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: MANTI, UT **COOP ID: 425402**

Climate Division: UT 4 **NWS Call Sign:** **Elevation: 5,740 Feet** **Lat: 39˚15N** **Lon: 111˚38W**

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	36.5	15.0	25.8	63+	1928	13	33.8	2000	-27	1937	22	17.7	1989	1217	0	.0	.0	2.5	8.9	30.1	2.7
Feb	41.6	19.3	30.5	69	1986	25	38.6	1995	-26	1933	10	23.2	1974	967	0	.0	.0	6.1	4.0	26.7	.8
Mar	50.0	26.2	38.1	78	1956	26	43.8	1986	-5	1964	8	32.9	1977	833	0	.0	.0	17.7	.6	24.8	.0
Apr	58.3	32.0	45.2	83+	1962	19	52.2	1992	10+	1935	15	37.5	1975	596	0	.0	.0	24.7	.0	15.7	.0
May	68.1	39.7	53.9	90	1967	23	58.7	2000	19	1975	5	49.0	1975	350	5	.0	.0	29.9	.0	4.2	.0
Jun	79.1	47.6	63.4	99	1954	23	68.0	1994	28+	1939	18	58.2	1995	119	69	.0	2.2	30.0	.0	.3	.0
Jul	85.6	54.5	70.1	103	1960	26	72.3+	1994	37	1968	1	65.8	1993	11	168	.0	8.4	31.0	.0	.0	.0
Aug	83.7	53.0	68.4	99+	1928	21	71.6	2000	34+	1932	31	64.5	1975	19	124	.0	4.5	31.0	.0	.0	.0
Sep	75.5	44.6	60.1	97	1950	3	63.9	1990	17	1965	18	55.4	1986	169	20	.0	.3	29.9	.0	1.3	.0
Oct	63.8	34.2	49.0	87	1950	20	54.5	1988	8	1971	30	43.2	1984	495	0	.0	.0	27.9	.2	10.7	.0
Nov	48.6	24.0	36.3	73+	1928	12	43.9	1999	-8	1931	24	29.4	1994	861	0	.0	.0	14.3	2.5	25.4	.1
Dec	38.2	16.2	27.2	66	1995	1	36.6	1980	-24	1990	23	18.9	1990	1173	0	.0	.0	3.8	7.5	29.9	1.7
Ann	60.8	33.9	47.3	103	Jul 1960	26	72.3+	Jul 1994	-27	Jan 1937	22	17.7	Jan 1989	6810	386	.0	15.4	248.8	23.7	169.1	5.3

\+ 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: 1928-2001

(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	1.08	.87	1.02	1953	14	2.34	1978	.19	1984
Feb	1.07	.96	1.20	1935	24	3.85	1980	.18	1972
Mar	1.46	1.38	1.03	1993	29	2.96	1983	.02	1997
Apr	1.31	1.20	.90	1973	18	3.00	1995	.11	1977
May	1.52	1.32	1.52	1937	30	4.36	1995	.18	1974
Jun	.77	.54	1.35	1984	7	2.63	1984	.00+	1978
Jul	.79	.64	1.20	1953	10	2.02	1998	.02	2000
Aug	.89	.86	1.28	1946	22	1.95	1988	.09	1996
Sep	1.31	1.02	1.23	1965	17	6.01	1982	.09	1974
Oct	1.45	1.33	1.05	1946	2	3.48	1994	.02	1995
Nov	1.15	.98	1.07	1978	2	3.39	1983	.13	1999
Dec	.91	.89	1.67	1966	6	2.84	1983	.10	1976
Ann	13.71	12.83	1.67	Dec 1966	6	6.01	Sep 1982	.00+	Jun 1978

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.2	3.5	.3	.0
Feb	8.2	3.8	.2	.0
Mar	9.4	5.1	.3	@
Apr	8.8	4.6	.4	.0
May	8.1	4.3	.8	.1
Jun	4.6	2.3	.2	.1
Jul	5.9	2.5	.3	.0
Aug	7.0	3.0	.3	.0
Sep	6.4	3.3	.7	.1
Oct	6.8	4.2	.8	@
Nov	7.1	3.2	.4	.1
Dec	7.2	3.2	.2	.0
Ann	87.7	43.0	4.9	.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	.19	.29	.45	.59	.74	.91	1.09	1.32	1.62	2.10	2.57
Feb	.21	.31	.46	.61	.75	.91	1.08	1.30	1.58	2.03	2.47
Mar	.19	.31	.52	.72	.93	1.17	1.44	1.78	2.24	2.99	3.72
Apr	.30	.42	.61	.78	.96	1.14	1.35	1.59	1.91	2.43	2.91
May	.31	.45	.67	.87	1.08	1.30	1.55	1.85	2.25	2.89	3.50
Jun	.00	.03	.13	.25	.37	.52	.70	.94	1.26	1.82	2.37
Jul	.06	.11	.21	.32	.44	.58	.75	.96	1.25	1.75	2.23
Aug	.18	.26	.39	.51	.63	.76	.91	1.09	1.32	1.70	2.06
Sep	.23	.34	.53	.71	.89	1.09	1.32	1.59	1.96	2.55	3.12
Oct	.26	.39	.60	.80	1.00	1.22	1.47	1.77	2.17	2.82	3.43
Nov	.22	.32	.49	.64	.80	.97	1.16	1.40	1.71	2.20	2.67
Dec	.17	.25	.38	.50	.63	.77	.92	1.11	1.36	1.77	2.15
Ann	8.76	9.68	10.88	11.80	12.63	13.44	14.29	15.23	16.38	18.08	19.56

