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 WATER PLANT, TN **COOP ID: 403074**

Climate Division: TN 3 **NWS Call Sign:** **Elevation: 725 Feet** **Lat: 35˚09N** **Lon: 86˚32W**

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	48.5	28.5	38.5	75	1972	14	47.0	1974	-26	1966	30	26.3	1977	821	0	.0	.0	14.1	3.5	21.4	.5
Feb	54.2	31.6	42.9	82	1996	23	50.3	1990	-5	1958	18	32.6	1978	618	0	.0	.0	17.1	1.6	17.4	.1
Mar	62.9	38.3	50.6	85+	1982	20	56.3	1973	1	1980	3	44.8	1971	449	2	.0	.0	26.3	.2	10.8	.0
Apr	72.0	44.4	58.2	90	1977	17	64.5	1999	19	1992	3	53.3	1983	222	17	.0	@	29.4	.0	4.5	.0
May	79.4	53.7	66.6	97+	1962	20	71.9	1987	28+	1971	3	61.6	1976	76	124	.0	.8	31.0	.0	.1	.0
Jun	86.5	61.6	74.1	100	1988	27	78.2	1998	35	1966	1	69.3	1974	3	275	@	8.0	30.0	.0	.0	.0
Jul	89.6	65.8	77.7	103	1980	17	80.4	1993	47+	1963	11	74.9	1976	0	394	.2	16.3	31.0	.0	.0	.0
Aug	89.3	64.1	76.7	103	1957	4	80.7	1995	47+	1964	13	72.5	1992	0	363	.6	14.2	31.0	.0	.0	.0
Sep	83.2	57.6	70.4	100+	1957	2	75.9	1998	29	1967	30	65.3	1974	31	193	@	5.7	30.0	.0	.0	.0
Oct	73.1	45.1	59.1	92+	1959	4	65.9	1971	19	1961	27	52.3	1987	233	51	.0	.2	30.8	.0	4.1	.0
Nov	62.0	37.1	49.6	86+	1984	1	57.4	1985	8+	1970	24	40.9	1976	466	2	.0	.0	25.6	.1	11.8	.0
Dec	52.1	31.1	41.6	77+	1984	15	49.7	1984	-8	1989	22	30.7	1989	727	0	.0	.0	17.8	1.3	19.2	.2
Ann	71.1	46.6	58.8	103+	Jul 1980	17	80.7	Aug 1995	-26	Jan 1966	30	26.3	Jan 1977	3646	1421	.8	45.2	314.1	6.7	89.3	.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: 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	5.29	4.90	4.39	1974	11	12.74	1974	.64	1986
Feb	4.58	3.97	4.00	1991	19	11.19	1991	.70	1978
Mar	6.41	5.47	6.62	1973	16	14.26	1973	2.48	1985
Apr	4.49	3.86	4.00	1977	5	10.25	1977	1.05	1976
May	4.97	4.94	3.80	1983	19	10.56	1983	1.29	1987
Jun	4.70	4.69	3.37	1983	7	11.74	1989	.66	1984
Jul	4.19	4.16	2.71	1956	15	8.53	1989	.69	1997
Aug	3.13	3.15	2.52	1986	17	6.56	1985	.23	1999
Sep	4.12	3.56	3.88	1958	21	9.10	1977	.25	1984
Oct	3.62	3.10	5.02	1975	17	9.80	1975	.19	2000
Nov	5.23	4.71	4.15	1957	18	10.99	1977	1.82	1976
Dec	5.63	4.79	5.37	1969	30	17.88	1990	1.30	1985
Ann	56.36	54.97	6.62	Mar 1973	16	17.88	Dec 1990	.19	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.9	8.7	4.0	1.4
Feb	10.0	7.1	3.3	1.4
Mar	11.8	8.6	4.0	1.8
Apr	10.1	7.2	3.1	1.3
May	11.0	7.8	3.4	1.4
Jun	10.3	7.3	3.0	1.2
Jul	11.0	7.7	2.8	1.0
Aug	8.4	5.6	2.2	.9
Sep	8.3	6.0	2.7	1.3
Oct	7.3	5.3	2.5	1.1
Nov	10.0	7.6	3.7	1.9
Dec	11.3	8.0	3.8	1.6
Ann	121.4	86.9	38.5	16.3

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
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.49	1.99	2.75	3.41	4.06	4.73	5.48	6.36	7.51	9.30	10.97
Feb	1.41	1.84	2.49	3.04	3.58	4.14	4.76	5.48	6.42	7.87	9.22
Mar	2.38	2.98	3.84	4.56	5.24	5.94	6.70	7.58	8.71	10.44	12.02
Apr	1.54	1.97	2.59	3.11	3.61	4.13	4.69	5.35	6.19	7.49	8.69
May	1.75	2.22	2.90	3.47	4.02	4.58	5.19	5.90	6.81	8.22	9.51
Jun	1.24	1.69	2.37	2.97	3.56	4.17	4.86	5.67	6.73	8.40	9.96
Jul	1.40	1.80	2.38	2.87	3.35	3.84	4.37	5.00	5.80	7.04	8.19
Aug	.75	1.05	1.51	1.91	2.32	2.74	3.22	3.79	4.54	5.72	6.83
Sep	.74	1.11	1.71	2.27	2.85	3.47	4.17	5.03	6.16	7.99	9.74
Oct	.76	1.09	1.62	2.10	2.59	3.11	3.70	4.40	5.34	6.82	8.23
Nov	2.09	2.58	3.26	3.82	4.35	4.89	5.47	6.15	7.00	8.31	9.50
Dec	1.50	2.04	2.85	3.57	4.27	5.00	5.82	6.79	8.05	10.03	11.88
Ann	40.10	43.25	47.28	50.34	53.06	55.68	58.40	61.40	65.03	70.31	74.87

