

Climatology of the United States

No. 20

1971-2000

Station: FORT LEWIS, CO

COOP ID: 053016

Climate Division: CO 2

NWS Call Sign:

Elevation: 7,600 Feet Lat: 37° 14N

Lon: 108° 03W

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	38.2	7.9	23.1	60	1953	12	31.1	1981	-35	1963	12	15.8	1979	1301	0	.0	.0	1.5	9.1	30.9	6.4
Feb	42.7	12.1	27.4	60	1986	25	34.0	1995	-25	1951	1	21.7	1979	1053	0	.0	.0	3.8	3.7	28.2	2.4
Mar	49.0	19.3	34.2	71	1966	31	40.8	1972	-15	1966	4	28.2	1980	957	0	.0	.0	12.1	.9	29.9	.5
Apr	57.8	25.4	41.6	77	2000	27	47.7	1989	-4	1953	9	34.6	1983	703	0	.0	.0	23.3	.2	24.6	@
May	67.0	32.7	49.9	86	2000	30	54.3	1984	11+	1977	7	46.5	1983	471	0	.0	.0	30.1	.0	13.6	.0
Jun	77.7	40.3	59.0	99	1974	30	63.7	1974	16	1954	7	54.9	1975	200	19	.0	.4	30.0	.0	2.9	.0
Jul	82.0	47.8	64.9	102	1973	4	68.2	1998	29	1995	4	61.6	1986	53	50	@	.7	31.0	.0	.1	.0
Aug	79.8	47.0	63.4	91	1996	13	67.8	1995	26	1968	23	60.9	1974	88	38	.0	.2	31.0	.0	.0	.0
Sep	73.3	39.0	56.2	88+	1995	4	61.5	1998	17	1970	25	51.7	1971	272	6	.0	.0	29.9	.0	3.7	.0
Oct	62.5	28.8	45.7	80	1979	5	48.9	1988	3	1971	30	38.8	1984	601	0	.0	.0	27.6	.1	19.1	.0
Nov	47.8	18.1	33.0	70	1999	15	40.5	1999	-15	1952	25	26.9	1979	961	0	.0	.0	11.2	2.1	28.8	.9
Dec	39.9	10.4	25.2	59	1995	1	33.4	1980	-24	1990	23	18.0	1978	1235	0	.0	.0	2.5	6.8	30.9	4.0
Ann	59.8	27.4	43.6	102	Jul 1973	4	68.2	Jul 1998	-35	Jan 1963	12	15.8	Jan 1979	7895	113	@	1.3	234.0	22.9	212.7	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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1940-2001

(3) Derived from 1971-2000 serially complete daily data

037-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: FORT LEWIS, CO

COOP ID: 053016

Climate Division: CO 2

NWS Call Sign:

Elevation: 7,600 Feet Lat: 37°14N

Lon: 108°03W

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	1.65	1.15	1.67	1980	29	6.36	1980	.00	1972	6.2	4.3	.8	.2	.05	.16	.39	.62	.89	1.19	1.55	2.02	2.66	3.74	4.82
Feb	1.40	1.13	1.54	1969	7	4.04	1980	.00	1972	5.6	4.1	.7	.1	.09	.24	.46	.66	.88	1.12	1.39	1.73	2.18	2.92	3.63
Mar	1.78	1.64	1.40	1966	2	3.93	2000	.00	1997	6.8	5.0	.9	.1	.06	.19	.44	.70	.98	1.30	1.69	2.18	2.86	3.99	5.11
Apr	1.05	.92	1.39	1949	1	2.65	1986	.00+	1991	5.0	3.1	.5	.1	.00	.17	.38	.54	.71	.89	1.08	1.31	1.63	2.13	2.61
May	1.23	1.13	1.06	1992	24	4.87	1992	.00+	1996	6.5	3.4	.5	.1	.00	.09	.29	.48	.68	.91	1.19	1.52	1.98	2.75	3.51
Jun	.62	.46	2.23	1949	18	1.77	1996	.00+	1974	4.2	1.9	.2	.0	.00	.01	.08	.16	.26	.38	.54	.74	1.03	1.54	2.05
Jul	2.14	1.76	1.65	1981	12	5.23	1981	.15	1993	10.0	5.4	1.2	.3	.40	.59	.90	1.19	1.49	1.81	2.17	2.61	3.19	4.12	5.01
Aug	2.45	2.17	2.09	1999	2	7.20	1999	.24	1978	11.1	6.1	1.4	.1	.57	.80	1.15	1.48	1.80	2.14	2.52	2.97	3.57	4.52	5.42
Sep	1.90	1.70	2.30	1997	21	5.13	1997	.20	1979	7.3	4.3	1.0	.3	.39	.56	.84	1.09	1.35	1.63	1.94	2.31	2.81	3.60	4.35
Oct	1.98	1.32	2.10+	1972	19	9.04	1972	.00	1999	6.3	4.3	1.2	.4	.04	.15	.40	.68	.99	1.37	1.82	2.40	3.22	4.62	6.02
Nov	1.71	1.38	1.68	1991	15	4.25	1986	.00	1989	5.4	3.9	1.1	.1	.06	.19	.44	.68	.96	1.27	1.64	2.10	2.74	3.81	4.87
Dec	1.23	1.09	2.45	1966	6	3.35	1984	.00	1989	5.2	3.3	.5	.1	.02	.09	.25	.42	.61	.84	1.12	1.48	1.99	2.86	3.73
Ann	19.14	20.10	2.45	Dec 1966	6	9.04	Oct 1972	.00+	Oct 1999	79.6	49.1	10.0	1.9	12.33	13.60	15.25	16.53	17.67	18.78	19.95	21.24	22.83	25.15	27.18

