

1998

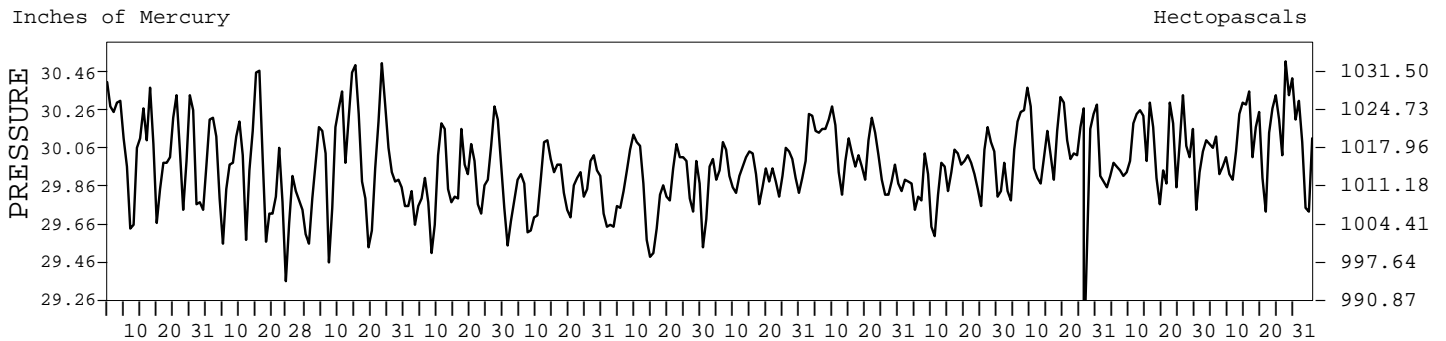
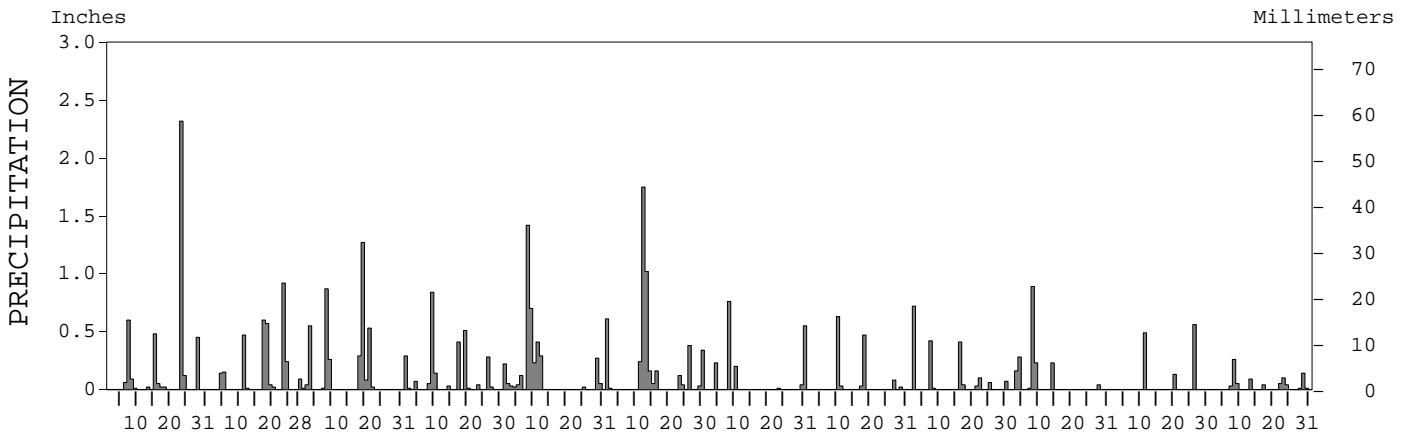
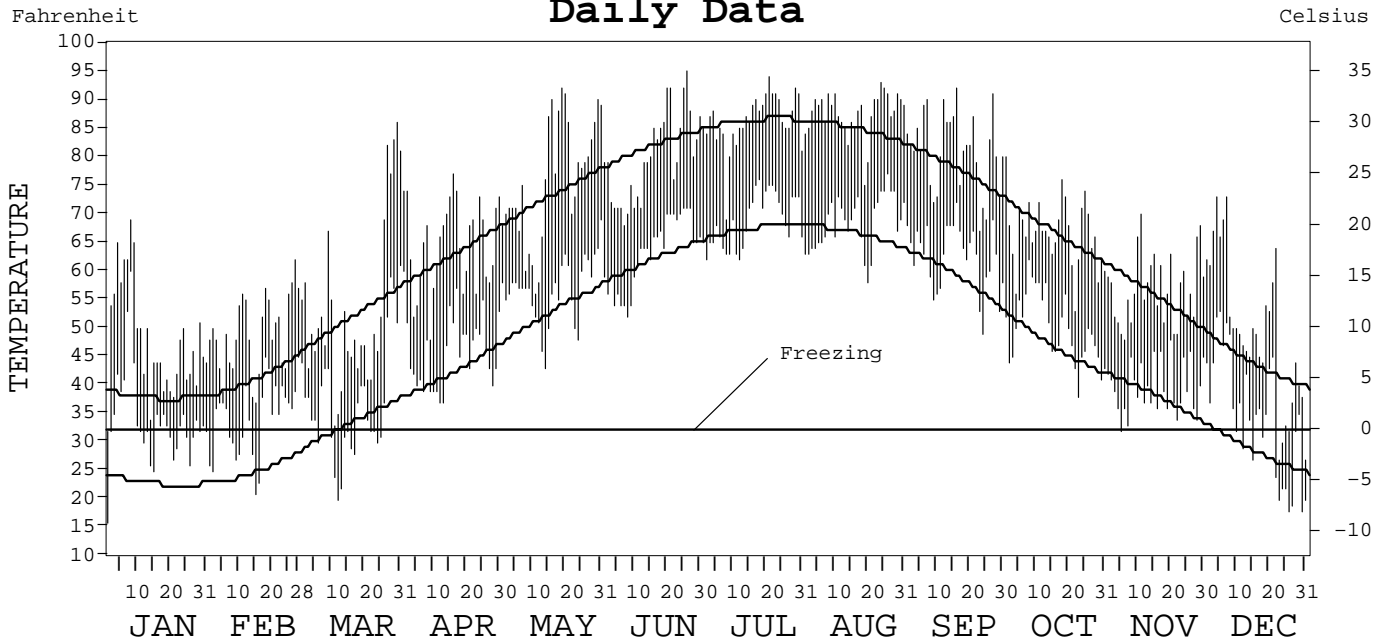
LOCAL CLIMATOLOGICAL DATA  
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-4543

