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: LOWMAN, ID **COOP ID: 105414**

Climate Division: ID 4 **NWS Call Sign:** **Elevation: 3,920 Feet** **Lat: 44˚05N** **Lon: 115˚37W**

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	32.7	14.4	23.6	52	1961	31	29.8	1978	-28	1949	3	16.3	1979	1285	0	.0	.0	.1	11.1	30.9	5.6
Feb	39.5	17.8	28.7	63	1992	28	34.6	1992	-27	1950	2	21.3	1985	1019	0	.0	.0	2.9	3.0	27.6	2.5
Mar	48.2	24.1	36.2	75	1978	29	42.3	1992	-12	1951	11	29.7	1976	894	0	.0	.0	14.1	.2	28.2	.2
Apr	57.8	30.0	43.9	86+	1992	29	48.6	1987	12+	1981	6	36.6	1975	633	0	.0	.0	25.3	.0	21.9	.0
May	66.6	36.3	51.5	95	1986	29	55.5	1992	18	1982	5	48.1	1999	421	0	.0	.4	29.9	.0	11.3	.0
Jun	75.4	41.5	58.5	100+	1988	24	63.0+	1988	23+	1951	3	55.3	1993	211	13	.1	2.1	30.0	.0	3.0	.0
Jul	84.9	44.1	64.5	103+	1979	19	69.5	1975	27	1955	2	56.4	1993	90	75	.6	11.6	31.0	.0	.6	.0
Aug	84.7	42.2	63.5	108	1961	4	67.9	1983	20+	1992	25	59.2	1980	103	55	.5	9.3	31.0	.0	2.6	.0
Sep	75.1	35.3	55.2	101	1987	1	61.0	1998	15	1992	14	50.4	1971	302	8	@	1.9	29.8	.0	11.5	.0
Oct	61.8	28.7	45.3	89	1992	1	50.1	1988	10	1991	30	41.8	1984	613	0	.0	.0	27.7	.0	24.0	.0
Nov	41.3	24.0	32.7	70	1978	2	39.4	1999	-16	1985	23	25.7	1994	971	0	.0	.0	5.4	3.0	26.6	.8
Dec	31.8	14.4	23.1	60	1978	1	28.5	1977	-32	1990	22	14.0	1990	1298	0	.0	.0	.1	14.1	30.7	3.7
Ann	58.3	29.4	43.9	108	Aug 1961	4	69.5	Jul 1975	-32	Dec 1990	22	14.0	Dec 1990	7840	151	1.2	25.3	227.3	31.4	218.9	12.8

\+ 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	3.57	3.81	1.75	1982	28	6.38	1997	.30	1985
Feb	3.11	2.90	1.82	1981	14	9.72	1986	.61	1991
Mar	2.50	2.50	1.62	1950	17	5.33	1989	.33	1994
Apr	2.18	1.82	1.70	1990	28	6.24	1990	.05	1977
May	2.03	1.79	1.31	1990	27	4.83	1998	.07	1992
Jun	1.50	1.20	1.34	1981	8	3.70	1982	.18	1996
Jul	.68	.59	.87	1983	1	2.32	1983	.00	1999
Aug	.67	.45	.82	1976	15	2.46	1983	.00+	2000
Sep	1.25	1.12	1.26	2000	2	4.70	1985	.00+	1999
Oct	1.57	1.64	1.50	1951	2	3.59	1985	.00	1987
Nov	3.35	2.92	1.77	1988	3	7.47	1988	.08	1976
Dec	3.67	3.31	3.97	1952	22	11.84	1996	.00	1999
Ann	26.08	25.30	3.97	Dec 1952	22	11.84	Dec 1996	.00+	Aug 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	13.1	8.8	2.5	.6
Feb	12.1	8.0	1.7	.3
Mar	13.2	7.7	1.3	.1
Apr	11.1	5.8	1.1	.2
May	10.9	5.8	.7	.1
Jun	6.6	3.7	.5	.1
Jul	4.8	2.1	.3	.0
Aug	4.2	2.1	.2	.0
Sep	4.4	2.7	.7	.1
Oct	7.2	4.2	1.0	.1
Nov	12.9	8.6	2.1	.2
Dec	13.1	8.8	2.1	.4
Ann	113.6	68.3	14.2	2.2

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	.92	1.26	1.78	2.23	2.68	3.16	3.69	4.31	5.13	6.42	7.63
Feb	.92	1.22	1.66	2.04	2.42	2.80	3.23	3.73	4.38	5.39	6.33
Mar	.78	1.02	1.37	1.67	1.97	2.27	2.60	2.99	3.49	4.27	4.99
Apr	.42	.62	.94	1.23	1.53	1.85	2.21	2.65	3.23	4.15	5.03
May	.44	.63	.93	1.20	1.47	1.76	2.08	2.47	2.98	3.80	4.57
Jun	.31	.44	.66	.86	1.06	1.28	1.52	1.82	2.21	2.83	3.42
Jul	.03	.08	.18	.28	.39	.51	.66	.84	1.09	1.51	1.92
Aug	.00	.03	.12	.22	.33	.46	.62	.82	1.10	1.58	2.06
Sep	.00	.00	.16	.37	.60	.87	1.17	1.56	2.11	2.99	3.88
Oct	.10	.25	.50	.73	.97	1.24	1.55	1.94	2.46	3.31	4.14
Nov	.53	.82	1.31	1.77	2.25	2.77	3.36	4.09	5.06	6.64	8.16
Dec	.20	.54	1.10	1.64	2.21	2.85	3.59	4.52	5.78	7.85	9.87
Ann	16.42	18.20	20.53	22.33	23.95	25.53	27.19	29.03	31.29	34.61	37.52

