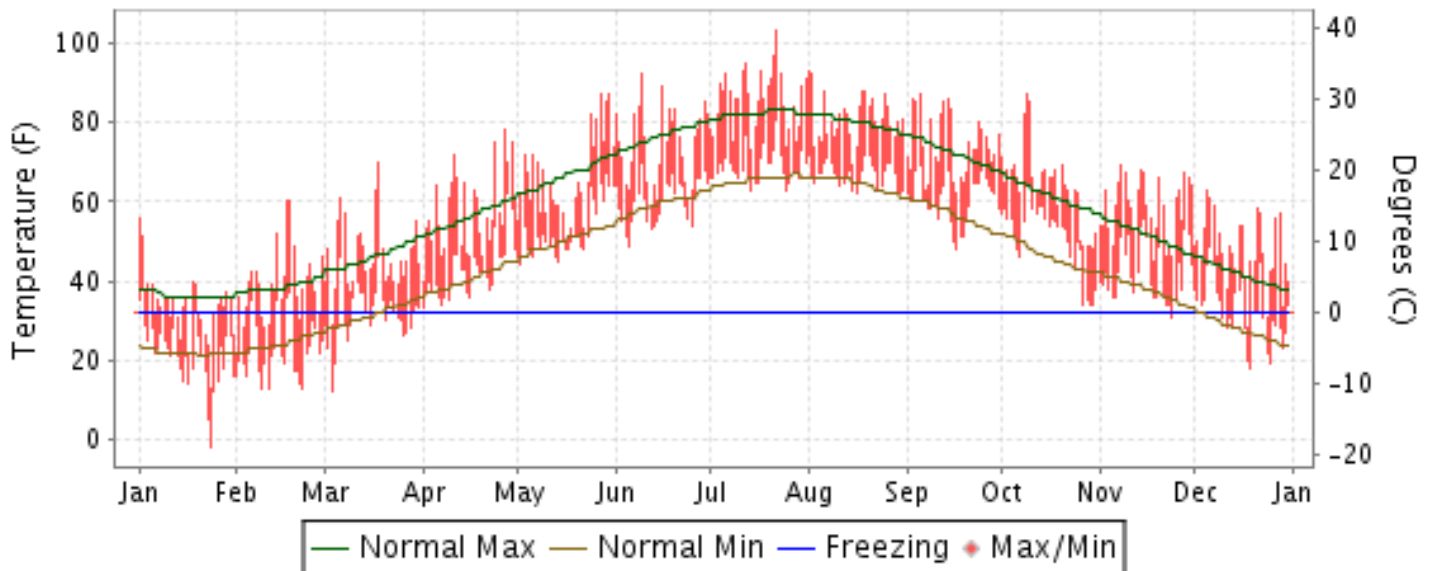




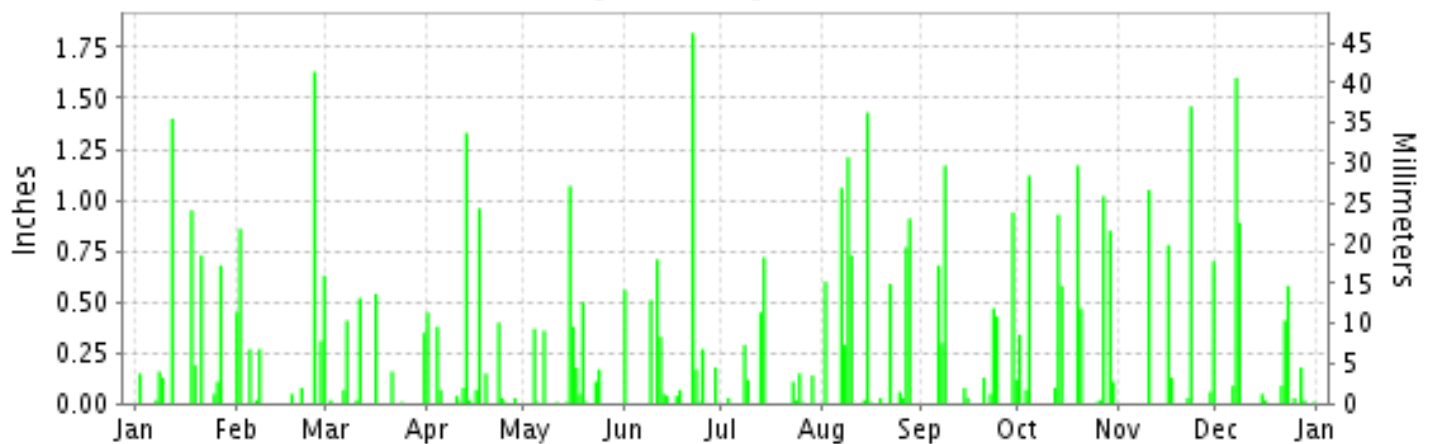
2011 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

