

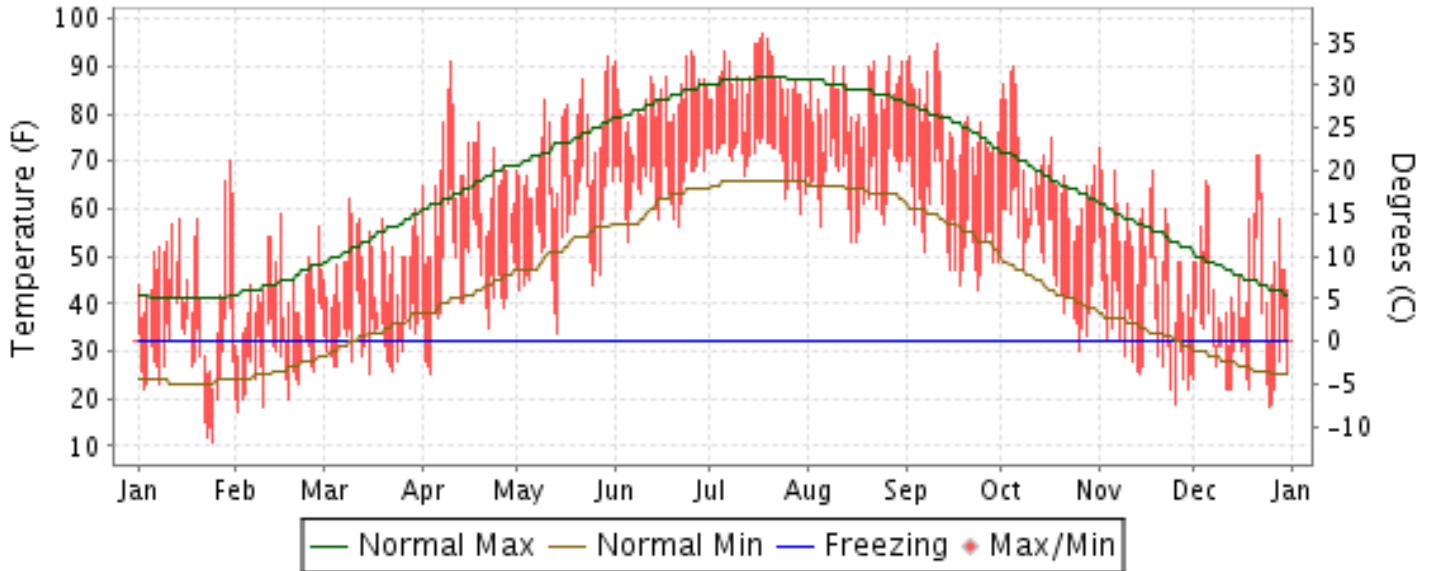


# 2013 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

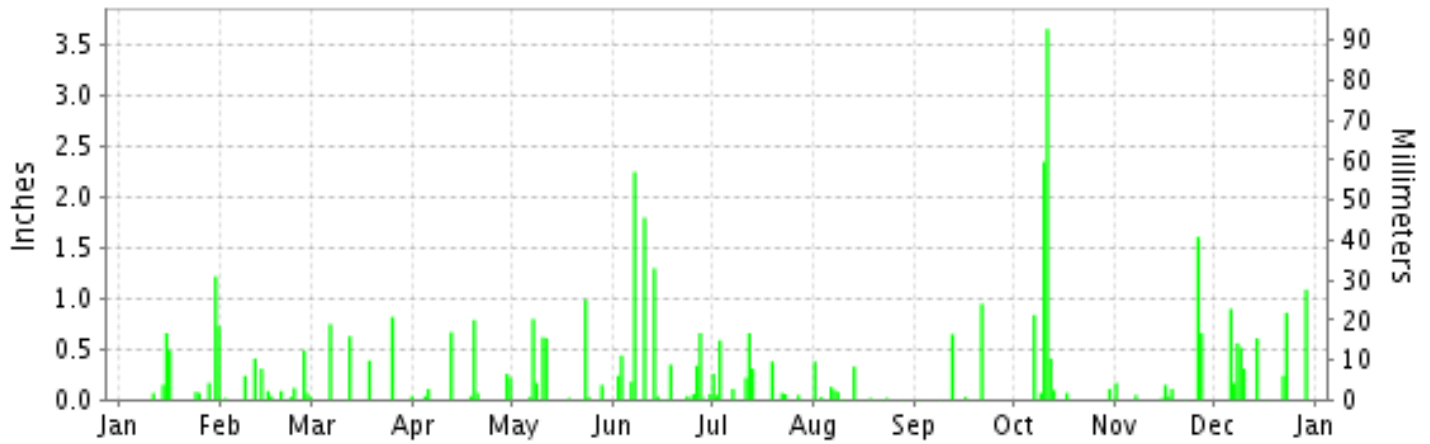
ISSN 0198-2397

## BALTIMORE, MARYLAND (KBWI)

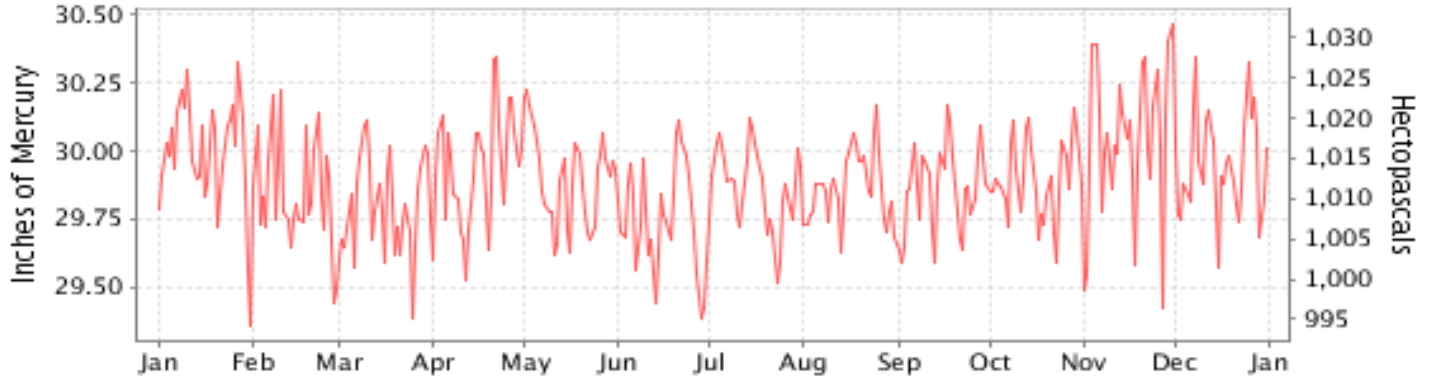
### Daily Max/Min Temperature



### Daily Precipitation



### Daily Station Pressure



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CLIMATIC DATA CENTER  
ASHEVILLE, NORTH CAROLINA

*Thomas R. Karl*  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

# METEOROLOGICAL DATA FOR 2013

## BALTIMORE (KBWI)

LATITUDE: 39° 9'N      LONGITUDE: 76° 40'W      ELEVATION (FT): GRND: 156 BARO: 196      TIME ZONE: EASTERN (UTC -5)      WBAN: 93721

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	45.2	42.4	48.9	66.2	73.6	83.2	87.6	83.6	79.2	68.6	53.1	47.5	64.9	
	HIGHEST DAILY MAXIMUM	70	59	62	91	92	93	97	92	95	90	73	71	97	
	DATE OF OCCURRENCE	30	15	09	10	30	25	18	27	11	05	01	22+	JUL 18	
	MEAN DAILY MINIMUM	28.6	27.6	32.4	44.5	53.8	64.7	70.5	64.9	56.2	48.9	34.1	31.6	46.5	
	LOWEST DAILY MINIMUM	11	17	25	25	34	53	59	53	43	30	19	18	11	
	DATE OF OCCURRENCE	25	02	15	04	14	05	30	16+	24	26	25	25	JAN 25	
	AVERAGE DRY BULB	36.9	35.0	40.6	55.3	63.7	73.9	79.0	74.2	67.7	58.8	43.6	39.6	55.7	
	MEAN WET BULB	33.1	31.4	35.0	48.0	57.1	67.0	71.4	66.9	59.5	53.5	38.0	35.5	49.7	
	MEAN DEW POINT	25.5	23.9	25.4	39.2	51.3	62.8	67.8	62.4	53.7	48.3	28.8	28.9	43.2	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	1	2	4	9	6	4	1	0	0	27	
	MAXIMUM <= 32°	4	3	0	0	0	0	0	0	0	0	1	3	11	
	MINIMUM <= 32°	20	23	15	3	0	0	0	0	0	1	17	21	100	
MINIMUM <= 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	862	833	749	309	136	0	0	0	52	237	636	783	4597	
	COOLING DEGREE DAYS	0	0	0	26	105	277	445	292	143	51	0	2	1341	
RH	MEAN (PERCENT)	66	66	58	59	67	71	72	70	65	72	59	68	66	
	HOUR 01 LST	74	72	67	73	81	85	86	84	82	82	68	74	77	
	HOUR 07 LST	73	73	64	64	69	74	76	74	71	78	68	75	72	
	HOUR 13 LST	52	55	46	42	51	54	55	50	42	52	45	58	50	
