

2004

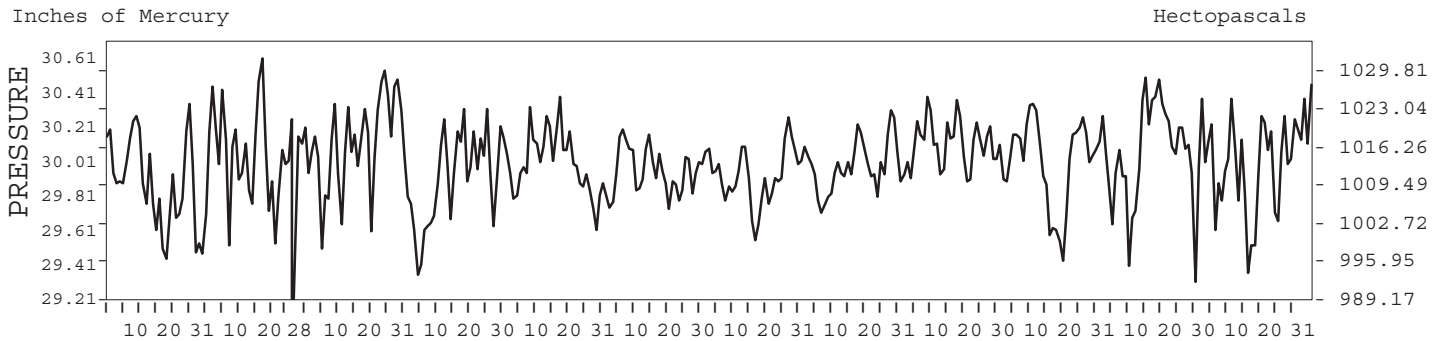
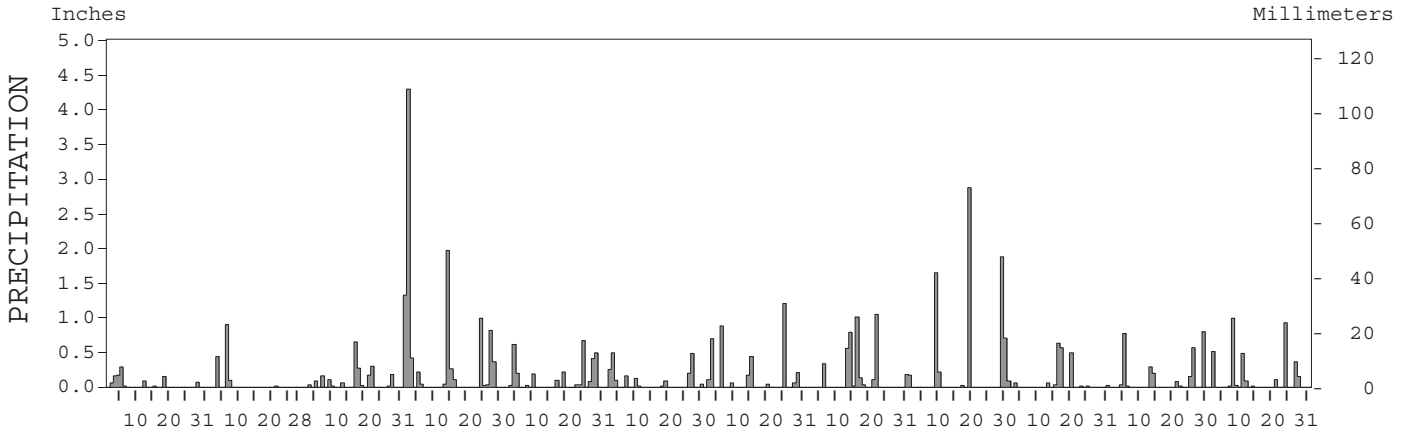
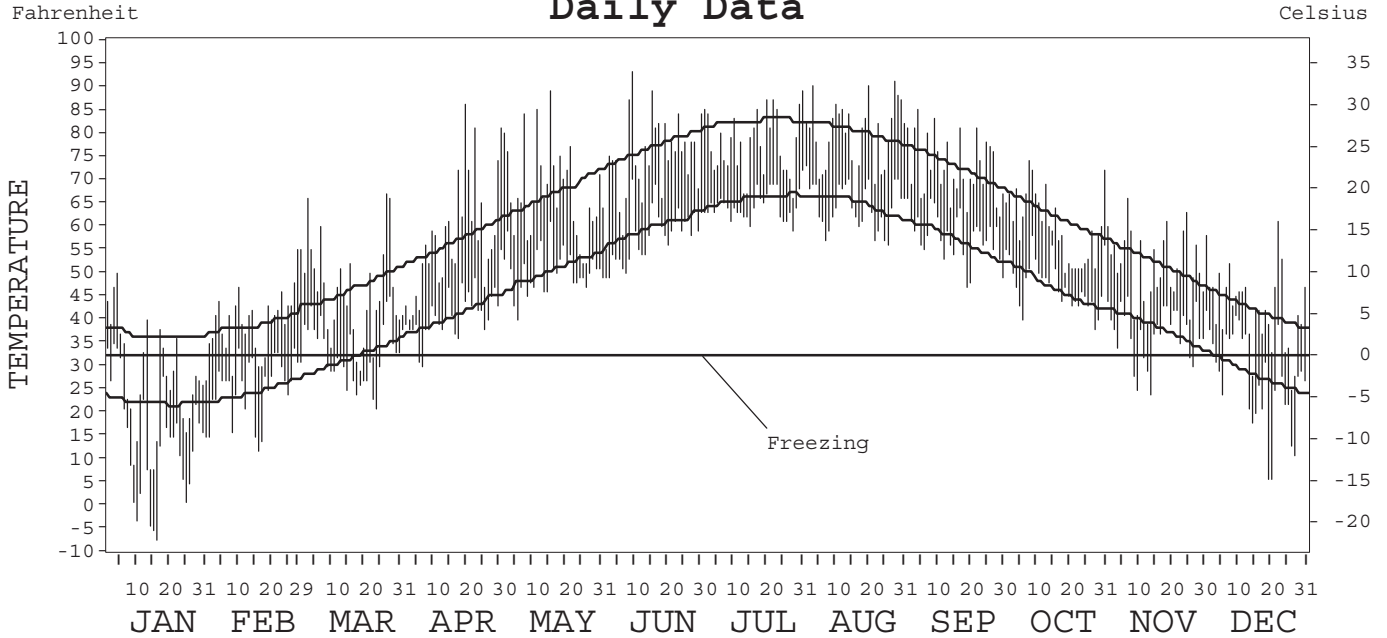
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-2419

