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: HANKSVILLE, UT **COOP ID: 423611**

Climate Division: UT 7 **NWS Call Sign: 4HV** **Elevation: 4,308 Feet** **Lat: 38˚22N** **Lon: 110˚43W**

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	41.7	11.3	26.5	69	1975	26	35.9	1999	-28	1963	13	13.1	1973	1194	0	.0	.0	7.6	6.8	30.2	6.3
Feb	50.6	19.5	35.1	74	1972	28	43.2	1995	-33	1989	6	22.1	1979	840	0	.0	.0	15.9	1.1	25.7	1.5
Mar	61.6	28.7	45.2	85	1989	10	49.9	1986	4	1977	5	39.5	1977	616	0	.0	.0	28.1	@	21.5	.0
Apr	70.8	36.5	53.7	98	1989	19	60.4	1992	16+	1970	4	48.2	1975	351	11	.0	1.0	29.3	.0	10.0	.0
May	81.6	45.3	63.5	104+	2000	28	69.9	2000	23	1968	7	59.3	1995	118	69	.4	7.5	31.0	.0	1.6	.0
Jun	93.7	53.2	73.5	110+	1981	23	77.9	1994	31	1990	2	68.6	1975	12	266	8.6	22.5	30.0	.0	.1	.0
Jul	99.0	59.8	79.4	114	1989	8	83.1	1998	38	1968	1	76.3	1987	0	446	18.0	29.0	31.0	.0	.0	.0
Aug	95.9	58.1	77.0	110	1979	5	82.2	2000	35	1992	27	74.0	1989	1	372	11.1	26.9	31.0	.0	.0	.0
Sep	85.8	48.1	67.0	105	1990	14	70.4	1990	25+	1985	30	62.2	1985	52	110	1.6	12.4	30.0	.0	1.1	.0
Oct	71.6	35.0	53.3	95	1978	1	58.0	1988	-6	1971	30	47.7	1982	367	4	.0	1.0	30.4	.0	12.2	@
Nov	54.2	22.7	38.5	82	1988	3	43.0	1995	-8	1964	17	30.4	1979	795	0	.0	.0	20.6	.1	26.7	.2
Dec	43.2	14.1	28.7	70	1995	4	36.0	1980	-22	1978	8	18.2	1978	1127	0	.0	.0	7.6	3.0	30.2	2.3
Ann	70.8	36.0	53.5	114	Jul 1989	8	83.1	Jul 1998	-33	Feb 1989	6	13.1	Jan 1973	5473	1278	39.7	100.3	292.5	11.0	159.3	10.3

\+ 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: 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	.50	.31	1.00	1979	17	1.78	1979	.00	1972
Feb	.25	.26	.45	1955	2	.70	1976	.00	1972
Mar	.55	.36	1.15	1980	22	1.86	1980	.00+	1994
Apr	.45	.29	.79	1997	2	1.55	1975	.00+	2000
May	.52	.40	1.35	1979	24	3.11	1979	.00+	1974
Jun	.23	.15	.88	1983	12	1.09	1983	.00+	1994
Jul	.49	.39	1.74	1950	8	1.86	1985	.02	2000
Aug	.55	.38	1.80	1952	14	1.54	1999	.00	1985
Sep	.79	.54	1.20	1980	10	2.73	1980	.00	1992
Oct	.71	.45	.97	1972	19	3.58	1972	.00+	1999
Nov	.41	.38	.62	1954	29	1.51	1978	.00+	1999
Dec	.27	.18	.72	1948	27	1.23	1978	.00+	1989
Ann	5.72	5.54	1.80	Aug 1952	14	3.58	Oct 1972	.00+	Apr 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.4	1.4	.2	@
Feb	3.6	.8	.0	.0
Mar	5.5	1.6	.1	@
Apr	3.8	1.5	.1	.0
May	4.2	1.9	.1	@
Jun	2.6	.6	.1	.0
Jul	5.3	1.4	.2	@
Aug	5.5	1.7	.1	.0
Sep	5.0	2.0	.4	.1
Oct	4.6	2.3	.3	.0
Nov	3.4	1.5	@	.0
Dec	3.2	1.0	@	.0
Ann	51.1	17.7	1.6	.1

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	.01	.03	.08	.15	.23	.32	.44	.60	.82	1.20	1.58
Feb	.02	.05	.09	.13	.17	.21	.26	.31	.39	.51	.63
Mar	.00	.02	.10	.18	.27	.37	.50	.67	.90	1.30	1.69
Apr	.00	.02	.08	.14	.22	.31	.41	.55	.75	1.08	1.42
May	.00	.03	.11	.19	.27	.37	.49	.64	.84	1.19	1.53
Jun	.00	.00	.02	.06	.10	.15	.21	.28	.39	.56	.74
Jul	.04	.08	.14	.21	.28	.37	.47	.60	.77	1.07	1.36
Aug	.02	.07	.15	.23	.32	.42	.53	.67	.87	1.19	1.51
Sep	.02	.08	.19	.31	.43	.58	.75	.97	1.27	1.78	2.29
Oct	.00	.02	.10	.20	.32	.46	.63	.86	1.18	1.74	2.30
Nov	.00	.00	.06	.12	.19	.28	.38	.50	.68	.98	1.28
Dec	.00	.01	.05	.09	.14	.19	.25	.34	.45	.64	.84
Ann	3.24	3.68	4.26	4.72	5.14	5.56	5.99	6.49	7.09	8.00	8.79