PHILADELPHIA,  
PENNSYLVANIA (PHL)

Daily Data



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*Thomas R. Karl*

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE	NATIONAL SATELLITE, DATA, AND INFORMATION SERVICE	NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA	DIRECTOR NATIONAL CLIMATIC DATA CENTER
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# METEOROLOGICAL DATA FOR 1998

## PHILADELPHIA, PA (PHL)

LATITUDE: 39° 52' 06" N      LONGITUDE: 75° 13' 52" W      ELEVATION (FT): GRND: 5      BARO: 63      TIME ZONE: EASTERN (UTC+ 5)      WBAN: 13739

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	48.0	49.2	53.7	64.6	75.8	79.9	86.3	87.5	81.1	66.6	56.9	49.5	66.6	
	HIGHEST DAILY MAXIMUM	69	62	86	77	92	95	94	93	92	80	70	73	95	
	DATE OF OCCURRENCE	08	27	30	16	19	26	21	24	16	01	11	07+	JUN 26	
	MEAN DAILY MINIMUM	33.9	34.3	37.2	45.9	56.6	63.1	68.7	68.4	62.5	49.9	39.5	34.5	49.5	
	LOWEST DAILY MINIMUM	16	21	20	37	43	52	62	58	49	38	32	18	16	
	DATE OF OCCURRENCE	01	15	12	13+	14	08	12+	20	24	23	05	30+	JAN 01	
	AVERAGE DRY BULB	41.0	41.8	45.5	55.3	66.2	71.5	77.5	78.0	71.8	58.3	48.2	42.0	58.1	
	MEAN WET BULB	37.9	37.8	41.3	49.0	60.6	65.2	68.7	69.4	64.4		43.0	37.8		
	MEAN DEW POINT	32.7	31.3	35.2	42.0	56.7	61.1	63.5	64.9	59.1		35.7	30.6		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	4	4	8	11	4	0	0	0	0	31
	MAXIMUM ≤ 32°	1	0	0	0	0	0	0	0	0	0	0	4	5	
	MINIMUM ≤ 32°	15	10	13	0	0	0	0	0	0	0	1	13	52	
	MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	738	644	619	287	67	13	0	14	207	498	706	3793		
	COOLING DEGREE DAYS	0	0	20	3	114	216	397	410	223	3	0	1386		
RH	MEAN (PERCENT)	73	69	71	64	75	72	65	68	67	67	63	65	68	
	HOUR 01 LST	76	74	79	72	84	84	78	80	78	78	72	73	77	
	HOUR 07 LST	80	79	79	76	84	79	75	80	77	80	76	75	78	
	HOUR 13 LST	66	58	60	53	62	59	49	49	51	52	49	53	55	
	HOUR 19 LST	70	68	66	58	66	67	56	63	62	61	58	59	63	
S	PERCENT POSSIBLE SUNSHINE	41	47	57	60	54	58	76	69	77	63	67	50	60	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	3	1	0	1	0	2	0	0	0	1	0	0	8	
	THUNDERSTORMS	0	1	1	4	3	8	0	3	5	0	0	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.)	30.06	29.93	30.00	29.90	29.85	29.84	29.94	30.03	29.92		30.06	30.13		
	MEAN SEA-LEVEL PRESS. (IN.)	30.09	29.96	30.03	29.93	29.88	29.86	29.97	30.06	29.94		30.09	30.15		
WINDS	RESULTANT SPEED (MPH)	2.2	4.4	2.7	2.4	1.8	2.6	2.0	0.7	3.0		4.6	4.3		
	RES. DIR. (TENS OF DEGS.)	32	01	26	31	25	19	27	33	27		28	28		
	MEAN SPEED (MPH)	9.3	11.1	10.8	9.5	8.5	9.1	8.2	7.6	8.0	9.0	8.8	8.6	9.0	
	PREVAIL. DIR. (TENS OF DEGS.)	23	05	20	20	05	30	23	23	23	32	23	23	23	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	36	38	34	37	30	51	26	26	39	33	32	34	51	
	DIR. (TENS OF DEGS.)	24	31	31	30	30	30	28	35	32	30	28	32	30	
	DATE OF OCCURRENCE	09	25	14	01	29	01	01	18	07	01	26+	30	JUN 01	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	40	47	45	46	45	71	30	32	45	39	39	43	71	
DIR. (TENS OF DEGS.)	24	33	24	30	30	30	28	34	32	31	31	30	30		
DATE OF OCCURRENCE	09	25	14	01	29	01	01	18	07	01	11	30+	JUN 01		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	4.24	3.25	3.93	2.70	3.87	4.91	1.79	1.26	1.86	1.84	1.18	0.82	31.65	
	GREATEST 24-HOUR (IN.)	2.33	1.15	1.31	0.93	1.57	1.83	0.76	0.66	0.72	0.89	0.56	0.31	2.33	
	DATE OF OCCURRENCE	23-24	17-18	18-19	09-10	08-09	11-12	08	10-11	02	08	26	08-09	JAN 23-24	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	12	11	11	13	14	13	6	6	9	7	3	11	116	
PRECIPITATION ≥ 0.10	5	7	6	6	8	9	4	2	4	5	3	3	62		
PRECIPITATION ≥ 1.00	1	0	1	0	1	2	0	0	0	0	0	0	5		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	0.5	T	0.1	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	2.0	2.6	
	GREATEST 24-HOUR (IN.)	0.4	T	0.1	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	1.5	1.5	
	DATE OF OCCURRENCE	23	24+	22			26						23	DEC 23	
	MAXIMUM SNOW DEPTH (IN.)	0	0	T	0	0	0	0	0	0	0	0	2	2	
	DATE OF OCCURRENCE			22									24	DEC 24	
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	0	0	0	0	0	0	0	0	0	0	0	1	1		