	HOUR 19 LST	65	67	54	55	66	71	72	70	68	76	59	66	66	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	2	0	1	0	1	1	0	0	0	2	1	3	11	
	THUNDERSTORMS	0	0	0	2	4	6	3	3	1	1	0	0	20	
PR	MEAN STATION PRESS. (IN.)	29.99	29.85	29.79	29.94	29.90	29.76	29.87	29.86	29.86	29.90	30.03	29.96	29.89	
	MEAN SEA-LEVEL PRESS. (IN.)	30.16	30.02	29.96	30.11	30.07	29.92	30.03	30.03	30.03	30.06	30.21	30.13	30.06	
WINDS	RESULTANT SPEED (MPH)	3.3	4.2	5.1	0.5	0.0	1.8	2.1	0.9	0.8	1.1	3.5	2.6	1.9	
	RES. DIR. (TENS OF DEGS.)	28	30	30	07	19	23	24	25	31	33	29	28	29	
	MEAN SPEED (MPH)	5.8	7.7	9.0	7.2	6.8	5.3	4.8	4.6	4.5	5.3	6.5	5.5	6.1	
	PREVAIL.DIR.(TENS OF DEGS.)	29	29	29	07	09	22	21	22	30	26	30	22	29	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	36	35	28	28	25	30	28	21	30	32	36	30	36	
	DIR. (TENS OF DEGS.)	28	31	28	28	30	25	28	21	32	26	29	28	29	
	DATE OF OCCURRENCE	31	09	27	01	10	13	07	08	12	07	18	31	NOV 18	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	48	46	38	40	33	43	35	29	39	46	53	41	53	
DIR. (TENS OF DEGS.)	28	32	28	31	28	34	29	31	31	25	28	27	28		
DATE OF OCCURRENCE	31	09	27	24	25	25	07	14	12	07	18	31	NOV 18		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	3.64	1.95	2.64	2.20	3.43	7.81	2.77	1.13	1.65	7.62	2.82	5.27	42.93	
	GREATEST 24-HOUR (IN.)	1.95	0.56	0.82	0.86	1.20	2.35	0.67	0.38	0.95	4.10	2.19	1.09	4.10	
	DATE OF OCCURRENCE	30-31	26-27	25	19-20	10-11	06-07	11-12	01	21	10-11	26-27	29	OCT 10-11	
	NUMBER OF DAYS WITH:														
PRECIPITATION 0.01	9	13	6	8	10	16	12	12	5	9	9	10	119		
PRECIPITATION 0.10	6	5	4	5	6	9	7	4	2	6	5	9	68		
PRECIPITATION 1.00	1	0	0	0	0	3	0	0	0	2	1	1	8		
SNOWFALL	SNOW,ICE PELLETS,HAIL	2.9	0.5	3.2	T	0.0	0.0	0.0	0.0	0.0	0.0	T	2.9	9.5	
	TOTAL (IN.)	2.0	0.3	3.2	T	0.0	0.0	0.0	0.0	0.0	0.0	T	1.6	3.2	
	GREATEST 24-HOUR (IN.)	24	02	25	04							27+	08	MAR 25	
	DATE OF OCCURRENCE	2	T	2	0	0	0	0	0	0	0	0	1	2	
	MAXIMUM SNOW DEPTH (IN.)	25+	03+	25									13+	MAR 25	
	DATE OF OCCURRENCE														
	NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	1	0	1	0	0	0	0	0	0	0	0	2	4		

