U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: TRYON, NE **COOP ID: 258650**

Climate Division: NE 2 **NWS Call Sign:** **Elevation: 3,247 Feet** **Lat: 41˚33N** **Lon: 100˚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	34.7	9.2	22.0	70	1990	11	30.8	1990	-29	1950	26	7.0	1979	1334	0	.0	.0	5.5	11.4	30.8	6.5
Feb	41.1	13.7	27.4	78+	1962	12	36.0	1991	-24	1951	1	14.4	1978	1053	0	.0	.0	9.2	7.6	27.8	4.1
Mar	49.7	20.7	35.2	88	1968	30	41.4	1986	-24	1960	3	27.6	1975	924	0	.0	.0	16.3	3.7	27.4	.8
Apr	60.0	30.9	45.5	92	1950	22	53.0	1981	4	1957	12	39.1	1983	587	0	.0	.1	23.4	.4	16.9	.0
May	70.1	42.7	56.4	97	1950	23	61.9	1987	18+	1954	3	49.6	1995	283	16	.0	.3	30.4	.0	3.4	.0
Jun	80.6	52.9	66.8	106	1952	15	74.2	1988	33+	1998	6	61.1	1982	70	121	.3	4.9	29.9	.0	.0	.0
Jul	86.9	58.4	72.7	112	1954	11	77.7	1974	34	1950	13	65.6	1992	13	250	1.6	13.7	31.0	.0	.0	.0
Aug	85.4	56.7	71.1	108	1954	3	77.1	1983	35	1993	31	65.6	1992	22	209	.4	10.5	31.0	.0	.0	.0
Sep	77.2	45.6	61.4	101	1960	3	66.9	1998	20	1951	28	55.6	1993	159	52	.0	4.0	29.4	.0	2.1	.0
Oct	64.9	33.0	49.0	92	1953	1	51.7	1974	6	1991	29	44.2	1976	497	0	.0	.2	27.5	.3	13.5	.0
Nov	46.8	20.8	33.8	81	1999	8	43.4	1999	-13	1955	16	23.1	1985	937	0	.0	.0	13.9	4.8	27.4	1.0
Dec	38.2	12.6	25.4	73	1998	3	32.3	1979	-30+	1989	23	8.2	1983	1227	0	.0	.0	6.9	9.4	30.7	4.0
Ann	61.3	33.1	47.2	112	Jul 1954	11	77.7	Jul 1974	-30+	Dec 1989	23	7.0	Jan 1979	7106	648	2.3	33.7	254.4	37.6	180.0	16.4

\+ 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/normals/usnormals.html

(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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	.32	.27	.64	1952	14	1.20	1988	.00	1995
Feb	.36	.27	.95	1955	20	1.40	1987	.00	1990
Mar	.92	.64	1.10	1961	12	2.29	1992	.00	1994
Apr	1.91	1.62	2.05	1971	20	5.60	1971	.00	1992
May	3.41	3.27	2.30	1998	9	6.28	1995	.52	1992
Jun	3.19	3.14	2.80	1974	9	5.68	1994	1.11	1973
Jul	3.50	3.34	3.20	1975	31	8.71	1993	.75	1991
Aug	2.14	2.01	2.70	1991	12	3.79	1989	.10	1975
Sep	2.13	1.87	2.58	1966	1	4.62	1973	.18	1975
Oct	1.15	.88	2.13	2000	29	2.85	1971	.01	1999
Nov	.68	.48	1.08	2001	24	2.66	1972	.00	1974
Dec	.27	.24	.58	1968	22	1.00	1994	.00	1991
Ann	19.98	20.05	3.20	Jul 1975	31	8.71	Jul 1993	.00+	Jan 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.5	1.1	.2	.0
Feb	4.0	1.6	.2	.0
Mar	6.8	3.1	.6	.1
Apr	8.6	4.9	1.1	.2
May	11.4	7.4	2.4	.7
Jun	10.6	6.4	2.1	.6
Jul	9.3	5.3	1.8	.8
Aug	8.2	3.9	1.0	.4
Sep	6.4	3.8	1.1	.5
Oct	4.7	2.7	.6	.2
Nov	4.8	2.1	.4	@
Dec	2.8	.8	.1	.0
Ann	81.1	43.1	11.6	3.5

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
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.02	.06	.11	.15	.20	.26	.32	.39	.49	.65	.81
Feb	.01	.04	.09	.14	.20	.27	.35	.45	.58	.81	1.03
Mar	.06	.16	.31	.44	.58	.74	.92	1.14	1.44	1.93	2.40
Apr	.49	.76	1.07	1.32	1.54	1.77	2.02	2.31	2.68	3.25	3.77
May	1.19	1.51	1.98	2.37	2.75	3.13	3.56	4.05	4.68	5.66	6.56
Jun	1.40	1.68	2.08	2.41	2.71	3.01	3.34	3.72	4.19	4.92	5.57
Jul	1.36	1.68	2.14	2.53	2.89	3.26	3.66	4.12	4.71	5.62	6.44
Aug	.51	.71	1.03	1.30	1.58	1.87	2.20	2.59	3.10	3.91	4.67
Sep	.37	.55	.86	1.15	1.45	1.78	2.15	2.60	3.20	4.17	5.09
Oct	.05	.11	.24	.39	.56	.77	1.03	1.37	1.85	2.68	3.51
Nov	.03	.08	.18	.28	.38	.51	.65	.84	1.09	1.51	1.93
Dec	.02	.04	.09	.13	.17	.21	.27	.33	.42	.56	.70
Ann	15.04	16.01	17.25	18.18	19.00	19.79	20.61	21.50	22.58	24.13	25.46

