

1999

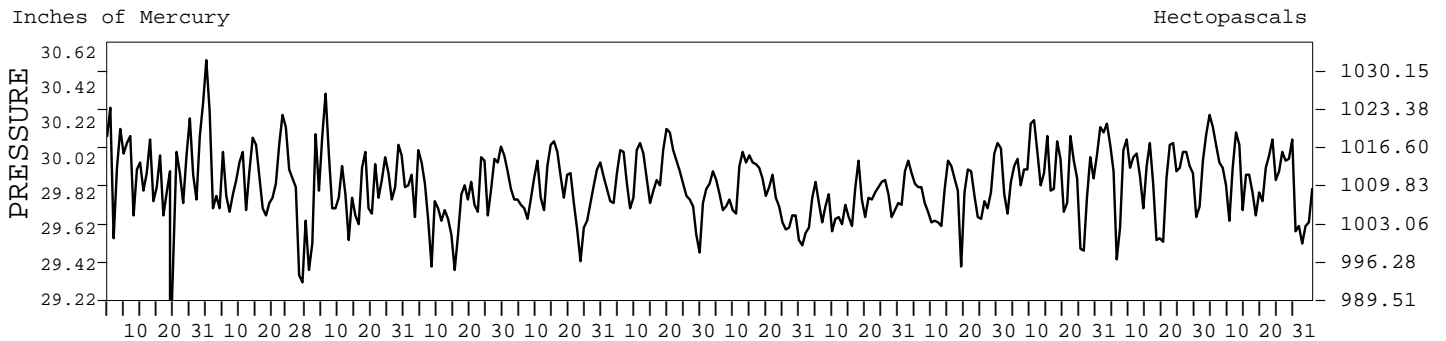
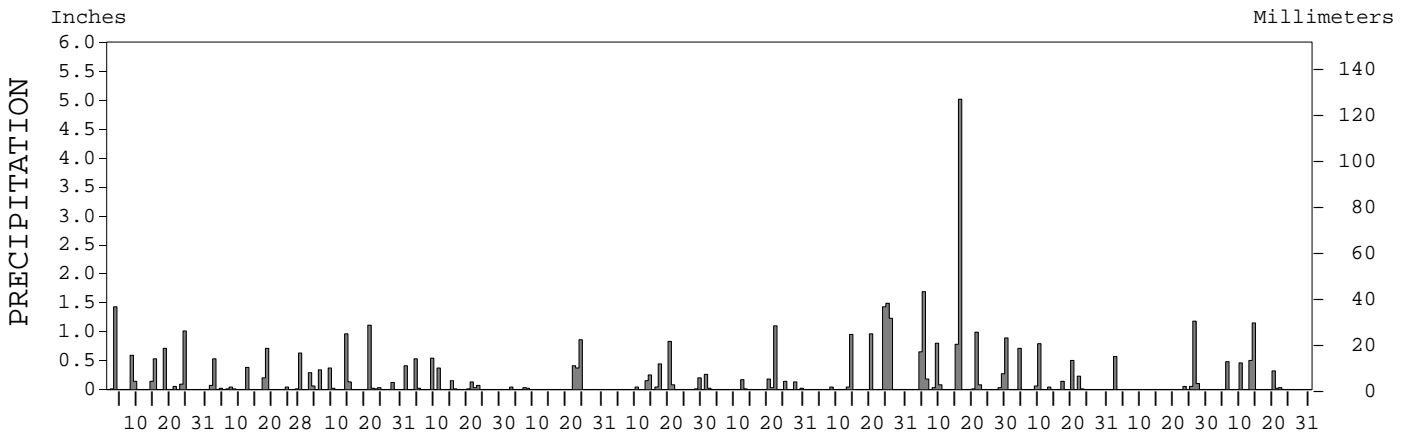
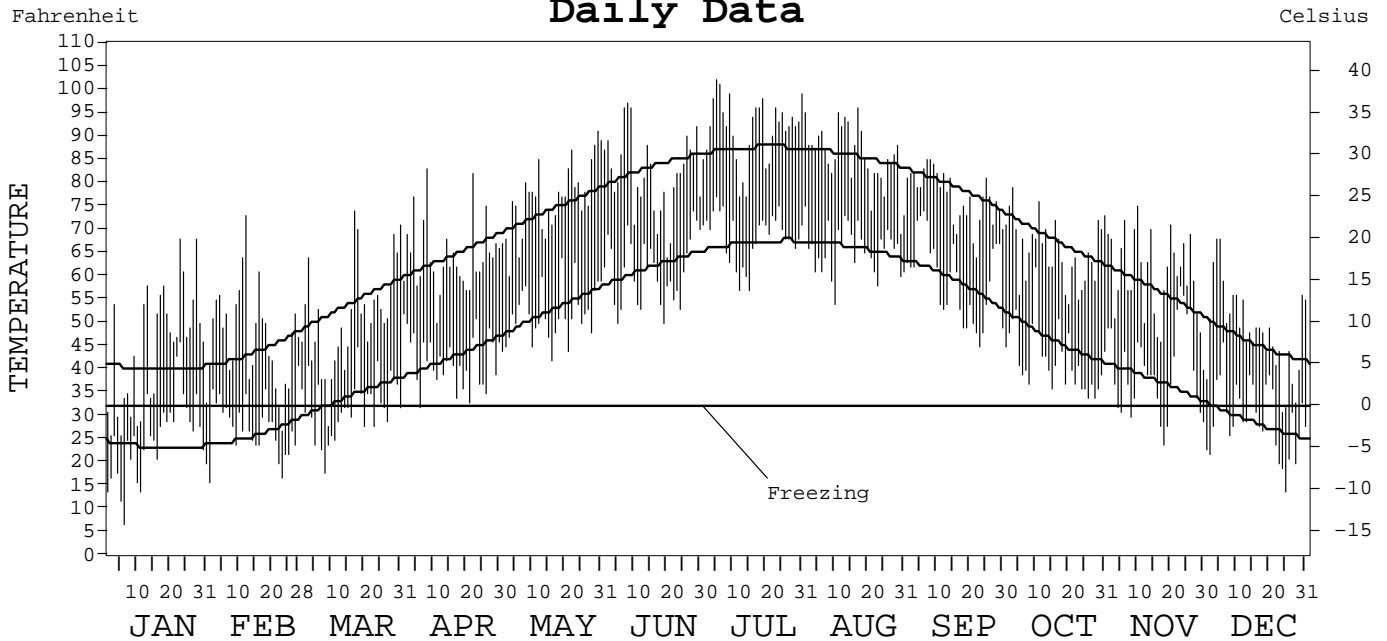
LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-2397

