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: FAYETTEVILLE PWC, NC **COOP ID: 313017**

Climate Division: NC 6 **NWS Call Sign:** **Elevation: 96 Feet** **Lat: 35˚04N** **Lon: 78˚52W**

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	52.3	31.1	41.7	81+	1952	3	52.4	1974	-1+	1985	22	32.1	1977	722	0	.0	.0	18.3	1.0	18.4	.1
Feb	56.1	32.8	44.5	84	1956	19	51.3	1990	1	1936	1	35.6	1978	576	0	.0	.0	19.0	.5	15.4	.0
Mar	64.2	39.4	51.8	91	1945	17	56.9	1997	14	1980	3	46.8	1981	412	3	.0	.0	28.0	.1	7.8	.0
Apr	73.3	47.0	60.2	95	1981	29	63.9	1977	22	1996	10	56.1	1983	169	23	.0	.7	29.7	.0	.7	.0
May	80.2	56.2	68.2	102+	1941	29	72.5	1991	32	1942	29	64.1	1992	38	138	.0	3.2	31.0	.0	.0	.0
Jun	87.0	65.2	76.1	105+	1954	28	80.8	1981	44+	1972	12	72.0	1979	2	336	.3	11.9	30.0	.0	.0	.0
Jul	90.4	70.4	80.4	106	1940	27	84.5	1993	51+	1944	23	77.8	2000	0	479	1.0	18.7	31.0	.0	.0	.0
Aug	88.5	68.9	78.7	105+	1988	19	81.7	1975	46	1965	30	76.1	1981	0	424	.4	14.3	31.0	.0	.0	.0
Sep	83.3	62.6	73.0	104+	1939	10	77.3	1980	28	1941	20	69.5	1984	7	247	.0	5.2	30.0	.0	.0	.0
Oct	73.9	49.4	61.7	101	1954	7	68.1	1984	21	1962	27	55.8	1987	166	62	.0	.4	30.9	.0	.7	.0
Nov	65.0	40.7	52.9	88	1974	3	62.1	1985	15	1950	26	46.5	1976	373	9	.0	.0	28.2	.0	8.4	.0
Dec	55.5	33.8	44.7	82	1943	9	52.9	1971	4	1989	25	35.8	1989	632	0	.0	.0	22.3	.4	16.5	.0
Ann	72.5	49.8	61.2	106	Jul 1940	27	84.5	Jul 1993	-1+	Jan 1985	22	32.1	Jan 1977	3097	1721	1.7	54.4	329.4	2.0	67.9	.1

\+ 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: 1933-2001

(3) Derived from 1971-2000 serially complete daily data

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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	4.16	3.91	2.37	1977	10	7.84	1987	.80	1981
Feb	3.43	3.24	2.70	1998	4	6.60	1983	.87	1978
Mar	4.38	4.27	3.84	1998	9	8.87	1983	1.47	1985
Apr	3.06	2.94	4.25	1973	1	7.22	1973	.18	1976
May	3.29	3.44	3.28	1989	1	6.75	1976	.54	2000
Jun	4.18	3.69	4.18	1980	26	15.94	1995	.44	1990
Jul	5.21	5.50	4.06	1960	30	9.08	1975	.60	1992
Aug	5.21	5.21	6.20	1942	13	10.69	1974	1.12	1975
Sep	4.78	3.44	8.25	1989	16	14.71	1999	.09	1990
Oct	3.05	2.24	4.00	1954	16	7.34	1990	.03	2000
Nov	2.85	2.49	3.24	1934	29	6.38	1992	.29	1984
Dec	3.18	2.80	2.60	1964	27	7.73	1983	.85	1988
Ann	46.78	46.39	8.25	Sep 1989	16	15.94	Jun 1995	.03	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.8	7.7	3.1	.8
Feb	9.4	6.0	2.5	.9
Mar	10.8	7.5	2.9	1.2
Apr	7.8	5.2	2.0	.9
May	9.6	6.6	2.3	.5
Jun	9.8	6.3	2.8	1.2
Jul	11.6	8.1	3.6	1.6
Aug	10.8	7.7	3.7	1.5
Sep	8.4	5.9	2.8	1.5
Oct	7.2	4.5	2.0	.8
Nov	7.8	4.9	2.0	.7
Dec	10.5	6.1	2.4	.8
Ann	115.5	76.5	32.1	12.4