# NORMALS, MEANS, AND EXTREMES BALTIMORE (KBWI)

**LATITUDE:** 39° 9'N      **LONGITUDE:** 76° 40'W      **ELEVATION (FT):** GRND: 156 BARO: 196      **TIME ZONE:** EASTERN (UTC -5)      **WBAN: 93721**

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
<b>TEMPERATURE °F</b>	NORMAL DAILY MAXIMUM	30	41.4	44.9	53.6	64.6	73.9	83.0	87.2	85.1	77.9	66.8	56.4	45.3	65.0
	MEAN DAILY MAXIMUM	63	41.6	44.7	53.7	65.2	74.5	83.2	87.6	85.5	78.7	67.5	56.4	45.5	65.3
	HIGHEST DAILY MAXIMUM	63	75	79	89	94	98	103	106	105	100	94	83	77	106
	YEAR OF OCCURRENCE		1975	2000	1998	1960	2011	2012	2011	1983	1983	2007	1974	1998	JUL 2011
	MEAN OF EXTREME MAXS.	63	62.9	65.6	76.1	85.5	90.1	95.1	97.3	95.6	91.7	83.3	74.5	65.5	81.9
	NORMAL DAILY MINIMUM	30	24.4	26.6	33.5	42.7	52.0	61.9	66.8	65.2	57.6	45.4	36.5	28.1	45.1
	MEAN DAILY MINIMUM	63	24.8	26.6	33.9	43.2	52.8	61.9	67.2	65.7	58.4	46.2	36.7	28.5	45.5
	LOWEST DAILY MINIMUM	63	-7	-3	6	20	32	40	50	45	35	25	13	0	-7
	YEAR OF OCCURRENCE		1984	1979	1960	1965	1966	1972	2001	1986	1963	1969	1955	1983	JAN 1984
	MEAN OF EXTREME MINS.	63	7.5	11.1	19.2	29.0	38.3	49.2	56.3	54.1	43.3	31.8	22.0	13.2	31.3
	NORMAL DRY BULB	30	32.9	35.8	43.6	53.7	62.9	72.4	77.0	75.1	67.8	56.1	46.5	36.7	55.0
	MEAN DRY BULB	63	33.2	35.7	43.8	54.2	63.6	72.7	77.4	75.6	68.6	56.9	46.5	37.0	55.4
	MEAN WET BULB	30	28.3	29.9	36.4	45.7	55.9	64.5	68.6	67.5	61.3	50.6	40.6	32.2	48.5
	MEAN DEW POINT	30	25.2	26.4	32.9	42.4	53.3	62.6	67.0	66.0	59.5	48.5	37.9	29.0	45.9
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.2	1.2	5.2	9.7	6.5	1.7	0.1	0.0	0.0	24.6
	MAXIMUM <= 32	30	6.0	2.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.9	12.4
MINIMUM <= 32	30	24.5	21.1	14.2	2.8	0.0	0.0	0.0	0.0	0.0	1.3	10.3	22.0	96.2	
MINIMUM <= 0	30	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
<b>H/C</b>	NORMAL HEATING DEG. DAYS	30	995	819	666	354	134	15	0	1	52	294	557	877	4764
	NORMAL COOLING DEG. DAYS	30	0	0	1	13	70	238	372	316	135	18	1	0	1164
<b>RH</b>	NORMAL (PERCENT)	30	66	63	61	61	67	69	70	72	73	72	68	67	67
	HOURLY 01 LST	30	70	68	67	69	78	82	82	85	84	82	75	72	76
	HOURLY 07 LST	30	73	72	72	72	77	79	80	84	86	85	79	75	78
	HOURLY 13 LST	30	57	53	50	49	53	54	54	56	56	55	55	57	54
	HOURLY 19 LST	30	64	59	55	54	61	63	64	68	70	71	66	65	63
<b>S</b>	PERCENT POSSIBLE SUNSHINE	40	51	55	56	56	56	62	64	62	60	58	51	49	57
<b>W/O</b>	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	50	2.5	2.5	2.1	1.3	1.2	0.8	0.4	0.8	0.9	2.2	2.2	2.8	19.7
	THUNDERSTORMS	63	0.3	0.3	1.0	2.4	4.0	5.6	6.1	4.9	2.0	0.8	0.5	0.1	28.0
<b>CLOUDINESS</b>	MEAN: SUNRISE-SUNSET (OKTAS)	46	5.1	5.0	5.0	5.0	5.0	4.6	4.4	4.4	4.2	4.1	4.8	5.0	4.7
