

Climatography of the United States

No. 20

1971-2000

Station: OTTAWA, KS

COOP ID: 146128

Climate Division: KS 6

NWS Call Sign:

Elevation: 900 Feet

Lat: 38° 37N

Lon: 95° 17W

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	40.1	20.6	30.4	76	1950	24	41.6	1990	-20	1947	4	15.4	1979	1073	0	.0	.0	7.8	8.9	26.9	2.5
Feb	46.6	25.8	36.2	84	1981	25	47.2	1976	-28	1905	13	23.0	1978	807	0	.0	.0	11.9	5.2	20.6	1.4
Mar	58.0	35.4	46.7	93+	1910	22	51.8	1986	-9	1948	12	40.2	1984	567	0	.0	.0	22.5	.8	13.2	.1
Apr	68.5	45.6	57.1	96	1910	29	65.9	1981	11	1920	5	50.1	1983	261	22	.0	.3	28.6	.0	3.0	.0
May	77.1	55.4	66.3	101	2000	31	72.1	1998	21	1907	4	61.1	1995	83	122	@	.9	31.0	.0	.1	.0
Jun	85.7	64.8	75.3	108+	1980	27	78.9	1980	41+	1946	3	70.0	1982	3	311	.3	8.4	30.0	.0	.0	.0
Jul	91.1	69.6	80.4	118	1954	14	88.1	1980	47+	1972	5	75.3	1971	0	476	2.8	19.2	31.0	.0	.0	.0
Aug	89.9	67.4	78.7	113	1936	14	86.7	2000	42	1910	27	72.0	1992	4	428	2.5	16.4	31.0	.0	.0	.0
Sep	82.0	58.8	70.4	111	1947	3	76.2	1998	27+	1908	29	63.2	1974	35	197	.2	6.2	30.0	.0	.1	.0
Oct	70.9	47.5	59.2	98	1939	7	64.1+	1973	16+	1925	30	53.7	1976	204	24	.0	.3	30.2	.0	2.5	.0
Nov	55.1	35.6	45.4	86+	1980	8	53.8	1999	1	1932	16	38.7	1976	590	1	.0	.0	20.1	.7	13.6	.0
Dec	43.3	25.2	34.3	75	1939	6	38.9	1982	-22	1989	23	17.7	1983	954	0	.0	.0	9.7	5.2	24.5	1.2
Ann	67.4	46.0	56.7	118	Jul 1954	14	88.1	Jul 1980	-28	Feb 1905	13	15.4	Jan 1979	4581	1581	5.8	51.7	283.8	20.8	104.5	5.2

+ 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: 1900-2001

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

084-A

Climatology 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: OTTAWA, KS

COOP ID: 146128

Climate Division: KS 6

NWS Call Sign:

Elevation: 900 Feet Lat: 38°37N

Lon: 95°17W

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	1.28	1.06	2.60	1982	30	3.60	1982	.00	1986	5.3	3.3	.4	.2	.10	.23	.44	.63	.82	1.04	1.28	1.58	1.99	2.65	3.28	
Feb	1.28	1.09	2.86	1997	21	4.17	1997	.02	1991	4.8	3.2	.6	.1	.18	.29	.47	.65	.84	1.04	1.28	1.57	1.95	2.59	3.20	
Mar	2.95	2.50	2.54	1980	30	10.14	1973	.64	1971	7.3	5.5	2.5	.6	.74	1.02	1.45	1.83	2.21	2.60	3.04	3.57	4.25	5.33	6.35	
Apr	3.55	3.22	4.27	1944	22	9.08	1994	.53	2000	9.0	6.5	2.5	1.0	.85	1.19	1.70	2.17	2.62	3.11	3.65	4.29	5.14	6.47	7.73	
May	5.43	5.10	3.31	1972	1	11.67	1995	1.41	1980	10.4	8.0	3.4	1.6	1.66	2.18	2.95	3.61	4.25	4.91	5.64	6.50	7.61	9.34	10.94	
Jun	5.18	4.80	5.46	1984	9	12.84	1981	1.54	1991	9.1	6.8	3.3	1.5	1.89	2.37	3.07	3.66	4.22	4.79	5.41	6.13	7.06	8.48	9.78	
Jul	3.58	3.25	5.77	1909	7	10.49	1993	.17	1976	7.4	5.6	2.5	1.0	.36	.62	1.11	1.61	2.15	2.75	3.47	4.36	5.58	7.61	9.59	
Aug	3.70	3.94	6.43	1954	6	8.43	1996	.26	1984	7.6	5.5	2.5	1.1	.41	.69	1.21	1.72	2.28	2.89	3.62	4.52	5.75	7.78	9.76	
Sep	4.19	3.75	6.32	1961	13	12.06	1986	.30	1990	7.2	5.5	2.6	1.4	.76	1.14	1.75	2.32	2.90	3.53	4.24	5.10	6.25	8.10	9.86	
Oct	3.38	3.55	4.41	1985	10	7.48	1985	.27	1995	7.2	5.4	2.3	1.0	.67	.98	1.47	1.93	2.39	2.88	3.44	4.11	5.00	6.43	7.78	
Nov	2.95	2.95	6.95	1928	16	8.83	1992	.00	1989	6.2	4.9	2.0	.8	.46	.85	1.35	1.76	2.17	2.59	3.07	3.63	4.37	5.53	6.62	
Dec	1.74	1.57	2.05	1971	15	4.10	1971	.00	1979	5.6	3.5	1.2	.4	.15	.34	.62	.88	1.14	1.42	1.75	2.15	2.68	3.55	4.38	
Ann	39.21	39.34	6.95	Nov 1928	16	12.84	Jun 1981	.00+	Nov 1989	87.1	63.7	25.8	10.7	25.84	28.35	31.61	34.11	36.35	38.53	40.80	43.32	46.40	50.90	54.83	