# NORMALS, MEANS, AND EXTREMES

PHILADELPHIA, PA (PHL)

LATITUDE: 39° 52' 06" N      LONGITUDE: 75° 13' 52" W      ELEVATION (FT): GRND: 5      BARO: 63      TIME ZONE: EASTERN (UTC+ 5)      WBAN: 13739

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	37.9	41.0	51.6	62.6	73.1	81.7	86.1	84.6	77.6	66.3	55.1	43.4	63.4
	MEAN DAILY MAXIMUM	51	39.5	42.2	51.2	63.3	73.3	82.2	86.5	84.8	77.6	66.7	55.0	43.8	63.8
	HIGHEST DAILY MAXIMUM	57	74	74	87	94	97	100	104	101	100	96	81	73	104
	YEAR OF OCCURRENCE		1950	1997	1945	1976	1991	1994	1966	1955	1953	1941	1993	1998	JUL 1966
	MEAN OF EXTREME MAXS.	51	59.5	61.6	73.2	82.7	88.6	93.5	95.9	93.8	90.6	81.9	72.5	63.0	79.7
	NORMAL DAILY MINIMUM	30	22.8	24.8	33.2	42.1	52.7	61.8	67.2	66.3	58.7	46.4	37.6	28.1	45.1
	MEAN DAILY MINIMUM	51	24.5	26.2	33.3	42.9	52.9	62.1	67.7	66.4	58.8	47.3	37.6	28.8	45.7
	LOWEST DAILY MINIMUM	57	-7	-4	7	19	28	44	51	44	35	25	15	1	-7
	YEAR OF OCCURRENCE		1984	1961	1984	1982	1966	1984	1966	1986	1963	1969	1976	1983	JAN 1984
	MEAN OF EXTREME MINS.	51	8.5	10.1	18.5	29.8	40.5	50.0	57.6	55.2	44.2	33.2	23.6	13.8	32.1
	NORMAL DRY BULB	30	30.4	33.0	42.4	52.4	62.9	71.8	76.7	75.5	68.2	56.4	46.4	35.8	54.3
	MEAN DRY BULB	51	32.0	34.2	42.2	53.0	63.0	72.1	77.1	75.6	68.2	57.0	46.4	36.3	54.8
	MEAN WET BULB	15	30.2	31.8	38.0	46.9	56.7	65.2	70.1	68.5	62.1	52.3	42.4	34.1	49.9
	MEAN DEW POINT	15	23.2	23.9	29.8	39.6	50.6	60.0	65.8	64.3	57.6	47.1	36.2	27.1	43.8
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.4	0.8	4.0	8.8	6.4	1.9	0.0	0.0	0.0	22.3	
MAXIMUM ≤ 32°	30	9.4	5.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.2	20.1	
MINIMUM ≤ 32°	30	26.2	22.3	14.0	2.6	*	0.0	0.0	0.0	0.0	1.5	8.5	21.2	96.3	
MINIMUM ≤ 0°	30	0.5	0.1	0.0	0.0	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	1073	896	701	378	123	5	0	0	32	283	558	905	4954
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	58	209	363	326	128	17	0	0	1101
RH	NORMAL (PERCENT)	30	66	64	62	60	65	68	70	70	72	71	68	68	67
	HOUR 01 LST	30	70	68	68	69	76	80	81	82	82	81	75	72	75
	HOUR 07 LST	30	73	71	72	70	74	77	79	81	83	83	78	74	76
	HOUR 13 LST	30	59	55	52	49	53	54	54	55	56	54	56	59	55
	HOUR 19 LST	30	65	61	57	54	59	61	63	65	69	69	66	67	63
S	PERCENT POSSIBLE SUNSHINE	56	49	53	55	55	56	62	61	62	59	59	52	49	56
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	59	2.6	2.3	1.7	1.2	1.3	1.0	0.8	1.0	1.5	3.0	2.3	2.5	21.2
	THUNDERSTORMS	59	0.3	0.3	1.0	2.0	4.1	5.2	5.6	4.8	2.4	0.8	0.6	0.2	27.3
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	1			6.4			5.6							
	MIDNIGHT-MIDNIGHT (OKTAS)	1			5.6										