BALTIMORE, MARYLAND (BWI)

Daily Data



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METEOROLOGICAL DATA FOR 1999

BALTIMORE, MD (BWI)

LATITUDE: 39° 10' 20" N LONGITUDE: 76° 41' 02" W ELEVATION (FT): GRND: 194 BARO: 194 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	44.6	47.3	51.5	64.3	76.5	81.9	91.4	85.7	77.0	65.5	60.1	48.5	66.2	
	HIGHEST DAILY MAXIMUM	68	73	74	83	91	97	102	96	85	79	75	68	102	
	DATE OF OCCURRENCE	28+	12	17	08	30	08	05	17	08+	03	10	05+	JUL 05	
	MEAN DAILY MINIMUM	25.5	27.9	32.1	42.0	51.8	61.1	68.5	65.7	59.3	42.3	39.7	29.7	45.5	
	LOWEST DAILY MINIMUM	7	16	18	32	42	50	57	54	45	34	24	14	7	
	DATE OF OCCURRENCE	06	01	08	06	16	19+	15+	10	23	28+	18	25	JAN 06	
	AVERAGE DRY BULB	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	
	MEAN WET BULB		33.8	35.7	46.9	56.5	65.0	70.9	68.2	63.4	50.7	45.3	35.2		
	MEAN DEW POINT		26.2	25.8	38.5	49.4	60.4	66.0	63.8	60.0	46.9	39.2	28.0		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	1	5	22	9	0	0	0	0	0	37
	MAXIMUM ≤ 32°	7	2	1	0	0	0	0	0	0	0	0	2	12	
	MINIMUM ≤ 32°	26	22	18	1	0	0	0	0	0	0	8	20	95	
	MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	919	762	714	349	71	9	0	0	37	336	445	794	4436	
	COOLING DEGREE DAYS	0	0	0	0	54	210	471	340	138	0	0	0	1213	
RH	MEAN (PERCENT)	69	66	57	62	62	70	65	69	78	78	69	67	68	
	HOUR 01 LST	76	76	66	74	77	84	79	83	87	90	78	73	79	
	HOUR 07 LST	80	78	66	72	69	78	77	81	88	90	81	79	78	
	HOUR 13 LST	57	53	47	48	44	53	48	52	62	57	54	54	52	
	HOUR 19 LST	66	60	51	54	53	64	58	62	78	81	68	67	64	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	4	1	2	0	2	1	0	0	1	2	6	1	20	
	THUNDERSTORMS	0	1	2	2	3	1	5	5	4	1	1	0	25	
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.)		29.90	29.85	29.80	29.85	29.90	29.81	29.78	29.82	29.97	29.92	29.90		
	MEAN SEA-LEVEL PRESS. (IN.)		30.07	30.01	29.97	30.01	30.06	29.97	29.94	29.99	30.14	30.13	30.11		
WINDS	RESULTANT SPEED (MPH)		2.8	5.5	1.5	0.6	1.8	1.1	0.7	1.2	1.9	2.7	2.8		
	RES. DIR. (TENS OF DEGS.)		31	30	31	25	06	35	03	04	27	28	29		
	MEAN SPEED (MPH)	7.2	6.6	9.7	7.4	7.4	6.7	6.0	6.3	6.8	5.1	6.9	6.5	6.9	
	PREVAIL. DIR. (TENS OF DEGS.)	28	30	31	27	08	04	28	28	06	23	29	28	28	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	37	29	37	28	36	30	31	29	34	30	30	36	37	
	DIR. (TENS OF DEGS.)	28	30	28	28	28	07	23	33	26	28	14	31	28	
	DATE OF OCCURRENCE	18	13	04	14+	24	13	01	01	30	14	02	10	MAR 04	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	53	40	51	36	41	34	38	37	44	38	43	41	53	
DIR. (TENS OF DEGS.)	28	32	28	27	28	07	25	32	27	28	17	33	28		
DATE OF OCCURRENCE	18	12	04	14	24	13	01	01	30	14	02	10	JAN 18		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	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	
	GREATEST 24-HOUR (IN.)	1.44	0.87	1.11	0.55	0.86	0.84	1.13	1.49	5.26	0.85	1.28	1.58	5.26	
	DATE OF OCCURRENCE	02-03	17-18	21	04-05	24	20-21	21-22	25	15-16	09-10	26-27	13-14	SEP 15-16	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	10	12	12	11	6	9	10	7	14	8	5	7	111	
PRECIPITATION ≥ 0.10	7	5	7	6	3	5	6	5	9	5	3	5	66		
PRECIPITATION ≥ 1.00	2	0	1	0	0	0	0	1	3	2	0	1	11		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	4.0	0.6	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	12.4	
	GREATEST 24-HOUR (IN.)	4.0	0.6	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.6	
	DATE OF OCCURRENCE	08	24	09									28	MAR 09	
	MAXIMUM SNOW DEPTH (IN.)	4	1	5	0	0	0	0	0	0	0	0	0	5	
	DATE OF OCCURRENCE	09	24	09										MAR 09	
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	1	0	2	0	0	0	0	0	0	0	0	0	3		

NORMALS, MEANS, AND EXTREMES

BALTIMORE, MD (BWI)

LATITUDE: 39° 10' 20" N LONGITUDE: 76° 41' 02" W ELEVATION (FT): GRND: 194 BARO: 194 TIME ZONE: EASTERN (UTC + 5) WBAN: 93721

