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: ROOSEVELT RADIO, UT **COOP ID: 427395**

Climate Division: UT 6 **NWS Call Sign: U66** **Elevation: 5,050 Feet** **Lat: 40˚17N** **Lon: 109˚58W**

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	29.7	2.8	16.3	60+	1971	31	28.9	1981	-32+	1952	3	.2	1973	1511	0	.0	.0	1.2	17.3	30.9	11.4
Feb	37.1	9.1	23.1	68	1972	28	35.5	1995	-47	1989	6	7.7	1973	1174	0	.0	.0	4.8	9.4	28.0	6.2
Mar	53.3	21.7	37.5	76+	1966	30	46.4	1986	-10	1962	1	30.5	1979	852	0	.0	.0	20.9	.8	27.9	.4
Apr	64.7	29.7	47.2	88+	1985	29	53.4	1992	8+	1975	2	40.5	1975	535	0	.0	.0	27.9	.0	16.8	.0
May	74.3	38.5	56.4	95	2000	29	61.2	2000	18	1972	1	51.8	1975	276	9	.0	.5	30.8	.0	3.4	.0
Jun	85.1	45.7	65.4	102	1988	25	70.2	1977	27+	2001	13	59.5	1975	79	91	.2	10.9	30.0	.0	.1	.0
Jul	90.9	51.4	71.2	105+	1960	26	74.8	1998	37+	1993	5	67.3	1993	8	197	1.0	20.9	31.0	.0	.0	.0
Aug	89.2	49.8	69.5	105	1958	12	74.0	2000	32+	1992	26	65.9	1975	19	157	.5	15.9	31.0	.0	.1	.0
Sep	79.4	40.7	60.1	98	1950	1	65.9	1998	21+	1965	18	54.3	1971	177	29	.0	3.2	29.9	.0	2.8	.0
Oct	65.3	29.9	47.6	87	1957	1	52.8	1988	2	1971	30	42.6	1982	539	0	.0	.0	29.0	.2	17.1	.0
Nov	46.5	18.0	32.3	70+	1958	8	37.1	1998	-6+	1976	28	23.8	1971	983	0	.0	.0	12.8	2.6	28.3	.3
Dec	33.4	6.4	19.9	63	1958	5	31.3	1980	-40+	1990	22	3.8	1978	1397	0	.0	.0	1.8	12.4	30.9	6.2
Ann	62.4	28.6	45.5	105+	Jul 1960	26	74.8	Jul 1998	-47	Feb 1989	6	.2	Jan 1973	7550	483	1.7	51.4	251.1	42.7	186.3	24.5

\+ 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	.55	.40	1.48	1988	18	1.87	1988	.01	1972
Feb	.46	.41	.63	1980	18	1.03	1976	.00+	1974
Mar	.54	.49	.92	1979	29	1.70	1979	.00	1997
Apr	.70	.55	.85	1994	27	2.05	1999	.00	1992
May	.89	.81	.82	1975	20	2.89	1995	.00	1974
Jun	.44	.27	1.45	1969	16	2.34	1998	.00+	1987
Jul	.48	.37	.94	1987	29	2.15	1987	.01	1978
Aug	.66	.61	1.88	1955	25	1.69	1997	.00	1985
Sep	.76	.61	.84	1954	26	3.09	1997	.00+	1979
Oct	1.03	.92	1.12	1994	3	3.11	1994	.03	1988
Nov	.47	.38	.97	1957	3	1.67	1978	.00	1976
Dec	.36	.26	1.32	1951	30	1.11	1972	.00+	1989
Ann	7.34	7.58	1.88	Aug 1955	25	3.11	Oct 1994	.00+	Mar 1997

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.8	2.0	.1	@
Feb	4.7	1.7	.1	.0
Mar	5.3	1.9	.1	.0
Apr	5.5	2.1	.4	.0
May	6.1	2.7	.4	.0
Jun	3.5	1.3	.1	@
Jul	4.8	1.7	.1	.0
Aug	5.3	2.1	.2	.0
Sep	5.6	2.5	.2	.0
Oct	5.3	2.9	.4	.1
Nov	4.8	1.7	.1	.0
Dec	3.9	1.4	.0	.0
Ann	59.6	24.0	2.2	.1

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	.07	.13	.21	.29	.39	.51	.66	.88	1.24	1.60
Feb	.00	.04	.12	.19	.26	.35	.45	.57	.73	1.01	1.28
Mar	.02	.06	.13	.21	.30	.40	.52	.67	.87	1.22	1.56
Apr	.03	.09	.20	.30	.41	.53	.68	.86	1.10	1.51	1.91
May	.07	.17	.31	.44	.58	.72	.89	1.10	1.38	1.83	2.26
Jun	.00	.00	.05	.11	.19	.28	.39	.54	.74	1.10	1.46
Jul	.03	.05	.11	.18	.25	.34	.45	.58	.78	1.10	1.43
Aug	.06	.14	.24	.34	.44	.55	.67	.82	1.02	1.34	1.65
Sep	.00	.08	.22	.34	.47	.60	.76	.94	1.20	1.62	2.03
Oct	.07	.13	.26	.40	.56	.74	.96	1.24	1.63	2.29	2.95
Nov	.01	.05	.11	.18	.25	.34	.44	.57	.75	1.06	1.36
Dec	.00	.00	.10	.17	.23	.29	.37	.46	.57	.76	.94
Ann	4.16	4.72	5.47	6.06	6.59	7.12	7.68	8.30	9.08	10.23	11.24