ISSN 0198-2419

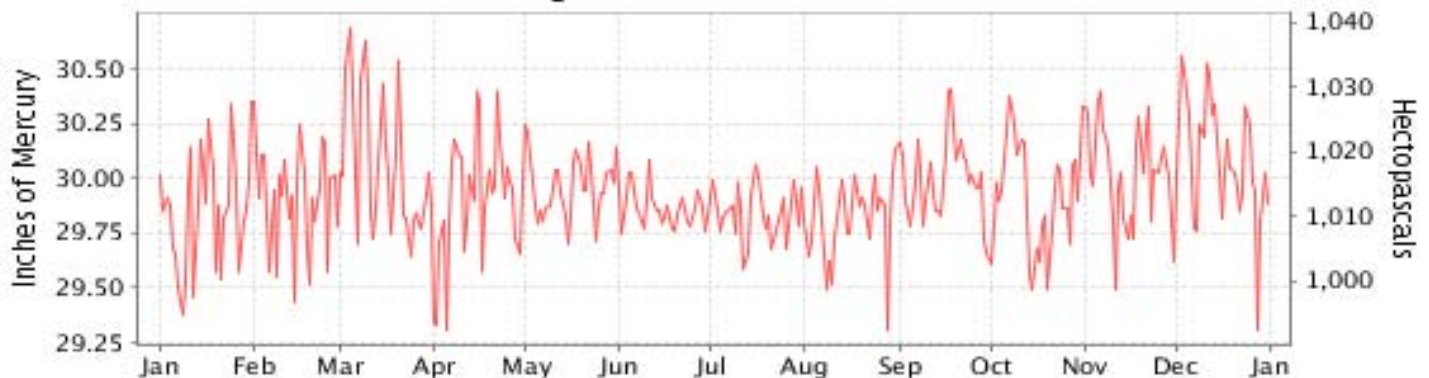
BOSTON, MASSACHUSETTS (KBOS) Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER.

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AND INFORMATION SERVICE

NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2011

BOSTON (KBOS)