BOSTON,
MASSACHUSETTS (BOS)

Daily Data



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METEOROLOGICAL DATA FOR 2004

BOSTON, MA (BOS)

LATITUDE: 42° 21' 38" N LONGITUDE: 71° 00' 38" W ELEVATION (FT): GRND: 19 BARO: 180 TIME ZONE: EASTERN (UTC + 5) WBAN: 14739

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	27.2	40.2	45.9	57.8	67.3	74.9	77.6	79.7	72.7	60.1	51.6	42.4	58.1	
	HIGHEST DAILY MAXIMUM	50	55	67	86	89	93	89	91	85	74	66	61	93	
	DATE OF OCCURRENCE	04	29+	26	19	15	09	31	28	04	08	07	23	JUN 09	
	MEAN DAILY MINIMUM	14.1	25.8	32.8	41.2	50.4	58.0	64.4	64.4	57.7	47.5	37.1	27.6	43.4	
	LOWEST DAILY MINIMUM	-7	12	21	30	40	49	59	56	47	38	24	6	-7	
	DATE OF OCCURRENCE	16	16	23	06	05	02+	28	26	19	28	14	20+	JAN 16	
	AVERAGE DRY BULB	20.7	33.0	39.4	49.5	58.9	66.5	71.0	72.1	65.2	53.8	44.4	35.0	50.8	
	MEAN WET BULB	17.7		34.6	42.8	52.9	58.6	64.8	65.4	59.5	48.8	39.6	31.1		
	MEAN DEW POINT	5.6		27.3	34.9	47.7	52.5	61.3	61.4	55.4	43.7	32.1	23.6		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	1	0	3	0	0	0	0	0	4
	MAXIMUM ≤ 32°	20	4	3	0	0	0	0	0	0	0	0	3	0	30
MINIMUM ≤ 32°	28	25	16	2	0	0	0	0	0	0	7	20	0	98	
MINIMUM ≤ 0°	4	0	0	0	0	0	0	0	0	0	0	0	0	4	
H/C	HEATING DEGREE DAYS	1369	924	784	462	210	52	2	3	59	339	617	926	5747	
	COOLING DEGREE DAYS	0	0	0	3	24	104	198	231	72	0	0	0	632	
RH	MEAN (PERCENT)	53	50	66	64	71	64	74	72	73	71	64	65	66	
	HOUR 01 LST	55	55	69	68	77	71	81	82	80	76	67	68	71	
	HOUR 07 LST	58	59	71	69	74	69	77	78	78	78	68	69	71	
	HOUR 13 LST	48	43	59	57	65	56	65	60	62	60	57	59	58	
	HOUR 19 LST	52	47	65	62	67	60	73	69	73	69	62	64	64	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	2	2	2	0	0	2	2	0	4	2	0	3	19	
	THUNDERSTORMS	0	0	0	0	3	3	2	2	0	0	1	0	11	
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.)	29.87		30.11	29.91	29.99	29.96	29.93	29.97	30.11	30.00	30.08	30.00		
	MEAN SEA-LEVEL PRESS. (IN.)	29.90		30.14	29.94	30.02	29.99	29.96	30.00	30.14	30.03	30.11	30.03		
WINDS	RESULTANT SPEED (MPH)	11.2		1.5	1.8	1.9	3.5	0.7	3.0	0.6	3.1	4.4	4.8		
	RES. DIR. (TENS OF DEGS.)	29		32	30	20	25	16	23	35	33	28	28		
	MEAN SPEED (MPH)	13.8	11.9	12.7	12.3	10.6	10.2	9.3	9.6	9.8	11.0	11.2	12.5	11.2	
	PREVAIL. DIR. (TENS OF DEGS.)	28	32	29	20	20	20	20	20	22	23	32	23	29	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	35	36	33	36	28	32	33	23	31	29	45	39	45	
	DIR. (TENS OF DEGS.)	28	29	04	24	32	24	18	26	03	24	28	05	28	
	DATE OF OCCURRENCE	29	08	28	19	29+	02	01	21+	29	16	05	26+	NOV 05	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	46	44	40	43	35	44	40	35	39	33	56	49	56	
DIR. (TENS OF DEGS.)	28	29	05	25	30	25	16	28	03	27	27	26	27		
DATE OF OCCURRENCE	29	08	28	19	04	02	01	20	29	31+	05	01	NOV 05		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	1.01	1.45	3.38	9.57	3.07	1.95	3.87	4.38	7.44	1.88	2.91	3.66	44.57	
	GREATEST 24-HOUR (IN.)	0.32	0.97	1.32	4.29	0.81	0.66	1.20	1.29	2.87	1.20	0.80	0.99	4.29	
	DATE OF OCCURRENCE	04-05	06-07	31	01	03-04	25-26	24	12-13	18	15-16	28	07	APR 01	
	NUMBER OF DAYS WITH:														
PRECIPITATION ≥ 0.01	9	4	14	13	13	11	10	11	7	9	10	11	122		
PRECIPITATION ≥ 0.10	4	3	8	9	8	7	7	9	5	3	6	7	76		
PRECIPITATION ≥ 1.00	0	0	1	2	0	0	1	2	3	0	0	0	9		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	4.9	2.4	10.6	T	0.0	0.0	T	0.0	0.0	0.0	3.9	7.2	29.0	
	GREATEST 24-HOUR (IN.)	1.6	2.4	6.5	T	0.0	0.0	T	0.0	0.0	0.0	3.9	4.3	6.5	
	DATE OF OCCURRENCE	18	06	16	05			02				12-13	26	MAR 16	
	MAXIMUM SNOW DEPTH (IN.)	2	1	8	0	0	0	0	0	0	0	4			
	DATE OF OCCURRENCE	29	08+	18+								13			
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	3	1	2	0	0	0	0	0	0	0	2	2	10		

