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: ALTA, UT **COOP ID: 420072**

Climate Division: UT 5 **NWS Call Sign:** **Elevation: 8,730 Feet** **Lat: 40˚36N** **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	28.8	14.0	21.4	57	1981	23	30.1	1981	-26	1963	12	13.9	1979	1351	0	.0	.0	.7	19.2	30.7	3.2
Feb	31.0	15.8	23.4	56+	1954	4	30.4	1995	-19	1985	2	16.0	1985	1165	0	.0	.0	.6	15.3	28.1	1.9
Mar	35.4	19.3	27.4	60	1994	15	34.0	1986	-8	1971	2	21.5	1976	1152	0	.0	.0	2.0	11.6	29.1	1.0
Apr	41.7	24.8	33.3	69	1987	19	40.4	1992	1	1999	10	26.3	1975	952	0	.0	.0	8.9	5.5	23.1	.0
May	50.9	32.3	41.6	72+	1974	28	47.3	1992	10	1997	2	34.5	1983	726	0	.0	.0	18.9	1.2	13.5	.0
Jun	62.9	41.5	52.2	82+	1970	27	57.4	1988	20+	1976	14	46.3	1998	389	6	.0	.0	26.8	.0	4.0	.0
Jul	71.1	48.7	59.9	84+	1985	10	63.1	2000	31+	1982	5	54.0	1993	174	15	.0	@	31.0	.0	.1	.0
Aug	70.3	48.3	59.3	84	2000	1	62.4	1981	31	1980	20	55.9	1975	184	7	.0	.1	31.0	.0	.2	.0
Sep	60.4	40.3	50.4	79	1983	7	56.6	1979	17+	1971	28	43.0	1986	440	0	.0	.3	27.1	.1	5.3	.0
Oct	48.9	31.1	40.0	71	1996	10	46.3	1988	-1	1971	30	32.7	1984	775	0	.0	.0	17.8	2.6	16.5	@
Nov	34.8	19.7	27.3	64	1966	18	36.2	1999	-16	1955	16	20.7	1992	1132	0	.0	.0	4.5	11.5	27.4	.7
Dec	29.8	15.0	22.4	59	1952	14	32.0	1980	-25	1990	23	14.3	1990	1321	0	.0	.0	.8	16.2	30.4	2.7
Ann	47.2	29.2	38.2	84+	Aug 2000	1	63.1	Jul 2000	-26	Jan 1963	12	13.9	Jan 1979	9761	28	.0	.4	170.1	83.2	208.4	9.5

\+ 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	5.99	5.52	3.40	1954	25	16.70	1980	.99	1992
Feb	5.88	5.75	2.88	1980	15	13.73	1980	2.14	1988
Mar	6.62	5.47	2.90	1986	9	15.09	1982	2.06	1997
Apr	5.34	4.34	2.61	1982	12	13.09	1986	.44	1987
May	4.26	3.39	2.74	1986	9	10.15	1981	.14	1972
Jun	1.89	1.29	1.62	1985	25	7.02	1984	.11	1994
Jul	1.75	1.58	1.87	1987	21	4.49	1987	.00	1971
Aug	1.96	1.54	1.73	1991	5	6.36	1983	.09	1985
Sep	2.82	2.55	3.43	1982	27	13.47	1982	.06	1979
Oct	4.08	3.96	2.81	1982	27	9.99	1981	.32	1978
Nov	5.66	5.12	3.50	1989	26	13.79	1983	.60	1976
Dec	6.01	4.11	3.55	1955	24	25.45	1983	.26	1976
Ann	52.26	45.91	3.55	Dec 1955	24	25.45	Dec 1983	.00	Jul 1971

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	14.5	10.6	4.2	1.4
Feb	13.1	10.3	4.3	1.6
Mar	14.4	11.3	4.5	1.7
Apr	11.7	9.1	3.5	1.4
May	10.6	8.4	2.6	.8
Jun	6.1	3.9	1.3	.3
Jul	7.2	4.1	1.2	.3
Aug	8.3	4.9	1.0	.2
Sep	8.3	5.6	1.9	.7
Oct	8.7	6.9	3.2	.8
Nov	12.5	9.7	3.8	1.4
Dec	13.1	9.5	4.2	1.7
Ann	128.5	94.3	35.7	12.3

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	1.65	2.21	3.08	3.83	4.57	5.35	6.20	7.22	8.54	10.61	12.54
Feb	2.34	2.89	3.66	4.29	4.89	5.50	6.16	6.92	7.88	9.36	10.71
Mar	1.85	2.48	3.43	4.26	5.07	5.92	6.86	7.97	9.41	11.66	13.77
Apr	1.08	1.57	2.35	3.07	3.79	4.57	5.44	6.50	7.90	10.13	12.25
May	.72	1.10	1.72	2.30	2.90	3.55	4.29	5.19	6.40	8.34	10.20
Jun	.15	.27	.51	.77	1.06	1.40	1.79	2.29	2.99	4.16	5.31
Jul	.12	.30	.58	.84	1.11	1.40	1.74	2.16	2.73	3.65	4.54
Aug	.30	.46	.75	1.02	1.30	1.61	1.96	2.39	2.97	3.91	4.81
Sep	.30	.51	.90	1.29	1.72	2.19	2.75	3.44	4.38	5.95	7.47
Oct	.73	1.09	1.68	2.24	2.81	3.42	4.13	4.97	6.11	7.93	9.67
Nov	1.34	1.87	2.69	3.43	4.17	4.95	5.82	6.86	8.22	10.39	12.42
Dec	.49	.90	1.69	2.52	3.44	4.48	5.73	7.31	9.49	13.13	16.72
Ann	24.22	28.79	35.10	40.21	44.95	49.71	54.80	60.62	67.92	78.97	88.91