LATITUDE: 42° 21'N LONGITUDE: -71° 0'W ELEVATION (FT): GRND: 12 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	33.6	38.8	46.4	57.8	66.0	74.1	85.7	81.0	74.3	64.0	58.5	47.6	60.7	
	HIGHEST DAILY MAXIMUM	56	60	70	78	87	92	103	93	87	87	69	63	103	
	DATE OF OCCURRENCE	01	18+	18	27	30+	09	22	01	05	09	08	05	JUL 22	
	MEAN DAILY MINIMUM	21.5	22.3	31.5	42.4	52.5	60.1	68.9	66.8	60.3	51.1	42.2	32.4	46.0	
	LOWEST DAILY MINIMUM	-2	13	12	33	44	49	63	62	48	34	31	18	-2	
	DATE OF OCCURRENCE	24	22+	03	01	02	05	25+	30+	17	30+	24	19	JAN 24	
	AVERAGE DRY BULB	27.6	30.6	39.0	50.1	59.3	67.1	77.3	73.9	67.3	57.6	50.4	40.0	53.4	
	MEAN WET BULB	24.6	26.4	33.7	44.3	53.9	60.3	67.8	66.4	62.2	50.8	44.8	35.9	47.6	
	MEAN DEW POINT	16.7	16.4	24.0	37.0	49.9	55.4	62.4	62.1	58.6	44.2	38.2	28.2	41.1	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	0	1	10	2	0	0	0	0	13	
MAXIMUM <= 32°	12	7	1	0	0	0	0	0	0	0	0	2	22		
MINIMUM <= 32°	29	24	18	0	0	0	0	0	0	0	1	17	89		
MINIMUM <= 0°	1	0	0	0	0	0	0	0	0	0	0	0	1		
H/C	HEATING DEGREE DAYS	1153	959	801	442	227	64	0	0	44	251	430	766	5137	
	COOLING DEGREE DAYS	0	0	0	3	55	135	389	282	118	25	0	0	1007	
RH	MEAN (PERCENT)	65	59	59	65	75	70	63	70	76	65	66	64	66	
	HOUR 01 LST	68	60	65	74	82	76	74	79	84	72	73	68	73	
	HOUR 07 LST	71	64	62	64	74	68	62	70	77	68	71	67	68	
	HOUR 13 LST	57	51	51	59	67	61	50	59	67	55	52	55	57	
	HOUR 19 LST	63	58	59	65	76	71	65	71	78	65	68	64	67	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	4	2	1	4	4	0	0	3	2	3	2	0	25	
	THUNDERSTORMS	0	1	0	0	1	2	2	4	3	1	0	0	14	
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	29.91	30.08	29.90	29.96	29.86	29.85	29.83	30.00	29.93	30.04	30.09	29.94	
	MEAN SEA-LEVEL PRESS. (IN.)	29.91	29.94	30.09	29.93	30.00	29.90	29.88	29.85	30.03	29.96	30.07	30.11	29.97	
WINDS	RESULTANT SPEED (MPH)	7.2	7.4	3.2	2.2	2.6	0.5	3.4	3.1	1.2	3.8	5.0	5.5	2.7	
	RES. DIR. (TENS OF DEGS.)	31	28	28	24	07	02	24	20	17	31	25	27	28	
	MEAN SPEED (MPH)	10.6	11.8	12.2	11.9	10.5	9.7	9.4	9.6	8.6	11.0	10.2	10.3	10.5	
	PREVAIL.DIR.(TENS OF DEGS.)	29	32	32	28	04	08	23	20	20	29	22	22	29	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	36	37	37	36	35	32	31	46	36	31	33	38	46	
	DIR. (TENS OF DEGS.)	01	27	28	28	03	30	22	17	23	35	08	17	17	
	DATE OF OCCURRENCE	27	18	18	21	10	09	21	28	29	30	23	27	AUG 28	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	46	53	48	46	47	44	38	63	44	40	43	49	63	
DIR. (TENS OF DEGS.)	05	28	26	28	03	30	23	15	23	35	27	17	15		
DATE OF OCCURRENCE	12	18	18	21	10	09	21	28	29	30	11	27	AUG 28		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	4.57	4.57	2.10	4.03	3.23	4.76	2.04	7.74	4.40	6.77	4.21	3.97	52.39	
	GREATEST 24-HOUR (IN.)	1.40	1.63	0.54	1.41	1.24	1.86	1.17	1.94	1.31	1.64	1.49	2.48	2.48	
	DATE OF OCCURRENCE	12	25	16	12-13	15-16	22-23	13-14	09-10	07-08	19-20	22-23	07-08	DEC 07-08	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	11	10	9	15	13	13	10	14	11	13	7	12	138	
PRECIPITATION 0.10	9	7	5	6	8	8	7	9	8	9	5	5	86		
PRECIPITATION 1.00	1	1	0	1	1	1	0	3	1	3	2	1	15		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	38.3	18.5	1.3	0.9	0.0	T	0.0	0.0	0.0	1.0	T	T	60.0	
	GREATEST 24-HOUR (IN.)	14.6	6.8	0.6	0.9	0.0	T	0.0	0.0	0.0	0.6	T	T	14.6	
	DATE OF OCCURRENCE	12	01	31	01		01				30	17	25+	JAN 12	
	NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	7	5	0	0	0	0	0	0	0	0	0	0	12		

NORMALS, MEANS, AND EXTREMES BOSTON (KBOS)

