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: SNOWBALL RANCH, NV **COOP ID: 267640**

Climate Division: NV 3 **NWS Call Sign:** **Elevation: 7,160 Feet** **Lat: 39˚02N** **Lon: 116˚12W**

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	40.7	14.1	27.4	62+	1969	5	33.3	1986	-21	1974	2	19.0	1979	1167	0	.0	.0	5.2	5.8	30.8	3.1
Feb	43.6	17.1	30.4	67	1986	25	38.2	1995	-18	1989	5	23.9	1985	970	0	.0	.0	7.0	3.2	27.7	1.9
Mar	49.0	22.1	35.6	69+	1968	29	42.3	1972	-12	1971	2	30.0	1973	913	0	.0	.0	14.4	1.1	28.9	.3
Apr	56.5	26.5	41.5	77	1992	28	48.5	1992	7	1982	2	32.6	1975	705	0	.0	.0	21.6	.2	24.3	.0
May	64.9	32.9	48.9	83+	1986	26	54.7	1992	14	1968	6	42.6	1977	500	0	.0	.0	28.7	.0	14.2	.0
Jun	74.6	39.6	57.1	91+	1972	30	61.5	1994	21	1976	15	52.6	1998	250	14	.0	.2	29.7	.0	4.0	.0
Jul	82.1	46.9	64.5	95	2000	31	68.0	1996	29+	1983	10	61.5	1993	62	46	.0	1.2	31.0	.0	.2	.0
Aug	80.0	45.6	62.8	93	2000	1	65.7+	1998	27	1968	22	57.6	1976	104	35	.0	.4	31.0	.0	.3	.0
Sep	72.7	38.7	55.7	86+	1971	12	59.1	1979	17+	1968	21	49.7	1986	283	3	.0	.0	29.7	.0	5.2	.0
Oct	62.1	30.1	46.1	83	1980	1	52.6	1988	0	1971	30	38.9	1984	586	0	.0	.0	26.9	.2	19.1	@
Nov	48.9	20.5	34.7	72	1976	5	42.4	1995	-9	1994	19	25.8	1994	910	0	.0	.0	14.4	1.8	28.2	.7
Dec	42.1	14.9	28.5	63	1979	9	35.7	1980	-24	1972	9	21.3	1971	1133	0	.0	.0	6.5	5.4	30.7	2.6
Ann	59.8	29.1	44.4	95	Jul 2000	31	68.0	Jul 1996	-24	Dec 1972	9	19.0	Jan 1979	7583	98	.0	1.8	246.1	17.7	213.6	8.6

\+ 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: 1966-2001

(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	.57	.50	.48	1997	3	1.52	1995	.05	1972
Feb	.61	.55	1.01	1978	10	1.79	1976	.03	1972
Mar	.97	.92	1.58	2001	9	2.37	1983	.02	1972
Apr	.71	.49	.71	1986	24	2.68	1978	.00	1993
May	1.03	.87	1.11	1987	16	3.14	1980	.00	1985
Jun	.62	.48	1.25	1999	3	2.11	1997	.00+	1994
Jul	.88	.58	1.05	1980	1	3.15	1984	.00+	2000
Aug	.96	.73	1.58	1994	10	3.65	1983	.00+	1985
Sep	.90	.58	1.42	1978	6	2.84	1997	.00	1987
Oct	.73	.80	1.54	1978	31	1.90	1974	.00+	1999
Nov	.49	.28	.73	1987	2	2.79	1987	.03	1995
Dec	.34	.30	.52	1983	27	1.30	1983	.00+	1980
Ann	8.81+	8.39+	1.58+	Mar 2001	9	3.65	Aug 1983	.00+	Jul 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.0	2.2	.0	.0
Feb	5.4	2.4	.2	@
Mar	6.9	2.9	.3	.1
Apr	5.3	2.5	.1	.0
May	5.9	3.5	.3	@
Jun	4.0	2.0	.2	@
Jul	3.9	2.3	.4	@
Aug	5.0	2.7	.5	.1
Sep	4.1	2.4	.4	.1
Oct	3.4	2.4	.4	.1
Nov	3.5	1.5	.2	.0
Dec	3.5	1.5	@	.0
Ann	55.9	28.3	3.0	.4

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	.08	.13	.21	.29	.37	.46	.56	.69	.86	1.14	1.41
Feb	.04	.07	.15	.23	.33	.44	.57	.74	.98	1.39	1.79
Mar	.09	.16	.29	.42	.57	.74	.94	1.18	1.53	2.10	2.66
Apr	.04	.11	.23	.33	.44	.56	.70	.88	1.11	1.50	1.87
May	.03	.11	.25	.40	.56	.75	.98	1.26	1.66	2.32	2.98
Jun	.00	.00	.07	.16	.27	.39	.55	.75	1.04	1.54	2.04
Jul	.00	.03	.13	.26	.40	.57	.79	1.06	1.46	2.14	2.82
Aug	.00	.05	.19	.33	.49	.68	.90	1.17	1.56	2.22	2.87
Sep	.01	.04	.13	.24	.38	.55	.78	1.07	1.49	2.23	2.98
Oct	.00	.00	.17	.31	.45	.59	.74	.93	1.19	1.59	1.97
Nov	.03	.07	.13	.20	.27	.36	.46	.60	.78	1.09	1.40
Dec	.00	.03	.09	.14	.20	.26	.33	.42	.55	.75	.95
Ann	5.54	6.14	6.93	7.54	8.09	8.63	9.19	9.82	10.59	11.72	12.71

