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: PANGUITCH, UT **COOP ID: 426601**

Climate Division: UT 4 **NWS Call Sign:** **Elevation: 6,610 Feet** **Lat: 37˚49N** **Lon: 112˚26W**

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	40.5	9.0	24.8	63	1990	12	32.0	1986	-30+	1963	13	16.4	1989	1248	0	.0	.0	4.9	4.6	30.8	6.8
Feb	45.2	14.1	29.7	69	1986	26	36.5	1995	-31	1989	7	22.7	1985	990	0	.0	.0	9.1	2.4	27.9	2.8
Mar	53.2	20.7	37.0	76	1997	21	43.2	1989	-9+	1952	14	31.7	1977	869	0	.0	.0	19.0	.5	29.6	.2
Apr	61.9	25.4	43.7	85	2000	28	50.4	2000	1	1955	3	36.4	1975	640	0	.0	.0	25.5	.0	25.8	.0
May	71.7	33.2	52.5	94+	2000	28	58.8	2000	12+	1953	1	48.3	1975	391	2	.0	.2	30.4	.0	15.7	.0
Jun	83.1	39.7	61.4	98	1994	25	65.8	1994	21+	1950	9	57.0	1995	140	33	.0	3.6	30.0	.0	3.8	.0
Jul	88.4	46.8	67.6	101+	1998	18	70.9	1990	29	1948	8	64.4	1987	26	106	.1	9.4	31.0	.0	.4	.0
Aug	85.3	45.5	65.4	99	2000	1	68.7	1994	25	1992	27	62.4	1976	50	63	.0	4.7	31.0	.0	.6	.0
Sep	77.8	37.1	57.5	94	1995	1	61.4	1990	17	1988	19	53.1	1986	234	7	.0	.7	30.0	.0	8.5	.0
Oct	65.9	26.5	46.2	85	1980	1	50.1	1988	-10	1971	30	40.8	1984	582	0	.0	.0	28.6	.1	25.2	@
Nov	50.7	17.1	33.9	75	1949	4	39.0	1999	-20	1964	17	26.7	2000	933	0	.0	.0	17.1	1.6	28.6	1.2
Dec	41.9	9.6	25.8	63+	1950	10	32.7	1980	-30	1990	23	19.3	1971	1216	0	.0	.0	6.6	4.7	30.8	5.5
Ann	63.8	27.1	45.5	101+	Jul 1998	18	70.9	Jul 1990	-31	Feb 1989	7	16.4	Jan 1989	7319	211	.1	18.6	263.2	13.9	227.7	16.5

\+ 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	.58	.39	.87	1993	30	2.45	1993	.09	1981
Feb	.66	.49	1.03	1976	9	2.46	1993	.02	1972
Mar	.74	.60	1.15	1995	11	2.29	1995	.00	1997
Apr	.61	.50	1.10	1988	21	2.39	1988	.04	1977
May	.77	.65	.78	1968	12	2.33	1992	.00	1974
Jun	.53	.34	.95	1999	4	2.23	1972	.00+	1987
Jul	1.18	1.09	1.85	1964	14	2.58	1984	.13	1995
Aug	1.87	1.71	1.87	1984	18	5.17	1987	.00	1985
Sep	.98	.81	1.52	1998	11	4.41	1997	.00	1993
Oct	1.03	.83	1.21	1992	25	2.77	1998	.00+	1999
Nov	.69	.47	1.17	1978	2	3.23	1978	.11	1989
Dec	.43	.27	.74	1965	30	1.64	1971	.00+	1989
Ann	10.07	9.97	1.87	Aug 1984	18	5.17	Aug 1987	.00+	Oct 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.4	2.0	.1	.0
Feb	4.7	2.1	.2	@
Mar	6.3	2.8	.1	@
Apr	4.8	2.1	.2	@
May	6.5	2.6	.2	.0
Jun	3.6	1.6	.3	.0
Jul	7.3	3.7	.4	.1
Aug	9.7	5.6	.8	.2
Sep	5.6	2.7	.4	.1
Oct	5.6	2.9	.5	.1
Nov	4.1	2.0	.3	@
Dec	4.3	1.6	.1	.0
Ann	67.9	31.7	3.6	.5

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	.06	.10	.18	.26	.35	.45	.56	.70	.90	1.22	1.54
Feb	.04	.09	.17	.26	.36	.48	.62	.80	1.05	1.47	1.89
Mar	.05	.13	.24	.35	.47	.59	.74	.91	1.15	1.54	1.92
Apr	.05	.09	.17	.26	.35	.46	.59	.75	.97	1.34	1.70
May	.02	.08	.19	.29	.42	.56	.72	.94	1.23	1.72	2.21
Jun	.00	.00	.06	.14	.24	.35	.48	.66	.90	1.30	1.71
Jul	.26	.37	.54	.70	.85	1.02	1.21	1.43	1.73	2.20	2.64
Aug	.23	.47	.78	1.05	1.32	1.60	1.92	2.31	2.81	3.62	4.39
Sep	.01	.05	.15	.28	.43	.62	.86	1.17	1.61	2.38	3.17
Oct	.00	.04	.18	.33	.50	.70	.95	1.26	1.69	2.44	3.19
Nov	.08	.13	.23	.32	.43	.54	.68	.85	1.07	1.45	1.82
Dec	.00	.02	.08	.14	.22	.30	.40	.52	.70	1.00	1.29
Ann	6.63	7.28	8.11	8.76	9.33	9.90	10.48	11.13	11.92	13.08	14.10

