

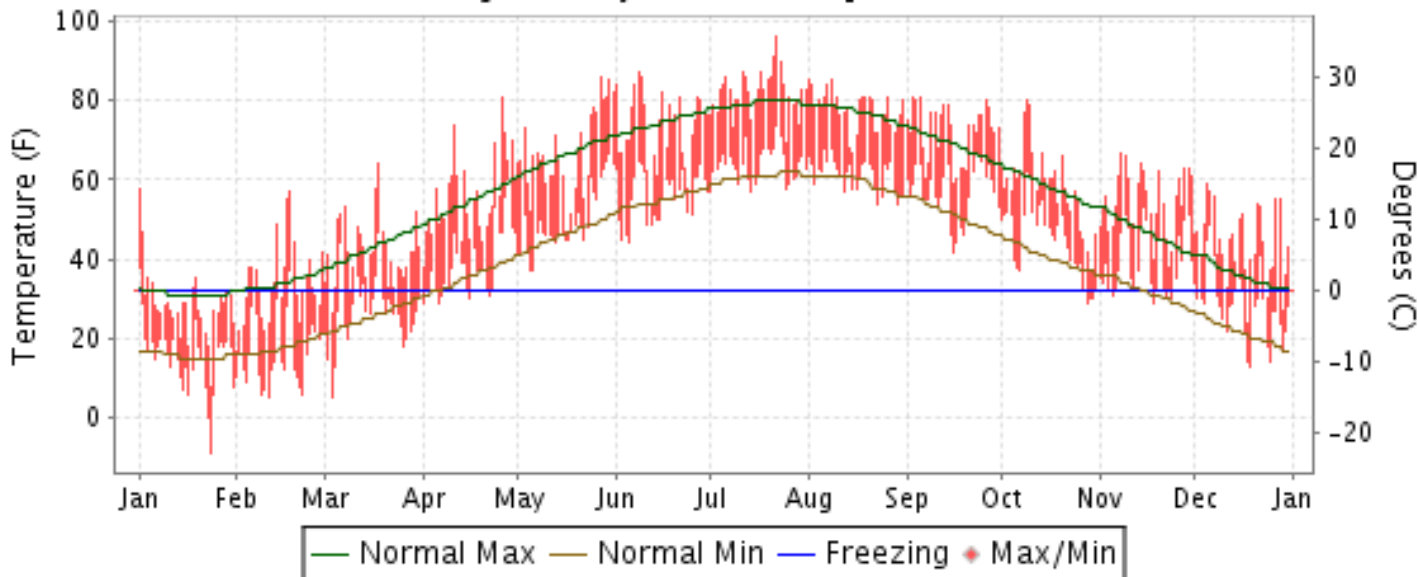


2011 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

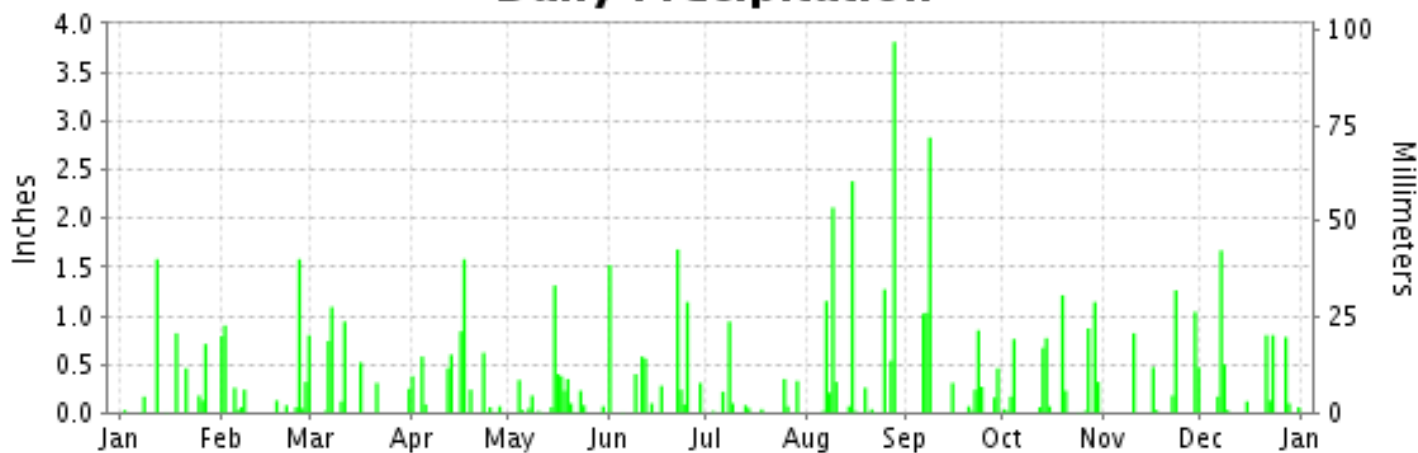
ISSN 0198-2451

WORCESTER, MASSACHUSETTS (KORH)

