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

COOP ID: 251990

Lon: 97°54W

Station: CREIGHTON, NE

Climate Division: NE 3 NWS Call Sign:

Temperature (°F) Degree Days (1) Mean (1) Mean Number of Days (3) **Extremes** Base Temp 65 Max Max Max Max Min Min Highest Lowest Daily Daily Highest Lowest Month(1) Month(1) Cooling >= >= >= <= <= <= Month Mean Year Day Year Year Day Year Heating Max Min Daily(2) Daily(2) Mean Mean 100 90 50 32 32 0 32.1 10.5 21.3 73 1981 24 33.6 1992 -30 1970 19 6.5 1979 1354 0 .0 .0 3.2 15.1 30.4 7.7 Jan 39.0 16.9 28.0 78 1995 21 37.2 1991 -36 1962 28 13.3 1978 1039 0 .0 .0 7.2 10.2 25.5 4.2 Feb Mar 50.4 26.1 38.3 89 1968 30 44.2 2000 -24 1960 4 29.9 1998 830 0 .0 .0 15.4 3.6 22.6 .7 37.2 3 43.3 1983 8 Apr 63.5 50.4 95 1965 30 59.8 1981 -1 1975 448 .0 .6 25.4 .3 9.6 (a) May 74.1 48.9 61.5 105 1967 25 67.7 1977 22 1976 3 56.8 1995 164 55 .0 .8 30.8 .0 .9 .0 23 36 7.5 84.2 58.4 71.3 107 +1988 77.7 1988 1956 1 66.7 1982 23 213 .4 30.0 .0 .0 .0 Jun Jul 88.5 63.2 75.9 11 80.2 1974 39 1971 30 68.7 1992 4 340 1.2 13.6 31.0 0. 106 +1960 .0 .0 1992 86.8 60.8 73.8 106 2000 31 79.7 1983 40 +1986 28 68.6 14 287 .7 11.1 31.0 .0 .0 .0 Aug Sep 78.9 51.0 65.0 103 1970 6 71.0 1998 24 1974 30 60.2 1993 96 94 .1 4.0 29.9 .0 1.2 0. 9 46.3 387 Oct 66.0 39.2 52.6 95 1963 1 56.8 1975 1972 19 1976 3 .0 .3 28.1 .2 7.5 .0 25.6 35.9 80 1999 8 46.5 1999 -24 1959 14 23.8 1985 875 0 .0 .0 11.9 4.7 22.5 Nov 46.1 .6 Dec 34.8 14.5 24.7 68+ 1998 2 33.1 1979 -31 1989 22 5.9 1983 1251 0 .0 .0 4.2 12.4 29.7 4.9 Jun Jul Feb Dec 37.7 49.9 107 +1988 23 80.2 1974 -36 1962 28 5.9 1983 6485 1000 2.4 37.9 248.1 46.5 149.9 18.1 62.0 Ann

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Issue Date: February 2004 029-A

(1) From the 1971-2000 Monthly Normals

Elevation: 1,630 Feet Lat: 42°28N

- (2) Derived from station's available digital record: 1948-2001
- (3) Derived from 1971-2000 serially complete daily data

⁺ Also occurred on an earlier date(s)

[@] Denotes mean number of days greater than 0 but less than .05

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Climate Division: NE 3 NWS Call Sign: Elevation: 1,630 Feet Lat: 42°28N Lon: 97°54W

