

Climatology of the United States

No. 20

1971-2000

Station: PRINCESS ANNE, MD

COOP ID: 187330

Climate Division: MD 1

NWS Call Sign:

Elevation: 20 Feet

Lat: 38°13N

Lon: 75°41W

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	46.6	26.0	36.3	75	2000	6	44.7	1998	-10+	1957	18	24.9	1977	889	0	.0	.0	12.0	3.0	22.5	.4
Feb	49.1	27.8	38.5	77	1997	27	45.3+	1990	-4	1996	7	27.0	1978	743	0	.0	.0	13.5	2.1	19.5	.2
Mar	57.6	34.3	46.0	86+	1990	14	50.7	2000	7+	1960	7	40.6	1978	591	0	.0	.0	24.6	.2	13.9	.0
Apr	67.5	41.2	54.4	94+	1960	26	59.0	1994	12	1982	8	48.9	1975	323	3	.0	.2	29.2	.0	4.9	.0
May	76.2	50.8	63.5	96+	1962	19	69.4	1991	26	1956	9	59.7	1994	101	53	.0	1.0	31.0	.0	.3	.0
Jun	84.0	59.8	71.9	102	1959	30	75.8	1989	37	1954	19	67.4	1979	9	216	@	6.1	30.0	.0	.0	.0
Jul	88.4	64.7	76.6	101+	1952	23	79.3	1986	41	1952	2	73.7	2000	0	357	.1	12.5	31.0	.0	.0	.0
Aug	86.4	63.1	74.8	99+	1962	21	78.3	1988	40	1952	24	71.8	1976	0	303	.0	7.7	31.0	.0	.0	.0
Sep	81.0	56.2	68.6	98+	1983	11	72.6	1998	25	2001	27	65.0	1994	27	134	.0	2.2	30.0	.0	@	.0
Oct	70.6	44.4	57.5	91	1997	6	63.8	1971	18	1952	30	51.4	1988	258	25	.0	.1	30.8	.0	3.5	.0
Nov	60.3	37.1	48.7	85	1950	1	56.6	1985	12+	1951	21	41.6	1976	489	1	.0	.0	25.9	.0	10.6	.0
Dec	51.0	29.5	40.3	77	1998	7	46.6	1984	-4	1993	31	28.5	1989	768	0	.0	.0	16.9	1.3	19.3	@
Ann	68.2	44.6	56.4	102	Jun 1959	30	79.3	Jul 1986	-10+	Jan 1957	18	24.9	Jan 1977	4198	1092	.1	29.8	305.9	6.6	94.5	.6

+ 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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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: PRINCESS ANNE, MD

COOP ID: 187330

Climate Division: MD 1

NWS Call Sign:

Elevation: 20 Feet

Lat: 38°13N

Lon: 75°41W

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	3.83	3.58	4.20	1998	28	8.04	1998	.29	1981	9.4	6.6	2.8	1.0	1.17	1.53	2.08	2.54	3.00	3.47	3.98	4.59	5.38	6.60	7.73
Feb	2.94	2.86	2.08	1985	12	6.59	1998	.68	1978	8.3	5.9	2.3	.7	.95	1.23	1.64	1.99	2.33	2.68	3.07	3.52	4.09	4.99	5.82
Mar	4.24	3.85	3.94	2000	22	9.80	1994	.42	1986	9.7	6.9	3.0	1.3	1.13	1.53	2.14	2.68	3.21	3.77	4.39	5.12	6.07	7.57	8.97
Apr	3.23	3.28	3.35	1970	14	8.06	1980	.57	1985	8.9	5.7	2.2	1.0	1.12	1.43	1.87	2.25	2.60	2.97	3.37	3.84	4.44	5.37	6.23
May	3.41	3.42	2.37	1963	18	7.64	1990	.22	1986	9.7	6.6	2.4	.8	.78	1.10	1.60	2.04	2.49	2.97	3.50	4.14	4.97	6.30	7.55
Jun	3.13	2.79	2.59	1963	3	7.53	1972	.39	1988	8.0	5.7	2.2	.8	.81	1.11	1.56	1.96	2.36	2.77	3.23	3.78	4.49	5.62	6.67
Jul	4.27	4.00	4.85	1988	23	9.72	1996	1.58	1993	10.0	6.9	2.7	1.2	1.50	1.90	2.48	2.98	3.45	3.93	4.46	5.08	5.86	7.08	8.20
Aug	4.84	4.69	6.36	1969	20	12.34	1985	.39	1995	8.4	5.9	3.1	1.5	1.04	1.48	2.19	2.84	3.48	4.17	4.95	5.88	7.11	9.06	10.92
Sep	3.92	3.36	6.34	1972	2	11.70	1999	.80	1980	7.1	5.2	2.4	1.2	.92	1.28	1.86	2.37	2.88	3.42	4.02	4.75	5.69	7.20	8.61
Oct	3.31	2.88	4.44	1971	26	10.80	1971	.00	2000	7.1	4.9	2.3	1.1	.49	.93	1.49	1.95	2.41	2.89	3.43	4.07	4.91	6.24	7.49
Nov	3.16	2.72	3.05	1977	7	6.82	1997	.40	1998	8.1	5.6	2.1	.9	.82	1.12	1.58	1.98	2.38	2.80	3.27	3.82	4.54	5.68	6.75
Dec	3.14	3.16	2.12	1969	26	6.66	1996	.44	1985	9.2	6.3	2.2	.7	.70	.99	1.45	1.87	2.28	2.72	3.22	3.81	4.59	5.83	7.00
Ann	43.42	42.78	6.36	Aug 1969	20	12.34	Aug 1985	.00	Oct 2000	103.9	72.2	29.7	12.2	33.40	35.40	37.93	39.83	41.50	43.11	44.75	46.56	48.73	51.86	54.54