NORMALS, MEANS, AND EXTREMES

BOSTON, MA (BOS)

LATITUDE: 42° 21' 38" N LONGITUDE: 71° 00' 38" W ELEVATION (FT): GRND: 19 BARO: 180 TIME ZONE: EASTERN (UTC + 5) WBAN: 14739

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	36.5	38.7	46.3	56.1	66.7	76.6	82.2	80.1	72.5	61.8	51.8	41.7	59.2
	MEAN DAILY MAXIMUM	59	36.4	38.3	45.5	56.0	66.7	76.7	81.7	80.0	72.6	62.6	52.0	40.9	59.1
	HIGHEST DAILY MAXIMUM	53	66	70	89	94	95	100	102	102	100	90	79	76	102
	YEAR OF OCCURRENCE		1995	1985	1998	1976	1979	1952	1977	1975	1953	1963	1994	1998	JUL 1977
	MEAN OF EXTREME MAXS.	59	55.9	56.2	66.9	78.3	87.1	92.7	95.1	93.0	88.7	80.0	69.9	60.8	77.0
	NORMAL DAILY MINIMUM	30	22.1	24.2	31.5	40.5	50.2	59.4	65.5	64.5	56.8	46.4	37.9	27.8	43.9
	MEAN DAILY MINIMUM	59	22.0	23.6	31.2	40.3	49.8	59.3	65.2	64.1	56.8	47.0	38.1	27.2	43.7
	LOWEST DAILY MINIMUM	53	-12	-4	6	16	34	45	50	47	38	28	15	-7	-12
	YEAR OF OCCURRENCE		1957	1961	1984	1982	1956	1986	1988	1986	2000	1976	1989	1980	JAN 1957
	MEAN OF EXTREME MINS.	59	3.5	6.2	15.5	29.6	40.2	49.4	57.1	54.8	44.4	34.7	24.2	9.5	30.8
	NORMAL DRY BULB	30	29.3	31.5	38.9	48.3	58.5	68.0	73.9	72.3	64.7	54.1	44.9	34.8	51.6
	MEAN DRY BULB	59	29.2	31.0	38.3	48.1	58.2	68.0	73.5	72.1	64.6	54.9	45.1	34.1	51.4
	MEAN WET BULB	21	26.3	28.1	34.0	42.1	51.5	60.8	65.8	65.7	59.1	46.7	40.1	29.3	45.8
	MEAN DEW POINT	21	18.1	19.6	25.1	34.7	43.5	55.6	61.5	61.5	54.8	41.1	33.3	21.7	39.2
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.1	0.5	2.9	6.0	3.4	0.7	0.0	0.0	0.0	13.6	
MAXIMUM ≤ 32°	30	10.8	7.6	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	5.1	26.1	
MINIMUM ≤ 32°	30	25.6	22.4	16.0	2.4	0.0	0.0	0.0	0.0	0.0	0.4	7.3	21.2	95.3	
MINIMUM ≤ 0°	30	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	
H/C	NORMAL HEATING DEG. DAYS	30	1104	951	815	503	233	48	4	8	84	344	604	932	5630
	NORMAL COOLING DEG. DAYS	30	0	0	1	4	32	139	282	235	76	7	1	0	777
RH	NORMAL (PERCENT)	30	64	62	64	64	68	69	69	72	72	69	66	65	67
	HOUR 01 LST	30	66	66	68	69	75	77	78	80	80	76	71	68	73
	HOUR 07 LST	30	69	68	70	69	73	73	74	78	80	77	74	70	73
	HOUR 13 LST	30	58	56	57	56	60	58	57	60	60	58	58	58	58
	HOUR 19 LST	30	62	60	62	62	66	67	66	70	72	68	65	63	65
S	PERCENT POSSIBLE SUNSHINE	61	53	56	57	56	58	63	65	65	63	60	50	52	58
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	70	1.8	1.7	2.1	1.7	2.7	2.1	2.3	1.8	1.9	2.2	1.8	1.4	23.5
	THUNDERSTORMS	70	0.2	0.1	0.6	1.0	2.4	3.4	4.2	3.4	1.7	0.7	0.4	0.2	18.3
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	61	5.0	5.0	5.1	5.3	5.3	5.0	4.9	4.5	4.4	4.4	5.0	5.0	4.9
	MIDNIGHT-MIDNIGHT (OKTAS)	32	4.8	4.7	4.9	4.9	5.0	4.7	4.7	4.3	4.3	4.1	4.8	4.7	4.7
