	46	11	0		0		0.0	0.00	28.84	29.77	7.9	23	10.0	38*	32	28*	31	21				
22	55	37	46	-1	25	37	19	0		0		0.0	0.00	28.86	29.79	14.1	31	14.2	34	32	25	31	22				
23	45	24	35*	-11	24	32	30	0		0		0.0	0.00	29.19	30.14	11.1	33	11.4	28	36	22	36	23				
24	52	19*	36	-10	22	32	29	0		0		0.0	0.00	29.26	30.22	4.9	23	5.4	16	23	13	24	24				
25	64	40	52	7	30	42	13	0		0		0.0	0.00	29.05	29.98	7.8	23	8.8	23	23	16	22	25				
26	59	35	47	2	24	38	18	0		0		0.0	0.00	29.17	30.11	4.5	29	5.9	22	30	17	30	26				
27	61	32	47	3	34	42	18	0		0		0.0	0.00	29.23	30.18	11.0	16	11.6	23	14	20	16	27				
28	62	41	52	8	40	46	13	0	HZ	0		0.0	0.00	29.14	30.08	4.3	08	7.1	18	18	16	02	28				
29	73	40	57	13	46	52	8	0		0		0.0	0.00	29.08	30.01	8.1	17	8.8	25	17	21	18	29				
30	69	50	60	17	49	54	5	0	RA BR HZ	0		0.0	0.01	29.11	30.03	7.5	21	9.6	24	18	20	19	30				
31	67	36	52	9	42	47	13	0	FG+ BR	0		0.0	0.00	29.27	30.21	1.8	20	2.4	10	21	8	19	31				
61.1 36.7 48.9 ■■										< MONTHLY AVERAGES TOTALS-->				0.0	0.88	29.15	30.08	2.5	23	7.4	<- MONTHLY AVERAGES						
1.2 -1.0 0.0 ■■										<----- DEPARTURE FROM NORMAL ----->										-1.29	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3						
DEGREE DAYS									GREATEST 24-HR PRECIPITATION: 0.34 DATE: 01-02				GREATEST 24-HR SNOWFALL: 0.0 DATE:				GREATEST SNOW DEPTH: 0 DATE:				SEA LEVEL PRESSURE DATE TIME						
MONTHLY TOTAL DEPARTURE									SEASON TO DATE TOTAL DEPARTURE				MAXIMUM : 30.40 11 0953				MINIMUM : 29.55 21 2053										
HEATING: 491 -8 694 -23									NUMBER OF DAYS WITH →				MAXIMUM TEMP ≥ 90: 0				MINIMUM TEMP ≤ 32: 9				PRECIPITATION ≥ 0.01 INCH : 7						
COOLING: 0 0 637 152													MAXIMUM TEMP ≤ 32 : 0				MINIMUM TEMP ≤ 0 : 0				PRECIPITATION ≥ 0.10 INCH : 4						
													THUNDERSTORMS : 1				HEAVY FOG : 3				SNOWFALL ≥ 1.0 INCH : 0						

OCTOBER 1999  
MADISON, WI

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

MADISON, WI

OCTOBER 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	0.06	0.03	0.02	0.02	T							0.01	01	0.03	T	0.05	0.04	0.02	0.01	T		T	0.03	0.02	0.05	0.10	01		0.21
02													02														0.13		
03													03														0.16		
04													04														0.00		
05													05														0.00		
06													06														06	0.00	
07													07														0.00		
08													08														0.04		
09													09														0.00		
10													10														0.00		
11													11														11	0.00	
12													12														0.00		
13													13														0.07		
14													14														0.00		
15													15														T		
16	T	0.08	T	0.02	0.15	0.01	T						16														16	0.26	
17													17														0.00		
18													18														0.00		
19													19														0.00		
20													20														0.00		
21													21														21	0.00	
22													22														0.00		
23													23														0.00		
24													24														0.00		
25													25														0.00		
26													26														26	0.00	
27													27														0.00		
28													28														0.00		
29													29														0.00		
30													30														0.01		
31													31				0.01	T									31	0.00	

## MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)												
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

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

Ceilometer (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).

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.

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 at constant pressure by evaporation of moisture into it, to 100% relative humidity.