\+ 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	76.5	73.0	67	67
Feb	73.0	68.5	83	86
Mar	93.2	93.5	91	95
Apr	68.0	59.4	86	96
May	28.5	25.0	55	59
Jun	4.7	1.8	12	2
Jul	.1	.0	#	0
Aug	.0	.0	0	0
Sep	5.1	.0	#	0
Oct	27.2	22.5	3	3
Nov	71.8	64.4	19	19
Dec	95.8	77.0	46	45
Ann	543.9	485.1	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	34.0	1996	25	144.0	1980	120	1997	29	103	1984
Feb	32.0	1990	7	112.7	1986	132	1998	27	118	1997
Mar	31.0	1983	25	164.0	1982	160	1975	27	124	1976
Apr	30.0	1983	4	124.5	1984	150	1983	5	135	1975
May	20.5	1986	9	88.9	1986	163	1975	8	130	1975
Jun	17.0	1998	17	25.0	1984	111	1983	1	72	1983
Jul	2.0	1982	6	2.0	1982	12	1983	1	1	1983
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	15.0	1982	30	45.0	1982	28	1982	30	4	1986
Oct	24.0	1997	24	70.0	1982	41	1991	28	16	1975
Nov	29.0	1985	19	143.5	1983	72	1975	30	36	1991
Dec	34.0	1981	22	244.5	1983	125	1983	28	95	1983
Ann	34.0+	Jan 1996	25	244.5	Dec 1983	163	May 1975	8	135	Apr 1975

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	12.7	12.1	8.5	6.0	2.3
Feb	11.9	11.1	8.2	5.6	2.4
Mar	12.7	12.1	9.2	6.2	2.6
Apr	10.1	9.5	6.9	4.9	2.2
May	5.3	5.0	3.6	2.0	.9
Jun	1.8	1.5	.8	.3	@
Jul	@	@	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	1.1	1.0	.7	.3	.1
Oct	5.4	5.0	3.6	2.4	.9
Nov	10.4	9.6	7.4	5.1	2.1
Dec	11.1	10.4	7.8	5.8	2.5
Ann	82.5	77.3	56.7	38.6	16.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	-9.9	-9.9	-9.9	-9.9
Apr	-9.9	-9.9	-9.9	-9.9
May	-9.9	-9.9	-9.9	-9.9
Jun	6.7	6.4	6.1	5.5
Jul	.2	.2	.2	@
Aug	.0	.0	.0	.0
Sep	1.1	.8	.5	.3
Oct	7.7	6.1	4.7	2.3
Nov	25.2	23.8	22.3	18.4
Dec	-9.9	-9.9	-9.9	-9.9
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	7/13	7/07	7/03	6/29	6/24	6/20	6/14	6/07
32	6/28	6/23	6/19	6/16	6/13	6/10	6/06	6/02	5/28
28	6/20	6/14	6/09	6/06	6/02	5/29	5/26	5/21	5/15
24	6/10	6/04	5/30	5/26	5/22	5/18	5/14	5/09	5/03
20	5/31	5/24	5/19	5/14	5/10	5/06	5/01	4/26	4/19
16	5/19	5/09	5/03	4/27	4/22	4/16	4/11	4/04	3/26

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	8/17	8/24	8/28	9/01	9/05	9/09	9/13	9/17	9/24
32	8/26	9/02	9/07	9/11	9/15	9/18	9/23	9/27	10/04
28	9/08	9/14	9/18	9/21	9/24	9/28	10/01	10/05	10/11
24	9/16	9/23	9/28	10/02	10/06	10/09	10/13	10/18	10/25
20	9/26	10/03	10/08	10/12	10/16	10/20	10/25	10/29	11/05
16	10/13	10/18	10/22	10/24	10/27	10/30	11/02	11/05	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	96	86	79	73	68	62	56	49	39
32	121	111	104	99	93	88	82	75	66
28	140	131	125	119	114	108	103	96	87
24	166	156	148	142	136	130	123	116	105
20	191	180	172	165	158	152	145	137	126
16	222	210	202	194	188	181	174	165	154

***** 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	1351	1165	1152	952	726	389	174	184	440	775	1132	1321	9761
60	1196	1025	1013	802	571	257	73	72	298	620	982	1166	8075
57	1103	941	920	712	480	189	35	32	221	528	892	1073	7126
55	1041	885	858	652	420	150	20	17	176	468	832	1011	6530
50	886	745	703	507	282	74	3	2	87	324	682	856	5151
32	337	257	195	107	17	0	0	0	0	27	205	319	1464

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	9	17	50	146	314	607	865	846	550	274	63	21	3762
55	0	0	0	0	4	67	171	150	36	2	0	0	430
57	0	0	0	0	2	46	125	103	21	1	0	0	298
60	0	0	0	0	0	24	70	50	8	0	0	0	152
65	0	0	0	0	0	6	15	7	0	0	0	0	28
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	0	1	61	158	399	627	605	364	132	13	0	0	0	1	62	220	619	1246	1851	2215	2347	2360	2360
45	0	0	0	19	73	268	472	450	235	62	0	0	0	0	0	19	92	360	832	1282	1517	1579	1579	1579
50	0	0	0	8	22	153	320	298	124	16	0	0	0	0	0	8	30	183	503	801	925	941	941	941
55	0	0	0	0	0	68	179	155	54	0	0	0	0	0	0	0	0	68	247	402	456	456	456	456
60	0	0	0	0	0	18	67	47	14	0	0	0	0	0	0	0	0	18	85	132	146	146	146	146
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	0	38	85	224	361	340	202	73	12	0	0	0	0	38	123	347	708	1048	1250	1323	1335	1335

(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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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