LATITUDE: 42° 21'N **LONGITUDE:** -71° 0'W **ELEVATION (FT):** GRND: 12 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	59.3
	MEAN DAILY MAXIMUM	92	36.3	37.0	45.5	55.4	66.7	75.5	81.6	79.7	72.0	62.4	51.4	40.7	58.7
	HIGHEST DAILY MAXIMUM	60	69	70	89	94	95	100	103	102	100	90	79	76	103
	YEAR OF OCCURRENCE		2007	1985	1998	1976	1979	1952	2011	1975	1953	1963	1994	1998	JUL 2011
	MEAN OF EXTREME MAXS.	92	56.2	56.2	66.7	79.0	87.1	92.7	95.1	93.2	88.7	80.0	69.8	60.5	77.1
	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	92	22.0	22.7	30.9	39.7	49.8	58.4	65.0	63.8	56.4	46.8	37.5	27.0	43.3
	LOWEST DAILY MINIMUM	60	-12	-4	5	16	34	45	50	47	38	28	15	-7	-12
	YEAR OF OCCURRENCE		1957	1961	2007	1982	1956	1986	1988	1986	2000	1976	1989	1980	JAN 1957
	MEAN OF EXTREME MINS.	92	3.5	6.7	15.6	30.0	40.3	49.3	57.3	55.0	44.7	34.6	24.6	10.1	31.0
	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	92	29.2	29.9	38.2	47.6	58.3	67.1	73.3	71.8	64.2	54.6	44.5	33.9	51.1
	MEAN WET BULB	28	24.7	25.9	31.7	40.5	50.2	59.8	65.0	64.6	58.2	47.7	39.1	29.6	44.8
	MEAN DEW POINT	28	20.1	21.3	27.6	36.6	47.1	56.9	62.6	62.4	55.9	44.6	35.1	25.1	41.3
	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	73	69	66	65	67
	HOURLY 01 LST	30	66	66	68	69	75	77	78	80	80	76	71	68	73
	HOURLY 07 LST	30	69	68	70	69	73	73	74	78	80	77	74	70	73
	HOURLY 13 LST	30	59	56	57	56	61	58	57	60	60	58	58	58	58
	HOURLY 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)	48	1.8	1.6	2.1	1.5	2.3	2.0	1.8	1.5	1.6	1.9	1.6	1.4	21.1
	THUNDERSTORMS	66	0.2	0.2	0.5	0.9	2.2	3.3	4.0	3.2	1.4	0.7	0.4	0.2	17.2
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	61	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	61	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	61	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)	28	29.94	29.96	29.97	29.93	29.94	29.91	29.92	29.97	30.01	30.01	30.01	29.98	29.96
	MEAN SEA-LEVEL PRES. (IN)	28	30.01	30.00	30.01	29.96	29.98	29.94	29.96	30.00	30.05	30.05	30.05	30.02	30.00
WINDS	MEAN SPEED (MPH)	28	12.7	12.8	13.0	12.2	11.5	10.8	10.4	10.2	10.6	11.5	11.8	12.7	11.7
	PREVAIL.DIR(TENS OF DEGS)	44	30	30	30	30	21	24	24	24	24	30	30	30	30
	MAXIMUM 2-MINUTE: SPEED (MPH)	15	49	48	46	43	45	47	45	46	47	44	48	46	49
	DIR. (TENS OF DEGS)		18	29	03	11	28	26	30	17	23	05	11	18	18
	YEAR OF OCCURRENCE		2006	2006	1997	2007	2006	2010	1999	2011	1998	2005	1997	2000	JAN 2006
	MAXIMUM 3-SECOND SPEED (MPH)	15	61	60	56	55	55	68	74	63	63	56	57	55	74
	DIR. (TENS OF DEGS)		18	09	06	12	28	25	25	15	23	25	11	32	25
YEAR OF OCCURRENCE		2006	2010	2001	2007	2006	2010	1999	2011	1998	2006	1997	2010	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)	60	10.55	7.94	14.87	9.57	13.38	13.20	8.12	17.09	9.86	10.66	8.89	9.74	17.09
	YEAR OF OCCURRENCE		1979	2008	2010	2004	1954	1982	1959	1955	1999	1996	1983	1969	AUG 1955
	MINIMUM MONTHLY (IN)	60	0.61	0.72	0.56	0.83	0.53	0.48	0.52	0.66	0.35	0.41	0.64	0.81	0.35
	YEAR OF OCCURRENCE		1989	1987	2006	1999	1964	1999	1952	2007	1957	1994	1976	1989	SEP 1957
	MAXIMUM IN 24 HOURS (IN)	60	2.72	2.81	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	2008	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)	74	43.3	41.6	38.9	13.3	0.5	T	T	T	T	1.1	10.0	27.9	43.3
	YEAR OF OCCURRENCE		1996	2003	1993	1982	1977	2011	2004	1994	1994	1979	1938	1970	JAN 1996
	MAXIMUM IN 24 HOURS (IN)	74	21.0	23.6	17.7	13.2	0.5	T	T	T	0.0	1.1	8.0	13.0	23.6
	YEAR OF OCCURRENCE		1978	1978	1960	1982	1977	2011	2004	1994	1994	2005	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) 2011 BOSTON (KBOS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2005	4.45	2.70	3.89	3.17	3.98	1.46	3.37	2.88	1.78	9.41	3.71	2.87	43.67
2006	4.55	2.64	0.56	1.83	12.48	10.09	3.58	3.20	1.72	4.50	5.80	1.89	52.84
2007	2.57	2.20	4.31	6.71	3.70	2.12	5.26	0.66	1.81	2.08	2.80	5.25	39.47
2008	2.69	7.94	4.66	2.98	2.73	3.46	6.00	4.47	6.45	1.41	4.57	7.10	54.46
2009	3.35	1.94	2.51	4.13	2.69	3.22	6.90	3.24	3.09	5.17	3.34	3.91	43.49
2010	2.91	3.34	14.87	1.78	2.90	3.18	2.66	5.75	1.80	3.90	2.96	3.61	49.66
2011	4.57	4.57	2.10	4.03	3.23	4.76	2.04	7.74	4.40	6.77	4.21	3.97	52.39
POR= 92 YRS	3.60	3.34	3.97	3.66	3.33	3.40	3.08	3.43	3.30	3.37	3.92	3.87	42.27

