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: LOGAN UTAH STATE UNIV, UT **COOP ID: 425186**

Climate Division: UT 3 **NWS Call Sign:** **Elevation: 4,790 Feet** **Lat: 41˚45N** **Lon: 111˚48W**

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	32.2	16.9	24.6	60	1974	17	32.4	2000	-23	1930	22	14.2	1979	1255	0	.0	.0	.7	14.9	28.7	3.5
Feb	37.3	20.7	29.0	63+	1950	27	38.1	1995	-23	1933	10	17.7	1985	1008	0	.0	.0	2.8	8.2	24.7	1.5
Mar	47.7	29.8	38.8	74+	1943	28	46.0	1992	-4	1960	1	28.4	1976	814	0	.0	.0	12.6	1.7	19.7	.0
Apr	57.1	36.8	47.0	86	1962	20	53.6	1987	9	1936	2	39.9	1975	542	1	.0	.0	22.2	@	9.5	.0
May	66.9	44.5	55.7	90	1936	13	61.7	1992	22	1967	1	50.7	1975	302	14	.0	.0	29.2	.0	1.6	.0
Jun	77.7	52.3	65.0	98+	1937	21	70.7	1988	33+	1962	4	59.1	1998	101	101	.0	2.6	29.9	.0	.0	.0
Jul	86.7	59.5	73.1	102	1931	24	77.4	2000	38	1968	1	64.5	1993	14	265	.1	11.6	31.0	.0	.0	.0
Aug	85.8	58.7	72.3	101	2000	1	75.9	2000	37	1960	23	68.1	1976	10	236	.1	9.4	31.0	.0	.0	.0
Sep	74.7	49.6	62.2	97	1995	2	69.3	1990	26+	1965	18	56.1	1986	150	64	.0	.9	29.6	.0	.6	.0
Oct	61.5	39.3	50.4	85+	1992	1	58.2	1988	14	1971	30	43.7	1984	456	3	.0	.0	26.3	.2	5.5	.0
Nov	44.6	28.2	36.4	70+	1931	7	44.9	1999	-16	1955	16	29.7	2000	859	0	.0	.0	9.5	3.5	20.3	.3
Dec	33.7	18.1	25.9	66	1995	2	33.7	1995	-21+	1972	11	16.7	1990	1212	0	.0	.0	1.5	13.9	28.7	1.9
Ann	58.8	37.9	48.4	102	Jul 1931	24	77.4	Jul 2000	-23+	Feb 1933	10	14.2	Jan 1979	6723	684	.2	24.5	226.3	42.4	139.3	7.2

\+ 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	1.56	1.29	1.20	1980	14	4.19	1998	.49	1984
Feb	1.61	1.48	1.36	1986	18	4.44	1986	.18	1988
Mar	2.15	2.12	1.41	1994	23	4.44	1982	.70	1979
Apr	2.12	2.14	1.73	1957	23	5.80	1986	.27	1977
May	2.39	1.97	1.34	1948	8	4.90	1987	.17	1972
Jun	1.34	1.33	2.02	1964	7	3.79	1998	.09	1978
Jul	.98	1.02	1.40	1997	12	2.79	1993	.00	1988
Aug	.98	.60	1.94	1977	19	5.04	1977	.00	1985
Sep	1.56	1.14	1.83	1978	18	5.76	1982	.03	1987
Oct	2.06	2.18	1.64	1994	15	4.75	1981	.00+	1988
Nov	1.56	1.38	1.35	1958	16	5.05	1985	.04	1976
Dec	1.58	1.45	1.46	1955	24	5.92	1983	.08	1976
Ann	19.89	19.84	2.02	Jun 1964	7	5.92	Dec 1983	.00+	Oct 1988

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.8	4.8	.5	.1
Feb	10.1	4.8	.7	.1
Mar	11.0	6.2	.9	.1
Apr	10.5	6.3	.9	.1
May	11.1	6.3	1.1	.2
Jun	6.0	3.4	1.0	@
Jul	4.7	2.5	.6	.1
Aug	5.1	2.3	.5	.2
Sep	6.3	3.6	.9	.3
Oct	7.6	4.4	1.4	.4
Nov	10.1	4.9	.4	@
Dec	10.5	5.1	.5	@
Ann	104.8	54.6	9.4	1.6

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	.43	.58	.80	1.00	1.19	1.39	1.61	1.88	2.22	2.75	3.25
Feb	.40	.56	.79	1.00	1.20	1.42	1.66	1.95	2.32	2.91	3.47
Mar	.75	.95	1.25	1.50	1.73	1.98	2.24	2.55	2.95	3.57	4.13
Apr	.43	.62	.93	1.22	1.51	1.81	2.16	2.58	3.14	4.02	4.87
May	.56	.78	1.13	1.45	1.76	2.09	2.46	2.90	3.47	4.39	5.25
Jun	.11	.20	.38	.57	.77	1.01	1.28	1.64	2.12	2.93	3.73
Jul	.01	.04	.14	.27	.42	.61	.84	1.16	1.61	2.41	3.22
Aug	.01	.05	.15	.28	.43	.62	.86	1.17	1.61	2.39	3.17
Sep	.07	.15	.32	.53	.77	1.06	1.41	1.87	2.53	3.65	4.79
Oct	.00	.48	.91	1.23	1.53	1.84	2.18	2.56	3.08	3.89	4.64
Nov	.29	.43	.66	.87	1.09	1.32	1.58	1.90	2.33	3.01	3.65
Dec	.26	.39	.62	.84	1.07	1.31	1.59	1.93	2.38	3.12	3.83
Ann	12.04	13.47	15.35	16.81	18.13	19.42	20.78	22.30	24.16	26.92	29.35