\+ 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

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Climate Division: NE 2 **NWS Call Sign:** **Elevation: 3,247 Feet** **Lat: 41°33N** **Lon: 100°58W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	4.6	3.5	1	1
Feb	4.1	4.0	1	#
Mar	6.1	2.5	1	#
Apr	2.4	.5	#	#
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	0	0
Oct	.5	.0	#	0
Nov	4.6	5.0	#	#
Dec	5.2	3.1	1	1
Ann	27.6	18.6	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	22.0	1988	20	22.0	1988	12	1974	10	6	1974
Feb	5.0	1999	23	8.5+	1999	9	1986	16	5	1994
Mar	12.0	1975	27	23.0	1971	12	1971	24	3	1971
Apr	9.0	1987	13	10.0	1987	9	1993	20	#+	2000
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	1.0	2000	24	1.0	2000	0	0	0	0	0
Oct	4.5	1997	25	4.5	1997	3	1986	12	#+	1990
Nov	7.0	2000	12	11.0	2000	7	2000	12	3	2000
Dec	10.0	1974	14	15.0	1973	10	1973	30	6	1981
Ann	22.0	Jan 1988	20	23.0	Mar 1971	12+	Jan 1974	10	6+	Dec 1981

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.9	1.5	.7	.3	.1
Feb	1.9	1.5	.4	.1	.0
Mar	2.2	1.9	.6	.2	.1
Apr	.6	.6	.3	.2	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.1	.1	.0	.0	.0
Oct	.5	.3	.1	.0	.0
Nov	1.3	1.1	.5	.2	.0
Dec	2.1	1.8	.7	.2	.1
Ann	10.6	8.8	3.3	1.2	.3

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	4.9	2.8	1.7	.0
Mar	3.1	1.6	1.1	.4
Apr	.5	.2	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.3	.0	.0	.0
Nov	3.4	1.7	.9	.0
Dec	-9.9	-9.9	-9.9	-9.9
Ann	-9.9	-9.9	-9.9	-9.9

+ 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

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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	6/02	5/29	5/25	5/22	5/19	5/17	5/14	5/10	5/05
32	5/21	5/17	5/14	5/12	5/10	5/07	5/05	5/02	4/28
28	5/16	5/12	5/09	5/06	5/03	5/01	4/28	4/25	4/21
24	5/06	5/02	4/29	4/26	4/24	4/21	4/19	4/16	4/11
20	4/22	4/18	4/15	4/12	4/09	4/07	4/04	4/01	3/27
16	4/13	4/07	4/02	3/29	3/26	3/22	3/18	3/14	3/07

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	9/06	9/11	9/14	9/17	9/19	9/22	9/25	9/28	10/02
32	9/14	9/18	9/21	9/23	9/26	9/28	9/30	10/03	10/07
28	9/18	9/23	9/27	9/30	10/03	10/06	10/09	10/12	10/17
24	9/29	10/04	10/08	10/11	10/14	10/17	10/21	10/24	10/30
20	10/08	10/13	10/17	10/21	10/24	10/27	10/30	11/03	11/09
16	10/19	10/24	10/28	10/31	11/03	11/06	11/09	11/13	11/18

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	138	132	128	125	122	119	116	112	107
32	156	150	145	142	138	135	131	127	121
28	170	164	159	155	151	148	144	139	133
24	193	186	181	177	173	169	164	159	152
20	216	210	205	201	197	193	189	184	177
16	244	236	231	226	221	217	212	207	199

***** 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	1334	1053	924	587	283	70	13	22	159	497	937	1227	7106
60	1179	913	769	440	165	24	1	4	74	344	787	1072	5772
57	1086	829	676	356	110	10	0	1	40	255	697	979	5039
55	1024	773	614	302	80	5	0	0	24	200	637	917	4576
50	870	645	466	186	30	0	0	0	5	91	497	765	3555
32	378	245	81	5	0	0	0	0	0	1	119	290	1119

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	67	115	181	409	756	1041	1260	1210	882	526	172	86	6705
55	0	0	0	16	123	356	547	497	216	13	0	0	1768
57	0	0	0	9	91	301	485	436	172	6	0	0	1500
60	0	0	0	3	53	225	393	346	116	1	0	0	1137
65	0	0	0	0	16	121	250	209	52	0	0	0	648
70	0	0	0	0	3	52	132	104	17	0	0	0	308

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	27	90	231	520	825	1040	987	656	327	64	9	3	30	120	351	871	1696	2736	3723	4379	4706	4770	4779
45	0	5	39	136	370	675	885	832	507	206	26	0	0	5	44	180	550	1225	2110	2942	3449	3655	3681	3681
50	0	1	13	69	237	525	730	677	370	108	5	0	0	1	14	83	320	845	1575	2252	2622	2730	2735	2735
55	0	0	0	30	128	376	575	522	243	41	0	0	0	0	0	30	158	534	1109	1631	1874	1915	1915	1915
60	0	0	0	10	55	236	421	368	137	9	0	0	0	0	0	10	65	301	722	1090	1227	1236	1236	1236
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	20	41	98	187	338	521	664	631	424	256	73	28	20	61	159	346	684	1205	1869	2500	2924	3180	3253	3281

(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:
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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

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/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