

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
In Cooperation With The Pennsylvania Department of Commerce
Climatology of the United States No. 20-36

LATITUDE 41°04' north
LONGITUDE 76°15' west
ELEV. (GROUND) 570 feet (msl)

CLIMATOLOGICAL SUMMARY

STATION Berwick, Pennsylvania

MEANS AND EXTREMES FOR PERIOD 1945-70

Month	Temperature (°F)								** Mean degree days	Precipitation Totals (Inches)						Mean number of days					Month	
	Means			Extremes						Mean	Greatest daily	Year	Snow, Sleet				Precip. 10 inch or more	Temperatures				
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean					Maximum monthly	Year	Greatest daily	Year		90° and above	32° and below	32° and below		0° and below
(a)	(25)	(25)	(25)	(25)		(25)		(25)	(25)	(25)		(25)	(25)		(25)	(25)	(25)	(25)	(25)	(25)		
Jan	36.2	18.9	27.6	71	1967	-20	1961	1156	2.28	1.46	1953	7.4	24.0	1945	12.5	1961	6	0	10	28	2	Jan
Feb	39.1	20.2	29.7	76	1954	-18	1961	994	2.13	1.64	1951	7.0	17.5	1964	10.0	1964+	5	0	6	25	2	Feb
Mar	48.8	27.6	38.2	82	1949	-	1967+	824	2.78	1.65	1950	5.0	20.0	1967	14.6	1960	7	0	1	22	*	Mar
Apr	62.9	37.9	50.4	90	1962+	16	1965	440	3.61	1.94	1964	*	4.6	1957	4.6	1957	8	*	0	9	0	Apr
May	73.6	47.6	60.6	95	1962	25	1963	175	3.91	2.62	1952	*	T	1963+			8	1	0	1	0	May
Jun	82.5	56.7	69.6	102	1952	37	1965	28	3.25	2.56	1970						7	6	0	0	0	Jun
Jul	86.2	61.1	73.7	103	1966	42	1965+	2	4.09	3.08	1948						8	9	0	0	0	Jul
Aug	84.0	59.5	71.8	101	1949	39	1965	9	4.21	4.95	1946						6	2	0	*	0	Aug
Sep	77.0	52.4	64.7	102	1953	28	1963+	99	3.25	3.17	1960						6	2	0	*	0	Sep
Oct	66.6	41.6	54.1	90	1951	19	1969	342	2.98	2.35	1951	*	0.5	1962	0.5	1962	5	*	0	6	0	Oct
Nov	51.7	32.7	42.2	83	1950	11	1964+	678	3.26	2.95	1950	1.4	11.0	1953	10.0	1953	7	0	*	16	0	Nov
Dec	38.9	22.4	30.7	69	1966	-13	1960	1053	2.72	2.85	1950	7.8	30.0	1969	12.0	1969	6	0	8	27	1	Dec
Year	62.2	39.8	51.0	103	JULY 1966	-20	JAN 1961	5800	38.47	4.95	AUG 1946	29.0	30.0	DEC 1969	14.6	MAR 1960	80	23	25	134	5	Year

(a) Average length of record, years.

+ Also on earlier dates, months, or years.

T Trace, an amount too small to measure.

* Less than one half.

** Base 65°F

CLIMATE OF BERWICK, PENNSYLVANIA

Berwick, Pennsylvania, lies along the main branch of the Susquehanna River in eastern Columbia County. Elevations along that portion of the river valley are generally between 500 and 700 feet above mean sea level (msl), with hills reaching 1000 to 1200 feet msl within two miles north of Berwick. Lee Mountain, about 4 miles north of the town, rises some 1500 to 1700 feet msl, while Nescopeck Mountain, about 4 miles to the south, reaches elevations of 1400 to over 1600 feet. These two mountain ridges parallel the river valley in a general ENE-WSW direction.

The climate is Humid Continental. Western and central Canada are the source regions for polar air masses which frequently move through the region during the winter and occasionally in summer. Warm tropical air originating in the Gulf of Mexico is the principal moisture source, with the Atlantic Ocean providing a secondary source. Warm, dry air from the southwestern United States occasionally moves over the region in summer.

Winters are moderately cold, but less severe than in the higher elevations to the east and north. Daytime temperatures average in the mid- to upper 30's while normal overnight temperatures are in the upper teens to low 20's. Extremely cold air masses occasionally settle over the area. The record low of -20° occurred on January 22, 1961. Tropical air at times invades the area in winter, briefly raising temperatures into the 60's or 70's. Prevailing winds are from the west to northwest.

