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: LOGAN RADIO KVNU, UT **COOP ID: 425182**

Climate Division: UT 3 **NWS Call Sign:** **Elevation: 4,470 Feet** **Lat: 41˚44N** **Lon: 111˚51W**

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	30.9	12.7	21.8	60	1967	21	31.2	2000	-25	1973	7	10.2	1979	1339	0	.0	.0	.8	15.2	30.1	6.7
Feb	36.8	16.8	26.8	67	1963	5	35.9	1986	-29	1985	2	13.3	1985	1071	0	.0	.0	3.2	8.8	26.8	3.7
Mar	48.6	26.5	37.6	74	1986	29	44.8	1986	-12	1966	5	23.7	1985	851	0	.0	.0	14.5	1.9	25.0	.4
Apr	58.6	33.8	46.2	84+	1962	19	52.2	1992	10	1967	28	40.0	1975	565	0	.0	.0	23.8	@	14.6	.0
May	68.2	41.8	55.0	92+	1960	10	59.7	1992	20	1960	24	49.7	1975	318	8	.0	@	29.8	.0	2.9	.0
Jun	79.0	48.6	63.8	99	1961	21	70.0	1977	29	1981	16	58.2	1998	114	77	.0	3.5	30.0	.0	.2	.0
Jul	88.3	54.9	71.6	104	1960	21	74.7	1989	39	1968	2	62.2	1993	18	222	.1	14.9	31.0	.0	.0	.0
Aug	87.1	53.4	70.3	102	1979	5	73.6	1971	34+	1960	23	66.0	1993	17	179	.2	12.1	31.0	.0	.0	.0
Sep	76.2	44.2	60.2	99	1958	11	65.7	1990	22+	1965	18	55.2	1986	181	36	.0	1.4	29.7	.0	1.8	.0
Oct	63.1	33.5	48.3	86+	1960	2	53.9	1988	6	1971	30	42.5	1984	519	0	.0	.0	27.4	.1	13.8	.0
Nov	45.4	24.2	34.8	71+	1960	12	40.9+	1999	-10+	1992	25	27.6	1985	906	0	.0	.0	10.5	2.7	26.3	.5
Dec	33.3	14.4	23.9	67	1995	2	33.4	1995	-30	1990	23	14.0	1990	1275	0	.0	.0	1.8	13.7	29.9	4.0
Ann	59.6	33.7	46.7	104	Jul 1960	21	74.7	Jul 1989	-30	Dec 1990	23	10.2	Jan 1979	7174	522	.3	31.9	233.5	42.4	171.4	15.3

\+ 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: 1956-2001

(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	1.34	1.12	1.17	1997	23	3.74	1997	.18	1985
Feb	1.42	1.28	1.51	1986	18	3.60	1986	.15	1988
Mar	1.86	1.70	1.39	1994	23	3.74	1995	.45	1979
Apr	1.98	1.98	1.14	1998	10	5.16	1986	.19	1977
May	2.11	1.80	1.10	1957	19	4.34	1987	.18	1972
Jun	1.26	1.13	2.20	1980	3	3.84	1998	.00	1996
Jul	.89	1.03	1.26	1997	12	2.20	1993	.00	1988
Aug	.93	.69	2.48	1977	19	4.76	1977	.00	1985
Sep	1.55	1.16	2.15	1982	27	5.38	1973	.00	1974
Oct	1.78	1.98	1.75	1961	7	4.09	1981	.00+	1988
Nov	1.38	1.12	1.49	1958	14	4.49	1985	.03	1976
Dec	1.36	1.17	1.12	1959	25	4.71	1983	.02	1986
Ann	17.86	17.78	2.48	Aug 1977	19	5.38	Sep 1973	.00+	Jun 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	4.0	.4	.1
Feb	9.3	4.4	.4	.1
Mar	9.7	5.5	1.0	.1
Apr	10.0	5.8	.8	.1
May	10.5	5.9	.8	.1
Jun	5.9	3.3	.7	.1
Jul	5.0	2.4	.4	@
Aug	4.8	2.4	.5	.1
Sep	6.2	3.5	.9	.2
Oct	7.0	4.3	1.2	.2
Nov	9.0	4.4	.5	@
Dec	9.1	4.6	.4	@
Ann	96.4	50.5	8.0	1.1

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	.24	.36	.56	.74	.92	1.13	1.35	1.63	2.00	2.59	3.15
Feb	.32	.46	.66	.85	1.04	1.24	1.46	1.73	2.08	2.63	3.16
Mar	.59	.77	1.03	1.25	1.47	1.69	1.93	2.22	2.59	3.16	3.69
Apr	.36	.54	.83	1.10	1.38	1.67	2.01	2.42	2.96	3.83	4.67
May	.54	.74	1.05	1.32	1.58	1.86	2.18	2.55	3.03	3.79	4.51
Jun	.05	.15	.33	.51	.71	.94	1.21	1.55	2.02	2.80	3.57
Jul	.02	.07	.17	.29	.44	.60	.81	1.07	1.44	2.08	2.71
Aug	.02	.06	.18	.30	.45	.63	.85	1.13	1.52	2.21	2.89
Sep	.06	.18	.39	.62	.86	1.14	1.48	1.90	2.47	3.44	4.39
Oct	.00	.42	.79	1.07	1.33	1.60	1.89	2.22	2.67	3.37	4.03
Nov	.24	.36	.56	.75	.94	1.15	1.39	1.68	2.06	2.69	3.28
Dec	.13	.23	.42	.61	.81	1.04	1.31	1.65	2.12	2.89	3.65
Ann	10.75	12.04	13.74	15.06	16.25	17.42	18.65	20.02	21.72	24.21	26.41