	MEAN NO. DAYS WITH:														
CLEAR	62	9.0	8.2	7.7	7.0	6.3	6.6	6.6	9.1	10.0	10.7	7.7	8.5	97.4	
PARTLY CLOUDY	62	6.8	6.6	8.0	8.1	9.9	10.4	12.0	10.5	7.9	7.7	7.2	7.3	102.4	
CLOUDY	62	15.2	13.4	15.3	14.9	14.8	12.9	11.9	10.9	11.6	12.1	14.7	14.9	162.6	
PR	MEAN STATION PRESSURE (IN)	32	29.98	30.00	29.99	29.90	29.90	29.90	29.90	29.99	29.98	30.00	29.98	29.99	29.96
	MEAN SEA-LEVEL PRES. (IN)	21	30.00	30.03	30.03	29.98	29.97	29.95	29.97	30.02	30.06	30.08	30.05	30.04	30.01
WINDS	MEAN SPEED (MPH)	56	13.7	13.8	13.9	13.5	12.2	11.6	11.0	10.8	11.3	11.9	12.9	13.5	12.5
	PREVAIL. DIR (TENS OF DEGS)	37	29	29	29	30	20	20	23	23	23	24	29	30	29
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	8	39	40	46	41	41	45	45	31	47	41	48	46	48
	DIR. (TENS OF DEGS)		30	27	03	09	28	30	30	28	23	31	11	18	11
	YEAR OF OCCURRENCE		2000	2001	1997	2000	2002	2000	1999	2002	1998	1999	1997	2000	NOV 1997
	MAXIMUM 5-SECOND:														
SPEED (MPH)	8	54	54	56	51	53	62	74	38	63	52	57	55	74	
DIR. (TENS OF DEGS)		30	21	06	01	27	29	25	27	23	32	11	18	25	
YEAR OF OCCURRENCE		2000	2000	2001	1997	2002	2000	1999	2002	1998	1999	1997	2000	JUL 1999	
PRECIPITATION	NORMAL (IN)	30	3.92	3.30	3.85	3.60	3.24	3.22	3.06	3.37	3.47	3.79	3.98	3.73	42.53
	MAXIMUM MONTHLY (IN)	53	10.55	7.81	11.00	9.57	13.38	13.20	8.12	17.09	9.86	10.66	8.89	9.74	17.09
	YEAR OF OCCURRENCE		1979	1984	1953	2004	1954	1982	1959	1955	1999	1996	1983	1969	AUG 1955
	MINIMUM MONTHLY (IN)	53	0.61	0.72	0.62	0.83	0.53	0.48	0.52	0.82	0.35	0.41	0.64	0.81	0.35
	YEAR OF OCCURRENCE		1989	1987	1981	1999	1964	1999	1952	1995	1957	1994	1976	1989	SEP 1957
	MAXIMUM IN 24 HOURS (IN)	53	2.72	2.68	4.13	4.29	5.74	5.69	3.36	8.40	5.64	6.63	3.76	5.14	8.40
	YEAR OF OCCURRENCE		1979	1969	1968	2004	1954	1998	1996	1955	1954	1996	1992	1992	AUG 1955
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	11.7	10.0	12.0	11.0	11.8	10.4	9.3	9.8	9.0	8.9	10.2	12.0	126.1	
PRECIPITATION ≥ 1.00	30	1.1	0.9	0.9	0.9	0.5	0.6	0.7	0.8	0.8	0.9	1.1	0.8	10.0	
SNOWFALL	NORMAL (IN)	30	13.5	11.2	8.1	1.1	0.*	0.0	0.0	0.0	0.0	0.*	1.3	6.6	41.8
	MAXIMUM MONTHLY (IN)	67	39.8	41.6	38.9	13.3	0.5	T	T	T	0.0	0.2	10.0	27.9	41.6
	YEAR OF OCCURRENCE		1996	2003	1993	1982	1977	2002	2004	1994		1979	1938	1970	FEB 2003
	MAXIMUM IN 24 HOURS (IN)	67	21.0	23.6	17.7	13.2	0.5	T	T	T	0.0	0.2	8.0	13.0	23.6
	YEAR OF OCCURRENCE		1978	1978	1960	1982	1977	2002	2004	1994		1979	1987	1960	FEB 1978
	MAXIMUM SNOW DEPTH (IN)	54	26	29	20	12	0	0	0	0	0	0	6	14	29
	YEAR OF OCCURRENCE		1978	1978	1978	1982							1987	1975	FEB 1978
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	3.5	2.7	2.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.9	11.1	