ADDITIONAL NOTES:

**SUNSHINE (MINUTES)**

Total:              Possible:  
Percent Possible:

NUMBER OF DAYS WITH:

CLR PTLY CLDY CLOUDY MISSING  
31

MINIMUM VISIBILITY (MILES)		
<=0.25	<=3.0	>=7.0
3	5	22

## OBSERVATIONS AT 3-HOURLY INTERVALS

MADISON, WI

OCTOBER 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)	
			OBSERVATION TIME (LST)	EFF CLD AMT Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT		WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION				SEA LEVEL	OBSERVATION TIME (LST)		EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG
			SUNRISE: 0554		OCT 01	SUNSET: 1739										SUNRISE: 0601		OCT 07	SUNSET: 1729								
03	CLR	NC		10.00		43	33	39	68	3	27	29.04	29.97	03	CLR	NC		10.00		41	37	39	86	8	13	29.28	30.22
06	CLR	NC		10.00		41	33	38	74	3	VR	29.09	30.02	06	BKN	120		10.00		47	40	44	77	12	14	29.25	30.20
09	CLR	NC		10.00		49	35	43	59	7	VR	29.12	30.06	09	BKN	120		10.00		51	41	46	69	12	15	29.22	30.17
12	CLR	NC		10.00		54	32	44	43	7	28	29.13	30.06	12	CLR	NC		10.00		64	43	53	46	15	18	29.16	30.09
15	BKN	036		10.00		50	37	44	61	0	00	29.10	30.04	15	CLR	NC		10.00		71	41	55	34	15	18	29.06	29.99
18	SCT	NC		10.00		46	41	44	83	3	34	29.10	30.04	18	CLR	NC		10.00		63	42	52	47	10	17	29.01	29.94
21	OVC	050		8.00	-RA	44	41	43	89	9	36	29.16	30.10	21	CLR	NC		10.00		57	43	50	60	8	17	29.02	29.95
24	OVC	050		5.00	RA BR	41	40	41	96	7	35	29.14	30.08	24	CLR	NC		10.00		57	42	50	58	7	17	28.99	29.91
			SUNRISE: 0555		OCT 02	SUNSET: 1737										SUNRISE: 0602		OCT 08	SUNSET: 1727								
03	OVC	005		10.00	-RA	40	39	40	97	6	35	29.12	30.06	03	BKN	110		10.00		57	43	50	60	9	18	28.96	29.87
06	OVC	004		10.00		38	36	37	93	5	35	29.15	30.09	06	SCT	NC		10.00		56	44	50	65	7	20	28.94	29.86
09	OVC	008		10.00		39	37	38	93	5	34	29.21	30.15	09	CLR	NC		10.00		63	50	56	63	10	19	28.97	29.88
12	BKN	021		10.00		43	35	40	74	9	31	29.23	30.18	12	BKN	035		10.00		66	53	59	63	7	VR	28.96	29.88
15	SCT	NC		10.00		49	32	42	52	10	30	29.23	30.17	15	FEW	NC		10.00		64	57	60	78	9	27	28.99	29.91
18	CLR	NC		10.00		43	31	38	63	5	33	29.28	30.23	18	BKN	018		10.00		61	57	59	87	0	00	29.04	29.97
21	CLR	NC		10.00		35	31	33	85	5	30	29.36	30.31	21	FEW	NC		1.75	BCFG	49	49	49	100	0	00	29.10	30.03
24	CLR	NC		10.00		35	30	33	82	0	00	29.38	30.33	24	FEW	NC		<.25	FG	44	44	44	100	0	00	29.13	30.06
			SUNRISE: 0557		OCT 03	SUNSET: 1736										SUNRISE: 0603		OCT 09	SUNSET: 1725								
03	CLR	NC		10.00		33	30	32	89	0	00	29.40	30.36	03	FEW	NC		0.25	FG	42	42	42	100	0	00	29.14	30.07
06	BKN	100		10.00		36	31	34	82	10	04	29.40	30.36	06	BKN	006		0.50	FG	40	40	40	100	0	00	29.16	30.09
09	OVC	034		10.00		41	30	37	65	8	04	29.42	30.38	09	CLR	NC		6.00	BR	54	51	52	90	6	16	29.17	30.11
12	OVC	032		10.00	-RA	42	35	39	76	7	36	29.40	30.36	12	CLR	NC		10.00		73	45	58	37	8	19	29.13	29.98