+ 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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Station: PRINCESS ANNE, MD

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Climate Division: MD 1

NWS Call Sign:

Elevation: 20 Feet

Lat: 38°13N

Lon: 75°41W

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	1.5	.0	#	0	12.0	1987	26	12.0	1987	4+	1975	20	#+	1975	.8	.6	.2	.0	.0	.4	.2	.0	.0
Feb	1.0	.0	#	0	3.0	1978	2	6.0	1978	5	1978	7	1	1978	.4	.4	.2	.0	.0	.2	.0	.0	.0
Mar	.4	.0	#	0	4.0	1971	26	4.0	1971	4	1971	26	#	1971	.2	.2	.1	.0	.0	.1	@	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	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	#	1972	19	#	1972	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.7	.0	#	0	4.0	1976	8	5.5	1976	2	1973	11	#	1973	.3	.3	.1	.0	.0	.1	.0	.0	.0
Ann	3.6	.0	N/A	N/A	12.0	Jan 1987	26	12.0	Jan 1987	5	Feb 1978	7	1	Feb 1978	1.7	1.5	.6	.0	.0	.8	.2	.0	.0

+ 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:

Elevation: 20 Feet

Lat: 38° 13N

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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	5/19	5/15	5/11	5/08	5/05	5/03	4/30	4/26	4/22
32	5/09	5/04	4/30	4/27	4/23	4/20	4/17	4/13	4/07
28	4/19	4/14	4/11	4/08	4/05	4/02	3/30	3/27	3/22
24	4/08	4/02	3/29	3/25	3/21	3/18	3/14	3/09	3/03
20	3/26	3/20	3/15	3/11	3/08	3/04	2/28	2/24	2/17
16	3/21	3/10	3/02	2/23	2/16	2/10	2/02	1/25	1/11
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	9/21	9/26	9/30	10/03	10/05	10/08	10/11	10/15	10/20
32	10/02	10/07	10/11	10/15	10/18	10/21	10/25	10/29	11/03
28	10/10	10/17	10/22	10/26	10/30	11/03	11/07	11/12	11/18
24	10/28	11/03	11/07	11/10	11/13	11/17	11/20	11/24	11/30
20	11/04	11/15	11/23	11/30	12/07	12/13	12/20	12/28	1/08
16	12/01	12/08	12/13	12/17	12/22	12/26	12/30	1/05	1/13
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	172	165	160	156	152	148	144	139	132
32	201	193	187	182	177	172	167	161	152
28	229	222	216	211	207	202	198	192	184
24	260	252	246	241	236	232	227	221	213
20	309	294	285	277	270	263	256	247	236
16	>365	333	321	312	305	298	290	281	270

* 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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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	889	743	591	323	101	9	0	0	27	258	489	768	4198
60	734	603	436	191	33	1	0	0	5	150	345	613	3111
57	647	525	349	126	13	0	0	0	2	100	265	528	2555
55	589	472	292	91	6	0	0	0	1	74	217	470	2212
50	446	345	169	32	0	0	0	0	0	28	118	334	1472
32	94	55	4	0	0	0	0	0	0	0	1	44	198

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	228	236	437	671	976	1197	1380	1326	1097	790	503	300	9141
55	9	9	11	72	269	507	667	613	408	150	28	12	2755
57	5	6	6	47	214	447	605	551	349	115	17	8	2370
60	0	0	1	21	141	358	512	458	262	71	7	0	1831
65	0	0	0	3	53	216	357	303	134	25	1	0	1092
70	0	0	0	0	12	102	208	160	44	6	0	0	532

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	79	105	237	454	750	973	1150	1092	879	564	301	128	79	184	421	875	1625	2598	3748	4840	5719	6283	6584	6712
45	38	52	133	313	595	823	995	937	729	413	187	66	38	90	223	536	1131	1954	2949	3886	4615	5028	5215	5281
50	17	23	66	189	441	673	840	782	579	273	106	30	17	40	106	295	736	1409	2249	3031	3610	3883	3989	4019
55	0	5	30	103	296	523	685	627	430	155	48	5	0	5	35	138	434	957	1642	2269	2699	2854	2902	2907
60	0	0	8	47	171	374	530	473	286	75	14	0	0	0	8	55	226	600	1130	1603	1889	1964	1978	1978
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	51	68	148	286	479	658	788	754	586	364	185	78	51	119	267	553	1032	1690	2478	3232	3818	4182	4367	4445

(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