

Climatology of the United States

No. 20

1971-2000

Station: KINGSLEY DAM, NE

COOP ID: 254455

Climate Division: NE 7

NWS Call Sign:

Elevation: 3,318 Feet Lat: 41° 13N

Lon: 101° 40W

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	36.8	13.3	25.1	70+	1997	3	32.9	1989	-22	1984	18	8.9	1979	1240	0	.0	.0	4.9	9.9	30.2	4.7
Feb	43.4	17.1	30.3	79	1962	11	40.2	1999	-18+	1996	3	18.0	1978	973	0	.0	.0	10.7	6.1	26.0	2.6
Mar	51.9	24.9	38.4	87	1967	29	45.2	1986	-21	1960	3	32.7	1996	825	0	.0	.0	18.0	2.6	23.5	.6
Apr	62.5	35.3	48.9	93	1989	21	56.3	1981	5	1975	2	43.4	1984	486	2	.0	.2	25.2	.2	10.0	.0
May	72.7	46.5	59.6	100	1994	31	65.0	1994	23	1954	3	52.3	1995	206	39	@	.7	30.5	.0	.7	.0
Jun	84.2	56.0	70.1	107	1954	23	74.5	1988	33	1951	2	64.9	1998	30	183	.4	7.3	29.9	.0	.0	.0
Jul	91.5	61.9	76.7	111	1954	11	81.4	1974	44+	1971	30	69.4	1992	1	362	2.3	15.9	31.0	.0	.0	.0
Aug	89.4	59.9	74.7	106	1960	2	80.6	1983	40	1987	23	69.3	1992	8	307	.7	13.8	31.0	.0	.0	.0
Sep	79.8	50.4	65.1	102+	1998	7	71.0	1990	24	1984	29	60.0	1993	95	98	.1	5.0	29.5	.0	.6	.0
Oct	67.5	38.1	52.8	95	1967	3	55.9	1974	7	1991	30	48.5	1976	379	1	.0	.2	28.3	.2	6.3	.0
Nov	49.5	25.3	37.4	80+	1999	13	48.6	1999	-7	1952	27	25.5	1985	828	0	.0	.0	15.3	3.4	21.1	.2
Dec	39.7	16.6	28.2	70	1959	3	37.0	1999	-25	1989	22	11.8	1983	1144	0	.0	.0	7.2	8.1	29.1	2.7
Ann	64.1	37.1	50.6	111	Jul 1954	11	81.4	Jul 1974	-25	Dec 1989	22	8.9	Jan 1979	6215	992	3.5	43.1	261.5	30.5	147.5	10.8

+ 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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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: KINGSLEY DAM, NE

COOP ID: 254455

Climate Division: NE 7

NWS Call Sign:

Elevation: 3,318 Feet Lat: 41°13N

Lon: 101°40W

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	.49	.42	.75	1949	3	1.34	1976	.00	1986	3.8	1.7	.2	.0	.05	.11	.19	.26	.33	.41	.50	.60	.74	.97	1.19
Feb	.58	.31	1.20	1993	11	2.27	1993	.01+	1996	4.0	1.9	.2	@	.01	.04	.09	.16	.25	.36	.50	.68	.95	1.42	1.90
Mar	1.46	1.27	1.91	1966	22	4.15	1977	.11	1997	5.9	3.3	.7	.3	.16	.27	.47	.68	.90	1.14	1.42	1.78	2.26	3.06	3.84
Apr	1.87	1.55	3.66	1971	19	6.04	1971	.01	1992	6.5	4.4	1.1	.2	.18	.31	.57	.83	1.11	1.43	1.81	2.28	2.93	4.01	5.07
May	3.36	3.68	3.05	1999	13	5.64	1981	.61	1992	9.3	5.9	2.5	.8	1.05	1.37	1.85	2.25	2.64	3.05	3.50	4.02	4.69	5.74	6.71
Jun	3.07	2.98	2.52	1998	7	7.07	1998	.90	1990	9.1	6.1	2.3	.6	1.06	1.35	1.77	2.13	2.47	2.82	3.20	3.65	4.22	5.11	5.92
Jul	2.59	2.51	3.40	1961	8	4.78	1975	.45	1991	7.7	5.2	1.8	.5	.93	1.17	1.53	1.82	2.10	2.39	2.70	3.07	3.54	4.26	4.92
Aug	1.87	1.41	2.26	1950	6	4.56	1993	.35	2000	7.1	4.0	1.2	.3	.34	.51	.78	1.03	1.29	1.57	1.89	2.28	2.79	3.61	4.40
Sep	1.50	1.36	2.60	1999	4	4.24	1996	.01	1977	5.5	3.2	.8	.4	.08	.17	.35	.55	.78	1.05	1.38	1.81	2.40	3.42	4.43
Oct	1.06	.91	1.96	2000	28	3.12	2000	.03+	1999	4.5	2.7	.6	.2	.08	.14	.28	.42	.59	.77	1.00	1.29	1.68	2.35	3.02
Nov	.82	.66	1.22	1983	27	2.43	1998	.00	1989	3.9	2.2	.5	.1	.02	.06	.17	.28	.41	.57	.75	.99	1.33	1.91	2.48
Dec	.41	.33	.93	1978	2	1.33	1987	.00+	1991	3.1	1.3	.2	.0	.00	.03	.09	.16	.23	.31	.40	.51	.67	.94	1.20
Ann	19.08	19.30	3.66	Apr 1971	19	7.07	Jun 1998	.00+	Dec 1991	70.4	41.9	12.1	3.4	12.68	13.88	15.44	16.64	17.71	18.75	19.84	21.04	22.51	24.65	26.52

+ 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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No. 20

1971-2000

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151 Patton Avenue
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Station: **KINGSLEY DAM, NE**

COOP ID: 254455

Climate Division: **NE 7**

NWS Call Sign:

Elevation: **3,318 Feet**

Lat: **41° 13N**

Lon: **101° 40W**

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	6.9	6.5	2	2	8.0	1981	29	15.0	1988	13+	1988	20	6	1979	3.3	2.0	.7	.4	.0	14.2	8.8	5.0	.8
Feb	5.2	3.5	1	#	14.0	1993	11	20.7	1978	14+	1993	25	8	1993	3.2	2.1	.6	.3	@	6.9	3.5	2.1	.8
Mar	9.1	7.8	1	#	16.0	1980	28	29.8	1980	25	1980	29	3	1980	3.2	2.5	1.1	.4	.1	4.2	2.2	1.2	.2
Apr	3.8	2.3	#	0	10.0	1984	2	19.0	1995	15	1980	1	2	1980	1.2	1.0	.4	.2	.1	1.1	.6	.4	.1
May	.3	.0	#	0	8.0	1979	10	8.0	1979	#+	1992	26	#+	1992	.1	@	@	@	.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	.2	.0	#	0	3.0	1985	28	4.0	1985	3	1985	28	#+	2000	.1	.1	@	.0	.0	.1	@	.0	.0
Oct	.5	.0	#	0	3.5	1991	29	5.8	1991	2+	1997	26	#+	1997	.3	.3	@	.0	.0	.2	.0	.0	.0
Nov	6.0	4.0	1	#	14.0	1983	27	24.0	1983	16	1983	28	3	1975	2.0	1.5	.8	.4	.1	4.1	2.1	1.0	.4
Dec	5.9	4.6	1	#	12.0	1978	2	17.0	1978	13	1985	11	7	1985	2.6	1.7	.6	.3	.1	9.2	5.6	3.5	.6
Ann	37.9	28.7	N/A	N/A	16.0	Mar 1980	28	29.8	Mar 1980	25	Mar 1980	29	8	Feb 1993	16.0	11.2	4.2	2.0	.4	40.0	22.8	13.2	2.9

+ 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: NE 7

NWS Call Sign:

Elevation: 3,318 Feet

Lat: 41° 13N

Lon: 101° 40W

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	5/19	5/14	5/11	5/09	5/06	5/04	5/01	4/28	4/23
32	5/13	5/08	5/05	5/02	4/29	4/26	4/23	4/19	4/14
28	5/05	4/29	4/26	4/22	4/19	4/16	4/13	4/09	4/03
24	4/20	4/15	4/11	4/08	4/05	4/02	3/30	3/27	3/22
20	4/10	4/04	3/31	3/28	3/25	3/21	3/18	3/14	3/08
16	4/06	3/29	3/23	3/18	3/13	3/08	3/03	2/25	2/17
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	9/14	9/19	9/23	9/26	9/29	10/01	10/04	10/08	10/13
32	9/22	9/28	10/02	10/05	10/09	10/12	10/16	10/20	10/25
28	10/04	10/09	10/13	10/16	10/19	10/22	10/25	10/29	11/03
24	10/12	10/17	10/21	10/25	10/28	10/31	11/03	11/07	11/13
20	10/23	10/28	11/02	11/05	11/08	11/11	11/15	11/19	11/24
16	10/30	11/06	11/11	11/15	11/18	11/22	11/26	12/01	12/08
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	162	156	152	148	145	141	137	133	127
32	185	177	171	167	162	158	153	148	140
28	203	196	191	186	182	178	173	168	161
24	230	221	215	210	205	200	195	188	180
20	248	241	236	232	228	224	220	215	208
16	284	272	264	256	250	243	236	227	215

* 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: NE 7 NWS Call Sign: Elevation: 3,318 Feet Lat: 41°13N Lon: 101°40W

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	1240	973	825	486	206	30	1	8	95	379	828	1144	6215
60	1085	833	670	343	109	7	0	1	36	232	678	989	4983
57	992	752	577	265	68	2	0	0	16	154	588	896	4310
55	930	701	516	217	47	1	0	0	9	111	535	835	3902
50	778	570	372	119	14	0	0	0	0	41	397	691	2982
32	305	200	47	1	0	0	0	0	0	0	79	251	883

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	89	152	245	507	856	1143	1384	1322	993	645	242	130	7708
55	0	8	1	33	190	453	671	609	311	43	7	2	2328
57	0	3	0	21	149	395	609	547	259	24	0	0	2007
60	0	0	0	9	97	310	516	455	189	8	0	0	1584
65	0	0	0	2	39	183	362	307	98	1	0	0	992
70	0	0	0	0	10	88	219	177	42	0	0	0	536

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	3	39	126	307	609	892	1113	1062	751	417	104	22	3	42	168	475	1084	1976	3089	4151	4902	5319	5423	5445
45	0	9	56	196	458	742	958	907	604	282	46	2	0	9	65	261	719	1461	2419	3326	3930	4212	4258	4260
50	0	1	19	105	311	592	803	752	459	167	15	0	0	1	20	125	436	1028	1831	2583	3042	3209	3224	3224
55	0	0	3	48	185	446	648	598	319	78	1	0	0	0	3	51	236	682	1330	1928	2247	2325	2326	2326
60	0	0	0	16	94	302	493	443	198	23	0	0	0	0	0	16	110	412	905	1348	1546	1569	1569	1569
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	10	48	110	216	369	570	727	693	470	275	77	25	10	58	168	384	753	1323	2050	2743	3213	3488	3565	3590

(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.

- 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/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