

2002

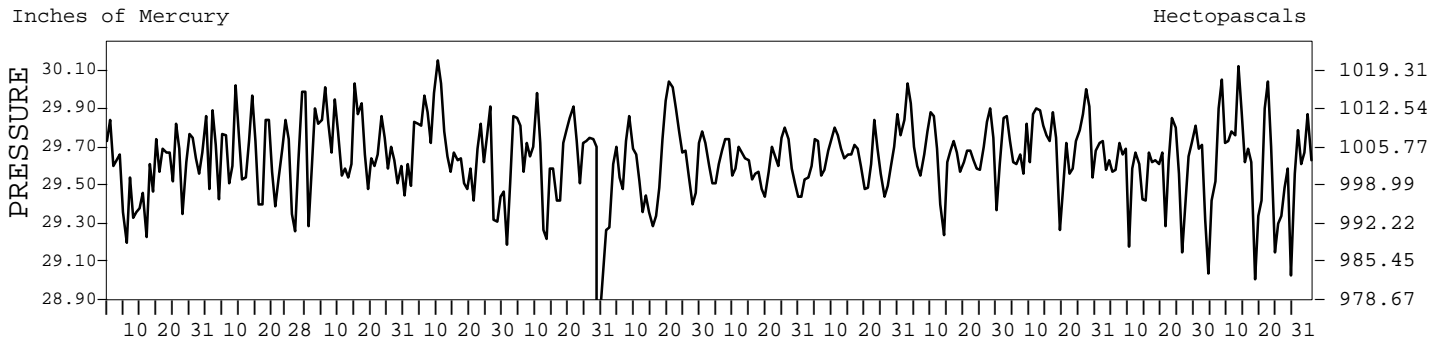
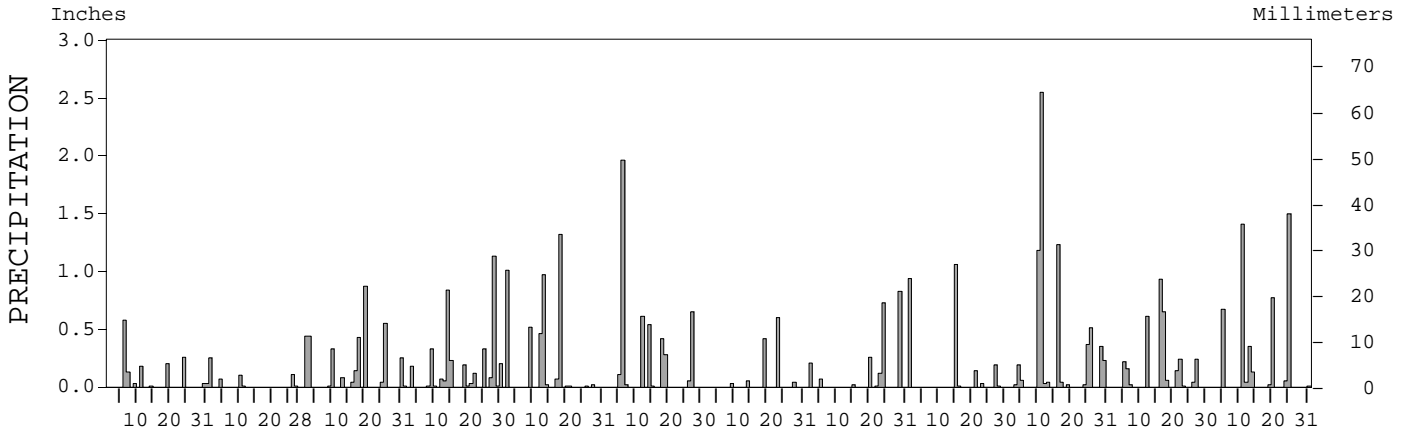
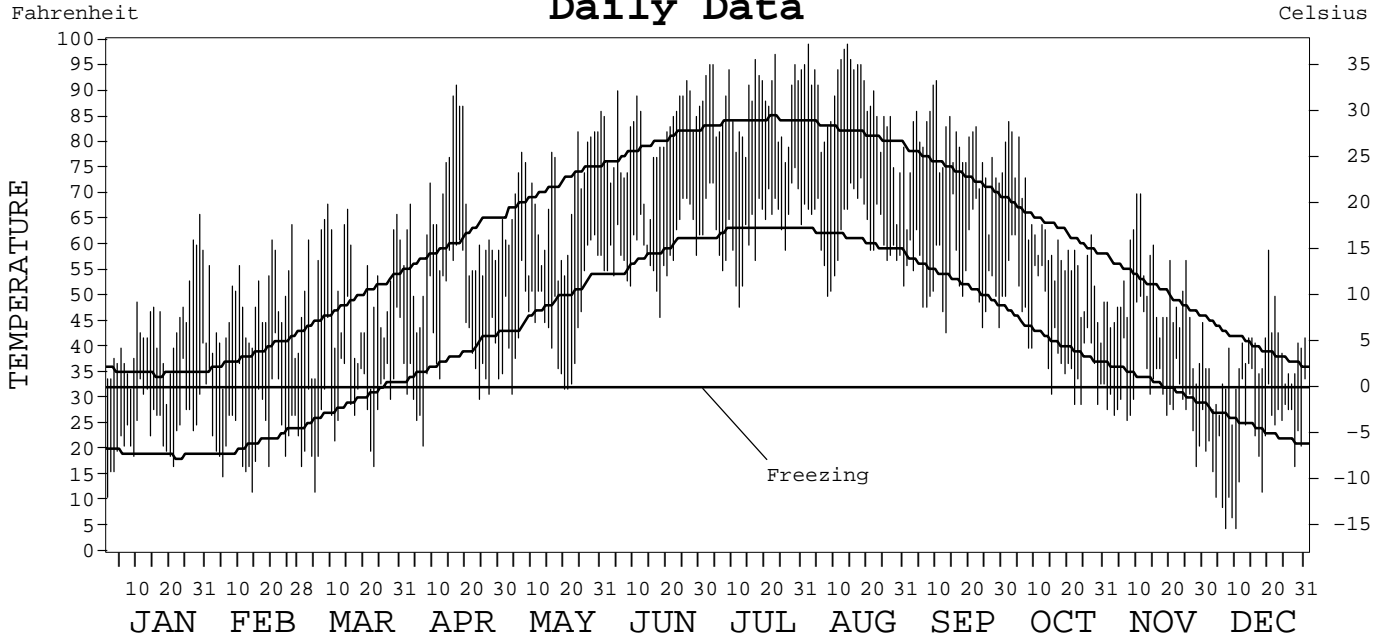
# LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-4454

