

Climatology of the United States

No. 20

1971-2000

Station: RENOVO, PA

COOP ID: 367409

Climate Division: PA 7

NWS Call Sign:

Elevation: 660 Feet Lat: 41° 20N Lon: 77° 44W

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	17.1	26.1	69	1967	26	35.5	1990	-16+	1963	29	16.5	1977	1205	0	.0	.0	1.9	12.1	28.9	3.1
Feb	38.8	18.0	28.4	72	1997	28	35.8	1998	-15	1971	1	18.0	1979	1024	0	.0	.0	3.7	8.5	25.6	2.5
Mar	49.1	26.0	37.6	86+	1986	31	44.3	1973	-2+	1967	19	30.8	1984	850	0	.0	.0	12.3	2.2	23.8	.5
Apr	61.6	35.4	48.5	91+	1962	28	52.6	1985	15+	1972	8	42.7	1975	496	0	.0	.2	24.2	.1	13.0	.0
May	73.4	44.7	59.1	96+	1962	16	65.4	1991	24	1966	10	53.2	1997	217	31	.0	.7	30.8	.0	3.1	.0
Jun	80.8	53.4	67.1	96+	1966	27	70.6	1994	34	1965	4	63.5	1972	37	100	.0	2.0	30.0	.0	@	.0
Jul	84.2	58.3	71.3	104	1966	4	75.1	1988	37	1963	9	67.5	1972	10	204	.1	5.1	31.0	.0	.0	.0
Aug	82.6	57.0	69.8	98+	1988	18	74.4	1995	35+	1965	29	64.5	1972	22	170	.0	2.7	31.0	.0	.0	.0
Sep	74.3	50.3	62.3	96	1964	11	65.7	1980	28	1972	23	58.7	1975	108	27	.0	.8	30.0	.0	.2	.0
Oct	63.3	39.1	51.2	88	1963	8	57.9	1971	14	1969	24	44.7	1972	432	3	.0	.0	28.5	.0	8.5	.0
Nov	50.7	31.3	41.0	80	1982	3	46.5	1975	10+	1964	23	34.8	1976	720	0	.0	.0	14.0	.6	17.8	.0
Dec	39.5	23.2	31.4	73	1998	7	36.9	1982	-9	1980	25	19.6	1989	1043	0	.0	.0	3.1	7.0	26.5	.9
Ann	61.1	37.8	49.5	104	Jul 1966	4	75.1	Jul 1988	-16+	Jan 1963	29	16.5	Jan 1977	6164	535	.1	11.5	240.5	30.5	147.4	7.0

+ 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/normal/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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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: RENOVO, PA

COOP ID: 367409

Climate Division: PA 7

NWS Call Sign:

Elevation: 660 Feet Lat: 41°20N

Lon: 77°44W

Precipitation (inches)

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	2.33	2.06	1.70	1999	15	5.67	1999	.45	1981	13.2	6.4	1.4	.3	.67	.89	1.22	1.51	1.79	2.09	2.41	2.80	3.30	4.08	4.81
Feb	2.43	2.13	2.42	1984	15	6.03	1981	.43	1987	11.5	6.1	1.4	.4	.68	.91	1.26	1.57	1.86	2.18	2.52	2.92	3.45	4.28	5.05
Mar	3.14	3.25	2.12	1999	4	5.05	1977	.79	1981	12.3	7.6	2.0	.6	1.36	1.64	2.03	2.36	2.66	2.97	3.30	3.67	4.15	4.87	5.53
Apr	3.28	3.22	1.84	2000	4	7.44	1993	.90	1971	12.8	7.7	1.9	.3	1.12	1.43	1.88	2.26	2.63	3.01	3.42	3.90	4.52	5.47	6.35
May	3.34	3.53	2.25	1988	19	6.47	1984	1.01	1999	13.5	8.5	2.1	.3	1.37	1.67	2.10	2.46	2.79	3.13	3.50	3.92	4.45	5.27	6.01
Jun	4.88	4.80	3.30	1984	18	12.27	1972	.95	1988	13.1	9.2	2.9	1.2	1.76	2.22	2.88	3.44	3.97	4.51	5.10	5.79	6.66	8.02	9.26
Jul	3.59	3.24	2.85	1958	29	8.16	1992	1.66	1998	12.1	8.0	2.6	.6	1.59	1.91	2.35	2.72	3.06	3.40	3.77	4.19	4.72	5.52	6.25
Aug	3.43	3.02	3.48	1994	18	7.54	1997	1.07	1971	10.6	6.6	2.3	.6	1.08	1.41	1.89	2.30	2.70	3.11	3.57	4.10	4.78	5.85	6.84
Sep	3.77	3.38	2.40	1962	28	9.65	1996	.96	1984	12.5	7.7	2.7	.8	1.32	1.68	2.20	2.63	3.05	3.48	3.94	4.48	5.18	6.25	7.24
Oct	2.90	2.77	2.85	1995	21	6.49	1990	.72	1997	12.1	6.1	2.0	.7	.95	1.23	1.63	1.98	2.31	2.65	3.02	3.46	4.02	4.89	5.69
Nov	3.49	3.38	3.28	1996	9	7.12	1985	1.07	1998	13.2	6.7	2.3	.7	1.20	1.53	2.01	2.41	2.80	3.20	3.64	4.15	4.80	5.81	6.74
Dec	2.58	2.24	1.79	1990	4	6.12	1990	.61	1989	13.5	6.2	1.8	.4	.91	1.15	1.51	1.80	2.08	2.38	2.69	3.06	3.53	4.26	4.93
Ann	39.16	37.77	3.48	Aug 1994	18	12.27	Jun 1972	.43	Feb 1987	150.4	86.8	25.4	6.9	29.77	31.63	33.99	35.77	37.33	38.83	40.37	42.07	44.11	47.05	49.57