\+ 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	12.4	8.9	4	4
Feb	10.6	7.7	4	3
Mar	8.7	8.0	1	#
Apr	4.8	2.8	#	#
May	1.1	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	#	0
Oct	1.9	.1	#	0
Nov	8.6	6.5	1	#
Dec	10.3	8.3	2	2
Ann	58.5	42.3	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	10.0	1983	18	31.2	1982	18	1973	20	13	1988
Feb	12.0	1984	17	28.0	1993	18	1974	19	14	1974
Mar	7.0	1987	16	20.0	1985	13	1993	1	5	1993
Apr	6.0	1995	17	22.0	1995	4	1985	25	#+	1999
May	6.3	1975	20	10.3	1975	3	1988	1	#+	1999
Jun	.5	1990	1	.5	1990	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	2.5	1978	18	2.5	1978	#	1986	26	#	1986
Oct	6.0	1971	18	16.5	1971	7	1971	29	1	1971
Nov	12.0	1977	19	23.0	1985	12	1983	28	3	1994
Dec	10.0	1984	20	21.8	1972	12	1984	20	6	1992
Ann	12.0+	Feb 1984	17	31.2	Jan 1982	18+	Feb 1974	19	14	Feb 1974

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.6	4.5	1.6	.5	@
Feb	5.9	4.1	1.4	.4	@
Mar	4.8	3.3	1.1	.4	.0
Apr	2.7	2.0	.6	.1	.0
May	.6	.4	.1	.1	.0
Jun	@	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.1	@	.0	.0	.0
Oct	1.0	.6	.3	.1	.0
Nov	4.1	3.1	1.0	.4	.1
Dec	5.4	3.8	1.3	.6	@
Ann	31.2	21.8	7.4	2.6	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	22.1	17.7	11.5	4.9
Feb	16.0	11.2	7.7	3.3
Mar	3.7	1.8	.9	.2
Apr	.5	.2	.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	.4	.2	.1	.0
Nov	5.2	2.8	1.3	.2
Dec	15.7	8.6	4.4	.4
Ann	63.7	42.5	25.9	9.0

+ 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	6/20	6/14	6/10	6/07	6/03	5/31	5/27	5/23	5/17
32	6/10	6/03	5/29	5/25	5/21	5/17	5/13	5/08	5/01
28	5/18	5/13	5/10	5/07	5/04	5/01	4/28	4/24	4/19
24	4/30	4/24	4/20	4/16	4/13	4/09	4/05	4/01	3/26
20	4/23	4/15	4/09	4/04	3/30	3/25	3/20	3/14	3/06
16	4/08	3/31	3/25	3/20	3/15	3/10	3/05	2/27	2/19

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	9/10	9/14	9/17	9/20	9/22	9/25	9/27	9/30	10/04
32	9/17	9/21	9/24	9/27	9/29	10/02	10/04	10/07	10/12
28	9/22	9/29	10/03	10/07	10/11	10/15	10/18	10/23	10/29
24	10/12	10/17	10/21	10/24	10/27	10/30	11/02	11/05	11/10
20	10/22	10/26	10/29	11/01	11/03	11/05	11/08	11/11	11/15
16	11/01	11/06	11/10	11/12	11/15	11/18	11/21	11/24	11/29

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	126	120	115	110	106	101	95	87
32	152	144	139	134	130	126	122	116	109
28	183	175	169	164	159	154	149	143	135
24	219	211	206	201	196	192	187	181	173
20	247	237	230	223	217	211	205	198	187
16	274	264	257	250	244	238	232	224	214

***** 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	1217	967	833	596	350	119	11	19	169	495	861	1173	6810
60	1062	827	678	449	215	51	1	2	73	344	711	1018	5431
57	969	743	585	366	149	26	0	0	38	260	621	925	4682
55	907	687	524	312	112	15	0	0	22	210	562	863	4214
50	752	547	377	194	46	3	0	0	4	107	418	708	3156
32	265	144	36	7	0	0	0	0	0	1	63	218	734

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	72	101	226	401	679	940	1180	1127	841	529	192	68	6356
55	0	0	1	16	78	265	467	414	173	25	0	0	1439
57	0	0	0	10	53	216	405	353	129	13	0	0	1179
60	0	0	0	4	26	151	313	261	74	4	0	0	833
65	0	0	0	0	5	69	168	124	20	0	0	0	386
70	0	0	0	0	0	22	61	34	3	0	0	0	120

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	18	83	221	459	720	954	904	621	320	67	5	0	18	101	322	781	1501	2455	3359	3980	4300	4367	4372
45	0	1	27	120	313	570	799	749	473	190	22	0	0	1	28	148	461	1031	1830	2579	3052	3242	3264	3264
50	0	0	2	46	186	422	644	594	330	88	0	0	0	0	2	48	234	656	1300	1894	2224	2312	2312	2312
55	0	0	0	14	85	285	489	439	195	27	0	0	0	0	0	14	99	384	873	1312	1507	1534	1534	1534
60	0	0	0	0	26	161	334	286	88	2	0	0	0	0	0	0	26	187	521	807	895	897	897	897
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	19	76	167	306	467	617	585	405	236	63	5	0	19	95	262	568	1035	1652	2237	2642	2878	2941	2946

(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