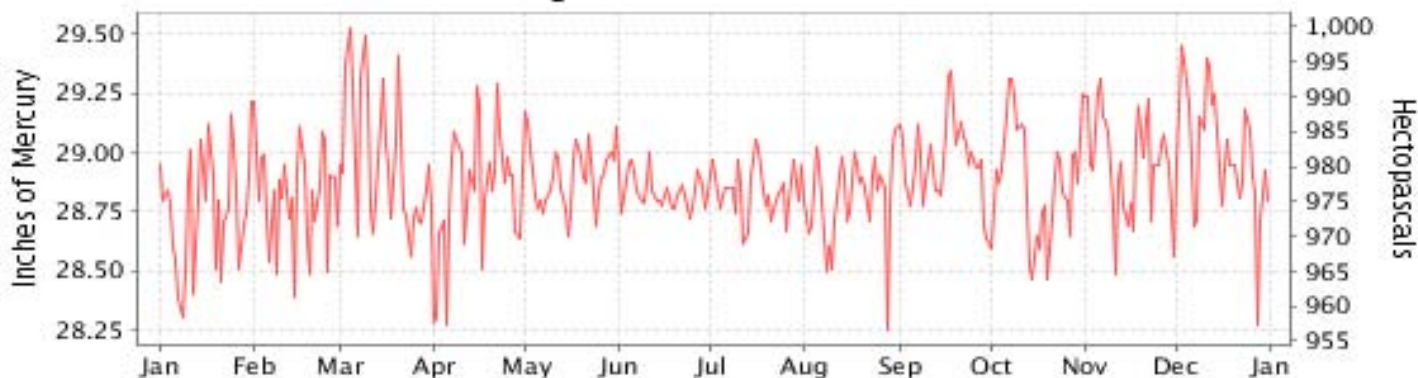
Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2011

WORCESTER (KORH)

LATITUDE: 42° 16'N LONGITUDE: -71° 52'W ELEVATION (FT): GRND: 1000 BARO: 966 TIME ZONE: EASTERN (UTC -5) WBAN: 94746

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	28.5	33.8	41.9	55.8	66.4	73.3	82.1	77.6	72.2		54.6	43.9		
	HIGHEST DAILY MAXIMUM	58	57	64	81	86	87	96	85	81	80	67	59	96	
	DATE OF OCCURRENCE	01	18	18	26	27	08	22	08+	05+	09	08	05	JUL 22	
	MEAN DAILY MINIMUM	15.2	16.2	26.5	39.0	49.7	55.9	64.0	61.4	56.9		39.0	28.3		
	LOWEST DAILY MINIMUM	-9	5	5	29	37	44	57	54	42	29	29	13	-9	
	DATE OF OCCURRENCE	24	11	03	06+	06+	05	14+	29+	16	28	18	19	JAN 24	
	AVERAGE DRY BULB	21.9	25.0	34.2	47.4	58.1	64.6	73.1	69.5	64.6		46.8	36.1		
	MEAN WET BULB	20.0	22.4	30.0	42.2	53.1	58.8	65.5	63.8	60.3	47.3	42.0	32.6	44.8	
	MEAN DEW POINT	14.3	13.9	21.6	35.2	49.1	54.7	61.0	60.5	57.5	42.4	36.2	26.0	39.4	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	0	0	0	3	0	0	0	0	0	3
	MAXIMUM <= 32°	25	14	2	0	0	0	0	0	0	0	0	3	44	
MINIMUM <= 32°	30	27	26	7	0	0	0	0	0	3	8	23	124		
MINIMUM <= 0°	2	0	0	0	0	0	0	0	0	0	0	0	2		
H/C	HEATING DEGREE DAYS	1330	1114	948	521	259	89	1	5	82		535	889		
	COOLING DEGREE DAYS	0	0	0	0	51	85	261	152	77		0	0		
RH	MEAN (PERCENT)	73	65	65	68	77	74	68	77	82	73	69	69	72	
	HOUR 01 LST	78	68	72	77	87	85	80	88	91	79	76	74	80	
	HOUR 07 LST	80	71	70	72	79	74	71	79	85	77	76	74	76	
	HOUR 13 LST	63	57	52	56	65	60	52	60	67	63	55	60	59	
	HOUR 19 LST	72	65	62	67	79	76	71	81	85	76	73	70	73	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	6	6	8	9	13	8	2	6	13	8	3	5	87	
	THUNDERSTORMS	0	0	0	0	0	2	4	4	1	0	0	1	12	
CLOUDINESS	SUNRISE-SUNSET: (OKTAS)														
	CEILOMETER (<= 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
	MIDNIGHT-MIDNIGHT: (OKTAS)														
	CEILOMETER (<= 12,000 FT.)														
SATELLITE (> 12,000 FT.)															
NUMBER OF DAYS WITH:															
CLEAR															
PARTLY CLOUDY															
CLOUDY															
PR	MEAN STATION PRESS. (IN.)	28.77	28.81	28.97	28.83	28.91	28.83	28.84	28.81	28.97	28.88	28.97	28.99	28.88	
	MEAN SEA-LEVEL PRESS. (IN.)	29.91	29.94	30.09	29.93	30.00	29.91	29.91	29.88	30.07	29.97	30.07	30.12	29.98	
WINDS	RESULTANT SPEED (MPH)	7.6	7.9	5.2	4.4	0.4	3.2	5.4	4.4	1.9	4.3	6.5	6.3	4.5	
	RES. DIR. (TENS OF DEGS.)	30	28	28	26	20	29	27	25	24	29	25	26	28	
	MEAN SPEED (MPH)	10.5	11.9	10.8	10.7	8.9	8.2	8.2	8.3	7.6	9.3	9.9	10.2	9.5	
	PREVAIL.DIR.(TENS OF DEGS.)	29	32	29	27	05	29	26	27	24	29	23	22	29	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	35	47	37	37	29	35	28	38	25	29	29	39	47	
	DIR. (TENS OF DEGS.)	30	28	30	30	30	33	31	14	31	25	28	30	28	
	DATE OF OCCURRENCE	12	19	07	21	05	09	08	28	15	16	11	08	FEB 19	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	47	74	49	52	36	44	36	52	33	41	39	54	74	
DIR. (TENS OF DEGS.)	29	28	28	28	28	34	30	14	33	25	30	17	28		
DATE OF OCCURRENCE	10	19	18	21	05	09	08	28	15	15	11	27	FEB 19		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	4.10	5.30	3.99	5.54	3.85	6.91	2.20	12.21	7.26	6.36	4.27	5.16	67.15	
	GREATEST 24-HOUR (IN.)	1.58	1.63	1.80	2.42	1.37	1.68	1.04	4.26	3.16	1.42	1.51	2.12	4.26	
	DATE OF OCCURRENCE	12	24-25	06-07	16-17	14-15	22	08-09	27-28	07-08	19-20	29-30	07-08	AUG 27-28	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	10	13	8	13	17	12	10	14	11	15	7	11	141	
PRECIPITATION 0.10	7	8	7	8	9	10	5	9	9	9	6	9	96		
PRECIPITATION 1.00	1	1	1	1	1	3	0	5	3	2	2	1	21		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	48.4	23.0	3.4	3.8	0.0	0.0	0.0	0.0	0.0	16.0	T	0.3	94.9	
	GREATEST 24-HOUR (IN.)	21.1	7.6	1.8	3.8	0.0	0.0	0.0	0.0	0.0	11.4	T	0.3	21.1	
	DATE OF OCCURRENCE	12	01	31	01						29	23+	08	JAN 12	
	MAXIMUM SNOW DEPTH (IN.)														
	DATE OF OCCURRENCE														
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	7	6	2	1	0	0	0	0	0	3	0	0	19		

