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: OURAY 4 NE, UT **COOP ID: 426568**

Climate Division: UT 6 **NWS Call Sign:** **Elevation: 4,670 Feet** **Lat: 40˚08N** **Lon: 109˚39W**

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	29.7	3.9	16.8	62	1975	26	29.4	1981	-43	1979	2	-.7	1973	1495	0	.0	.0	.8	18.2	31.0	12.0
Feb	37.6	9.8	23.7	68	1972	28	35.9	1995	-41+	1989	6	6.0	1985	1156	0	.0	.0	4.9	9.8	27.9	6.9
Mar	54.3	24.8	39.6	79	1986	29	47.4	1986	-18	1962	1	30.3	1984	789	0	.0	.0	21.2	1.0	26.1	.6
Apr	66.2	34.0	50.1	90	1992	27	57.2	1992	6	1975	2	43.2	1975	452	5	.0	@	28.4	.0	12.7	.0
May	76.6	42.6	59.6	98+	2000	29	64.3	1994	21	1972	1	54.9	1995	193	26	.0	1.5	31.0	.0	1.8	.0
Jun	88.2	50.2	69.2	106	1994	26	74.1	1977	30	1976	14	64.2	1975	33	158	1.2	14.3	30.0	.0	.1	.0
Jul	94.3	56.1	75.2	108	2001	4	78.4	1994	38	1982	6	71.1	1993	0	317	4.8	25.8	31.0	.0	.0	.0
Aug	91.8	54.4	73.1	105	1990	8	76.9	1983	32	1960	17	69.9	1993	4	254	1.5	21.4	31.0	.0	.0	.0
Sep	81.7	45.1	63.4	99	1981	3	68.0	1998	20+	1965	18	59.4	1971	106	57	.0	4.7	30.0	.0	1.8	.0
Oct	67.2	33.2	50.2	88	1979	3	55.4	1988	-1	1971	30	46.8	1982	459	0	.0	.0	29.4	.2	16.4	@
Nov	47.4	21.3	34.4	72	1958	8	38.6	1995	-6+	1975	30	24.0	1971	920	0	.0	.0	13.1	2.9	28.3	.4
Dec	33.6	8.8	21.2	63	1977	7	31.4	1977	-40	1990	23	9.3	1972	1357	0	.0	.0	1.3	13.4	31.0	6.4
Ann	64.1	32.0	48.0	108	Jul 2001	4	78.4	Jul 1994	-43	Jan 1979	2	-.7	Jan 1973	6964	817	7.5	67.7	252.1	45.5	177.1	26.3

\+ 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: 1955-2001

(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	.40	.28	.78	1959	26	1.49	1978	.00+	1976
Feb	.34	.34	1.15	1969	26	1.02	1990	.00	1972
Mar	.58	.59	.79	1979	29	1.77	1979	.00+	1972
Apr	.78	.74	.85	1957	1	2.32	1999	.06	1982
May	.81	.79	.97	1978	2	2.23	1995	.00	1974
Jun	.44	.38	1.38	1970	10	1.32	1990	.00+	1988
Jul	.70	.50	1.04	1975	16	2.04	1992	.07	2000
Aug	.75	.57	.99	1982	29	2.12	1987	.08	1974
Sep	.76	.63	1.38	1965	17	3.17	1997	.00+	1987
Oct	1.00	1.04	1.52	1991	27	3.68	1981	.00	1995
Nov	.47	.38	.70	1957	3	1.37	1978	.00+	1995
Dec	.35	.19	.72	1984	19	1.15	1984	.00+	1995
Ann	7.38	7.40	1.52	Oct 1991	27	3.68	Oct 1981	.00+	Dec 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.6	1.3	@	.0
Feb	3.5	1.2	.0	.0
Mar	4.7	1.9	.2	.0
Apr	5.2	2.3	.3	.0
May	5.5	2.7	.2	.0
Jun	3.2	1.3	.2	@
Jul	4.5	2.2	.3	@
Aug	4.5	2.0	.3	.0
Sep	4.6	2.2	.3	.0
Oct	4.7	2.8	.5	.2
Nov	3.2	1.3	.2	.0
Dec	2.7	1.1	@	.0
Ann	49.9	22.3	2.5	.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	.00	.00	.07	.14	.21	.29	.38	.50	.66	.93	1.20
Feb	.03	.07	.12	.17	.22	.28	.34	.41	.51	.68	.83
Mar	.00	.02	.10	.18	.28	.39	.53	.71	.96	1.39	1.82
Apr	.12	.18	.29	.40	.52	.64	.78	.96	1.19	1.57	1.94
May	.06	.15	.28	.40	.52	.66	.82	1.01	1.26	1.68	2.07
Jun	.00	.04	.12	.19	.26	.34	.44	.55	.70	.95	1.20
Jul	.07	.12	.22	.32	.42	.54	.68	.86	1.09	1.49	1.88
Aug	.11	.17	.28	.39	.50	.61	.75	.92	1.15	1.52	1.87
Sep	.00	.00	.21	.34	.47	.61	.77	.96	1.21	1.63	2.03
Oct	.07	.17	.32	.47	.62	.80	.99	1.23	1.56	2.10	2.62
Nov	.00	.09	.18	.26	.33	.41	.49	.59	.72	.92	1.12
Dec	.00	.00	.05	.11	.17	.23	.32	.43	.57	.83	1.08
Ann	4.28	4.83	5.57	6.14	6.67	7.18	7.72	8.33	9.08	10.19	11.17

