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: BLOWHARD MTN RADAR, UT **COOP ID: 420757**

Climate Division: UT 4 **NWS Call Sign:** **Elevation: 10,694 Feet Lat: 37˚36N Lon: 112˚52W**

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	30.7	13.3	22.0	55	1977	18	30.2	1986	-20	1971	4	12.9	1979	1333	0	.0	.0	.1	20.4	30.6	3.0
Feb	31.9	14.1	23.0	54	2000	2	29.2	1991	-18	1985	1	18.3	1979	1176	0	.0	.0	1.5	16.8	28.0	2.3
Mar	35.1	16.8	26.0	55	1997	19	34.9	2000	-13	1975	28	19.3	1977	1194	0	.0	.0	.2	17.0	29.6	1.2
Apr	42.2	21.9	32.1	65	2000	26	44.6	2000	-4+	1975	2	23.8	1975	984	0	.0	.0	4.5	7.1	24.5	.2
May	50.8	30.5	40.7	69+	2000	23	48.4	2000	2	1967	2	33.8	1995	756	0	.0	.1	13.1	1.8	16.6	.0
Jun	61.8	41.6	51.7	75	1999	30	57.1	1994	16	1979	8	44.0	1995	402	4	.0	.1	26.3	.1	4.5	.0
Jul	67.7	47.9	57.8	78+	1998	16	61.4	1994	29	1992	2	54.2	1992	229	5	.0	.0	30.7	.0	.2	.0
Aug	65.8	46.4	56.1	82	2001	16	59.7	1996	23	1964	31	52.2	1979	277	0	.0	.0	30.6	.0	.1	.0
Sep	59.3	39.8	49.6	75	2001	25	53.9	1999	13+	1978	18	42.7	1986	464	0	.0	.0	24.2	.3	4.4	.0
Oct	49.0	29.8	39.4	74	2001	3	47.5	1999	-3	1971	30	30.1	1984	794	0	.0	.0	10.1	3.9	18.1	.1
Nov	37.8	19.2	28.5	63	2001	2	37.3	1999	-11	1976	28	21.9	1972	1095	0	.0	.0	1.7	13.0	27.0	.6
Dec	32.0	14.1	23.1	57	1998	2	31.9	1980	-23	1978	8	15.9	1971	1301	0	.0	.0	.5	18.7	30.7	2.4
Ann	47.0	28.0	37.5	82	Aug 2001	16	61.4	Jul 1994	-23	Dec 1978	8	12.9	Jan 1979	10005	9	.0	.2	143.5	99.1	214.3	9.8

\+ 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: 1964-2001

(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	2.84	2.76	1.90	1980	10	7.85	1980	.40	1972
Feb	3.18	2.94	2.53	1976	9	7.05	1993	.23	1972
Mar	4.20	3.78	2.97	1982	19	9.52	1982	.25	1999
Apr	2.65	2.69	1.93	1986	2	5.61	1999	.20	1989
May	1.74	1.70	2.31	1965	25	5.03	1971	.00+	1984
Jun	.73	.67	1.63	1993	6	1.81	1993	.00+	1996
Jul	2.15	2.01	2.72	1973	13	6.59	1975	.12	1972
Aug	2.88	3.08	1.71	2001	9	6.80	1971	.07	1985
Sep	1.67	1.11	1.95	1967	24	6.95	1997	.05	1979
Oct	2.05	2.03	1.51	1975	23	5.98	1972	.00	1995
Nov	2.32	1.79	3.06	1965	25	6.52	1978	.02	1995
Dec	2.27	1.95	3.04	1965	30	4.96	1978	.00	1989
Ann	28.68	28.83	3.06	Nov 1965	25	9.52	Mar 1982	.00+	Jun 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.5	6.1	1.7	.5
Feb	7.9	6.4	2.1	.6
Mar	9.2	7.9	3.0	1.1
Apr	6.8	5.6	1.7	.5
May	5.5	4.1	.8	.3
Jun	3.0	1.9	.4	@
Jul	7.7	4.8	1.3	.3
Aug	9.5	6.2	1.9	.6
Sep	7.0	3.7	1.1	.2
Oct	6.4	5.0	1.4	.2
Nov	5.9	4.7	1.4	.4
Dec	6.3	4.6	1.2	.5
Ann	82.7	61.0	18.0	5.2

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	.59	.85	1.27	1.65	2.03	2.44	2.90	3.45	4.18	5.35	6.46
Feb	.56	.83	1.30	1.73	2.18	2.66	3.21	3.88	4.77	6.21	7.58
Mar	.49	.82	1.40	1.99	2.61	3.31	4.12	5.13	6.50	8.75	10.94
Apr	.47	.71	1.09	1.45	1.82	2.22	2.68	3.23	3.96	5.15	6.27
May	.00	.21	.53	.81	1.09	1.40	1.75	2.17	2.74	3.68	4.58
Jun	.00	.00	.13	.27	.40	.55	.72	.93	1.21	1.67	2.12
Jul	.20	.35	.64	.93	1.26	1.63	2.07	2.62	3.37	4.63	5.87
Aug	.43	.67	1.08	1.48	1.90	2.35	2.87	3.51	4.37	5.78	7.12
Sep	.09	.19	.39	.61	.87	1.17	1.54	2.01	2.67	3.80	4.92
Oct	.20	.44	.78	1.08	1.39	1.71	2.09	2.54	3.14	4.10	5.02
Nov	.25	.43	.75	1.08	1.42	1.81	2.27	2.84	3.61	4.89	6.14
Dec	.23	.50	.88	1.21	1.54	1.90	2.31	2.81	3.46	4.52	5.54
Ann	18.61	20.49	22.94	24.82	26.51	28.15	29.86	31.77	34.11	37.52	40.51

