

Climatology of the United States No. 20

Station: DODGE CITY RGNL AP, KS

1971-2000

COOP ID: 142164

Climate Division: KS 7

NWS Call Sign: DDC

Elevation: 2,582 Feet Lat: 37°46N

Lon: 99°58W

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	41.4	18.7	30.1	80	1989	31	40.1	1986	-13	1984	19	14.8	1979	1087	0	.0	.0	10.6	8.6	29.4	1.9
Feb	48.3	23.6	36.0	86	1963	1	45.0	1976	-15	1951	1	21.3	1978	826	0	.0	.0	14.3	5.2	22.7	1.2
Mar	57.3	31.2	44.3	93	1989	10	51.0	1986	-12	1960	3	38.1	1998	647	2	.0	.1	21.7	1.8	17.4	.1
Apr	67.1	40.7	53.9	100	1989	22	61.0	1981	14	1997	12	46.9	1973	351	18	@	.6	27.2	.1	5.3	.0
May	75.9	51.7	63.8	105	1996	16	69.2	1991	26	1967	1	57.6	1995	121	79	.2	2.4	30.7	.0	.2	.0
Jun	86.9	61.6	74.3	110	1998	29	79.5	1977	41	1954	3	68.0	1989	12	291	2.1	12.6	30.0	.0	.0	.0
Jul	92.8	66.8	79.8	109+	1986	29	87.2	1980	46	1990	13	75.5	1992	1	462	6.4	21.3	31.0	.0	.0	.0
Aug	90.8	65.6	78.2	107+	1983	15	86.5	1983	47	1950	20	71.9	1992	2	407	4.2	19.4	31.0	.0	.0	.0
Sep	82.0	56.5	69.3	104	1984	10	75.4	1998	29+	1995	22	63.4	1974	65	193	1.0	8.4	29.8	.0	.2	.0
Oct	70.4	43.8	57.1	96+	2000	1	61.2	1973	14	1993	30	50.9	1976	273	28	.0	1.2	29.8	.2	3.2	.0
Nov	54.5	30.2	42.4	91	1980	8	49.9	1999	0	1958	28	35.5	1985	674	1	.0	@	19.4	1.9	17.9	.0
Dec	44.4	21.7	33.1	86	1955	24	38.3	1980	-21	1989	22	18.4	1983	978	0	.0	.0	11.6	5.5	28.3	1.3
Ann	67.7	42.7	55.2	110	Jun 1998	29	87.2	Jul 1980	-21	Dec 1989	22	14.8	Jan 1979	5037	1481	13.9	66.0	287.1	23.3	124.6	4.5

+ 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

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: DODGE CITY RGNL AP, KS

COOP ID: 142164

Climate Division: KS 7

NWS Call Sign: DDC

Elevation: 2,582 Feet Lat: 37°46N

Lon: 99°58W

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	.62	.52	1.30	1990	19	1.92	1999	.00	1986	4.6	1.6	.3	@	.04	.10	.19	.28	.38	.48	.61	.76	.97	1.31	1.64
Feb	.66	.35	1.82	1993	10	2.87	1993	.00	1991	4.5	1.9	.3	.1	.01	.03	.10	.18	.28	.41	.57	.78	1.09	1.63	2.18
Mar	1.84	1.33	2.54	1973	10	8.84	1973	.00	1997	7.3	4.0	1.2	.3	.04	.15	.39	.64	.94	1.28	1.70	2.24	2.98	4.26	5.53
Apr	2.25	2.05	4.64	1978	30	6.26	1976	.21	1992	7.3	4.3	1.4	.5	.37	.57	.89	1.20	1.52	1.87	2.26	2.74	3.39	4.43	5.43
May	3.00	2.99	3.45	2001	29	5.73	1981	.43	1985	9.8	5.8	2.3	.6	.92	1.20	1.63	1.99	2.35	2.71	3.12	3.59	4.21	5.17	6.05
Jun	3.15	3.27	3.01	1972	13	6.98	1992	.15	1988	8.7	5.5	2.2	.9	.51	.79	1.24	1.68	2.12	2.61	3.16	3.84	4.74	6.21	7.61
Jul	3.17	2.99	3.50	1972	16	7.26	1972	.24	1978	8.4	5.2	2.2	.7	.49	.76	1.22	1.65	2.11	2.61	3.18	3.87	4.81	6.33	7.79
Aug	2.73	2.16	3.18	1974	8	7.44	1977	.77	1995	7.8	5.0	1.6	.5	.55	.80	1.20	1.57	1.94	2.33	2.78	3.32	4.03	5.17	6.25
Sep	1.70	1.38	2.52	1959	24	6.80	1973	.01+	1998	5.8	3.1	1.2	.4	.04	.10	.26	.47	.72	1.04	1.45	1.99	2.77	4.16	5.57
Oct	1.45	1.09	4.14	1949	9	4.94	1997	.01	1975	5.4	2.7	.7	.2	.05	.11	.27	.45	.67	.94	1.28	1.72	2.36	3.46	4.57
Nov	1.01	.63	1.57	1996	16	3.75	1971	.00	1989	4.9	2.2	.6	.3	.01	.04	.13	.25	.41	.60	.85	1.18	1.66	2.51	3.38
Dec	.77	.61	1.43	1984	15	2.59	1997	.00	1996	4.5	1.9	.3	.1	.04	.11	.22	.34	.46	.59	.75	.94	1.21	1.65	2.09
Ann	22.35	21.46	4.64	Apr 1978	30	8.84	Mar 1973	.00+	Mar 1997	79.0	43.2	14.3	4.6	15.10	16.47	18.24	19.60	20.81	21.99	23.21	24.56	26.21	28.62	30.71

