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: MARYSVALE, UT **COOP ID: 425477**

Climate Division: UT 4 **NWS Call Sign:** **Elevation: 5,910 Feet** **Lat: 38˚27N** **Lon: 112˚14W**

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	42.3	16.5	29.4	64+	1986	28	37.1	1986	-21	1963	13	19.2	1989	1102	0	.0	.0	6.8	4.9	29.7	3.5
Feb	47.7	21.2	34.5	73	1986	25	39.8	1995	-28	1989	7	28.1	1985	856	0	.0	.0	11.1	2.0	25.9	1.1
Mar	54.5	26.7	40.6	78	1997	20	45.4	1989	-11	1976	4	34.0	1976	757	0	.0	.0	21.2	.4	25.4	.2
Apr	62.6	31.4	47.0	86	2000	27	52.9	1989	7	1975	2	40.7	1975	541	0	.0	.0	25.8	@	19.4	.0
May	72.3	38.5	55.4	93+	2000	28	60.7	2000	17	1975	6	50.4	1995	305	7	.0	.4	30.6	.0	7.2	.0
Jun	83.2	45.1	64.2	99	1981	25	67.8+	1994	23	1975	11	58.6	1995	97	73	.0	6.2	30.0	.0	1.0	.0
Jul	88.9	51.5	70.2	101+	1960	26	72.5	1972	33	1982	6	67.4	1997	7	168	.2	15.3	31.0	.0	.0	.0
Aug	86.6	50.3	68.5	102	1979	4	71.2	1994	30	1992	27	66.1	1979	12	118	.1	9.5	31.0	.0	@	.0
Sep	78.8	42.5	60.7	95+	1990	12	64.2	1990	20+	1965	18	56.7	1985	149	17	.0	1.4	30.0	.0	3.4	.0
Oct	66.8	32.4	49.6	87+	1979	1	54.4	1978	1	1971	30	43.9	1984	477	0	.0	.0	28.7	.1	18.7	.0
Nov	52.3	24.0	38.2	76	1980	10	43.1	1981	-10	1954	30	31.6	1979	806	0	.0	.0	17.5	1.3	26.0	.3
Dec	43.4	16.4	29.9	66+	1995	1	37.6	1977	-35	1990	22	20.8	1990	1088	0	.0	.0	7.9	4.3	29.3	2.9
Ann	65.0	33.0	49.0	102	Aug 1979	4	72.5	Jul 1972	-35	Dec 1990	22	19.2	Jan 1989	6197	383	.3	32.8	271.6	13.0	186.0	8.0

\+ 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: 1948-2001

(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	.59	.45	1.50	1979	17	1.91	1980	.00	1972
Feb	.54	.47	.59	1993	21	2.04	1980	.01+	1974
Mar	.76	.68	1.12	1985	28	2.13	1985	.01	1972
Apr	.61	.62	.80	1957	29	1.44	1988	.03	1977
May	.75	.56	.92	1995	12	2.34	1995	.04	1974
Jun	.44	.40	.68	1984	7	1.42	1984	.00+	1996
Jul	.76	.73	1.13	1982	27	1.95+	1985	.12	1979
Aug	1.00	.89	1.30	1966	18	2.54	1982	.09	1974
Sep	.80	.69	.75	1963	18	2.18	1980	.12	1979
Oct	.87	.62	.98	1980	12	2.69	2000	.03	1995
Nov	.59	.40	.77	1978	2	2.91	1978	.06	1974
Dec	.44	.42	1.26	1966	6	1.53	1983	.00+	1989
Ann	8.15	7.97	1.50	Jan 1979	17	2.91	Nov 1978	.00+	Jun 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.3	2.0	.1	@
Feb	5.4	2.0	.1	.0
Mar	6.9	2.6	.1	@
Apr	5.7	2.1	.2	.0
May	5.8	2.6	.3	.0
Jun	3.5	1.7	.1	.0
Jul	6.0	2.4	.2	@
Aug	7.8	3.4	.3	.0
Sep	6.0	2.6	.3	.0
Oct	5.5	2.7	.3	.0
Nov	4.8	2.1	.1	.0
Dec	4.5	1.5	.1	.0
Ann	67.2	27.7	2.2	@

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	.02	.06	.14	.22	.32	.43	.56	.72	.95	1.34	1.72
Feb	.05	.09	.16	.23	.31	.41	.52	.65	.84	1.16	1.47
Mar	.08	.13	.23	.34	.45	.58	.73	.92	1.18	1.61	2.03
Apr	.08	.13	.22	.30	.39	.49	.61	.75	.94	1.25	1.56
May	.10	.16	.26	.37	.48	.60	.74	.92	1.15	1.54	1.91
Jun	.00	.00	.06	.14	.22	.31	.42	.55	.73	1.03	1.33
Jul	.12	.18	.29	.40	.51	.63	.76	.93	1.16	1.52	1.87
Aug	.12	.19	.33	.47	.62	.78	.98	1.22	1.54	2.08	2.60
Sep	.12	.19	.31	.42	.53	.66	.80	.98	1.22	1.60	1.97
Oct	.07	.12	.24	.36	.49	.65	.83	1.06	1.38	1.92	2.46
Nov	.06	.10	.18	.26	.35	.45	.57	.72	.92	1.26	1.59
Dec	.00	.05	.13	.20	.27	.35	.44	.55	.70	.95	1.18
Ann	4.90	5.49	6.26	6.87	7.41	7.95	8.51	9.14	9.91	11.06	12.07

