



SEPTEMBER 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	82	48	65	1	56	60	0	0	MIFG BR	0		0.0	0.00	29.18	30.10	4.0	16	4.6	15	16	13	17	01	
02	90	57	74	10	62	66	0	9	MIFG BR HZ	0		0.0	0.00	29.13	30.05	3.5	17	3.8	17	17	14	18	02	
03	88	61	75	11	66	69	0	10	MIFG BR HZ	0		0.0	0.00	29.10	30.01	3.9	18	4.4	18	17	15	18	03	
04	90*	64	77*	14	61	67	0	12	BR HZ	0		0.0	0.00	29.06	29.97	5.1	16	5.2	18	17	16	15	04	
05	81	55	68	5	62	65	0	3	BR HZ	0		0.0	0.00	29.03	29.94	2.4	31	4.4	17	31	13	33	05	
06	73	50	62	-1	51	55	3	0		0		0.0	0.00	29.08	30.00	3.8	34	4.6	17	36	16	01	06	
07	81	47	64	1	53	58	1	0		0		0.0	0.00	28.98	29.90	6.6	17	6.7	20	18	15	18	07	
08	76	57	67	5	54	60	0	2	TSRA RA	0		0.0	0.07	28.89	29.80	5.1	27	7.5	21	29	16	15	08	
09	62	54	58	-4	46	51	7	0		0		0.0	0.00	28.93	29.85	5.5	27	6.9	22	28	16	27	09	
10	71	53	62	1	47	54	3	0		0		0.0	0.00	28.92	29.84	6.9	25	7.5	25	30	18	27	10	
11	76	44	60	-1	49	54	5	0	BCFG BR	0		0.0	0.00	29.04	29.96	1.5	18	3.0	11	17	9	17	11	
12	69	57	63	2	56	59	2	0	RA	0		0.0	0.01	28.99	29.91	4.4	21	6.4	17	16	14	16	12	
13	66	52	59	-2	47	52	6	0	RA	0		0.0	T	29.05	29.98	6.5	25	8.1	28	28	18	28	13	
14	67	46	57	-3	44	50	8	0		0		0.0	0.00	29.12	30.05	5.5	25	7.0	25	22	16	24	14	
15	67	42	55	-5	44	48	10	0		0		0.0	0.00	29.25	30.18	1.9	33	2.8	17	33	13	35	15	
16	68	38	53	-7	43	48	12	0	BCFG	0		0.0	0.00	29.31	30.25	3.1	36	3.5	18	36	13	36	16	
17	70	37	54	-5	44	49	11	0	BCFG BR	0		0.0	0.00	29.29	30.23	0.9	27	1.7	13	24	10	29	17	
18	75	44	60	1	47	53	5	0		0		0.0	0.00	29.10	30.03	4.5	20	4.7	16	20	14	18	18	
19	78	48	63	4	52	56	2	0	RA	0		0.0	T	28.99	29.91	2.9	23	6.4	25	31	20	31	19	
20	59	43	51	-7	43	46	14	0		0		0.0	0.00	29.18	30.12	6.9	33	7.2	20	36	16	36	20	
21	59	35*	47*	-11	37	42	18	0		0		0.0	0.00	29.27	30.22	2.5	34	3.6	17	01	15	01	21	
22	74	37	56	-2	41	49	9	0		0		0.0	0.00	29.07	30.00	3.5	24	5.1	20	26	14	25	22	
23	78	51	65	8	50	56	0	0		0		0.0	0.00	28.84	29.75	3.7	24	7.8	20	29	15	21	23	
24	66	41	54	-3	42	48	11	0		0		0.0	0.00	28.98	29.91	1.9	05	4.6	16	10	10	12	24	
25	80	38	59	2	47	53	6	0		0		0.0	0.00	28.94	29.86	7.9	15	8.1	20	16	17	15	25	
26	82	59	71	14	55	61	0	6	TSRA RA BR	0		0.0	0.30	28.88	29.79	7.4	20	9.7	33*	19	25*	18	26	
27	59	52	56	0	52	53	9	0	RA DZ BR	0		0.0	0.60	29.12	30.05	3.8	01	5.7	15	02	13	03	27	
28	55	48	52	-4	51	52	13	0	RA DZ BR	0		0.0	0.57	29.21	30.14	8.3	36	8.8	21	01	16	36	28	
29	61	43	52	-4	41	46	13	0		0		0.0	0.00	29.21	30.14	5.2	33	6.5	21	32	16	32	29	
30	69	43	56	1	36	46	9	0		0		0.0	0.00	28.99	29.92	7.1	24	8.5	32	27	21	28	30	
< MONTHLY AVERAGES										TOTALS-->		0.0	1.55	29.07	30.00	1.9	24	5.8	<- MONTHLY AVERAGES					
<----- DEPARTURE FROM NORMAL ----->													-1.82	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3										
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 0.76 DATE: 26-27				SEA LEVEL PRESSURE DATE TIME										
MONTHLY TOTAL DEPARTURE										GREATEST 24-HR SNOWFALL: 0.0 DATE:				MAXIMUM : 30.31 17 0753										
SEASON TO DATE TOTAL DEPARTURE										GREATEST SNOW DEPTH: 0 DATE:				MINIMUM : 29.65 23 1453										
HEATING: 177 9 203 -15										NUMBER OF DAYS WITH →				MAXIMUM TEMP ≥ 90: 2				PRECIPITATION ≥ 0.01 INCH : 5						
COOLING: 42 30 637 152														MAXIMUM TEMP ≤ 32 : 0				PRECIPITATION ≥ 0.10 INCH : 3						
														MINIMUM TEMP ≤ 0 : 0				SNOWFALL ≥ 1.0 INCH : 0						
														THUNDERSTORMS : 2				HEAVY FOG : 0						