PRECIPITATION (inches) 2004 BOSTON, MA (BOS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1975	5.70	3.37	2.74	2.40	1.78	2.10	2.35	5.52	5.49	4.41	5.13	4.80	45.79
1976	5.29	2.45	2.42	2.00	1.98	0.58	4.30	7.99	1.56	4.16	0.64	3.35	36.72
1977	4.41	2.40	4.76	4.07	3.52	2.49	2.21	2.91	4.03	4.63	2.54	6.20	44.17
1978	8.12	2.87	2.46	1.79	4.50	1.53	1.48	4.62	1.30	3.13	2.21	3.63	37.64
1979	10.55	3.46	3.03	3.19	4.24	0.86	2.36	5.02	3.61	3.14	3.29	1.42	44.17
1980	0.74	0.88	5.37	4.36	2.30	3.05	2.20	1.55	0.82	4.14	3.01	0.97	29.39
1981	0.95	6.65	0.62	3.14	1.17	1.65	3.47	1.04	2.54	3.43	4.78	6.27	35.71
1982	4.69	2.66	2.17	3.42	2.58	13.20	4.22	2.22	1.57	3.19	3.42	1.27	44.61
1983	5.03	5.00	9.72	6.86	2.94	1.07	1.07	3.28	1.06	3.74	8.89	4.94	53.60
1984	2.31	7.81	6.82	4.43	8.77	3.06	4.43	1.60	1.22	5.18	1.68	2.93	50.24
1985	1.12	1.83	2.29	1.62	3.36	3.94	3.51	6.67	3.00	1.65	6.39	1.21	36.59
1986	3.42	2.83	3.42	1.59	1.31	7.74	3.96	3.32	1.08	3.27	6.01	6.38	44.33
1987	7.28	0.72	4.27	9.46	1.75	2.62	0.82	2.93	7.29	2.73	3.49	2.12	45.48
1988	2.50	3.93	3.52	1.47	2.86	1.29	7.62	1.11	1.29	1.60	6.57	1.02	34.78
1989	0.61	2.51	3.07	3.58	3.54	2.84	5.09	5.92	4.61	5.71	4.13	0.81	42.42
1990	3.78	3.60	1.71	5.94	6.53	0.69	4.08	6.57	1.67	7.36	1.39	3.18	46.50
1991	3.24	1.58	4.33	4.84	0.92	2.89	1.95	5.27	6.32	4.27	4.06	2.58	42.25
1992	3.11	2.28	3.59	2.34	1.40	4.61	2.66	4.25	3.46	1.62	6.14	8.26	43.72
1993	2.17	4.94	7.67	4.86	1.04	1.75	1.75	1.32	4.64	3.61	2.86	6.60	43.21
1994	5.22	2.95	7.49	2.25	5.35	0.86	1.80	7.03	4.58	0.41	4.31	5.37	47.62
1995	4.33	2.57	2.20	1.40	1.82	1.55	2.06	0.82	3.60	6.42	5.13	3.20	35.10
1996	7.44	3.17	2.36	4.38	2.73	1.03	5.23	1.54	6.09	10.66	2.29	5.76	52.68
1997	2.34	1.28	4.68	3.46	2.63	1.41	0.63	3.01	1.02	1.78	5.86	2.29	30.39
1998	4.76	5.54	4.15	3.58	6.84	11.58	2.47	3.37	3.03	5.38	1.38	1.59	53.67
1999	5.69	3.51	2.52	0.83	2.70	T	3.51	1.33	9.86	4.30	2.14	1.52	37.91
2000	2.62	2.55	3.59	5.02	2.88	6.61	5.20	2.22	2.87	2.86	4.51	4.67	45.60
2001	1.58	1.37	7.57	0.88	1.23	4.99	2.13	4.14	2.29	0.98	0.73	2.83	30.72
2002	3.14	1.81	3.52	2.61	4.48	4.77	1.42	2.13	3.39	3.47	5.03	5.30	41.07
2003	1.81	4.21	4.00	4.00	4.12	4.69	2.11	2.89	2.65	6.20	2.63	5.06	44.37
2004	1.01	1.45	3.38	9.57	3.07	1.95	3.87	4.38	7.44	1.88	2.91	3.66	44.57
POR= 134 YRS	3.65	3.34	3.90	3.62	3.26	3.24	3.12	3.56	3.30	3.30	3.87	3.63	41.79