+ 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)

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	5.3	3.3	1	#	6.3	1989	5	13.5	1980	11	1997	14	4	1974	3.0	1.9	.4	.1	.0	5.1	2.9	.6	.0
Feb	3.0	2.0	#	#	8.5	1989	4	9.5	1989	9	1989	6	3	1989	1.4	1.0	.1	.1	.0	1.5	.4	.3	.0
Mar	2.6	1.8	1	#	7.0	1976	2	10.5	1976	24	1985	28	11	1985	1.0	.6	.2	.1	.0	.9	.5	.0	.0
Apr	1.6	.8	#	0	4.0	1986	18	5.1	1975	2	1975	8	#+	1999	.9	.6	.1	.0	.0	.2	.0	.0	.0
May	.4	.0	0	0	3.0	1978	6	3.0	1978	0	0	0	0	0	.2	.2	@	.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	#	1981	16	#	1981	.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	.0	0	0	.0	0	#	1981	6	#	1981	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.3	.0	#	0	3.0	2000	31	3.6	2000	7	1984	17	#+	1996	.2	.2	@	.0	.0	.1	.0	.0	.0
Nov	2.5	1.1	#	#	6.0	1994	26	13.8	1994	6	1994	26	1	1994	1.1	.9	.2	@	.0	1.2	.2	@	.0
Dec	3.1	2.3	1	#	3.0	1971	13	9.9	1971	7	1984	20	4	1990	1.9	1.2	.2	.0	.0	2.3	.4	.2	.0
Ann	18.8	11.3	N/A	N/A	8.5	Feb 1989	4	13.8	Nov 1994	24	Mar 1985	28	11	Mar 1985	9.7	6.6	1.2	.3	.0	11.3	4.4	1.1	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	6/30	6/25	6/21	6/18	6/15	6/12	6/08	6/04	5/30
32	6/17	6/11	6/07	6/03	5/31	5/28	5/24	5/20	5/14
28	6/05	5/30	5/25	5/22	5/18	5/15	5/11	5/06	4/30
24	5/19	5/13	5/09	5/06	5/03	4/30	4/26	4/22	4/17
20	4/30	4/24	4/20	4/17	4/14	4/10	4/07	4/03	3/28
16	4/18	4/11	4/06	4/01	3/28	3/23	3/19	3/14	3/06

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	8/25	8/31	9/03	9/06	9/10	9/13	9/16	9/19	9/25
32	9/08	9/12	9/15	9/17	9/19	9/22	9/24	9/27	10/01
28	9/15	9/20	9/23	9/26	9/29	10/02	10/05	10/08	10/13
24	9/23	9/28	10/02	10/05	10/09	10/12	10/15	10/19	10/24
20	10/11	10/15	10/19	10/22	10/24	10/27	10/30	11/03	11/07
16	10/21	10/25	10/29	11/01	11/03	11/06	11/09	11/12	11/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	109	101	95	91	86	82	77	71	63
32	131	124	119	115	111	107	102	97	90
28	150	144	140	136	133	130	126	122	116
24	180	172	167	162	158	154	149	144	136
20	213	206	201	197	193	189	185	180	174
16	246	237	230	225	220	214	209	202	193

***** 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

Complete documentation available from:
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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	1102	856	757	541	305	97	7	12	149	477	806	1088	6197
60	947	716	602	395	176	36	0	0	57	327	656	933	4845
57	854	632	510	312	115	16	0	0	26	244	566	840	4115
55	792	576	449	260	82	9	0	0	14	195	506	778	3661
50	637	436	305	151	28	1	0	0	2	96	362	623	2641
32	173	56	16	2	0	0	0	0	0	0	34	153	434

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	94	123	281	451	725	965	1184	1130	858	547	218	88	6664
55	0	0	2	19	94	284	471	417	182	28	0	0	1497
57	0	0	1	11	64	231	409	355	135	16	0	0	1222
60	0	0	0	4	33	161	316	262	75	5	0	0	856
65	0	0	0	0	7	73	168	118	17	0	0	0	383
70	0	0	0	0	1	22	55	26	1	0	0	0	105

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	4	24	91	219	471	717	929	878	613	304	66	8	4	28	119	338	809	1526	2455	3333	3946	4250	4316	4324
45	0	1	32	115	322	567	774	723	463	178	20	0	0	1	33	148	470	1037	1811	2534	2997	3175	3195	3195
50	0	0	3	44	187	418	619	568	317	81	3	0	0	0	3	47	234	652	1271	1839	2156	2237	2240	2240
55	0	0	0	9	82	274	464	413	182	18	0	0	0	0	0	9	91	365	829	1242	1424	1442	1442	1442
60	0	0	0	0	23	147	309	259	78	1	0	0	0	0	0	0	23	170	479	738	816	817	817	817
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	19	49	108	207	357	486	586	569	440	277	91	19	19	68	176	383	740	1226	1812	2381	2821	3098	3189	3208

(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