Snowfall is somewhat modified by the valley location. Much of the moisture picked up from the Great Lakes by cold air masses has been deposited on the higher elevations to the west and north. East coast storms provide the heaviest snowfalls in this area, although heavier amounts are frequently recorded in the mountains east of Berwick. Seasonal snowfall amounts have ranged between 13.2 inches (1952-53) and 54.3 inches (1966-67). There are an average of 35 days each season with at least 1 inch of snow cover and 8 days with a cover of at least 6 inches. The maximum snow cover on record was 23 inches on February 4, 1961.

Summer days are generally warm with temperatures averaging in the low to mid 80's, while nighttime readings average in the upper 50's to low 60's. Periods of quite warm and humid weather occur virtually every summer, with cooler, drier air from Canada providing periodic relief. Extreme heat usually occurs in association with drier air from the Southwest. On July 3, 1966, the temperature reached 103°. Summer rainfall, usually adequate for agriculture, occurs mostly in the form of showers and thunderstorms, the latter occurring on an average of 23 days during June, July, and August. Rainfall from tropical storms or hurri-

cans moving northward along the coast occasionally reaches this region and may be heavy at times. Prevailing winds are from the west.

Spring and fall are the transition seasons with frequent changes in air masses. The growing season averages 161 days, and has varied from 119 days (1956) to 197 days (1955). About 4 years out of 5 can be expected to have growing seasons ranging between 137 and 185 days. Freezing temperatures have occurred as late as May 25 (1963 and 1956) and as early as September 14 (1964). Dates corresponding to various probabilities (percent) of 32° or lower occurring on or after a spring date and on or before a fall date are as follows:

SPRING				FALL			
75%	50%	25%	10%	10%	25%	50%	75%
Apr 26	May 3	May 10	May 16	Sep 23	Oct 1	Oct 10	Oct 19

Precipitation is reasonably well distributed throughout the year, with 58% normally falling during April through September. The wettest and driest years of record, respectively, were 1950 with 46.58 inches and 1963 with 26.55 inches. Extremes in monthly precipitation range from 13.33 inches in August 1955 (principally a result of Hurricanes Connie and Diane) to 0.15 inch in October 1963. Extended dry periods occur rather infrequently, the longest being 25 days from September 23 to October 17, 1947. Precipitation amounts (inches) associated with return periods of various lengths are as follows:

	RETURN PERIOD (YEARS)			
	10	25	50	100
1-HOUR PRECIPITATION	2.1	2.6	2.9	3.3
24-HOUR PRECIPITATION	4.5	5.5	6.3	7.0

Thunderstorms occur on an average of 4 days in fall, one day in winter, and 8 days in spring, for an annual mean of 36 such days. These storms are occasionally accompanied by strong, gusty winds and hail. Since 1854, only 2 tornadoes have been reported in Columbia County. One of these, on March 26, 1964, touched down briefly in the Berwick area, uprooting trees in a cemetery, but otherwise causing little damage.