\+ 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: 1966-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Climate Division: NV 3 **NWS Call Sign:** **Elevation: 7,160 Feet** **Lat: 39°02N** **Lon: 116°12W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	9.0	8.5	1	#
Feb	8.0	4.0	1	#
Mar	9.0	8.2	1	#
Apr	4.4	2.5	#	#
May	2.2	.0	#	0
Jun	.4	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.2	.0	#	0
Oct	2.0	.0	#	0
Nov	3.8	3.0	#	#
Dec	4.7	4.0	#	#
Ann	43.7	30.2	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	8.0	1992	6	20.0	1982	12	1993	14	10	1993
Feb	12.0	1978	10	24.0+	2000	14	1976	7	3	1998
Mar	12.0	1982	18	25.0	1982	10	1991	15	4	1987
Apr	9.0	1994	24	15.0+	1995	3	1995	16	#+	2000
May	6.0	1973	5	14.0	1988	6	1973	5	#+	2000
Jun	10.0	1999	3	10.0	1999	3	1999	3	#	1999
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	1982	29	4.0	1982	#	1982	30	#	1982
Oct	14.0	1978	31	15.0	1978	10	1978	31	#+	2000
Nov	8.0	1985	11	21.0	1985	8	1994	17	1+	2000
Dec	7.0	1978	19	21.0	1971	14	1971	27	4	1971
Ann	14.0	Oct 1978	31	25.0	Mar 1982	14+	Feb 1976	7	10	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.2	3.2	1.4	.4	.0
Feb	3.1	3.1	1.2	.4	.1
Mar	3.3	3.3	1.2	.6	.1
Apr	1.8	1.7	.6	.3	.0
May	.9	.9	.3	.2	.0
Jun	.1	.1	.1	@	@
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.1	.1	.0	.0	.0
Oct	.5	.5	.2	.2	@
Nov	1.8	1.8	.5	.2	.0
Dec	2.1	2.0	.8	.2	.0
Ann	16.9	16.7	6.3	2.5	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.1	1.1	.5	.0
Feb	1.5	.9	.6	.1
Mar	1.8	.8	.3	.0
Apr	.6	.2	.0	.0
May	.1	@	@	.0
Jun	@	@	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.2	.2	.1	@
Nov	.9	.2	.1	.0
Dec	1.6	.6	.2	.0
Ann	8.8	4.0	1.8	.1

+ 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	7/14	7/10	7/06	7/04	7/01	6/29	6/26	6/23	6/19
32	7/06	6/30	6/26	6/23	6/20	6/17	6/14	6/10	6/05
28	6/19	6/14	6/10	6/06	6/03	5/31	5/27	5/23	5/18
24	6/05	5/30	5/26	5/22	5/19	5/15	5/11	5/07	5/01
20	5/19	5/12	5/07	5/02	4/28	4/24	4/19	4/14	4/06
16	5/06	4/29	4/24	4/19	4/15	4/11	4/07	4/01	3/25

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	9/13
32	8/25	8/31	9/04	9/08	9/11	9/15	9/18	9/22	9/28
28	9/08	9/14	9/18	9/22	9/26	9/29	10/03	10/07	10/13
24	9/18	9/23	9/28	10/01	10/05	10/08	10/12	10/16	10/22
20	9/24	10/01	10/06	10/10	10/14	10/18	10/23	10/28	11/04
16	10/14	10/20	10/24	10/27	10/30	11/02	11/06	11/10	11/15

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	79	71	66	62	58	53	49	44	37
32	103	96	91	87	82	78	74	69	61
28	138	130	124	119	114	109	104	98	89
24	163	155	148	143	138	134	128	122	114
20	203	191	183	176	169	162	155	146	134
16	223	214	208	202	197	192	187	180	172

***** 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	1167	970	913	705	500	250	62	104	283	586	910	1133	7583
60	1012	830	758	555	352	138	11	31	154	434	760	978	6013
57	919	746	665	470	269	88	2	11	95	347	670	885	5167
55	857	690	603	415	218	62	1	5	64	292	610	823	4640
50	702	550	455	283	117	20	0	0	18	174	465	668	3452
32	194	127	71	24	1	0	0	0	0	5	85	186	693

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	50	81	181	308	524	754	1007	954	711	442	166	77	5255
55	0	0	0	9	29	125	295	246	85	16	0	0	805
57	0	0	0	5	17	91	235	190	56	9	0	0	603
60	0	0	0	0	7	51	150	117	25	3	0	0	353
65	0	0	0	0	0	14	46	35	3	0	0	0	98
70	0	0	0	0	0	2	5	4	0	0	0	0	11

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	7	38	117	291	519	763	710	473	227	45	0	0	7	45	162	453	972	1735	2445	2918	3145	3190	3190
45	0	0	1	47	168	373	608	555	329	117	10	0	0	0	1	48	216	589	1197	1752	2081	2198	2208	2208
50	0	0	0	9	72	235	453	401	196	42	0	0	0	0	0	9	81	316	769	1170	1366	1408	1408	1408
55	0	0	0	0	22	124	300	252	89	11	0	0	0	0	0	0	22	146	446	698	787	798	798	798
60	0	0	0	0	1	45	158	116	21	0	0	0	0	0	0	0	1	46	204	320	341	341	341	341
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	8	22	50	119	233	371	506	475	347	201	58	14	8	30	80	199	432	803	1309	1784	2131	2332	2390	2404

(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