+ 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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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	1.6	.5	#	#	8.0	1988	7	8.0	1988	8	1988	7	2	1988	1.3	.6	.1	@	.0	1.5	.5	.2	.0
Feb	1.1	.1	#	0	5.5	1979	18	8.0	1985	6	1979	18	2	1985	.9	.5	.1	@	.0	1.2	.5	.1	.0
Mar	.3	#	#	0	6.0	1993	13	6.0	1993	6	1993	14	1	1993	.1	@	@	@	.0	.2	.1	.1	.0
Apr	.0	.0	0	0	1.0	1987	3	1.0	1987	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	#	1991	8	#+	1991	#+	1977	26	#+	1977	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.4	.0	#	0	3.0	1983	17	3.0	1983	3	1983	17	#+	1990	.4	.1	.1	.0	.0	.1	@	.0	.0
Ann	3.4	.6	N/A	N/A	8.0	Jan 1988	7	8.0+	Jan 1988	8	Jan 1988	7	2+	Jan 1988	2.7	1.2	.3	@	.0	3.0	1.1	.4	.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	5/19	5/13	5/08	5/04	4/30	4/26	4/22	4/17	4/11
32	5/01	4/26	4/22	4/19	4/16	4/13	4/09	4/06	3/31
28	4/25	4/19	4/14	4/11	4/07	4/04	3/31	3/27	3/21
24	4/12	4/05	4/01	3/28	3/25	3/21	3/18	3/13	3/07
20	3/27	3/19	3/13	3/08	3/03	2/27	2/22	2/16	2/08
16	3/13	3/05	2/27	2/23	2/18	2/14	2/09	2/03	1/27

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	9/28	10/02	10/04	10/06	10/09	10/11	10/13	10/16	10/19
32	10/04	10/08	10/11	10/13	10/16	10/18	10/20	10/23	10/27
28	10/10	10/16	10/21	10/25	10/28	11/01	11/05	11/09	11/16
24	10/30	11/04	11/08	11/11	11/14	11/17	11/21	11/24	11/30
20	11/04	11/12	11/17	11/22	11/26	12/01	12/06	12/11	12/19
16	11/24	12/02	12/07	12/12	12/17	12/22	12/26	1/01	1/09

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	184	176	170	165	161	156	151	145	137
32	202	195	190	186	182	178	174	169	162
28	229	220	214	208	203	198	193	187	178
24	257	249	243	238	234	229	224	218	210
20	293	284	278	273	267	262	257	251	242
16	332	322	314	307	301	295	288	281	270

***** 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	821	618	449	222	76	3	0	0	31	233	466	727	3646
60	674	480	307	114	26	0	0	0	8	137	327	580	2653
57	586	402	230	68	12	0	0	0	3	93	251	493	2138
55	528	351	186	44	6	0	0	0	2	69	206	438	1830
50	393	234	98	11	0	0	0	0	0	27	115	310	1188
32	77	18	1	0	0	0	0	0	0	0	2	43	141

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	279	324	576	786	1072	1262	1417	1386	1153	841	528	339	9963
55	17	13	48	140	365	572	704	673	464	197	42	21	3256
57	12	8	31	103	308	512	642	611	406	159	28	15	2835
60	8	2	15	60	230	422	549	518	321	110	14	9	2258
65	0	0	2	17	124	275	394	363	193	51	2	0	1421
70	0	0	0	3	52	142	240	216	94	18	0	0	765

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	105	163	337	540	816	1016	1172	1140	919	589	315	153	105	268	605	1145	1961	2977	4149	5289	6208	6797	7112	7265
45	55	91	223	398	661	866	1017	985	769	437	202	81	55	146	369	767	1428	2294	3311	4296	5065	5502	5704	5785
50	26	47	130	266	506	716	862	830	619	300	113	41	26	73	203	469	975	1691	2553	3383	4002	4302	4415	4456
55	3	15	65	158	359	566	707	675	471	177	57	14	3	18	83	241	600	1166	1873	2548	3019	3196	3253	3267
60	0	0	27	81	223	416	552	520	326	92	21	2	0	0	27	108	331	747	1299	1819	2145	2237	2258	2260
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	63	112	219	355	536	689	800	773	610	395	203	94	63	175	394	749	1285	1974	2774	3547	4157	4552	4755	4849

(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