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 5 SW EXP FARM, UT **COOP ID: 425194**

Climate Division: UT 3 **NWS Call Sign:** **Elevation: 4,490 Feet** **Lat: 41˚40N** **Lon: 111˚53W**

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	31.9	10.2	21.1	57	1997	1	31.0	2000	-30+	1979	8	8.8	1979	1363	0	.0	.0	.8	14.1	30.0	8.1
Feb	37.8	14.3	26.1	63+	1980	28	35.8	1986	-35	1985	1	13.0	1985	1092	0	.0	.0	2.9	7.2	27.1	5.4
Mar	48.3	25.1	36.7	73+	1972	23	45.1	1986	-10	1976	7	22.3	1976	877	0	.0	.0	14.2	1.4	25.0	.6
Apr	57.8	32.5	45.2	83	1992	30	50.5	1992	12+	1976	2	38.3	1975	597	0	.0	.0	23.4	.0	15.7	.0
May	67.5	39.4	53.5	88	1984	30	58.0	1992	21	1972	1	48.9	1975	363	4	.0	.0	29.7	.0	4.1	.0
Jun	78.3	46.2	62.3	99	1988	25	67.7	1988	27	1989	21	57.3	1998	136	53	.0	3.0	30.0	.0	.4	.0
Jul	87.3	51.6	69.5	101	1998	19	73.1	1998	35	1986	5	61.4	1993	25	163	.1	13.4	31.0	.0	.0	.0
Aug	86.2	49.8	68.0	102+	1983	7	71.3	2000	33+	1976	27	63.9	1975	40	134	.2	11.0	31.0	.0	.0	.0
Sep	75.7	40.4	58.1	94+	1990	12	64.0	1990	20+	1999	27	53.9	1986	230	20	.0	1.1	29.6	.0	4.0	.0
Oct	62.8	30.2	46.5	86+	1992	1	52.6	1988	0	1971	30	42.4	1971	573	0	.0	.0	27.2	.1	18.8	.0
Nov	45.6	21.8	33.7	72	1980	8	40.8	1995	-16+	1979	29	27.6	1993	938	0	.0	.0	11.1	2.2	27.5	.9
Dec	33.8	11.0	22.4	65	1995	2	32.5	1995	-44	1990	24	12.5	1990	1320	0	.0	.0	1.9	12.4	29.9	5.4
Ann	59.4	31.0	45.3	102+	Aug 1983	7	73.1	Jul 1998	-44	Dec 1990	24	8.8	Jan 1979	7554	374	.3	28.5	232.8	37.4	182.5	20.4

\+ 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: 1969-2001

(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	1.67	1.54	1.60	1997	26	4.86	1980	.29+	1985
Feb	1.69	1.38	2.66	1986	18	7.80	1986	.03	1988
Mar	1.86	1.65	1.14	1975	26	4.35	1975	.67	1999
Apr	1.96	2.12	1.34	1997	24	5.62	1986	.20	1987
May	2.17	1.77	1.14	1982	4	5.32	1987	.14	1972
Jun	1.26	1.10	2.08	1980	3	4.72	1984	.02	1996
Jul	.88	.78	1.66	1993	26	3.21	1993	.00	1988
Aug	.95	.57	1.14	2000	31	5.30	1977	.00	1985
Sep	1.44	.93	1.91	1978	18	5.26	1982	.00+	1987
Oct	1.89	2.13	2.02	1979	20	4.11	1981	.00+	1988
Nov	1.54	1.31	1.35	1984	9	4.05	1985	.03	1976
Dec	1.48	1.28	1.20	1983	4	5.50	1983	.10	1976
Ann	18.79	18.06	2.66	Feb 1986	18	7.80	Feb 1986	.00+	Oct 1988

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.6	4.8	.8	.2
Feb	8.6	4.8	.8	.1
Mar	9.3	5.5	1.0	.1
Apr	10.2	6.3	.9	.1
May	10.1	6.2	1.0	.1
Jun	5.3	3.2	.7	.1
Jul	4.5	2.2	.5	.1
Aug	4.5	2.2	.4	.1
Sep	6.1	3.5	.8	.3
Oct	6.6	4.6	1.1	.3
Nov	8.9	5.0	.5	.1
Dec	8.8	4.9	.3	@
Ann	92.5	53.2	8.8	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	.25	.39	.64	.87	1.11	1.37	1.67	2.03	2.53	3.33	4.10
Feb	.21	.35	.59	.83	1.07	1.35	1.67	2.07	2.60	3.49	4.34
Mar	.68	.86	1.11	1.32	1.52	1.73	1.95	2.21	2.54	3.04	3.51
Apr	.40	.58	.87	1.13	1.40	1.68	2.00	2.38	2.89	3.70	4.47
May	.47	.67	.99	1.28	1.57	1.87	2.22	2.63	3.18	4.05	4.87
Jun	.08	.16	.32	.49	.68	.91	1.18	1.53	2.01	2.83	3.65
Jul	.01	.06	.17	.29	.43	.59	.80	1.06	1.44	2.07	2.71
Aug	.01	.05	.15	.27	.42	.60	.83	1.13	1.55	2.29	3.04
Sep	.00	.09	.31	.53	.77	1.04	1.37	1.78	2.34	3.30	4.23
Oct	.00	.39	.77	1.07	1.36	1.65	1.98	2.35	2.86	3.66	4.42
Nov	.28	.42	.65	.85	1.07	1.30	1.56	1.87	2.29	2.97	3.61
Dec	.21	.33	.54	.75	.96	1.20	1.47	1.81	2.26	3.00	3.71
Ann	10.85	12.26	14.14	15.61	16.95	18.26	19.65	21.20	23.12	25.97	28.49