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	27.1	17.0	18	18
Feb	18.0	16.0	20	20
Mar	6.7	4.0	10	9
Apr	1.6	.0	#	0
May	.1	.0	#	0
Jun	#	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	0	0
Oct	.4	.0	#	0
Nov	19.7	16.2	2	1
Dec	18.4	17.0	9	9
Ann	92.1	70.2	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	15.0	1996	24	69.8	1996	55	1996	31	38	1993
Feb	12.0	1985	8	36.8	1990	53	1996	1	38	1999
Mar	6.0	1985	23	21.2	1989	63	1999	1	42	1999
Apr	5.0	1984	12	17.5	1982	23	1999	1	6	1999
May	1.5	1975	5	1.5	1975	#+	1999	9	#+	1999
Jun	#	1976	13	#	1976	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	2.0	1986	27	2.0	1986	0	0	0	0	0
Oct	3.0	1996	24	6.0	1996	1	1991	26	#+	1997
Nov	14.0	1984	30	42.2	1984	27	1994	30	11	1994
Dec	10.0	1988	21	37.6	1988	42	1983	31	24	1992
Ann	15.0	Jan 1996	24	69.8	Jan 1996	63	Mar 1999	1	42	Mar 1999

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	7.7	6.4	3.0	1.8	.5
Feb	6.1	4.8	1.8	.8	.1
Mar	3.8	2.4	.7	.2	.0
Apr	1.0	.7	.2	.1	.0
May	.1	@	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	@	@	.0	.0	.0
Oct	.4	.3	@	.0	.0
Nov	5.1	4.2	1.7	1.0	.1
Dec	7.8	6.5	3.5	1.3	.2
Ann	32.0	25.3	10.9	5.2	.9

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	12.8	11.1	10.0	7.1
Apr	.5	.2	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.0	.0	.0
Nov	6.1	4.2	2.6	.8
Dec	22.0	17.6	16.2	7.0
Ann	-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	8/04	7/26	7/20	7/15	7/10	7/05	6/30	6/23	6/15
32	7/17	7/09	7/03	6/28	6/23	6/18	6/13	6/07	5/30
28	6/21	6/13	6/08	6/03	5/29	5/24	5/19	5/14	5/06
24	5/20	5/14	5/10	5/07	5/04	4/30	4/27	4/23	4/18
20	5/07	4/29	4/23	4/18	4/13	4/08	4/03	3/28	3/20
16	4/13	4/06	4/01	3/28	3/24	3/20	3/16	3/11	3/04

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	7/29	8/03	8/07	8/11	8/14	8/17	8/21	8/25	8/31
32	8/10	8/17	8/22	8/27	8/31	9/04	9/09	9/14	9/21
28	8/22	8/30	9/04	9/09	9/13	9/18	9/22	9/28	10/06
24	9/10	9/17	9/21	9/25	9/29	10/03	10/07	10/11	10/18
20	9/14	9/22	9/28	10/03	10/08	10/12	10/17	10/23	10/31
16	10/09	10/16	10/20	10/25	10/28	11/01	11/05	11/10	11/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	71	58	49	42	35	27	20	11	0
32	107	94	84	76	69	61	53	43	30
28	143	131	122	114	107	99	91	82	70
24	174	165	158	153	148	142	137	130	121
20	208	197	190	183	177	171	165	157	147
16	248	237	230	223	218	212	205	198	187

***** 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	1285	1019	894	633	421	211	90	103	302	613	971	1298	7840
60	1130	879	739	483	269	101	28	34	177	458	821	1143	6262
57	1037	795	646	395	186	55	11	14	117	366	731	1050	5403
55	975	739	584	339	138	32	6	6	84	306	671	988	4868
50	820	599	430	209	51	5	0	0	28	167	521	833	3663
32	287	158	43	5	0	0	0	0	0	1	100	299	893

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	25	63	172	362	602	792	1008	975	696	411	119	24	5249
55	0	0	0	6	27	135	301	268	90	2	0	0	829
57	0	0	0	3	13	97	244	213	63	1	0	0	634
60	0	0	0	0	3	53	168	141	33	0	0	0	398
65	0	0	0	0	0	13	75	55	8	0	0	0	151
70	0	0	0	0	0	2	21	12	1	0	0	0	36

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	1	31	165	369	556	776	735	473	193	15	0	0	1	32	197	566	1122	1898	2633	3106	3299	3314	3314
45	0	0	2	73	226	406	621	580	329	87	3	0	0	0	2	75	301	707	1328	1908	2237	2324	2327	2327
50	0	0	0	21	112	268	466	425	194	28	0	0	0	0	0	21	133	401	867	1292	1486	1514	1514	1514
55	0	0	0	3	41	140	311	272	86	3	0	0	0	0	0	3	44	184	495	767	853	856	856	856
60	0	0	0	0	4	51	169	135	23	0	0	0	0	0	0	0	4	55	224	359	382	382	382	382
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	5	49	164	295	404	527	529	395	216	16	0	0	5	54	218	513	917	1444	1973	2368	2584	2600	2600

(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