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	8.1	5.1	2	1
Feb	3.2	1.3	2	#
Mar	1.3	.0	#	0
Apr	.7	.0	#	0
May	.4	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.2	.0	#	0
Nov	1.4	.5	1	0
Dec	3.1	1.9	1	#
Ann	18.4	8.8	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	12.0	1993	30	28.3	1993	15	1993	31	7	1979
Feb	9.0	1990	19	15.3	1990	15	1993	1	9	1979
Mar	3.0	1989	3	6.0	2000	6	1993	2	1	1993
Apr	7.5	1997	2	9.0	1997	8	1997	2	#	1997
May	8.0	1979	8	8.0	1979	4	1983	11	#+	1983
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	4.0	1998	16	4.0	1998	4	1996	27	#+	2000
Nov	9.0	1991	15	9.0	1991	11	1994	19	6	1985
Dec	9.0	1992	28	14.0	1992	8	1978	18	4	1978
Ann	12.0	Jan 1993	30	28.3	Jan 1993	15+	Feb 1993	1	9	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.7	1.8	.7	.2	.1
Feb	1.7	.9	.4	.1	.0
Mar	1.2	.5	.1	.0	.0
Apr	.3	.2	.1	.1	.0
May	.1	.1	.1	.1	.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
Nov	.7	.4	.2	.1	.0
Dec	1.6	.9	.2	.2	.0
Ann	8.5	5.0	1.8	.8	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	4.6	2.7	2.4	.6
Mar	1.0	.5	.2	.0
Apr	.1	.1	.1	.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	.2	.0	.0	.0
Nov	1.1	.5	.2	.0
Dec	1.7	.3	.3	.0
Ann	-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	7/20	7/14	7/10	7/06	7/02	6/29	6/25	6/21	6/15
32	7/09	7/02	6/27	6/22	6/18	6/13	6/09	6/04	5/27
28	6/22	6/16	6/12	6/08	6/05	6/02	5/29	5/25	5/19
24	6/01	5/27	5/23	5/20	5/17	5/14	5/11	5/08	5/03
20	5/19	5/14	5/10	5/07	5/04	5/01	4/28	4/25	4/20
16	5/02	4/27	4/22	4/19	4/15	4/12	4/08	4/04	3/29

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	8/08	8/14	8/19	8/22	8/26	8/29	9/02	9/06	9/12
32	8/23	8/29	9/03	9/06	9/10	9/13	9/17	9/22	9/28
28	9/04	9/09	9/12	9/15	9/18	9/21	9/24	9/27	10/02
24	9/15	9/20	9/23	9/26	9/29	10/02	10/05	10/09	10/14
20	9/24	9/29	10/03	10/06	10/09	10/12	10/15	10/19	10/24
16	10/11	10/16	10/20	10/23	10/26	10/29	11/01	11/04	11/10

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	70	64	58	53	48	43	36	28
32	116	105	97	90	84	77	70	62	51
28	128	120	114	109	104	100	95	89	81
24	154	147	142	138	134	130	126	121	115
20	181	173	167	162	157	153	148	142	134
16	214	207	202	197	193	188	184	178	171

***** 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	1248	990	869	640	391	140	26	50	234	582	933	1216	7319
60	1093	850	714	492	250	57	2	8	116	428	783	1061	5854
57	1000	766	621	406	177	27	0	2	65	338	693	968	5063
55	938	710	560	352	136	15	0	0	41	280	633	906	4571
50	783	570	411	226	60	2	0	0	9	155	484	751	3451
32	273	138	48	11	0	0	0	0	0	1	73	235	779

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	48	72	201	360	634	882	1104	1036	763	442	130	42	5714
55	0	0	0	11	57	207	391	323	114	8	0	0	1111
57	0	0	0	6	36	160	329	262	78	3	0	0	874
60	0	0	0	1	16	99	238	175	39	1	0	0	569
65	0	0	0	0	2	33	106	63	7	0	0	0	211
70	0	0	0	0	0	6	27	10	0	0	0	0	43

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	45	150	369	610	823	765	513	226	31	0	0	5	50	200	569	1179	2002	2767	3280	3506	3537	3537
45	0	0	6	59	227	460	668	610	365	114	4	0	0	0	6	65	292	752	1420	2030	2395	2509	2513	2513
50	0	0	0	18	113	312	513	455	226	36	0	0	0	0	0	18	131	443	956	1411	1637	1673	1673	1673
55	0	0	0	1	39	179	360	300	107	3	0	0	0	0	0	1	40	219	579	879	986	989	989	989
60	0	0	0	0	5	76	210	154	33	0	0	0	0	0	0	0	5	81	291	445	478	478	478	478
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	5	27	89	186	324	462	546	519	409	257	81	12	5	32	121	307	631	1093	1639	2158	2567	2824	2905	2917

(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