WBAN : 14739

AVERAGE TEMPERATURE (°F) 2011 BOSTON (KBOS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2005	26.8	31.2	35.2	49.7	52.2	68.4	73.3	74.4	67.9	54.7	45.9	32.5	51.0
2006	36.5	31.0	38.7	49.8	57.1	68.1	76.0	71.4	64.6	54.3	49.1	41.1	53.1
2007	32.8	26.2	37.5	45.2	61.4	68.5	72.9	72.7	67.7	59.2	43.1	32.4	51.6
2008	33.4	32.5	38.3	49.4	57.7	70.3	75.0	70.1	65.3	53.4	43.4	35.7	52.0
2009	24.9	32.9	37.5	50.5	59.5	63.4	70.5	73.6	63.2	51.9	48.9	33.2	50.8
2010	29.6	33.2	43.9	53.0	62.8	70.3	77.2	73.5	68.7	55.6	44.8	32.7	53.8
2011	27.6	30.6	39.0	50.1	59.3	67.1	77.3	73.9	67.3	57.6	50.4	40.0	53.4
POR= 92 YRS	29.2	29.9	38.2	47.6	58.3	67.1	73.3	71.8	64.2	54.6	44.5	33.9	51.0

HEATING DEGREE DAYS (base 65°F) 2011 BOSTON (KBOS)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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	872	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
2004-05	2	3	59	339	617	926	1178	941	914	456	388	66	5889
2005-06	10	0	32	325	565	1000	878	947	810	449	258	55	5329
2006-07	0	11	64	331	470	735	991	1079	846	593	174	50	5344
2007-08	0	12	50	203	652	1004	972	934	822	462	232	27	5370
2008-09	0	0	78	356	641	902	1236	894	847	447	191	78	5670
2009-10	13	5	87	398	479	981	1091	884	649	355	130	18	5090
2010-11	0	6	28	298	597	993	1153	959	801	442	227	64	5568
2011-	0	0	44	251	430	766							

WBAN : 14739

COOLING DEGREE DAYS (base 65°F) 2011 BOSTON (KBOS)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2005	0	0	0	5	1	176	274	299	126	13	0	0	894
2006	0	0	0	0	20	158	341	218	60	4	0	0	801
2007	0	0	0	4	68	159	253	257	135	31	0	0	907
2008	0	0	0	2	13	195	318	165	95	1	0	0	789
2009	0	0	0	18	28	33	191	281	40	0	0	0	591
2010	0	0	0	3	70	186	385	278	147	13	0	0	1082
2011	0	0	0	3	55	135	389	282	118	25	0	0	1007