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	40.2	43.7	54.0	64.3	74.2	83.2	87.2	85.4	78.5	67.3	56.5	45.2	65.0
	MEAN DAILY MAXIMUM	49	41.5	44.6	53.3	65.0	74.4	83.2	87.5	85.4	78.7	67.6	56.1	45.4	65.2
	HIGHEST DAILY MAXIMUM	49	75	79	89	94	98	101	104	105	100	92	83	77	105
	YEAR OF OCCURRENCE		1975	1985	1998	1960	1991	1994	1988	1983	1983	1954	1974	1998	AUG 1983
	MEAN OF EXTREME MAXS.	49	62.2	65.7	76.4	85.0	90.0	95.1	97.2	95.5	92.4	83.2	74.7	65.6	81.9
	NORMAL DAILY MINIMUM	30	23.4	25.9	34.1	42.5	52.6	61.8	66.8	65.7	58.4	45.9	37.1	28.2	45.2
	MEAN DAILY MINIMUM	49	24.6	26.5	33.7	43.0	52.6	61.7	67.0	65.4	58.3	46.2	36.7	28.4	45.3
	LOWEST DAILY MINIMUM	49	-7	-3	6	20	32	40	50	45	35	25	13	0	-7
	YEAR OF OCCURRENCE		1984	1979	1960	1965	1966	1972	1988	1986	1963	1969	1955	1983	JAN 1984
	MEAN OF EXTREME MINS.	49	6.8	10.6	18.9	28.9	38.6	48.9	56.1	53.6	43.0	31.7	21.6	12.6	30.9
	NORMAL DRY BULB	30	31.8	34.8	44.1	53.4	63.4	72.5	77.0	75.6	68.5	56.6	46.8	36.7	55.1
	MEAN DRY BULB	49	33.0	35.5	43.5	53.9	63.4	72.4	77.3	75.5	68.6	56.8	46.4	36.9	55.3
	MEAN WET BULB	15	30.7	33.0	38.4	47.6	57.0	65.7	70.4	68.4	62.4	51.9	39.9	32.0	49.8
	MEAN DEW POINT	15	23.5	25.1	29.9	39.9	51.1	61.0	66.4	64.6	58.4	47.1	34.1	25.5	43.9
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.4	1.4	5.8	11.3	8.0	3.4	0.0	0.0	0.0	30.3	
MAXIMUM ≤ 32°	30	7.2	4.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.6	15.5	
MINIMUM ≤ 32°	30	25.3	21.1	14.0	3.4	*	0.0	0.0	0.0	0.0	1.9	10.2	21.1	97.0	
MINIMUM ≤ 0°	30	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*		0.6	
H/C	NORMAL HEATING DEG. DAYS	30	1029	846	648	348	108	0	0	0	29	276	546	877	4707
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	59	227	372	329	134	16	0	0	1137
RH	NORMAL (PERCENT)	30	63	61	59	59	66	68	69	71	71	70	66	66	66
	HOUR 01 LST	30	67	66	65	67	76	81	81	82	82	79	73	70	74
	HOUR 07 LST	30	70	70	70	71	77	79	81	83	84	82	77	73	76
	HOUR 13 LST	30	56	54	50	48	53	52	53	55	55	53	55	57	53
	HOUR 19 LST	30	61	58	54	52	60	62	63	66	68	67	63	63	61
S	PERCENT POSSIBLE SUNSHINE	40	51	55	56	56	56	62	64	62	60	58	51	49	57
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	50	3.1	3.2	2.6	1.8	1.6	0.9	0.8	1.0	1.3	2.5	2.5	3.1	24.4
	THUNDERSTORMS	50	0.3	0.2	0.8	2.4	4.0	5.3	5.9	4.9	2.0	1.0	0.4	0.1	27.3
CLOUDINESS	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	47	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	47	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	47	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	
