

Climatology of the United States

No. 20

1971-2000

Station: MARCUS HOOK, PA

COOP ID: 365390

Climate Division: PA 3

NWS Call Sign:

Elevation: 10 Feet

Lat: 39°49N

Lon: 75°25W

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	39.5	27.9	33.7	70	1950	27	41.6	1998	-4	1994	19	24.7	1977	971	0	.0	.0	4.8	7.1	20.9	.1
Feb	42.9	29.8	36.4	71	2000	25	42.9	1976	1	1979	18	26.5	1979	803	0	.0	.0	7.2	4.6	17.6	.0
Mar	51.8	36.6	44.2	83+	1990	13	49.9	1977	10+	1967	19	38.6	1984	644	0	.0	.0	17.7	.5	9.0	.0
Apr	63.2	45.6	54.4	95	1985	22	58.8	1977	20	1982	7	50.5	1975	323	4	.0	.3	28.0	.0	.8	.0
May	73.8	55.5	64.7	99	1962	19	71.6	1991	35	1966	10	59.7	1997	108	98	.0	1.6	30.9	.0	.0	.0
Jun	83.0	64.5	73.8	100+	1949	27	77.2	1976	46	1972	11	69.8	1992	4	267	.1	6.1	30.0	.0	.0	.0
Jul	87.5	69.8	78.7	103+	1957	21	82.2	1987	54+	1979	5	74.7	1996	0	424	.8	13.0	31.0	.0	.0	.0
Aug	85.3	68.5	76.9	106	1948	27	80.3	1980	50+	1965	29	72.5	1992	0	369	.2	8.3	31.0	.0	.0	.0
Sep	77.1	61.3	69.2	100	1983	11	73.1	1980	39	1963	24	66.2	1975	23	149	@	1.8	30.0	.0	.0	.0
Oct	65.2	50.1	57.7	89	1951	5	63.8	1971	30+	1965	29	51.8	1988	250	22	.0	.0	30.4	.0	.3	.0
Nov	54.1	41.4	47.8	87	1950	1	54.0	1999	15	1955	29	42.5	1996	518	0	.0	.0	20.7	.1	4.3	.0
Dec	44.1	32.7	38.4	74	1998	4	44.4	1984	0	1991	30	25.8	1989	825	0	.0	.0	8.6	3.5	14.4	@
Ann	64.0	48.6	56.3	106	Aug 1948	27	82.2	Jul 1987	-4	Jan 1994	19	24.7	Jan 1977	4469	1333	1.1	31.1	270.3	15.8	67.3	.1

+ 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

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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: MARCUS HOOK, PA

COOP ID: 365390

Climate Division: PA 3

NWS Call Sign:

Elevation: 10 Feet

Lat: 39°49N

Lon: 75°25W

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	2.92	2.66	2.00	1979	24	8.45	1979	.26	1992	9.3	5.8	2.1	.7	.53	.78	1.21	1.61	2.01	2.45	2.95	3.56	4.36	5.65	6.89
Feb	2.75	2.39	2.63	1981	20	6.82	1971	.49	1991	7.2	4.8	2.0	.6	.56	.81	1.22	1.59	1.96	2.36	2.81	3.35	4.07	5.21	6.30
Mar	3.63	3.30	2.96	1974	16	6.98	1974	.94	1987	8.8	6.0	2.7	1.0	1.16	1.51	2.01	2.45	2.87	3.30	3.78	4.33	5.05	6.17	7.20
Apr	3.27	2.99	2.34	1961	13	10.91	1973	.32	1985	9.3	6.3	2.4	.7	.90	1.21	1.68	2.09	2.49	2.91	3.38	3.93	4.65	5.78	6.84
May	4.16	4.32	2.50	1985	3	7.50	1978	.85	1977	10.1	6.9	3.0	1.1	1.26	1.65	2.24	2.75	3.24	3.76	4.32	4.98	5.84	7.18	8.42
Jun	3.20	2.76	4.14	1973	29	8.65	1975	.15	1986	8.8	5.6	2.0	.9	.51	.78	1.25	1.69	2.14	2.64	3.21	3.91	4.84	6.35	7.79
Jul	4.01	3.86	7.50	1989	5	13.74	1989	.75	1977	8.7	5.6	2.6	1.4	.83	1.20	1.79	2.32	2.86	3.44	4.09	4.87	5.90	7.55	9.11
Aug	3.32	2.83	5.37	1971	27	10.94	1971	.34	1980	7.3	4.8	2.2	1.0	.70	1.01	1.49	1.94	2.38	2.86	3.39	4.04	4.88	6.24	7.52
Sep	4.23	3.45	11.68	1999	16	16.13	1999	.62	1984	7.9	5.3	2.4	1.3	.77	1.15	1.77	2.34	2.93	3.57	4.29	5.16	6.32	8.19	9.97
Oct	2.84	2.46	3.49	1980	25	5.99	1995	.41	1994	6.8	4.6	1.9	.9	.63	.89	1.30	1.68	2.05	2.45	2.90	3.44	4.15	5.28	6.34
Nov	3.21	2.25	4.65	1950	25	9.23	1972	.27	1976	8.2	5.4	2.0	.8	.40	.65	1.11	1.56	2.03	2.56	3.17	3.93	4.95	6.64	8.27
Dec	3.12	3.03	1.99	1974	16	7.72	1973	.26	1989	8.6	5.5	2.3	.8	.50	.77	1.22	1.65	2.10	2.58	3.14	3.81	4.71	6.18	7.58
Ann	40.66	38.55	11.68	Sep 1999	16	16.13	Sep 1999	.15	Jun 1986	101.0	66.6	27.6	11.2	24.42	27.36	31.24	34.25	36.98	39.66	42.46	45.61	49.48	55.19	60.22