15	OVC	023		10.00	-RA	40	38	39	93	13	02	29.35	30.30	15	CLR	NC		10.00		73	45	58	37	8	19	29.05	29.98
18	OVC	025		10.00		39	37	38	93	13	01	29.36	30.31	18	CLR	NC		10.00		60	50	55	70	0	00	29.04	29.98
21	SCT	NC		10.00		37	35	36	93	5	35	29.38	30.33	21	CLR	NC		6.00	BR	54	51	52	90	3	19	29.05	29.98
24	BKN	060		10.00		35	34	35	96	5	32	29.37	30.32	24	OVC	003		2.00	BR	60	59	59	96	7	20	29.05	29.97
			SUNRISE: 0558		OCT 04	SUNSET: 1734										SUNRISE: 0605		OCT 10	SUNSET: 1724								
03	BKN	065		10.00		34	32	33	92	3	34	29.38	30.34	03	OVC	003		2.00	BR BCFG	58	56	57	93	7	21	29.03	29.96
06	FEW	NC		10.00		32	30	31	92	6	34	29.41	30.37	06	OVC	007		2.00	BR BCFG	60	58	59	93	5	20	29.04	29.97
09	CLR	NC		10.00		43	35	40	74	5	01	29.42	30.38	09	FEW	NC		7.00		65	55	59	70	6	VR	29.07	30.00
12	SCT	NC		10.00		49	34	42	57	6	VR	29.38	30.34	12	CLR	NC		10.00		70	50	59	49	10	33	29.10	30.02
15	SCT	NC		10.00		51	34	43	52	5	VR	29.31	30.26	15	CLR	NC		10.00		70	47	57	44	13	33	29.12	30.04
18	FEW	NC		10.00		49	35	43	59	6	21	29.29	30.24	18	CLR	NC		10.00		59	39	49	48	6	32	29.20	30.13
21	FEW	NC		10.00		47	36	42	66	5	VR	29.28	30.22	21	CLR	NC		10.00		48	39	44	72	0	00	29.28	30.21
24	BKN	070		10.00		48	37	43	66	9	22	29.25	30.19	24	CLR	NC		10.00		44	39	42	83	0	00	29.31	30.24
			SUNRISE: 0559		OCT 05	SUNSET: 1732										SUNRISE: 0606		OCT 11	SUNSET: 1722								
03	FEW	NC		10.00		46	38	42	73	7	21	29.22	30.16	03	CLR	NC		10.00		40	38	39	93	0	00	29.35	30.29
06	BKN	120		10.00		45	38	42	77	7	20	29.17	30.11	06	CLR	NC		10.00		40	35	38	83	0	00	29.40	30.35
09	FEW	NC		10.00		52	38	45	59	9	20	29.12	30.06	09	CLR	NC		10.00		54	39	47	57	0	00	29.45	30.40
12	CLR	NC		10.00		58	41	49	54	10	23	29.09	30.03	12	CLR	NC		10.00		63	34	49	34	0	00	29.43	30.37
15	CLR	NC		10.00		62	43	52	50	7	24	29.07	30.01	15	CLR	NC		10.00		65	33	50	31	0	00	29.38	30.32
18	CLR	NC		10.00		51	45	48	80	3	27	29.10	30.04	18	CLR	NC		10.00		53	36	45	52	0	00	29.34	30.29
21	SCT	NC		10.00		48	42	45	80	5	31	29.15	30.09	21	CLR	NC		10.00		48	38	43	68	9	14	29.34	30.27
24	CLR	NC		10.00		44	39	42	83	7	35	29.21	30.14	24	CLR	NC		10.00		52	44	48	75	12	16	29.29	30.23
			SUNRISE: 0560		OCT 06	SUNSET: 1730										SUNRISE: 0607		OCT 12	SUNSET: 1720								
03	CLR	NC		10.00		38	36	37	93	0	00	29.25	30.19	03	CLR	NC		10.00		53	40	47	61	12	18	29.24	30.17
06	CLR	NC		10.00		34	33	34	97	0	00	29.31	30.26	06	OVC	080		10.00		53	39	46	59	12	18	29.19	30.12
09	CLR	NC		10.00		46	36	42	68	9	08	29.36	30.31	09	CLR	NC		10.00		58	40	49	51	13	19	29.14	30.07
12	FEW	NC		10.00		53	35	45	51	6	07	29.35	30.29	12	CLR	NC		10.00		69	49	58	49	13	20	29.01	29.94
15	CLR	NC		10.00		56	36	47	47	3	VR	29.30	30.24	15	SCT	NC		10.00		73	53	61	50	15	19	28.91	29.83
18	CLR	NC		10.00		47	36	42	66	5	07	29.29	30.24	18	CLR	NC		10.00		67	55	60	66	6	17	28.90	29.81
21	CLR	NC		10.00		43	39	41	86	10	11	29.31	30.25	21	BKN	080		10.00		68	54	60	61				