+ 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)

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	12.0	10.9	5	5	11.4	1997	23	29.9	1982	16	1971	14	11+	1989	8.4	4.3	1.2	.4	@	23.7	19.8	16.2	4.0
Feb	10.4	8.4	4	3	13.4	1989	2	24.4	1990	22	1989	2	15	1985	6.3	3.6	1.2	.5	@	17.8	13.1	8.9	3.6
Mar	9.7	8.0	1	1	10.3	1994	23	26.1	1977	18+	1985	4	12	1985	4.8	3.0	1.3	.5	@	7.6	4.8	2.7	1.1
Apr	4.5	3.1	#	1	8.0	1976	26	12.5	1976	8+	1976	26	1+	1976	2.2	1.5	.6	.1	.0	1.8	.9	.3	.0
May	.9	.0	#	0	4.5	1983	12	6.2	1975	4+	1979	8	#	1999	.5	.3	.1	.0	.0	.2	.1	.0	.0
Jun	#	.0	#	0	#	1973	18	#	1973	0	0	0	#	2000	.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	.1	.0	#	0	1.5	1978	18	1.5	1978	2	1978	18	#	1978	.0	.0	.0	.0	.0	@	.0	.0	.0
Oct	2.2	.0	#	0	6.5	1984	27	16.0	1971	7+	1996	26	1+	1996	1.0	.6	.3	.2	.0	1.0	.4	.2	.0
Nov	6.5	3.9	1	0	9.0	1975	29	32.5	1985	15	1975	30	5	1985	4.4	2.0	.8	.3	.0	6.1	3.5	1.2	.4
Dec	13.7	13.8	3	3	10.0	1981	22	25.4	1990	23	1983	27	11	1983	7.5	4.3	2.0	.8	@	20.1	13.8	7.9	1.9
Ann	60.0	48.1	N/A	N/A	13.4	Feb 1989	2	32.5	Nov 1985	23	Dec 1983	27	15	Feb 1985	35.1	19.6	7.5	2.8	@	78.3	56.4	37.4	11.0

+ 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	6/06	5/30	5/26	5/22	5/19	5/15	5/11	5/07	5/01
32	5/20	5/14	5/09	5/06	5/02	4/29	4/25	4/21	4/14
28	5/04	4/27	4/22	4/18	4/14	4/10	4/06	4/01	3/25
24	4/17	4/10	4/04	3/31	3/26	3/22	3/17	3/12	3/04
20	4/08	4/01	3/26	3/21	3/17	3/12	3/08	3/02	2/22
16	3/24	3/17	3/12	3/08	3/04	2/28	2/24	2/19	2/12

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	9/16	9/22	9/26	9/29	10/02	10/05	10/08	10/12	10/18
32	9/26	10/02	10/06	10/09	10/13	10/16	10/20	10/24	10/29
28	10/13	10/18	10/22	10/25	10/28	10/31	11/04	11/07	11/13
24	10/23	10/28	10/31	11/03	11/06	11/09	11/12	11/15	11/20
20	10/30	11/04	11/08	11/11	11/14	11/17	11/20	11/24	11/29
16	11/07	11/13	11/17	11/20	11/24	11/27	12/01	12/05	12/11

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	161	152	146	141	136	131	125	119	110
32	191	181	174	168	163	157	151	145	135
28	224	214	208	202	197	191	185	179	169
24	251	242	235	229	224	219	213	206	197
20	267	258	252	246	242	237	231	225	216
16	292	282	276	270	264	259	253	246	236

***** 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	1255	1008	814	542	302	101	14	10	150	456	859	1212	6723
60	1100	868	660	402	180	41	3	1	73	312	709	1057	5406
57	1007	784	570	321	123	21	0	0	43	235	619	964	4687
55	945	728	512	271	92	12	0	0	28	190	561	902	4241
50	790	591	373	168	36	2	0	0	8	98	420	747	3233
32	311	187	56	7	0	0	0	0	0	1	74	257	893

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	79	103	265	455	735	991	1274	1248	905	571	205	68	6899
55	0	0	8	30	114	313	561	535	242	47	2	0	1852
57	0	0	4	19	83	261	499	473	197	31	1	0	1568
60	0	0	1	10	48	192	408	381	138	14	0	0	1192
65	0	0	0	1	14	101	265	236	64	3	0	0	684
70	0	0	0	0	2	42	146	115	22	0	0	0	327

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	1	11	89	238	494	752	1028	1001	664	341	65	7	1	12	101	339	833	1585	2613	3614	4278	4619	4684	4691
45	0	1	37	139	347	602	873	846	516	216	23	1	0	1	38	177	524	1126	1999	2845	3361	3577	3600	3601
50	0	0	8	67	219	455	718	691	372	116	3	0	0	0	8	75	294	749	1467	2158	2530	2646	2649	2649
55	0	0	0	25	120	316	563	536	246	49	0	0	0	0	0	25	145	461	1024	1560	1806	1855	1855	1855
60	0	0	0	10	52	194	411	383	137	13	0	0	0	0	0	10	62	256	667	1050	1187	1200	1200	1200
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	5	49	139	283	470	675	661	414	205	36	2	0	5	54	193	476	946	1621	2282	2696	2901	2937	2939

(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