\+ 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: 1964-2001
(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	33.3	24.5	41	39	30.0	1997	13	85.5	1982	90	1972	1	83	1972	7.3	7.0	4.0	2.3	.7	28.8	26.7	26.4	25.3
Feb	36.1	31.3	54	54	21.0	1996	26	79.0	1993	130	1993	26	104	1993	7.5	7.3	4.1	2.5	1.0	-9.9	-9.9	-9.9	-9.9
Mar	46.8	42.0	69	62	26.0	1979	28	91.5	1979	139	1983	25	120	1983	8.4	8.2	5.1	3.3	1.5	-9.9	-9.9	-9.9	-9.9
Apr	27.3	24.8	65	59	20.0	1976	14	70.0	1999	135	1983	30	126	1983	6.7	6.3	3.7	1.9	.6	-9.9	-9.9	-9.9	-9.9
May	11.3	8.4	39	32	18.0	1981	20	34.0	1971	136	1983	1	115	1983	4.1	3.7	1.8	.8	.2	-9.9	-9.9	-9.9	-9.9
Jun	1.2	.0	8	#	14.0	1993	6	15.0	1993	80	1983	1	45	1995	.5	.5	.3	.1	@	3.1	2.9	2.8	2.2
Jul	.0	.0	0	0	.0	0	0	.0	0	12	1995	1	1	1995	.0	.0	.0	.0	.0	.1	.1	.1	.1
Aug	.0	.0	#	0	1.0	1992	23	1.0	1992	1	1981	10	#	1981	@	@	.0	.0	.0	.0	.0	.0	.0
Sep	1.7	.0	#	0	7.0	1986	25	25.0	1986	20	1986	28	3	1986	.7	.6	.2	.1	.0	.5	.3	.2	.2
Oct	15.1	13.5	2	1	14.0	1994	15	46.0	2000	30	1991	30	9	1986	4.2	3.9	2.0	1.0	.2	6.7	4.6	3.0	.9
Nov	26.4	22.0	12	11	30.0	1985	12	63.0	1985	47	1982	30	27	1982	5.5	5.4	3.1	1.9	.6	19.1	14.9	13.2	9.0
Dec	26.3	27.0	26	23	30.0	1982	1	61.0	1978	94	1971	28	68	1982	6.1	5.8	3.3	1.8	.8	26.5	24.4	22.5	14.5
Ann	225.5	193.5	N/A	N/A	30.0+	Jan 1997	13	91.5	Mar 1979	139	Mar 1983	25	126	Apr 1983	51.0	48.7	27.6	15.7	5.6	-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	7/10	7/04	6/30	6/26	6/23	6/20	6/16	6/12	6/06
32	7/04	6/28	6/24	6/20	6/17	6/13	6/10	6/05	5/30
28	6/24	6/18	6/14	6/11	6/07	6/04	6/01	5/27	5/22
24	6/17	6/11	6/06	6/02	5/30	5/26	5/22	5/17	5/11
20	6/10	6/03	5/29	5/25	5/21	5/17	5/12	5/07	5/01
16	5/31	5/23	5/17	5/12	5/07	5/03	4/28	4/22	4/14

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	8/19	8/24	8/29	9/02	9/05	9/10	9/15	9/22
32	8/29	9/04	9/08	9/11	9/14	9/17	9/20	9/24	9/30
28	9/09	9/16	9/20	9/24	9/28	10/01	10/05	10/10	10/16
24	9/16	9/22	9/26	9/29	10/02	10/06	10/09	10/13	10/19
20	9/27	10/02	10/06	10/09	10/12	10/15	10/18	10/22	10/27
16	10/03	10/10	10/14	10/18	10/22	10/25	10/29	11/03	11/09

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	97	88	81	75	70	64	58	52	42
32	110	103	97	93	89	84	80	74	67
28	134	126	121	116	112	107	102	97	89
24	146	139	134	129	125	121	116	111	104
20	169	160	154	148	143	138	133	126	118
16	200	189	181	174	167	160	153	145	133

***** 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)

Base — Heating Degree Days (1)

Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1333	1176	1194	984	756	402	229	277	464	794	1095	1301	10005
60	1178	1036	1055	834	601	267	103	137	317	639	945	1146	8258
57	1085	952	962	744	511	197	54	75	235	550	855	1053	7273
55	1023	896	900	684	452	157	30	44	186	491	795	991	6649
50	868	756	745	543	315	78	4	7	90	352	645	836	5239
32	326	266	257	145	31	0	0	0	0	45	179	307	1556

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	16	13	70	151	298	592	799	746	526	274	74	29	3588
55	0	0	0	0	6	59	116	78	22	7	0	0	288
57	0	0	0	0	3	39	78	46	11	3	0	0	180
60	0	0	0	0	1	19	35	15	3	0	0	0	73
65	0	0	0	0	0	4	5	0	0	0	0	0	9
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	0	32	110	323	491	436	240	78	8	0	0	1	1	33	143	466	957	1393	1633	1711	1719	1719
45	0	0	0	12	51	198	337	283	124	29	0	0	0	0	0	12	63	261	598	881	1005	1034	1034	1034
50	0	0	0	0	21	101	186	145	43	3	0	0	0	0	0	0	21	122	308	453	496	499	499	499
55	0	0	0	0	2	39	72	52	5	0	0	0	0	0	0	0	2	41	113	165	170	170	170	170
60	0	0	0	0	0	8	11	7	0	0	0	0	0	0	0	0	0	8	19	26	26	26	26	26
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	5	0	17	53	154	230	198	92	28	0	0	0	5	5	22	75	229	459	657	749	777	777	777

(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