SEPTEMBER 1999
MADISON, WI

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

MADISON, WI

SEPTEMBER 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	0.51	0.00		
02													02												02		0.00		
03													03												03		0.00		
04													04												04		0.00		
05													05												05		0.00		
06													06												06		0.00		
07													07												07		0.00		
08		0.03	0.02	0.02									08												08		0.07		
09													09												09		0.00		
10													10												10		0.00		
11													11												11		0.00		
12											T	0.01	12	T											12		0.01		
13													13				T								13		T		
14													14												14		0.00		
15													15												15		0.00		
16													16												16		0.00		
17													17												17		0.00		
18													18			T			T						18		0.00		
19													19							T	T				19		T		
20													20												20		0.00		
21													21												21		0.00		
22													22												22		0.00		
23													23												23		0.00		
24													24												24		0.00		
25													25												25		0.00		
26													26					T	T	0.01	0.02	0.04	0.18	0.05	T	26	0.30		
27	0.07	0.04	0.01	T	0.09	0.02	0.01	0.01	T	0.04	0.11	0.04	27		0.01	0.01	0.01	T	0.01	0.01	T	0.04	0.18	0.05	T	27	0.60		
28	0.01	0.04	0.01	0.04	0.01	0.01	0.02	0.02	0.10	0.11	0.06	0.01	28	0.01		0.01	0.01	0.03	0.01						28	0.57			
29													29												29	0.00			
30													30												30	0.00			

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

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

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

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							4.00	10.00	
02							5.00	10.00	
03							1.25	10.00	
04							3.00	10.00	
05							2.50	10.00	
06							7.00	10.00	
07							8.00	10.00	
08							7.00	10.00	
09							10.00	10.00	
10							10.00	10.00	
11							3.00	10.00	
12							8.00	10.00	
13							10.00	10.00	
14							10.00	10.00	
15							7.00	10.00	
16							7.00	10.00	
17							3.00	10.00	
18							9.00	10.00	
19							10.00	10.00	
20							10.00	10.00	
21							10.00	10.00	
22							10.00	10.00	
23							10.00	10.00	
24							10.00	10.00	
25							9.00	10.00	
26							5.00	10.00	
27							1.50	10.00	
28							1.00	10.00	
29							10.00	10.00	
30							10.00	10.00	
MONTHLY AVGS							7.04	10.00	
<p align="center">SUNSHINE (MINUTES)</p> <p>Total: Possible:</p> <p> Percent Possible:</p>									
<p align="center">NUMBER OF DAYS WITH:</p> <p align="center">SKY CONDITION</p> <p align="center">CLR PTLY CLDY CLOUDY MISSING</p> <p align="center">30</p> <p align="center">MINIMUM VISIBILITY (MILES)</p> <p align="center"><=0.25 <=3.0 >=7.0</p> <p align="center">0 7 20</p>									

