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: GARFIELD, UT **COOP ID: 423097**

Climate Division: UT 3 **NWS Call Sign:** **Elevation: 4,330 Feet** **Lat: 40˚43N** **Lon: 112˚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	36.8	24.0	30.4	65+	1969	8	39.1	1998	-11	1963	12	21.0	1973	1073	0	.0	.0	2.7	10.4	26.5	.4
Feb	42.4	27.9	35.2	75	1951	12	44.6	1995	-4+	1989	5	25.4	1984	837	0	.0	.0	6.1	3.8	20.9	.2
Mar	52.3	35.9	44.1	77	1998	24	50.4	1986	5	1960	1	38.0	1976	648	0	.0	.0	18.3	.5	11.4	.0
Apr	60.6	42.4	51.5	88+	1954	26	60.0	1992	23	1966	20	43.2	1975	416	11	.0	.0	25.2	.1	3.2	.0
May	70.8	50.6	60.7	99	1997	31	68.0	1992	25	1975	5	53.5	1975	189	55	.0	.3	30.3	.0	.4	.0
Jun	82.3	60.7	71.5	105	1988	25	76.4	1994	33	1989	21	65.4	1975	37	232	.5	7.4	29.9	.0	.1	.0
Jul	90.7	68.8	79.8	107	1998	18	84.0	2000	45	1954	22	72.5	1993	0	458	1.6	19.3	31.0	.0	.0	.0
Aug	88.9	66.8	77.9	105	1982	23	81.8	2000	44	1989	25	73.2	1976	2	399	.6	15.9	31.0	.0	.0	.0
Sep	77.3	56.2	66.8	100	1958	2	74.2	1990	30	1965	18	60.3	1986	83	135	.0	2.6	30.0	.0	.1	.0
Oct	63.4	45.2	54.3	88	1953	2	60.9	1988	18	1991	31	48.8	1984	342	10	.0	.0	28.8	.1	1.8	.0
Nov	48.5	33.7	41.1	76+	1958	10	48.1	1999	-8	1955	16	35.6+	2000	717	0	.0	.0	13.2	.9	13.5	.0
Dec	38.9	25.3	32.1	72	1995	1	39.1	1981	-7	1972	15	24.1	1990	1020	0	.0	.0	4.1	7.0	26.4	.4
Ann	62.7	44.8	53.8	107	Jul 1998	18	84.0	Jul 2000	-11	Jan 1963	12	21.0	Jan 1973	5364	1300	2.7	45.5	250.6	22.8	104.3	1.0

\+ 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: 1950-2001

(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	1.30	1.20	1.00	1995	15	3.62	1993	.17	1989
Feb	1.38	1.17	1.40	1989	1	3.60	1998	.00	1988
Mar	1.98	2.03	1.20	1986	8	4.18	1975	.61	1993
Apr	2.22	2.19	2.52	1962	21	4.91	1986	.12	1993
May	2.43	2.19	1.81	1997	24	6.95	1995	.03	1972
Jun	.95	.69	1.64	1957	11	3.39	1998	.00+	1996
Jul	1.03	.83	1.70	1982	30	3.63	1982	.00	1972
Aug	.93	.58	2.74	1986	20	4.39	1983	.00	1996
Sep	1.63	1.26	3.17	1982	27	9.75	1982	.03	1993
Oct	1.98	1.92	1.96	1968	15	5.51	1981	.00+	1988
Nov	1.73	1.72	1.36	1958	15	3.76	1991	.39	1976
Dec	1.20	1.20	1.25	1970	10	3.32	1983	.01	1989
Ann	18.76	18.77	3.17	Sep 1982	27	9.75	Sep 1982	.00+	Aug 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.9	4.1	.4	@
Feb	7.0	3.9	.7	.1
Mar	9.1	5.3	.9	.2
Apr	8.6	5.5	1.3	.2
May	9.0	5.4	1.7	.3
Jun	4.1	2.3	.5	.1
Jul	3.8	2.2	.5	.2
Aug	4.0	1.8	.5	.2
Sep	5.3	3.1	.9	.3
Oct	6.3	4.2	1.2	.5
Nov	7.2	4.3	.9	.1
Dec	7.5	3.5	.4	.0
Ann	79.8	45.6	9.9	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	.31	.43	.62	.79	.96	1.14	1.34	1.58	1.89	2.39	2.86
Feb	.20	.38	.62	.81	1.00	1.20	1.42	1.69	2.04	2.59	3.11
Mar	.76	.94	1.21	1.42	1.63	1.84	2.07	2.34	2.67	3.19	3.66
Apr	.31	.49	.81	1.12	1.44	1.80	2.21	2.71	3.39	4.50	5.56
May	.36	.56	.91	1.24	1.59	1.98	2.42	2.96	3.69	4.88	6.02
Jun	.00	.04	.17	.31	.46	.65	.88	1.16	1.57	2.26	2.94
Jul	.04	.12	.27	.42	.58	.77	.99	1.26	1.64	2.27	2.88
Aug	.01	.04	.13	.25	.39	.57	.80	1.10	1.53	2.28	3.05
Sep	.04	.09	.24	.43	.68	.98	1.38	1.91	2.68	4.04	5.44
Oct	.00	.23	.60	.91	1.24	1.59	1.99	2.47	3.12	4.19	5.22
Nov	.48	.64	.89	1.11	1.32	1.54	1.79	2.08	2.46	3.05	3.60
Dec	.11	.19	.36	.52	.70	.91	1.15	1.46	1.88	2.58	3.27
Ann	11.18	12.55	14.35	15.75	17.03	18.27	19.58	21.05	22.86	25.53	27.88