## OBSERVATIONS AT 3-HOURLY INTERVALS

MADISON, WI

OCTOBER 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)	
			OBSERVATION TIME (LST)	EFF CLD AMT Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT		WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION				SEA LEVEL	OBSERVATION TIME (LST)		EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB		DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG
			SUNRISE: 0608			OCT 13	SUNSET: 1718										SUNRISE: 0615			OCT 19	SUNSET: 1709						
03	BKN	047			10.00	59	49	54	69	10	34	28.89	29.80	03	OVC	065				45	33	40	63	8	18	29.18	30.12
06	BKN	090			10.00	51	42	47	71	12	33	28.98	29.90	06	SCT	NC				43	32	38	65	6	22	29.19	30.14
09	OVC	029			10.00	47	44	46	90	10	34	29.05	29.98	09	CLR	NC				46	35	41	66	8	23	29.20	30.14
12	OVC	024			10.00	45	40	43	83	10	34	29.12	30.05	12	BKN	085				54	32	44	43	12	23	29.17	30.11
15	BKN	040			10.00	51	35	44	54	9	32	29.15	30.09	15	BKN	100				52	34	44	50	10	28	29.16	30.10
18	CLR	NC			10.00	45	34	40	66	3	32	29.22	30.16	18	OVC	080				48	30	40	50	8	28	29.21	30.16
21	CLR	NC			10.00	36	33	35	89	0	00	29.27	30.21	21	OVC	075				45	31	39	58	5	26	29.24	30.19
24	CLR	NC			10.00	31	30	31	96	0	00	29.24	30.20	24	SCT	NC				41	32	37	70	5	27	29.24	30.18
			SUNRISE: 0609			OCT 14	SUNSET: 1717										SUNRISE: 0617			OCT 20	SUNSET: 1707						
03	CLR	NC			10.00	30	29	30	96	0	00	29.27	30.22	03	BKN	070				40	31	36	70	3	VR	29.25	30.19
06	BKN	100			10.00	39	35	37	86	7	17	29.26	30.21	06	FEW	NC				36	30	34	79	6	27	29.28	30.22
09	FEW	NC			10.00	48	36	43	63	14	19	29.24	30.19	09	CLR	NC				42	31	37	65	7	28	29.30	30.24
12	FEW	NC			10.00	56	36	47	47	14	17	29.15	30.09	12	BKN	049				48	26	39	42	8	27	29.28	30.22
15	CLR	NC			10.00	60	33	47	36	14	18	29.04	29.98	15	FEW	NC				48	27	39	44	9	23	29.23	30.17
18	CLR	NC			10.00	56	33	45	42	13	18	29.00	29.93	18	CLR	NC				45	28	38	52	5	21	29.21	30.16
21	CLR	NC			10.00	50	35	43	57	9	18	29.00	29.94	21	CLR	NC				38	30	35	73	3	18	29.19	30.14
24	CLR	NC			10.00	49	35	43	59	8	17	28.98	29.91	24	CLR	NC				41	28	36	60	5	19	29.12	30.07
			SUNRISE: 0611			OCT 15	SUNSET: 1715										SUNRISE: 0618			OCT 21	SUNSET: 1706						
03	CLR	NC			10.00	46	36	42	68	7	17	28.96	29.88	03	BKN	120				44	31	39	60	7	20	29.05	29.99
06	CLR	NC			10.00	45	37	41	74	8	16	28.93	29.85	06	SCT	NC				43	32	38	65	8	20	28.99	29.93
09	CLR	NC			10.00	55	42	49	62	12	18	28.90	29.82	09	CLR	NC				49	36	43	61	9	21	28.94	29.88
12	CLR	NC			10.00	67	49	57	53	14	18	28.82	29.74	12	CLR	NC				60	39	50	46	12	22	28.86	29.78
15	CLR	NC			10.00	77	52	62	42	13	19	28.75	29.66	15	CLR	NC				65	42	53	44	10	23	28.77	29.69
18	CLR	NC			10.00	70	53	60	55	5	16	28.76	29.68	18	CLR	NC				63	42	52	47	7	22	28.69	29.62
