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: FLAMING GORGE, UT **COOP ID: 422864**

Climate Division: UT 5 **NWS Call Sign:** **Elevation: 6,270 Feet** **Lat: 40˚56N** **Lon: 109˚25W**

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	36.0	9.7	22.9	59	1981	22	32.5	1999	-38	1963	12	11.1	1979	1308	0	.0	.0	1.9	10.8	30.5	7.2
Feb	40.7	12.6	26.7	66	1986	25	32.4	2000	-31	1982	5	15.0	1993	1074	0	.0	.0	4.8	6.0	27.5	5.1
Mar	48.9	21.4	35.2	74	1966	30	40.8	1986	-14	1969	10	30.0	1973	926	0	.0	.0	13.9	1.4	28.5	.7
Apr	57.7	27.9	42.8	80+	1989	20	48.8	1989	-2	1958	1	37.0	1997	666	0	.0	.0	22.4	.3	22.4	@
May	68.2	35.5	51.9	88+	1994	30	56.1	2000	14	1972	1	46.5	1995	408	1	.0	.0	29.4	.0	10.4	.0
Jun	79.2	42.7	61.0	100	2001	30	66.6	1977	23	2001	13	55.4	1998	163	40	.0	1.9	30.0	.0	1.8	.0
Jul	85.7	49.3	67.5	100	1989	8	70.7	1989	30	1993	4	61.5	1993	33	111	@	7.4	31.0	.0	.1	.0
Aug	84.0	48.1	66.1	99	2000	2	70.1	2000	26	1992	26	62.9	1975	46	77	.0	4.2	31.0	.0	.2	.0
Sep	74.6	39.3	57.0	91+	1990	13	62.2	1998	11	1965	18	51.6	1971	254	12	.0	.3	29.5	@	5.9	.0
Oct	62.2	29.7	46.0	83	1980	1	51.5	1988	-4	1971	30	41.0	1984	591	0	.0	.0	27.0	.3	20.2	.1
Nov	45.1	19.6	32.4	75	1967	14	38.3+	1999	-15+	2000	13	25.3	1971	979	0	.0	.0	10.7	4.0	27.7	1.6
Dec	36.3	11.5	23.9	64	1995	1	33.6	1980	-36	1990	22	17.0	1978	1275	0	.0	.0	2.1	10.6	30.3	5.2
Ann	59.9	28.9	44.5	100+	Jun 2001	30	70.7	Jul 1989	-38	Jan 1963	12	11.1	Jan 1979	7723	241	@	13.8	233.7	33.4	205.5	19.9

\+ 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: 1957-2001

(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	.51	.43	.89	1962	21	1.21	1997	.13	1986
Feb	.55	.45	.98	1970	25	1.37	1994	.05	1973
Mar	1.12	1.08	1.17	1983	7	2.51	1983	.23	1997
Apr	1.62	1.37	1.93	1973	18	4.08	1986	.17	1987
May	1.73	1.64	2.05	1975	20	4.20	1995	.02	1974
Jun	1.08	.77	1.77	1970	11	3.23	1998	.13	1971
Jul	1.08	.84	1.29	1974	17	2.60	1985	.15	1971
Aug	1.30	1.07	1.86	1959	1	3.64	1997	.01	1985
Sep	1.12	.97	1.72	1982	27	4.02	1982	.07	1979
Oct	1.40	1.29	3.37	1961	8	4.84	1994	.00	1988
Nov	.83	.66	1.05	1958	15	2.61	1983	.03	1976
Dec	.50	.47	1.70	1998	19	1.37	1983	.00	2000
Ann	12.84	12.65	3.37	Oct 1961	8	4.84	Oct 1994	.00+	Dec 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.5	2.0	@	.0
Feb	5.0	1.9	.1	.0
Mar	7.3	3.8	.4	@
Apr	8.0	4.2	.8	.1
May	8.7	4.4	.8	.1
Jun	6.2	2.9	.5	.1
Jul	6.9	3.2	.4	.2
Aug	7.1	3.3	.5	.1
Sep	6.4	3.0	.5	.1
Oct	5.6	3.4	.7	.1
Nov	5.3	2.7	.1	.0
Dec	4.9	1.8	.1	@
Ann	76.9	36.6	4.9	.8

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	.15	.20	.27	.33	.40	.46	.53	.62	.72	.90	1.05
Feb	.10	.15	.23	.30	.38	.46	.56	.67	.83	1.07	1.31
Mar	.36	.47	.63	.76	.89	1.02	1.17	1.34	1.56	1.91	2.23
Apr	.43	.59	.82	1.02	1.23	1.44	1.67	1.95	2.31	2.88	3.41
May	.21	.34	.58	.82	1.08	1.36	1.70	2.11	2.67	3.58	4.48
Jun	.13	.22	.37	.52	.68	.86	1.07	1.32	1.67	2.25	2.80
Jul	.20	.30	.46	.60	.75	.91	1.09	1.31	1.61	2.08	2.53
Aug	.13	.22	.40	.58	.78	1.00	1.26	1.58	2.02	2.76	3.48
Sep	.18	.28	.44	.60	.76	.93	1.13	1.37	1.70	2.22	2.72
Oct	.09	.22	.44	.65	.86	1.10	1.38	1.73	2.19	2.96	3.70
Nov	.13	.20	.32	.43	.55	.68	.83	1.01	1.26	1.66	2.04
Dec	.05	.11	.19	.26	.34	.42	.51	.62	.76	.99	1.22
Ann	9.00	9.74	10.69	11.41	12.05	12.67	13.31	14.02	14.89	16.14	17.23

\+ 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: 1957-2001
(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	8.1	4	3
Feb	7.0	6.0	4	3
Mar	9.8	8.6	1	1
Apr	7.5	6.0	#	#
May	.4	.0	#	0
Jun	.3	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.2	.0	#	0
Oct	3.1	.0	#	0
Nov	8.9	7.0	1	1
Dec	9.9	8.1	3	2
Ann	56.1	43.8	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	12.0	1993	2	30.1	1993	19	1984	23	17	1984
Feb	12.0	1976	5	19.0	1990	21	1984	18	18	1984
Mar	18.0	1988	10	24.7	1973	20	1988	11	11	1984
Apr	22.5	1973	18	26.0	1973	17	1973	18	2	1973
May	7.0	1975	5	7.0	1975	12	1975	20	3	1975
Jun	6.0	1990	1	6.0	1990	4	1990	1	#+	1990
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	4.8	1984	24	4.8	1984	3	1984	24	#+	1996
Oct	23.0	1971	28	23.0	1971	27	1971	29	2	1971
Nov	12.0	1973	3	30.7	1983	17	1971	1	8	1971
Dec	14.2	1983	15	29.2	1983	21	1983	15	12	1983
Ann	23.0	Oct 1971	28	30.7	Nov 1983	27	Oct 1971	29	18	Feb 1984

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.8	3.3	.8	.2	@
Feb	3.5	2.3	.9	.3	@
Mar	4.5	3.3	1.2	.5	@
Apr	2.3	2.0	.9	.4	.1
May	.2	.2	.1	@	.0
Jun	.1	.1	@	@	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.1	@	@	.0	.0
Oct	1.0	.8	.3	.2	.1
Nov	3.2	2.4	1.0	.4	@
Dec	4.0	2.5	.8	.5	.1
Ann	23.7	16.9	6.0	2.5	.3

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	17.1	12.7	8.6	2.0
Feb	15.3	12.2	8.8	2.2
Mar	7.6	4.2	2.1	1.0
Apr	1.8	.7	.3	.1
May	.1	@	.0	.0
Jun	.1	@	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.1	@	.0	.0
Oct	1.1	.6	.3	.1
Nov	6.1	2.5	1.6	.3
Dec	16.6	9.3	5.1	.9
Ann	65.9	42.2	26.8	6.6

+ 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	7/10	7/04	6/29	6/26	6/22	6/19	6/15	6/11	6/05
32	6/26	6/21	6/17	6/14	6/10	6/07	6/04	5/31	5/25
28	6/03	5/29	5/26	5/23	5/20	5/17	5/13	5/10	5/05
24	5/18	5/14	5/10	5/08	5/05	5/02	4/30	4/26	4/22
20	5/06	5/01	4/27	4/24	4/21	4/18	4/15	4/11	4/06
16	4/29	4/22	4/17	4/12	4/08	4/04	3/31	3/26	3/19

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	8/20	8/24	8/28	8/31	9/03	9/06	9/09	9/12	9/17
32	8/31	9/05	9/08	9/11	9/13	9/16	9/19	9/22	9/26
28	9/10	9/14	9/17	9/19	9/22	9/24	9/26	9/29	10/03
24	9/19	9/24	9/28	10/02	10/05	10/08	10/12	10/16	10/21
20	10/05	10/10	10/14	10/17	10/20	10/23	10/26	10/29	11/03
16	10/09	10/16	10/20	10/24	10/27	10/30	11/03	11/07	11/14

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	97	89	82	77	72	67	62	55	47
32	115	108	103	98	94	90	86	81	74
28	140	135	131	127	124	121	118	114	108
24	173	166	161	156	152	148	144	139	131
20	201	194	189	185	181	177	173	168	161
16	229	219	212	206	201	195	189	182	173

***** 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	1308	1074	926	666	408	163	33	46	254	591	979	1275	7723
60	1153	934	771	516	260	76	5	8	138	436	829	1120	6246
57	1060	850	678	431	182	41	1	2	86	345	739	1027	5442
55	998	794	616	375	137	25	0	1	59	286	679	965	4935
50	843	654	463	247	55	5	0	0	17	158	530	810	3782
32	337	212	63	14	0	0	0	0	0	2	112	288	1028

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	52	62	160	339	615	868	1100	1055	748	434	123	36	5592
55	0	0	0	10	39	203	388	342	117	6	0	0	1105
57	0	0	0	5	22	159	327	282	83	3	0	0	881
60	0	0	0	0	7	104	238	195	46	1	0	0	591
65	0	0	0	0	1	40	111	77	12	0	0	0	241
70	0	0	0	0	0	10	31	15	2	0	0	0	58

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	0	34	143	363	625	854	807	513	223	27	3	0	0	34	177	540	1165	2019	2826	3339	3562	3589	3592
45	0	0	6	58	228	475	699	652	370	109	4	0	0	0	6	64	292	767	1466	2118	2488	2597	2601	2601
50	0	0	0	21	115	329	544	497	237	40	0	0	0	0	0	21	136	465	1009	1506	1743	1783	1783	1783
55	0	0	0	1	42	200	390	344	120	6	0	0	0	0	0	1	43	243	633	977	1097	1103	1103	1103
60	0	0	0	0	7	93	239	197	43	0	0	0	0	0	0	0	7	100	339	536	579	579	579	579
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	8	50	135	281	430	557	534	375	209	39	1	0	8	58	193	474	904	1461	1995	2370	2579	2618	2619

(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