\+ 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

Complete documentation available from:
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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	.9	.0	2	1
Feb	.8	.0	1	#
Mar	.4	.0	#	0
Apr	.2	.0	#	0
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.4	.0	0	0
Nov	.8	.0	#	0
Dec	.5	.0	#	#
Ann	4.0	.0	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	11.0	1997	13	11.0	1997	13	1997	14	7	1992
Feb	7.4	1989	4	7.9	1989	8	1979	13	6	1979
Mar	2.0	1987	16	2.5	2000	15	1985	28	5	1985
Apr	4.0	1983	5	4.0	1983	5	1997	2	#+	1997
May	#	1975	6	#	1975	0	0	0	0	0
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	.0	0	0	.0	0	0	0	0	0	0
Oct	7.0	1971	29	7.0	1971	7	1971	29	1	1971
Nov	3.0	1973	25	4.0	1981	8	1979	24	2	1979
Dec	3.0	1991	19	3.0	1987	8	1979	27	3	1979
Ann	11.0	Jan 1997	13	11.0	Jan 1997	15	Mar 1985	28	7	Jan 1992

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.8	.6	.2	@	@
Feb	.4	.3	.1	@	.0
Mar	.2	.2	.0	.0	.0
Apr	@	@	@	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.1	.1	.1	@	.0
Nov	.5	.4	.1	.0	.0
Dec	.7	.6	@	.0	.0
Ann	2.7	2.2	.5	@	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.9	2.1	1.9	.0
Feb	1.8	.9	.4	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.1	@	.0
Nov	.3	@	.0	.0
Dec	2.0	.4	.0	.0
Ann	7.1	3.5	2.3	.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	6/11	6/05	5/31	5/28	5/24	5/21	5/17	5/13	5/07
32	6/02	5/25	5/20	5/15	5/11	5/07	5/02	4/27	4/19
28	5/07	5/01	4/27	4/23	4/19	4/16	4/12	4/08	4/02
24	4/25	4/19	4/14	4/10	4/07	4/03	3/30	3/26	3/19
20	4/12	4/05	3/31	3/27	3/23	3/19	3/14	3/09	3/02
16	3/28	3/19	3/14	3/09	3/04	2/27	2/22	2/17	2/09

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	9/14	9/18	9/21	9/24	9/27	9/30	10/03	10/08
32	9/19	9/24	9/27	9/30	10/03	10/05	10/08	10/12	10/16
28	9/26	10/01	10/05	10/08	10/11	10/15	10/18	10/22	10/27
24	10/13	10/18	10/22	10/25	10/27	10/30	11/02	11/05	11/10
20	10/22	10/27	10/30	11/01	11/04	11/07	11/09	11/12	11/17
16	10/27	11/02	11/06	11/09	11/12	11/16	11/19	11/23	11/28

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	146	138	132	126	122	117	112	105	97
32	168	160	154	149	144	139	134	128	120
28	201	192	185	180	174	169	163	157	147
24	226	218	212	207	203	198	194	188	180
20	251	243	236	231	226	221	215	209	200
16	284	273	266	259	253	246	240	232	221

***** 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	1194	840	616	351	118	12	0	1	52	367	795	1127	5473
60	1039	700	463	226	49	2	0	0	14	231	645	972	4341
57	950	616	377	164	25	0	0	0	5	162	555	879	3733
55	891	565	321	129	14	0	0	0	2	123	496	817	3358
50	746	434	198	61	3	0	0	0	0	54	351	662	2509
32	306	102	7	0	0	0	0	0	0	0	28	180	623

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	135	186	414	650	974	1244	1469	1394	1048	660	223	76	8473
55	7	6	15	89	275	554	756	681	360	70	1	0	2814
57	4	0	9	64	224	494	694	619	302	47	0	0	2457
60	0	0	3	36	155	406	601	526	221	23	0	0	1971
65	0	0	0	11	69	266	446	372	110	4	0	0	1278
70	0	0	0	2	22	149	292	225	40	0	0	0	730

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	3	45	201	428	739	1020	1235	1165	829	434	80	5	3	48	249	677	1416	2436	3671	4836	5665	6099	6179	6184
45	0	10	96	287	585	870	1080	1010	679	293	24	1	0	10	106	393	978	1848	2928	3938	4617	4910	4934	4935
50	0	1	34	169	432	720	925	855	529	168	5	0	0	1	35	204	636	1356	2281	3136	3665	3833	3838	3838
55	0	0	10	85	287	570	770	700	382	78	0	0	0	0	10	95	382	952	1722	2422	2804	2882	2882	2882
60	0	0	0	31	166	422	615	545	244	23	0	0	0	0	0	31	197	619	1234	1779	2023	2046	2046	2046
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	18	70	200	326	495	601	720	693	532	349	106	12	18	88	288	614	1109	1710	2430	3123	3655	4004	4110	4122

(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