## ALLENTOWN, PENNSYLVANIA (ABE)

### Daily Data



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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE	NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA	DIRECTOR NATIONAL CLIMATIC DATA CENTER
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# METEOROLOGICAL DATA FOR 2002

## ALLENTOWN, PA (ABE)

LATITUDE: 40° 39' 03" N      LONGITUDE: 75° 26' 57" W      ELEVATION (FT): GRND: 375      BARO: 378      TIME ZONE: EASTERN (UTC + 5)      WBAN: 14737

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	43.4	47.5	51.4	63.6	69.1	80.5	87.6	87.5	78.3	60.8	49.9	37.5	63.1	
	HIGHEST DAILY MAXIMUM	66	64	68	91	86	92	97	99	92	84	70	59	99	
	DATE OF OCCURRENCE	29	26	09	17	31	26	23	14+	10	02	11+	20	AUG 14+	
	MEAN DAILY MINIMUM	25.0	24.7	30.3	41.1	45.7	58.9	63.7	62.4	54.4	42.6	31.8	21.7	41.9	
	LOWEST DAILY MINIMUM	11	12	12	21	31	46	48	50	43	29	17	5	5	
	DATE OF OCCURRENCE	01	14	05	07	04	18	12	08	13	29+	28	10	DEC 10	
	AVERAGE DRY BULB	34.2	36.1	40.9	52.4	57.4	69.7	75.7	75.0	66.4	51.7	40.9	29.6	52.5	
	MEAN WET BULB	31.2	31.4	36.1						60.6	48.7	38.3	28.1		
	MEAN DEW POINT	24.8	22.5	27.9						55.9	44.9	33.3	22.3		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	1	0	3	14	15	2	0	0	0	0	35
	MAXIMUM ≤ 32°	2	1	1	0	0	0	0	0	0	0	0	6	10	10
MINIMUM ≤ 32°	27	23	19	7	3	0	0	0	0	4	20	26	129	129	
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	946	801	739	410	261	15	0	4	48	425	717	1091	5457	
	COOLING DEGREE DAYS	0	0	0	39	33	163	338	322	95	18	0	0	1008	
RH	MEAN (PERCENT)	69	60	63	62	69	73	66	67	72	78	74	72	69	
	HOUR 01 LST	74	71	73	73	79	85	81	82	86	86	82	78	79	
	HOUR 07 LST	78	74	74	72	79	82	78	82	86	90	85	78	80	
	HOUR 13 LST	57	45	52	49	54	57	49	46	53	63	61	63	54	
	HOUR 19 LST	66	52	57	56	59	67	58	57	67	77	68	71	63	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	1	1	0	1	2	0	0	1	0	0	0	2	8	
	THUNDERSTORMS	0	1	0	2	1	3	1	0	2	0	0	0	10	
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.)	29.57	29.63	29.71	29.68		29.60	29.60	29.66	29.66	29.70	29.55	29.61		
	MEAN SEA-LEVEL PRESS. (IN.)	29.99	30.05	30.14						30.07	30.12	29.98	30.04		
WINDS	RESULTANT SPEED (MPH)	4.3	4.6	2.5	3.1		1.6	1.5	0.8	1.1	1.8	3.1	4.1		
	RES. DIR. (TENS OF DEGS.)	27	28	27	27		23	27	32	31	36	28	30		
	MEAN SPEED (MPH)	7.3	8.4	9.1	7.6	7.4	6.1	6.4	6.0	5.9	6.6	6.9	7.5	7.1	
	PREVAIL. DIR. (TENS OF DEGS.)	23	26	06	23	26	25	23	34	33	05	23	28	23	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	30	38	37	40	33	32	33	32	33	23	30	28	40	
	DIR. (TENS OF DEGS.)	29	29	30	27	27	07	31	30	32	03	29	31	27	
	DATE OF OCCURRENCE	13	01	21	19	14	06	23	24	11	16+	23+	16	APR 19	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	40	46	49	53	46	40	43	40	46	28	39	35	53	
DIR. (TENS OF DEGS.)	29	30	30	26	26	06	29	29	31	02	28	31	26		
DATE OF OCCURRENCE	13	01	21	19	14	06+	23	24	11	16	23	16	APR 19		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	1.45	0.55	3.62	3.83	4.42	4.65	1.14	2.25	2.38	6.84	3.32	4.95	39.40	
	GREATEST 24-HOUR (IN.)	0.71	0.25	0.88	1.21	1.39	2.01	0.60	0.85	1.07	2.92	1.14	1.50	2.92	
	DATE OF OCCURRENCE	06-07	01	02-03	27-28	17-18	05-06	23	23-24	15-16	10-11	16-17	25	OCT 10-11	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	9	6	12	18	11	10	5	8	7	15	12	10	123	
PRECIPITATION ≥ 0.10	5	3	8	9	5	7	2	5	4	8	8	6	70		
PRECIPITATION ≥ 1.00	0	0	0	1	2	1	0	0	1	3	0	2	10		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	9.0	0.7	T	T	0.0	0.0	0.0	0.0	0.0	T	1.2	15.2	26.1	
	GREATEST 24-HOUR (IN.)	4.0	0.7	T	T	0.0	0.0	0.0	0.0	0.0	T	1.2	8.0	8.0	
	DATE OF OCCURRENCE	19+	04	25+	21+						30+	27	05	DEC 05	
	MAXIMUM SNOW DEPTH (IN.)														
	DATE OF OCCURRENCE														
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	3	0	0	0	0	0	0	0	0	0	1	2	6		