21	SCT	NC			10.00	72	53	61	52	14	19	28.78	29.69	21	CLR	NC				63	32	48	31	16	29	28.64	29.55
24	BKN	090			10.00	68	56	61	66	7	23	28.76	29.67	24	SCT	NC				55	28	43	36	15	31	28.66	29.58
			SUNRISE: 0612			OCT 16	SUNSET: 1714										SUNRISE: 0619			OCT 22	SUNSET: 1704						
03	OVC	055			7.00	63	60	61	90	5	20	28.80	29.71	03	CLR	NC				49	27	40	43	14	31	28.71	29.63
06	OVC	010			10.00	62	60	61	93	8	22	28.82	29.74	06	SCT	NC				45	30	39	56	16	30	28.75	29.67
09	OVC	009			2.00	54	52	53	93	9	32	28.93	29.84	09	SCT	NC				46	28	39	50	20	31	28.80	29.72
12	OVC	011			8.00	54	49	51	83	13	31	29.02	29.94	12	OVC	049				45	25	37	46	17	32	28.86	29.78
15	OVC	028			10.00	56	46	51	70	8	32	29.09	30.02	15	OVC	048				42	25	35	51	15	31	28.92	29.85
18	CLR	NC			10.00	46	42	44	86	0	00	29.15	30.09	18	OVC	060				42	21	34	43	14	32	28.97	29.91
21	CLR	NC			10.00	48	35	42	61	7	33	29.20	30.14	21	OVC	070				41	22	34	47	12	31	28.98	29.92
24	CLR	NC			10.00	44	35	40	71	7	32	29.25	30.19	24	CLR	NC				38	21	32	51	10	32	29.02	29.96
			SUNRISE: 0613			OCT 17	SUNSET: 1712										SUNRISE: 0620			OCT 23	SUNSET: 1703						
03	CLR	NC			10.00	41	33	38	74	7	31	29.25	30.19	03	OVC	048				38	22	32	53	16	31	29.05	30.00
06	CLR	NC			10.00	38	33	36	83	5	VR	29.26	30.21	06	OVC	040				38	24	33	57	14	32	29.10	30.05
09	FEW	NC			10.00	43	34	39	71	9	30	29.27	30.22	09	OVC	034				41	27	35	57	18	32	29.18	30.13
12	BKN	060			10.00	47	33	41	59	7	VR	29.25	30.20	12	BKN	038				45	26	37	48	18	33	29.20	30.15
15	BKN	070			10.00	48	29	40	48	12	31	29.22	30.16	15	BKN	038				41	25	35	53	13	34	29.24	30.19
18	SCT	NC			10.00	42	30	37	62	3	29	29.23	30.19	18	CLR	NC				37	23	32	57	6	32	29.27	30.22
21	FEW	NC			10.00	40	31	36	70	5	29	29.24	30.19	21	CLR	NC				30	22	27	72	5	33	29.29	30.25
24	CLR	NC			10.00	34	31	33	89	0	00	29.26	30.21	24	CLR	NC				25	20	23	81	0	00	29.31	30.27
			SUNRISE: 0614			OCT 18	SUNSET: 1710										SUNRISE: 0622			OCT 24	SUNSET: 1701						
03	CLR	NC			10.00	31	30	31	96	0	00	29.25	30.20	03	CLR	NC				22	19	21	89	0	00	29.32	30.27
06	CLR	NC			10.00	29	27	28	92	0	00	29.27	30.23	06	CLR	NC				21	19	20	92	0	00	29.32	30.29
09	FEW	NC			10.00	39	36	38	89	0	00	29.30	30.25	09	CLR	NC				35	26	32	70	8	29	29.34	30.30
12	BKN	120			10.00	46	36	42	68	6	24	29.28	30.23	12	CLR	NC				47	23	38	39	8	25	29.30	30.25
15	BKN	044			10.00	48	31	41	52	0	00	29.23	30.18	15	CLR	NC				51	22	39	32	12	24	29.23	30.18
18	OVC	090			10.00	46	33	40	61	5	13	29.22	30.18	18	CLR	NC				48	22	38	36	8	21	29.19	30.14
21	OVC	095			10.00	44	34	40	68	3	17	29.25	30.19	21	CLR	NC				44	24	36	45	7	21	29.17	30.12
24	OVC	080			10.00	45	35	41	68	7	18	29.21	30.16	24	CLR	NC				44	25	37	47	8	23	29.15	30.10