WBAN : 14739

AVERAGE TEMPERATURE (°F) 2004 BOSTON, MA (BOS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1975	34.9	32.1	36.9	45.1	61.5	67.5	75.9	72.9	63.9	57.3	51.8	34.4	52.9
1976	26.1	37.3	41.2	55.1	60.2	73.4	72.9	72.0	64.9	52.3	41.9	29.0	52.2
1977	23.3	30.7	44.7	51.3	62.6	67.4	74.9	73.4	64.4	55.3	48.1	34.2	52.5
1978	28.5	27.1	36.2	48.8	59.3	68.3	72.1	71.6	61.4	52.5	43.6	35.3	50.4
1979	32.5	23.1	42.5	48.7	61.1	68.2	74.5	71.7	64.9	52.7	48.6	36.7	52.1
1980	29.4	27.9	36.9	48.7	59.4	66.3	75.8	74.2	67.0	52.4	41.2	28.6	50.7
1981	21.4	36.4	39.1	51.7	60.4	70.7	74.6	72.1	63.7	51.2	43.9	33.2	51.5
1982	22.9	30.8	38.7	48.2	57.8	63.3	74.9	70.3	64.1	54.2	47.6	39.6	51.0
1983	31.2	32.8	40.6	49.1	58.2	70.7	78.0	73.6	70.6	55.2	46.1	32.1	53.2
1984	26.7	37.6	31.9	46.1	58.0	70.5	74.7	74.6	62.1	53.3	44.6	39.5	51.6
1985	24.4	32.8	40.4	49.3	59.3	64.8	73.5	70.4	65.4	55.4	45.4	31.3	51.0
1986	31.4	28.9	40.7	48.4	58.4	66.1	71.0	70.5	63.2	54.0	42.3	35.5	50.9
1987	28.9	29.1	38.5	45.1	57.2	65.1	71.7	70.3	65.4	54.3	43.9	36.1	50.5
1988	27.8	32.2	39.2	46.8	57.6	68.5	73.7	75.5	64.6	50.8	46.7	32.8	51.4
1989	34.5	30.5	37.3	45.9	59.4	67.8	72.8	71.6	64.7	55.3	42.8	21.7	50.4
1990	36.4	34.1	40.1	47.6	54.9	66.6	73.1	73.3	64.6	58.3	48.5	40.7	53.2
1991	29.4	36.1	41.6	51.3	63.3	70.0	74.6	73.8	63.7	56.4	45.2	36.0	53.5
1992	31.0	32.4	35.4	46.4	55.6	67.8	69.5	70.4	63.9	52.5	42.9	34.8	50.2
1993	32.4	27.1	36.4	48.3	60.3	69.5	74.7	73.6	64.8	52.3	45.6	34.2	51.6
1994	22.2	26.9	38.2	51.4	58.4	71.9	77.5	72.4	64.2	55.5	49.0	38.5	52.2
1995	34.6	28.5	38.8	46.1	57.2	68.6	75.9	72.8	63.1	58.4	41.9	31.7	51.5
1996	30.1	30.9	36.5	47.9	57.4	68.1	71.8	70.9	64.2	53.2	40.3	39.3	50.9
1997	29.2	36.0	36.7	46.3	56.1	68.2	73.7	71.2	64.2	52.8	41.7	35.2	50.9
1998	33.9	35.3	41.5	49.4	60.3	64.7	74.4	72.5	66.3	54.5	44.6	39.1	53.0
1999	29.5	33.6	39.4	49.2	58.2	71.0	75.7	71.3	67.1	53.0	48.0	37.3	52.8
2000	27.5	34.2	43.3	47.3	57.2	67.3	70.0	70.3	63.5	53.9	43.8	29.2	50.6
2001	30.0	31.8	35.3	48.7	59.6	71.1	69.9	73.9	65.3	56.2	48.3	40.5	52.6
2002	36.7	36.3	40.2	49.7	57.7	66.5	75.2	75.3	68.4	52.4	42.9	33.2	52.9
2003	24.1	26.4	37.7	44.5	55.1	65.4	74.3	74.3	65.7	53.0	45.9	36.1	50.2
2004	20.7	33.0	39.4	49.5	58.9	66.5	71.0	72.1	65.2	53.8	44.4	35.0	50.8
POR= 132 YRS	28.8	29.7	37.3	47.2	57.9	67.1	72.7	70.9	64.1	54.1	43.7	33.1	50.5

HEATING DEGREE DAYS (base 65°F) 2004 BOSTON, MA (BOS)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1975-76	0	8	70	239	395	941	1198	800	733	331	166	16	4897
1976-77	1	10	55	393	688	1108	1290	956	623	414	158	43	5739
1977-78	0	4	85	304	498	948	1127	1057	885	480	209	18	5615
1978-79	11	11	150	381	635	916	1002	1169	691	481	149	19	5615
1979-80	2	15	80	390	484	873	1096	1071	866	481	185	66	5609
1980-81	2	5	72	387	706	1120	1344	794	796	393	200	7	5826
1981-82	2	6	91	419	628	979	1300	948	811	496	231	113	6024
1982-83	2	19	71	338	515	783	1040	896	749	478	223	22	5136
1983-84	0	8	42	327	561	1012	1182	790	1020	563	239	36	5780
1984-85	3	0	142	359	605	781	1255	897	758	471	204	71	5546
1985-86	3	11	65	298	580	1035	1035	1008	746	490	258	66	5595
1986-87	21	16	98	344	674	904	1112	997	814	588	285	76	5929
1987-88	8	18	57	326	626	888	1145	945	792	541	253	61	5660
1988-89	9	10	64	443	541	992	938	959	853	565	196	51	5621
1989-90	2	4	88	294	660	1336	880	857	762	524	307	60	5774
1990-91	4	5	84	236	496	744	1096	803	721	407	126	35	4757
1991-92	1	8	111	273	586	894	1049	937	913	552	317	37	5678
1992-93	21	14	109	386	656	930	1002	1056	880	493	167	31	5745
1993-94	3	1	89	387	579	946	1320	1059	827	404	226	7	5848
1994-95	1	3	61	288	479	813	932	1016	804	561	258	30	5246
1995-96	1	2	113	214	685	1023	1074	981	875	510	260	20	5758
1996-97	1	6	80	358	739	792	1104	806	868	551	269	87	5661
1997-98	5	3	83	383	693	917	955	826	736	462	192	66	5321
1998-99	0	2	36	321	606	798	1092	876	790	468	215	29	5229
1999-00	2	7	39	363	505	851	1152	887	665	523	250	74	5318
2000-01	6	2	108	341	628	1103	1079	925	914	488	217	18	5829
2001-02	2	1	67	286	492	753	869	798	763	459	235	81	4806
2002-03	1	6	30	407	653	980	1264	1077	840	614	301	77	6250
2003-04	2	5	27	365	566	891	1369	924	784	462	210	52	5657
2004-	2	3	59	339	617	926							