# NORMALS, MEANS, AND EXTREMES

## ALLENTOWN, PA (ABE)

LATITUDE:                      LONGITUDE:                      ELEVATION (FT):                      TIME ZONE:                      WBAN: 14737  
 40° 39' 03" N                      75° 26' 57" W                      GRND: 375                      BARO: 378                      EASTERN (UTC + 5)

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	35.0	38.7	48.7	60.1	70.9	79.3	83.9	81.7	74.0	62.9	51.2	40.0	60.5
	MEAN DAILY MAXIMUM	55	35.8	39.1	48.5	61.0	71.3	80.3	84.7	82.5	75.1	64.3	51.8	40.0	61.2
	HIGHEST DAILY MAXIMUM	59	72	76	87	93	97	100	105	100	99	90	81	72	105
	YEAR OF OCCURRENCE		1950	1985	1998	1976	1962	1966	1966	1955	1980	1951	1950	1998	JUL 1966
	MEAN OF EXTREME MAXS.	55	55.6	58.1	70.7	81.4	87.7	92.4	94.6	92.3	88.9	79.8	70.0	59.2	77.6
	NORMAL DAILY MINIMUM	30	19.1	21.0	28.9	37.8	48.3	57.7	62.6	60.7	52.7	41.1	32.7	24.0	40.6
	MEAN DAILY MINIMUM	55	20.1	21.9	29.5	39.1	49.1	58.6	63.2	61.6	53.7	42.6	33.6	24.3	41.4
	LOWEST DAILY MINIMUM	59	-15	-8	-1	16	28	39	46	41	30	21	11	-8	-15
	YEAR OF OCCURRENCE		1994	1996	1967	1982	1947	1972	2001	1986	1947	1988	1976	1950	JAN 1994
	MEAN OF EXTREME MINS.	55	2.5	4.5	13.3	25.9	35.6	46.0	52.3	49.2	38.6	28.2	19.7	7.5	26.9
	NORMAL DRY BULB	30	26.6	29.3	39.4	49.7	60.3	69.4	74.1	72.2	64.7	53.2	43.1	31.8	51.1
	MEAN DRY BULB	55	27.9	30.5	38.9	50.1	60.1	69.5	74.0	72.1	64.3	53.4	42.8	32.2	51.3
	MEAN WET BULB	18	25.4	26.9	33.2	41.6	51.2	58.9	67.2	66.0	59.2	48.6	39.0	30.5	45.6
	MEAN DEW POINT	18	20.2	20.7	26.5	36.2	48.2	57.8	63.0	62.3	55.4	43.5	32.9	24.3	40.9
	NORMAL NO. DAYS WITH:														
	MAXIMUM $\geq 90^\circ$	30	0.0	0.0	0.0	0.2	0.6	2.9	6.3	3.5	1.3	0.0	0.0	0.0	14.8
	MAXIMUM $\leq 32^\circ$	30	12.8	8.3	1.3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.3	7.4	30.1
MINIMUM $\leq 32^\circ$	30	28.2	24.2	19.5	6.2	0.2	0.0	0.0	0.0	0.1	3.8	13.2	25.4	120.8	
MINIMUM $\leq 0^\circ$	30	1.6	0.6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.5	
H/C	NORMAL HEATING DEG. DAYS	30	1159	967	797	470	197	34	15	8	106	392	675	1010	5830
	NORMAL COOLING DEG. DAYS	30	0	0	1	6	45	153	288	216	73	5	0	0	787
RH	NORMAL (PERCENT)														
	HOUR 01 LST	30	73	72	69	70	76	80	81	84	85	82	77	76	77
	HOUR 07 LST	30	76	75	74	74	77	80	82	86	88	86	80	78	80
	HOUR 13 LST	30	61	58	52	49	52	54	53	55	57	55	59	63	56
	HOUR 19 LST	30	67	64	58	54	58	59	60	65	69	67	67	70	63
S	PERCENT POSSIBLE SUNSHINE	12	43	48	53	47	54	63	57	56	54	53	45	42	51
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG(VISBY $\leq$ 1/4 MI)	59	2.7	2.6	2.4	1.4	1.8	1.1	1.0	1.7	2.7	2.8	2.5	2.7	25.4
	THUNDERSTORMS	59	0.3	0.3	0.8	2.1	3.9	5.6	6.2	5.4	2.9	1.0	0.7	0.1	29.3
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	51	5.4	5.1	5.1	5.1	5.1	4.8	4.6	4.5	4.5	4.4	5.2	5.3	4.9