	MEAN NO. DAYS WITH:														
	CLEAR	1	3.0	2.0	8.0		8.0	11.0							
PARTLY CLOUDY	1		1.0	4.0		5.0	3.0								
CLOUDY	1	3.0	6.0	8.0		7.0	9.0								
PR	MEAN STATION PRESSURE (IN)	26	30.05	30.05	30.00	29.95	29.95	29.95	29.97	30.01	30.05	30.07	30.06	30.06	30.01
	MEAN SEA-LEVEL PRES. (IN)	15	30.10	30.07	30.05	29.97	29.98	29.96	29.99	30.04	30.06	30.10	30.11	30.10	30.04
WINDS	MEAN SPEED (MPH)	58	10.4	10.9	11.4	10.9	9.6	8.8	8.2	7.9	8.4	8.9	9.7	10.1	9.6
	PREVAIL. DIR (TENS OF DEGS)	35	29	30	29	23	23	23	23	23	23	23	29	29	23
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	3	41	43	40	37	40	51	36	41	39	36	40	39	51
	DIR. (TENS OF DEGS)		18	29	27	27	31	30	25	25	32	35	28	32	30
	YEAR OF OCCURRENCE		1996	1996	1996	1996	1997	1998	1996	1997	1998	1996	1996	1996	JUN 1998
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	3	57	52	52	46	51	71	43	52	49	46	52	46	71
DIR. (TENS OF DEGS)		18	31	26	30	29	30	25	24	31	35	27	33	30	
YEAR OF OCCURRENCE		1996	1996	1996	1998	1997	1998	1996	1997	1996	1996	1996	1996	JUN 1998	
PRECIPITATION	NORMAL (IN)	30	3.21	2.79	3.46	3.62	3.75	3.74	4.28	3.80	3.42	2.62	3.34	3.38	41.41
	MAXIMUM MONTHLY (IN)	56	8.86	6.44	7.01	8.12	7.41	7.88	10.42	9.70	8.78	5.99	9.06	8.47	10.42
	YEAR OF OCCURRENCE		1978	1979	1980	1983	1948	1973	1994	1955	1960	1995	1972	1996	JUL 1994
	MINIMUM MONTHLY (IN)	56	0.45	0.75	0.68	0.52	0.47	0.11	0.64	0.49	0.44	0.09	0.32	0.25	0.09
	YEAR OF OCCURRENCE		1955	1991	1966	1985	1964	1949	1957	1964	1968	1963	1976	1955	OCT 1963
	MAXIMUM IN 24 HOURS (IN)	52	2.70	1.96	2.39	2.76	3.18	4.62	4.49	5.68	5.45	3.85	3.99	3.03	5.68
	YEAR OF OCCURRENCE		1979	1966	1968	1970	1984	1973	1989	1971	1960	1980	1977	1992	AUG 1971
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	10.4	9.8	10.0	10.6	11.2	10.0	9.1	8.7	7.9	7.3	9.9	10.5	115.4	
PRECIPITATION ≥ 1.00	30	0.8	0.6	1.0	0.9	0.9	1.0	1.4	1.2	1.0	0.7	0.9	0.8	11.2	
SNOWFALL	NORMAL (IN)	30	7.8	7.5	3.3	0.5	T	0.0	0.0	0.0	0.1	0.6	3.4	23.2	
	MAXIMUM MONTHLY (IN)	55	23.4	27.6	13.4	4.3	T	T	0.0	0.0	0.0	2.1	8.8	18.8	27.6
	YEAR OF OCCURRENCE		1978	1979	1958	1971	1963	1993				1979	1953	1966	FEB 1979
	MAXIMUM IN 24 HOURS (IN)	55	13.2	21.3	12.0	4.3	T	T	0.0	0.0	0.0	2.1	8.7	14.6	21.3
	YEAR OF OCCURRENCE		1961	1983	1993	1971	1963	1993				1979	1953	1960	FEB 1983
	MAXIMUM SNOW DEPTH (IN)	50	12	22	12	3	0	0	0	0	0	0	8	12	22
	YEAR OF OCCURRENCE		1961	1983	1993	1997							1953	1966	FEB 1983
	NORMAL NO. DAYS WITH:														
SNOWFALL ≥ 1.0	30	2.3	1.8	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.*	0.2	0.9	6.4	