PR	MEAN STATION PRESSURE (IN)	26	29.90	29.91	29.90	29.80	29.80	29.80	29.80	29.90	29.90	29.90	29.91	29.91	29.87
	MEAN SEA-LEVEL PRES. (IN)	15	30.10	30.08	30.05	29.97	29.99	29.97	30.00	30.03	30.06	30.11	30.12	30.13	30.05
WINDS	MEAN SPEED (MPH)	49	9.6	10.0	10.6	10.3	8.9	8.3	7.8	7.7	8.0	8.3	9.1	9.1	9.0
	PREVAIL. DIR (TENS OF DEGS)	14	29	30	30	30	26	25	25	25	26	27	29	29	28
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	3	37	34	41	33	39	38	38	34	34	30	32	36	41
	DIR. (TENS OF DEGS)		28	29	28	33	29	28	27	28	26	28	30	31	28
	YEAR OF OCCURRENCE		1999	1997	1997	1997	1997	1997	1997	1997	1999	1999	1997	1999	MAR 1997
	MAXIMUM 5-SECOND:														
SPEED (MPH)	3	53	45	53	52	49	45	44	53	44	38	43	46	53	
DIR. (TENS OF DEGS)		28	31	28	23	32	27	26	27	27	28	17	31	28	
YEAR OF OCCURRENCE		1999	1997	1997	1998	1997	1997	1997	1997	1999	1999	1999	1998	JAN 1999	
PRECIPITATION	NORMAL (IN)	30	3.05	3.12	3.38	3.09	3.72	3.67	3.69	3.92	3.41	2.98	3.32	3.41	40.76
	MAXIMUM MONTHLY (IN)	49	7.84	7.16	8.64	8.15	8.71	9.95	8.18	18.35	11.50	8.09	7.68	7.44	18.35
	YEAR OF OCCURRENCE		1979	1979	1994	1952	1989	1972	1960	1955	1999	1976	1952	1969	AUG 1955
	MINIMUM MONTHLY (IN)	49	0.29	0.56	0.93	0.39	0.37	0.15	0.30	0.77	0.21	T	0.31	0.20	T
	YEAR OF OCCURRENCE		1955	1978	1966	1985	1986	1954	1955	1951	1967	1963	1981	1955	OCT 1963
	MAXIMUM IN 24 HOURS (IN)	49	3.11	3.26	3.18	2.80	3.64	5.23	5.86	8.35	6.04	3.49	3.43	3.39	8.35
	YEAR OF OCCURRENCE		1976	1983	1958	1952	1960	1972	1952	1955	1985	1955	1952	1977	AUG 1955
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	10.2	9.4	10.0	10.5	10.9	9.2	9.6	9.4	7.2	7.4	9.0	9.2	112.0	
PRECIPITATION ≥ 1.00	30	0.5	0.7	0.7	0.7	0.7	1.1	1.1	1.1	1.0	0.9	0.9	0.9	10.3	
SNOWFALL	NORMAL (IN)	30	6.6	7.5	3.0	0.*	T	0.0	0.0	0.0	0.*	1.1	3.6	21.8	
	MAXIMUM MONTHLY (IN)	49	32.6	33.1	21.6	0.7	T	0.0	T	0.0	0.3	8.4	20.4	33.1	
	YEAR OF OCCURRENCE		1996	1979	1960	1985	1963		1992		1979	1967	1966	FEB 1979	
	MAXIMUM IN 24 HOURS (IN)	49	16.8	22.8	13.0	0.7	T	0.0	T	0.0	0.3	8.4	14.1	22.8	
	YEAR OF OCCURRENCE		1996	1983	1962	1985	1963		1992		1979	1967	1960	FEB 1983	
	MAXIMUM SNOW DEPTH (IN)	48	30	23	70	0	0	0	0	0	0	6	12	70	
	YEAR OF OCCURRENCE		1957	1983	1960							1987	1960	MAR 1960	
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	1.8	1.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	5.6	

