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 EXPERIMNT STN, ID **COOP ID: 100010**

Climate Division: ID 9 **NWS Call Sign:** **Elevation: 4,405 Feet** **Lat: 42˚57N** **Lon: 112˚50W**

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	31.0	11.7	21.4	56	1918	1	30.7	1998	-42	1922	19	8.2	1979	1352	0	.0	.0	.4	15.1	30.0	6.7
Feb	37.1	16.3	26.7	63+	1995	25	35.2	1992	-38	1985	1	11.8	1985	1074	0	.0	.0	2.8	8.0	27.3	3.2
Mar	47.3	24.5	35.9	76	1986	29	43.0	1986	-24	1922	12	26.3	1985	902	0	.0	.0	12.8	1.8	28.0	.7
Apr	57.9	30.1	44.0	86+	1992	30	49.8	1987	-7	1921	7	36.4	1975	631	0	.0	.0	23.6	@	19.5	.0
May	66.9	38.1	52.5	96	1939	15	58.5	1992	15	1972	1	48.2	1975	389	1	.0	.0	29.5	.0	6.0	.0
Jun	76.3	44.8	60.6	103	1940	19	66.0	1988	22	1920	1	56.7	1998	165	31	@	2.2	29.9	.0	.6	.0
Jul	85.0	49.1	67.1	104+	1934	28	71.6	1998	31	1986	6	59.5	1993	53	116	@	10.0	31.0	.0	.1	.0
Aug	85.1	46.7	65.9	103+	1990	9	70.2	1994	29+	1993	27	62.1	1993	64	92	.1	9.6	31.0	.0	.3	.0
Sep	74.7	37.7	56.2	98	1988	7	63.0	1990	9	1926	25	50.9	1986	281	16	.0	1.4	29.8	.0	6.7	.0
Oct	62.0	28.5	45.3	89+	1992	2	52.8	1988	4	1917	29	41.7	1984	613	0	.0	.0	26.5	.1	22.3	.0
Nov	44.2	20.8	32.5	76	1917	15	39.6	1995	-16	1955	16	23.4	1985	976	0	.0	.0	8.9	4.0	27.6	1.2
Dec	32.9	12.2	22.6	67	1939	11	30.3	1975	-32	1972	9	8.7	1985	1317	0	.0	.0	.9	13.4	30.1	4.8
Ann	58.4	30.0	44.2	104+	Jul 1934	28	71.6	Jul 1998	-42	Jan 1922	19	8.2	Jan 1979	7817	256	.1	23.2	227.1	42.4	198.5	16.6

\+ 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: 1914-2001

(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	.74	.63	.70	1963	31	2.00	1998	.05	1992
Feb	.72	.63	.76	1963	1	2.64	1986	.04	1990
Mar	.86	.67	1.22	1946	20	2.71	1995	.00	1994
Apr	.75	.68	1.28	1940	15	2.20	1976	.00	1987
May	1.12	.96	1.50	1970	21	3.11	1980	.01	1992
Jun	.92	.70	1.50	1995	19	4.56	1995	.02+	2000
Jul	.56	.41	1.02	1918	14	2.64	1984	.00+	1999
Aug	.53	.37	1.07	1952	2	1.83	1976	.00+	1996
Sep	.77	.67	1.15	1915	26	2.41	1998	.00+	1987
Oct	.84	.80	1.02	1940	26	2.17	1975	.00	1988
Nov	.73	.64	1.35	1942	18	2.27	1988	.00	1976
Dec	.70	.45	2.41	1952	11	3.06	1996	.03	1991
Ann	9.24	8.98	2.41	Dec 1952	11	4.56	Jun 1995	.00+	Jul 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.5	2.8	.1	.0
Feb	6.4	2.7	.1	.0
Mar	7.5	3.0	.2	.0
Apr	6.2	2.5	.2	@
May	8.3	3.8	.3	@
Jun	5.3	2.6	.4	@
Jul	3.4	1.6	.3	.0
Aug	3.8	1.7	.2	.0
Sep	4.5	2.5	.2	@
Oct	4.9	2.7	.4	.0
Nov	6.6	2.5	.2	.0
Dec	6.9	2.3	@	.0
Ann	71.3	30.7	2.6	.0

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	.12	.18	.29	.39	.50	.61	.75	.91	1.12	1.47	1.81
Feb	.06	.11	.20	.30	.41	.54	.69	.87	1.13	1.57	1.99
Mar	.11	.22	.36	.48	.61	.74	.88	1.06	1.29	1.66	2.00
Apr	.04	.10	.22	.33	.44	.57	.73	.92	1.18	1.61	2.03
May	.12	.20	.36	.51	.68	.87	1.09	1.37	1.75	2.37	2.99
Jun	.06	.12	.23	.36	.50	.66	.86	1.12	1.47	2.07	2.67
Jul	.00	.00	.06	.14	.25	.36	.51	.69	.95	1.39	1.83
Aug	.00	.00	.04	.11	.19	.30	.44	.62	.89	1.36	1.84
Sep	.00	.04	.15	.26	.39	.54	.72	.94	1.26	1.79	2.33
Oct	.02	.08	.20	.32	.45	.60	.79	1.02	1.35	1.89	2.43
Nov	.07	.15	.27	.38	.49	.61	.74	.90	1.12	1.47	1.81
Dec	.05	.09	.18	.27	.38	.51	.66	.85	1.12	1.57	2.02
Ann	5.28	5.98	6.92	7.65	8.32	8.98	9.67	10.45	11.41	12.84	14.10