	MIDNIGHT-MIDNIGHT (OKTAS)	32	4.9	4.7	4.8	4.6	4.7	4.4	4.3	4.2	4.2	3.9	4.5	4.8	4.5
	MEAN NO. DAYS WITH: CLEAR	46	8.0	7.7	7.9	7.7	7.7	8.4	8.9	9.2	10.3	11.6	8.1	8.1	103.6
	PARTLY CLOUDY	46	7.5	6.8	8.7	9.0	10.3	11.4	11.5	10.5	8.3	7.9	8.0	6.9	106.8
	CLOUDY	46	15.5	13.8	14.4	13.4	13.0	10.2	9.9	10.6	10.7	10.9	13.2	15.3	150.9
<b>PR</b>	MEAN STATION PRESSURE(IN)	30	29.92	29.90	29.87	29.81	29.82	29.80	29.82	29.82	29.90	29.91	29.94	29.90	29.87
	MEAN SEA-LEVEL PRES. (IN)	30	30.09	30.07	30.05	29.98	29.99	29.96	29.98	30.01	30.06	30.08	30.11	30.11	30.04
<b>WINDS</b>	MEAN SPEED (MPH)	30	8.0	8.5	8.9	8.6	7.4	6.8	6.4	6.0	6.4	6.6	7.2	7.6	7.4
	PREVAIL.DIR.(TENS OF DEGS)	17	30	30	30	29	29	27	26	28	28	28	29	29	30
	MAXIMUM 2-MINUTE: SPEED (MPH)	17	40	45	41	43	39	47	52	39	44	40	45	45	52
	DIR. (TENS OF DEGS)		30	28	28	28	29	28	20	32	09	29	28	27	20
	YEAR OF OCCURRENCE		2000	2011	1997	2009	1997	2012	2010	2003	2003	2012	2003	2004	JUL 2010
	MAXIMUM 3-SECOND SPEED (MPH)	17	53	60	53	58	52	66	72	53	55	60	59	61	72
	DIR. (TENS OF DEGS)		28	27	28	28	28	29	20	27	05	29	27	29	20
	YEAR OF OCCURRENCE		1999	2011	1997	2009	2010	2012	2010	1997	2003	2012	2003	2007	JUL 2010
<b>PRECIPITATION</b>	NORMAL (IN)	30	3.05	2.90	3.90	3.19	3.99	3.46	4.07	3.29	4.03	3.33	3.30	3.37	41.88
	MAXIMUM MONTHLY (IN)	63	7.84	7.16	8.64	8.15	8.71	9.95	8.77	18.35	13.32	9.23	7.68	8.06	18.35
	YEAR OF OCCURRENCE		1979	1979	1994	1952	1989	1972	2005	1955	2011	2005	1952	2009	AUG 1955
	MINIMUM MONTHLY (IN)	63	0.29	0.26	0.18	0.39	0.37	0.15	0.30	0.77	0.21	T	0.31	0.20	0.15
	YEAR OF OCCURRENCE		1955	2009	2006	1985	1986	1954	1955	1951	1967	1963	1981	1955	JUN 1954
	MAXIMUM IN 24 HOURS (IN)	63	3.11	3.26	3.18	2.80	3.65	5.23	5.86	8.35	6.04	5.98	3.43	3.39	8.35
	YEAR OF OCCURRENCE		1976	1983	1958	1952	2008	1972	1952	1955	1985	2005	1952	1977	AUG 1955
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	10.2	8.9	10.4	10.8	11.4	10.6	10.0	8.6	8.5	8.2	8.7	9.9	116.2
	PRECIPITATION >= 1.00	30	0.7	0.6	1.0	0.6	1.0	1.0	1.0	0.7	1.0	0.9	0.8	0.9	10.3
	<b>SNOWFALL</b>	NORMAL (IN)	30	6.8	8.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.0
MAXIMUM MONTHLY (IN)		63	32.6	50.0	21.6	0.7	T	T	T	T	T	0.3	8.4	20.4	50.0
YEAR OF OCCURRENCE			1996	2010	1960	1985	1963	2002	1992	2011	2011	1979	1967	1966	FEB 2010
MAXIMUM IN 24 HOURS (IN)		63	16.8	22.8	13.0	0.7	T	T	T	T	T	0.3	8.4	17.0	22.8
YEAR OF OCCURRENCE			1996	1983	1962	1985	1963	2002	1992	2011	2011	1979	1967	2009	FEB 1983
MAXIMUM SNOW DEPTH (IN)		62	30	34	9	0	0	0	0	0	0	0	6	18	34
YEAR OF OCCURRENCE			1957	2010	1942								1987	2009	FEB 2010
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0		30	1.7	1.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	4.7

