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: BLACKFOOT 1 SE, ID **COOP ID: 100915**

Climate Division: ID 9 **NWS Call Sign:** **Elevation: 4,498 Feet** **Lat: 43˚11N** **Lon: 112˚19W**

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	30.5	14.0	22.3	60	1981	1	31.3	1998	-33	1962	22	10.4	1979	1326	0	.0	.0	.4	16.2	29.5	5.1
Feb	37.4	18.6	28.0	66	1986	28	35.7	1992	-35	1985	1	14.4	1985	1036	0	.0	.0	2.9	7.7	26.2	2.2
Mar	48.7	25.5	37.1	77	1986	28	44.5	1986	-13	1993	1	24.8	1985	866	0	.0	.0	14.2	1.3	26.0	.2
Apr	59.0	31.4	45.2	85	1962	19	51.0	1992	11	1968	8	37.8	1975	594	0	.0	.0	25.0	.0	16.1	.0
May	67.8	38.5	53.2	94	1954	19	59.0	1992	17	1972	1	49.1	1975	369	1	.0	@	29.9	.0	5.0	.0
Jun	77.3	44.9	61.1	100	1988	25	67.6	1988	28	1995	7	56.9	1998	157	41	@	2.5	30.0	.0	.5	.0
Jul	85.0	50.0	67.5	101+	2000	31	71.8	1985	34	1986	6	59.7	1993	49	126	.1	8.9	31.0	.0	.0	.0
Aug	84.8	48.7	66.8	104	1958	14	70.1	2000	28	1992	25	62.1	1993	51	104	.0	7.3	31.0	.0	.2	.0
Sep	74.8	40.5	57.7	98	1950	3	63.4	1998	20+	1983	19	53.5+	1986	237	16	.0	.8	29.8	.0	3.6	.0
Oct	61.9	31.6	46.8	88	1963	3	53.4	1988	12	1971	29	42.1	1984	566	0	.0	.0	27.3	@	15.9	.0
Nov	43.9	22.9	33.4	74	1999	6	40.5	1999	-16	1993	25	24.2	1985	948	0	.0	.0	8.9	4.4	25.4	.8
Dec	32.0	14.2	23.1	69	1976	29	31.8	1980	-29+	1990	22	11.0	1985	1299	0	.0	.0	.9	14.6	29.3	3.3
Ann	58.6	31.7	45.2	104	Aug 1958	14	71.8	Jul 1985	-35	Feb 1985	1	10.4	Jan 1979	7498	288	.1	19.5	231.3	44.2	177.7	11.6

\+ 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

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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	.86	.81	1.50	1988	5	2.29	1971	.00	1993
Feb	.73	.59	.74	1963	1	2.08	1986	.00	1997
Mar	.89	.80	1.19	1995	21	3.21	1995	.03	1988
Apr	.93	.83	2.07	2000	18	2.34	2000	.00	1985
May	1.33	1.03	1.70	1993	6	3.92	1981	.00	1989
Jun	.87	.53	1.46	1952	25	4.04	1995	.00+	1996
Jul	.53	.34	1.55	1973	20	2.51	1973	.00+	1999
Aug	.45	.33	1.24	1972	14	1.72	1972	.00+	1992
Sep	.70	.48	1.10+	1998	12	2.64	1998	.00+	1999
Oct	.84	.75	1.60	1961	22	2.40	1971	.00+	1996
Nov	.81	.77	.90	1954	16	2.16	1983	.00+	1999
Dec	.75	.42	1.17	1967	31	2.61	1996	.00+	1998
Ann	9.69	9.73	2.07	Apr 2000	18	4.04	Jun 1995	.00+	Nov 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.7	2.3	.2	@
Feb	6.5	2.6	@	.0
Mar	5.8	2.6	.2	@
Apr	5.7	2.9	.4	.1
May	7.2	4.2	.7	.2
Jun	5.0	2.5	.4	.1
Jul	2.7	1.4	.2	.1
Aug	2.8	1.3	.2	@
Sep	3.7	1.9	.3	@
Oct	5.0	2.5	.4	@
Nov	7.1	2.8	.1	.0
Dec	7.8	2.9	.2	.0
Ann	66.0	29.9	3.3	.5

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	.03	.10	.22	.34	.48	.64	.82	1.05	1.37	1.91	2.43
Feb	.04	.11	.22	.33	.44	.57	.72	.90	1.14	1.55	1.94
Mar	.10	.16	.29	.41	.54	.69	.87	1.09	1.39	1.89	2.37
Apr	.05	.14	.29	.42	.57	.73	.92	1.15	1.46	1.98	2.48
May	.05	.16	.35	.54	.75	.99	1.27	1.63	2.12	2.93	3.74
Jun	.00	.04	.15	.27	.42	.59	.79	1.06	1.43	2.07	2.71
Jul	.00	.00	.00	.07	.18	.30	.46	.65	.93	1.41	1.88
Aug	.00	.00	.03	.11	.20	.29	.41	.56	.76	1.10	1.44
Sep	.00	.00	.05	.15	.28	.42	.61	.85	1.19	1.78	2.37
Oct	.00	.05	.18	.31	.45	.61	.80	1.03	1.36	1.91	2.45
Nov	.00	.00	.33	.47	.60	.72	.87	1.03	1.24	1.57	1.88
Dec	.00	.00	.13	.25	.38	.53	.71	.93	1.24	1.76	2.27
Ann	4.10	4.98	6.21	7.22	8.16	9.12	10.15	11.34	12.84	15.12	17.19

