

Climatology of the United States

No. 20

1971-2000

Station: NEW PHILADELPHIA, OH

COOP ID: 335894

Climate Division: OH 7

NWS Call Sign:

Elevation: 925 Feet Lat: 40°29N Lon: 81°26W

Temperature (°F)

Mean (1)				Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
Month	Daily Max	Daily Min	Mean	Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Heating	Cooling	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	35.1	17.9	26.5	69	1999	23	35.7	1990	-22+	1994	20	12.1	1977	1194	0	.0	.0	3.9	13.1	27.8	3.2
Feb	38.9	19.1	29.0	73	1997	22	37.9	1998	-14+	1963	27	16.9	1978	1009	0	.0	.0	5.7	9.0	24.0	2.6
Mar	49.5	27.1	38.3	84	1986	31	46.4	1973	-5+	1986	8	29.4	1984	828	0	.0	.0	14.3	2.8	21.9	.3
Apr	61.0	35.4	48.2	90+	1990	28	53.0	1985	10	1964	1	42.3	1975	506	1	.0	.1	24.2	.2	11.8	.0
May	71.8	46.0	58.9	94	1962	19	67.5	1991	20	1966	10	52.9	1997	236	46	.0	.4	30.7	.0	1.8	.0
Jun	80.4	55.6	68.0	99	1988	26	71.6	1991	30	1972	11	63.1	1972	39	128	.0	2.6	30.0	.0	@	.0
Jul	84.1	60.0	72.1	102	1988	17	76.3	1999	40	1964	6	68.7	2000	5	224	.1	5.4	31.0	.0	.0	.0
Aug	82.7	58.2	70.5	99	1988	18	75.8	1995	36	1982	29	66.9+	1992	17	187	.0	3.6	31.0	.0	.0	.0
Sep	76.0	50.8	63.4	96	1993	1	67.3	1971	30+	1995	23	59.4	1975	97	49	.0	1.1	30.0	.0	.2	.0
Oct	64.0	39.0	51.5	87	1986	1	57.9	1971	18	1988	31	45.8	1988	422	5	.0	.0	28.5	.0	7.6	.0
Nov	51.2	31.6	41.4	81	1961	4	46.6	1985	4	1976	30	33.8	1976	709	0	.0	.0	15.7	.8	16.9	.0
Dec	39.8	23.4	31.6	76	1982	4	39.3	1982	-16+	1989	23	18.1	1989	1036	0	.0	.0	6.3	7.6	25.2	1.1
Ann	61.2	38.7	50.0	102	Jul 1988	17	76.3	Jul 1999	-22+	Jan 1994	20	12.1	Jan 1977	6098	640	.1	13.2	251.3	33.5	137.2	7.2

+ Also occurred on an earlier date(s)

@ Denotes mean number of days greater than 0 but less than .05

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

060-A

**Climatography
of the United States
No. 20
1971-2000**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: NEW PHILADELPHIA, OH

COOP ID: 335894

Climate Division: OH 7

NWS Call Sign:

Elevation: 925 Feet Lat: 40°29N

Lon: 81°26W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	2.80	2.54	2.27	1998	8	5.53	1999	.77	1981	15.0	6.6	1.5	.5	.94	1.21	1.59	1.92	2.24	2.57	2.92	3.34	3.88	4.71	5.47
Feb	2.43	2.27	1.95	1961	26	4.81	1981	.23	1987	12.5	5.9	1.3	.3	.69	.92	1.27	1.57	1.87	2.18	2.52	2.92	3.44	4.26	5.02
Mar	3.22	3.27	2.66	1964	10	5.25	1980	.99	1990	14.3	7.9	2.1	.3	1.52	1.80	2.18	2.49	2.78	3.07	3.37	3.72	4.16	4.82	5.42
Apr	3.50	3.57	1.90	1970	2	7.32	1981	.76	1971	14.6	8.3	2.1	.6	1.23	1.56	2.04	2.45	2.83	3.23	3.66	4.16	4.81	5.80	6.71
May	4.13	4.44	2.95	1971	6	6.88	1983	1.11	1976	14.2	8.4	3.1	.7	1.67	2.05	2.59	3.03	3.45	3.87	4.33	4.86	5.53	6.55	7.48
Jun	4.33	4.41	2.75	1950	24	8.53	1981	.80	1991	11.9	7.4	3.0	1.0	1.39	1.80	2.41	2.93	3.43	3.94	4.51	5.18	6.03	7.36	8.59
Jul	4.09	3.91	4.50	1969	5	7.16	1984	1.45	1997	11.6	7.3	2.7	1.0	1.81	2.17	2.68	3.09	3.48	3.87	4.28	4.76	5.37	6.28	7.11
Aug	4.23	4.09	3.30	1995	10	7.99	1975	.70	1993	10.0	6.7	3.0	1.3	1.30	1.70	2.30	2.82	3.32	3.84	4.40	5.07	5.94	7.28	8.53
Sep	3.15	3.18	2.50	1979	14	6.27	1975	.43	1985	10.4	6.0	2.2	.6	.98	1.28	1.72	2.10	2.47	2.86	3.28	3.77	4.41	5.41	6.33
Oct	2.49	2.24	2.68	1998	8	5.05	1995	.47	1994	10.9	5.6	1.4	.2	.72	.96	1.31	1.62	1.92	2.24	2.59	2.99	3.52	4.35	5.12
Nov	3.20	2.88	2.03	1985	5	10.93	1985	.66	1976	13.7	7.3	2.0	.6	.88	1.18	1.64	2.05	2.44	2.86	3.32	3.86	4.57	5.68	6.71
Dec	3.00	2.84	2.71	1998	22	7.38	1990	1.38	1976	14.3	6.8	1.9	.4	1.30	1.57	1.95	2.25	2.54	2.83	3.14	3.50	3.95	4.64	5.26
Ann	40.57	40.08	4.50	Jul 1969	5	10.93	Nov 1985	.23	Feb 1987	153.4	84.2	26.3	7.5	31.97	33.70	35.89	37.52	38.96	40.33	41.74	43.28	45.13	47.78	50.04

+ Also occurred on an earlier date(s)

Denotes amounts of a trace

@ Denotes mean number of days greater than 0 but less than .05

** Statistics not computed because less than six years out of thirty had measurable precipitation

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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Climate Division: OH 7

NWS Call Sign:

Elevation: 925 Feet

Lat: 40°29N

Lon: 81°26W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	10.4	8.4	2	1	7.0	1976	8	30.7	1978	18	1978	21	10	1977	10.1	3.5	.8	.1	.0	14.4	9.0	5.7	1.4
Feb	6.6	6.3	2	1	6.5	1984	29	15.4	1993	15	1977	8	10	1978	7.1	2.5	.5	@	.0	10.9	5.1	3.5	1.7
Mar	5.3	5.5	1	#	8.0	1971	4	16.3	1971	11	1978	4	4	1978	4.7	1.7	.4	.1	.0	4.4	1.5	.9	.2
Apr	1.5	.2	#	#	16.0	1987	4	21.2	1987	16	1987	4	1	1987	1.3	.3	.1	.1	@	.4	.1	.1	.1
May	.0	.0	#	0	.2	1989	7	.2	1989	#	1989	7	#	1989	@	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	#	0	.5	1974	20	.5+	1993	#+	1993	31	#+	1993	.1	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.5	.7	#	#	4.0	1980	18	6.4	1980	4	1980	18	#+	1996	2.4	.6	.1	.0	.0	.8	.1	.0	.0
Dec	5.3	5.5	1	#	6.5	1977	9	14.7	1974	9	1974	2	3	1989	6.2	1.6	.4	.1	.0	6.3	2.7	1.1	.0
Ann	30.6	26.6	N/A	N/A	16.0	Apr 1987	4	30.7	Jan 1978	18	Jan 1978	21	10+	Feb 1978	31.9	10.2	2.3	.4	@	37.2	18.5	11.3	3.4

+ Also occurred on an earlier date(s) #Denotes trace amounts

@ Denotes mean number of days greater than 0 but less than .05

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

(1) Derived from Snow Climatology and 1971-2000 daily data

(2) Derived from 1971-2000 daily data

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Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (thru Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	6/01	5/26	5/22	5/19	5/16	5/13	5/09	5/06	4/30
32	5/21	5/16	5/12	5/08	5/05	5/01	4/28	4/24	4/18
28	5/04	4/30	4/27	4/24	4/21	4/19	4/16	4/13	4/08
24	4/21	4/17	4/14	4/12	4/09	4/07	4/05	4/02	3/29
20	4/10	4/06	4/03	3/31	3/29	3/27	3/24	3/21	3/17
16	4/07	4/01	3/27	3/24	3/20	3/17	3/13	3/09	3/03
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/17	9/21	9/24	9/26	9/28	10/01	10/03	10/06	10/10
32	9/29	10/03	10/06	10/09	10/11	10/13	10/16	10/19	10/23
28	10/11	10/15	10/19	10/22	10/24	10/27	10/30	11/02	11/07
24	10/22	10/28	10/31	11/04	11/07	11/09	11/13	11/16	11/22
20	11/05	11/10	11/14	11/17	11/20	11/23	11/26	11/30	12/06
16	11/17	11/23	11/27	12/01	12/05	12/08	12/12	12/16	12/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	150	145	141	138	135	132	128	125	119
32	177	171	166	162	158	155	151	146	140
28	205	198	193	189	185	181	177	172	166
24	230	223	218	214	211	207	203	198	191
20	255	249	244	239	236	232	227	222	216
16	284	275	269	263	258	253	248	242	233

* Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

0/00 Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1971-2000 serially complete daily data

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Degree Days to Selected Base Temperatures (° F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1194	1009	828	506	236	39	5	17	97	422	709	1036	6098
60	1039	869	673	359	138	10	0	2	33	284	559	881	4847
57	946	785	582	276	93	4	0	0	14	212	471	788	4171
55	884	729	525	225	68	2	0	0	7	170	413	726	3749
50	733	592	383	118	26	0	0	0	1	88	279	584	2804
32	269	187	62	1	0	0	0	0	0	0	20	176	715

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	98	102	257	486	834	1079	1242	1193	942	606	302	163	7304
55	0	0	7	20	189	391	529	480	259	63	4	0	1942
57	0	0	3	11	151	333	467	418	205	43	2	0	1633
60	0	0	0	4	104	249	374	327	134	22	0	0	1214
65	0	0	0	1	46	128	224	187	49	5	0	0	640
70	0	0	0	0	16	46	100	84	10	0	0	0	256

Growing Degree Units (2)																								
Base	Growing Degree Units (Monthly)												Growing Degree Units (Accumulated Monthly)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	17	38	121	295	601	853	1007	957	719	382	149	46	17	55	176	471	1072	1925	2932	3889	4608	4990	5139	5185
45	6	13	71	187	450	703	852	802	569	242	81	21	6	19	90	277	727	1430	2282	3084	3653	3895	3976	3997
50	0	3	37	110	311	553	697	647	421	146	39	4	0	3	40	150	461	1014	1711	2358	2779	2925	2964	2968
55	0	0	16	52	189	408	542	492	284	71	16	1	0	0	16	68	257	665	1207	1699	1983	2054	2070	2071
60	0	0	4	22	103	268	387	341	166	25	6	0	0	0	4	26	129	397	784	1125	1291	1316	1322	1322
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	10	21	90	195	381	556	677	640	463	245	93	25	10	31	121	316	697	1253	1930	2570	3033	3278	3371	3396

(1) Derived from the 1971-2000 Monthly Normals

(2) Derived from 1971-2000 serially complete daily data

Note: For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Notes

- a. The monthly means are simple arithmetic averages computed by summing the monthly values for the period 1971-2000 and dividing by thirty. Prior to averaging, the data are adjusted if necessary to compensate for data quality issues, station moves or changes in station reporting practices. Missing months are replaced by estimates based on neighboring stations.
- b. The median is defined as the middle value in an ordered set of values. The median is being provided for the snow and precipitation elements because the mean can be a misleading value for precipitation normals.
- c. Only observed validated values were used to select the extreme daily values.
- d. Extreme monthly temperature/precipitation means were selected from the monthly normals data.
Monthly snow extremes were calculated from daily values quality controlled to be consistent with the Snow Climatology.
- e. Degree Days were derived using the same techniques as the 1971-2000 normals.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html
- f. Mean "number of days statistics" for temperature and precipitation were calculated from a serially complete daily data set.
Documentation of the serially complete data set is available from the link below:
- g. Snowfall and snow depth statistics were derived from the Snow Climatology.
Documentation for the Snow Climatology project is available from the link under references.

Data Sources for Tables

Several different data sources were used to create the Clim20 climate summaries. In some cases the daily extremes appear inconsistent with the monthly extremes and or the mean number of days statistics. For example, a high daily extreme value may not be reflected in the highest monthly value or the mean number of days threshold that is less than and equal to the extreme value. Some of these difference are caused by different periods of record. Daily extremes are derived from the station's entire period of record while the serial data and normals data were for the 1971-2000 period. Therefore extremes observed before 1971 would not be included in the 1971-2000 normals or the 1971-2000 serial daily data set. Inconsistencies can also occur when monthly values are adjusted to reflect the current observing conditions or were replaced during the 1971-2000 Monthly Normals processing and are not reconciled with the Summary of the Day data.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html
Snow Climatology Project Description, www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,
www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf