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: DILLINGER, WY **COOP ID: 482580**

Climate Division: WY 6 **NWS Call Sign:** **Elevation: 4,310 Feet** **Lat: 44˚06N** **Lon: 105˚07W**

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	32.6	7.3	20.0	66	1981	23	30.4	1981	-42	1963	19	2.2	1979	1398	0	.0	.0	2.1	13.3	30.5	9.5
Feb	38.2	12.7	25.5	77	1951	10	35.0	1992	-38	1996	2	11.5	1989	1108	0	.0	.0	6.0	8.2	27.8	5.1
Mar	46.7	20.6	33.7	78+	1986	28	41.9	1986	-28	1960	3	26.5	1996	972	0	.0	.0	13.3	4.2	28.3	1.7
Apr	56.7	28.8	42.8	87	1992	30	49.7	1987	-5+	1975	2	35.4	1997	667	0	.0	.0	21.1	.9	20.6	.2
May	66.9	38.7	52.8	96	1969	27	59.3	1987	5	1954	3	48.6	1983	384	6	.0	.1	29.0	.0	6.4	.0
Jun	78.3	47.5	62.9	103+	1980	26	73.3	1988	22	1967	1	56.3	1998	143	80	.3	4.2	29.8	.0	.5	.0
Jul	86.6	53.5	70.1	106	1954	12	74.5	1988	32	1972	4	63.1	1993	37	193	1.6	13.1	31.0	.0	@	.0
Aug	85.7	51.7	68.7	104	1986	19	75.6	1983	30+	1985	18	63.1	1977	54	169	.5	12.1	31.0	.0	@	.0
Sep	74.2	41.0	57.6	102	1978	6	65.8	1998	12	1985	29	53.1	1984	259	36	.1	2.9	28.8	.1	4.9	.0
Oct	60.0	29.8	44.9	90+	1992	1	48.6	1988	-16	1991	30	41.0	1984	623	0	.0	@	24.7	.6	19.0	.1
Nov	43.6	17.3	30.5	77+	1980	8	42.2	1999	-27	1959	16	14.7	1985	1037	0	.0	.0	10.3	6.2	28.0	2.8
Dec	34.4	8.4	21.4	70	1980	16	30.2	1980	-45	1990	22	4.0	1983	1352	0	.0	.0	4.0	11.9	30.5	7.2
Ann	58.7	29.8	44.2	106	Jul 1954	12	75.6	Aug 1983	-45	Dec 1990	22	2.2	Jan 1979	8034	484	2.5	32.4	231.1	45.4	196.5	26.6

\+ 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	.39	.34	.70	1977	17	1.50	1977	.03	1992
Feb	.53	.48	1.30	1998	25	1.66	1998	.02	1983
Mar	.80	.84	.90	1970	9	1.78	1996	.22+	1979
Apr	1.75	1.55	1.81	1993	30	3.78	1984	.31	1981
May	2.58	2.11	2.22	1995	8	7.52	1978	1.17	1973
Jun	2.19	1.86	1.90	1964	8	5.86	1999	.43	1974
Jul	1.86	1.47	1.93	1981	25	5.97	1981	.60	1980
Aug	1.13	.95	2.18	1959	1	2.94	1982	.11	1975
Sep	1.11	1.13	1.68	1962	22	3.05	1986	.00	1975
Oct	1.23	.97	1.72	1994	6	4.85	1998	.10	1999
Nov	.57	.55	.96	2000	1	1.53	2000	.00	1972
Dec	.53	.52	.57	1981	16	1.24	1996	.04	1991
Ann	14.67	14.39	2.22	May 1995	8	7.52	May 1978	.00+	Sep 1975

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.3	1.5	@	.0
Feb	4.2	1.9	.1	@
Mar	6.0	3.0	.2	.0
Apr	8.8	4.6	.8	.2
May	9.8	6.8	1.5	.2
Jun	8.9	5.3	1.4	.4
Jul	7.0	4.2	1.1	.3
Aug	5.2	2.9	.7	.1
Sep	5.2	2.8	.7	.1
Oct	5.2	3.1	.8	.1
Nov	4.4	2.2	.1	.0
Dec	5.0	2.2	.1	.0
Ann	74.0	40.5	7.5	1.4

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	.05	.08	.14	.19	.25	.31	.39	.48	.61	.81	1.01
Feb	.05	.08	.15	.22	.30	.40	.51	.64	.83	1.15	1.46
Mar	.26	.34	.45	.55	.64	.73	.83	.95	1.11	1.35	1.57
Apr	.46	.62	.88	1.10	1.32	1.55	1.81	2.11	2.50	3.13	3.71
May	.87	1.12	1.47	1.78	2.07	2.37	2.69	3.07	3.56	4.32	5.02
Jun	.57	.78	1.10	1.37	1.65	1.94	2.26	2.64	3.13	3.92	4.65
Jul	.48	.66	.93	1.17	1.40	1.65	1.92	2.25	2.67	3.34	3.97
Aug	.12	.20	.36	.51	.68	.88	1.10	1.38	1.76	2.40	3.02
Sep	.13	.27	.46	.62	.78	.95	1.14	1.37	1.68	2.16	2.63
Oct	.11	.20	.37	.54	.72	.93	1.18	1.49	1.92	2.64	3.34
Nov	.08	.15	.24	.32	.41	.49	.59	.70	.85	1.09	1.32
Dec	.09	.13	.21	.28	.36	.44	.53	.65	.80	1.05	1.29
Ann	10.03	10.91	12.05	12.92	13.70	14.45	15.23	16.10	17.15	18.68	20.02

+ 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	5.2	3.5	2	1
Feb	6.6	6.3	2	1
Mar	7.2	6.0	1	#
Apr	3.7	1.5	#	0
May	.6	.0	#	0
Jun	.1	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	0	0
Oct	1.9	.0	#	0
Nov	5.8	4.5	1	#
Dec	8.2	7.5	3	1
Ann	39.4	29.3	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	6.0	1977	17	16.0	1977	11	1982	12	9	1982
Feb	14.0	1998	25	17.5	1987	23	1978	28	15	1978
Mar	6.0	1988	11	16.5+	1998	15	1996	8	10	1996
Apr	18.0	1984	26	18.0	1984	24	1997	12	7	1997
May	8.0	1986	9	8.0	1986	4	1983	12	#+	1983
Jun	3.0	1998	3	3.0	1998	2	1999	5	#	1999
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	2.0	1982	30	2.0	1982	0	0	0	0	0
Oct	9.0	1971	2	18.0	1971	11	1973	10	1	1991
Nov	6.0	1976	26	19.0	1985	10	1976	29	4	1986
Dec	8.0	1981	16	20.5	1989	14	1989	18	10	1983
Ann	18.0	Apr 1984	26	20.5	Dec 1989	24	Apr 1997	12	15	Feb 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.1	2.8	.4	.1	.0
Feb	3.8	2.6	.7	.1	@
Mar	3.5	2.9	.8	.2	.0
Apr	1.4	1.3	.7	.4	.1
May	.1	.1	.1	@	.0
Jun	@	@	@	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	@	@	.0	.0	.0
Oct	.6	.6	.3	.2	.0
Nov	3.3	2.5	.6	.2	.0
Dec	4.8	3.8	.8	.2	.0
Ann	21.6	16.6	4.4	1.4	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	6.8	3.0	1.8	.0
Feb	6.1	3.6	.6	.2
Mar	3.0	1.5	.1	.0
Apr	.4	.3	.1	.0
May	.1	.1	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.3	.3	.1	@
Nov	3.0	1.4	.4	.1
Dec	12.4	7.2	4.0	1.2
Ann	32.1	17.4	7.1	1.5

+ 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	7/04	6/27	6/21	6/17	6/13	6/08	6/04	5/29	5/22
32	6/20	6/12	6/06	6/02	5/28	5/24	5/19	5/13	5/05
28	5/26	5/21	5/17	5/14	5/12	5/09	5/06	5/02	4/28
24	5/12	5/08	5/05	5/02	4/29	4/27	4/24	4/21	4/16
20	5/03	4/28	4/24	4/20	4/17	4/14	4/11	4/07	4/02
16	4/22	4/17	4/14	4/11	4/08	4/05	4/02	3/30	3/25

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	110	101	95	90	85	80	75	69	61
32	135	127	120	115	110	105	99	93	84
28	158	150	144	140	135	131	126	121	113
24	178	170	164	159	155	150	145	140	132
20	197	189	184	179	174	170	165	159	151
16	217	210	204	199	194	190	185	179	171

***** 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	1398	1108	972	667	384	143	37	54	259	623	1037	1352	8034
60	1243	968	817	518	248	70	11	18	155	469	887	1197	6601
57	1150	884	724	432	178	40	3	8	105	377	797	1104	5802
55	1088	828	662	376	138	26	1	4	78	317	737	1042	5297
50	936	697	509	247	63	7	0	1	30	182	599	889	4160
32	444	277	98	13	0	0	0	0	0	5	196	397	1430

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	69	93	149	336	645	927	1179	1138	767	405	149	68	5925
55	0	0	0	9	70	263	467	430	155	4	0	0	1398
57	0	0	0	5	48	217	407	371	122	2	0	0	1172
60	0	0	0	1	24	157	322	289	82	0	0	0	875
65	0	0	0	0	6	80	193	169	36	0	0	0	484
70	0	0	0	0	1	32	100	83	13	0	0	0	229

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	9	48	161	411	702	947	904	546	223	38	4	0	9	57	218	629	1331	2278	3182	3728	3951	3989	3993
45	0	0	15	87	272	552	792	749	406	122	14	0	0	0	15	102	374	926	1718	2467	2873	2995	3009	3009
50	0	0	1	38	155	403	637	595	276	52	2	0	0	0	1	39	194	597	1234	1829	2105	2157	2159	2159
55	0	0	0	11	72	269	484	441	169	16	0	0	0	0	0	11	83	352	836	1277	1446	1462	1462	1462
60	0	0	0	2	24	152	332	293	84	4	0	0	0	0	0	2	26	178	510	803	887	891	891	891
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	15	61	146	277	442	587	571	373	196	51	7	0	15	76	222	499	941	1528	2099	2472	2668	2719	2726

(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