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COOLING DEGREE DAYS (base 65°F) 2004 BOSTON, MA (BOS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1975	0	0	0	0	60	139	345	261	44	9	4	0	862
1976	0	0	0	43	25	276	251	231	61	8	0	0	895
1977	0	0	1	13	92	124	314	272	75	6	0	0	897
1978	0	0	0	0	40	122	237	221	48	0	0	0	668
1979	0	0	0	0	35	122	304	226	85	17	0	0	789
1980	0	0	0	0	18	114	347	299	137	1	0	0	916
1981	0	0	0	0	67	185	306	232	60	0	0	0	850
1982	0	0	0	0	15	67	314	192	49	10	2	0	649
1983	0	0	0	7	18	200	410	283	217	27	0	0	1162
1984	0	0	0	3	31	207	312	306	62	3	0	0	924
1985	0	0	0	5	30	72	271	183	83	8	0	0	652
1986	0	0	0	0	60	105	211	190	55	10	0	0	631
1987	0	0	0	0	48	87	221	189	76	0	2	0	623
1988	0	0	0	0	31	173	287	342	59	11	0	0	903
1989	0	0	1	0	29	142	248	214	89	0	0	0	723
1990	0	0	0	10	2	116	261	268	77	34	8	0	776
1991	0	0	0	3	79	189	304	287	79	15	0	0	956
1992	0	0	0	0	30	126	165	189	83	5	0	0	598
1993	0	0	0	0	28	173	310	273	89	0	2	0	875
1994	0	0	0	1	29	221	395	241	44	1	4	0	936
1995	0	0	0	0	24	147	344	252	64	15	0	0	846
1996	0	0	0	3	30	120	222	196	63	0	1	0	635
1997	0	0	0	0	0	189	280	202	66	12	0	0	749
1998	0	0	16	2	52	59	298	240	83	1	0	0	751
1999	0	0	0	0	11	215	344	213	110	0	0	0	893
2000	0	0	0	0	15	151	167	174	71	5	0	0	583
2001	0	0	0	9	55	210	160	283	83	20	0	0	820
2002	0	0	0	8	18	133	324	330	138	21	0	0	972
2003	0	0	0	3	3	94	298	300	57	0	0	0	755
2004	0	0	0	3	24	104	198	231	72	0	0	0	632

SNOWFALL (inches) 2004 BOSTON, MA (BOS)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1975-76	0.0	0.0	0.0	T	0.1	19.3	15.0	1.4	10.8	T	0.0	0.0	46.6
1976-77	0.0	0.0	0.0	0.0	1.0	17.2	23.2	5.9	10.7	T	0.5	0.0	58.5
1977-78	0.0	0.0	0.0	0.0	0.7	5.2	35.9	27.2	16.1	T	0.0	0.0	85.1
1978-79	0.0	0.0	0.0	0.0	4.2	5.8	10.5	6.6	T	0.4	0.0	0.0	27.5
1979-80	0.0	0.0	0.0	0.2	T	2.0	0.4	6.5	3.6	T	0.0	0.0	12.7
1980-81	0.0	0.0	0.0	0.0	2.4	5.6	11.9	1.9	0.5	0.0	0.0	0.0	22.3
1981-82	0.0	0.0	0.0	0.0	T	17.6	18.0	7.6	5.3	13.3	0.0	0.0	61.8
1982-83	0.0	0.0	0.0	0.0	T	5.5	4.7	22.3	0.2	T	0.0	0.0	32.7
1983-84	0.0	0.0	0.0	0.0	T	2.6	21.1	0.3	19.0	T	0.0	0.0	43.0
1984-85	0.0	0.0	0.0	0.0	T	3.7	7.0	10.2	3.7	2.0	0.0	0.0	26.6
1985-86	0.0	0.0	0.0	0.0	3.0	1.3	0.8	10.4	2.6	T	0.0	0.0	18.1
1986-87	0.0	0.0	0.0	0.0	3.5	3.4	24.3	3.7	3.5	4.1	0.0	0.0	42.5
1987-88	0.0	0.0	0.0	0.0	9.0	7.5	17.0	14.1	5.0	T	0.0	0.0	52.6
1988-89	0.0	0.0	0.0	T	0.0	3.7	1.5	6.7	3.2	0.4	0.0	0.0	15.5
1989-90	0.0	0.0	0.0	0.0	4.5	6.2	7.0	16.9	4.1	0.5	0.0	0.0	39.2
1990-91	0.0	0.0	0.0	0.0	T	1.2	11.7	2.8	3.4	0.0	0.0	0.0	19.1
1991-92	0.0	0.0	0.0	0.0	T	5.8	0.4	4.0	10.8	1.0	0.0	0.0	22.0
1992-93	0.0	0.0	0.0	0.0	0.6	9.7	12.9	19.6	38.9	2.2	0.0	0.0	83.9
1993-94	0.0	0.0	0.0	0.0	T	11.6	33.7	36.2	14.8	0.0	0.0	0.0	96.3
1994-95	0.0	T	0.0	0.0	0.1	1.5	4.4	8.5	0.4	T	0.0	0.0	14.9
1995-96	0.0	0.0	0.0	0.0	4.1	24.1	39.8	15.5	16.8				
1996-97					1.6								
1997-98													
1998-99							16.8	7.4	11.4	0.0	0.0	0.0	
1999-00	0.0	0.0	0.0	0.0	0.0	0.0	13.7	9.2	2.0	T	0.0	0.0	24.9
2000-01	0.0	0.0	0.0	T	T	4.5	12.4	9.8	19.2	T	0.0	0.0	45.9
2001-02	0.0	0.0	0.0	T	0.0	5.0	7.9	0.5	1.4	0.3	0.0	T	15.1
2002-03	0.0	0.0	0.0	T	3.6	11.1	4.2	41.6	8.1	2.3	0.0	0.0	70.9
2003-04	0.0	0.0	0.0	T	0.0	21.5	4.9	2.4	10.6	T	0.0	0.0	39.4
2004-	T	0.0	0.0	0.0	3.9	7.2							
POR= 66 YRS	0.0	T	0.0	0.0	1.3	7.8	12.3	11.6	8.0	0.9	0.0	0.0	41.9