**PRECIPITATION (inches) 2013 BALTIMORE (KBWI)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	1.96	3.90	5.79	2.95	4.29	1.65	3.27	4.11	2.38	1.94	3.01	1.71	36.96
1985	2.03	3.03	2.37	0.39	6.01	2.44	2.53	3.72	6.22	2.48	4.71	0.84	36.77
1986	2.16	3.78	0.96	2.64	0.37	1.46	4.12	4.26	0.58	1.86	5.96	5.52	33.67
1987	5.85	2.22	0.99	1.86	4.16	2.63	5.05	1.61	7.34	2.25	5.05	2.07	41.08
1988	3.24	3.25	2.35	2.44	4.37	0.84	3.78	2.64	2.05	1.59	4.78	0.97	32.30
1989	3.07	3.36	4.24	3.16	8.71	5.98	7.35	3.38	3.64	4.90	1.97	2.12	51.88
1990	3.71	1.48	2.54	4.23	4.92	2.55	5.68	6.17	1.07	2.57	2.10	4.86	41.88
1991	3.54	0.73	5.65	1.68	1.16	1.08	1.76	2.54	3.05	3.20	1.69	4.08	30.16
1992	1.27	2.49	4.58	1.76	2.92	1.89	5.07	2.19	5.96	2.73	3.44	4.63	38.93
1993	2.73	2.84	8.12	3.68	3.66	2.56	1.71	2.55	4.09	3.02	3.09	4.45	42.50
1994	4.59	4.07	8.64	2.53	3.02	2.84	4.54	3.44	3.93	1.82	1.95	1.95	43.32
1995	2.87	1.88	2.12	1.92	3.40	1.80	3.65	2.98	3.29	6.24	4.12	2.66	36.93
1996	6.80	2.36	3.57	3.76	5.68	4.08	7.38	4.17	5.65	4.32	3.77	6.77	58.31
1997	2.83	2.23	5.67	2.40	3.03	3.74	1.49	4.21	1.47	3.43	5.79	2.05	38.34
1998	5.65	6.40	5.56	3.02	3.46	3.22	1.42	0.91	1.27	1.06	1.13	1.27	34.37
1999	4.70	2.65	3.46	2.27	1.73	2.04	2.06	6.14	11.50	2.48	1.95	2.96	43.94
2000	3.64	2.01	4.35	5.06	2.82	5.54	5.64	3.18	5.55	0.08	1.73	2.31	41.91
2001	2.68	2.35	4.76	1.32	5.34	3.58	3.85	5.74	1.43	0.78	1.01	1.73	34.57
2002	2.19	0.36	3.75	4.08	2.99	2.39	2.26	3.66	3.17	6.01	3.78	4.96	39.60
2003	2.59	6.70	4.17	2.40	6.81	6.96	5.56	4.61	7.47	5.82	4.86	4.71	62.66
2004	1.26	2.40	2.73	5.33	5.05	4.17	8.69	2.71	3.94	1.44	5.02	2.93	45.67
2005	3.75	1.66	5.13	3.81	2.64	3.74	8.77	3.71	0.67	9.23	2.12	3.90	49.13
2006	3.48	2.64	0.18	3.27	1.60	7.32	1.86	1.45	7.56	5.75	6.25	1.88	43.24
2007	2.48	2.04	4.17	5.00	0.94	2.20	3.31	3.08	0.35	5.85	1.52	4.03	34.97
2008	1.47	3.80	2.37	4.62	7.77	3.70	5.47	1.48	7.22	1.27	2.61	3.19	44.97
2009	2.73	0.26	2.07	5.80	8.42	5.52	3.29	4.76	3.48	6.24	4.94	8.06	55.57
2010	2.24	4.15	5.53	2.20	3.49	1.55	4.36	4.74	8.26	2.95	2.04	1.96	43.47
2011	2.66	2.69	4.99	3.52	2.42	3.51	2.77	10.38	13.32	3.31	2.45	4.50	56.52
2012	2.54	2.42	1.76	1.99	1.99	2.68	3.27	5.82	2.21	8.92	0.71	3.11	37.42
2013	3.64	1.95	2.64	2.20	3.43	7.81	2.77	1.13	1.65	7.62	2.82	5.27	42.93
POR= 63 YRS	3.02	2.91	3.78	3.24	3.66	3.66	3.91	4.02	3.87	3.37	3.13	3.43	42.00

