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: IBAPAH, UT **COOP ID: 424174**

Climate Division: UT 1 **NWS Call Sign:** **Elevation: 5,280 Feet** **Lat: 40˚02N** **Lon: 113˚59W**

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	43.2	11.0	27.1	68	1990	10	34.1	1998	-30	1971	6	18.4	1988	1175	0	.0	.0	8.5	5.4	30.4	5.9
Feb	48.0	15.7	31.9	75	1986	26	40.0	1995	-31	1989	6	23.4	1993	929	0	.0	.0	12.2	2.1	27.6	2.5
Mar	56.0	22.3	39.2	81	1986	29	44.9	1978	-9	1985	4	32.0	1976	801	0	.0	.0	21.8	.2	28.3	.3
Apr	63.3	27.2	45.3	88+	1992	27	51.6	1990	2	1982	2	37.6	1975	593	0	.0	.0	26.4	.0	23.2	.0
May	71.9	34.1	53.0	94+	1954	18	58.7	1992	8	1965	6	47.6	1975	375	3	.0	.4	30.4	.0	11.7	.0
Jun	82.7	40.3	61.5	103	1954	23	65.2	1977	20+	1954	1	57.5	1998	143	37	.3	7.7	29.9	.0	3.1	.0
Jul	91.8	46.1	69.0	105+	1994	27	72.3	1989	24	1968	1	62.4	1993	23	145	2.0	21.7	31.0	.0	.2	.0
Aug	90.8	44.6	67.7	107	2000	2	71.6	1994	21	1969	30	64.6	1976	38	121	1.1	18.6	31.0	.0	.8	.0
Sep	81.4	35.9	58.7	102	1990	13	62.0	1990	11	1956	22	50.9	1971	212	21	@	4.8	29.9	.0	10.7	.0
Oct	68.9	26.6	47.8	94	1996	11	54.0	1988	-3	1971	30	43.1	1971	535	0	.0	.2	29.1	.1	25.0	@
Nov	53.7	18.6	36.2	79	1999	1	42.2	1995	-18	1955	16	28.6	2000	866	0	.0	.0	18.0	.5	28.5	.7
Dec	44.2	11.0	27.6	73	1995	1	35.9	1977	-31	1972	10	20.0	1990	1159	0	.0	.0	8.1	3.9	30.3	4.8
Ann	66.3	27.8	47.1	107	Aug 2000	2	72.3	Jul 1989	-31+	Feb 1989	6	18.4	Jan 1988	6849	327	3.4	53.4	276.3	12.2	219.8	14.2

\+ 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: 1948-2001

(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	.78	.59	1.08	1993	9	2.41	1993	.04	1972
Feb	.68	.61	.79	1968	13	1.63	1997	.00	1988
Mar	.99	.89	1.20	1985	3	2.26	1981	.00+	1999
Apr	1.13	.97	1.00	1971	18	2.94	1999	.16	1989
May	1.38	1.15	1.41	1989	12	3.41	1980	.06	1972
Jun	.92	.60	2.05	1967	13	3.07	1997	.00+	1996
Jul	.90	.62	.92	1975	12	2.58	1973	.01	1971
Aug	.77	.57	1.22	1983	19	4.09	1983	.00+	1996
Sep	.89	.55	3.11	1982	27	5.85	1982	.00+	1999
Oct	1.05	.88	1.60+	1961	9	3.42	1998	.00+	1999
Nov	.57	.46	.70	1963	15	1.94	1987	.03	1999
Dec	.48	.31	.95	1970	17	1.68	1996	.00+	1986
Ann	10.54	10.41	3.11	Sep 1982	27	5.85	Sep 1982	.00+	Oct 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.5	2.1	.3	.1
Feb	4.4	2.0	.2	.0
Mar	5.7	3.3	.3	.1
Apr	6.0	3.3	.3	@
May	6.8	4.2	.7	.1
Jun	3.5	2.2	.5	.1
Jul	4.1	2.0	.6	.0
Aug	4.4	2.1	.3	.1
Sep	3.8	2.3	.5	.1
Oct	4.4	2.6	.6	.1
Nov	3.1	1.8	.1	.0
Dec	3.6	1.5	.1	.0
Ann	54.3	29.4	4.5	.7

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	.10	.16	.27	.38	.49	.62	.77	.95	1.19	1.60	1.99
Feb	.04	.10	.20	.30	.41	.53	.66	.83	1.07	1.45	1.83
Mar	.00	.00	.52	.70	.85	.98	1.12	1.27	1.47	1.76	2.03
Apr	.18	.28	.44	.60	.76	.93	1.13	1.37	1.70	2.23	2.73
May	.24	.36	.56	.75	.95	1.16	1.40	1.69	2.08	2.70	3.30
Jun	.00	.00	.14	.30	.47	.66	.88	1.16	1.54	2.15	2.76
Jul	.04	.08	.18	.29	.43	.60	.80	1.07	1.45	2.12	2.79
Aug	.00	.02	.11	.21	.34	.49	.68	.93	1.28	1.89	2.51
Sep	.00	.00	.13	.29	.45	.63	.85	1.11	1.48	2.08	2.68
Oct	.00	.06	.22	.38	.56	.76	1.00	1.30	1.71	2.41	3.10
Nov	.05	.09	.17	.25	.33	.43	.55	.69	.89	1.23	1.55
Dec	.00	.00	.09	.17	.25	.35	.46	.60	.79	1.11	1.43
Ann	5.78	6.61	7.72	8.60	9.40	10.19	11.03	11.97	13.14	14.88	16.43