	MIDNIGHT-MIDNIGHT (OKTAS)	32	5.0	4.7	4.8	4.7	4.7	4.5	4.3	4.3	4.3	4.2	5.0	5.1	4.6
	MEAN NO. DAYS WITH:														
	CLEAR	52	6.9	7.2	7.7	6.9	6.7	7.6	8.0	8.7	9.2	10.2	6.7	6.9	92.7
PARTLY CLOUDY	52	7.9	7.8	8.5	8.8	10.7	11.0	11.7	10.8	8.6	8.6	7.8	7.3	109.5	
CLOUDY	52	16.2	13.2	14.8	14.3	13.7	11.5	10.7	10.9	11.6	11.6	15.0	16.3	159.8	
PR	MEAN STATION PRESSURE(IN)	29	29.61	29.63	29.60	29.60	29.60	29.59	29.60	29.60	29.68	29.70	29.69	29.69	29.63
	MEAN SEA-LEVEL PRES. (IN)	18	30.09	30.11	30.05	29.99	30.00	30.01	30.00	30.05	30.08	30.10	30.09	30.11	30.06
WINDS	MEAN SPEED (MPH)	43	9.9	10.1	11.0	10.3	8.8	7.9	7.2	6.8	7.2	7.8	9.1	9.3	8.8
	PREVAIL.DIR(TENS OF DEGS)	27	27	27	29	23	23	24	23	23	23	24	24	27	24
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	7	43	38	46	40	53	33	33	32	33	29	37	36	53
	DIR. (TENS OF DEGS)		19	29	08	27	25	34	31	30	32	35	14	28	25
	YEAR OF OCCURRENCE		1996	2002	1996	2002	2000	2000	2002	2002	2002	2000	1999	2000	MAY 2000
	MAXIMUM 5-SECOND:														
SPEED (MPH)	7	53	53	56	53	68	46	45	40	46	40	45	49	68	
DIR. (TENS OF DEGS)		17	34	08	26	25	30	34	29	31	24	15	28	25	
YEAR OF OCCURRENCE		1996	1998	1996	2002	2000	2000	1997	2002	2002	1997	1999	2000	MAY 2000	
PRECIPITATION	NORMAL (IN)	30	3.50	2.75	3.56	3.49	4.47	3.99	4.27	4.35	4.37	3.33	3.70	3.39	45.17
	MAXIMUM MONTHLY (IN)	59	8.42	5.44	7.21	10.09	10.62	8.58	10.42	12.10	11.57	7.49	9.69	7.89	12.10
	YEAR OF OCCURRENCE		1979	1971	1953	1952	1984	1972	1969	1955	1999	1995	1972	1973	AUG 1955
	MINIMUM MONTHLY (IN)	59	0.67	0.55	0.97	0.61	0.09	0.34	0.33	0.76	0.94	0.15	0.68	0.39	0.09
	YEAR OF OCCURRENCE		1981	2002	1981	1985	1964	1949	1999	1995	1967	1963	1976	1955	MAY 1964
	MAXIMUM IN 24 HOURS (IN)	59	2.47	2.05	3.08	2.52	3.36	3.55	4.54	5.84	7.85	3.67	3.40	3.04	7.85
	YEAR OF OCCURRENCE		1949	1966	1952	1968	1984	1967	1969	1982	1985	1996	1972	1993	SEP 1985
	NORMAL NO. DAYS WITH:														
PRECIPITATION $\geq 0.01$	30	10.5	10.2	10.8	11.1	11.8	10.8	10.0	9.7	8.9	8.0	10.4	11.3	123.5	
PRECIPITATION $\geq 1.00$	30	0.9	0.4	0.8	0.8	1.1	0.9	1.2	1.2	1.1	0.9	1.1	0.8	11.2	
SNOWFALL	NORMAL (IN)	30	11.1	9.4	5.7	0.8	0.*	0.0	0.0	0.0	0.0	0.1	1.4	3.8	32.3
	MAXIMUM MONTHLY (IN)	56	35.5	29.5	30.5	13.4	T	0.0	0.0	0.0	0.0	1.4	7.8	28.4	35.5
	YEAR OF OCCURRENCE		1996	1983	1958	1982	1994				1972	1967	1966	JAN 1996	
	MAXIMUM IN 24 HOURS (IN)	56	25.6	25.2	17.5	11.4	T	0.0	0.0	0.0	0.0	1.4	6.4	13.3	25.6
	YEAR OF OCCURRENCE		1996	1983	1958	1982	1994				1972	1968	1966	JAN 1996	
	MAXIMUM SNOW DEPTH (IN)	49	241	368	199	36	0	0	0	0	0	1	13	115	368
	YEAR OF OCCURRENCE		1994	1994	1994	1982					1972	1953	1966	FEB 1994	
NORMAL NO. DAYS WITH:															
SNOWFALL $\geq 1.0$	30	2.8	2.2	1.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.4	1.4	8.3	