+ 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

Complete documentation available from:
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No. 20 1971-2000

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Asheville, North Carolina 28801
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Station: MARCUS HOOK, PA

COOP ID: 365390

Climate Division: PA 3

NWS Call Sign:

Elevation: 10 Feet

Lat: 39°49N

Lon: 75°25W

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	5.4	3.1	1	#	10.0	2000	25	21.0	1978	12	1978	22	3	1978	2.3	1.6	.6	.2	.1	3.2	1.2	.6	.4
Feb	4.8	.0	1	#	14.0	1983	11	23.0	1979	16	1979	19	4	1979	1.3	.9	.6	.3	.1	2.8	1.8	1.1	.3
Mar	1.4	.0	#	0	6.0	1978	3	11.5	1978	20	1971	4	1	1971	.6	.4	.2	.1	.0	.4	.1	.1	.0
Apr	.0	.0	0	0	.5	2000	9	.5	2000	0	0	0	0	0	@	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.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	#	1979	10	#+	1979	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.2	.0	#	0	3.6	1978	27	3.6	1978	4	1989	23	#+	1989	.1	.1	.1	.0	.0	@	.0	.0	.0
Dec	1.3	#	#	0	7.4	1973	16	9.4	1973	9	1973	18	1	1973	.6	.4	.1	.1	.0	.5	.3	.2	.0
Ann	13.1	3.1	N/A	N/A	14.0	Feb 1983	11	23.0	Feb 1979	20	Mar 1971	4	4	Feb 1979	4.9	3.4	1.6	.7	.2	6.9	3.4	2.0	.7

+ 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

Complete documentation available from:

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No. 20
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Station: MARCUS HOOK, PA

COOP ID: 365390

Climate Division: PA 3

NWS Call Sign:

Elevation: 10 Feet

Lat: 39° 49N

Lon: 75° 25W

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	4/20	4/17	4/14	4/12	4/10	4/08	4/06	4/04	3/31
32	4/14	4/08	4/05	4/02	3/30	3/27	3/24	3/20	3/15
28	4/01	3/27	3/23	3/20	3/18	3/15	3/12	3/08	3/03
24	3/26	3/20	3/15	3/11	3/08	3/04	2/28	2/24	2/17
20	3/22	3/13	3/06	3/01	2/24	2/18	2/13	2/06	1/29
16	3/07	2/28	2/23	2/18	2/14	2/09	2/04	1/29	1/17
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	10/20	10/26	10/29	11/02	11/05	11/08	11/11	11/15	11/21
32	10/28	11/03	11/07	11/11	11/14	11/18	11/21	11/26	12/02
28	11/15	11/20	11/23	11/26	11/29	12/02	12/05	12/09	12/14
24	11/27	12/03	12/07	12/11	12/14	12/18	12/21	12/25	12/31
20	12/04	12/12	12/17	12/22	12/26	12/31	1/05	1/10	1/18
16	12/15	12/23	12/28	1/02	1/07	1/11	1/17	1/24	2/05
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	226	220	215	211	208	205	201	197	191
32	255	246	239	234	229	223	218	211	202
28	275	268	264	260	256	252	248	243	237
24	307	298	292	286	281	276	270	263	254
20	339	327	319	312	305	298	291	283	271
16	>365	353	338	330	324	318	312	305	296

* 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

Complete documentation available from:
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Climate Division: PA 3 NWS Call Sign: Elevation: 10 Feet Lat: 39° 49N Lon: 75° 25W

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	971	803	644	323	108	4	0	0	23	250	518	825	4469
60	816	663	489	191	45	0	0	0	4	140	372	670	3390
57	723	579	399	125	23	0	0	0	1	91	290	579	2810
55	661	523	343	89	13	0	0	0	0	65	239	522	2455
50	516	391	212	29	3	0	0	0	0	22	132	380	1685
32	116	57	8	0	0	0	0	0	0	0	2	56	239

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	168	178	387	671	1013	1252	1447	1392	1116	796	474	253	9147
55	0	0	9	70	313	562	734	679	426	148	21	6	2968
57	0	0	4	46	261	502	672	617	367	111	12	2	2594
60	0	0	0	22	190	413	579	524	280	67	4	0	2079
65	0	0	0	4	98	267	424	369	149	22	0	0	1333
70	0	0	0	0	39	138	273	222	54	4	0	0	730

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	40	67	186	444	770	1018	1206	1152	883	559	258	80	40	107	293	737	1507	2525	3731	4883	5766	6325	6583	6663
45	12	23	98	299	615	868	1051	997	733	405	150	34	12	35	133	432	1047	1915	2966	3963	4696	5101	5251	5285
50	0	5	40	180	461	718	896	842	583	259	68	5	0	5	45	225	686	1404	2300	3142	3725	3984	4052	4057
55	0	0	14	89	317	568	741	687	433	147	26	2	0	0	14	103	420	988	1729	2416	2849	2996	3022	3024
60	0	0	4	34	186	420	586	532	290	64	5	0	0	0	4	38	224	644	1230	1762	2052	2116	2121	2121
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	14	25	82	226	470	693	843	809	577	291	106	26	14	39	121	347	817	1510	2353	3162	3739	4030	4136	4162

(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/normals/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