\+ 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: 1969-2001
(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	10.0	7.9	5	3
Feb	10.1	8.5	5	2
Mar	5.7	4.5	2	1
Apr	3.6	2.0	#	#
May	.4	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	#	0
Oct	.9	.0	#	0
Nov	5.5	3.9	1	#
Dec	12.5	10.8	3	3
Ann	48.7	37.6	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	12.8	1997	23	26.0	1974	20	1993	19	16	1993
Feb	11.6	1989	2	25.0	1990	22	1989	3	18	1989
Mar	10.0	1985	3	16.0	1973	20	1985	5	16	1985
Apr	6.5	1974	10	12.6	1984	12	1985	1	1	1985
May	4.5	1975	20	4.5	1975	3	1988	1	#+	1999
Jun	.0	0	0	.0	0	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	1.0	1978	18	1.0	1978	1	1978	18	#+	2000
Oct	6.0	1971	28	8.0	1971	6	1971	28	1	1971
Nov	5.2	1985	18	26.3	1985	14	1985	19	5	1985
Dec	10.0	1983	1	50.7	1983	18	1983	31	10	1983
Ann	12.8	Jan 1997	23	50.7	Dec 1983	22	Feb 1989	3	18	Feb 1989

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.6	3.8	1.1	.5	.1
Feb	4.9	3.0	1.1	.3	.1
Mar	3.6	2.2	.6	.2	@
Apr	2.1	1.5	.4	.1	.0
May	.3	.1	.1	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.1	@	.0	.0	.0
Oct	.6	.4	@	@	.0
Nov	3.9	2.0	.6	.1	.0
Dec	6.0	3.7	1.5	.6	@
Ann	28.1	16.7	5.4	1.8	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	22.4	18.4	14.0	7.8
Feb	18.4	14.6	9.9	5.3
Mar	5.6	2.8	1.6	.7
Apr	1.8	.6	.1	.0
May	.1	@	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	@	.0	.0	.0
Oct	.4	.1	@	.0
Nov	5.5	3.1	.9	.2
Dec	17.5	12.3	7.0	3.0
Ann	71.7	51.9	33.5	17.0

+ 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	6/28	6/22	6/18	6/15	6/12	6/09	6/05	6/02	5/27
32	6/12	6/05	5/31	5/26	5/22	5/18	5/13	5/08	5/01
28	5/25	5/18	5/13	5/08	5/04	4/30	4/26	4/20	4/13
24	5/04	4/27	4/22	4/18	4/14	4/10	4/06	4/01	3/26
20	4/21	4/12	4/06	3/31	3/26	3/21	3/15	3/09	2/28
16	4/10	4/02	3/27	3/22	3/18	3/13	3/08	3/03	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	8/22	8/27	8/31	9/03	9/06	9/09	9/13	9/16	9/21
32	9/08	9/12	9/14	9/17	9/19	9/21	9/24	9/27	10/01
28	9/18	9/23	9/26	9/29	10/02	10/04	10/07	10/11	10/15
24	9/28	10/04	10/08	10/12	10/15	10/18	10/21	10/26	10/31
20	10/10	10/17	10/21	10/25	10/29	11/02	11/06	11/10	11/17
16	10/28	11/02	11/06	11/09	11/12	11/15	11/18	11/21	11/26

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	90	86	81	76	71	63
32	142	135	129	124	120	115	110	104	97
28	176	167	161	155	150	145	139	132	123
24	211	201	194	188	183	177	171	164	155
20	253	240	231	223	216	209	201	192	180
16	269	258	251	244	238	232	226	218	208

***** 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	1363	1092	877	597	363	136	25	40	230	573	938	1320	7554
60	1208	952	725	447	225	59	4	9	122	418	788	1165	6122
57	1115	868	639	363	156	30	1	3	74	328	698	1072	5347
55	1053	812	581	307	116	18	0	1	50	270	638	1010	4856
50	908	680	443	185	46	3	0	0	13	146	492	855	3771
32	428	264	107	6	0	0	0	0	0	1	102	348	1256

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	88	96	252	400	664	907	1161	1116	781	452	154	51	6122
55	0	0	14	11	67	235	448	404	141	7	0	0	1327
57	0	0	10	6	44	187	387	344	105	3	0	0	1086
60	0	0	3	0	21	126	297	257	63	1	0	0	768
65	0	0	0	0	4	53	163	134	20	0	0	0	374
70	0	0	0	0	0	15	70	51	4	0	0	0	140

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	8	64	201	430	676	925	886	555	247	36	3	0	8	72	273	703	1379	2304	3190	3745	3992	4028	4031
45	0	0	21	107	287	527	770	731	409	129	7	0	0	0	21	128	415	942	1712	2443	2852	2981	2988	2988
50	0	0	1	45	167	379	615	576	270	52	1	0	0	0	1	46	213	592	1207	1783	2053	2105	2106	2106
55	0	0	0	14	79	249	461	423	155	13	0	0	0	0	0	14	93	342	803	1226	1381	1394	1394	1394
60	0	0	0	0	29	135	312	272	65	0	0	0	0	0	0	0	29	164	476	748	813	813	813	813
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	6	56	146	287	439	584	572	396	221	43	4	0	6	62	208	495	934	1518	2090	2486	2707	2750	2754

(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