PRECIPITATION (inches) 2002 ALLENTOWN, PA (ABE)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	3.58	2.65	2.80	5.94	5.51	5.36	2.16	2.36	6.18	2.07	1.67	7.89	48.17
1974	3.66	1.60	5.38	3.98	3.85	4.31	1.40	9.42	6.67	1.58	1.82	4.52	48.19
1975	5.17	3.57	3.49	3.50	4.25	5.09	7.71	4.23	7.60	4.84	3.37	2.72	55.54
1976	5.03	2.80	2.64	2.16	3.12	3.57	2.11	5.09	4.60	5.70	0.68	2.40	39.90
1977	1.42	2.54	5.90	4.23	1.75	3.66	4.33	5.79	4.10	4.21	6.13	5.54	49.60
1978	7.42	1.60	3.94	1.55	5.52	3.15	3.64	8.95	2.28	1.96	2.02	3.96	45.99
1979	8.42	4.49	2.35	3.74	4.85	1.20	5.57	2.07	7.19	4.36	2.99	2.48	49.71
1980	0.81	1.01	5.84	4.39	3.38	2.90	1.50	0.93	1.99	3.09	3.23	0.75	29.82
1981	0.67	4.79	0.97	3.43	4.82	5.72	2.71	1.60	2.74	2.82	1.63	3.18	35.08
1982	3.48	2.63	1.99	4.73	4.02	7.16	2.86	8.43	1.76	1.56	3.40	1.38	43.40
1983	2.84	3.21	5.35	7.87	4.21	4.68	2.02	2.38	1.41	4.83	6.29	7.61	52.70
1984	1.53	3.64	3.82	5.08	10.62	4.20	9.26	4.17	1.10	4.26	1.66	3.07	52.41
1985	0.84	2.28	1.56	0.61	5.47	5.06	7.61	3.46	8.72	1.97	7.74	1.71	47.03
1986	4.27	4.29	2.07	4.31	1.83	2.51	4.46	3.77	3.07	1.91	6.32	4.39	43.20
1987	3.89	1.11	2.10	4.42	2.28	4.42	4.41	7.09	8.87	2.64	3.98	1.49	46.70
1988	2.75	3.28	2.56	1.36	7.43	1.79	6.17	2.72	3.21	2.18	4.98	0.99	39.42
1989	1.79	2.18	3.82	1.31	9.52	5.81	4.09	3.05	5.93	4.30	1.90	1.31	45.01
1990	4.57	2.38	1.52	2.31	6.66	2.86	3.20	6.47	1.97	3.12	3.53	5.68	44.27
1991	2.77	1.14	3.71	3.11	2.90	1.06	5.28	2.54	3.32	2.57	2.48	3.50	34.38
1992	1.73	1.49	3.32	0.88	4.88	3.36	5.36	4.08	3.42	1.86	5.06	3.27	38.71
1993	1.98	2.81	6.59	6.81	1.43	4.09	2.99	5.39	7.77	5.31	2.83	4.96	52.96
1994	5.69	3.14	5.92	3.04	2.67	5.46	5.57	6.18	2.61	1.25	4.21	3.08	48.82
1995	3.49	2.52	3.20	2.46	2.93	1.44	5.86	0.76	2.66	7.49	3.65	1.44	37.90
1996	7.32	2.11	3.34	5.54	2.16	4.45	7.12	0.91	5.20	6.71	4.71	7.30	56.87
1997	3.38	1.32	3.71	1.62	3.23	2.62	6.84	5.12	3.54	2.03	2.71	2.37	38.49
1998	3.42	3.85	3.86	5.21	4.58	4.95	1.17	3.12	2.96	4.49	1.39	0.62	39.62
1999	5.44	2.67	3.07	3.20	3.27	0.97	0.33	3.81	11.57	2.52	2.39	2.45	41.69
2000	3.00	1.89	5.04	3.76	5.54	5.57	3.35	5.22	3.75	1.10	2.24	4.37	44.83
2001	2.65	2.37	4.19	1.59	4.38	5.55	4.63	2.51	4.21	0.81	1.09	1.92	35.90
2002	1.45	0.55	3.62	3.83	4.42	4.65	1.14	2.25	2.38	6.84	3.32	4.95	39.40
POR= 59 YRS	3.26	2.77	3.63	3.70	4.12	3.76	4.31	4.10	4.02	2.98	3.58	3.51	43.74

