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: TETONIA EXPERIMENT STN, ID **COOP ID: 109065**

Climate Division: ID10 **NWS Call Sign:** **Elevation: 6,170 Feet** **Lat: 43˚51N** **Lon: 111˚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	27.0	3.5	15.3	59	1981	1	22.8	1981	-39	1963	19	3.6	1979	1542	0	.0	.0	.1	20.5	30.7	10.5
Feb	33.1	8.2	20.7	60	1963	6	27.5	1995	-37+	1985	4	12.0	1985	1241	0	.0	.0	.5	11.5	28.1	7.7
Mar	39.8	16.0	27.9	65	1972	22	35.1	1986	-20+	1966	5	18.9	1976	1151	0	.0	.0	4.1	4.1	30.3	2.3
Apr	49.2	25.1	37.2	79	1992	30	44.5	1987	-7	1983	5	28.7	1975	836	0	.0	.0	14.7	.3	25.1	.2
May	60.6	32.8	46.7	83+	2001	26	52.7	1992	7	1967	1	40.3	1975	568	0	.0	.0	26.4	.0	14.5	.0
Jun	70.5	39.2	54.9	95	1988	26	61.0	1988	19	1966	5	49.2	1998	311	7	.0	.3	29.6	.0	3.8	.0
Jul	78.7	44.3	61.5	98	1955	15	65.9	1989	28	1952	7	54.0	1993	147	38	.0	.6	31.0	.0	.6	.0
Aug	77.9	42.8	60.4	97	1955	3	63.9	2000	22	1992	26	55.2	1980	167	24	.0	.8	31.0	.0	1.5	.0
Sep	68.6	34.0	51.3	90+	2001	24	56.7	1990	6	1985	30	46.2	1971	412	2	.0	@	28.5	.0	11.2	.0
Oct	55.6	25.1	40.4	81	1992	3	49.3	1988	-8	1972	30	33.6	1984	765	0	.0	.0	22.5	.4	25.1	.2
Nov	37.8	14.7	26.3	67+	1999	8	37.6	1999	-23	1955	16	17.8	1979	1163	0	.0	.0	5.1	9.1	28.9	3.3
Dec	27.9	4.2	16.1	57	1999	1	26.0	1980	-45	1983	23	5.5	1978	1518	0	.0	.0	.3	19.2	30.6	10.6
Ann	52.2	24.2	38.2	98	Jul 1955	15	65.9	Jul 1989	-45	Dec 1983	23	3.6	Jan 1979	9821	71	.0	1.7	193.8	65.1	230.4	34.8

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1952-2001

(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	2.00	1.75	1.13	1991	8	4.85	2000	.35	1992
Feb	1.19	1.17	1.06	2000	25	2.77	1999	.05	1991
Mar	1.28	1.09	1.36	1989	14	5.08	1989	.27	1978
Apr	1.36	1.31	.88+	1957	23	2.40	1971	.43	1980
May	2.61	2.53	1.45	1993	7	5.79	1981	.59	1979
Jun	1.67	1.29	1.22	1965	26	5.41	1998	.03	1988
Jul	1.29	.93	1.34	1984	23	3.43	1987	.00	1988
Aug	1.26	1.19	2.35	1973	21	3.43	1973	.10	1992
Sep	1.38	1.37	1.16	1985	12	3.45	1985	.00	1987
Oct	1.43	1.20	1.10	1994	6	4.43	1994	.06	1978
Nov	1.48	1.48	.86	1994	30	3.01	1983	.02	1976
Dec	1.66	1.33	1.12	1987	9	5.29	1996	.19	1986
Ann	18.61	18.41	2.35	Aug 1973	21	5.79	May 1981	.00+	Jul 1988

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.6	5.6	.5	@
Feb	7.8	3.8	.2	@
Mar	7.2	3.5	.3	@
Apr	7.6	4.0	.4	.0
May	11.0	6.9	1.3	.2
Jun	7.1	4.5	.7	@
Jul	5.0	3.0	.7	.1
Aug	6.4	3.7	.5	@
Sep	5.9	3.5	.7	.1
Oct	6.4	4.1	.6	@
Nov	7.9	3.7	.2	.0
Dec	8.8	4.9	.5	@
Ann	91.7	51.2	6.6	.4

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	.49	.68	.97	1.23	1.49	1.76	2.06	2.43	2.90	3.65	4.35
Feb	.27	.38	.56	.71	.87	1.04	1.22	1.45	1.74	2.21	2.65
Mar	.26	.37	.56	.73	.91	1.09	1.30	1.55	1.89	2.42	2.93
Apr	.51	.64	.82	.97	1.12	1.26	1.43	1.61	1.85	2.22	2.55
May	.75	1.00	1.37	1.70	2.01	2.34	2.71	3.13	3.69	4.56	5.36
Jun	.25	.40	.64	.87	1.11	1.37	1.67	2.04	2.53	3.33	4.10
Jul	.07	.19	.39	.58	.78	1.00	1.26	1.58	2.02	2.75	3.45
Aug	.16	.26	.44	.61	.80	1.01	1.25	1.54	1.95	2.60	3.24
Sep	.08	.21	.42	.63	.84	1.08	1.36	1.70	2.16	2.93	3.67
Oct	.15	.26	.46	.66	.87	1.11	1.39	1.74	2.22	3.01	3.78
Nov	.18	.29	.50	.71	.92	1.17	1.45	1.80	2.28	3.07	3.83
Dec	.31	.46	.70	.93	1.15	1.40	1.68	2.02	2.47	3.19	3.87
Ann	12.73	13.85	15.29	16.39	17.38	18.33	19.32	20.41	21.75	23.69	25.37