NORMALS, MEANS, AND EXTREMES WORCESTER (KORH)

LATITUDE:
42° 16'N

LONGITUDE:
-71° 52'W

ELEVATION (FT):
GRND: 1000 BARO: 966

TIME ZONE:
EASTERN (UTC -5)

WBAN: 94746

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	31.4	34.1	43.0	54.4	66.3	74.4	79.3	77.1	69.0	58.4	47.1	36.2	55.9
	MEAN DAILY MAXIMUM	63	31.4	33.6	42.0	54.8	66.1	74.1	79.3	77.4	69.4	59.1	47.4	35.8	55.9
	HIGHEST DAILY MAXIMUM	55	66	67	84	91	94	95	96	96	91	85	78	72	96
	YEAR OF OCCURRENCE		2007	1985	1998	1976	2010	2004	2011	1975	2007	1963	1982	1998	JUL 2011
	MEAN OF EXTREME MAXS.	63	52.8	52.6	64.8	77.2	84.0	88.1	90.0	87.9	83.9	75.9	66.4	56.8	73.4
	NORMAL DAILY MINIMUM	30	15.8	17.8	25.6	35.5	46.2	55.0	60.8	59.5	51.3	40.7	32.0	21.6	38.5
	MEAN DAILY MINIMUM	63	16.4	17.8	25.7	36.0	46.1	55.1	61.1	59.7	51.9	41.6	32.5	21.5	38.8
	LOWEST DAILY MINIMUM	56	-19	-12	-4	11	28	36	43	38	30	20	6	-13	-19
	YEAR OF OCCURRENCE		1957	1967	1986	1982	1970	1986	1988	1965	1992	1969	1989	1962	JAN 1957
	MEAN OF EXTREME MINS.	63	-2.5	-0.4	7.9	23.1	34.7	43.4	51.8	48.9	38.4	27.7	17.6	3.3	24.5
	NORMAL DRY BULB	30	23.6	26.0	34.3	45.0	56.3	64.7	70.1	68.3	60.2	49.6	39.6	28.9	47.2
	MEAN DRY BULB	63	23.9	25.7	33.9	45.4	56.1	64.7	70.2	68.6	60.7	50.3	40.0	28.7	47.4
	MEAN WET BULB	28	20.8	22.0	28.4	37.9	47.9	57.5	63.0	62.0	55.5	44.5	35.4	25.5	41.7
	MEAN DEW POINT	28	17.0	17.0	24.0	33.1	43.8	54.4	60.6	59.8	53.1	40.8	31.7	21.6	38.1
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.1	0.1	0.6	1.6	0.7	*	0.0	0.0	0.0	3.1
	MAXIMUM <= 32	30	17.2	13.1	4.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.8	11.2	48.0
MINIMUM <= 32	30	29.1	25.9	24.2	9.9	0.4	0.0	0.0	0.0	0.1	4.5	16.8	27.3	138.2	
MINIMUM <= 0	30	2.9	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	5.0	
H/C	NORMAL HEATING DEG. DAYS	30	1284	1094	952	601	278	74	9	20	158	478	764	1119	6831
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	7	64	166	122	12	0	0	0	371
RH	NORMAL (PERCENT)	30	66	64	63	61	65	70	71	73	74	70	69	69	68
	hour 01 LST	30	68	67	68	69	75	80	81	83	84	78	75	72	75
	hour 07 LST	30	72	72	72	69	72	76	78	81	83	79	77	74	75
	hour 13 LST	30	60	57	55	51	54	58	59	61	62	57	60	61	58
	hour 19 LST	30	66	63	60	58	61	67	70	74	76	70	69	68	67
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	43	5.4	5.1	6.9	6.1	6.1	6.8	5.1	4.8	6.8	6.5	6.5	6.7	72.8
	THUNDERSTORMS	52	0.1	0.1	0.4	0.7	2.0	3.5	4.3	3.0	1.1	0.6	0.3	0.1	16.2
CLOUDINESS	MEAN: SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH: CLEAR														