PRECIPITATION (inches) 1998 PHILADELPHIA, PA (PHL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	1.57	1.88	1.92	1.68	3.30	7.31	8.33	2.66	4.38	1.13	1.97	7.23	43.36
1970	0.74	2.08	3.83	6.12	2.57	4.60	2.75	3.99	0.82	3.66	4.71	3.27	39.14
1971	2.13	5.43	2.58	1.84	4.10	1.01	4.84	9.61	5.83	3.84	5.37	1.21	47.79
1972	2.34	5.09	2.69	4.08	4.11	5.79	2.62	3.76	1.12	3.77	9.06	5.20	49.63
1973	3.93	2.96	3.52	6.68	4.14	7.88	2.39	2.03	3.39	2.16	0.64	6.34	46.06
1974	2.95	2.14	4.91	2.77	3.21	4.43	2.08	3.83	4.68	1.93	0.81	4.04	37.78
1975	4.00	2.91	4.68	2.97	4.99	7.57	6.32	2.21	7.21	3.24	3.14	2.89	52.13
1976	4.50	1.66	2.38	2.06	4.35	3.42	4.04	2.17	2.44	4.30	0.32	1.63	33.27
1977	2.61	1.33	4.19	5.59	0.70	5.33	1.47	8.70	3.44	3.11	7.76	5.19	49.42
1978	8.86	1.35	4.31	1.76	6.01	1.75	5.27	6.04	1.59	1.20	2.20	5.61	45.95
1979	8.74	6.44	2.43	4.08	3.98	4.34	3.95	5.95	4.89	3.84	2.48	1.67	52.79
1980	2.27	0.96	7.01	4.79	3.22	1.73	6.58	0.80	2.79	5.03	2.85	0.77	38.80
1981	0.50	2.94	1.61	3.60	4.53	4.40	4.54	5.11	2.83	2.68	0.95	4.14	37.83
1982	4.45	3.16	2.66	6.06	4.47	5.76	1.94	2.20	2.32	1.94	3.67	1.80	40.43
1983	2.81	3.53	6.70	8.12	7.03	2.75	0.68	2.57	3.45	3.69	5.71	7.37	54.41
1984	2.22	2.81	6.14	4.25	6.87	2.85	6.99	3.28	1.96	2.56	1.56	2.17	43.66
1985	1.55	2.44	1.95	0.52	4.99	1.88	4.66	2.82	5.78	1.54	6.09	0.98	35.20
1986	4.13	3.38	1.25	4.46	0.70	1.99	4.10	3.70	2.33	2.22	6.27	5.89	40.42
1987	4.58	1.17	1.16	3.63	3.15	2.01	4.82	3.72	2.78	2.62	2.08	1.68	33.40
1988	2.72	4.11	2.24	2.92	3.67	0.57	8.07	3.16	2.62	2.16	5.17	1.00	38.41
1989	2.41	3.25	4.41	2.27	6.76	4.73	9.44	3.92	5.03	3.44	1.79	1.21	48.66
1990	4.09	1.44	2.59	3.16	6.08	3.39	2.62	4.07	1.71	1.68	1.17	3.79	35.79
1991	4.10	0.75	4.13	2.81	1.82	3.36	4.79	3.86	3.58	1.61	1.55	3.86	36.22
1992	0.88	1.31	3.19	1.26	2.74	1.84	5.05	2.00	3.04	1.23	3.26	4.61	30.41
1993	1.97	3.03	6.61	4.20	2.42	1.52	1.98	5.18	6.66	2.69	2.23	3.69	42.18
1994	4.27	3.27	6.44	2.86	3.66	1.74	10.42	4.54	1.64	0.94	3.03	2.11	44.92
1995	3.10	2.41	1.67	1.96	2.67	0.62	2.92	1.15	3.55	5.99	3.34	2.15	31.53
1996	4.39	2.12	4.27	4.48	3.25	4.73	8.17	4.29	4.95	4.30	3.03	8.47	56.45
1997	2.80	2.48	3.91	2.58	2.32	1.49	2.38	4.56	1.59	1.83	3.49	3.09	32.52
1998	4.24	3.25	3.93	2.70	3.87	4.91	1.79	1.26	1.86	1.84	1.18	0.82	31.65
POR= 127 YRS	3.24	3.01	3.55	3.33	3.43	3.51	4.20	4.28	3.29	2.69	3.08	3.12	40.73