WBAN : 14737

AVERAGE TEMPERATURE (°F) 2002 ALLENTOWN, PA (ABE)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	30.7	29.3	44.3	50.0	56.2	71.6	75.2	75.3	65.9	55.6	45.0	35.1	52.9
1974	31.3	30.2	40.3	52.5	59.1	66.6	73.3	72.4	62.5	49.6	43.5	35.2	51.4
1975	31.6	32.0	37.6	45.5	64.1	69.2	73.7	72.5	61.3	56.9	48.8	32.7	52.2
1976	24.1	36.6	41.8	52.3	58.3	72.6	71.6	71.0	63.4	50.2	37.6	27.0	50.5
1977	18.6	30.8	45.4	52.4	63.9	68.7	75.5	73.0	66.7	53.3	44.2	30.0	51.9
1978	24.9	22.3	36.7	50.5	60.8	70.8	72.4	73.3	64.2	52.9	44.3	33.5	50.6
1979	28.0	20.5	44.3	49.5	62.1	68.0	73.2	72.8	65.3	52.5	47.8	36.2	51.7
1980	30.7	27.3	38.6	52.9	63.8	68.2	77.3	78.2	70.3	54.4	41.4	29.6	52.7
1981	23.2	35.3	38.4	51.7	61.2	71.6	74.7	70.6	63.6	49.8	43.3	30.6	51.2
1982	19.9	29.9	37.3	47.2	62.5	65.7	73.5	68.3	64.1	54.0	45.5	38.5	50.5
1983	30.2	32.0	41.9	49.2	58.3	70.0	76.4	75.5	66.5	54.3	43.5	28.6	52.2
1984	23.0	36.7	33.7	49.3	58.7	72.0	73.2	74.1	62.4	59.5	43.4	38.4	52.0
1985	24.9	32.2	42.3	54.2	63.6	67.3	73.3	71.9	66.2	54.2	46.1	29.4	52.1
1986	29.3	28.1	41.1	50.5	64.6	69.1	73.9	69.6	64.1	54.0	39.5	33.8	51.5
1987	27.8	29.2	42.6	50.8	61.6	71.4	75.9	70.5	64.3	49.1	43.4	34.9	51.8
1988	22.7	29.7	40.7	48.5	61.6	68.7	77.9	75.0	62.8	48.2	44.5	31.7	51.0
1989	33.4	30.4	39.0	48.5	59.3	70.2	72.7	71.5	65.5	55.0	42.1	21.2	50.7
1990	37.1	36.3	43.3	51.9	58.8	70.0	74.2	71.8	63.1	57.5	45.6	37.2	53.9
1991	29.5	35.9	42.3	52.6	67.2	71.6	74.7	74.1	64.7	54.7	43.8	35.7	53.9
1992	32.2	33.9	37.4	48.8	59.3	68.5	72.4	69.4	63.7	49.3	43.1	34.0	51.0
1993	33.3	26.9	35.6	50.6	63.0	70.5	76.9	74.4	64.1	51.7	43.1	33.1	51.9
1994	20.7	25.6	37.1	54.7	59.5	73.8	77.6	70.9	65.0	53.2	48.0	37.6	52.0
1995	34.3	28.3	44.1	49.4	59.9	70.5	76.4	75.0	64.5	56.8	36.9	26.8	51.9
1996	25.1	29.7	34.7	48.9	56.7	69.4	70.1	70.9	64.2	52.1	37.2	35.9	49.6
1997	27.1	35.6	38.9	47.7	55.7	68.0	72.3	69.2	62.0	52.4	39.3	33.6	50.2
1998	36.5	38.6	42.7	51.8	65.0	68.2	72.9	72.9	65.8	53.4	42.8	37.8	54.0
1999	30.3	33.4	38.0	49.2	59.5	70.0	78.0	72.2	65.3	50.7	46.3	34.9	52.3
2000	27.5	31.1	44.3	49.4	61.2	69.2	70.2	70.2	61.6	52.8	40.4	25.4	50.3
2001	27.1	31.4	36.5	50.6	60.6	69.5	68.9	73.7	62.3	53.6	47.0	38.2	51.6
2002	34.2	36.1	40.9	52.4	57.4	69.7	75.7	75.0	66.4	51.7	40.9	29.6	52.5
POR= 59 YRS	27.9	30.3	39.1	49.9	60.3	69.4	73.9	72.2	64.6	53.6	42.8	32.0	51.3

HEATING DEGREE DAYS (base 65°F) 2002 ALLENTOWN, PA (ABE)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1973-74	0	2	72	290	593	922	1036	968	755	385	216	32	5271
1974-75	2	0	123	471	638	917	1027	919	841	577	98	19	5632
1975-76	0	7	122	257	482	995	1262	820	713	414	219	28	5319
1976-77	1	9	101	455	817	1174	1428	950	604	384	127	35	6085
1977-78	0	10	56	356	623	1077	1238	1190	871	430	189	15	6055
1978-79	9	0	94	368	614	971	1142	1241	633	460	125	29	5686
1979-80	13	22	76	386	509	884	1058	1087	808	356	87	41	5327
1980-81	0	0	26	326	702	1092	1290	823	818	392	163	6	5638
1981-82	0	3	100	465	643	1058	1389	975	851	528	110	50	6172
1982-83	5	28	82	347	575	815	1071	920	708	477	222	23	5273
1983-84	0	1	96	336	639	1121	1295	813	963	464	211	12	5951
1984-85	0	1	135	180	642	820	1240	914	702	346	106	28	5114
1985-86	0	3	85	324	559	1093	1098	1025	735	427	115	20	5484
1986-87	0	35	92	361	759	960	1143	997	688	423	178	5	5641
1987-88	0	16	73	487	637	926	1306	1016	747	486	145	52	5891
1988-89	5	6	97	515	607	1026	974	963	798	489	204	12	5696
1989-90	4	7	92	309	680	1350	858	800	670	416	188	17	5391
1990-91	7	12	129	269	574	853	1092	806	696	374	92	10	4914
1991-92	0	0	113	326	631	902	1007	895	845	478	197	23	5417
1992-93	4	9	110	482	649	955	974	1060	904	424	103	27	5701
1993-94	0	3	121	407	652	985	1369	1099	856	315	202	6	6015
1994-95	0	2	60	362	506	840	942	1020	639	461	170	2	5004
1995-96	0	0	91	264	838	1181	1225	1016	932	477	283	16	6323
1996-97	2	2	104	394	826	897	1169	816	803	513	282	54	5862
1997-98	5	9	116	395	766	966	875	731	693	387	82	48	5073
1998-99	0	6	68	353	660	836	1067	879	829	468	180	15	5361
1999-00	1	8	74	434	554	924	1155	973	636	462	167	33	5421
2000-01	3	16	176	372	729	1224	1168	934	878	434	164	28	6126
2001-02	15	0	119	354	533	822	946	801	739	410	261	15	5015
2002-	0	4	48	425	717	1091							