PRECIPITATION (inches) 1999 BALTIMORE, MD (BWI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0.94	3.34	3.07	4.53	1.69	4.10	4.32	1.33	0.46	3.04	5.11	3.50	35.43
1971	2.02	6.21	1.90	1.75	6.12	2.92	4.03	10.91	5.55	6.88	3.75	1.29	53.33
1972	2.82	6.01	2.38	5.30	4.11	9.95	2.81	2.22	1.15	3.51	7.05	5.02	52.33
1973	2.81	2.82	3.96	6.41	3.73	3.16	4.22	3.35	4.87	2.86	1.28	6.36	45.83
1974	2.92	0.94	4.12	2.59	3.58	2.84	0.85	5.85	5.45	1.53	1.39	5.70	37.76
1975	3.47	2.47	5.17	2.73	4.63	3.82	7.15	4.23	8.62	2.89	2.03	4.61	51.82
1976	4.10	2.16	2.23	1.27	5.03	2.49	5.56	2.98	6.93	8.09	0.56	2.04	43.44
1977	1.36	0.63	3.93	3.05	1.49	3.44	2.62	3.31	0.62	5.17	5.01	5.76	36.39
1978	7.34	0.56	4.74	1.26	5.49	2.81	6.83	3.39	1.03	0.71	2.70	4.63	41.49
1979	7.84	7.16	2.05	3.37	4.15	5.74	3.71	9.38	6.73	5.53	2.45	0.87	58.98
1980	2.58	1.06	5.46	4.24	3.58	3.04	3.25	4.00	1.00	3.08	2.72	0.70	34.71
1981	0.49	2.93	1.14	2.04	3.63	5.40	4.59	1.93	2.89	2.57	0.31	3.30	31.22
1982	3.37	4.04	3.03	3.61	1.85	5.70	2.16	0.95	3.63	2.31	3.13	2.39	36.17
1983	2.21	4.81	6.80	6.55	5.47	5.23	1.31	1.57	1.76	3.58	5.02	6.72	51.03
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
POR= 49 YRS	3.12	3.01	3.87	3.13	3.57	3.47	3.74	3.98	3.54	2.99	3.11	3.30	40.83