										Pı	recipit	tation	(incl	hes)												
	Me	ans/	P	recip	itatio	on Total	s			М	ean N	Numbo Pays (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												
	Medi					Extreme	5			D	aily Pre	cipitatio	n	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	.53	.43	.80	1973	21	1.49	1975	.01	1981	4.5	1.6	.2	.0	.06	.09	.17	.24	.32	.41	.52	.65	.83	1.13	1.43		
Feb	.64	.44	1.63	1971	19	2.57	1971	.00	1982	5.4	1.9	.2	.1	.03	.08	.18	.27	.37	.48	.62	.78	1.01	1.40	1.77		
Mar	1.82	1.39	2.75	1987	17	6.99	1987	.14	1994	7.2	4.0	1.2	.4	.19	.32	.57	.82	1.10	1.41	1.77	2.22	2.84	3.87	4.88		
Apr	2.67	2.55	2.91	2001	23	6.77	1999	.01	1981	8.4	5.5	1.8	.5	.28	.47	.84	1.21	1.61	2.07	2.60	3.26	4.16	5.66	7.12		
May	3.88	3.65	3.28	1992	16	8.79	1982	1.07	1994	10.2	7.4	2.6	1.0	1.49	1.85	2.37	2.80	3.20	3.62	4.07	4.58	5.24	6.26	7.18		
Jun	3.73	3.41	6.45	1957	16	9.75	1999	.65	1978	9.2	6.3	2.7	.9	1.02	1.38	1.92	2.38	2.84	3.33	3.86	4.49	5.31	6.60	7.80		
Jul	3.24	3.04	3.77	1994	13	8.26	1993	.68	1975	7.9	5.7	2.2	.7	.76	1.07	1.54	1.97	2.39	2.83	3.33	3.93	4.71	5.95	7.12		
Aug	3.15	2.66	7.38	1995	22	10.99	1995	.31	1983	7.2	4.8	1.8	.8	.42	.67	1.12	1.56	2.02	2.53	3.12	3.85	4.83	6.43	7.99		
Sep	2.25	1.82	3.05	1949	10	7.18	1973	.00	1999	6.1	4.2	1.6	.8	.24	.52	.89	1.22	1.55	1.90	2.30	2.78	3.42	4.44	5.42		
Oct	1.76	1.40	3.15	1950	1	6.05	1998	.06	1996	5.1	3.5	1.2	.4	.10	.21	.42	.66	.93	1.25	1.63	2.13	2.82	4.00	5.17		
Nov	1.36	1.21	1.81	1977	9	3.90	1975	.02+	1989	5.5	2.8	.9	.3	.06	.13	.28	.46	.67	.92	1.23	1.63	2.20	3.18	4.16		
Dec	.61	.47	2.00	1997	22	2.18	1982	.10	1986	5.1	2.1	.2	@	.10	.15	.24	.33	.41	.51	.62	.75	.93	1.22	1.49		
Ann	25.64	25.09	7.38	Aug 1995	22	10.99	Aug 1995	.00+	Sep 1999	81.8	49.8	16.6	5.9	16.23	17.97	20.25	22.01	23.59	25.13	26.75	28.55	30.75	34.00	36.83		

⁺ Also occurred on an earlier date(s)

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

[#] 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

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Lon: 97°54W

Station: CREIGHTON, NE

Climate Division: NE 3 NWS Call Sign: Elevation: 1,630 Feet Lat: 42°28N

										Snov	w (incl	hes)														
						Sno	ow To	tals							Mean Number of Days (1)											
	Mean	s/Medi	ans (1)	1					Extre	mes (2)				ow Fa	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	2.0	2.0	2	#	12.0	1982	22	12.0+	1982	15	1983	1	10	1979	1.6	1.4	.3	.1	.0	-9.9	-9.9	-9.9	-9.9			
Feb	6.7	3.0	3	#	8.0	1989	20	17.0	1999	18	1984	19	11	1984	2.1	1.4	.6	.2	.0	5.6	2.7	1.9	.4			
Mar	5.5	3.0	1	#	9.0	1983	26	15.1	1983	12	1998	11	5+	1998	1.6	1.5	.6	.2	.0	1.6	.9	.4	.0			
Apr	1.3	.0	#	0	11.0	1994	12	11.5	1997	9	1997	12	1	1997	.4	.4	.3	.1	@	.6	.3	.2	.0			
May	#	.0	#	0	#	1997	12	#+	1997	#	1997	12	#	1997	.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	.3	.0	#	0	5.0	1991	31	6.0	1991	5+	1991	31	#+	1991	.1	.1	@	@	.0	@	@	@	.0			
Nov	1.8	.1	#	0	16.0	1983	28	16.0	1983	16	1983	30	3	1979	1.4	1.1	.6	.3	.1	.5	.4	.2	.1			
Dec	5.8	2.3	2	#	7.5	1981	1	15.5	1981	16	1983	1	14	1983	2.3	1.9	.7	.2	.0	-9.9	-9.9	-9.9	-9.9			
Ann	23.4	10.4	N/A	N/A	16.0	Nov 1983	28	17.0	Feb 1999	18	Feb 1984	19	14	Dec 1983	9.5	7.8	3.1	1.1	.1	-9.9	-9.9	-9.9	-9.9			

⁺ Also occurred on an earlier date(s) #Denotes trace amounts

- (1) Derived from Snow Climatology and 1971-2000 daily data
- (2) Derived from 1971-2000 daily data

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

[@] 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

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Elevation: 1.630 Feet

Station: CREIGHTON, NE

Climate Division: NE 3 NWS Call Sign:

Freeze Data Spring Freeze Dates (Month/Day) Probability of later date in spring (thru Jul 31) than indicated(*) Temp (F) .10 .20 .30 .40 .60 .70 .80 .90 36 5/22 5/17 5/14 5/11 5/09 5/06 5/03 4/30 4/26 32 5/05 5/13 5/08 5/02 4/30 4/27 4/24 4/21 4/16 28 5/04 4/30 4/27 4/24 4/21 4/19 4/16 4/12 4/08 4/23 3/24 24 4/18 4/14 4/11 4/08 4/05 4/02 3/29 20 4/13 4/08 4/05 4/02 3/31 3/28 3/25 3/22 3/18 4/05 3/31 3/24 16 3/27 3/21 3/19 3/15 3/12 3/07 Fall Freeze Dates (Month/Day) Probability of earlier date in fall (beginning Aug 1) than indicated(*) Temp (F) .20 .30 .40 .50 .60 .70 .10 .80 .90 36 9/11 9/15 9/18 9/21 9/23 9/26 9/28 10/01 10/05 32 9/14 9/20 9/24 9/27 9/30 10/03 10/06 10/10 10/15 28 9/25 9/30 10/04 10/08 10/11 10/14 10/17 10/21 10/27 24 10/08 10/13 10/17 10/19 10/22 10/25 10/28 10/31 11/05 20 10/15 10/21 10/25 10/29 11/01 11/05 11/08 11/13 11/18 11/04 11/08 11/21 16 10/19 10/26 10/31 11/12 11/16 11/28 Freeze Free Period **Probability of longer than indicated freeze free period (Days)** Temp (F) .10 .20 .30 .40 .50 .60 .70 .80 .90 156 149 145 141 137 133 129 125 118 36 32 173 166 161 157 153 149 144 139 132 28 191 185 180 176 172 159 153 168 164 24 218 211 205 201 196 192 187 182 175

219

236

0/00 Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

224

242

Derived from 1971-2000 serially complete daily data

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Complete documentation available from:

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^{*} Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

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Elevation: 1,630 Feet Lat: 42°28N

Station: CREIGHTON, NE

Climate Division: NE 3

				Deg	ree Days t	o Selected	Base Tem	peratures	(°F)				
Base						Heatin	g Degree l	Days (1)					
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1354	1039	830	448	164	23	4	14	96	387	875	1251	6485
60	1199	899	675	316	81	5	0	2	36	246	725	1096	5280
57	1106	822	585	246	48	1	0	0	17	175	639	1003	4642
55	1045	770	528	204	32	0	0	0	9	134	584	941	4247
50	901	640	387	118	9	0	0	0	1	62	447	797	3362
32	422	263	66	3	0	0	0	0	0	1	110	332	1197

Base						Coolin	g Degree l	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	91	148	259	553	915	1180	1359	1296	988	640	224	104	7757
55	1	12	8	64	233	490	646	583	307	60	8	0	2412
57	0	8	3	46	187	431	584	521	255	39	4	0	2078
60	0	0	0	26	127	345	491	430	185	17	0	0	1621
65	0	0	0	8	55	213	340	287	94	3	0	0	1000
70	0	0	0	1	17	111	201	165	38	0	0	0	533

										Gro	wing	Degre	e Uni	ts (2)											
Base					Growin	g Degree	Units (N	Ionthly)					Growing Degree Units (Accumulated Monthly)												
	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec													Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
40	4	31	119	338	667	942	1109	1052	746	410	89	8	4	35	154	492	1159	2101	3210	4262	5008	5418	5507	5515	
45	0	8	62	220	513	792	954	897	596	278	39	2	0	8	70	290	803	1595	2549	3446	4042	4320	4359	4361	
50	0	2	27	127	366	642	799	742	452	166	14	0	0	2	29	156	522	1164	1963	2705	3157	3323	3337	3337	
55	0	0	7	68	234	492	644	587	317	82	2	0	0	0	7	75	309	801	1445	2032	2349	2431	2433	2433	
60	0	0	2	33	131	351	489	433	201	32	0	0	0	0	2	35	166	517	1006	1439	1640	1672	1672	1672	
Base	Growing Degree Units for Corn (Monthly)													•	Gr	owing D	egree Ur	its for C	orn (Acc	umulate	d Month	ly)	•		
50/86	10	32	94	223	418	617	740	695	486	6 10 32 94 223 418 617 740 695 486 270 61 11											3315	3585	3646	3657	

(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

NWS Call Sign:

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

- c. Snow Tables
 - 1. Snow Climatology
 - 2. Cooperative Summary of the Day
- d. Freeze Data Table

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

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