WBAN : 93721

**AVERAGE TEMPERATURE (°F) 2013 BALTIMORE (KBWI)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	28.5	41.7	38.2	51.5	61.3	73.4	73.9	75.0	64.8	62.2	43.9	44.1	54.9
1985	29.3	38.7	46.0	57.9	65.1	70.4	76.4	74.5	69.4	58.8	52.4	33.8	56.1
1986	33.2	32.9	45.0	53.5	66.7	74.4	79.4	73.1	68.9	58.9	44.8	38.2	55.8
1987	32.5	34.3	46.2	53.1	65.0	74.5	80.0	76.1	69.3	51.5	47.8	39.8	55.8
1988	28.7	35.9	45.1	52.0	64.0	73.0	80.3	78.5	66.8	51.3	48.1	36.3	55.0
1989	37.9	36.5	43.8	52.5	62.0	73.9	76.0	74.4	69.0	58.3	44.8	25.4	54.5
1990	42.0	42.3	47.6	54.8	62.3	73.3	78.4	74.6	67.3	60.7	49.6	42.2	57.9
1991	35.5	40.7	46.7	55.9	70.6	74.6	79.5	77.8	69.0	57.8	45.8	38.7	57.7
1992	34.6	37.1	41.3	52.0	60.8	70.1	77.4	72.3	67.7	54.3	47.2	38.9	54.5
1993	37.9	31.4	39.4	52.5	65.0	72.2	80.2	76.7	68.8	55.5	46.5	36.2	55.2
1994	27.1	34.0	43.0	59.6	60.6	77.2	80.1	74.1	68.1	56.8	51.9	42.6	56.3
1995	39.0	33.2	47.8	55.2	64.5	74.5	81.5	80.1	70.4	61.1	42.6	33.9	57.0
1996	31.7	35.7	39.9	54.0	60.6	73.3	74.3	73.2	67.8	55.6	40.2	39.6	53.8
1997	32.8	41.0	45.5	51.6	59.5	70.1	77.3	74.0	67.3	56.5	43.7	38.4	54.8
1998	40.9	41.7	45.9	55.2	66.5	71.7	76.6	75.7	71.8	56.3	46.1	41.1	57.5
1999	35.1	37.6	41.8	53.2	64.2	71.5	80.0	75.7	68.2	53.9	49.9	39.1	55.9
2000	32.5	38.1	48.5	52.9	64.7	72.8	72.7	73.4	65.3	57.1	44.2	30.0	54.4
2001	33.1	38.5	41.8	55.4	63.4	74.1	72.8	77.0	65.2	56.0	50.7	42.1	55.8
2002	39.1	39.3	45.0	56.7	62.2	73.8	78.6	78.4	69.5	56.0	44.4	34.3	56.4
2003	28.3	30.2	43.9	52.7	59.3	69.8	75.6	76.3	68.0	55.1	50.6	36.4	53.9
2004	27.8	34.8	45.6	54.7	69.8	70.9	76.2	74.2	69.4	55.4	48.5	37.5	55.4
2005	34.1	36.7	40.6	55.2	59.2	73.6	78.0	77.6	72.0	57.8	48.1	34.0	55.6
2006	41.6	36.1	45.6	57.5	63.4	73.1	79.9	78.4	65.5	55.2	49.6	42.4	57.4
2007	38.7	29.1	45.2	51.5	65.5	73.8	76.9	77.5	70.6	63.4	46.2	37.8	56.4
2008	35.4	37.1	45.0	55.8	60.5	75.3	77.5	73.6	69.4	55.6	45.4	38.5	55.8
2009	29.3	37.5	43.1	54.9	63.7	71.4	74.7	76.6	66.7	55.3	49.7	34.8	54.8
2010	32.7	30.9	48.5	57.2	67.4	78.9	81.5	77.4	71.0	57.7	47.2	32.4	56.9
2011	30.3	38.5	44.4	57.7	67.2	75.7	81.7	75.9	69.3	56.7	50.6	42.3	57.5
2012	38.3	41.6	53.7	55.3	69.0	73.6	81.5	77.3	69.5	58.3	42.9	42.7	58.6
2013	36.9	35.0	40.6	55.3	63.7	73.9	79.0	74.2	67.7	58.8	43.6	39.6	55.7
POR= 63 YRS	33.2	35.7	43.8	54.2	63.6	72.7	77.4	75.6	68.6	56.9	46.5	37.0	55.4

**HEATING DEGREE DAYS (base 65°F) 2013 BALTIMORE (KBWD)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	0	1	96	123	625	643	1101	731	589	252	79	10	4250
1985-86	0	0	41	201	378	962	980	892	613	342	86	6	4501
1986-87	0	23	34	236	598	822	1002	853	576	357	106	1	4608
1987-88	0	1	15	412	511	774	1120	838	613	389	96	27	4796
1988-89	2	0	39	424	504	882	834	792	663	374	145	0	4659
1989-90	0	0	51	229	600	1221	707	631	552	341	102	5	4439
1990-91	1	0	63	195	454	701	907	674	562	289	55	4	3905
1991-92	0	0	49	246	570	809	936	802	730	387	161	8	4698
1992-93	0	1	51	328	529	801	834	934	787	369	61	11	4706
1993-94	0	0	52	292	553	886	1169	861	677	190	180	1	4861
1994-95	0	0	13	256	391	684	798	885	525	307	77	0	3936
1995-96	0	0	30	176	669	958	1024	840	772	345	199	12	5025
1996-97	0	0	42	283	736	778	994	667	597	394	182	53	4726
1997-98	0	0	49	307	633	815	737	647	625	295	59	22	4189
1998-99	0	1	25	263	560	734	919	762	714	349	71	9	4407
1999-00	0	0	37	336	445	794	999	774	508	362	102	8	4365
2000-01	0	1	97	254	616	1079	984	736	715	309	99	12	4902
2001-02	2	0	76	289	424	706	795	715	612	302	154	3	4078
2002-03	0	1	10	316	611	945	1131	967	649	370	191	31	5222
2003-04	0	0	24	303	434	881	1148	866	593	323	49	13	4634
2004-05	0	2	14	291	487	845	952	786	750	298	183	9	4617
2005-06	0	0	12	239	502	955	720	802	598	228	117	4	4177
2006-07	0	0	53	314	456	693	805	1000	608	406	92	1	4428
2007-08	0	0	26	143	559	835	909	799	614	274	165	0	4324
2008-09	0	0	18	304	584	814	1103	768	673	339	106	13	4722
2009-10	0	0	38	299	451	929	993	947	505	262	79	0	4503
2010-11	0	0	10	243	526	1003	1069	735	636	255	64	0	4541
2011-12	0	0	27	261	426	698	822	670	350	305	27	6	3592
2012-13	0	0	28	228	657	684	862	833	749	309	136	0	4486
2013-	0	0	52	237	636	783							