MADISON, WI

SEPTEMBER 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: 0521				SEP 01				Sunset: 1834				Sunrise: 0528				SEP 07				Sunset: 1824									
03	CLR	NC			7.00	BR	51	51	51	100	0	00	29.19	30.12	03	CLR	NC			8.00	48	47	47	96	0	00	29.06	29.98	
06	CLR	NC			4.00		51	50	51	96	0	00	29.21	30.14	06	CLR	NC			10.00	48	48	48	100	0	00	29.05	29.98	
09	CLR	NC			10.00		70	59	63	68	7	17	29.22	30.14	09	CLR	NC			10.00	69	54	60	59	8	18	29.04	29.96	
12	CLR	NC			10.00		78	56	65	47	8	18	29.19	30.11	12	CLR	NC			10.00	76	53	62	45	12	17	29.00	29.92	
15	CLR	NC			10.00		81	57	66	44	10	16	29.14	30.06	15	CLR	NC			10.00	80	54	64	41	14	16	28.95	29.86	
18	CLR	NC			10.00	75	60	66	60	8	14	29.12	30.05	18	CLR	NC			10.00	76	56	64	50	12	16	28.89	29.81		
21	CLR	NC			10.00	70	60	64	71	6	16	29.16	30.07	21	FEW	NC			10.00	69	56	61	63	6	17	28.88	29.79		
24	CLR	NC			9.00	60	59	59	96	0	00	29.16	30.08	24	CLR	NC			10.00	68	56	61	66	7	16	28.87	29.78		
Sunrise: 0522				SEP 02				Sunset: 1833				Sunrise: 0529				SEP 08				Sunset: 1822									
03	CLR	NC			7.00	BR	59	57	58	93	0	00	29.16	30.08	03	OVC	070			10.00	-RA	65	60	62	84	10	17	28.82	29.72
06	CLR	NC			6.00		57	56	56	96	0	00	29.18	30.10	06	BKN	045			10.00	66	60	62	81	9	24	28.83	29.74	
09	CLR	NC			10.00		75	60	66	60	9	18	29.16	30.07	09	CLR	NC			10.00	70	61	64	73	9	31	28.87	29.78	
12	CLR	NC			10.00		87	65	72	48	6	16	29.13	30.05	12	SCT	NC			10.00	75	53	62	46	12	27	28.89	29.80	
15	CLR	NC			10.00		89	59	70	36	10	17	29.09	30.01	15	SCT	NC			10.00	75	51	61	43	13	25	28.90	29.81	
18	CLR	NC			10.00	83	66	72	57	6	17	29.09	30.01	18	CLR	NC			10.00	69	48	57	47	0	00	28.92	29.83		
21	CLR	NC			9.00	68	66	67	93	0	00	29.12	30.03	21	CLR	NC			10.00	61	49	54	65	3	28	28.93	29.84		
24	CLR	NC			5.00	67	66	66	97	0	00	29.11	30.02	24	CLR	NC			10.00	57	49	53	75	5	VR	28.95	29.86		
Sunrise: 0523				SEP 03				Sunset: 1831				Sunrise: 0530				SEP 09				Sunset: 1820									
03	CLR	NC			3.00	MIFG BR	63	62	62	97	0	00	29.11	30.03	03	CLR	NC			10.00		54	48	51	80	7	VR	28.94	29.85
06	CLR	NC			1.50		63	62	62	97	0	00	29.13	30.05	06	FEW	NC			10.00	54	48	51	80	6	24	28.92	29.83	
09	CLR	NC			7.00		78	64	69	62	8	17	29.13	30.04	09	OVC	060			10.00	57	47	52	69	8	29	28.92	29.84	
12	CLR	NC			10.00		86	69	74	57	10	17	29.10	30.01	12	OVC	044			10.00	56	44	50	65	13	28	28.93	29.85	
15	SCT	NC			10.00		87	70	75	57	9	18	29.07	29.98	15	BKN	060			10.00	59	43	51	56	12	28	28.92	29.84	
18	SCT	NC			6.00	81	68	72	65	5	18	29.05	29.97	18	BKN	060			10.00	57	44	50	62	3	VR	28.92	29.85		
21	CLR	NC			6.00	73	67	69	81	5	17	29.06	29.97	21	OVC	055			10.00	56	44	50	65	3	VR	28.95	29.87		
24	CLR	NC			7.00	70	66	67	87	3	18	29.08	29.99	24	BKN	065			10.00	55	45	50	69	6	22	28.94	29.85		
Sunrise: 0524				SEP 04				Sunset: 1829				Sunrise: 0531				SEP 10				Sunset: 1819									
03	CLR	NC			6.00	BR	70	61	64	73	6	16	29.07	29.98	03	OVC	070			10.00		56	43	49	62	12	22	28.91	29.83
06	CLR	NC			3.00		64	61	62	90	0	00	29.10	30.01	06	OVC	075			10.00	56	45	50	67	10	23	28.91	29.83	
09	CLR	NC			9.00		79	61	68	54	7	18	29.09	30.01	09	FEW	NC			10.00	62	47	54	58	10	24	28.92	29.83	
12	CLR	NC			10.00		87	60	70	40	9	17	29.07	29.98	12	BKN	060			10.00	70	45	56	41	13	24	28.89	29.80	
15	FEW	NC			10.00		89	56	68	33	9	16	29.04	29.95	15	BKN	070			10.00	70	45	56	41	12	27	28.88	29.79	
18	FEW	NC			10.00	77	65	69	66	3	18	29.02	29.93	18	BKN	070			10.00	65	48	56	54	5	32	28.92	29.83		
21	CLR	NC			10.00	68	62	64	81	0	00	29.03	29.94	21	BKN	065			10.00	61	51	56	70	3	24	28.96	29.87		
24	CLR	NC			7.00	65	63	64	93	0	00	29.03	29.94	24	CLR	NC			10.00	53	49	51	86	0	00	28.98	29.90		
Sunrise: 0526				SEP 05				Sunset: 1827				Sunrise: 0532				SEP 11				Sunset: 1817									
03	CLR	NC			6.00	BR	61	60	60	97	0	00	29.02	29.93	03	CLR	NC			9.00		47	46	46	97	0	00	29.01	29.94
06	CLR	NC			3.00		64	61	62	90	0	00	29.01	29.93	06	CLR	NC			6.00	BCFG BR	44	44	44	100	0	00	29.06	29.99
09	CLR	NC			7.00		76	64	68	67	7	17	29.00	29.91	09	CLR	NC			10.00	62	49	55	62	6	09	29.08	30.01	
12	CLR	NC			6.00		77	65	69	66	8	29	29.01	29.93	12	CLR	NC			10.00	71	50	59	47	9	19	29.06	29.99	
15	BKN	095			7.00		78	69	72	74	7	VR	28.99	29.91	15	CLR	NC			10.00	74	47	59	38	3	VR	29.03	29.95	
18	BKN	015			10.00	67	63	64	87	10	32	29.02	29.94	18	CLR	NC			10.00	64	54	58	70	0	00	29.02	29.95		
21	FEW	NC			10.00	63	58	60	84	5	VR	29.06	29.97	21	CLR	NC			10.00	55	50	52	83	0	00	29.01	29.94		
24	CLR	NC			10.00	55	54	54	96	3	32	29.07	29.99	24	CLR	NC			10.00	60	52	56	75	6	16	28.99	29.91		
Sunrise: 0527				SEP 06				Sunset: 1826				Sunrise: 0533				SEP 12				Sunset: 1815									
03	CLR	NC			10.00		54	52	53	93	0	00	29.08	30.00	03	CLR	NC			10.00		62	53	57	73	9	18	28.97	29.88
06	CLR	NC			10.00		54	51	52	90	6	32	29.10	30.03	06	BKN	085			10.00	62	55	58	78	7	17	28.97	29.88	
09	CLR	NC			10.00		63	51	56	65	8	35	29.12	30.05	09	SCT	NC			10.00	68	58	62	70	6	22	28.99	29.91	
12	CLR	NC			10.00		70	48	58	46	10	01	29.10	30.02	12	OVC	015			8.00	-RA	65	62	63	90	6	VR	28.99	29.91
15	CLR	NC			10.00		73	50	60	44	6	VR	29.05	29.97	15	OVC	014			10.00	63	58	60	84	6	28	28.98	29.90	
18	CLR	NC			10.00	65	53	58	66	5	32	29.04	29.96	18	SCT	NC			10.00	61	54	57	78	3	VR	29.01	29.93		
21	CLR	NC			10.00	54	52	53	93	0	00	29.06	29.99	21	CLR	NC			10.00	58	54	56	87	3	VR	29.03	29.95		
24	CLR	NC			10.00	51	50	51	96	0	00	29.05	29.98	24	CLR	NC			10.00	57	52	54	83	6	24	29.01	29.94		