SNOWFALL (inches) 2011 BOSTON (KBOS)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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	7.3	0.0	0.0	107.6
1996-97	0.0	0.0	0.0	0.0	1.8	5.0	9.7	4.8	8.2	22.4	0.0	0.0	51.9
1997-98	0.0	0.0	0.0	0.0	3.9	7.8	10.0	0.3	3.6	T	0.0	0.0	25.6
1998-99	0.0	0.0	0.0	0.0	0.0	0.8	16.8	7.4	11.4	0.0	0.0	0.0	36.4
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
2004-05	T	0.0	0.0	0.0	3.9	7.2	43.3	17.7	14.5	T	0.0	0.0	86.6
2005-06	0.0	0.0	0.0	1.1	T	10.7	7.6	20.0	T	T	0.0	0.0	39.4
2006-07	0.0	0.0	0.0	0.0	0.0	0.8	1.0	4.6	10.2	0.5	0.0	0.0	17.1
2007-08	0.0	0.0	0.0	0.0	T	26.9	8.3	15.0	1.0	0.0	0.0	0.0	51.2
2008-09	0.0	0.0	0.0	0.0	T	25.3	23.7	6.2	10.7	0.0	0.0	0.0	65.9
2009-10	0.0	0.0	0.0	0.1	0.0	15.2	13.2	7.0	0.2	0.0	0.0	0.0	35.7
2010-11	0.0	0.0	0.0	0.0	T	22.0	38.3	18.5	1.3	0.9	0.0	T	81.0
2011-	0.0	0.0	0.0	1.0	T	T							
POR= 89 YRS	T	T	0.0	T	1.1	7.8	12.8	12.4	7.4	1.1	0.0	T	42.6

WBAN : 14739

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 BOSTON MASSACHUSETTS (KBOS)

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 History

BOSTON, MA

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
BOSTON LOGAN INTL AP	1951-11-22	1964-01-01	42° 22'	-71° 1'	33		AIRWAYS, COOP
BOSTON LOGAN INTL AP	1964-01-01	1969-01-01	42° 22'	-71° 1'	20		AIRWAYS, COOP
BOSTON AP	1936-01-01	1948-01-01	42° 22'	-71° 1'			AIRWAYS
BOSTON LOGAN INTL AP	2009-10-09	Present	42° 21'	-71° 0'	12		ASOS, COOP
BOSTON AP	1948-01-01	1951-01-01	42° 22'	-71° 1'	43		AIRWAYS, COOP
BOSTON LOGAN INTL AP	1981-12-31	1996-04-01	42° 22'	-71° 1'	20		COOP
BOSTON AP	1951-01-01	1951-11-22	42° 22'	-71° 1'	33		AIRWAYS, COOP
BOSTON LOGAN INTL AP	1969-01-01	1981-12-31	42° 22'	-71° 1'	20		COOP, WXSVC
BOSTON LOGAN INTL AP	1996-04-01	2009-10-09	42° 21'	-71° 0'	20		ASOS, COOP

Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
PRECIP	1987-05-13	1995-07-01	HOURLY	2400			
TEMP	1987-05-13	1995-07-01	DAILY	2400	HYGR		ROOF
TEMP	1995-07-01	2009-10-09	DAILY	2400	HYGR		ROOF
PRECIP	2009-10-09	Present	DAILY	2400	PCPNX		
PRECIP	1995-07-01	2009-10-09	DAILY	2400	UNIV	RCRD	ROOF
PRECIP	1964-04-01	1987-05-13	HOURLY	2400			
PRECIP	1964-04-01	1987-05-13	DAILY	2400	UNIV	RCRD	ROOF
PRECIP	1936-01-01	1964-04-01	DAILY	2400	UNIV	RCRD	ROOF
TEMP	1936-01-01	1964-04-01	DAILY	2400			
PRECIP	1987-05-13	1995-07-01	DAILY	2400	UNIV	RCRD	ROOF
PRECIP	2009-10-09	Present	HOURLY	2400	AWPAG	RCRD;HTD	
PRECIP	1995-07-01	2009-10-09	HOURLY	2400	UNIV	RCRD	ROOF
TEMP	1964-04-01	1987-05-13	DAILY	2400			
TEMP	2009-10-09	Present	DAILY	2400	HYGR		

* 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

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Email : ncdc.info@noaa.gov

NOAA/National Climatic Data Center

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