WBAN : 93721

AVERAGE TEMPERATURE (°F) 1999 BALTIMORE, MD (BWI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	27.8	35.4	40.4	53.3	66.6	73.0	77.2	77.4	73.7	61.5	48.6	38.2	56.1
1971	30.0	37.4	41.8	52.7	61.2	74.0	76.5	74.2	70.9	62.9	46.4	43.7	56.0
1972	37.6	34.3	43.6	51.6	62.7	68.1	76.9	75.4	69.8	53.5	43.2	40.4	54.8
1973	34.6	34.3	48.3	53.1	59.6	73.5	75.9	76.9	69.8	58.2	47.3	37.3	55.7
1974	37.9	33.8	45.2	55.3	61.9	68.5	76.5	75.0	67.5	55.3	48.2	40.3	55.5
1975	38.5	39.1	42.1	50.4	66.3	73.0	76.1	77.9	66.0	60.7	51.9	37.2	56.6
1976	30.8	44.1	48.1	56.9	62.1	74.8	75.0	73.9	67.5	52.9	40.9	32.6	55.0
1977	22.9	36.5	50.0	57.9	66.7	71.4	79.0	77.7	72.1	56.0	49.2	35.6	56.3
1978	29.2	27.3	41.7	54.2	62.4	73.1	75.9	78.1	69.7	56.1	48.7	40.2	54.7
1979	33.1	25.6	48.5	53.1	64.7	70.7	75.9	75.7	68.8	55.7	50.6	40.3	55.2
1980	33.8	31.5	41.5	55.7	65.5	71.3	78.2	78.7	72.2	55.3	44.2	35.5	55.3
1981	27.9	38.8	41.9	57.0	62.2	74.3	77.3	74.4	67.7	53.2	46.2	34.5	54.6
1982	25.5	35.8	42.9	50.7	66.1	69.4	77.1	73.0	67.3	56.3	48.4	42.0	54.5
1983	34.6	34.7	45.4	51.8	61.5	72.1	78.7	78.0	69.5	57.3	47.1	33.2	55.3
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
POR= 49 YRS	32.9	35.5	43.5	53.8	63.4	72.4	77.2	75.4	68.7	56.7	46.3	36.9	55.2