OBSERVATIONS AT 3-HOURLY INTERVALS

MADISON, WI

SEPTEMBER 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 Okta		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL				OBSERVATION TIME (LST)	EFF CLD AMT Okta		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
			SUNRISE: 0534			SEP 13	SUNSET: 1813											SUNRISE: 0541			SEP 19	SUNSET: 1802							
03	CLR	NC			10.00		55	46	50	72	7	VR	29.01	29.94	03	CLR	NC			10.00		52	45	48	77	0	00	28.99	29.90
06	CLR	NC			10.00		52	46	49	80	7	23	29.03	29.96	06	CLR	NC			10.00		55	47	51	74	3	20	28.99	29.91
09	FEW	NC			10.00		57	48	52	72	12	28	29.04	29.97	09	SCT	NC			10.00		62	51	56	67	8	16	28.98	29.90
12	BKN	055			10.00		62	45	53	54	12	25	29.04	29.97	12	FEW	NC			10.00		77	59	66	54	10	21	28.93	29.84
15	BKN	075			10.00		65	45	54	49	9	23	29.03	29.96	15	BKN	060			10.00		75	60	66	60	9	25	28.89	29.80
18	BKN	055			10.00		58	49	53	72	7	27	29.07	30.01	18	OVC	041			10.00		58	52	55	81	7	35	29.00	29.93
21	CLR	NC			10.00		54	47	50	77	6	VR	29.10	30.03	21	OVC	090			10.00		54	51	52	90	0	00	29.06	29.99
24	OVC	085			10.00		53	47	50	80	5	VR	29.09	30.02	24	CLR	NC			10.00		48	48	48	100	0	00	29.07	29.99
			SUNRISE: 0535			SEP 14	SUNSET: 1811											SUNRISE: 0542			SEP 20	SUNSET: 1759							
03	CLR	NC			10.00		51	46	49	83	6	VR	29.08	30.01	03	CLR	NC			10.00		49	46	47	90	8	33	29.08	30.01
06	FEW	NC			10.00		50	44	47	80	6	VR	29.10	30.04	06	CLR	NC			10.00		45	43	44	93	3	31	29.13	30.07
09	OVC	080			10.00		54	43	48	67	10	26	29.13	30.06	09	SCT	NC			10.00		52	43	48	72	10	35	29.18	30.11
12	SCT	NC			10.00		63	42	52	47	10	24	29.10	30.03	12	OVC	012			10.00		49	44	47	83	10	31	29.21	30.15
15	SCT	NC			10.00		65	40	52	40	13	24	29.09	30.02	15	BKN	060			10.00		58	44	51	60	10	33	29.18	30.11
18	BKN	075			10.00		59	43	51	56	7	VR	29.13	30.07	18	BKN	075			10.00		51	42	47	71	6	34	29.21	30.15
21	SCT	NC			10.00		51	45	48	80	3	26	29.17	30.11	21	CLR	NC			10.00		45	42	44	90	5	32	29.26	30.20
24	CLR	NC			10.00		47	45	46	93	0	00	29.18	30.11	24	FEW	NC			10.00		43	40	42	89	6	35	29.28	30.23
			SUNRISE: 0536			SEP 15	SUNSET: 1810											SUNRISE: 0543			SEP 21	SUNSET: 1757							
03	SCT	NC			10.00		47	44	46	90	3	28	29.20	30.13	03	FEW	NC			10.00		38	37	38	97	5	36	29.30	30.24
06	FEW	NC			10.00		43	42	43	97	0	00	29.24	30.18	06	CLR	NC			10.00		36	35	36	97	7	33	29.33	30.28
09	CLR	NC			10.00		56	47	51	72	0	00	29.26	30.19	09	FEW	NC			10.00		48	39	44	71	8	02	29.34	30.29
12	BKN	049			10.00		61	43	52	52	6	VR	29.26	30.20	12	CLR	NC			10.00		53	34	44	49	5	VR	29.31	30.25
15	SCT	NC			10.00		63	42	52	47	5	VR	29.23	30.17	15	CLR	NC			10.00		58	33	46	39	5	VR	29.25	30.19