+ 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: 1940-2001

(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: FORT LEWIS, CO

COOP ID: 053016

Climate Division: CO 2

NWS Call Sign:

Elevation: 7,600 Feet

Lat: 37°14N

Lon: 108°03W

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	14.9	13.0	14	14	20.0	1987	16	34.5	1988	48	1993	19	33	1993	5.0	4.1	2.3	1.3	.4	22.3	21.1	18.7	15.0
Feb	9.2	7.5	15	15	14.0	1992	16	23.2	1983	45+	1993	25	40	1993	4.8	3.9	2.2	1.2	.2	21.5	19.8	18.2	15.2
Mar	10.4	8.0	9	6	15.0	2000	21	27.8	1991	39+	1993	2	35	1980	4.1	3.2	1.6	.7	.2	12.0	10.2	8.5	4.0
Apr	4.4	2.4	2	#	11.5	1997	4	15.7	1997	35	1980	2	14	1980	1.5	1.2	.7	.2	@	2.0	1.6	1.4	.9
May	.4	.0	#	0	4.5	1995	7	5.5	1995	2	1978	6	#+	2000	.2	.1	@	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	1.6	.0	#	0	7.0	1972	31	11.0	1984	7	1994	15	2	1998	.6	.4	.2	.1	.0	.4	.2	.1	.0
Nov	11.6	7.9	2	1	11.0	1983	21	36.0	1985	17	1985	30	9	1972	2.6	2.4	1.5	.7	@	6.2	4.6	3.3	1.0
Dec	16.1	12.1	7	6	12.0	1990	17	43.1	1972	22	1972	8	19	1972	4.8	3.5	2.0	1.0	.2	18.8	14.9	12.1	7.1
Ann	68.6	50.9	N/A	N/A	20.0	Jan 1987	16	43.1	Dec 1972	48	Jan 1993	19	40	Feb 1993	23.6	18.8	10.5	5.2	1.0	83.3	72.4	62.3	43.2

+ 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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NWS Call Sign:

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Lat: 37° 14N

Lon: 108° 03W

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	7/11	7/06	7/02	6/28	6/25	6/22	6/18	6/14	6/09
32	6/30	6/25	6/21	6/17	6/14	6/11	6/08	6/04	5/29
28	6/19	6/12	6/07	6/03	5/30	5/26	5/22	5/18	5/11
24	6/06	5/30	5/26	5/21	5/18	5/14	5/10	5/05	4/29
20	5/19	5/13	5/08	5/04	4/30	4/27	4/23	4/18	4/11
16	5/04	4/27	4/22	4/18	4/14	4/10	4/06	4/01	3/26
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	8/27	9/01	9/05	9/08	9/11	9/14	9/17	9/20	9/25
32	9/07	9/11	9/14	9/17	9/19	9/22	9/24	9/27	10/02
28	9/15	9/20	9/23	9/27	9/30	10/03	10/06	10/09	10/15
24	9/22	9/28	10/02	10/05	10/08	10/11	10/14	10/18	10/23
20	10/01	10/07	10/12	10/16	10/19	10/23	10/27	10/31	11/07
16	10/16	10/21	10/24	10/27	10/29	11/01	11/04	11/07	11/11
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	100	92	86	82	77	73	68	62	54
32	117	110	105	100	96	92	88	83	76
28	147	139	132	127	122	116	111	105	96
24	169	160	153	148	142	137	131	125	115
20	197	188	182	176	171	166	161	154	145
16	221	213	207	202	197	192	187	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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NWS Call Sign:

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Lon: 108°03W

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	1301	1053	957	703	471	200	53	88	272	601	961	1235	7895
60	1146	913	802	553	319	98	7	22	149	446	811	1080	6346
57	1053	829	709	464	235	56	1	7	92	356	721	987	5510
55	991	773	647	407	184	35	0	3	63	297	661	925	4986
50	836	633	496	272	84	8	0	0	17	169	511	770	3796
32	305	174	86	16	0	0	0	0	0	2	86	243	912

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	27	45	152	303	552	809	1019	973	725	424	115	31	5175
55	0	0	0	4	24	155	307	263	97	7	0	0	857
57	0	0	0	1	13	115	246	205	67	3	0	0	650
60	0	0	0	0	4	67	159	128	33	1	0	0	392
65	0	0	0	0	0	19	50	38	6	0	0	0	113
70	0	0	0	0	0	3	5	5	0	0	0	0	13

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	26	120	314	582	781	734	492	208	21	0	0	0	26	146	460	1042	1823	2557	3049	3257	3278	3278
45	0	0	2	44	178	432	626	579	342	96	0	0	0	0	2	46	224	656	1282	1861	2203	2299	2299	2299
50	0	0	0	7	73	285	471	424	206	29	0	0	0	0	0	7	80	365	836	1260	1466	1495	1495	1495
55	0	0	0	0	18	153	316	270	88	1	0	0	0	0	0	0	18	171	487	757	845	846	846	846
60	0	0	0	0	0	58	166	126	22	0	0	0	0	0	0	0	0	58	224	350	372	372	372	372
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	5	42	129	259	415	506	466	341	190	42	0	0	5	47	176	435	850	1356	1822	2163	2353	2395	2395

(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