	PARTLY CLOUDY	1	1.0		1.0		2.0		12.1						
	CLOUDY	1	1.0	1.0	1.0			13.0							
PR	MEAN STATION PRESSURE(IN)	28	28.87	28.87	28.88	28.86	28.89	28.87	28.90	28.95	28.98	28.96	28.94	28.90	28.91
	MEAN SEA-LEVEL PRES. (IN)	28	29.99	29.99	30.00	29.95	29.98	29.95	29.98	30.03	30.07	30.06	30.05	30.02	30.01
WINDS	MEAN SPEED (MPH)	28	11.3	11.7	11.3	10.7	10.0	9.3	8.8	8.3	8.9	10.1	10.6	11.4	10.2
	PREVAIL.DIR(TENS OF DEGS)	26	29	29	30	29	28	26	27	26	26	26	29	29	29
	MAXIMUM 2-MINUTE: SPEED (MPH)	15	43	49	52	43	51	41	40	43	41	39	43	45	52
	DIR. (TENS OF DEGS)		17	28	30	21	31	25	31	31	32	25	28	27	30
	YEAR OF OCCURRENCE		2006	1996	2005	2000	1998	2008	2008	2002	1999	2006	2003	2000	MAR 2005
	MAXIMUM 3-SECOND SPEED (MPH)	15	57	74	61	58	94	68	49	56	55	53	59	71	94
	DIR. (TENS OF DEGS)		30	28	29	19	26	22	30		31	28	27	07	26
	YEAR OF OCCURRENCE		2000	2011	2008	2000	1998	2008	2008	2006	2002	2003	2010	2008	MAY 1998
PRECIPITATION	NORMAL (IN)	30	4.07	3.10	4.23	3.92	4.35	4.02	4.19	4.09	4.27	4.67	4.34	3.80	49.05
	MAXIMUM MONTHLY (IN)	56	11.16	9.68	10.24	8.79	9.94	12.17	10.81	12.21	13.13	15.56	10.40	9.83	15.56
	YEAR OF OCCURRENCE		1979	2008	2010	1987	1984	1982	2009	2011	1974	2005	1972	1973	OCT 2005
	MINIMUM MONTHLY (IN)	56	0.89	0.25	0.50	0.75	0.86	0.32	0.74	1.01	0.69	0.70	0.67	0.74	0.25
	YEAR OF OCCURRENCE		1970	1987	2006	2001	1959	1999	1987	2007	1986	2001	1976	1989	FEB 1987
	MAXIMUM IN 24 HOURS (IN)	56	2.97	2.79	4.56	3.94	3.03	3.98	3.87	5.00	4.91	5.06	2.98	3.00	5.06
	YEAR OF OCCURRENCE		1978	2008	1987	2007	1967	1986	3087	1991	2008	2005	1972	1986	OCT 2005
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	11.9	10.6	11.9	11.9	12.3	11.3	9.7	9.1	9.5	8.9	10.8	12.2	130.1
	PRECIPITATION >= 1.00	30	0.9	0.9	1.0	0.9	1.1	0.9	1.2	1.2	1.1	1.5	1.2	1.0	12.9
	SNOWFALL	NORMAL (IN)	30	15.9	13.6	11.3	3.3	0.5	0.0	0.0	0.0	0.*	0.3	4.2	11.7
MAXIMUM MONTHLY (IN)		49	50.9	45.2	44.1	21.0	12.7	0.1	0.0	T	T	7.5	20.7	37.0	50.9
YEAR OF OCCURRENCE			1987	1962	1993	1987	1977	1992	1992	1994	2010	1979	1971	1992	JAN 1987
MAXIMUM IN 24 HOURS (IN)		49	21.1	24.0	19.7	17.0	12.7	0.1	0.0	T	T	7.5	14.8	28.1	28.1
YEAR OF OCCURRENCE'			2011	1962	1993	1987	1977	1992	1992	1994	2010	1979	1971	1992	DEC 1992
MAXIMUM SNOW DEPTH (IN)		42	35	42	33	17	10	0	0	0	0	8	15	29	42
YEAR OF OCCURRENCE			1966	1961	1969	1987	1977					1979	1971	1992	FEB 1961
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0		30	4.1	3.2	2.8	0.8	0.1	0.0	0.0	0.0	0.0	0.0	1.2	3.2	15.4