18	OVC	090			10.00		57	48	52	72	0	00	29.25	30.19	18	CLR	NC			10.00		48	42	45	80	0	00	29.23	30.18
21	CLR	NC			10.00		47	45	46	93	0	00	29.27	30.21	21	CLR	NC			10.00		41	38	40	89	0	00	29.22	30.16
24	CLR	NC			7.00		43	42	43	97	0	00	29.28	30.22	24	CLR	NC			10.00		39	38	39	96	0	00	29.18	30.12
			SUNRISE: 0538			SEP 16	SUNSET: 1808											SUNRISE: 0544			SEP 22	SUNSET: 1755							
03	CLR	NC			10.00	BCFG	39	39	39	100	0	00	29.29	30.23	03	CLR	NC			10.00		37	36	37	96	0	00	29.16	30.10
06	CLR	NC			10.00		38	37	38	97	0	00	29.33	30.27	06	CLR	NC			10.00		46	36	42	68	0	00	29.15	30.10
09	CLR	NC			10.00		59	46	52	62	7	02	29.36	30.30	09	CLR	NC			10.00		60	40	50	48	6	VR	29.13	30.07
12	FEW	NC			10.00		67	41	54	39	13	01	29.34	30.27	12	CLR	NC			10.00		72	43	56	35	6	33	29.09	30.02
15	FEW	NC			10.00		68	43	55	41	10	01	29.30	30.23	15	CLR	NC			10.00		74	44	58	34	7	VR	29.02	29.95
18	CLR	NC			10.00		56	48	52	75	3	31	29.29	30.24	18	CLR	NC			10.00		65	46	55	51	3	24	29.00	29.93
21	CLR	NC			10.00		47	45	46	93	0	00	29.30	30.24	21	CLR	NC			10.00		61	45	53	56	7	21	28.99	29.90
24	CLR	NC			10.00		43	42	43	97	0	00	29.31	30.25	24	CLR	NC			10.00		61	44	52	54	10	22	28.95	29.86
			SUNRISE: 0539			SEP 17	SUNSET: 1806											SUNRISE: 0545			SEP 23	SUNSET: 1753							
03	FEW	NC			3.00	BCFG BR	38	37	38	97	3	01	29.32	30.26	03	CLR	NC			10.00		58	45	51	62	8	21	28.90	29.82
06	CLR	NC			6.00	BCFG BR	39	38	39	96	0	00	29.35	30.29	06	CLR	NC			10.00		57	44	50	62	9	22	28.88	29.79
09	CLR	NC			10.00		61	46	53	58	0	00	29.38	30.31	09	CLR	NC			10.00		64	49	56	58	13	22	28.83	29.74
12	FEW	NC			10.00		67	43	54	42	3	VR	29.33	30.26	12	CLR	NC			10.00		74	53	62	48	9	22	28.79	29.70
15	FEW	NC			10.00		70	44	56	39	3	VR	29.26	30.20	15	CLR	NC			10.00		77	52	62	42	8	28	28.74	29.65
18	CLR	NC			10.00		59	49	54	69	0	00	29.23	30.17	18	SCT	NC			10.00		66	54	59	65	7	35	28.80	29.71
21	CLR	NC			10.00		50	48	49	93	0	00	29.23	30.16	21	CLR	NC			10.00		59	52	55	78	6	36	28.86	29.78
24	CLR	NC			10.00		48	46	47	93	0	00	29.22	30.15	24	BKN	034			10.00		51	47	49	86	5	03	28.90	29.81
			SUNRISE: 0540			SEP 18	SUNSET: 1804											SUNRISE: 0546			SEP 24	SUNSET: 1752							
03	CLR	NC			10.00		45	41	43	86	0	00	29.19	30.12	03	CLR	NC			10.00		47	45	46	93	0	00	28.94	29.85
06	FEW	NC			10.00		50	42	46	74	5	16	29.19	30.12	06	CLR	NC			10.00		41	40	41	96	0	00	28.99	29.91
09	CLR	NC			10.00		64	48	55	56	8	21	29.17	30.11	09	CLR	NC			10.00		54	42	48	64	9	05	29.01	29.94
12	FEW	NC			10.00		72	44	57	37	10	21	29.11	30.04	12	CLR	NC			10.00		61	40	50	46	5	VR	28.99	29.92
15	CLR	NC			10.00		74	45	58	36	9	20	29.03	29.96	15	CLR	NC			10.00		66	39	52	37	3	VR	28.97	29.

