U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: ABERDEEN PHILLIPS FIELD, MD **COOP ID: 180015**

Climate Division: MD 6 **NWS Call Sign: APG** **Elevation: 57 Feet** **Lat: 39˚28N** **Lon: 76˚10W**

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	41.4	25.8	33.6	75	1950	26	41.9+	1998	-10	1984	22	23.4	1977	973	0	.0	.0	5.9	6.0	23.0	.4
Feb	45.4	28.1	36.8	79	1985	24	43.8	1991	-12	1979	14	24.3	1979	791	0	.0	.0	8.9	3.6	19.5	.2
Mar	54.6	34.9	44.8	88	1998	30	50.4	2000	12+	1980	1	40.2	1984	627	0	.0	.0	20.8	.4	12.4	.0
Apr	65.5	43.6	54.6	93+	1976	18	59.6	1994	20	1972	5	48.8	1975	318	4	.0	.3	28.7	.0	2.7	.0
May	74.7	53.1	63.9	94+	1969	29	70.9	1991	32	1974	8	60.4	1971	107	71	.0	1.0	31.0	.0	@	.0
Jun	82.6	61.8	72.2	100	1952	26	76.9	1994	40+	1972	11	67.9	1972	6	222	.0	4.1	30.0	.0	.0	.0
Jul	87.0	67.0	77.0	101	1954	31	80.6	1999	48	1988	1	73.3	2000	0	372	.1	9.6	31.0	.0	.0	.0
Aug	85.2	65.6	75.4	102	1953	31	78.1+	1983	47	1986	30	71.9	1992	0	321	.1	6.1	31.0	.0	.0	.0
Sep	78.9	58.8	68.9	98+	1953	2	72.9	1998	35+	1951	30	65.7	1975	24	140	.0	1.5	30.0	.0	.0	.0
Oct	67.9	46.6	57.3	90	1951	5	63.1	1984	21+	1969	24	51.8	1988	263	23	.0	.0	30.6	.0	1.4	.0
Nov	56.8	38.4	47.6	85	1950	1	54.4	1994	13	1976	30	42.3	1976	522	0	.0	.0	22.4	.0	8.8	.0
Dec	46.2	30.4	38.3	74+	1998	6	45.2	1984	3	1989	22	25.7	1989	828	0	.0	.0	10.3	2.3	18.2	@
Ann	65.5	46.2	55.9	102	Aug 1953	31	80.6	Jul 1999	-12	Feb 1979	14	23.4	Jan 1977	4459	1153	.2	22.6	280.6	12.3	86.0	.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/normals/usnormals.html

(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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	3.41	2.95	2.37	1976	1	6.94	1978	.39	1981
Feb	2.60	2.43	2.03	1998	24	5.80	1971	.68	1980
Mar	3.65	3.71	3.09	2000	21	7.31	1983	.96	1986
Apr	3.36	3.02	2.46	1983	11	8.48	1983	.45	1985
May	4.41	4.07	2.78	1952	25	8.09	1989	1.32	1977
Jun	4.03	3.22	3.60	1977	29	14.49	1972	.40	1988
Jul	4.21	3.91	3.55	1975	10	10.63	1975	.00	1983
Aug	4.07	3.79	6.19	1978	28	14.07	1971	.61	1987
Sep	4.48	3.93	6.38	1969	3	14.36	1999	1.08	1986
Oct	3.39	3.01	2.85	1971	10	8.58	1976	.04	2000
Nov	3.20	3.05	5.79	1956	2	7.34	1972	.65	1976
Dec	3.41	2.82	3.00	1977	18	8.41	1983	.58	1980
Ann	44.22	42.29	6.38	Sep 1969	3	14.49	Jun 1972	.00	Jul 1983

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.6	5.3	1.9	.7
Feb	6.5	4.0	1.4	.5
Mar	7.3	5.4	2.1	.8
Apr	8.3	5.7	1.8	.8
May	9.7	6.9	2.7	1.0
Jun	8.1	5.4	2.2	1.0
Jul	7.9	5.2	2.1	.7
Aug	7.0	4.8	2.0	1.0
Sep	7.3	4.9	2.2	1.1
Oct	6.5	4.1	1.9	.8
Nov	6.7	4.6	1.8	.6
Dec	7.7	4.9	2.0	1.1
Ann	90.6	61.2	24.1	10.1

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.95	1.27	1.76	2.19	2.61	3.05	3.53	4.10	4.85	6.01	7.10
Feb	.75	1.00	1.37	1.69	2.01	2.34	2.70	3.13	3.68	4.55	5.36
Mar	1.05	1.39	1.92	2.37	2.81	3.27	3.78	4.38	5.16	6.38	7.52
Apr	1.01	1.33	1.81	2.22	2.62	3.04	3.49	4.03	4.73	5.81	6.81
May	1.51	1.93	2.54	3.05	3.54	4.05	4.60	5.25	6.08	7.36	8.54
Jun	.79	1.15	1.74	2.29	2.83	3.43	4.09	4.90	5.97	7.68	9.31
Jul	.97	1.57	2.27	2.82	3.34	3.87	4.45	5.13	5.99	7.33	8.57
Aug	.98	1.36	1.96	2.49	3.01	3.57	4.19	4.93	5.89	7.43	8.86
Sep	1.15	1.57	2.22	2.79	3.36	3.96	4.62	5.41	6.44	8.07	9.59
Oct	.60	.90	1.40	1.86	2.33	2.84	3.42	4.13	5.07	6.58	8.02
Nov	.85	1.15	1.61	2.02	2.42	2.84	3.31	3.86	4.59	5.72	6.79
Dec	.60	.90	1.40	1.87	2.35	2.86	3.45	4.16	5.11	6.64	8.11
Ann	32.17	34.53	37.53	39.80	41.81	43.75	45.75	47.96	50.63	54.49	57.82

