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: ST GEORGE, UT **COOP ID: 427516**

Climate Division: UT 2 **NWS Call Sign:** **Elevation: 2,770 Feet** **Lat: 37˚06N** **Lon: 113˚34W**

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	54.6	28.9	41.8	72+	1931	29	47.7	1986	-11+	1937	22	35.0	1973	720	0	.0	.0	23.8	.4	22.7	.0
Feb	61.4	33.2	47.3	84+	1986	25	54.7	1995	5	1933	10	39.0	1979	496	0	.0	.0	25.7	.3	13.1	.0
Mar	68.9	39.4	54.2	89+	1956	24	59.8	1994	15	1966	4	48.4	1973	352	16	.0	.0	30.6	.0	4.3	.0
Apr	77.4	45.6	61.5	100	1946	25	68.4	2000	24	1945	4	53.2	1975	176	71	.0	2.3	30.0	.0	.7	.0
May	86.9	54.7	70.8	105+	1984	29	77.6	2000	31	1948	10	64.6	1977	49	229	1.4	11.9	31.0	.0	.0	.0
Jun	97.5	63.1	80.3	115+	1970	25	86.8	1994	39	1955	2	76.3	1998	2	461	12.5	25.8	30.0	.0	.0	.0
Jul	102.8	69.8	86.3	117	1985	5	90.5+	1996	49	1932	14	83.8	1987	0	660	23.0	30.5	31.0	.0	.0	.0
Aug	100.4	68.3	84.4	112+	1940	11	89.5	1994	45	1932	31	79.7	1972	0	599	18.1	29.7	31.0	.0	.0	.0
Sep	93.3	59.5	76.4	109+	1995	1	80.5	1979	35+	1934	26	70.5	1972	5	347	4.5	21.7	30.0	.0	.0	.0
Oct	80.9	46.6	63.8	99+	1963	2	69.3	1988	20	1971	30	57.6	1971	126	87	.0	4.8	30.9	.0	.7	.0
Nov	64.6	35.1	49.9	88	1945	2	55.4	1999	14	1938	24	44.6	1972	456	1	.0	.0	28.8	@	10.8	.0
Dec	55.0	28.5	41.8	75+	1941	3	46.8	1980	3+	1940	16	33.8	1990	721	0	.0	.0	24.5	.1	23.9	.0
Ann	78.6	47.7	63.2	117	Jul 1985	5	90.5+	Jul 1996	-11+	Jan 1937	22	33.8	Dec 1990	3103	2471	59.5	126.7	347.3	.8	76.2	.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: 1928-2001

(3) Derived from 1971-2000 serially complete daily data

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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	1.29	.91	2.08	1997	3	4.74	1993	.00+	1976
Feb	1.10	.84	1.10	1980	14	3.11	1998	.00+	1974
Mar	1.20	.89	1.33	1995	6	4.38	1978	.00+	1997
Apr	.52	.35	.76	1988	21	2.86	1988	.00+	1992
May	.40	.22	1.52	1958	11	1.97	1977	.00+	1974
Jun	.22	.09	1.15	1932	4	1.34	1999	.00+	2000
Jul	.55	.48	.98	1955	25	1.54	1999	.00+	2000
Aug	.75	.63	1.30	1945	12	2.32	1983	.00+	1985
Sep	.63	.46	1.63	1972	19	2.72	1997	.00+	1993
Oct	.74	.63	1.10	1930	10	2.43	1974	.00+	1995
Nov	.79	.69	1.01	1996	22	2.44	1982	.00	1992
Dec	.58	.38	1.01	1942	25	2.48	1984	.00+	1998
Ann	8.77	8.16	2.08	Jan 1997	3	4.74	Jan 1993	.00+	Jul 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.9	3.5	.7	.1
Feb	6.2	2.9	.5	.1
Mar	6.7	3.8	.5	@
Apr	3.9	1.6	.2	.0
May	3.4	1.1	.2	@
Jun	1.7	.6	@	.0
Jul	3.0	1.7	.2	.0
Aug	4.1	2.1	.4	.1
Sep	2.8	1.7	.3	.1
Oct	4.4	2.3	.4	.0
Nov	3.7	2.1	.4	@
Dec	4.3	1.9	.2	.0
Ann	50.1	25.3	4.0	.4

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	.00	.08	.27	.47	.68	.93	1.22	1.58	2.09	2.94	3.78
Feb	.00	.13	.34	.52	.69	.89	1.11	1.38	1.74	2.33	2.90
Mar	.00	.06	.22	.40	.60	.83	1.11	1.47	1.97	2.83	3.68
Apr	.00	.02	.08	.16	.24	.34	.47	.63	.86	1.25	1.65
May	.00	.01	.06	.12	.19	.27	.36	.49	.66	.97	1.27
Jun	.00	.00	.00	.00	.03	.08	.15	.25	.38	.63	.88
Jul	.00	.00	.12	.21	.30	.41	.54	.69	.90	1.25	1.59
Aug	.00	.05	.17	.29	.42	.56	.73	.93	1.22	1.70	2.17
Sep	.00	.00	.00	.12	.25	.39	.56	.78	1.09	1.61	2.12
Oct	.00	.03	.13	.24	.36	.50	.68	.90	1.22	1.76	2.30
Nov	.02	.08	.19	.30	.43	.57	.74	.96	1.27	1.78	2.28
Dec	.00	.00	.04	.14	.25	.38	.53	.73	1.00	1.45	1.92
Ann	4.61	5.33	6.29	7.06	7.76	8.46	9.20	10.04	11.08	12.64	14.03