\+ 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: 1955-2001
(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	4.2	3.7	4	2	8.0	1985	21	12.0	1985	19+	1985	21	15	1985	2.9	1.9	.5	.2	.0	-9.9	-9.9	-9.9	-9.9
Feb	3.0	2.0	4	2	6.5	1990	14	14.0	1990	20	1985	10	20	1985	1.8	1.1	.3	.1	.0	2.3	1.9	1.3	.0
Mar	1.7	.0	1	0	7.5	1988	10	7.5	1988	14	1985	3	10	1985	.7	.5	.2	.1	.0	.3	.2	.0	.0
Apr	.6	.0	#	0	4.0	1972	14	4.0+	1991	4	1991	11	#+	1999	.4	.3	.1	.0	.0	.1	@	.0	.0
May	#	.0	#	0	#	1995	12	#+	1995	#	1995	12	#	1995	.0	.0	.0	.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	0	0	0	0	0	0	.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	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.3	.0	#	0	5.0	1991	27	5.0	1996	12	1971	29	1	1971	.2	.2	@	@	.0	@	.0	.0	.0
Nov	1.4	.5	#	0	8.0	1994	3	8.0	1994	6	1978	13	3	1971	.7	.5	.2	.1	.0	.8	.6	.3	.0
Dec	3.2	1.0	1	#	10.0	1984	19	16.6	1984	16	1984	27	9	1984	1.5	1.0	.4	.2	.1	2.3	.1	.0	.0
Ann	14.4	7.2	N/A	N/A	10.0	Dec 1984	19	16.6	Dec 1984	20	Feb 1985	10	20	Feb 1985	8.2	5.5	1.7	.7	.1	-9.9	-9.9	-9.9	-9.9

+ 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	6/09	6/03	5/30	5/26	5/23	5/19	5/16	5/11	5/05
32	5/28	5/21	5/17	5/13	5/09	5/06	5/02	4/27	4/21
28	5/08	5/02	4/29	4/25	4/22	4/19	4/16	4/12	4/07
24	4/23	4/18	4/14	4/10	4/07	4/04	3/31	3/28	3/22
20	4/17	4/09	4/04	3/30	3/26	3/22	3/17	3/12	3/05
16	4/04	3/28	3/23	3/19	3/15	3/11	3/07	3/02	2/23

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	9/09	9/13	9/16	9/19	9/21	9/23	9/26	9/29	10/03
32	9/18	9/21	9/24	9/26	9/28	9/30	10/02	10/05	10/08
28	9/24	9/29	10/03	10/06	10/09	10/12	10/16	10/20	10/25
24	10/04	10/09	10/13	10/16	10/19	10/22	10/25	10/29	11/03
20	10/10	10/16	10/20	10/23	10/27	10/30	11/03	11/07	11/13
16	10/26	10/30	11/03	11/06	11/08	11/11	11/13	11/17	11/21

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	141	134	129	125	121	117	112	107	101
32	160	154	149	145	141	137	133	128	122
28	192	184	178	174	169	165	160	155	147
24	215	208	203	198	194	190	185	180	172
20	241	232	225	219	214	209	203	196	187
16	263	254	248	242	237	232	227	221	212

***** 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	1495	1156	789	452	193	33	0	4	106	459	920	1357	6964
60	1343	1029	636	316	94	7	0	0	38	309	770	1202	5744
57	1253	949	549	242	54	2	0	0	16	228	680	1109	5082
55	1194	897	491	199	35	1	0	0	8	179	620	1047	4671
50	1049	769	356	112	9	0	0	0	1	85	473	892	3746
32	570	387	67	1	0	0	0	0	0	0	91	386	1502

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	98	155	301	544	856	1115	1339	1273	941	565	161	52	7400
55	9	21	12	52	178	425	626	560	259	31	0	0	2173
57	6	17	8	35	135	367	564	498	207	17	0	0	1854
60	3	13	2	18	82	282	471	405	139	6	0	0	1421
65	0	0	0	5	26	158	317	254	57	0	0	0	817
70	0	0	0	0	4	69	170	122	15	0	0	0	380

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	7	100	318	612	880	1102	1034	701	328	27	0	0	7	107	425	1037	1917	3019	4053	4754	5082	5109	5109
45	0	1	36	191	458	730	947	879	551	197	6	0	0	1	37	228	686	1416	2363	3242	3793	3990	3996	3996
50	0	0	8	93	311	580	792	724	404	94	0	0	0	0	8	101	412	992	1784	2508	2912	3006	3006	3006
55	0	0	0	34	184	430	637	569	265	32	0	0	0	0	0	34	218	648	1285	1854	2119	2151	2151	2151
60	0	0	0	6	83	292	482	414	144	5	0	0	0	0	0	6	89	381	863	1277	1421	1426	1426	1426
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	15	112	253	416	545	668	639	472	278	47	0	0	15	127	380	796	1341	2009	2648	3120	3398	3445	3445

(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