\+ 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: 1956-2001
(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	9.2	11.8	4	3	12.0	1997	23	14.8	1993	18	1989	17	14	1989	5.0	3.2	.9	.4	.1	18.9	13.9	10.1	3.1
Feb	6.9	8.3	2	1	8.0	1981	1	12.5	1996	16	1989	3	9	1989	2.9	2.1	.9	.4	.0	8.7	4.1	1.9	.1
Mar	3.9	3.0	#	#	9.0	1976	2	17.0	1976	8	1993	1	4	1975	1.8	1.5	.4	.1	.0	1.9	.7	.2	.0
Apr	1.4	.0	#	#	6.0	1993	13	8.0	1999	3	1991	12	#+	1999	.8	.6	.2	@	.0	.4	.1	.0	.0
May	#	.0	#	0	#	2000	12	#+	2000	1	1975	21	#+	2000	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	#	0	.3	1978	18	.3	1978	#+	2000	24	#+	2000	@	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.4	.0	#	0	4.0	1984	27	4.0	1984	3+	1996	26	#+	1997	.4	.2	.1	.0	.0	.3	@	.0	.0
Nov	2.1	.3	#	#	6.0	1992	23	11.0	1992	10	1985	19	2	1992	1.5	1.0	.2	.1	.0	2.6	.7	.2	.0
Dec	5.7	5.1	2	2	8.0	1987	23	18.5	1990	14	1990	26	8	1987	4.0	3.0	1.2	.5	.0	14.1	8.8	4.2	1.0
Ann	29.6	28.5	N/A	N/A	12.0	Jan 1997	23	18.5	Dec 1990	18	Jan 1989	17	14	Jan 1989	16.4	11.6	3.9	1.5	.1	46.9	28.3	16.6	4.2

+ 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	6/19	6/12	6/08	6/04	6/01	5/28	5/24	5/20	5/13
32	5/31	5/25	5/21	5/17	5/14	5/11	5/07	5/03	4/27
28	5/10	5/04	4/30	4/26	4/23	4/19	4/16	4/12	4/06
24	4/22	4/15	4/10	4/06	4/02	3/29	3/25	3/20	3/13
20	4/14	4/06	3/31	3/26	3/21	3/16	3/11	3/05	2/25
16	3/25	3/18	3/12	3/08	3/03	2/27	2/22	2/17	2/10

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	9/01	9/06	9/10	9/14	9/17	9/20	9/24	9/28	10/03
32	9/17	9/21	9/24	9/26	9/29	10/01	10/03	10/06	10/10
28	9/28	10/03	10/06	10/09	10/12	10/15	10/18	10/21	10/26
24	10/07	10/13	10/17	10/21	10/24	10/27	10/31	11/04	11/10
20	10/22	10/28	11/01	11/04	11/08	11/11	11/14	11/18	11/24
16	11/05	11/10	11/14	11/17	11/20	11/23	11/26	11/29	12/04

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	134	125	119	113	108	102	97	90	81
32	156	149	145	141	137	133	129	124	117
28	195	187	181	176	171	167	162	156	148
24	230	221	215	209	204	199	194	188	179
20	259	250	243	236	231	225	219	212	202
16	290	280	273	266	261	255	249	241	231

***** 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	1339	1071	851	565	318	114	18	17	181	519	906	1275	7174
60	1184	931	696	416	189	47	3	2	89	366	756	1120	5799
57	1091	847	611	333	127	24	1	0	51	279	666	1027	5057
55	1029	791	553	279	93	14	0	0	33	226	606	965	4589
50	884	659	415	163	33	2	0	0	8	115	463	810	3552
32	406	248	87	4	0	0	0	0	0	1	91	316	1153

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	91	102	259	429	714	954	1227	1185	846	505	174	64	6550
55	0	0	12	13	93	277	514	472	189	17	0	0	1587
57	0	0	8	8	65	227	453	411	147	9	0	0	1328
60	0	0	0	1	34	161	362	320	94	3	0	0	975
65	0	0	0	0	8	77	222	179	36	0	0	0	522
70	0	0	0	0	1	27	112	74	9	0	0	0	223

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	8	69	216	466	713	976	938	606	284	40	4	0	8	77	293	759	1472	2448	3386	3992	4276	4316	4320
45	0	0	21	116	318	564	821	783	458	161	9	0	0	0	21	137	455	1019	1840	2623	3081	3242	3251	3251
50	0	0	1	47	194	418	666	628	318	72	0	0	0	0	1	48	242	660	1326	1954	2272	2344	2344	2344
55	0	0	0	16	98	278	511	474	192	23	0	0	0	0	0	16	114	392	903	1377	1569	1592	1592	1592
60	0	0	0	1	38	158	356	320	94	3	0	0	0	0	0	1	39	197	553	873	967	970	970	970
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	6	59	156	301	454	614	602	408	225	42	4	0	6	65	221	522	976	1590	2192	2600	2825	2867	2871

(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