## OBSERVATIONS AT 3-HOURLY INTERVALS

MADISON, WI

OCTOBER 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		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		DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL	
					SUNRISE: 0623	OCT 25		SUNSET: 1660										SUNRISE: 0630	OCT 31		SUNSET: 1651							
03	CLR	NC				42	25	35	51	8	21	29.13	30.07	03	CLR	NC			1.50	BR	45	44	45	97	0	00	29.30	30.23
06	CLR	NC				42	25	35	51	9	22	29.09	30.03	06	BKN	001			<.25	FG	46	46	46	100	3	VR	29.33	30.27
09	CLR	NC				49	28	40	45	12	22	29.06	30.00	09	BKN	001			0.25	FG	46	46	46	100	0	00	29.35	30.29
12	CLR	NC				61	33	48	35	15	23	29.00	29.93	12	CLR	NC			10.00		61	43	52	52	6	VR	29.31	30.24
15	CLR	NC				63	37	50	38	10	23	28.97	29.90	15	CLR	NC			10.00		66	39	52	37	7	22	29.26	30.19
18	CLR	NC				57	36	47	45	9	23	28.99	29.93	18	CLR	NC			10.00		56	41	49	57	5	19	29.24	30.17
21	CLR	NC				53	33	44	47	7	26	29.02	29.95	21	CLR	NC			10.00		45	39	42	80	0	00	29.22	30.16
24	CLR	NC				50	21	39	32	3	VR	29.05	29.98	24	CLR	NC			10.00		43	39	41	86	0	00	29.16	30.10
					SUNRISE: 0624	OCT 26		SUNSET: 1658																				
03	CLR	NC				47	18	36	31	6	28	29.06	29.99															
06	CLR	NC				45	20	36	37	6	24	29.11	30.05															
09	CLR	NC				50	24	39	36	8	29	29.16	30.10															
12	CLR	NC				56	23	42	28	9	28	29.17	30.11															
15	CLR	NC				58	25	44	28	6	VR	29.18	30.11															
18	CLR	NC				44	27	37	51	0	00	29.21	30.15															
21	CLR	NC				37	26	33	65	0	00	29.24	30.19															
24	CLR	NC				38	31	35	76	3	08	29.28	30.22															
					SUNRISE: 0625	OCT 27		SUNSET: 1657																				
03	CLR	NC				36	34	35	93	3	12	29.28	30.22															
06	CLR	NC				36	34	35	93	6	13	29.29	30.24															
09	CLR	NC				47	41	44	80	16	16	29.32	30.26															
12	CLR	NC				57	34	46	42	17	15	29.28	30.22															
15	CLR	NC				61	32	47	34	18	16	29.20	30.15															
18	CLR	NC				56	32	45	40	14	15	29.18	30.12															
21	CLR	NC				49	35	43	59	10	17	29.14	30.08															
24	CLR	NC				55	32	45	42	13	19	29.10	30.03															
					SUNRISE: 0627	OCT 28		SUNSET: 1655																				
03	CLR	NC				55	39	47	55	7	19	29.07	30.00															
06	CLR	NC				49	41	45	74	3	05	29.11	30.04															
09	CLR	NC				55	45	50	69	0	00	29.16	30.09															
12	CLR	NC				56	39	48	53	9	05	29.18	30.11															
15	CLR	NC				61	42	51	50	10	08	29.15	30.08															
18	CLR	NC				50	40	45	68	8	08	29.17	30.11															
21	CLR	NC				43	37	40	80	5	08	29.18	30.11															
24	CLR	NC				42	37	40	82	3	09	29.14	30.08															
					SUNRISE: 0628	OCT 29		SUNSET: 1654																				
03	CLR	NC				42	39	41	89	5	12	29.11	30.04															
06	BKN	080				45	42	44	90	3	08	29.11	30.06															
09	CLR	NC				59	46	52	62	7	16	29.12	30.06															
12	CLR	NC				69	50	58	51	16	18	29.08	30.01															
15	CLR	NC				71	50	59	47	13	18	29.04	29.98															
18	SCT	NC				68	48	57	49	10	17	29.06	29.99															
21	FEW	NC				64	47	55	54	12	17	29.05	29.98															
24	FEW	NC				62	47	54	58	10	18	29.05	29.97															
					SUNRISE: 0629	OCT 30		SUNSET: 1652																				
03	CLR	NC				59	47	53	64	10	17	29.03	29.95															
06	CLR	NC				58	47	52	67	12	18	29.03	29.95															
09	CLR	NC				61	48	54	63	12	20	29.07	30.00															
12	CLR	NC				69	50	58	51	14	19	29.05	29.97															
15	OVC	080				63	51	56	65	7	22	29.09	30.01															
18	FEW	NC				59	49	54	69	7	22	29.14	30.07															
21	OVC	013				55	49	52	80	12	30	29.24	30.17															
24	CLR	NC				50	47	48	89	0	00	29.27	30.20															