HEATING DEGREE DAYS (base 65°F) 1999 BALTIMORE, MD (BWI)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0	0	20	149	484	824	1080	766	712	364	134	2	4535
1971-72	0	0	24	96	571	652	841	884	663	396	94	42	4263
1972-73	2	0	16	357	649	759	935	854	511	365	191	1	4640
1973-74	0	0	24	221	524	852	830	868	613	309	148	14	4403
1974-75	0	0	49	303	509	759	818	720	702	436	66	2	4364
1975-76	0	0	50	156	397	853	1050	603	518	293	133	11	4064
1976-77	0	0	34	377	716	1001	1296	790	469	245	62	18	5008
1977-78	0	0	9	278	476	904	1101	1048	715	318	141	9	4999
1978-79	0	0	33	280	483	763	984	1100	520	354	75	6	4598
1979-80	2	3	22	311	425	757	962	967	723	273	74	6	4525
1980-81	0	0	20	311	620	908	1145	727	706	252	148	1	4838
1981-82	0	0	51	363	557	940	1218	808	677	422	58	20	5114
1982-83	0	5	42	289	495	707	936	842	602	410	152	6	4486
1983-84	0	0	70	257	530	979	1123	671	825	397	169	9	5030
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-	0	0	37	336	445	794							

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COOLING DEGREE DAYS (base 65°F) 1999 BALTIMORE, MD (BWI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	4	134	246	389	390	291	45	0	0	1499
1971	0	0	0	0	24	278	363	293	208	36	20	0	1222
1972	0	0	5	1	29	140	379	331	166	7	0	0	1058
1973	0	0	0	15	29	263	344	376	173	19	0	0	1219
1974	0	0	4	24	57	126	361	317	130	8	11	0	1038
1975	0	0	0	4	112	252	351	404	85	27	10	0	1245
1976	0	1	0	58	51	315	317	284	114	9	0	0	1149
1977	0	0	10	37	124	217	439	401	229	7	10	0	1474
1978	0	0	0	0	63	260	344	413	182	12	0	0	1274
1979	0	0	15	4	72	183	348	341	145	28	1	0	1137
1980	0	0	0	0	97	203	415	431	245	17	0	0	1408
1981	0	0	0	19	69	287	389	296	141	5	0	0	1206
1982	0	0	0	4	99	160	381	259	119	26	4	1	1053
1983	0	0	0	18	51	228	430	410	214	24	0	0	1375
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

SNOWFALL (inches) 1999 BALTIMORE, MD (BWI)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.0	0.0	0.0	6.3	4.1	0.6	2.0	T	0.0	0.0	13.0
1971-72	0.0	0.0	0.0	0.0	1.0	T	1.1	11.4	0.2	0.3	0.0	0.0	14.0
1972-73	0.0	0.0	0.0	T	T	T	T	1.2	T	T	0.0	0.0	1.2
1973-74	0.0	0.0	0.0	0.0	0.0	8.3	1.2	7.6	T	T	0.0	0.0	17.1
1974-75	0.0	0.0	0.0	0.0	T	0.4	5.1	5.5	1.2	T	0.0	0.0	12.2
1975-76	0.0	0.0	0.0	0.0	0.0	0.7	1.7	1.3	7.8	0.0	0.0	0.0	11.5
1976-77	0.0	0.0	0.0	0.0	1.1	1.5	8.5	T	T	T	0.0	0.0	11.1
1977-78	0.0	0.0	0.0	T	0.6	0.5	12.4	12.3	8.5	T	0.0	0.0	34.3
1978-79	0.0	0.0	0.0	0.0	3.7	0.0	5.7	33.1	T	T	0.0	0.0	42.5
1979-80	0.0	0.0	0.0	0.3	T	0.1	4.7	3.8	5.7	0.0	0.0	0.0	14.6
1980-81	0.0	0.0	0.0	0.0	T	0.2	4.1	T	0.3	0.0	0.0	0.0	4.6
1981-82	0.0	0.0	0.0	0.0	T	2.4	14.8	7.6	0.7	T	0.0	0.0	25.5
1982-83	0.0	0.0	0.0	0.0	0.0	7.2	1.2	27.2	T	T	0.0	0.0	35.6
1983-84	0.0	0.0	0.0	0.0	T	T	8.4	T	6.1	T	0.0	0.0	14.5
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	0.0	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-	0.0	0.0	0.0	0.0	0.0	0.2							
POR= 48 YRS	T	0.0	0.0	0.0	1.0	3.2	6.1	6.5	3.8	0.1	T	0.0	20.7