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COOLING DEGREE DAYS (base 65°F) 2002 ALLENTOWN, PA (ABE)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	0	0	0	3	7	212	322	331	103	4	0	0	982
1974	0	0	0	16	40	86	266	236	52	0	0	0	696
1975	0	0	0	0	79	154	279	247	18	13	1	0	791
1976	0	0	0	37	20	262	214	203	59	2	0	0	797
1977	0	0	4	13	99	155	331	263	115	1	5	0	986
1978	0	0	0	0	65	196	247	264	76	0	0	0	848
1979	0	0	0	1	42	126	274	268	92	7	1	0	811
1980	0	0	0	0	59	147	388	413	194	6	0	0	1207
1981	0	0	0	0	50	210	307	183	61	0	0	0	811
1982	0	0	0	1	37	76	274	137	63	13	0	0	601
1983	0	0	0	11	21	179	361	337	148	13	0	0	1070
1984	0	0	0	0	25	226	260	291	65	18	0	0	885
1985	0	0	2	27	66	100	262	222	125	1	0	0	805
1986	0	0	0	0	111	152	282	187	72	23	0	0	827
1987	0	0	0	3	78	204	344	194	58	0	0	0	881
1988	0	0	0	0	48	172	412	324	36	3	0	0	995
1989	0	0	0	0	37	173	248	218	116	6	1	0	799
1990	0	0	5	31	6	171	299	228	78	42	0	0	860
1991	0	0	0	9	167	215	306	290	110	15	0	0	1112
1992	0	0	0	0	27	135	241	151	79	0	0	0	633
1993	0	0	0	1	49	198	375	302	103	0	0	0	1028
1994	0	0	0	13	40	275	400	192	67	1	1	0	989
1995	0	0	0	0	18	173	359	319	85	16	0	0	970
1996	0	0	0	2	32	153	177	192	87	0	0	0	643
1997	0	0	0	0	3	148	239	146	35	10	0	0	581
1998	0	0	10	1	87	149	247	257	100	0	0	0	851
1999	0	0	0	0	16	170	414	236	92	0	0	0	928
2000	0	0	0	2	55	165	169	187	81	0	0	0	659
2001	0	0	0	10	34	172	142	275	44	3	0	0	680
2002	0	0	0	39	33	163	338	322	95	18	0	0	1008

SNOWFALL (inches) 2002 ALLENTOWN, PA (ABE)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1973-74	0.0	0.0	0.0	0.0	T	7.2	7.2	4.3	0.6	0.1	0.0	0.0	19.4
1974-75	0.0	0.0	0.0	0.0	T	3.2	8.3	9.6	2.1	T	0.0	0.0	23.2
1975-76	0.0	0.0	0.0	0.0	T	1.6	6.3	4.3	6.7	T	0.0	0.0	18.9
1976-77	0.0	0.0	0.0	0.0	0.4	6.0	11.6	8.4	1.5	T	T	0.0	27.9
1977-78	0.0	0.0	0.0	T	2.5	3.9	20.9	19.9	8.1	0.3	0.0	0.0	55.6
1978-79	0.0	0.0	0.0	0.0	2.9	0.9	9.1	21.0	T	T	0.0	0.0	33.9
1979-80	0.0	0.0	0.0	1.0	T	4.5	1.0	5.9	9.5	T	0.0	0.0	21.9
1980-81	0.0	0.0	0.0	0.0	4.2	3.6	9.5	1.3	6.9	0.0	0.0	0.0	25.5
1981-82	0.0	0.0	0.0	0.0	T	8.9	12.4	5.2	4.0	13.4	0.0	0.0	43.9
1982-83	0.0	0.0	0.0	0.0	T	2.3	8.8	29.5	0.6	4.6	0.0	0.0	45.8
1983-84	0.0	0.0	0.0	0.0	T	5.0	12.8	0.6	15.9	T	0.0	0.0	34.3
1984-85	0.0	0.0	0.0	0.0	T	5.7	6.7	11.5	0.3	T	0.0	0.0	24.2
1985-86	0.0	0.0	0.0	0.0	T	2.7	5.7	16.5	T	1.1	0.0	0.0	26.0
1986-87	0.0	0.0	0.0	0.0	0.5	2.4	21.9	9.6	1.1	T	0.0	0.0	35.5
1987-88	0.0	0.0	0.0	0.0	3.7	2.2	21.0	11.6	1.7	T	0.0	0.0	40.2
1988-89	0.0	0.0	0.0	0.0	0.0	0.1	3.9	2.8	5.4	0.0	0.0	0.0	12.2
1989-90	0.0	0.0	0.0	0.0	3.0	7.3	8.8	2.0	0.9	0.1	0.0	0.0	22.1
1990-91	0.0	0.0	0.0	0.0	T	8.8	5.0	0.9	2.1	T	0.0	0.0	16.8
1991-92	0.0	0.0	0.0	0.0	T	0.8	2.8	2.2	9.8	T	0.0	0.0	15.6
1992-93	0.0	0.0	0.0	0.0	T	0.9	1.6	13.4	21.6	0.0	0.0	0.0	37.5
1993-94	0.0	0.0	0.0	0.0	T	1.9	33.9	24.7	14.7	0.0	T	0.0	75.2
1994-95	0.0	0.0	0.0	0.0	0.7	0.4	0.5	10.1	2.0	0.0	0.0	0.0	13.7
1995-96	0.0	0.0	0.0	0.0	4.1	15.7	35.5	10.2	6.1	0.2	0.0	0.0	71.8
1996-97	0.0	0.0	0.0	0.0	T	1.1	5.5	4.5	9.6	2.8	0.0	0.0	23.5
1997-98	0.0	0.0	0.0	0.0	T	3.5	3.7	T	0.0	0.0	0.0	0.0	7.2
1998-99	0.0	0.0	0.0	0.0	0.0	0.3	2.1	1.2	T	0.0	0.0	0.0	3.6
1999-00	0.0	0.0	0.0	0.0	T	T	18.1	5.5	T	0.0	0.0	0.0	23.6
2000-01	0.0	0.0	0.0	0.0	T	10.8	10.8	20.1	5.5	T	0.0	0.0	47.2
2001-02	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.7	T	T	0.0	0.0	9.7
2002-	0.0	0.0	0.0	T	1.2	15.2							
POR= 56 YRS	0.0	0.0	0.0	0.0	1.3	6.4	9.1	9.0	5.6	0.6	T	0.0	32.0