WBAN : 13739

AVERAGE TEMPERATURE (°F) 1998 PHILADELPHIA, PA (PHL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	29.8	32.0	39.7	55.3	64.6	73.4	75.1	75.2	67.2	55.0	44.4	33.5	53.8
1970	24.5	33.1	38.3	51.5	64.9	71.6	76.9	76.7	72.0	60.1	48.2	35.8	54.5
1971	27.8	36.1	40.7	51.6	60.9	74.3	77.4	75.3	71.6	63.5	46.1	41.6	55.6
1972	35.1	32.4	40.7	49.7	63.6	68.7	77.1	76.0	69.2	52.7	43.6	39.9	54.1
1973	34.4	33.6	47.2	53.4	60.3	74.6	77.9	78.8	70.7	59.2	48.0	38.6	56.4
1974	35.9	31.7	43.3	55.8	62.4	70.3	76.9	76.8	68.1	54.8	48.5	39.4	55.3
1975	37.3	35.8	41.2	48.7	66.6	72.2	76.6	77.1	66.6	61.2	52.7	36.9	56.1
1976	28.7	40.9	46.3	56.6	62.7	75.2	75.3	74.8	67.3	52.5	39.9	30.3	54.2
1977	20.0	33.6	48.8	57.2	65.8	68.6	77.8	76.2	69.9	54.3	46.4	32.6	54.3
1978	28.0	24.7	39.0	50.6	61.4	72.6	75.6	79.2	68.5	55.5	47.9	38.6	53.5
1979	32.5	23.0	47.0	52.3	66.4	69.1	76.2	75.5	68.5	54.9	50.1	38.2	54.5
1980	31.8	29.7	40.2	54.7	65.4	70.6	78.5	80.0	72.2	54.9	43.2	32.5	54.5
1981	25.3	37.9	40.0	54.7	62.6	72.0	76.9	74.9	66.8	53.1	45.6	34.6	53.7
1982	24.7	34.4	41.7	50.2	65.9	68.7	76.9	73.5	67.6	56.9	48.4	41.3	54.2
1983	34.1	34.0	43.7	51.0	62.1	72.0	77.9	77.1	69.0	56.6	46.7	33.2	54.8
1984	26.2	38.7	35.5	50.2	60.2	73.0	73.9	75.2	64.7	61.2	44.4	41.9	53.8
1985	27.3	35.3	44.6	55.5	64.5	68.8	75.4	74.1	69.1	59.3	51.3	33.3	54.9
1986	32.8	32.1	44.5	53.3	66.8	73.8	78.1	74.0	68.3	57.8	44.5	37.9	55.3
1987	31.9	32.5	45.7	53.1	63.9	74.6	79.5	75.4	68.8	52.5	48.0	39.2	55.4
1988	27.3	34.6	44.7	51.3	63.6	72.3	80.7	78.3	66.7	51.8	47.7	35.4	54.5
1989	36.5	34.8	42.3	52.4	62.4	74.7	76.3	75.6	69.7	58.3	44.9	25.5	54.5
1990	40.3	41.2	46.1	53.3	61.3	72.2	78.0	75.8	68.0	61.9	49.7	42.1	57.5
1991	35.2	40.0	46.1	55.5	70.8	75.7	79.0	79.0	69.5	58.9	47.3	39.6	58.1
1992	35.7	37.5	41.6	53.2	62.5	71.3	77.1	73.5	68.4	55.2	48.0	38.8	55.2
1993	38.2	31.9	39.8	54.2	66.4	74.4	81.4	78.9	69.7	58.0	49.0	38.4	56.7
1994	27.4	33.2	42.8	59.5	62.5	78.1	82.1	74.9	68.3	57.5	51.7	41.9	56.7
1995	38.2	31.5	47.3	54.5	64.3	74.3	81.5	79.9	70.4	61.4	43.0	31.6	56.5
1996	30.2	33.9	38.7	52.7	60.6	73.0	74.4	74.5	68.7	56.3	41.3	40.2	53.7
1997	32.5	40.0	44.1	51.4	59.5	71.1	77.5	73.9	67.1	57.3	44.4	38.5	54.8
1998	41.0	41.8	45.5	55.3	66.2	71.5	77.5	78.0	71.8	58.3	48.2	42.0	58.1
POR= 125 YRS	32.8	34.0	41.8	52.4	63.1	71.9	76.8	74.9	68.4	57.3	46.3	36.3	54.7

HEATING DEGREE DAYS (base 65°F) 1998 PHILADELPHIA, PA (PHL)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0	0	54	316	611	970	1247	890	821	399	92	0	5400
1970-71	0	0	29	191	499	899	1145	802	746	394	140	3	4848
1971-72	0	0	17	79	576	719	920	941	748	450	86	26	4562
1972-73	0	0	22	378	635	775	940	874	547	359	176	1	4707
1973-74	0	0	18	196	507	810	897	926	667	292	128	11	4452
1974-75	0	0	46	313	500	786	852	812	732	483	66	4	4594
1975-76	0	0	45	152	372	866	1120	692	572	307	119	13	4258
1976-77	0	2	42	387	743	1069	1390	873	505	258	73	36	5378
1977-78	0	0	24	328	558	998	1139	1121	797	423	161	10	5559
1978-79	5	0	41	296	507	811	999	1170	556	378	38	17	4818
1979-80	4	7	28	324	439	823	1021	1016	763	301	72	17	4815
1980-81	0	0	22	320	646	999	1222	752	768	309	129	4	5171
1981-82	0	0	58	364	576	936	1243	850	714	440	50	25	5256
1982-83	0	8	31	277	497	730	951	861	653	423	128	2	4561
1983-84	0	0	70	283	540	981	1196	756	911	438	181	13	5369
1984-85	0	0	92	138	613	709	1161	824	627	306	89	9	4568
1985-86	0	0	38	187	407	975	990	914	628	345	77	6	4567
1986-87	0	21	23	255	609	838	1017	904	591	359	129	1	4747
1987-88	0	0	20	379	504	796	1162	876	624	404	105	32	4902
1988-89	0	0	35	408	513	908	876	840	700	371	138	0	4789
1989-90	0	0	43	220	594	1219	757	662	588	375	127	6	4591
1990-91	2	1	55	171	453	701	920	694	576	296	44	0	3913
1991-92	0	0	42	215	527	778	903	789	720	356	124	9	4463
1992-93	0	1	49	310	504	804	824	920	773	314	47	6	4552
1993-94	0	0	34	219	479	820	1156	881	681	193	132	0	4595
1994-95	0	0	20	231	392	710	824	932	542	318	82	0	4051
1995-96	0	0	21	159	656	1029	1072	894	809	370	191	7	5208
1996-97	0	0	34	265	704	761	999	695	643	401	172	42	4716
1997-98	2	0	45	278	612	811	738	644	619	287	67	13	4116
1998-	0	0	14	207	498	706							