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**COOLING DEGREE DAYS (base 65°F) 2013 BALTIMORE (KBWD)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1984	0	0	0	0	59	268	281	316	98	41	0	2	1065
1985	0	2	7	43	89	179	363	298	178	17	5	0	1181
1986	0	0	0	1	143	295	452	281	158	54	0	0	1384
1987	0	0	0	7	115	292	473	352	152	0	0	0	1391
1988	0	0	2	4	71	274	485	427	100	8	0	0	1371
1989	0	0	14	5	58	276	351	298	178	25	1	0	1206
1990	0	0	19	38	26	261	422	303	137	68	0	0	1274
1991	0	0	2	24	233	303	462	402	177	29	2	0	1634
1992	0	0	0	6	39	168	392	232	139	4	0	0	980
1993	0	0	0	0	70	235	476	371	175	3	5	0	1335
1994	0	0	0	38	49	374	476	292	112	6	3	0	1350
1995	0	0	0	20	72	289	520	475	199	60	3	0	1638
1996	0	0	0	19	70	265	295	259	135	1	0	0	1044
1997	0	0	0	0	20	211	385	287	124	51	0	0	1078
1998	0	0	39	9	115	228	367	341	235	0	0	0	1334
1999	0	0	0	0	54	210	471	340	138	0	0	0	1213
2000	0	0	3	6	102	248	245	269	115	17	0	0	1005
2001	0	0	0	27	54	290	249	381	90	12	2	0	1105
2002	0	0	0	59	75	275	430	425	154	43	0	0	1461
2003	0	0	0	6	21	181	336	358	120	2	8	0	1032
2004	0	0	0	23	203	197	355	295	152	2	0	0	1227
2005	0	0	0	13	10	273	408	399	227	20	0	0	1350
2006	0	0	3	9	74	252	468	422	72	15	0	0	1315
2007	0	0	2	9	114	268	376	394	203	99	0	0	1465
2008	0	0	0	6	33	317	395	274	158	19	0	0	1202
2009	0	0	0	39	72	213	306	368	95	7	0	0	1100
2010	0	0	0	33	160	421	520	393	196	19	0	0	1742
2011	0	0	0	44	141	328	526	346	164	9	0	0	1558
2012	0	0	10	22	160	271	517	391	170	28	0	0	1569
2013	0	0	0	26	105	277	445	292	143	51	0	2	1341

**SNOWFALL (inches) 2013 BALTIMORE (KBWI)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	0.0	0.0	0.0	0.0	T	0.1	9.1	0.4	T	0.7	0.0	0.0	10.3
1985-86	0.0	0.0	0.0	0.0	0.0	0.7	1.9	13.0	T	T	0.0	0.0	15.6
1986-87	0.0	0.0	0.0	0.0	0.0	T	25.1	10.1	T	T	0.0	0.0	35.2
1987-88	0.0	0.0	0.0	0.0	6.0	0.5	13.7	0.2	T	T	0.0	0.0	20.4
1988-89	0.0	0.0	0.0	0.0	0.0	0.9	6.0	1.1	0.3	0.0	0.0	0.0	8.3
1989-90	0.0	0.0	0.0	0.0	3.8	10.2	0.5	T	2.7	0.1	0.0	0.0	17.3
1990-91	0.0	0.0	0.0	0.0	0.0	4.8	4.2	0.1	0.3	0.0	0.0	0.0	9.4
1991-92	T	0.0	0.0	0.0	T	T	2.2	1.9	T	T	0.0	0.0	4.1
1992-93	T	0.0	0.0	0.0	T	1.5	1.4	8.8	12.7	T	0.0	0.0	24.4
1993-94	0.0	0.0	0.0	0.0	T	2.9	4.9	5.3	4.2	T	0.0	0.0	17.3
1994-95	0.0	0.0	0.0	0.0	0.2	0.0	0.3	7.5	0.2	0.0	0.0	0.0	8.2
1995-96	0.0	0.0	0.0	0.0	1.0	2.3	32.6	19.0	7.6				
1996-97			0.0		.3	0.2	5.0	7.1	2.7	T	T	0.0	
1997-98	0.0	0.0	0.0	0.0	0.0	0.4	0.7	T	2.1	0.0	T	0.0	3.2
1998-99	0.0	0.0	0.0	0.0	0.0	3.0	4.0	0.6	7.6	0.0	0.0	0.0	15.2
1999-00	0.0	0.0	0.0	0.0	0.0	0.2	23.1	2.6	0.0	0.2	0.0	0.0	26.1
2000-01	0.0	0.0	0.0	0.0	T	1.3	3.7	3.7	T	T	0.0	0.0	8.7
2001-02	0.0	0.0	0.0	0.0	0.0	0.0	2.3	T	T	T	0.0	T	2.3
2002-03	0.0	0.0	0.0	0.0	0.0	9.7	5.3	40.5	2.6	T	0.0	0.0	58.1
2003-04	0.0	0.0	0.0	T	0.0	9.6	8.4	0.1	0.2	0.0	0.0	0.0	18.3
2004-05	0.0	0.0	0.0	0.0	0.0	T	7.6	10.0	0.4	0.0	0.0	0.0	18.0
2005-06	0.0	0.0	0.0	0.0	0.5	6.0	T	13.1	T	T	0.0	0.0	19.6
2006-07	0.0	0.0	0.0	0.0	0.0	T	0.9	8.5	1.4	0.2	0.0	0.0	11.0
2007-08	0.0	0.0	0.0	0.0	T	4.8	2.4	1.3	0.0	0.0	0.0	0.0	8.5
2008-09	0.0	0.0	0.0	0.0	T	0.6	2.1	0.6	5.8	T	0.0	0.0	9.1
2009-10	0.0	0.0	0.0	0.0	0.0	20.1	6.9	50.0	T	0.0	0.0	0.0	77.0
2010-11	0.0	0.0	0.0	0.0	0.0	1.2	10.7	2.5	T	0.0	0.0	0.0	14.4
2011-12	0.0	T	T	T	0.0	T	1.3	0.5	T	0.0	0.0	0.0	1.8
2012-13	0.0	0.0	0.0	0.0	T	1.4	2.9	0.5	3.2	T	0.0	0.0	8.0
2013-	0.0	0.0	0.0	0.0	T	2.9							
POR= 63 YRS	T	T	T	T	0.7	3.4	6.0	7.2	3.2	T	T	T	20.5