+ 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: PA 7

NWS Call Sign:

Elevation: 660 Feet

Lat: 41°20N

Lon: 77°44W

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	8.5	6.8	2	1	10.0	1999	15	30.0	1994	18	1999	15	10	1994	4.9	3.6	1.0	.4	@	13.9	7.3	3.9	1.4
Feb	7.3	3.9	3	2	8.0	1993	17	20.5	1993	19	1972	24	11	1994	3.8	2.8	.7	.3	.0	12.3	7.0	4.9	1.9
Mar	5.9	2.0	2	#	15.5	1994	3	25.5	1994	24	1994	3	12	1994	2.5	2.0	.9	.3	.1	6.0	4.2	3.5	1.7
Apr	.4	.0	#	#	4.0	1982	6	7.5	1982	4	1982	6	#+	2000	.2	.1	.1	.0	.0	.1	.1	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.2	.0	#	#	9.0	1971	25	9.0	1971	9	1971	25	1	1995	.6	.4	.1	.1	.0	.7	.3	.1	.0
Dec	4.8	3.4	1	#	10.0	1995	20	13.2	1997	13	1995	20	5	1995	2.4	1.5	.6	.3	.1	5.4	2.4	.9	.3
Ann	28.1	16.1	N/A	N/A	15.5	Mar 1994	3	30.0	Jan 1994	24	Mar 1994	3	12	Mar 1994	14.4	10.4	3.4	1.4	.2	38.4	21.3	13.3	5.3

+ 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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NWS Call Sign:

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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	6/05	5/30	5/27	5/23	5/20	5/17	5/14	5/10	5/05
32	5/25	5/20	5/16	5/13	5/10	5/07	5/04	5/01	4/26
28	5/14	5/08	5/03	4/30	4/26	4/22	4/19	4/14	4/08
24	4/25	4/19	4/15	4/11	4/07	4/04	3/31	3/27	3/21
20	4/12	4/07	4/03	3/31	3/29	3/26	3/23	3/19	3/14
16	4/01	3/27	3/24	3/21	3/18	3/16	3/13	3/10	3/05
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	9/08	9/15	9/19	9/23	9/27	10/01	10/04	10/09	10/15
32	9/29	10/03	10/06	10/09	10/11	10/14	10/16	10/20	10/24
28	10/08	10/13	10/17	10/21	10/24	10/27	10/30	11/03	11/09
24	10/22	10/27	10/31	11/03	11/06	11/09	11/13	11/17	11/22
20	10/30	11/06	11/11	11/15	11/20	11/24	11/28	12/03	12/10
16	11/10	11/18	11/23	11/28	12/02	12/06	12/11	12/16	12/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	156	147	140	134	129	124	118	111	102
32	173	166	161	157	153	150	145	141	134
28	206	197	191	185	180	175	169	163	154
24	240	230	223	218	212	207	201	194	184
20	260	251	245	240	235	230	225	219	210
16	284	275	269	263	258	253	247	241	232

* 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	1205	1024	850	496	217	37	10	22	108	432	720	1043	6164
60	1050	884	695	349	117	7	0	3	33	290	570	888	4886
57	957	800	602	267	73	2	0	0	13	217	481	795	4207
55	895	744	542	217	50	1	0	0	6	174	423	733	3785
50	740	604	398	112	15	0	0	0	1	90	285	582	2827
32	256	175	57	1	0	0	0	0	0	0	16	152	657

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	74	75	230	495	837	1053	1217	1171	909	595	286	132	7074
55	0	0	2	21	174	363	504	458	226	55	3	0	1806
57	0	0	0	11	135	305	442	396	172	36	1	0	1498
60	0	0	0	4	86	219	349	307	102	17	0	0	1084
65	0	0	0	0	31	100	204	170	27	3	0	0	535
70	0	0	0	0	8	27	91	75	3	0	0	0	204

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	8	12	75	259	548	787	965	918	663	333	110	20	8	20	95	354	902	1689	2654	3572	4235	4568	4678	4698
45	0	1	36	152	395	637	810	763	514	201	52	4	0	1	37	189	584	1221	2031	2794	3308	3509	3561	3565
50	0	0	14	80	257	487	655	608	367	106	19	2	0	0	14	94	351	838	1493	2101	2468	2574	2593	2595
55	0	0	3	40	148	341	500	454	234	46	5	0	0	0	3	43	191	532	1032	1486	1720	1766	1771	1771
60	0	0	0	12	66	205	347	301	126	11	0	0	0	0	0	12	78	283	630	931	1057	1068	1068	1068
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	10	63	175	359	503	638	607	414	216	65	7	1	11	74	249	608	1111	1749	2356	2770	2986	3051	3058

(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