\+ 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	3.7	-99.9	2	0	5.0	1996	21	18.3	1996	10	1974	11	9	1974	1.1	.7	.4	.1	.0	-9.9	-9.9	-9.9	-9.9
Feb	3.9	3.3	1	0	5.6	1973	18	9.4	1972	8+	1979	5	7	1979	1.1	1.1	.3	.1	.0	-9.9	-9.9	-9.9	-9.9
Mar	1.2	.0	0	0	4.8	1973	11	5.0	1976	3	1974	2	3	1974	.5	.3	.2	.0	.0	-9.9	-9.9	-9.9	-9.9
Apr	1.0	.0	#	0	9.0	1976	27	17.0	1976	#	1972	13	#	1972	.1	.1	.1	.1	.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	#	1982	1	#	1982	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	.2	.0	0	0	3.1	1971	1	3.1	1971	0	0	0	0	0	.1	.1	.1	.0	.0	.0	.0	.0	.0
Nov	1.6	.0	#	0	4.7	1973	24	5.5	1977	6	1979	19	1+	1986	.8	.7	.2	.0	.0	-9.9	-9.9	-9.9	-9.9
Dec	4.9	3.2	1	0	8.3	1982	1	16.1	1971	9	1973	30	4	1972	2.0	1.2	.5	.3	.0	-9.9	-9.9	-9.9	-9.9
Ann	16.5	-9.9	N/A	N/A	9.0	Apr 1976	27	18.3	Jan 1996	10	Jan 1974	11	9	Jan 1974	5.7	4.2	1.8	.6	.0	-9.9	-9.9	-9.9	-9.9

+ 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	6/29	6/24	6/19	6/16	6/13	6/09	6/06	6/02	5/27
32	6/15	6/09	6/05	6/01	5/28	5/25	5/21	5/16	5/10
28	5/23	5/17	5/13	5/09	5/06	5/03	4/29	4/25	4/19
24	5/07	5/01	4/27	4/24	4/21	4/18	4/15	4/11	4/05
20	4/23	4/17	4/12	4/08	4/04	3/31	3/27	3/23	3/16
16	4/14	4/04	3/29	3/23	3/18	3/12	3/06	2/28	2/18

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	8/21	8/27	8/31	9/03	9/06	9/10	9/13	9/17	9/23
32	9/02	9/08	9/11	9/15	9/18	9/21	9/24	9/28	10/04
28	9/15	9/20	9/24	9/28	10/01	10/04	10/07	10/11	10/16
24	9/23	9/29	10/03	10/07	10/10	10/14	10/18	10/22	10/28
20	10/07	10/12	10/16	10/20	10/23	10/26	10/29	11/02	11/08
16	10/21	10/26	10/31	11/03	11/07	11/10	11/13	11/18	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	108	100	95	90	85	81	76	70	62
32	134	126	121	116	112	108	103	98	90
28	170	162	156	152	147	142	138	132	124
24	196	187	181	176	172	167	162	156	147
20	227	218	212	206	201	196	191	184	175
16	263	253	246	239	233	227	221	213	203

***** 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	1326	1036	866	594	369	157	49	51	237	566	948	1299	7498
60	1171	896	711	447	224	71	12	12	126	412	798	1144	6024
57	1078	812	618	363	150	37	4	3	76	322	708	1051	5222
55	1016	756	558	309	109	22	1	1	51	265	648	989	4725
50	861	622	415	192	38	4	0	0	13	144	505	834	3628
32	363	215	67	8	0	0	0	0	0	2	118	335	1108

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	61	104	224	404	655	874	1101	1077	769	459	159	59	5946
55	0	0	2	15	51	206	389	365	130	9	0	0	1167
57	0	0	0	9	30	161	329	305	95	4	0	0	933
60	0	0	0	3	11	105	245	220	55	1	0	0	640
65	0	0	0	0	1	41	126	104	16	0	0	0	288
70	0	0	0	0	0	11	48	33	3	0	0	0	95

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	11	55	202	432	666	879	851	555	253	37	2	0	11	66	268	700	1366	2245	3096	3651	3904	3941	3943
45	0	0	15	104	288	517	724	696	406	140	6	0	0	0	15	119	407	924	1648	2344	2750	2890	2896	2896
50	0	0	1	44	163	368	569	541	269	59	0	0	0	0	1	45	208	576	1145	1686	1955	2014	2014	2014
55	0	0	0	15	73	228	414	388	150	15	0	0	0	0	0	15	88	316	730	1118	1268	1283	1283	1283
60	0	0	0	0	22	116	265	236	64	0	0	0	0	0	0	0	22	138	403	639	703	703	703	703
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	7	55	161	292	430	562	554	389	210	31	0	0	7	62	223	515	945	1507	2061	2450	2660	2691	2691

(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