\+ 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: 1950-2001
(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	5.9	6.1	2	1
Feb	4.0	2.6	1	#
Mar	2.6	.5	#	#
Apr	.5	.0	#	0
May	.1	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.5	.0	#	0
Nov	3.5	1.0	#	#
Dec	4.1	3.4	1	#
Ann	21.2	13.6	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	8.5	1993	2	11.3	1980	23	1993	11	11	1993
Feb	16.0	1989	1	21.0	1989	16	1989	3	6	1989
Mar	5.0	1998	6	9.9	1977	5	1977	3	1	1977
Apr	4.0	1972	14	8.0	1972	3	1972	18	#+	1998
May	2.7	1975	5	2.7	1975	3	1975	5	#	1975
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	.0	0	0	.0	0	0	0	0	0	0
Oct	8.1	1971	28	9.6	1971	6	1971	28	#+	1996
Nov	10.0	1981	26	18.6	1973	9	1973	27	2	1985
Dec	12.0	1972	29	15.7	1971	9	1972	30	4	1972
Ann	16.0	Feb 1989	1	21.0	Feb 1989	23	Jan 1993	11	11	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.2	2.4	.7	.2	.0
Feb	2.2	.9	.4	.1	.1
Mar	1.4	.8	.2	@	.0
Apr	.4	.2	.1	.0	.0
May	@	@	.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	.0	.0
Oct	.2	.1	.1	@	.0
Nov	1.6	1.1	.5	.2	@
Dec	3.0	1.7	.6	.2	@
Ann	13.0	7.2	2.6	.7	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	9.7	5.6	3.8	1.1
Feb	5.1	2.4	1.0	.1
Mar	1.5	.4	.1	.0
Apr	.2	@	.0	.0
May	@	@	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.1	.1	.0
Nov	1.8	.7	.4	.0
Dec	4.4	1.6	.5	.0
Ann	22.8	10.8	5.9	1.2

+ 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	6/06	5/27	5/19	5/13	5/07	5/02	4/25	4/18	4/08
32	5/20	5/10	5/03	4/27	4/22	4/16	4/10	4/03	3/25
28	5/02	4/20	4/12	4/05	3/29	3/23	3/16	3/08	2/24
24	4/03	3/24	3/16	3/10	3/04	2/26	2/20	2/13	2/03
20	3/21	3/10	3/02	2/24	2/17	2/11	2/04	1/27	1/16
16	3/15	3/02	2/21	2/12	2/05	1/28	1/19	1/07	12/17

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	9/21	9/28	10/04	10/08	10/12	10/17	10/21	10/26	11/03
32	10/07	10/13	10/18	10/22	10/26	10/30	11/03	11/08	11/15
28	10/12	10/20	10/25	10/30	11/04	11/08	11/13	11/18	11/26
24	10/30	11/06	11/11	11/15	11/19	11/23	11/27	12/02	12/09
20	11/08	11/14	11/19	11/23	11/26	11/30	12/04	12/09	12/15
16	11/16	11/26	12/02	12/08	12/14	12/19	12/26	1/04	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	199	185	174	165	157	149	140	130	116
32	229	215	204	195	187	178	169	159	144
28	263	248	237	227	218	210	200	189	174
24	299	285	276	267	259	252	243	233	220
20	321	307	298	289	282	274	265	256	242
16	>365	>365	329	316	306	297	288	278	265

***** 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	1073	837	648	416	189	37	0	2	83	342	717	1020	5364
60	918	697	495	286	101	12	0	0	33	213	567	865	4187
57	825	613	406	220	63	5	0	0	16	149	479	772	3548
55	763	557	350	181	44	3	0	0	10	113	422	710	3153
50	617	428	222	102	14	0	0	0	2	49	290	556	2280
32	186	89	9	0	0	0	0	0	0	0	23	121	428

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	136	176	384	585	889	1185	1480	1420	1042	691	297	124	8409
55	0	0	12	76	219	497	767	707	362	91	6	0	2737
57	0	0	6	54	177	440	705	645	309	65	3	0	2404
60	0	0	2	31	122	357	612	552	236	36	0	0	1948
65	0	0	0	11	55	232	458	399	135	10	0	0	1300
70	0	0	0	2	19	133	306	254	64	2	0	0	780

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	13	48	160	354	644	948	1230	1172	810	444	116	21	13	61	221	575	1219	2167	3397	4569	5379	5823	5939	5960
45	0	13	74	227	493	798	1075	1017	660	304	51	6	0	13	87	314	807	1605	2680	3697	4357	4661	4712	4718
50	0	1	24	126	346	648	920	862	512	181	13	0	0	1	25	151	497	1145	2065	2927	3439	3620	3633	3633
55	0	0	3	62	225	500	765	707	371	87	1	0	0	0	3	65	290	790	1555	2262	2633	2720	2721	2721
60	0	0	0	23	120	360	610	554	243	32	0	0	0	0	0	23	143	503	1113	1667	1910	1942	1942	1942
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	2	16	78	186	382	621	831	797	518	235	54	8	2	18	96	282	664	1285	2116	2913	3431	3666	3720	3728

(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