+ 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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COOP ID: 142164

Climate Division: KS 7

NWS Call Sign: DDC

Elevation: 2,582 Feet

Lat: 37°46N

Lon: 99°58W

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	5.0	4.7	1	0	11.3	1990	19	15.7	1990	12	1988	7	3	1971	4.1	1.5	.3	.2	@	7.7	3.3	1.2	.1
Feb	4.6	1.6	1	0	12.0	1993	15	19.6	1993	13	1993	18	4	1978	2.9	1.2	.5	.2	.1	5.1	2.2	1.4	.2
Mar	4.9	3.5	#	1	13.0	1999	12	19.0	1999	14	1999	13	1+	1999	2.6	1.4	.5	.3	@	2.3	1.1	.5	.1
Apr	1.0	.0	#	0	5.7	1989	9	9.0	1983	6+	1983	5	#	1989	.7	.3	.1	@	.0	.4	.1	.1	.0
May	.0	.0	#	0	.9	1978	3	.9	1978	#+	1995	7	#	2000	.1	.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	#	1997	8	#	1997	.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	.0	0	0	1.4	1995	21	1.4	1995	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.5	.0	#	0	4.3	1996	21	4.5	1991	1+	1997	26	#	1997	.3	.1	.1	.0	.0	.1	.0	.0	.0
Nov	2.0	.7	#	0	12.1	1992	24	16.7	1992	14+	1992	26	2	1992	1.5	.6	.1	.1	@	1.3	.6	.3	.2
Dec	3.8	3.0	#	0	8.9	1997	23	14.9	1997	12+	1997	25	2	1997	3.1	1.1	.4	.1	.0	4.7	1.1	.4	.1
Ann	21.9	13.5	N/A	N/A	13.0	Mar 1999	12	19.6	Feb 1993	14+	Mar 1999	13	4	Feb 1978	15.3	6.2	2.0	.9	.1	21.6	8.4	3.9	.7

+ 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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Elevation: 2,582 Feet

Lat: 37° 46N

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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	5/14	5/10	5/06	5/04	5/01	4/28	4/25	4/22	4/18
32	5/05	4/30	4/26	4/23	4/20	4/17	4/14	4/10	4/05
28	4/20	4/17	4/14	4/12	4/10	4/08	4/06	4/03	3/31
24	4/10	4/06	4/03	3/31	3/28	3/26	3/23	3/20	3/16
20	4/06	3/31	3/27	3/24	3/20	3/17	3/14	3/10	3/04
16	4/04	3/27	3/20	3/15	3/10	3/05	2/27	2/21	2/12
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	9/22	9/27	10/01	10/04	10/07	10/10	10/14	10/17	10/23
32	10/02	10/07	10/11	10/14	10/18	10/21	10/24	10/28	11/02
28	10/16	10/20	10/23	10/26	10/29	10/31	11/03	11/06	11/10
24	10/22	10/28	11/01	11/05	11/08	11/11	11/15	11/19	11/24
20	10/29	11/05	11/09	11/13	11/17	11/21	11/25	11/30	12/07
16	11/08	11/14	11/19	11/24	11/28	12/01	12/06	12/11	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	180	173	167	163	159	155	150	145	138
32	199	192	187	183	180	176	172	167	161
28	216	211	207	204	201	198	194	191	185
24	247	239	233	228	224	219	214	208	200
20	266	257	251	246	241	236	231	225	217
16	294	283	275	268	262	256	249	241	230

* 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: DDC Elevation: 2,582 Feet Lat: 37°46N Lon: 99°58W

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	1087	826	647	351	121	12	1	2	65	273	674	978	5037
60	928	680	491	226	57	3	0	0	14	138	533	836	3906
57	836	602	404	166	31	1	0	0	5	85	449	743	3322
55	776	550	346	131	19	0	0	0	2	59	395	681	2959
50	631	427	218	63	5	0	0	0	0	20	271	536	2171
32	205	118	12	0	0	0	0	0	0	0	30	131	496

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	121	210	405	659	985	1267	1483	1432	1119	780	339	153	8953
55	0	4	30	101	291	577	770	719	441	155	15	1	3104
57	0	2	20	76	239	518	708	657	387	120	9	0	2736
60	0	1	10	47	170	430	615	564	310	77	3	0	2227
65	0	0	2	18	79	291	462	407	193	28	1	0	1481
70	0	0	0	4	29	166	310	265	104	7	0	0	885

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	35	96	220	437	749	1034	1243	1192	887	543	175	47	35	131	351	788	1537	2571	3814	5006	5893	6436	6611	6658
45	7	43	132	304	594	884	1088	1037	738	400	97	18	7	50	182	486	1080	1964	3052	4089	4827	5227	5324	5342
50	0	18	69	191	443	734	933	882	594	269	43	3	0	18	87	278	721	1455	2388	3270	3864	4133	4176	4179
55	0	3	32	105	301	584	778	727	450	162	16	0	0	3	35	140	441	1025	1803	2530	2980	3142	3158	3158
60	0	0	9	49	177	437	623	572	317	82	2	0	0	0	9	58	235	672	1295	1867	2184	2266	2268	2268
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	46	90	169	283	465	677	814	782	566	342	132	50	46	136	305	588	1053	1730	2544	3326	3892	4234	4366	4416

(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