OBSERVATIONS AT 3-HOURLY INTERVALS

MADISON, WI

SEPTEMBER 1999

MSN

WBAN # 14837

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE ° F				WIND		PRESSURE (INCHES, HG)	
				OBSERVATION TIME (LST)	EFF CLD AMT Okta			DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
03	CLR	NC				9.00		40	40	40	100	0	00	29.00	29.93
06	CLR	NC				10.00		40	39	40	97	0	00	29.01	29.95
09	CLR	NC				10.00		61	49	54	65	16	14	29.00	29.93
12	CLR	NC				10.00		73	46	58	38	17	14	28.97	29.88
15	CLR	NC				10.00		78	49	61	36	14	16	28.90	29.82
18	CLR	NC				10.00		73	50	60	44	9	14	28.86	29.78
21	CLR	NC				10.00		67	53	59	61	9	16	28.88	29.79
24	CLR	NC				10.00		64	53	58	68	9	17	28.86	29.77
SUNRISE: 0547 SEP 25 SUNSET: 1750															
03	BKN	120				10.00		68	49	57	51	9	18	28.85	29.76
06	BKN	110				10.00		66	47	56	50	12	17	28.87	29.78
09	CLR	NC				10.00		72	51	60	48	14	21	28.88	29.78
12	CLR	NC				10.00		80	55	65	42	21	20	28.84	29.74
15	OVC	060				10.00		78	59	66	52	9	21	28.85	29.75
18	OVC	060				7.00	-RA	67	65	66	93	3	30	28.90	29.81
21	OVC	032				5.00	-RA BR	65	63	64	93	3	30	28.95	29.85
24	OVC	049				10.00		59	56	57	90	9	34	28.99	29.89
SUNRISE: 0549 SEP 26 SUNSET: 1748															
03	OVC	060				10.00		55	53	54	93	6	07	29.01	29.93
06	OVC	015				3.00	-RA BR	54	53	53	97	6	03	29.05	29.97
09	OVC	060				10.00		53	51	52	93	3	09	29.11	30.04
12	OVC	011				8.00		54	53	53	97	5	32	29.13	30.07
15	OVC	027				2.00	DZ BR	53	52	52	96	6	36	29.15	30.08
18	OVC	042				7.00	DZ	53	52	52	96	6	01	29.16	30.09
21	OVC	043				7.00	DZ	52	51	52	97	7	01	29.17	30.10
24	OVC	070				9.00	-RA	52	51	52	97	5	03	29.16	30.09
SUNRISE: 0550 SEP 27 SUNSET: 1746															
03	OVC	011				4.00	-RA BR	52	50	51	93	9	05	29.17	30.11
06	OVC	026				2.00	-RA BR	52	51	52	97	12	03	29.17	30.10
09	OVC	011				1.50	-RA BR	53	52	52	96	9	36	29.18	30.12
12	OVC	012				10.00		55	52	53	90	9	36	29.22	30.16
15	OVC	016				7.00		54	53	53	97	14	01	29.20	30.13
18	BKN	080				10.00		53	50	51	89	9	36	29.23	30.17
21	OVC	090				10.00		52	50	51	93	7	34	29.25	30.19
24	CLR	NC				10.00		48	46	47	93	6	34	29.24	30.18
SUNRISE: 0551 SEP 28 SUNSET: 1744															
03	CLR	NC				10.00		47	44	46	90	7	33	29.23	30.17
06	CLR	NC				10.00		43	40	42	89	6	32	29.26	30.20
09	CLR	NC				10.00		53	45	49	74	7	VR	29.25	30.19
12	FEW	NC				10.00		59	44	51	58	13	32	29.22	30.16
15	SCT	NC				10.00		60	36	48	41	10	33	29.17	30.10
18	FEW	NC				10.00		50	40	45	68	3	29	29.17	30.11
21	CLR	NC				10.00		47	37	42	69	6	VR	29.17	30.11
24	CLR	NC				10.00		48	38	43	68	0	00	29.15	30.08
SUNRISE: 0552 SEP 29 SUNSET: 1743															
03	CLR	NC				10.00		51	37	45	59	6	20	29.09	30.02
06	BKN	100				10.00		51	35	44	54	9	21	29.05	29.98
09	BKN	110				10.00		57	39	48	51	12	21	28.99	29.91
12	CLR	NC				10.00		63	43	53	48	13	23	28.94	29.86
15	SCT	NC				10.00		67	40	53	37	9	26	28.90	29.82
18	CLR	NC				10.00		60	28	46	30	12	29	28.94	29.86
21	CLR	NC				10.00		51	30	42	45	6	29	28.99	29.92
24	CLR	NC				10.00		46	32	40	58	6	29	29.01	29.95
SUNRISE: 0553 SEP 30 SUNSET: 1741															
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)	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			53	49	51	87	29.08	30.00	8.80	3	1	22			
02			53	48	50	87	29.07	30.00	8.72	3	1	24			
03			52	47	50	86	29.07	30.00	8.73	3	1	20			
04			52	47	50	87	29.08	30.00	8.88	4	1	22			
05			51	47	49	86	29.08	30.00	8.38	4	2	22			
06			51	47	49	85	29.09	30.01	8.15	4	2	23			
07			55	49	52	82	29.09	30.02	8.42	5	2	24			
08			59	50	54	74	29.09	30.02	8.75	7	2	22			
09			62	50	56	65	29.09	30.02	9.48	8	2	21			
10			65	50	57	59	29.09	30.01	9.35	8	2	23			
11			67	50	57	57	29.08	30.01	9.48	8	4	24			
12			69	50	58	53	29.07	30.00	9.73	9	4	23			
13			70	50	58	51	29.06	29.98	9.87	9	5	25			
14			70	49	59	49	29.05	29.97	9.55	9	4	26			
15			71	49	59	49	29.04	29.96	9.53	8	3	24			
16			69	49	58	51	29.04	29.96	9.60	8	4	27			
17			68	50	58	55	29.04	29.97	9.80	6	3	28			
18			63	51	56	67	29.05	29.98	9.67	5	1	30			
19			59	51	55	76	29.05	29.98	9.57	4	1	29			
20			58	51	54	78	29.06	29.99	9.73	3	0	0			
21			57	50	53	80	29.07	29.99	9.57	3	1	22			
22			56	50	53	81	29.07	30.00	9.60	3	1	23			
23			55	49	52	83	29.07	30.00	9.53	3	1	23			
24			54	49	51	84	29.07	29.99	9.47	3	1	22			