PRECIPITATION (inches) 2011 WORCESTER (KORH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1982	5.00	3.22	3.67	4.30	2.96	12.17	3.61	3.36	2.69	2.67	4.32	1.70	49.67
1983	4.85	4.67	7.84	8.59	5.97	2.56	1.32	6.26	1.38	5.77	8.75	6.37	64.33
1984	2.44	5.78	5.47	4.23	9.94	2.85	5.69	1.17	1.68	3.99	2.71	2.84	48.79
1985	1.16	2.72	2.89	1.26	5.46	5.24	6.35	3.74	3.77	3.12	6.41	1.93	44.05
1986	5.56	3.14	2.93	1.59	3.14	7.21	4.83	3.20	0.69	2.72	5.63	7.25	47.89
1987	5.52	0.25	6.57	8.79	1.55	4.55	0.74	4.61	6.37	4.18	2.77	1.85	47.75
1988	2.71	2.78	3.46	3.45	4.47	1.25	6.27	2.19	2.70	3.66	7.91	1.42	42.27
1989	1.18	2.47	2.66	4.25	6.17	5.27	5.67	5.65	4.71	8.21	4.00	0.74	50.98
1990	3.75	3.88	1.52	4.78	7.65	1.74	2.44	6.84	1.73	10.19	2.41	5.46	52.39
1991	2.98	2.08	4.92	5.04	4.16	3.06	2.78	8.01	6.40	3.44	5.47	2.89	51.23
1992	3.01	2.51	4.15	2.59	2.54	4.68	5.25	4.83	3.58	2.36	4.94	4.61	45.05
1993	2.56	2.38	5.46	4.00	1.79	2.36	3.34	1.90	8.85	3.88	4.85	5.11	46.48
1994	4.78	1.86	5.38	2.73	5.87	2.48	3.09	7.64	4.84	1.24	4.54	4.81	49.26
1995	3.71	2.86	1.85	2.19	2.39	1.51	4.33	2.02	3.15	8.65	4.61	1.04	38.31
1996	6.30	2.66	2.20	6.70	3.34	3.01	6.50	3.99	6.07	5.81	2.93	6.91	56.42
1997	3.25	1.71	4.66	3.22	2.72	1.60	2.97	4.34	1.44	2.11	5.50	2.32	35.84
1998	4.59	3.17	5.82	3.30	5.89	9.68	1.76	2.38	1.69	4.93	2.28	1.46	46.95
1999	6.01	3.38	4.09	0.92	2.77	0.32	4.14	1.87	8.81	3.57	3.38	2.55	41.81
2000	3.11	2.59	3.82	6.85	3.51	5.84	4.04	2.09	3.01	2.05	3.61	3.62	44.14
2001	1.64	2.40	6.53	0.75	2.26	6.27	1.91	2.31	3.42	0.70	1.36	2.77	32.32
2002	2.36	1.43	4.21	3.67	5.55	4.83	2.65	2.94	3.97	4.39	3.83	4.24	44.07
2003	2.36	4.43	4.06	3.43	4.12	6.16	3.06	5.34	4.25	5.41	2.19	5.71	50.52
2004	1.43	1.45	3.35	6.57	3.23	1.45	4.84	5.07	7.52	2.22	3.93	4.78	45.84
2005	5.84	3.03	4.18	6.49	3.71	1.77	5.02	2.64	2.83	15.56	4.77	3.74	59.58
2006	5.23	3.51	0.50	2.35	6.64	6.91	3.22	4.07	2.37	6.91	7.09	2.49	51.29
2007	3.11	1.73	4.70	8.30	5.12	2.16	4.30	1.01	1.98	3.12	3.24	4.57	43.34
2008	2.45	9.68	5.62	4.24	2.45	5.55	7.97	3.53	9.22	2.62	4.25	5.63	63.21
2009	3.49	1.91	2.81	3.80	2.96	6.51	10.81	2.81	1.87	5.02	3.41	4.68	50.08
2010	3.29	4.77	10.24	1.37	2.86	4.02	2.59	4.36	2.27	6.20	4.26	5.15	51.38
2011	4.10	5.30	3.99	5.54	3.85	6.91	2.20	12.21	7.26	6.36	4.27	5.16	67.15
POR= 63 YRS	3.68	3.28	4.14	4.03	4.00	3.84	3.90	4.16	4.04	4.35	4.37	3.99	47.78

