

Climatography of the United States

No. 20

1971-2000

Station: HUGOTON, KS

COOP ID: 143855

Climate Division: KS 7

NWS Call Sign:

Elevation: 3,110 Feet Lat: 37° 10N

Lon: 101° 20W

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	45.2	17.2	31.2	81+	1953	12	41.3	1986	-20	1959	4	18.2	1979	1048	0	.0	.0	13.5	6.4	30.1	1.6
Feb	51.0	21.7	36.4	88	1963	1	43.6	2000	-14	1951	1	23.4	1978	803	0	.0	.0	15.9	3.7	24.2	1.0
Mar	59.0	28.7	43.9	93	1963	28	51.4	1986	-3+	1996	8	38.8	1998	656	0	.0	@	23.2	1.3	18.4	.1
Apr	68.5	38.6	53.6	99	1989	23	60.5	1981	15+	1997	13	47.5	1997	355	11	.0	.7	27.7	.1	5.7	.0
May	77.0	49.1	63.1	104+	1996	17	69.3	1998	29+	1970	1	57.2	1995	133	72	.3	3.5	30.6	.0	.2	.0
Jun	87.8	59.7	73.8	112	1980	27	79.1	1994	39	1951	2	67.4	1989	16	279	3.0	14.0	30.0	.0	.0	.0
Jul	92.7	64.2	78.5	109	1978	17	84.1	1980	45	1952	8	75.6	1992	0	417	5.4	21.5	31.0	.0	.0	.0
Aug	90.4	62.3	76.4	108+	1962	10	81.4	1983	47	1956	31	70.5	1992	4	355	2.8	18.7	31.0	.0	.0	.0
Sep	82.2	53.3	67.8	104+	2000	7	74.5	1998	29	1985	30	60.9	1974	58	141	.6	8.8	29.6	.0	.2	.0
Oct	71.7	40.4	56.1	96+	2000	2	58.9	1979	13	1993	31	51.7	1976	282	5	.0	1.3	29.6	.1	3.7	.0
Nov	56.6	27.3	42.0	90	1980	8	49.8	1999	-4+	1991	4	34.7	1972	691	0	.0	@	21.0	1.1	20.6	.1
Dec	47.4	19.5	33.5	84	1955	24	38.6	1994	-13+	1989	23	21.4	1983	980	0	.0	.0	14.6	4.4	29.1	1.2
Ann	69.1	40.2	54.7	112	Jun 1980	27	84.1	Jul 1980	-20	Jan 1959	4	18.2	Jan 1979	5026	1280	12.1	68.5	297.7	17.1	132.2	4.0

+ 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

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No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: HUGOTON, KS

COOP ID: 143855

Climate Division: KS 7

NWS Call Sign:

Elevation: 3,110 Feet Lat: 37°10N

Lon: 101°20W

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	.42	.28	1.20	1990	19	1.66	1990	.00+	1997	2.8	1.5	.1	@	.00	.00	.00	.08	.16	.26	.37	.52	.72	1.07	1.41
Feb	.38	.21	1.25	1960	3	1.25	1993	.00+	2000	2.7	1.1	.2	.0	.00	.00	.00	.04	.12	.21	.32	.47	.67	1.01	1.36
Mar	1.29	.78	1.87+	1993	30	5.02	2000	.00+	1997	5.0	3.0	.8	.3	.00	.06	.24	.43	.64	.89	1.20	1.58	2.12	3.04	3.95
Apr	1.65	1.26	2.04	1976	27	5.82	1976	.05	1996	5.6	3.4	1.1	.3	.12	.22	.43	.66	.91	1.20	1.55	2.00	2.62	3.66	4.70
May	2.99	3.20	4.52	1976	25	7.49	1976	.28	2000	7.7	5.1	2.1	.7	.53	.79	1.23	1.64	2.06	2.51	3.03	3.65	4.48	5.83	7.11
Jun	2.85	2.45	3.30	1987	19	8.11	1986	.10	1976	7.0	4.8	1.9	.9	.27	.47	.85	1.25	1.68	2.17	2.75	3.47	4.47	6.12	7.75
Jul	2.66	2.54	2.67	1959	11	5.28	1990	.45	1982	6.6	4.9	1.8	.7	.74	1.00	1.38	1.71	2.04	2.38	2.75	3.20	3.78	4.68	5.53
Aug	2.06	1.84	4.35	1967	9	6.74	1994	.00	1978	5.9	4.1	1.6	.4	.06	.21	.49	.79	1.12	1.50	1.95	2.52	3.32	4.66	5.98
Sep	1.65	1.49	3.34	1960	23	5.47	1985	.00+	2000	5.2	3.3	1.2	.3	.00	.11	.36	.61	.89	1.20	1.58	2.04	2.68	3.76	4.82
Oct	1.18	.78	2.05	1979	30	4.16	2000	.00	1975	4.0	2.1	.7	.3	.00	.03	.13	.26	.44	.66	.96	1.36	1.96	3.03	4.13
Nov	.86	.41	3.24	1971	15	5.06	1971	.00+	1999	3.3	1.8	.5	.2	.00	.00	.08	.19	.33	.51	.73	1.02	1.44	2.18	2.93
Dec	.44	.24	1.21	1997	23	2.29	1997	.00+	2000	2.8	1.5	.2	@	.00	.00	.06	.13	.21	.30	.41	.55	.74	1.05	1.36
Ann	18.43	19.14	4.52	May 1976	25	8.11	Jun 1986	.00+	Dec 2000	58.6	36.6	12.2	4.1	12.51	13.64	15.09	16.20	17.19	18.16	19.15	20.26	21.61	23.58	25.29