\+ 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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Climate Division: UT 6 **NWS Call Sign: U66** **Elevation: 5,050 Feet** **Lat: 40°17N** **Lon: 109°58W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	7.5	7.2	3	2
Feb	3.9	1.0	4	#
Mar	2.0	.0	#	#
Apr	.5	.0	#	0
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.3	.0	#	0
Nov	2.4	.1	#	0
Dec	4.0	3.0	1	#
Ann	20.6	11.3	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	1988	18	18.5	1996	17	1973	19	14	1984
Feb	9.0	1976	5	19.0	1989	18	1984	25	15	1984
Mar	8.0	1975	26	14.0	1975	15	1984	1	5	1984
Apr	4.0	1979	10	4.0	1979	1	1976	27	#	1976
May	#	1988	6	#+	1988	0	0	0	0	0
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	2.0	1984	17	2.5	1996	2	1991	28	#+	1991
Nov	6.0	1978	12	18.0	1978	9	1983	25	3	1978
Dec	6.0	1998	19	15.0	1978	16	1983	27	10	1983
Ann	9.0	Feb 1976	5	19.0	Feb 1989	18	Feb 1984	25	15	Feb 1984

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.2	2.7	.8	.4	.0
Feb	1.8	1.6	.4	.2	.0
Mar	.7	.7	.2	.1	.0
Apr	.2	.2	.1	.0	.0
May	.0	.0	.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	.2	.0	.0	.0
Nov	1.0	.8	.3	.2	.0
Dec	2.3	1.6	.5	.1	.0
Ann	9.4	7.8	2.3	1.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	6.4	6.2	5.5	3.2
Feb	6.6	6.2	4.8	3.3
Mar	1.8	1.1	.8	.4
Apr	@	.0	.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	.9	.7	.6	.0
Dec	7.6	4.8	3.7	1.2
Ann	23.4	19.0	15.4	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	6/17	6/12	6/08	6/05	6/02	5/30	5/27	5/24	5/19
32	5/31	5/26	5/23	5/20	5/18	5/15	5/13	5/09	5/05
28	5/16	5/11	5/08	5/05	5/02	4/30	4/27	4/23	4/19
24	5/05	5/01	4/27	4/24	4/21	4/18	4/15	4/12	4/07
20	4/23	4/18	4/14	4/11	4/08	4/05	4/02	3/29	3/24
16	4/19	4/11	4/05	3/31	3/26	3/22	3/17	3/11	3/03

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	9/06	9/10	9/13	9/15	9/18	9/20	9/23	9/26	9/30
32	9/11	9/16	9/19	9/22	9/25	9/28	10/01	10/04	10/09
28	9/21	9/27	10/01	10/04	10/07	10/10	10/14	10/18	10/23
24	10/02	10/08	10/12	10/15	10/19	10/22	10/26	10/30	11/04
20	10/15	10/20	10/24	10/27	10/29	11/01	11/04	11/08	11/13
16	10/26	10/30	11/02	11/05	11/07	11/10	11/13	11/16	11/20

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	126	119	115	110	107	103	99	94	88
32	145	140	136	133	130	127	123	120	114
28	182	173	167	162	157	152	147	141	133
24	204	196	190	185	180	175	170	164	156
20	228	219	213	208	203	199	193	187	179
16	255	245	237	231	225	220	214	206	196

***** 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	1511	1174	852	535	276	79	8	19	177	539	983	1397	7550
60	1356	1034	697	392	152	26	0	2	83	387	833	1242	6204
57	1265	960	604	311	96	11	0	0	46	300	743	1149	5485
55	1206	907	545	261	67	5	0	0	29	247	683	1087	5037
50	1061	776	402	155	21	0	0	0	6	133	533	932	4019
32	574	377	71	4	0	0	0	0	0	1	110	431	1568

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	87	127	242	459	757	1002	1212	1162	842	485	117	57	6549
55	5	14	3	26	110	317	499	449	181	18	0	0	1622
57	2	11	0	16	77	263	437	387	138	9	0	0	1340
60	0	0	0	7	41	188	345	296	85	3	0	0	965
65	0	0	0	0	9	91	197	157	29	0	0	0	483
70	0	0	0	0	1	32	81	58	6	0	0	0	178

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	5	77	265	549	803	1011	962	649	298	26	0	0	5	82	347	896	1699	2710	3672	4321	4619	4645	4645
45	0	0	22	146	395	653	856	807	499	171	6	0	0	0	22	168	563	1216	2072	2879	3378	3549	3555	3555
50	0	0	0	64	250	503	701	652	355	77	0	0	0	0	0	64	314	817	1518	2170	2525	2602	2602	2602
55	0	0	0	19	133	356	546	497	217	20	0	0	0	0	0	19	152	508	1054	1551	1768	1788	1788	1788
60	0	0	0	2	51	219	392	342	107	1	0	0	0	0	0	2	53	272	664	1006	1113	1114	1114	1114
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	15	103	238	391	512	624	603	451	260	47	0	0	15	118	356	747	1259	1883	2486	2937	3197	3244	3244

(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