SUPPLEMENTARY HOURLY PRECIPITATION

UNIVERSAL RAIN GAUGE (WATER EQUIVALENT IN INCHES)

SEPTEMBER 1999
MADISON, WI

LATITUDE 43° 8'N
LONGITUDE 89° 20'

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													01												01	0.00		
02													02												02	0.00		
03													03												03	0.00		
04													04												04	0.00		
05													05												05	0.00		
06													06												06	0.00		
07													07												07	0.00		
08	0.02	0.05	0.01										08												08	0.08		
09													09												09	0.00		
10													10												10	0.00		
11													11												11	0.00		
12											0.01		12												12	0.01		
13													13												13	0.00		
14													14												14	0.00		
15													15												15	0.00		
16													16												16	0.00		
17													17												17	0.00		
18													18												18	0.00		
19													19												19	0.00		
20													20												20	0.00		
21													21												21	0.00		
22													22												22	0.00		
23													23												23	0.00		
24													24												24	0.00		
25													25												25	0.00		
26													26						T	0.02	0.25	0.05	0.02	T	26	0.34		
27	0.10			0.10	0.02	0.03				0.15	0.05	T	27			0.01	0.01		T	0.01	0.02	0.05			27	0.55		
28	0.03	0.01	0.02	0.01	T	T	0.07	0.10	0.20	0.05	T		28			0.05									28	0.54		
29													29												29	0.00		
30													30												30	0.00		
PUBLISHED BY: NCDC, ASHEVILLE, NC.													MONTHLY TOTAL													1.52		

SUPPLEMENTARY MAXIMUM SHORT DURATION PRECIPITATION (MSDP)

TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)					0.10	0.15	0.20	0.23	0.25	0.30	0.38	0.38
ENDED: DATE					28	28	28	28	28	28	28	28
ENDED: TIME					0900	0900	0900	0900	0900	0900	0915	0915

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.



**SEPTEMBER 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)
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