\+ 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)

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	5.7	4.4	3	2	14.0	1996	24	15.0	1971	20+	1993	11	13	1993	2.1	1.7	.8	.3	@	4.5	2.1	1.1	.2
Feb	3.2	1.5	2	2	10.0	2000	24	12.0	1974	15	1993	17	13	1993	1.7	1.5	.7	.3	@	3.8	2.6	1.0	.2
Mar	5.7	2.5	#	#	14.0	1985	3	22.0	1985	16	1993	4	6	1993	1.7	1.5	.6	.3	@	1.2	.6	.1	.0
Apr	3.0	1.0	#	#	9.0	1974	10	10.7	1975	9	1995	21	1	1995	1.1	.8	.5	.2	.0	.6	.3	.1	.0
May	1.3	.0	#	0	9.0	1975	21	28.0	1975	3	1975	20	#+	1999	.4	.4	.1	.1	.0	.2	@	.0	.0
Jun	.0	.0	#	0	.0	0	0	.0	0	2	1995	7	#+	1997	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	#	0	.0	0	0	.0	0	#+	1997	28	#+	1997	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	#	0	.0	0	0	.0	0	#+	1999	27	#+	1999	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.1	.0	#	0	3.0	1982	30	3.0	1982	#+	1998	25	#+	1998	.1	@	@	.0	.0	.0	.0	.0	.0
Oct	.9	.0	#	0	5.0	1986	2	5.0+	1986	3+	2000	30	#+	2000	.6	.4	.1	@	.0	.2	.0	.0	.0
Nov	2.7	1.0	#	#	8.0	1985	11	13.0	1985	11	1985	12	2	1985	.8	.7	.3	.2	.0	1.4	.5	.1	.0
Dec	1.9	2.0	1	1	6.0	1992	30	6.0	1992	9	1987	24	4	1978	1.4	.9	.2	@	.0	5.2	.9	.0	.0
Ann	24.5	12.4	N/A	N/A	14.0+	Jan 1996	24	28.0	May 1975	20+	Jan 1993	11	13+	Feb 1993	9.9	7.9	3.3	1.4	@	17.1	7.0	2.4	.4

+ 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	7/23	7/17	7/13	7/09	7/06	7/02	6/29	6/24	6/18
32	7/08	7/01	6/27	6/23	6/19	6/15	6/12	6/07	6/01
28	6/22	6/15	6/09	6/05	6/01	5/28	5/23	5/18	5/10
24	5/30	5/24	5/20	5/16	5/13	5/10	5/06	5/02	4/26
20	5/10	5/05	5/02	4/29	4/26	4/24	4/21	4/18	4/13
16	5/03	4/23	4/17	4/11	4/05	3/31	3/25	3/18	3/09

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	8/05	8/11	8/14	8/17	8/20	8/23	8/26	8/30	9/04
32	8/16	8/21	8/25	8/28	9/01	9/04	9/07	9/11	9/16
28	8/30	9/05	9/09	9/12	9/15	9/18	9/21	9/25	9/30
24	9/10	9/15	9/19	9/23	9/26	9/29	10/02	10/06	10/12
20	9/20	9/26	9/30	10/04	10/07	10/11	10/15	10/19	10/25
16	10/01	10/09	10/15	10/19	10/24	10/28	11/02	11/07	11/15

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	72	63	56	50	45	39	33	27	17
32	99	90	84	78	73	67	62	55	46
28	134	124	117	111	105	100	94	86	77
24	158	150	144	140	135	131	126	120	113
20	185	178	172	168	163	159	154	149	141
16	237	225	215	208	200	193	185	176	164

***** 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	1175	929	801	593	375	143	23	38	212	535	866	1159	6849
60	1020	789	646	445	235	60	3	7	108	382	716	1004	5415
57	927	705	553	361	164	30	0	2	64	296	626	911	4639
55	865	649	493	307	124	17	0	1	42	242	566	849	4155
50	710	509	348	188	52	3	0	0	11	130	421	694	3066
32	246	110	30	6	0	0	0	0	0	1	59	206	658

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	94	104	252	403	651	884	1145	1106	799	490	183	70	6181
55	0	0	2	14	63	210	432	394	151	18	0	0	1284
57	0	0	0	9	40	163	370	333	113	9	0	0	1037
60	0	0	0	2	18	104	280	245	67	3	0	0	719
65	0	0	0	0	3	37	145	121	21	0	0	0	327
70	0	0	0	0	0	7	54	41	4	0	0	0	106

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	23	87	199	417	652	902	856	558	260	51	9	3	26	113	312	729	1381	2283	3139	3697	3957	4008	4017
45	0	1	31	99	275	502	747	702	411	144	14	0	0	1	32	131	406	908	1655	2357	2768	2912	2926	2926
50	0	0	5	40	155	359	592	547	273	64	1	0	0	0	5	45	200	559	1151	1698	1971	2035	2036	2036
55	0	0	0	10	73	220	437	393	155	17	0	0	0	0	0	10	83	303	740	1133	1288	1305	1305	1305
60	0	0	0	0	18	112	285	242	67	0	0	0	0	0	0	0	18	130	415	657	724	724	724	724
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	20	48	123	212	343	464	571	561	448	288	90	23	20	68	191	403	746	1210	1781	2342	2790	3078	3168	3191

(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

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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