+ 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: 1900-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Station: OTTAWA, KS

COOP ID: 146128

Climate Division: KS 6

NWS Call Sign:

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Lat: 38°37N

Lon: 95°17W

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	5.8	3.3	#	#	8.0	1985	10	22.3	1985	8	1973	8	2	1975	3.0	1.8	.9	.3	.0	3.1	1.4	.6	.0
Feb	4.8	4.0	#	0	13.0	1971	22	14.8+	1980	13	1971	23	2	1971	2.1	1.4	.6	.2	.1	1.5	.4	.3	.2
Mar	1.4	.0	#	0	7.0	1975	10	7.0	1975	7	1975	10	#+	1998	.9	.6	.1	@	.0	.2	.1	.1	.0
Apr	.0	.0	#	0	.8	1994	6	.8	1994	#	1997	12	#	1997	.1	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	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	#	1993	31	#	1993	3	1996	23	#	1996	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.9	.0	#	0	9.0	1975	26	9.0	1975	9	1975	26	#+	1996	.5	.2	.1	.1	.0	.3	.1	.1	.0
Dec	2.9	1.2	#	0	10.0	1978	31	15.0	1983	6	1983	21	1	1983	1.8	1.0	.4	.2	.1	1.0	.1	.0	.0
Ann	15.8	8.5	N/A	N/A	13.0	Feb 1971	22	22.3	Jan 1985	13	Feb 1971	23	2+	Jan 1975	8.4	5.0	2.1	.8	.2	6.1	2.1	1.1	.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

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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	5/10	5/05	5/02	4/29	4/26	4/23	4/20	4/17	4/12
32	4/25	4/21	4/18	4/15	4/13	4/10	4/08	4/04	3/31
28	4/16	4/11	4/08	4/05	4/02	3/30	3/27	3/24	3/19
24	4/08	4/02	3/29	3/25	3/22	3/19	3/15	3/11	3/05
20	4/02	3/25	3/19	3/14	3/10	3/05	3/01	2/23	2/15
16	3/19	3/12	3/06	3/01	2/25	2/20	2/15	2/10	2/02
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	10/02	10/05	10/07	10/10	10/13	10/17	10/21
32	9/30	10/06	10/10	10/14	10/17	10/21	10/24	10/29	11/04
28	10/13	10/20	10/24	10/28	11/01	11/04	11/08	11/13	11/19
24	10/25	11/01	11/06	11/10	11/13	11/17	11/21	11/26	12/03
20	11/05	11/11	11/16	11/20	11/23	11/27	12/01	12/05	12/12
16	11/15	11/21	11/25	11/28	12/02	12/05	12/08	12/12	12/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	177	172	168	164	160	155	150	143
32	209	201	196	191	187	182	178	172	164
28	235	227	221	216	212	207	202	196	188
24	261	252	246	241	236	231	225	219	210
20	291	279	271	264	258	251	244	236	225
16	308	298	291	285	279	273	267	260	250

* 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	1073	807	567	261	83	3	0	4	35	204	590	954	4581
60	920	679	419	152	32	0	0	0	9	100	450	799	3560
57	830	601	334	101	15	0	0	0	3	58	370	710	3022
55	775	550	282	73	9	0	0	0	0	39	320	654	2702
50	630	431	172	26	2	0	0	0	0	11	212	511	1995
32	225	131	10	0	0	0	0	0	0	0	20	140	526

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	175	249	466	751	1061	1298	1499	1446	1152	843	420	209	9569
55	11	23	24	134	357	608	786	733	463	169	30	10	3348
57	5	18	15	102	301	548	724	671	405	126	20	5	2940
60	2	12	7	63	225	458	631	578	321	75	11	0	2383
65	0	0	0	22	122	311	476	428	197	24	1	0	1581
70	0	0	0	5	51	178	326	287	105	4	0	0	956

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	36	95	259	512	808	1053	1247	1194	908	591	216	56	36	131	390	902	1710	2763	4010	5204	6112	6703	6919	6975
45	10	50	159	374	653	903	1092	1039	758	441	128	21	10	60	219	593	1246	2149	3241	4280	5038	5479	5607	5628
50	1	16	88	242	500	753	937	884	608	302	65	5	1	17	105	347	847	1600	2537	3421	4029	4331	4396	4401
55	0	5	45	145	349	603	782	729	462	185	29	1	0	5	50	195	544	1147	1929	2658	3120	3305	3334	3335
60	0	1	12	74	215	454	627	574	327	95	9	0	0	1	13	87	302	756	1383	1957	2284	2379	2388	2388
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	29	73	170	316	518	721	845	804	597	371	131	39	29	102	272	588	1106	1827	2672	3476	4073	4444	4575	4614

(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