### 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

HOUR (LST)	AVERAGES								RESULTANT WIND (MPH)			
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES,HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	DIRECTION	
							STATION	SEA LEVEL				
01			45	36	41	74	29.14	30.08	9.00	6	2	23
02			44	36	41	75	29.14	30.08	9.05	6	2	23
03			44	36	40	76	29.14	30.08	8.96	5	2	22
04			43	35	40	78	29.15	30.08	8.88	5	2	24
05			43	36	40	78	29.15	30.09	8.98	6	2	23
06			43	36	40	78	29.15	30.09	8.89	6	2	22
07			43	36	40	78	29.16	30.10	8.40	6	2	21
08			46	38	42	74	29.17	30.11	8.64	7	2	23
09			49	38	44	68	29.17	30.11	8.94	8	3	23
10			52	38	46	61	29.17	30.11	9.39	10	3	24
11			54	38	47	56	29.17	30.11	9.81	9	3	24
12			56	38	48	52	29.15	30.09	9.94	10	4	24
13			57	38	48	51	29.14	30.07	9.65	9	4	23
14			58	38	48	50	29.13	30.06	9.84	10	4	24
15			58	38	48	49	29.12	30.06	10.00	9	4	24
16			58	37	48	48	29.12	30.06	9.87	9	3	24
17			56	37	47	52	29.12	30.06	9.90	7	2	23
18			52	38	45	60	29.13	30.07	9.94	6	2	21
19			50	38	44	65	29.14	30.08	9.77	6	2	19
20			49	38	43	67	29.14	30.08	9.52	5	2	23
21			48	37	43	69	29.15	30.09	9.41	6	2	23
22			47	36	42	69	29.15	30.09	9.29	6	2	22
23			47	36	42	70	29.15	30.08	9.15	6	2	23
24			46	36	42	73	29.15	30.08	9.04	5	2	22

## 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.

&amp; = Original observation contained additional weather elements.

See page 3 for additional notes.