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	3.1	2.5	#	1	7.0	1988	8	9.0	1978	22	1996	11	3	1996	1.4	1.4	.5	.2	.0	2.4	1.1	.2	.0
Feb	3.8	1.0	1	#	18.0	1979	19	30.0	1979	22	1983	12	4	1983	1.0	.9	.5	.2	.1	2.6	1.4	.6	.2
Mar	1.1	.0	#	#	10.0	1978	16	17.0	1978	6	1978	3	1	1978	.3	.3	.1	.1	@	.4	.1	@	.0
Apr	#	.0	#	0	#	1996	10	#+	1996	#+	1997	1	#+	1997	.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	.1	.0	#	0	2.5	1978	27	2.5	1978	1	1978	27	#+	1996	.1	.1	.0	.0	.0	@	.0	.0	.0
Dec	.3	#	#	#	6.0	1982	13	6.0	1982	4	1973	18	1	1989	.5	.4	.1	@	.0	.7	.2	.0	.0
Ann	8.4	3.5	N/A	N/A	18.0	Feb 1979	19	30.0	Feb 1979	22+	Jan 1996	11	4	Feb 1983	3.3	3.1	1.2	.5	.1	6.1	2.8	.8	.2

+ 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	5/07	5/02	4/29	4/26	4/23	4/20	4/17	4/14	4/09
32	4/23	4/19	4/16	4/13	4/11	4/08	4/05	4/02	3/29
28	4/13	4/08	4/05	4/02	3/30	3/28	3/25	3/21	3/16
24	3/31	3/25	3/22	3/18	3/15	3/12	3/09	3/05	2/28
20	3/22	3/15	3/10	3/06	3/02	2/26	2/22	2/17	2/10
16	3/08	3/02	2/26	2/22	2/18	2/15	2/11	2/06	1/30

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	10/01	10/06	10/09	10/12	10/14	10/17	10/20	10/23	10/27
32	10/13	10/19	10/22	10/25	10/28	10/31	11/04	11/07	11/13
28	10/22	10/28	11/01	11/05	11/08	11/11	11/15	11/19	11/25
24	11/10	11/15	11/19	11/22	11/25	11/28	12/01	12/04	12/09
20	11/18	11/27	12/03	12/09	12/14	12/19	12/25	1/01	1/10
16	12/07	12/13	12/18	12/21	12/25	12/29	1/02	1/06	1/14

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	195	188	182	178	174	169	165	160	152
32	222	214	209	204	200	196	191	186	179
28	246	238	232	227	222	217	212	206	198
24	274	267	262	258	254	250	245	240	233
20	307	298	292	287	283	278	274	268	261
16	336	324	317	312	308	303	299	293	286

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	973	791	627	318	107	6	0	0	24	263	522	828	4459
60	818	651	472	187	41	1	0	0	5	152	377	673	3377
57	725	569	382	123	19	0	0	0	1	102	295	583	2799
55	666	518	325	88	10	0	0	0	1	75	244	526	2453
50	523	389	196	29	1	0	0	0	0	29	138	385	1690
32	134	76	7	0	0	0	0	0	0	0	2	62	281

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	184	209	403	677	987	1206	1395	1344	1106	783	470	257	9021
55	2	7	8	74	285	516	682	631	416	145	22	8	2796
57	0	2	3	50	231	456	620	569	357	110	13	3	2414
60	0	0	0	24	160	366	527	476	270	67	5	0	1895
65	0	0	0	4	71	222	372	321	140	23	0	0	1153
70	0	0	0	0	22	103	222	174	47	5	0	0	573

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	42	73	200	444	753	977	1155	1102	872	542	252	81	42	115	315	759	1512	2489	3644	4746	5618	6160	6412	6493
45	21	32	111	299	598	827	1000	947	722	391	148	38	21	53	164	463	1061	1888	2888	3835	4557	4948	5096	5134
50	3	11	53	179	443	677	845	792	572	252	78	9	3	14	67	246	689	1366	2211	3003	3575	3827	3905	3914
55	0	0	23	92	291	527	690	637	422	140	34	3	0	0	23	115	406	933	1623	2260	2682	2822	2856	2859
60	0	0	4	40	168	378	535	482	281	62	8	0	0	0	4	44	212	590	1125	1607	1888	1950	1958	1958
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	23	39	115	252	460	662	804	773	574	320	132	37	23	62	177	429	889	1551	2355	3128	3702	4022	4154	4191

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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