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Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1946	1.22	1.36	3.94	0.74	10.11	4.78	3.61	7.12	1.75	2.79	0.97	2.00	40.89
1947	2.99	0.99	2.15	4.93	6.78	2.40	11.34	3.75	1.85	1.92	4.60	1.10	44.80
1948	2.68	1.42	3.22	5.45	5.37	4.73	5.15	1.98	1.17	3.25	4.43	1.92	43.74
1949	3.48	2.09	1.08	4.37	3.99	1.33	3.03	6.39	1.91	1.20	1.35	3.90	43.92
1950	4.10	3.68	5.18	3.07	2.67	6.77	5.12	1.96	1.71	2.20	5.77	4.35	46.58
1951	3.15	3.73	3.82	2.65	2.06	5.29	3.33	3.06	2.11	3.82	5.56	2.55	41.13
1952	3.11	1.99	3.37	5.11	7.10	0.80	9.70	3.13	3.60	3.77	3.77	3.43	45.21
1953	3.99	1.98	3.40	3.78	5.97	1.01	2.90	0.83	4.62	1.84	2.11	3.43	36.83
1954	1.48	2.21	3.46	4.52	3.80	1.95	2.58	4.85	3.66	2.48	2.95	3.33	37.27
1955	0.78	2.66	3.05	2.29	1.89	3.30	2.27	13.33	4.11	7.27	3.15	0.36	44.46
1956	0.87	4.35	2.18	2.88	3.74	3.38	5.05	3.93	4.09	3.02	1.27	4.16	38.92
1957	1.35	1.68	2.49	6.25	3.23	4.08	1.38	1.88	3.48	2.95	2.92	3.94	35.63
1958	3.25	2.85	2.87	4.81	2.64	4.77	4.58	3.03	5.35	2.40	3.30	0.73	40.58
1959	3.34	2.69	2.34	4.16	1.37	3.53	5.56	2.69	4.05	4.96	3.37	3.73	41.79
1960	2.58	2.35	1.50	3.60	6.11	5.45	5.54	4.77	7.25	1.61	1.84	1.29	43.89
1961	2.12	2.10	3.59	2.90	3.00	3.04	4.42	4.68	1.22	1.37	3.91	2.74	35.09
1962	2.54	3.49	1.63	3.16	2.95	1.82	3.01	5.62	3.60	4.71	2.93	2.32	37.78
1963	1.84	1.71	2.48	3.93	2.89	3.03	3.01	2.44	1.90	0.15	3.99	1.92	26.55
1964	3.46	1.88	2.77	6.42	1.02	3.68	2.33	1.73	1.62	1.27	1.34	3.59	31.11
1965	1.87	1.29	1.57	2.08	1.38	1.33	1.86	9.51	4.02	2.50	1.75	1.07	30.23
1966	1.72	2.52	1.78	3.37	3.65	0.56	1.66	3.65	4.43	2.03	3.29	2.11	30.77
1967	1.00	0.93	4.33	2.70	4.92	1.19	3.91	7.12	2.53	3.79	2.98	2.83	38.23
1968	1.47	0.16	1.83	2.66	4.53	4.60	0.77	1.49	6.39	2.24	1.99	1.99	32.25
1969	1.19	0.74	3.18	3.97	3.18	2.65	5.77	2.70	2.27	1.88	4.08	3.94	33.59
1970	0.39	2.63	2.86	3.33	3.12	5.25	3.89	3.63	2.46	2.11	5.83	2.38	36.36
1971	1.66	4.55	1.87	1.20	3.97	3.23	6.32	3.83	3.26	2.30	4.01	2.15	38.35

SNOWFALL

Season	Nov	Dec	Jan	Feb	Mar	Apr	Total	Season	Nov	Dec	Jan	Feb	Mar	Apr	Total
1945-46		15.7	4.0	8.0			27.7	1958-59	1.2	3.7	4.9	1.8	9.0	1.4	22.0
1946-47	T	3.7	4.1	9.2	7.4		24.4	1959-60	T	6.5	1.3	5.7	17.4	T	30.9
1947-48	T	3.3	17.4	5.2	6.8	0	32.7	1960-61	T	12.7	23.2	12.8	2.3	T	51.0
1948-49	M	3.5	5.1	4.0	2.5	0	14.7	1961-62	M	14.7	1.0	11.3	4.2	2.0	35.2
1949-50	M	4.6	1.5	8.3	3.8	T	19.7	1962-63	2.0	16.4	11.0	10.0	5.3	0	45.24
1950-51	3.0	9.0	11.8	0.8	0.8	T	19.7	1963-64	T	12.5	19.4	17.5	2.0	0	51.4
1951-52	M	M	1.2	3.5	6.0	T	M	1964-65	T	1.5	0.3	1.5	2.5	0	5.14
1952-53	M	M	1.5	3.5	5.0	T	M	1965-66	T	10.0	2.0	2.0	2.0	1.5	14.3
1953-54	11.0	T	9.1	9.1	2.0	T	20.1	1966-67	T	20.0	2.0	10.0	20.0	0	54.3
1954-55	T	2.2	3.6	8.1	T	T	13.9	1967-68	7.5	11.5	2.3	10.0	1.2	0	24.3
1955-56	2.0	5.7	4.3	6.3	5.1	T	23.4	1968-69	5.0	2.7	3.0	10.0	1.2	0	21.9
1956-57	T	2.0	5.9	5.3	5.3	T	19.6	1969-70	T	6.0	4.0	4.0	11.0	0	24.0
1957-58	T	2.0	6.4	13.1	7.6	0	29.1	1970-71	T	7.1	13.5	M	16.0	T	M