## SUMMARY BY HOUR

HOUR (LST)	AVERAGES										RESULTANT WIND (MPH)	
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES, HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	SPEED	DIRECTION
							STATION	SEA LEVEL				
01			45	36	41	74	29.14	30.08	9.00	6	2	23
02			44	36	41	75	29.14	30.08	9.05	6	2	23
03			44	36	40	76	29.14	30.08	8.96	5	2	22
04			43	35	40	78	29.15	30.08	8.88	5	2	24
05			43	36	40	78	29.15	30.09	8.98	6	2	23
06			43	36	40	78	29.15	30.09	8.89	6	2	22
07			43	36	40	78	29.16	30.10	8.40	6	2	21
08			46	38	42	74	29.17	30.11	8.64	7	2	23
09			49	38	44	68	29.17	30.11	8.94	8	3	23
10			52	38	46	61	29.17	30.11	9.39	10	3	24
11			54	38	47	56	29.17	30.11	9.81	9	3	24
12			56	38	48	52	29.15	30.09	9.94	10	4	24
13			57	38	48	51	29.14	30.07	9.65	9	4	23
14			58	38	48	50	29.13	30.06	9.84	10	4	24
15			58	38	48	49	29.12	30.06	10.00	9	4	24
16			58	37	48	48	29.12	30.06	9.87	9	3	24
17			56	37	47	52	29.12	30.06	9.90	7	2	23
18			52	38	45	60	29.13	30.07	9.94	6	2	21
19			50	38	44	65	29.14	30.08	9.77	6	2	19
20			49	38	43	67	29.14	30.08	9.52	5	2	23
21			48	37	43	69	29.15	30.09	9.41	6	2	23
22			47	36	42	69	29.15	30.09	9.29	6	2	22
23			47	36	42	70	29.15	30.08	9.15	6	2	23
24			46	36	42	73	29.15	30.08	9.04	5	2	22

# SUPPLEMENTARY HOURLY PRECIPITATION

## UNIVERSAL RAIN GAUGE (WATER EQUIVALENT IN INCHES)

OCTOBER 1999  
MADISON, WI

LATITUDE 43° 8'N  
LONGITUDE 89° 20'

DATE	A.M. HOUR (L.S.T.) ENDING AT												DATE	P.M. HOUR (L.S.T.) ENDING AT												DATE	DAILY TOTAL																								
	1	2	3	4	5	6	7	8	9	10	11	12		1	2	3	4	5	6	7	8	9	10	11	12																										
01	0.08	0.06	0.05	0.02									01	0.01	0.05	0.05	0.05	0.02					0.01	0.03	0.05	0.10	01	0.20																							
02													02														0.21																								
03													03														0.00																								
04													04														0.18																								
05													05														0.00																								
06													06														06	0.00																							
07													07														0.00																								
08													08														0.03																								
09													09														0.00																								
10													10														0.00																								
11													11														11	0.00																							
12													12														0.00																								
13													13														0.05																								
14													14														0.00																								
15													15														0.00																								
16	0.01	0.07		0.10	0.05	0.01	0.01						16														16	0.25																							
17													17														0.00																								
18													18														0.00																								
19													19														0.00																								
20													20														0.00																								
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27													27														0.00																								
28													28														0.00																								
29													29														0.00																								
30													30														0.02																								
31													31				0.02										31	0.00																							
PUBLISHED BY: NCDC, ASHEVILLE, NC.																											MONTHLY TOTAL		0.94																						

### SUPPLEMENTARY MAXIMUM SHORT DURATION PRECIPITATION (MSDP)

TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)					0.06	0.08	0.10	0.14	0.18	0.18	0.20	0.24
ENDED: DATE					16	16	16	02	02	02	02	02
ENDED: TIME					0400	0400	0400	0100	0100	0100	0100	0100

The time indicated is the ending time of the interval.  
Date and time are not entered for trace amounts.

The National Weather Service has determined that the ASOS Heated Tipping-Bucket (HTB) rain gauge may not measure water equivalent precipitation accurately during frozen precipitation events. Precipitation data from a nearby site is provided on this page to supplement the ASOS HTB data. M = Missing Data.  
\* = Data distribution unknown.  
First HPD value that follows is the total accumulated amount.



**OCTOBER 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.

We welcome your questions or comments, please contact us at  
828–271–4800 (voice), 828–271–4876 (fax),  
828–271–4010(TDD)  
or [orders@ncdc.noaa.gov](mailto:orders@ncdc.noaa.gov)  
Local Climatological Data is available at [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

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