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COOLING DEGREE DAYS (base 65°F) 1998 PHILADELPHIA, PA (PHL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	0	0	0	9	77	259	319	323	126	15	0	0	1128
1970	0	0	0	3	100	204	376	367	247	46	0	0	1343
1971	0	0	0	0	19	292	394	326	223	37	14	0	1305
1972	0	0	3	0	47	143	381	344	153	3	0	0	1074
1973	0	0	0	16	35	294	404	435	193	23	0	0	1400
1974	0	0	0	24	55	179	373	372	145	5	12	0	1165
1975	0	0	0	0	121	224	366	380	98	42	12	0	1243
1976	0	0	0	64	58	326	326	315	115	7	0	0	1211
1977	0	0	10	32	104	150	402	355	175	3	6	0	1237
1978	0	0	0	0	57	244	338	447	153	8	0	0	1247
1979	0	0	6	5	90	146	357	339	137	16	1	0	1097
1980	0	0	0	0	89	194	428	470	244	10	0	0	1435
1981	0	0	0	9	62	224	373	315	119	1	0	0	1103
1982	0	0	0	3	85	142	376	280	115	31	5	0	1037
1983	0	0	0	11	43	217	409	380	199	27	0	0	1286
1984	0	0	0	0	39	260	283	324	90	30	0	0	1026
1985	0	0	0	27	81	133	330	291	166	19	0	0	1047
1986	0	0	0	0	139	278	413	307	129	40	0	0	1306
1987	0	0	0	7	101	295	456	332	142	0	0	0	1333
1988	0	0	0	1	70	259	495	418	93	7	0	0	1343
1989	0	0	1	1	62	298	357	332	192	18	1	0	1262
1990	0	0	9	29	20	226	413	341	152	83	1	0	1274
1991	0	0	1	21	230	327	443	437	183	30	0	0	1672
1992	0	0	0	10	54	205	380	268	158	13	0	0	1088
1993	0	0	0	0	95	298	517	438	181	11	6	0	1546
1994	0	0	0	34	63	401	540	313	125	4	0	0	1480
1995	0	0	0	8	66	284	519	468	189	53	1	0	1588
1996	0	0	0	9	61	257	301	305	151	2	1	0	1087
1997	0	0	0	0	9	230	397	280	113	49	0	0	1078
1998	0	0	20	3	114	216	397	410	223	3	0	0	1386

SNOWFALL (inches) 1998 PHILADELPHIA, PA (PHL)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0.0	0.0	0.0	0.0	0.2	7.5	7.5	2.7	2.4	T	0.0	0.0	20.3
1970-71	0.0	0.0	0.0	T	0.0	1.1	7.7	0.8	4.4	4.3	0.0	0.0	18.3
1971-72	0.0	0.0	0.0	0.0	T	0.1	3.2	8.2	0.3	0.4	0.0	0.0	12.2
1972-73	0.0	0.0	0.0	T	T	T	T	T	T	T	0.0	0.0	T
1973-74	0.0	0.0	0.0	0.0	T	4.6	4.1	12.1	T	T	0.0	0.0	20.8
1974-75	0.0	0.0	0.0	0.0	T	0.8	3.9	6.6	2.3	T	0.0	0.0	13.6
1975-76	0.0	0.0	0.0	0.0	0.0	1.1	6.4	3.1	6.9	0.0	0.0	0.0	17.5
1976-77	0.0	0.0	0.0	0.0	T	2.8	15.7	0.2	T	0.0	0.0	0.0	18.7
1977-78	0.0	0.0	0.0	0.0	0.2	0.2	23.4	19.0	12.1	T	0.0	0.0	54.9
1978-79	0.0	0.0	0.0	0.0	2.5	T	10.1	27.6	T	T	0.0	0.0	40.2
1979-80	0.0	0.0	0.0	2.1	T	4.9	6.1	0.4	7.4	T	0.0	0.0	20.9
1980-81	0.0	0.0	0.0	0.0	0.2	1.4	5.0	T	8.8	0.0	0.0	0.0	15.4
1981-82	0.0	0.0	0.0	0.0	T	2.8	14.0	3.5	1.1	4.0	0.0	0.0	25.4
1982-83	0.0	0.0	0.0	0.0	0.0	6.8	0.2	26.1	0.9	1.9	0.0	0.0	35.9
1983-84	0.0	0.0	0.0	0.0	0.8	T	10.5	T	10.3	T	0.0	0.0	21.6
1984-85	0.0	0.0	0.0	0.0	T	0.2	11.9	4.4	T	T	0.0	0.0	16.5
1985-86	0.0	0.0	0.0	0.0	0.0	1.5	3.4	11.5	T	T	0.0	0.0	16.4
1986-87	0.0	0.0	0.0	0.0	T	0.4	15.2	10.1	T	T	0.0	0.0	25.7
1987-88	0.0	0.0	0.0	0.0	1.4	1.5	10.6	1.5	T	0.0	0.0	0.0	15.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.4	6.0	2.4	2.4	0.0	0.0	0.0	11.2
1989-90	0.0	0.0	0.0	0.0	4.6	5.3	1.4	0.9	2.4	2.4	0.0	0.0	17.0
1990-91	0.0	0.0	0.0	0.0	0.0	6.4	6.5	1.0	0.7	0.0	0.0	0.0	14.6
1991-92	0.0	0.0	0.0	0.0	T	T	1.2	1.0	2.5	T	0.0	0.0	4.7
1992-93	0.0	0.0	0.0	0.0	T	T	1.0	10.9	12.4	T	0.0	T	24.3
1993-94	0.0	0.0	0.0	0.0	T	0.9	4.1	13.2	4.9	0.0	0.0	0.0	23.1
1994-95	0.0	0.0	0.0	0.0	T	0.0	T	9.8	T	0.0	0.0	0.0	9.8
1995-96	0.0	0.0	0.0	0.0	1.9	2.3							
1996-97					T	T	1.7	4.1	5.5	1.6	0.0	0.0	
1997-98	0.0	0.0	0.0	0.0	T	0.2	0.5	T	0.1	0.0	0.0	T	0.8
1998-	0.0	0.0	0.0	0.0	0.0	2.0							
POR= 55 YRS	0.0	0.0	0.0	0.0	0.7	3.2	5.9	6.4	3.5	0.3	T	T	20.0