\+ 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: 1928-2001
(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	1.6	.0	#	0
Feb	.3	.0	#	0
Mar	#	.0	0	0
Apr	.0	.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
Nov	.0	.0	#	0
Dec	.1	.0	#	0
Ann	2.1	.0	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	10.0	1974	5	15.3	1974	5	1997	14	#+	1997
Feb	3.0	1989	4	3.8	1989	5	1979	2	#+	1999
Mar	#	1990	13	#+	1990	0	0	0	0	0
Apr	.3	1999	9	.3	1999	0	0	0	0	0
May	.0	0	0	.0	0	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	1.0	1971	29	1.3	1971	1	1971	29	#	1971
Nov	.5	1973	22	.5+	1985	#	1988	25	#	1988
Dec	1.0	1971	13	1.0+	1972	1	1972	11	#+	1998
Ann	10.0	Jan 1974	5	15.3	Jan 1974	5+	Jan 1997	14	#+	Feb 1999

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.4	.4	.2	.1	@
Feb	.3	.2	@	.0	.0
Mar	.0	.0	.0	.0	.0
Apr	@	.0	.0	.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	.1	@	.0	.0	.0
Nov	.1	.0	.0	.0	.0
Dec	.2	.1	.0	.0	.0
Ann	1.1	.7	.2	.1	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.1	.1	@	.0
Feb	.2	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.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	@	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	@	.0	.0	.0
Ann	.3	.1	@	.0

+ 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	5/02	4/24	4/18	4/13	4/08	4/03	3/29	3/23	3/15
32	4/11	4/03	3/29	3/24	3/20	3/15	3/10	3/05	2/25
28	3/25	3/17	3/10	3/05	2/28	2/23	2/18	2/11	2/03
24	3/11	2/28	2/20	2/13	2/07	1/31	1/24	1/16	1/05
20	2/17	2/06	1/29	1/22	1/16	1/09	1/02	12/24	12/11
16	1/30	1/20	1/13	1/05	12/27	0/00	0/00	0/00	0/00

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	10/13	10/18	10/22	10/25	10/28	10/30	11/02	11/06	11/11
32	10/22	10/27	10/30	11/03	11/05	11/08	11/12	11/15	11/20
28	11/02	11/08	11/12	11/15	11/19	11/22	11/25	11/29	12/05
24	11/13	11/19	11/24	11/28	12/01	12/05	12/08	12/13	12/19
20	11/23	12/02	12/08	12/13	12/18	12/23	12/29	1/05	1/19
16	12/11	12/22	12/31	1/09	1/21	0/00	0/00	0/00	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	234	223	215	208	202	196	189	181	170
32	260	250	243	236	230	224	218	210	200
28	298	286	277	270	263	256	249	240	228
24	339	323	312	303	295	287	279	269	256
20	>365	>365	>365	346	334	324	314	303	289
16	>365	>365	>365	>365	>365	>365	>365	343	327

***** 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	720	496	352	176	49	2	0	0	5	126	456	721	3103
60	565	359	227	97	18	0	0	0	0	57	313	566	2202
57	475	282	166	60	9	0	0	0	0	31	235	473	1731
55	418	233	131	42	5	0	0	0	0	19	188	413	1449
50	279	131	61	15	0	0	0	0	0	4	93	272	855
32	16	1	0	0	0	0	0	0	0	0	0	11	28

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	319	429	687	885	1203	1449	1683	1622	1332	984	535	313	11441
55	7	17	105	237	495	759	970	909	642	290	33	1	4465
57	2	10	78	195	436	699	908	847	582	240	20	0	4017
60	0	3	45	141	353	609	815	754	492	173	8	0	3393
65	0	0	16	71	229	461	660	599	347	87	1	0	2471
70	0	0	4	28	133	318	505	445	216	35	0	0	1684

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	106	232	442	642	947	1207	1428	1374	1085	731	301	99	106	338	780	1422	2369	3576	5004	6378	7463	8194	8495	8594
45	33	119	293	494	792	1057	1273	1219	935	578	172	27	33	152	445	939	1731	2788	4061	5280	6215	6793	6965	6992
50	2	45	162	349	638	907	1118	1064	785	426	77	2	2	47	209	558	1196	2103	3221	4285	5070	5496	5573	5575
55	0	7	72	220	487	757	963	909	635	281	22	0	0	7	79	299	786	1543	2506	3415	4050	4331	4353	4353
60	0	0	18	115	339	607	808	754	485	162	0	0	0	0	18	133	472	1079	1887	2641	3126	3288	3288	3288
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	95	177	301	419	604	736	870	848	682	477	221	95	95	272	573	992	1596	2332	3202	4050	4732	5209	5430	5525

(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

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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