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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.</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 EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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2004
BOSTON,
MASSACHUSETTS (BOS)

Climate is the composite of numerous weather elements. Three important influences are responsible for the main features of the Boston climate. First, the latitude places the city in the zone of prevailing west to east atmospheric flow. Both polar and tropical air masses influence the region. Secondly, Boston is situated on or near several tracks frequently followed by low pressure storm systems. The weather fluctuates regularly from fair to cloudy to stormy conditions and assures an adequate amount of precipitation. The third factor is the east-coast location of Boston. The ocean has a moderating influence on temperature extremes of winter and summer.

Hot summer afternoons are frequently relieved by the locally celebrated sea breeze, as air flows inland from the cool water surface to displace the warm air over the land. This refreshing east wind is more commonly experienced along the shore than in the interior of the city or the western suburbs. In winter, under appropriate conditions, the severity of cold waves is reduced by the nearness of the relatively warm ocean. The average last occurrence of freezing temperature in spring is early April and the first occurrence of freezing temperature in autumn is early November. In suburban areas, especially away from the coast, these dates are later in spring and earlier in autumn by up to one month in the more susceptible localities.

Boston has no dry season. Most growing seasons have several shorter dry spells during which irrigation for high-value crops may be useful. Much of the rainfall from June to September comes from showers and thunderstorms. During the rest of the year, low pressure systems pass more or less regularly and produce precipitation on an average of roughly one day in three. Coastal storms, or northeasters, are prolific producers of rain and snow. The main snow season extends from December through March. Periods when the ground is bare or nearly bare of snow may occur at any time in the winter.

Relative humidity has been known to fall as low as 5 percent but such desert dryness is very rare. Heavy fog occurs on an average of about two days per month with its prevalence increasing eastward from the interior of Boston Bay to the open waters beyond.

Although winds of 30 mph or higher may be expected on at least one day in every month of the year, gales are both more common and more severe in winter.

STATION LOCATION

BOSTON, MASSACHUSETTS

LOCATION	Occupied From	Occupied To	Airline Distances and Directions from previous Location	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										AUTOMATED OBSERVING EQUIPMENT * REMARKS	
						SEA LEVEL GROUND SURFACE	GROUND								HYGROMETER		8 INCH RAIN GAGE
							WIND INSTRUMENT	EXTREME THERMOMETER	PSYCHROMETER	SUNSHINE SWITCH	TIPPING BUCKET	WINDHANG RAIN GAGE	8 INCH RAIN GAGE				
*NOTES AIRPORT U.S. Army Hangar No. 1 Boston Airport East Boston	10/15/26	4/1/27	NA	42° 22' 71° 02'	3												Pibal only.
Section F, Army Base South Boston	4/1/27	11/1/27	1.75 mi. S	42° 21' 71° 02'		143											Pibal only.
Shack 25 feet South of Commercial Hangar Boston AP, East Boston	11/1/27	7/1/29	1.75 mi. N	42° 21' 71° 02'	2	22		4									Pibal only.
Shack 200 feet SW of East Coast Hangar Boston AP, East Boston	7/1/29	5/1/30	0.13 mi. SW	42° 22' 71° 02'	12	24		4									Pibal only to 2/16/30.
Administration Building Boston Municipal Airport East Boston	5/1/30	11/22/51	0.13 mi. NW	42° 22' 71° 02'	12	50 b62	31 b33	31 b33	NA aUnk	NA a3 d32	NA c3 d32	3 d32	NA	NA			Official synoptic records began 1/1/36. a. Installed 1/1/36 b. Installed on 30' instrument tower on roof 9/17/37. c. Installed 2/1/38. d. Moved to roof 3/10/44.
Gate No. 11, Boutwell Building, Logan Int'l. Airport, East Boston	11/22/51	12/5/63	0.63 mi. E	42° 22' 71° 01'	15	34 f75 g33	20	20	Unk e24	19	19	18	NA	NA			e. Effective 6/4/53. f. Effective 7/20/54. g. Effective 8/23/57.
General Aviation Admn. Building, West Wing, Logan International AP	12/5/63	8/1/86	0.63 mi. W	42° 22' 71° 02'	12	22 i15	33 j6	33 j5	48 j9	33 j5	33 j5	33 j5	NA h4 k5	NA			Instrument relocations completed 12/11/63. h. Commissioned on field site 4/1/64. i. Effective 4/1/64. j. Moved from roof to field site app. 30' NE 8/5/71. k. Minor move 12/5/84. m. Relocated on roof 7/1/86.
Logan International AP East Boston	8/1/86	04/01/96	0.25 mi. SE	42° 22' 71° 02'					m40	m40	m40	m40					
Gen Logan Int'l Airport	04/01/96	Present	NA	42° 22' 71° 01'	n19									S			ASOS Commissioned 04/01/96 n. Ground elevation.

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* NOTES: For earlier station history see previous edition.