WBAN : 94746

AVERAGE TEMPERATURE (°F) 2011 WORCESTER (KORH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1982	17.1	25.7	33.8	43.6	58.3	61.5	71.5	65.9	61.3	50.8	43.8	34.8	47.3
1983	26.1	29.1	36.6	46.6	54.7	67.9	72.3	70.2	64.9	50.3	42.0	27.3	49.0
1984	22.7	34.0	29.2	45.6	55.4	68.1	70.0	71.4	59.6	53.9	41.1	34.9	48.8
1985	20.1	28.6	37.2	47.4	57.8	61.4	70.4	67.9	62.0	51.7	40.9	25.3	47.6
1986	25.9	23.1	36.4	48.1	57.9	62.6	68.2	66.8	59.4	49.6	37.1	30.3	47.1
1987	24.0	24.5	36.8	45.7	57.6	65.8	70.7	66.6	60.6	48.8	39.4	30.8	47.6
1988	23.0	26.6	35.0	43.8	57.3	64.6	72.6	72.3	60.2	45.5	41.7	27.2	47.5
1989	28.5	24.4	33.0	42.4	57.0	64.0	68.7	67.3	60.6	50.7	36.5	15.1	45.7
1990	31.3	28.8	36.2	43.9	51.5	64.6	69.2	68.8	59.3	53.0	42.1	34.0	48.6
1991	23.8	30.3	36.5	48.2	61.2	64.7	70.0	69.1	58.7	51.9	40.2	29.7	48.7
1992	25.3	27.1	30.7	42.3	55.5	63.5	65.9	65.5	59.2	46.8	37.8	28.7	45.7
1993	26.0	19.6	31.3	45.7	57.8	64.5	70.4	70.0	59.5	47.2	39.7	28.9	46.7
1994	15.9	21.1	33.5	47.7	54.3	67.2	72.9	66.3	59.0	50.9	43.5	33.3	47.1
1995	29.8	23.0	36.1	42.6	54.4	65.5		59.4	53.5	35.5	24.1		
1996	23.4	24.9	31.6	45.3	54.9	65.9		68.9	61.1	49.7	35.9	33.2	
1997	23.6	0.0	31.9	43.5	52.2	65.8	69.1	67.6	60.3	48.8	36.2	30.0	44.1
1998		32.9	37.0	47.2	59.7	62.9	70.0	70.3	63.1	50.3	40.2	35.7	
1999	26.0	31.3	36.3	46.7	58.1	68.2	72.4	68.5	64.6	49.1	44.5	32.9	49.9
2000	23.0	30.0	40.4	44.7	56.2	64.6	66.5	66.9	59.5	50.1	39.2	23.7	47.1
2001	24.7	26.1	31.1	46.8	58.1	67.0	66.6	72.2	62.2	52.5	44.5	35.4	48.9
2002	31.8	32.1	36.0	47.7	54.2	63.4	70.8	71.1	64.7	47.7	37.6	28.1	48.8
2003	17.7	21.6	35.0	42.5	54.0	63.8	70.6	70.7	62.5	48.7	43.4	31.3	46.8
2004	15.1	27.4	35.9	47.3	58.4	64.1	69.0	68.9	62.7	49.9	40.6	29.4	47.4
2005	22.2	28.6	30.9	49.3	51.4	68.6	71.5	72.5	65.4	51.5	42.1	27.2	48.4
2006	32.4	26.6	35.7	49.3	55.6	66.1	73.4	68.7	60.8	50.0	45.9	36.4	50.1
2007	28.4	20.7	33.5	43.4	59.4	65.4	71.0	70.1	64.4	56.5	38.2	27.5	48.2
2008	27.9	26.9	34.3	49.4	55.0	67.8	72.6	68.1	63.4	49.8	38.5	29.2	48.6
2009	18.9	28.2	35.3	48.4	57.1	61.9	66.8	70.4	60.0	47.9	44.6	27.9	47.3
2010	24.5	27.7	41.1	51.2	60.6	67.5	74.1	70.1	63.8	50.2	40.3	26.8	49.8
2011	21.9	25.0	34.2	47.4	58.1	64.6	73.1	69.5	64.6		46.8	36.1	
POR= 63 YRS	23.9	25.7	33.9	45.4	56.1	64.7	70.2	68.6	60.7	50.3	40.0	28.7	47.3

HEATING DEGREE DAYS (base 65°F) 2011 WORCESTER (KORH)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1982-83	7	55	140	436	632	929	1199	996	871	548	318	44	6175
1983-84	5	20	115	459	682	1163	1303	892	1099	577	300	54	6669
1984-85	9	1	184	338	713	928	1382	1011	855	518	230	121	6290
1985-86	2	25	128	406	713	1223	1206	1166	879	501	262	119	6630
1986-87	48	49	182	471	830	1069	1266	1130	867	571	273	58	6814
1987-88	9	56	152	495	761	1052	1298	1107	922	629	253	115	6849
1988-89	19	32	155	597	693	1166	1123	1129	984	674	257	90	6919
1989-90	7	38	172	436	846	1540	1035	1006	884	632	413	58	7067
1990-91	22	30	192	379	683	957	1270	965	877	501	167	80	6123
1991-92	13	16	222	402	739	1090	1222	1092	1056	676	321	82	6931
1992-93	40	55	203	558	810	1117	1204	1259	1039	574	229	74	7162
1993-94	10	5	201	545	754	1115	1515	1226	968	515	337	49	7240
1994-95	5	48	182	431	636	975	1086	1170	887	667	329	58	6474
1995-96			191	352	877	1260	1279	1158	1031	587	331	36	
1996-97		14	159	467	863	980	1277		1020	638	394	93	
1997-98	15	18	158	498	858	1079		891	872	527	180	111	
1998-99	3	8	98	450	736	902	1201	938	882	540	226	39	6023
1999-00	7	27	91	486	609	989	1295	1008	758	602	289	100	6261
2000-01	26	38	190	455	769	1273	1243	1081	1045	544	258	44	6966
2001-02	38	1	117	391	608	910	1022	913	892	527	337	125	5881
2002-03	13	28	73	537	816	1137	1456	1209	925	667	337	104	7302
2003-04	4	16	91	497	641	1040	1540	1083	897	526	220	88	6643
2004-05	11	22	94	459	728	1095	1320	1014	1047	466	411	61	6728
2005-06	14	0	59	420	682	1163	1005	1069	900	465	313	76	6166
2006-07	0	33	144	458	568	883	1129	1233	969	643	212	82	6354
2007-08	14	29	81	282	796	1155	1141	1098	948	464	303	39	6350
2008-09	1	10	101	468	790	1104	1421	1024	913	510	252	111	6705
2009-10	31	29	165	520	610	1148	1248	1039	731	408	184	48	6161
2010-11	6	16	103	455	731	1181	1330	1114	948	521	259	89	6753
2011-	1	5	82		535	889							

