

Climatology of the United States

No. 20

1971-2000

Station: KASSLER, CO

COOP ID: 054452

Climate Division: CO 4

NWS Call Sign:

Elevation: 5,501 Feet Lat: 39° 29N

Lon: 105° 06W

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	46.0	14.3	30.2	76	1997	3	39.4	1986	-28	1963	12	17.8	1979	1080	0	.0	.0	13.6	4.9	29.6	4.0
Feb	49.4	18.5	34.0	76+	1986	26	39.6	1999	-29	1951	1	23.0	1989	870	0	.0	.0	15.1	3.6	25.7	1.9
Mar	54.7	25.2	40.0	83+	1997	21	47.2	1986	-17	1960	3	34.4	1980	776	0	.0	.0	20.7	1.6	24.3	.4
Apr	61.3	32.6	47.0	88+	1989	23	55.3	1981	-10	1975	2	40.5	1997	542	0	.0	.0	24.5	.3	14.7	.1
May	70.5	42.1	56.3	97	2000	30	60.9	1994	17	1954	2	48.8	1995	286	16	.0	.5	29.4	.0	2.9	.0
Jun	81.9	51.7	66.8	105	1994	27	71.4	1977	31	1951	2	61.4	1983	67	121	.2	6.5	29.8	.0	@	.0
Jul	87.7	57.8	72.8	105	1995	30	75.8	2000	37	1987	13	69.9	1990	2	243	.5	12.8	31.0	.0	.0	.0
Aug	85.8	56.8	71.3	100+	1996	13	75.1	2000	40+	1995	1	67.3	1993	9	204	.1	9.0	31.0	.0	.0	.0
Sep	77.8	47.1	62.5	98	1995	5	68.8	1998	18+	1985	30	57.9	1993	135	59	.0	3.1	29.4	@	1.6	.0
Oct	67.1	35.5	51.3	90	1980	1	55.9	1992	-8	1993	30	45.0	1984	427	1	.0	@	28.1	.3	11.0	.0
Nov	53.5	23.3	38.4	82	1978	8	49.5	1999	-14+	1976	27	31.3	1979	798	0	.0	.0	18.0	2.0	23.5	.6
Dec	46.5	15.3	30.9	75+	1980	18	41.5	1980	-31	1990	22	17.7	1983	1057	0	.0	.0	14.1	4.7	28.8	3.5
Ann	65.2	35.0	50.1	105+	Jul 1995	30	75.8	Jul 2000	-31	Dec 1990	22	17.7	Dec 1983	6049	644	.8	31.9	284.7	17.4	162.1	10.5

+ 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/normal/usnormals.html

Issue Date: February 2004

(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

058-A

**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: KASSLER, CO

COOP ID: 054452

Climate Division: CO 4

NWS Call Sign:

Elevation: 5,501 Feet Lat: 39°29N

Lon: 105°06W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.57	.42	.80	1987	19	1.46	1974	.02	1981	4.5	1.9	.2	.0	.11	.16	.24	.32	.40	.48	.57	.69	.84	1.09	1.32
Feb	.58	.54	.93	1960	14	1.80	1987	.02	1992	4.0	1.9	.2	.0	.06	.10	.18	.26	.35	.45	.57	.71	.91	1.24	1.56
Mar	1.68	1.42	1.83	1983	6	5.64	1983	.37	1991	6.4	4.5	.9	.1	.38	.53	.78	1.00	1.22	1.45	1.72	2.03	2.45	3.11	3.73
Apr	2.36	1.99	2.58	1967	13	6.10	1999	.52	1992	7.9	5.3	1.5	.4	.66	.89	1.23	1.52	1.81	2.11	2.45	2.85	3.36	4.17	4.92
May	2.85	2.86	3.32	1973	6	7.96	1973	.24	1974	9.4	6.0	1.8	.5	.55	.81	1.23	1.61	2.00	2.42	2.89	3.47	4.22	5.44	6.59
Jun	1.69	1.64	2.34	1949	6	3.82	1983	.00	1980	7.9	4.2	.9	.3	.40	.65	.92	1.14	1.35	1.56	1.79	2.06	2.40	2.92	3.41
Jul	1.60	1.14	3.05	1976	21	5.05	1976	.46	1978	8.6	4.0	.8	.2	.36	.50	.74	.95	1.16	1.38	1.63	1.94	2.33	2.96	3.56
Aug	1.80	1.68	2.49	1999	5	4.86	1984	.10	1973	9.7	4.4	.9	.3	.25	.40	.66	.91	1.17	1.46	1.79	2.20	2.74	3.64	4.50
Sep	1.52	1.23	1.83	1961	3	3.67	1996	.05	1992	6.8	3.7	1.0	.2	.14	.24	.45	.66	.89	1.15	1.46	1.85	2.39	3.29	4.18
Oct	1.28	.99	2.05	1960	18	5.98	1984	.07	1988	5.1	2.8	.8	.2	.11	.20	.37	.55	.75	.97	1.23	1.55	2.00	2.76	3.49
Nov	1.33	1.09	2.03	1972	1	3.48	1972	.05	1989	5.6	3.4	.8	.1	.18	.28	.47	.66	.85	1.07	1.32	1.62	2.04	2.72	3.37
Dec	.80	.81	.98	1987	27	2.14	1987	.00	1991	4.5	2.4	.4	.0	.06	.14	.27	.39	.51	.64	.80	.99	1.24	1.66	2.06
Ann	18.06	17.12	3.32	May 1973	6	7.96	May 1973	.00+	Dec 1991	80.4	44.5	10.2	2.3	13.08	14.04	15.28	16.22	17.05	17.85	18.67	19.58	20.69	22.28	23.66

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: KASSLER, CO

COOP ID: 054452

Climate Division: CO 4

NWS Call Sign:

Elevation: 5,501 Feet

Lat: 39°29N

Lon: 105°06W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	9.6	7.3	2	1	18.5	1987	19	32.0	1987	16	1973	21	6	1988	3.7	3.0	1.2	.7	.1	10.1	5.3	2.6	.4
Feb	8.8	9.0	1	1	10.0	1971	20	21.8	1997	10	1984	26	3	1994	2.9	2.7	1.2	.6	.1	6.4	2.9	1.2	@
Mar	14.8	12.1	1	1	16.0	1998	19	36.8	1983	16	1998	20	4	1983	4.4	4.0	1.9	1.0	.3	5.9	3.1	1.7	.4
Apr	10.1	8.5	#	#	14.0	1984	21	34.2	1973	14	1984	21	2	1999	2.7	2.6	1.4	.8	.1	3.2	1.8	.8	.2
May	.1	.0	#	0	2.0	1988	2	2.0	1988	2	1988	2	#+	1990	.1	.1	.0	.0	.0	.1	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	1.3	.0	#	0	12.0	1971	17	18.0	1971	8	1985	30	1	1985	.3	.3	.2	.1	@	.2	.2	.1	.0
Oct	3.8	2.0	#	#	23.0	1997	25	29.0	1997	29	1997	26	3	1997	.9	.9	.3	.3	.1	1.4	.9	.7	.2
Nov	12.9	10.0	1	1	22.0	1972	1	39.0	1972	20+	1983	28	5	1979	3.8	3.2	1.6	.8	.2	6.8	3.9	1.8	.5
Dec	13.9	13.8	2	2	14.0	1982	24	35.0	1987	26	1982	24	7	1992	3.5	3.1	1.8	1.0	.2	10.8	6.2	3.5	.9
Ann	75.3	62.7	N/A	N/A	23.0	Oct 1997	25	39.0	Nov 1972	29	Oct 1997	26	7	Dec 1992	22.3	19.9	9.6	5.3	1.1	44.9	24.3	12.4	2.6

+ 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

Complete documentation available from:

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Lat: 39° 29N

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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	6/07	6/01	5/28	5/25	5/22	5/19	5/15	5/11	5/06
32	5/28	5/23	5/19	5/16	5/13	5/10	5/07	5/03	4/27
28	5/09	5/04	5/01	4/29	4/26	4/24	4/21	4/18	4/14
24	4/30	4/25	4/21	4/18	4/16	4/13	4/10	4/06	4/02
20	4/23	4/17	4/14	4/11	4/08	4/05	4/02	3/29	3/24
16	4/14	4/09	4/05	4/02	3/30	3/27	3/24	3/21	3/16
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	9/14	9/17	9/20	9/23	9/25	9/27	9/29	10/02	10/06
32	9/15	9/20	9/23	9/26	9/29	10/01	10/04	10/08	10/12
28	9/25	10/01	10/05	10/09	10/12	10/16	10/19	10/23	10/29
24	10/03	10/08	10/12	10/16	10/19	10/23	10/26	10/30	11/05
20	10/13	10/18	10/21	10/24	10/27	10/30	11/02	11/06	11/11
16	10/26	10/30	11/02	11/05	11/07	11/10	11/12	11/15	11/19
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	145	138	133	129	125	122	118	113	106
32	159	152	147	142	138	134	130	124	117
28	187	181	176	172	168	164	160	155	149
24	209	201	195	190	186	181	177	171	163
20	224	216	211	206	202	197	193	187	180
16	243	236	230	226	221	217	212	207	199

* 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	1080	870	776	542	286	67	2	9	135	427	798	1057	6049
60	925	730	621	399	167	23	0	1	60	280	648	902	4756
57	832	646	529	318	111	10	0	0	32	203	562	809	4052
55	770	590	468	267	82	6	0	0	19	157	507	747	3613
50	622	455	324	161	31	0	0	0	4	72	372	600	2641
32	182	86	22	4	0	0	0	0	0	0	64	170	528

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	125	139	268	453	753	1044	1264	1218	914	598	256	136	7168
55	0	0	2	26	122	359	551	505	243	42	8	0	1858
57	0	0	1	16	90	304	489	443	195	25	4	0	1567
60	0	0	0	7	52	227	396	351	134	9	0	0	1176
65	0	0	0	0	16	121	243	204	59	1	0	0	644
70	0	0	0	0	3	50	106	84	18	0	0	0	261

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	31	65	139	265	516	811	1019	969	687	381	120	47	31	96	235	500	1016	1827	2846	3815	4502	4883	5003	5050
45	7	26	65	160	370	662	864	814	541	251	65	15	7	33	98	258	628	1290	2154	2968	3509	3760	3825	3840
50	0	3	23	81	237	512	709	659	401	140	26	0	0	3	26	107	344	856	1565	2224	2625	2765	2791	2791
55	0	0	3	34	125	367	554	505	271	67	7	0	0	0	3	37	162	529	1083	1588	1859	1926	1933	1933
60	0	0	0	9	55	233	401	352	158	19	0	0	0	0	0	9	64	297	698	1050	1208	1227	1227	1227
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	53	79	128	201	331	513	658	630	443	281	115	64	53	132	260	461	792	1305	1963	2593	3036	3317	3432	3496

(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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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