WBAN : 14737

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 EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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2002  
ALLENTOWN,  
PENNSYLVANIA (ABE)

Allentown is located in the east central section of the state and in the Lehigh River valley. Twelve miles to the north is Blue Mountain, a ridge from 1,000 to 1,800 feet in height. The South Mountain, 500 to 1,000 feet high, fringes the southern edge of the city. Otherwise the country is generally rolling with numerous small streams. A modified climate prevails. Temperatures are usually moderate and precipitation generally ample and dependable with the largest amounts occurring during the summer months when precipitation is generally showery. General climatological features of the area are slightly modified by the mountain ranges so that at times during the winter there is a temperature difference of 10 to 15 degrees between Allentown and Philadelphia, only 50 miles to the south.

The growing season averages 177 days, and generally ranges from 170 to 185 days. It begins late in April and ends late in October. The average occurrence of the last temperature of 32 degrees in the spring is late April, and the average first fall minimum of 32 degrees is mid-October.

Maximum temperatures during most years are not excessively high and temperatures above 100 degrees are seldom recorded. However, the average humidity in the valley is quite high, and combined with the normal summer temperatures, causes periods of discomfort.

Winters in the valley are comparatively mild. Minimum temperatures during December, January, and February are usually below freezing, but below zero temperatures are seldom recorded.

Seasonal snowfall is quite variable. Freezing rain is a common problem throughout the Lehigh Valley. Snowstorms producing 10 inches or more occur an average of once in two years. The accumulation of snowfall over the drainage area of the Lehigh River to the north of Allentown, combined with spring rains, frequently presents a flood threat to the city and surrounding area. The valley is also subject to torrential rains that cause quick rises in the river and feeder creeks.

The area is seldom subject to destructive storms of large extent. Heavy thunderstorms and tornadoes occasionally cause damage over limited areas. An exception to the usual weather was the storm that battered the east coast on November 25, 1950, when gusts of 88 mph were observed at the station.

# STATION LOCATION

ALLENTOWN, PENNSYLVANIA

LOCATION	Occupied From	Occupied To	Airline Distances and Directions from previous Location	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										AUTOMATIC OBSERVING EQUIPMENT *	* TYPE  M = AMOS T = AUTOB S = ASOS W = AWOS  REMARKS
						GROUND											
						SEA LEVEL GROUND TEMPERATURE	WIND INSTRUMENT	EXTREME THERMOMETER	PSYCHROMETER	SUNSHINE SWITCH	TIPPING GAUGE BUCKET	WEIGHING RAIN GAGE	8 INCH RAIN GAGE	HYGROMETER			
*NOTE: <u>AIRPORT</u>  Old Administration Bldg Allentown-Bethlehem-Easton Airport 4.5 miles NNE of P.O.  New Admin. Bldg + Allentown-Bethlehem-Easton Airport  + Government Building (Effective 1/76)  Lehigh Valley Int'l Airport	4/6/38  10/13/50  11/01/95	10/13/50  11/01/95  Present	NA  1300 ft. SSW  NA	40°39'  40°39'  40°39'	75°26'  75°26'  75°27'	381  376 c387  g375	57  69 b20  g375	5  6  g375	4  5  g375				a5  4 d5	3  3 d3  S	CAA station to 12/13/43, then Weather Bureau. a. Added 12/13/43.  b. Located 1650' WSW of previous sensor site 12/1/65. c. Effective 12/1/65. d. Minor relocation 5/8/73. e. Installed 5/3/77. f. Installed on roof 6/1/83.  ASOS Commissioned 11/01/95 g. ground elevation		

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\* NOTES: For earlier station history see previous edition.