WBAN : 94746

COOLING DEGREE DAYS (base 65°F) 2011 WORCESTER (KORH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1982	0	0	0	0	8	29	216	92	34	0	0	0	379
1983	0	0	0	4	4	138	238	188	118	11	0	0	701
1984	0	0	0	2	10	156	171	209	30	0	0	0	578
1985	0	0	0	0	15	22	177	120	47	0	0	0	381
1986	0	0	0	0	50	54	151	111	21	2	0	0	389
1987	0	0	0	0	49	90	193	110	25	0	0	0	467
1988	0	0	0	0	24	112	260	266	17	1	0	0	680
1989	0	0	0	0	16	70	131	116	47	0	0	0	380
1990	0	0	0	6	0	52	159	153	25	10	0	0	405
1991	0	0	0	4	57	79	173	149	40	2	0	0	504
1992	0	0	0	0	30	44	75	78	37	0	0	0	264
1993	0	0	0	0	12	67	181	163	44	0	0	0	467
1994	0	0	0	0	12	122	260	97	9	0	0	0	500
1995	0	0	0	0	6	77			29	3	0	0	
1996	0	0	0	2	23	70		143	47	0	0	0	
1997	0		0	0	0	123	148	106	25	2	0	0	
1998		0	10	0	21	58	165	181	47	0	0	0	
1999	0	0	0	0	19	142	245	140	86	0	0	0	632
2000	0	0	0	0	22	95	82	104	31	1	0	0	335
2001	0	0	0	4	51	109	95	232	41	7	0	0	539
2002	0	0	0	16	10	82	199	226	70	6	0	0	609
2003	0	0	0	0	4	76	185	200	23	0	0	0	488
2004	0	0	0	1	23	66	143	149	33	0	0	0	415
2005	0	0	0	2	0	177	219	242	80	8	0	0	728
2006	0	0	0	0	29	113	271	155	24	1	0	0	593
2007	0	0	0	4	45	103	206	195	70	27	0	0	650
2008	0	0	0	2	2	128	245	112	60	0	0	0	549
2009	0	0	0	18	15	25	94	202	20	0	0	0	374
2010	0	0	0	1	53	126	294	178	76	2	0	0	730
2011	0	0	0	0	51	85	261	152	77		0	0	

SNOWFALL (inches) 2011 WORCESTER (KORH)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1982-83	0.0	0.0	0.0	0.0	0.5	6.4	18.6	32.1	3.5	2.3	T	0.0	63.4
1983-84	0.0	0.0	0.0	T	1.1	17.2	24.1	3.3	30.9	T	T	0.0	76.6
1984-85	0.0	0.0	0.0	0.0	T	7.0	9.7	11.0	7.2	4.9	0.0	0.0	39.8
1985-86	0.0	0.0	0.0	0.0	6.9	9.1	5.8	14.5	2.3	0.1	0.3	0.0	39.0
1986-87	0.0	0.0	0.0	0.0	11.5	4.9	46.8	3.0	6.4	21.0	0.0	0.0	93.6
1987-88	0.0	0.0	0.0	0.0	10.2	12.9	25.2	15.8	6.4	0.6	0.0	0.0	71.1
1988-89	0.0	0.0	0.0	0.4	T	5.0	2.8	7.7	8.5	3.7	0.0	0.0	28.1
1989-90	0.0	0.0	0.0	0.0	7.9	10.2	11.3	15.2	6.4	2.1	0.0	T	53.1
1990-91	0.0	0.0	0.0	0.0	0.7	5.0	11.3	9.1	9.3	0.2	0.0	0.0	35.6
1991-92	0.0	0.0	0.0	0.0	5.8	14.5	2.7	8.4	11.8	2.7	0.0	0.1	46.0
1992-93	0.0	0.0	T	0.0	1.9	37.0	14.6	19.7	44.1	2.8	0.0	T	120.1
1993-94	0.0	0.0	0.0	T	0.2	12.9	34.1	25.9	27.1	0.0	T	0.0	100.2
1994-95	0.0	T	T	0.0	2.9	3.2	4.5	14.3	T	T	0.0	0.0	24.9
1995-96	0.0	0.0	0.0	0.0									
1996-97													
1997-98													
1998-99													
1999-00													
2000-01													
2001-02													
2002-03							22.0	38.9	8.3	5.1	0.0	0.0	
2003-04	0.0	0.0	0.0	1.5	T	21.5	13.0	5.9	7.6	T	0.0	0.0	49.5
2004-05	0.0	0.0	0.0	0.0	3.0	11.9	50.9	23.9	24.6	0.0	0.0	T	114.3
2005-06	0.0	0.0	0.0	T	3.2	18.0	24.1	18.9	T	1.5	0.0	0.0	65.7
2006-07	0.0	0.0	0.0	0.0	0.0	1.1	3.9	20.8	20.8	2.5	0.0	0.0	49.1
2007-08	0.0	0.0	0.0	0.0	0.7	27.1	12.3	22.6	7.4	0.0	0.0	0.0	70.1
2008-09	0.0	0.0	0.0	T	T	31.4	24.7	7.7	13.1	T	0.0	0.0	76.9
2009-10	0.0	0.0	0.0	2.4	T	20.7	18.8	20.9	1.8	0.0	0.0	0.0	64.6
2010-11	0.0	0.0	T	T	T	14.0	48.4	23.0	3.4	3.8	0.0	0.0	92.6
2011-	0.0	0.0	0.0	16.0	T	0.3							
POR= 63 YRS	0.0	T	T	0.4	2.6	11.5	15.8	15.1	11.5	2.7	0.2	T	59.8