\+ 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: 1952-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	23.7	-99.9	4	4	9.0	1978	26	47.4	1996	12	1971	12	5+	1975	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Feb	2.5	-99.9	2	#	3.0	1978	3	10.0	1978	8	1976	4	5	1975	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Mar	1.4	.0	1	#	5.0	1974	7	7.0	1974	10	1976	29	6	1976	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Apr	.9	.0	1	0	6.0	1974	12	6.0	1974	8	1975	9	5	1977	.2	.2	.1	.1	.0	.2	.0	.0	.0
May	.6	.0	#	0	3.0	1986	7	7.5	1986	#	1997	2	#	1997	.2	.2	.1	.0	.0	.0	.0	.0	.0
Jun	#	.0	#	0	#	1995	6	#	1995	#	1995	6	#	1995	.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	.3	.0	#	0	2.0	1971	30	2.0+	1978	2	1971	30	#	1971	.1	.1	.0	.0	.0	.1	.0	.0	.0
Oct	.7	.0	#	0	8.0	1975	22	8.0	1975	8	1975	22	2	1971	.3	.3	.2	.1	.0	.2	.2	.1	.0
Nov	9.2	-99.9	#	0	8.0	1975	27	46.0	1975	8	1971	29	1	1971	1.6	1.4	1.0	.6	.0	.2	.0	.0	.0
Dec	3.5	-99.9	4	#	8.0	1977	22	10.5	1977	59	1996	27	28	1996	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9	-9.9
Ann	42.8	-9.9	N/A	N/A	9.0	Jan 1978	26	47.4	Jan 1996	59	Dec 1996	27	28	Dec 1996	-9.9	-9.9	-9.9	-9.9	-9.9	-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	7/26	7/21	7/17	7/14	7/12	7/09	7/06	7/02	6/27
32	7/15	7/09	7/05	7/01	6/27	6/23	6/20	6/15	6/09
28	6/22	6/16	6/11	6/07	6/04	5/31	5/27	5/23	5/17
24	5/28	5/22	5/19	5/15	5/12	5/09	5/06	5/03	4/27
20	5/16	5/11	5/07	5/03	4/30	4/27	4/24	4/20	4/15
16	5/11	5/04	4/29	4/25	4/21	4/17	4/12	4/07	3/31

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	8/06	8/11	8/15	8/19	8/22	8/25	8/28	9/01	9/07
32	8/11	8/17	8/22	8/26	8/29	9/02	9/06	9/10	9/17
28	8/29	9/02	9/06	9/09	9/11	9/14	9/17	9/20	9/25
24	9/07	9/12	9/15	9/18	9/20	9/23	9/26	9/29	10/03
20	9/15	9/20	9/24	9/27	9/30	10/03	10/06	10/09	10/14
16	10/01	10/08	10/13	10/17	10/21	10/24	10/28	11/02	11/09

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	65	57	51	45	41	36	31	25	16
32	89	80	73	68	62	57	51	45	36
28	124	116	109	104	99	94	89	82	73
24	152	145	139	135	130	126	121	116	108
20	174	167	161	156	152	147	142	137	129
16	215	204	196	189	182	175	168	160	149

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1542	1241	1151	836	568	311	147	167	412	765	1163	1518	9821
60	1387	1101	996	686	413	184	63	72	274	610	1013	1363	8162
57	1294	1017	903	598	326	123	30	36	201	517	923	1270	7238
55	1232	961	841	541	269	89	17	20	158	457	863	1208	6656
50	1077	821	686	403	149	31	2	3	75	312	713	1053	5325
32	533	340	202	70	2	0	0	0	0	23	245	512	1927

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	13	23	74	224	458	686	914	880	580	281	72	17	4222
55	0	0	0	5	12	85	217	187	48	2	0	0	556
57	0	0	0	2	6	59	168	140	30	0	0	0	405
60	0	0	0	0	1	30	108	84	13	0	0	0	236
65	0	0	0	0	0	7	38	24	2	0	0	0	71
70	0	0	0	0	0	0	8	3	0	0	0	0	11

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	0	0	1	74	254	470	684	659	364	127	10	0	0	0	1	75	329	799	1483	2142	2506	2633	2643	2643
45	0	0	0	30	139	325	529	504	233	54	0	0	0	0	0	30	169	494	1023	1527	1760	1814	1814	1814
50	0	0	0	6	58	198	375	350	125	13	0	0	0	0	0	6	64	262	637	987	1112	1125	1125	1125
55	0	0	0	0	19	96	227	203	48	1	0	0	0	0	0	0	19	115	342	545	593	594	594	594
60	0	0	0	0	0	30	103	85	11	0	0	0	0	0	0	0	0	30	133	218	229	229	229	229
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	5	72	198	333	463	457	291	135	15	0	0	0	5	77	275	608	1071	1528	1819	1954	1969	1969

(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