\+ 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: 1914-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	6.0	4.2	3	1
Feb	1.9	.6	2	#
Mar	2.4	.8	1	#
Apr	1.0	.0	#	#
May	.3	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	#	0
Oct	.6	.0	#	0
Nov	2.3	1.0	#	#
Dec	2.9	2.6	2	1
Ann	17.4	9.2	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	5.0	1982	5	17.0	1993	28	1993	19	20	1993
Feb	4.0	1972	24	5.6	1976	20	1993	28	17	1993
Mar	7.0	1971	17	9.3	1974	20	1993	5	10	1993
Apr	7.0	1976	26	12.5	1976	7	1976	26	#+	1999
May	4.8	1975	5	7.2	1975	5	1975	5	#+	1999
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	#	1973	1	#	1973	#	1989	10	#	1989
Oct	6.0	1997	24	6.0	1997	6+	1997	24	#+	1997
Nov	9.0	1977	22	9.0	1977	12	1985	30	4	1985
Dec	5.0	1992	30	7.8	1994	16	1992	31	11	1985
Ann	9.0	Nov 1977	22	17.0	Jan 1993	28	Jan 1993	19	20	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.0	1.9	.5	.1	.0
Feb	1.9	1.1	.2	.0	.0
Mar	1.2	.6	.2	.1	.0
Apr	.3	.2	.1	.1	.0
May	.2	.1	@	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.1	.1	.1	.1	.0
Nov	1.2	.8	.2	.2	.0
Dec	2.4	1.4	.4	.2	.0
Ann	10.3	6.2	1.7	.8	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	9.1	3.6	1.8	.0
Feb	2.5	.5	.4	.0
Mar	.9	.1	.0	.0
Apr	.3	@	@	.0
May	.1	@	@	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	@	@	.0
Nov	2.1	.3	.2	.0
Dec	8.7	3.3	1.9	.2
Ann	23.8	7.8	4.3	.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	7/10	7/04	6/30	6/26	6/23	6/20	6/16	6/12	6/06
32	6/24	6/16	6/11	6/07	6/02	5/29	5/25	5/19	5/12
28	5/23	5/18	5/15	5/12	5/09	5/07	5/04	4/30	4/25
24	5/11	5/06	5/02	4/29	4/26	4/23	4/20	4/16	4/11
20	5/04	4/27	4/21	4/17	4/13	4/08	4/04	3/30	3/22
16	4/16	4/08	4/02	3/29	3/24	3/20	3/15	3/10	3/02

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	8/13	8/18	8/22	8/26	8/29	9/01	9/04	9/08	9/14
32	8/29	9/02	9/06	9/08	9/11	9/14	9/17	9/20	9/24
28	9/10	9/14	9/18	9/20	9/23	9/26	9/29	10/02	10/06
24	9/18	9/24	9/28	10/01	10/04	10/07	10/10	10/14	10/20
20	9/27	10/03	10/08	10/12	10/15	10/19	10/23	10/27	11/03
16	10/16	10/22	10/27	10/31	11/04	11/07	11/11	11/16	11/23

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	90	82	76	71	66	61	56	50	42
32	125	116	110	105	100	95	90	84	75
28	157	150	144	140	136	132	128	123	116
24	183	175	170	165	160	156	151	145	138
20	213	204	197	191	185	179	174	167	157
16	252	242	235	229	224	218	212	205	195

***** 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	1352	1074	902	631	389	165	53	64	281	613	976	1317	7817
60	1197	934	747	481	245	74	13	17	165	458	826	1162	6319
57	1104	850	654	394	170	39	4	6	111	367	736	1069	5504
55	1042	794	592	339	128	22	1	3	81	308	676	1007	4993
50	889	663	447	212	51	4	0	0	30	176	530	852	3854
32	397	250	78	7	0	0	0	0	0	2	124	346	1204

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	67	100	199	367	635	857	1086	1051	725	413	138	52	5690
55	0	0	0	8	50	189	374	341	116	5	0	0	1083
57	0	0	0	4	30	145	315	282	86	2	0	0	864
60	0	0	0	0	12	91	231	200	51	0	0	0	585
65	0	0	0	0	1	31	116	92	16	0	0	0	256
70	0	0	0	0	0	7	41	27	3	0	0	0	78

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	0	6	42	171	407	630	853	815	499	205	26	1	0	6	48	219	626	1256	2109	2924	3423	3628	3654	3655
45	0	0	11	88	260	481	698	660	356	102	4	0	0	0	11	99	359	840	1538	2198	2554	2656	2660	2660
50	0	0	0	34	150	337	543	505	224	38	0	0	0	0	0	34	184	521	1064	1569	1793	1831	1831	1831
55	0	0	0	12	68	210	390	354	117	9	0	0	0	0	0	12	80	290	680	1034	1151	1160	1160	1160
60	0	0	0	1	23	105	245	214	41	0	0	0	0	0	0	1	24	129	374	588	629	629	629	629
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	6	48	144	276	407	545	534	375	204	35	0	0	6	54	198	474	881	1426	1960	2335	2539	2574	2574

(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