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	1.48	1.87	2.44	2.92	3.37	3.84	4.35	4.94	5.69	6.86	7.93
Feb	.97	1.30	1.79	2.22	2.63	3.07	3.55	4.12	4.86	6.02	7.10
Mar	1.72	2.13	2.70	3.18	3.63	4.09	4.58	5.15	5.88	7.00	8.01
Apr	.49	.75	1.19	1.61	2.05	2.53	3.07	3.74	4.63	6.08	7.47
May	.91	1.23	1.70	2.11	2.52	2.94	3.41	3.96	4.68	5.80	6.86
Jun	.78	1.16	1.77	2.34	2.91	3.53	4.24	5.09	6.22	8.04	9.77
Jul	1.51	2.00	2.75	3.39	4.02	4.68	5.40	6.26	7.37	9.10	10.71
Aug	1.63	2.13	2.86	3.49	4.10	4.73	5.43	6.24	7.29	8.93	10.44
Sep	.44	.78	1.42	2.08	2.81	3.63	4.60	5.82	7.50	10.29	13.03
Oct	.33	.56	.98	1.40	1.86	2.37	2.97	3.72	4.74	6.43	8.08
Nov	.57	.83	1.25	1.63	2.02	2.43	2.91	3.47	4.22	5.42	6.56
Dec	1.12	1.42	1.86	2.22	2.57	2.93	3.32	3.78	4.36	5.26	6.08
Ann	35.67	37.88	40.67	42.77	44.62	46.40	48.22	50.23	52.64	56.12	59.10

\+ 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: 1933-2001
(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	.4	.0	#	0	5.0	1973	8	5.5	1973	6	1973	9	1+	2000	.1	.1	.1	.1	.0	.0	.0	.0	.0
Feb	.7	.0	#	0	5.0	1973	10	8.0	1973	8	1973	11	1	1973	.3	.3	.1	.1	.0	.1	.0	.0	.0
Mar	.5	.0	#	0	5.0	1983	25	5.0	1983	11	1980	3	#+	1983	.2	.1	.1	.1	.0	.1	@	@	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	0	0	#	1987	11	#	1987	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.5	.0	#	0	4.0	1973	17	4.0	1973	4	1973	17	#+	1973	.1	.1	.1	.0	.0	.1	@	.0	.0
Ann	2.1	.0	N/A	N/A	5.0+	Mar 1983	25	8.0	Feb 1973	11	Mar 1980	3	1+	Jan 2000	.7	.6	.4	.3	.0	.3	@	@	.0

+ 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	4/30	4/24	4/19	4/15	4/12	4/08	4/05	3/31	3/25
32	4/13	4/07	4/03	3/31	3/28	3/24	3/21	3/17	3/12
28	4/02	3/27	3/23	3/19	3/15	3/11	3/07	3/03	2/25
24	3/25	3/15	3/08	3/03	2/25	2/20	2/14	2/07	1/29
20	3/10	2/26	2/17	2/09	2/02	1/25	1/17	1/05	0/00
16	2/19	2/09	2/02	1/26	1/19	1/11	12/30	0/00	0/00

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	10/11	10/16	10/19	10/21	10/23	10/26	10/28	10/31	11/05
32	10/20	10/26	10/30	11/02	11/05	11/08	11/11	11/15	11/21
28	11/05	11/10	11/14	11/17	11/21	11/24	11/27	12/01	12/06
24	11/17	11/24	11/30	12/04	12/09	12/13	12/18	12/23	12/31
20	12/06	12/12	12/17	12/21	12/25	12/29	1/03	1/09	0/00
16	12/17	12/26	1/01	1/07	1/13	1/20	1/30	0/00	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	215	207	202	198	194	190	185	180	173
32	246	238	232	226	222	217	212	205	197
28	276	267	260	255	250	245	239	233	224
24	318	307	299	292	286	279	273	265	254
20	>365	>365	>365	334	322	312	304	294	282
16	>365	>365	>365	>365	>365	348	334	322	308

***** 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	722	576	412	169	38	2	0	0	7	166	373	632	3097
60	576	437	271	75	7	0	0	0	1	85	244	485	2181
57	489	360	198	39	2	0	0	0	0	52	180	399	1719
55	433	308	156	23	0	0	0	0	0	35	143	345	1443
50	306	195	75	4	0	0	0	0	0	11	70	226	887
32	39	9	0	0	0	0	0	0	0	0	0	16	64

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	340	357	613	845	1123	1324	1502	1447	1230	919	626	407	10733
55	21	13	56	177	410	634	789	734	540	241	79	23	3717
57	15	8	36	133	350	574	727	672	480	196	56	15	3262
60	9	1	17	79	262	484	634	579	391	137	30	8	2631
65	0	0	3	23	138	336	479	424	247	62	9	0	1721
70	0	0	0	3	54	198	324	270	123	21	1	0	994

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	149	199	391	620	888	1090	1251	1199	991	673	397	201	149	348	739	1359	2247	3337	4588	5787	6778	7451	7848	8049
45	79	113	261	472	733	940	1096	1044	841	518	267	113	79	192	453	925	1658	2598	3694	4738	5579	6097	6364	6477
50	39	60	156	332	578	790	941	889	691	369	162	58	39	99	255	587	1165	1955	2896	3785	4476	4845	5007	5065
55	14	22	77	207	427	640	786	734	541	231	85	27	14	36	113	320	747	1387	2173	2907	3448	3679	3764	3791
60	0	6	36	115	284	491	631	579	393	129	37	9	0	6	42	157	441	932	1563	2142	2535	2664	2701	2710
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	102	138	254	393	584	747	863	830	673	431	256	132	102	240	494	887	1471	2218	3081	3911	4584	5015	5271	5403

(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