+ 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: HUGOTON, KS

COOP ID: 143855

Climate Division: KS 7

NWS Call Sign:

Elevation: 3,110 Feet

Lat: 37°10N

Lon: 101°20W

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	3.3	1.5	#	0	11.0	1990	19	13.0	1990	9	1999	29	1+	1999	1.0	.9	.4	.2	.1	1.0	1.0	.6	.0
Feb	1.2	.0	#	0	5.0	1971	21	8.5	1971	7	1971	22	1	1971	.8	.6	.2	.1	.0	.6	.4	.3	.0
Mar	2.6	.0	#	0	8.0	1998	18	14.0	1998	9	1999	12	1	1999	.7	.6	.2	.1	.0	.1	.0	.0	.0
Apr	.4	.0	0	0	2.0	1994	3	4.7	1994	0	0	0	0	0	.2	.2	.0	.0	.0	.0	.0	.0	.0
May	.1	.0	0	0	3.0	1979	3	3.0	1979	0	0	0	0	0	@	@	@	.0	.0	.0	.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	#	.0	#	0	#	1972	31	#	1972	#	1991	29	#	1991	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.8	.0	#	0	9.0	1992	25	10.0	1992	#	1971	22	#	1971	.3	.3	@	@	.0	.0	.0	.0	.0
Dec	3.1	.3	#	0	5.5	1992	15	12.0	1973	6	1971	2	5	1971	1.1	.9	.5	.2	.0	.0	.0	.0	.0
Ann	11.5	1.8	N/A	N/A	11.0	Jan 1990	19	14.0	Mar 1998	9+	Mar 1999	12	5	Dec 1971	4.1	3.5	1.3	.6	.1	1.7	1.4	.9	.0

+ 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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Climate Division: KS 7

NWS Call Sign:

Elevation: 3,110 Feet

Lat: 37° 10N

Lon: 101° 20W

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	5/14	5/09	5/05	5/02	4/29	4/26	4/23	4/20	4/15
32	5/03	4/28	4/25	4/21	4/18	4/16	4/12	4/09	4/04
28	4/18	4/14	4/11	4/09	4/06	4/04	4/01	3/29	3/25
24	4/11	4/06	4/02	3/30	3/27	3/24	3/20	3/17	3/11
20	4/08	4/01	3/27	3/23	3/19	3/16	3/12	3/07	2/28
16	3/30	3/24	3/19	3/15	3/11	3/07	3/03	2/26	2/19
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	9/23	9/28	10/01	10/04	10/07	10/10	10/13	10/17	10/22
32	10/01	10/07	10/11	10/14	10/18	10/21	10/25	10/29	11/03
28	10/18	10/22	10/26	10/29	11/01	11/03	11/06	11/10	11/15
24	10/23	10/29	11/01	11/05	11/08	11/11	11/14	11/18	11/23
20	11/02	11/07	11/11	11/15	11/18	11/21	11/25	11/29	12/04
16	11/08	11/15	11/20	11/24	11/28	12/01	12/06	12/10	12/17
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	181	174	169	165	160	156	152	147	139
32	203	195	190	186	182	177	173	168	160
28	227	221	216	212	208	204	200	195	188
24	247	240	234	230	225	221	216	211	203
20	269	260	254	248	243	238	232	225	216
16	290	280	273	267	261	255	249	242	232

* 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

Complete documentation available from:
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Climate Division: KS 7 NWS Call Sign: Elevation: 3,110 Feet Lat: 37°10N Lon: 101°20W

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	1048	803	656	355	133	16	0	4	58	282	691	980	5026
60	893	663	502	230	60	3	0	0	17	149	541	825	3883
57	800	582	411	168	32	1	0	0	7	88	454	732	3275
55	739	531	354	132	20	0	0	0	3	58	398	670	2905
50	592	402	220	63	4	0	0	0	0	17	268	519	2085
32	168	86	8	0	0	0	0	0	0	0	22	108	392

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	143	207	374	646	963	1253	1440	1374	1074	746	321	152	8693
55	1	8	8	88	269	563	727	661	386	91	7	0	2809
57	0	4	2	64	220	504	665	599	330	59	3	0	2450
60	0	0	1	36	154	416	572	507	251	27	0	0	1964
65	0	0	0	11	72	279	417	355	141	5	0	0	1280
70	0	0	0	2	25	163	264	215	67	0	0	0	736

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	42	96	226	441	740	1033	1222	1153	867	536	176	51	42	138	364	805	1545	2578	3800	4953	5820	6356	6532	6583
45	12	42	133	312	589	883	1067	998	717	394	94	21	12	54	187	499	1088	1971	3038	4036	4753	5147	5241	5262
50	0	15	67	194	438	733	912	843	573	262	38	3	0	15	82	276	714	1447	2359	3202	3775	4037	4075	4078
55	0	0	28	103	300	583	757	688	431	151	8	0	0	0	28	131	431	1014	1771	2459	2890	3041	3049	3049
60	0	0	5	47	178	436	602	533	298	68	0	0	0	0	5	52	230	666	1268	1801	2099	2167	2167	2167
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	65	108	190	301	460	664	792	755	548	350	149	70	65	173	363	664	1124	1788	2580	3335	3883	4233	4382	4452

(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/normal/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