WBAN : 94746

REFERENCE NOTES :

<p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. NORMALS ARE 30-YEAR AVERAGES (1971 - 2000). ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD. CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED.</p>	<p>GENERAL CONTINUED: WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65 F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY. ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED HISTORY GO TO "MULTI-NETWORK MEDADATA SYSTEM", URL IS: https://mi3.ncdc.noaa.gov/mi3qry/login.cfm SNOWFALL STOPPED MONTH & YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p>NOTE: The "Period of Record:(POR) for all "averages" is based on the "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2011 WORCESTER MASSACHUSETTS (KORH)

Worcester Municipal Airport is located on the crest of a hill, 1,000 feet above sea level. It is about 500 feet above and 3 1/2 miles northwest of the city proper. The airport is surrounded by ridges and valleys with many of the valleys containing reservoirs. Only two of the ridges extend above the airport elevation. One is 400 feet higher and 2 1/2 miles to the northwest, and the other is 1,000 feet higher and 15 miles to the north.

The proximity to the Atlantic Ocean, Long Island Sound, and the Berkshire Hills plays an important part in determining the weather and, hence, the climate of Worcester. Rapid weather changes occur when storms move up the east coast after developing off the Carolina Coast. In the majority of these cases, they pass to the south and east, resulting in northeast and easterly winds with rain or snow and fog. Storms developing in the Texas-Oklahoma area normally travel up the St. Lawrence River Valley and, depending on the movement and intensity, usually deposit little precipitation over the area. However, they do bring an influx of warm air into the region. Wintertime cold snaps are quite frequent, but temperatures are usually modified by the passage of the air over land and mountains before reaching the county. Summertime thunderstorms develop over the hills to the west, with a majority moving toward the northeast. From the use of radar, we find many break up just before reaching Worcester, or pass either north or south of the city proper.

Airport site temperatures are moderate. The normal mean for the warmest month, July, is around 70 degrees. Though winters are reasonably cold, prolonged periods of severe cold weather are extremely rare. The three coldest months, December through February, have an average temperature of over 25 degrees. A review of Worcester Cooperative records since 1901 shows maximum temperatures above 100 degrees and minimum temperatures below -24 degrees.

Precipitation is usually plentiful and well distributed throughout the year. The annual snowfall for all Worcester sites since 1901, averages slightly less than 60 inches. The airport location averages slightly higher.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is October 17 and the average last occurrence in the spring is April 27.

Station History

WORCESTER, MA

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
WORCESTER REGIONAL AP	1946-05-01	1947-01-01	42° 16'	-71° 52'			AIRWAYS
WORCESTER MUNICIPAL AP	1977-01-01	1981-12-31	42° 16'	-71° 52'	986		AIRWAYS, COOP, WXSVC
WORCESTER REGIONAL AP	1947-01-01	1947-11-29	42° 16'	-71° 52'	986		AIRWAYS
WORCESTER AP	1947-11-29	1948-06-01	42° 16'	-71° 52'	986		AIRWAYS
WORCESTER REGIONAL AP	2009-10-09	Present	42° 16'	-71° 52'	1000		ASOS, COOP
WORCESTER AP	1948-06-01	1954-04-27	42° 16'	-71° 52'	986		AIRWAYS, COOP
WORCESTER MUNICIPAL AP	1954-04-27	1973-01-01	42° 16'	-71° 52'	986		AIRWAYS, COOP
WORCESTER MUNICIPAL AP	1973-01-01	1977-01-01	42° 16'	-71° 52'	986		COOP, WXSVC
WORCESTER MUNICIPAL AP	1981-12-31	1995-07-01	42° 16'	-71° 52'	986		COOP
WORCESTER REGIONAL AP	1995-07-01	2009-10-09	42° 16'	-71° 52'	986		ASOS, COOP

Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
TEMP	2009-10-09	Present	DAILY	2400	HYGR		
TEMP	1989-06-01	1995-07-01	DAILY	2400	HYGR		
PRECIP	2009-10-09	Present	DAILY	2400	PCPNX		
TEMP	1956-05-01	1989-06-01	DAILY	2400			
PRECIP	1989-06-01	1995-07-01	HOURLY	2400			
PRECIP	1995-07-01	2009-10-09	HOURLY	2400	TB	RCRD	
TEMP	1946-05-01	1956-05-01	DAILY	2400			
PRECIP	1989-06-01	1995-07-01	DAILY	2400	TB	RCRD	
PRECIP	2009-10-09	Present	HOURLY	2400	AWPAG	RCRD;HTD	
PRECIP	1946-05-01	1956-05-01	DAILY	2400	TB	RCRD	
PRECIP	1956-05-01	1989-06-01	HOURLY	2400			
PRECIP	1956-05-01	1989-06-01	DAILY	2400	TB	RCRD	
TEMP	1995-07-01	2009-10-09	DAILY	2400	HYGR		
PRECIP	1995-07-01	2009-10-09	DAILY	2400	TB	RCRD	

* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asosimplementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

INQUIRES/COMMENTS CALL: (828) 271-4800, option 2

Fax Number : (828) 271-4876

TDD : (828) 271-4010

Email : ncdc.info@noaa.gov

NOAA/National Climatic Data Center

Attn: User Engagement & Services Branch

151 Patton Avenue

Asheville, NC 28801-5001

Visit our Web Site for other weather data: www.ncdc.noaa.gov