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. NORMALS ARE 30-YEAR AVERAGES (1961 - 1990). 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.</p>	<p>GENERAL CONTINUED: 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. 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.</p> <p>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.</p>
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1999
BALTIMORE,
MARYLAND (BWI)

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 LOCATION

BALTIMORE, MARYLAND

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										A U T O M A T I C G I Z M O N I T O R I N G * * *	* Type M = AMOS T = AUTOB S = ASOS W = AWOS	REMARKS	
						SEA LEVEL	GROUND												
							W I N D I N S T R U M E N T S T A T I O N	E X T E R N A L E M E R S O N	P O S T M O R T E M R E F E R E N C E	S H E N S W I T C H	R A I N G A G E T I P P I N G B E T W E E N	R A I N G A G E R A I N G A G E	8 I N C H R A I N G A G E	H Y G R O M E T E R R E F E R E N C E	H Y G R O M E T E R G I Z M O N I T O R I N G				H Y G R O M E T E R G I Z M O N I T O R I N G
CITY - - NOTE: For period December 31, 1870 through January 1, 1889, refer to previous editions.																			
Holliday and Baltimore Street	1/1/89	6/1/91	0.1 mi. NNE	39° 18'	76° 37'	20	101	86	86							78			
N. W. Corner Monument and Linden Avenue	6/1/91	9/7/95	0.8 mi. NW	39° 18'	76° 37'	108	d101	87	86							80	d - Not moved 6/1/91.		
S.W. Corner Calvert and Fayette Street	9/7/95	8/1/96	0.7 mi. SE	39° 17'	76° 37'	37	136	120	120							116			
532 North Howard Street	8/1/96	4/30/02	0.6 mi. NW	39° 18'	76° 37'	103	82	69	69		e73					73	e - Added 6/13/97.		
532 North Howard Street	4/30/02	1/1/08	NA	39° 18'	76° 37'	103	117	69	69		73					73			
Custom House Gay and Water Streets	1/1/08	12/5/50	0.8 mi. SE	39° 17'	76° 37'	14	113 f215	100	100		91					91	f - Moved 950 feet SE to Chandler Building 7/21/26 for better exposure.		
Gay and Water Streets	12/5/50	07/23/50	Office not moved	39° 17'	76° 37'	14		100			91				91		Wind equipment inoperative December 1947 through March 1949. Data for the period were obtained from instrument 73 feet above the ground at Logan Airport, 6.5 mi. ESE. Climatological records only. Data summarized and published through 1964.		
AIRPORT Administration and Terminal Building, Friendship International Airport+																			
+Baltimore-Washington International Airport (Effective Dec. 1973)	7/23/50	04/01/96	NA	39° 11'	76° 40'	146 p148	133 n20	54	54	NA h125 153 k120 p153	NA h51 m3 r52	3 g51 n3 q52	51 n3 q52	NA j4 t4	NA		g - Moved to roof 10/18/50. h - Installed 1/16/51. i - Minor move & type change 1952. j - Telepsychrometer (7') 9/2/53-1/1/60. Hygro. comm. 2300' SE of office 1/1/60. k - Raised 6/1/54. m - Moved to ground site 12/8/59. n - Moved to ground site 12/9/59. p - Effective 1/1/60. q - Moved 137' SE to roof 1/30/70. r - Moved 137' SE to roof 6/1/73. t - Type change 10/01/85.		
Baltimore-Washington Int'l Airport	04/01/96	Present	NA	39°10'	76°41'	194									S		ASOS Commissioned 04/01/96		

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. INQUIRIES/COMMENTS CALL: (828) 271-4800

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