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: LAKIN, KS **COOP ID: 144464**

Climate Division: KS 7 **NWS Call Sign:** **Elevation: 2,998 Feet** **Lat: 37˚56N** **Lon: 101˚15W**

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	42.6	16.0	29.3	80	1986	21	39.8	1986	-23	1942	5	15.6	1979	1106	0	.0	.0	11.7	7.7	30.4	2.6
Feb	48.8	20.7	34.8	86+	1981	21	42.6	2000	-13+	1982	5	22.4	1978	847	0	.0	.0	14.7	4.7	25.4	1.7
Mar	57.2	28.5	42.9	94	1946	31	49.5	1986	-20	1948	11	36.0	1980	688	0	.0	@	21.9	1.8	20.5	.1
Apr	67.0	38.0	52.5	100	1948	18	60.2	1981	9	1975	2	46.5	1997	383	9	.0	.8	26.8	.3	7.6	.0
May	75.8	48.7	62.3	107	1974	29	67.1	1998	25	1953	14	55.5	1995	155	69	.4	2.9	30.5	.0	.2	.0
Jun	87.3	58.6	73.0	112	1971	26	77.8	1994	37+	1951	2	67.0	1982	19	258	3.4	13.3	30.0	.0	.0	.0
Jul	92.9	63.8	78.4	111+	1960	26	84.3	1980	43	1952	8	73.8	1972	0	413	6.4	21.8	31.0	.0	.0	.0
Aug	90.5	61.9	76.2	111	1962	9	82.4	1983	44	1976	28	71.2	1992	6	353	3.6	19.0	31.0	.0	.0	.0
Sep	82.0	52.8	67.4	111	1947	3	73.9	1998	24	1984	30	59.0	1974	72	143	1.0	9.1	29.5	.0	.5	.0
Oct	70.8	39.7	55.3	99	1947	5	58.7	2000	11	1993	30	48.0	1976	309	6	.0	1.1	29.3	.1	5.7	.0
Nov	54.7	26.9	40.8	92	1950	1	49.6	1999	-5+	1955	16	34.5	1972	725	0	.0	.0	19.7	1.7	22.1	.1
Dec	45.1	18.7	31.9	85	1955	24	37.9	1980	-15+	1990	31	18.4	1983	1026	0	.0	.0	13.2	5.6	29.4	1.8
Ann	67.9	39.5	53.7	112	Jun 1971	26	84.3	Jul 1980	-23	Jan 1942	5	15.6	Jan 1979	5336	1251	14.8	68.0	289.3	21.9	141.8	6.3

\+ 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: 1939-2001

(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	.33	.19	.85	1945	20	1.31	1979	.00+	1986
Feb	.43	.23	1.20	1971	19	1.55	1971	.00+	1991
Mar	1.15	.80	1.85	1980	28	4.51	1973	.02+	1997
Apr	1.50	1.40	3.12	1942	18	4.17	1977	.02	1996
May	3.00	2.68	3.99	2001	30	6.38	1975	.61	1974
Jun	2.95	2.93	5.30	1949	5	8.05	1995	.29	1985
Jul	2.68	2.13	3.16	1984	4	6.54	1998	.08	1975
Aug	2.73	2.17	3.55	1945	6	10.17	1997	.05	1984
Sep	1.58	1.25	2.65	1985	11	5.45	1985	.00+	1980
Oct	1.00	.64	3.16	1946	7	4.37	2000	.00+	1989
Nov	.83	.44	1.70+	1998	1	3.09	1972	.00+	1989
Dec	.40	.34	1.16	1944	4	1.22	1984	.00+	1988
Ann	18.58	18.69	5.30	Jun 1949	5	10.17	Aug 1997	.00+	Feb 1991

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	2.3	1.1	.1	.0
Feb	2.3	1.2	.2	@
Mar	4.8	2.9	.7	.1
Apr	5.5	3.5	.9	.3
May	8.4	5.9	1.8	.8
Jun	7.2	4.8	2.1	.8
Jul	6.7	4.8	2.0	.7
Aug	6.1	4.5	1.8	.9
Sep	4.6	2.8	1.1	.4
Oct	3.3	2.0	.5	.2
Nov	3.2	1.8	.5	.1
Dec	2.4	1.3	.1	.0
Ann	56.8	36.6	11.8	4.3

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	.00	.00	.05	.11	.17	.24	.32	.42	.56	.78	1.00
Feb	.00	.00	.00	.05	.14	.24	.37	.52	.75	1.13	1.51
Mar	.03	.08	.19	.34	.51	.73	1.00	1.36	1.88	2.80	3.72
Apr	.12	.21	.41	.62	.85	1.11	1.43	1.83	2.38	3.31	4.23
May	.76	1.05	1.48	1.87	2.25	2.65	3.10	3.63	4.32	5.41	6.44
Jun	.34	.56	.98	1.39	1.83	2.32	2.89	3.61	4.57	6.17	7.73
Jul	.34	.55	.93	1.31	1.70	2.14	2.65	3.27	4.12	5.51	6.86
Aug	.32	.53	.92	1.30	1.70	2.15	2.68	3.33	4.21	5.67	7.08
Sep	.00	.05	.22	.44	.69	1.00	1.39	1.89	2.61	3.86	5.11
Oct	.00	.03	.13	.26	.42	.62	.87	1.19	1.65	2.46	3.27
Nov	.00	.00	.10	.23	.37	.54	.74	1.01	1.39	2.05	2.70
Dec	.00	.00	.00	.11	.20	.29	.40	.52	.69	.97	1.24
Ann	12.55	13.70	15.18	16.31	17.32	18.30	19.31	20.44	21.82	23.82	25.57

\+ 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: 1939-2001
(3) Derived from 1971-2000 serially complete daily data

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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	3.7	2.8	1	#
Feb	3.0	.3	#	#
Mar	4.1	1.5	#	0
Apr	.7	.0	#	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	#	0
Oct	.5	.0	#	0
Nov	1.0	.0	#	0
Dec	2.1	2.0	#	#
Ann	15.1	6.6	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	9.0	1985	10	15.5	1993	12	1990	20	8	1984
Feb	12.0	1990	21	21.5	1990	9	1993	16	1	1997
Mar	10.0	1999	13	17.0	1999	12	1999	13	1	1999
Apr	8.0	1997	11	8.0	1997	8	1997	11	#+	1997
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	#	1995	21	#+	1995	#	1995	21	#	1995
Oct	9.0	1997	26	12.0	1997	12	1997	26	1	1997
Nov	4.0	1975	20	9.0	1991	12	1992	25	1	1992
Dec	6.0	1984	13	9.0	1997	6	1997	26	1	1997
Ann	12.0	Feb 1990	21	21.5	Feb 1990	12+	Mar 1999	13	8	Jan 1984

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.5	1.2	.5	.2	.0
Feb	1.1	.9	.5	.2	@
Mar	1.2	1.1	.4	.2	@
Apr	.2	.2	.1	.1	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.1	.1	.1	@	.0
Nov	.4	.3	.1	.0	.0
Dec	1.3	1.1	.2	.1	.0
Ann	5.8	4.9	1.9	.8	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	1.1	.5	.2	.0
Feb	.6	.2	.1	.0
Mar	.9	.3	.3	.1
Apr	@	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.1	@	@
Nov	.2	.0	.0	.0
Dec	1.3	.4	.3	.0
Ann	4.2	1.5	.9	.1

+ 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	5/16	5/11	5/08	5/06	5/03	5/01	4/28	4/25	4/21
32	5/07	5/02	4/28	4/25	4/22	4/19	4/16	4/13	4/08
28	4/21	4/17	4/15	4/13	4/10	4/08	4/06	4/04	3/31
24	4/15	4/10	4/07	4/04	4/01	3/29	3/26	3/23	3/18
20	4/09	4/03	3/29	3/26	3/22	3/18	3/14	3/10	3/04
16	4/06	3/29	3/24	3/19	3/14	3/10	3/05	2/27	2/20

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	9/18	9/23	9/27	10/01	10/04	10/07	10/10	10/14	10/19
32	9/22	9/28	10/02	10/06	10/10	10/13	10/17	10/22	10/28
28	10/04	10/10	10/14	10/18	10/21	10/24	10/28	11/01	11/06
24	10/19	10/23	10/27	10/30	11/01	11/04	11/07	11/10	11/15
20	10/29	11/03	11/07	11/10	11/13	11/16	11/19	11/22	11/28
16	11/05	11/10	11/14	11/17	11/20	11/23	11/26	11/30	12/06

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	175	167	162	157	153	148	143	138	130
32	193	185	179	174	170	165	160	155	147
28	212	205	201	196	193	189	185	180	173
24	233	226	221	217	213	209	205	200	194
20	261	252	246	240	235	230	224	218	209
16	278	269	262	256	250	244	238	231	221

***** 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	1106	847	688	383	155	19	0	6	72	309	725	1026	5336
60	951	707	533	254	77	5	0	1	25	176	575	871	4175
57	858	629	442	189	45	1	0	0	12	112	488	778	3554
55	797	577	386	151	30	0	0	0	6	78	432	716	3173
50	652	449	250	75	8	0	0	0	0	26	300	566	2326
32	217	120	14	0	0	0	0	0	0	0	33	143	527

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	135	197	350	616	937	1228	1436	1371	1062	720	298	141	8491
55	2	10	8	77	254	539	723	658	378	85	7	0	2741
57	0	6	3	55	207	480	661	596	323	57	3	0	2391
60	0	0	0	30	146	393	568	503	247	28	0	0	1915
65	0	0	0	9	69	258	413	353	143	6	0	0	1251
70	0	0	0	2	25	147	263	217	71	1	0	0	726

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	28	85	197	403	705	1001	1200	1135	835	498	146	42	28	113	310	713	1418	2419	3619	4754	5589	6087	6233	6275
45	6	35	112	280	553	851	1045	980	686	359	75	12	6	41	153	433	986	1837	2882	3862	4548	4907	4982	4994
50	0	12	52	169	407	701	890	825	543	233	32	2	0	12	64	233	640	1341	2231	3056	3599	3832	3864	3866
55	0	1	18	91	269	552	735	670	403	132	7	0	0	1	19	110	379	931	1666	2336	2739	2871	2878	2878
60	0	0	3	39	154	406	580	516	273	56	0	0	0	0	3	42	196	602	1182	1698	1971	2027	2027	2027
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	52	94	175	276	433	634	771	726	529	345	137	60	52	146	321	597	1030	1664	2435	3161	3690	4035	4172	4232

(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