Total includes October snowfall
M denotes missing

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1946	29.7	29.2	48.2	49.8	60.3	68.4	73.8	68.2	66.8	57.6	46.0	33.8	52.7
1947	31.0	25.8	34.7	50.9	60.7	68.0	72.6	72.0	67.0	59.4	39.6	30.1	51.5
1948	20.4	27.0	41.5	52.2	61.4	69.2	74.6	72.6	66.6	52.4	48.4	32.7	50.8
1949	35.2	35.7	41.8	51.2	62.8	74.4	78.3	74.2	62.9	58.7	41.1	33.5	54.2
1950	38.3	30.2	34.9	46.5	61.6	68.5	71.5	71.3	62.1	56.2	43.5	27.7	48.9
1951	30.6	32.8	39.6	50.8	62.4	69.7	71.1	71.9	64.9	55.6	37.6	32.6	51.9
1952	31.9	34.1	39.1	M	59.7	73.1	77.0	72.6	65.3	49.8	43.7	34.3	53.5
1953	34.3	35.3	41.4	49.2	63.4	71.2	71.2	72.0	65.7	55.0	42.2	36.3	53.5
1954	27.3	37.6	39.3	54.1	63.4	71.1	72.6	70.7	65.8	56.6	41.4	31.6	52.3
1955	26.4	31.2	40.5	54.9	64.5	68.2	78.7	75.8	65.1	56.0	39.7	26.6	52.3
1956	29.2	33.2	36.2	49.0	53.3	70.7	70.6	70.6	61.7	54.6	43.3	37.2	51.2
1957	25.5	34.4	39.7	53.1	62.3	73.3	73.7	70.2	66.2	51.4	43.9	36.2	52.5
1958	28.4	24.4	38.0	52.5	59.2	65.2	75.0	71.5	64.6	53.1	43.5	24.4	50.0
1959	28.2	29.7	38.2	53.1	65.2	70.9	74.6	75.3	69.0	57.3	43.2	33.8	53.1
1960	31.7	33.2	28.6	55.2	59.9	69.4	71.4	73.1	68.2	53.0	43.2	23.4	50.7
1961	20.7	23.0	40.2	46.1	58.6	69.8	73.9	72.5	61.7	54.6	43.8	30.5	51.2
1962	22.9	23.3	37.6	50.5	64.8	70.6	71.7	71.5	60.0	53.6	37.1	23.3	49.6
1963	22.2	19.7	38.0	48.2	57.2	68.3	72.3	68.6	59.9	55.2	45.2	24.1	48.2
1964	27.5	25.3	38.4	47.5	62.3	66.7	74.6	69.5	64.5	49.5	42.7	32.8	50.3
1965	23.8	28.7	35.0	46.2	63.2	67.0	71.4	70.1	65.5	50.1	40.8	34.1	49.7
1966	25.4	28.4	39.4	45.7	56.4	69.9	74.7	72.5	59.9	49.5	43.0	30.6	49.6
1967	33.4	24.7	35.1	49.3	62.8	71.4	71.7	69.7	62.2	51.5	37.0	32.3	49.3
1968	21.9	25.7	40.6	52.1	56.3	67.5	73.9	72.6	65.3	54.2	42.1	29.5	49.3
1969	27.7	28.4	36.3	52.0	61.0	69.8	72.1	71.5	64.0	51.5	39.9	27.4	50.1
1970	18.1	26.5	33.6	50.4	62.6	67.4	73.5	72.4	67.3	55.5	44.8	31.9	50.3
1971	21.8	30.3	36.2	47.3	57.9	70.8	71.8	69.9	67.0	58.5	39.9	34.5	50.5

Berwick Substation History

Although weather observations were taken in the Berwick area for brief periods between 1856 and 1865, consistent observations did not begin until September 1944, when Mr. Robert L. Harder became the official observer. Equipment problems led to a rather incomplete record and serious illness forced the observer to relinquish his duties early in 1945. The station was relocated in October 1945 to the American Gar and Foundry Plant, with Mr. A. B. Campbell as the principal observer. The station, located at 1170th north, 76th west at an elevation of 570 feet above mean sea level (msl) and approximately 0.3 mile northwest of the Post office, has remained at that location for the period of record. In 1962 the plant was taken over by the Berwick Industrial Development Association, Inc. Principal observers since Mr. Campbell have been Mr. J. F. Kashbaugh, Mr. J. M. Fairchild and, currently, Mr. Albert E. Richards.