WBAN : 13739

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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1998  
PHILADELPHIA,  
PENNSYLVANIA (PHL)

The Appalachian Mountains to the west and the Atlantic Ocean to the east have a moderating effect on climate. Periods of very high or very low temperatures seldom last for more than three or four days. Temperatures below zero or above 100 degrees are a rarity. On occasion, the area becomes engulfed with maritime air during the summer months, and high humidity adds to the discomfort of seasonably warm temperatures.

Precipitation is fairly evenly distributed throughout the year with maximum amounts during the late summer months. Much of the summer rainfall is from local thunderstorms and amounts vary in different areas of the city. This is due, in part, to the higher elevations to the west and north. Snowfall amounts are often considerably larger in the northern suburbs than in the central and southern parts of the city. In many cases, the precipitation will change from snow to rain within the city. Single storms of 10 inches or more occur about every five years.

The prevailing wind direction for the summer months is from the southwest, while northwesterly winds prevail during the winter. The annual prevailing direction is from the west-southwest. Destructive velocities are comparatively rare and occur mostly in gustiness during summer thunderstorms. High winds occurring in the winter months, as a rule, come with the advance of cold air after the passage of a deep low pressure system. Only rarely have hurricanes in the vicinity caused widespread damage, primarily because of flooding.

Flood stages in the Schuylkill River normally occur about twice a year. Flood stages seldom last over 12 hours and usually occur after excessive thunderstorms. Flooding rarely occurs on the Delaware River.

# STATION LOCATION

PHILADELPHIA, PENNSYLVANIA

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											AUCOMPARATION	* Type	REMARKS
						SEA LEVEL	GROUND												
							G	W	E	P	S	T	R	W	8	H			
CITY - - NOTE: For period December, 1870 through February, 1882, refer to previous editions.																			
Mutual Life Ins. Bldg. 10th & Chestnut Sts.	2/01/82	4/01/84	0.7 mi. W	39°57'	75°09'	40	107											φ - Approximate.	
Post Office Building 9th & Chestnut Sts.	4/01/84	12/17/34	0.1 mi. E	39°57'	75°09'	39	175 d184 e190 f182 g341 h367	169 d117 e124	168 d116 e123		%114			167 d114				φ - Added 1/27/14. c - Effective 2/1/04. d - Effective 1/27/14. f - Effective 7/23/24. g - Moved 1000 feet South to Edison Building 2/2/28. h - Effective 10/27/28.	
New Customhouse 2nd & Chestnut Sts.	12/17/34	12/31/54	0.6 mi. E	39°57'	75°09'	26	i367 m148	175	174		166 k m132		j166	166				i - Remained on Edison Bldg. j - Added 1/1/43. k - Moved to SW Airport 1/1/43. m - Added 0.2 mile West on Bourse Building 7/1/45.	
New Customhouse 2nd & Chestnut Sts.	1/01/55	5/15/59				26		175			n160	n160	166					Cooperative Station. n - Added 5/1/55.	
Bourse Building 4th Street below Market	3/01/55	5/01/55	0.2 mi. W	39°57'	75°09'								133						
Phila Electric Building 10th & Chestnut Sts.	5/15/59	10/1973	0.7 mi. W	39°57'	75°10'	35		155											
Federal Office Building 600 Arch Street	12/03/73	Present		39°57'	75°09'	35	186	178					178						
<b>AIRPORT</b>																			
Administration Building Southwest Airport #	6/20/40	6/22/45		39°53'	75°14'	13	a58	6	5			b3	3					a - 57 feet through 1942. b - Installed 1/1/43. # - Name changed to International Airport 4/1/48.	
Administration Building N. Philadelphia Airport	6/23/45	11/30/45	18 mi. NE	40°05'	75°01'	100	51	6	5				4						
Administration Building International Airport	12/01/45	12/22/54	18 mi. SW	39°53'	75°14'	13	58	*22	*22			3	3					* - Changed to roof exposure 10/4/54. WB design wind equipment installed 5/17/49.	
New Terminal Building International Airport	12/23/54	5/09/55	7/8 mi. SW	39°53'	75°15'	13	120	67	66			64	64					c - Telepsychrometer (7') 5/9/55-12/31/59. Hygro. comm. 3000' S of tele. site 12/31/59.	
New Terminal Building International Airport	5/09/55	12/31/59	0.2 mi. N	39°53'	75°15'	13	120	7	66		3	4	3					d - Removed prior to 12/1968. e - 4 feet to 7/13/70. % - Commissioned 6/16/69.	
New Terminal Building International Airport	1/01/60	Present	NA	39°53'	75°15'	5	20	d4	d55	%115	e64	e64	NA	c4	NA	NA	NA	ASOS Commissioned 12/01/95	

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.  
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Asheville NC 28801-5001

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