WBAN : 93721

**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. 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 CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS.</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</p>	<p>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 EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED STATION HISTORY INFORMATION GO TO "Historical Observing Metadata Repository", URL IS: <a href="http://www.ncdc.noaa.gov/homr/">http://www.ncdc.noaa.gov/homr/</a> SNOWFALL STOPPED MONTH &amp; YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p><b>NOTE:</b> The "Period of Record:(POR)" for all "averages" is based on "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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# 2013 BALTIMORE MARYLAND (KBWI)

Baltimore-Washington International Airport lies in a region about midway between the rigorous climates of the North and the mild climates of the South, and adjacent to the modifying influences of the Chesapeake Bay and Atlantic Ocean to the east and the Appalachian Mountains to the west. Since this region is near the average path of the low pressure systems which move across the country, changes in wind direction are frequent and contribute to the changeable character of the weather. The net effect of the mountains to the west and the bay and ocean to the east is to produce a more equable climate compared with other continental locations farther inland at the same latitude.

Rainfall distribution throughout the year is rather uniform, however, the greatest intensities are confined to the summer and early fall months, the season for hurricanes and severe thunderstorms. Moisture deficiencies for crops occur occasionally during the growing season, but severe droughts are rare. Rainfall during the growing season occurs principally in the form of thunderstorms, and rainfall totals during these months vary appreciably.

The average date for the last occurrence in spring of temperatures as low as 32 degrees is mid-April. The average date for the first occurrence in fall of temperatures as low as 32 degrees is late October. The freeze-free period is approximately 194 days.

In summer, the area is under the influence of the large semi-permanent high pressure system commonly known as the Bermuda High and centered over the Atlantic Ocean near 30 degrees N Latitude. This pressure system brings warm humid air to the area. The proximity of large water areas and the inflow of southerly winds contribute to high relative humidities during much of the year.

January is the coldest month, and July, the warmest. Snowfall occurs on about eleven days per year on the average, however, an average of only about six days annually produces snowfalls of 1 inch or greater. Snow is frequently mixed with rain and sleet, and snow seldom remains on the ground more than a few days.

Glaze or freezing rain which is hazardous to highway traffic occurs on an average of two to three times per year, generally in January or February. Some years pass without the occurrence of freezing rain, while in others it occurs on as many as eight to ten days. Sleet is observed on about five days annually with the greatest frequency of occurrence in January.

The annual prevailing wind direction is from the west. Winter and spring months have the highest average wind speed. Destructive velocities are rare and occur mostly during summer thunderstorms. Only rarely have hurricanes in the vicinity caused widespread damage, then primarily through flooding.

# Station History

BALTIMORE, MD

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
BALTIMORE WASHINGTON INTL AP	1996-04-01	2008-02-21	39° 10'	-76° 40'	156	.9 MI SW	ASOS, COOP
BALTIMORE WASHINGTON INTL AP	1973-12-01	1981-12-31	39° 10'	-76° 40'	148		COOP, WXSVC
BALTIMORE FRIENDSHIP INTL AP	1969-01-01	1973-12-01	39° 10'	-76° 40'	148		COOP, WXSVC
BALTIMORE WASHINGTON INTL AP	2008-02-21	Present	39° 9'	-76° 40'	156		ASOS, COOP
BALTIMORE FRIENDSHIP INTL AP	1950-07-23	1969-01-01	39° 10'	-76° 40'	148		AIRWAYS, COOP
BALTIMORE WSO AP	1950-06-01	1950-07-23	39° 10'	-76° 40'	148		AIRWAYS, COOP
BALTIMORE WASHINGTON INTL AP	1981-12-31	1996-04-01	39° 10'	-76° 40'	148		COOP

# Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
PRECIP	1950-06-01	1957-01-01	DAILY		UNIV		ROOF
TEMP	1996-04-01	2008-02-21	DAILY	2400	ATEMP		
PRECIP	1996-04-01	2008-02-21	HOURLY	2400	AHTB	RCRD;HTD	
TEMP	1950-06-01	1957-01-01	DAILY		HYGR		
TEMP	1957-01-01	1995-07-01	DAILY		HYGR		
PRECIP	1957-01-01	1995-07-01	DAILY		UNIV	RCRD	ROOF
TEMP	2008-02-21	Present	DAILY	2400	ATEMP		
PRECIP	2008-02-21	Present	DAILY	2400	PCPNX		
PRECIP	1995-07-01	1996-04-01	DAILY	2400	UNIV	RCRD	ROOF
PRECIP	1995-07-01	1996-04-01	HOURLY	2400	UNIV	RCRD	ROOF
TEMP	1995-07-01	1996-04-01	DAILY		HYGR		
PRECIP	2008-02-21	Present	HOURLY	2400	AWPAG	RCRD;HTD	
PRECIP	1957-01-01	1995-07-01	HOURLY	2400			
PRECIP	1996-04-01	2008-02-21	DAILY	2400	AHTB	RCRD;HTD	

\* 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.orders@noaa.gov](mailto:ncdc.orders@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](http://www.ncdc.noaa.gov)