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: JACKSON MCKELLAR-SPES AP, TN **COOP ID: 404556**

Climate Division: TN 4 **NWS Call Sign: MKL** **Elevation: 433 Feet** **Lat: 35˚36N** **Lon: 88˚55W**

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	46.9	28.7	37.8	78+	1952	1	46.0	1990	-13	1963	24	25.9	1977	842	0	.0	.0	13.5	3.8	20.2	.3
Feb	52.7	32.5	42.6	81+	1962	13	51.2	1976	-12	1951	2	29.9	1978	627	0	.0	.0	17.0	1.8	14.7	@
Mar	62.0	40.6	51.3	87	1986	30	57.5	1973	9	1980	3	45.4	1996	432	8	.0	.0	26.8	.2	7.6	.0
Apr	71.6	48.6	60.1	95	1987	21	66.5	1981	25	1989	11	53.9	1983	184	37	.0	.3	29.6	.0	1.6	.0
May	79.5	57.7	68.6	97	1977	30	73.3	1977	36	1963	1	63.8	1976	50	161	.0	2.0	31.0	.0	.0	.0
Jun	87.3	66.0	76.7	105+	1952	28	80.0	1998	44+	1966	1	72.5	1974	1	349	.2	12.4	30.0	.0	.0	.0
Jul	90.8	69.7	80.3	107	1952	27	85.1	1980	52	1996	10	77.7	2000	0	472	.9	20.2	31.0	.0	.0	.0
Aug	90.0	67.5	78.8	105	1954	17	83.7	1983	48	1986	29	74.5	1992	0	426	.9	17.9	31.0	.0	.0	.0
Sep	83.6	60.6	72.1	105	1954	5	77.7	1998	35	1949	30	67.3	1974	19	232	.2	7.2	30.0	.0	.0	.0
Oct	73.4	48.7	61.1	96	1953	1	68.0	1971	25+	1952	22	55.7	1987	175	53	.0	.2	30.8	.0	1.3	.0
Nov	60.7	39.9	50.3	84+	1950	1	56.3	1985	1	1950	25	42.0	1976	444	4	.0	.0	24.5	.1	8.6	.0
Dec	50.8	32.1	41.5	80	1951	31	51.0	1984	-10	1963	24	29.8	2000	730	0	.0	.0	17.1	2.0	16.7	.2
Ann	70.8	49.4	60.1	107	Jul 1952	27	85.1	Jul 1980	-13	Jan 1963	24	25.9	Jan 1977	3504	1742	2.2	60.2	312.3	7.9	70.7	.5

+ 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

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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	4.33	4.16	4.76	1956	29	8.74	1989	.66	1986
Feb	4.25	3.80	3.96	1990	3	10.28	1990	1.30	1995
Mar	5.13	4.08	3.96	1992	9	10.66	1997	1.80	1982
Apr	5.11	4.83	5.20	1973	19	11.35	1983	1.84	1976
May	5.64	4.48	5.01	1974	10	14.46	1974	1.46	1977
Jun	5.19	4.55	2.87	1980	29	11.07	1992	.56	1988
Jul	4.74	4.25	4.10	1975	20	11.68	1975	.12	1983
Aug	2.88	2.74	3.38	1950	25	10.24	1974	.78	1999
Sep	3.76	3.29	3.51	1988	24	10.22	1977	.42	1999
Oct	3.32	3.08	2.80	1994	12	7.41	1984	.57	1971
Nov	5.07	4.81	4.56	1948	5	9.25	1973	1.64	1998
Dec	5.36	4.45	4.48	1978	3	12.47	1978	.85	1976
Ann	54.78	53.65	5.20	Apr 1973	19	14.46	May 1974	.12	Jul 1983

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.0	6.8	3.2	1.1
Feb	9.6	6.4	3.0	1.4
Mar	11.2	8.0	3.5	1.5
Apr	10.5	7.3	3.6	1.7
May	10.7	7.6	3.8	1.9
Jun	9.5	6.8	3.4	1.6
Jul	8.5	6.2	3.0	1.5
Aug	7.1	5.0	2.2	.7
Sep	7.8	5.3	2.6	1.3
Oct	7.0	5.1	2.5	1.0
Nov	10.1	6.8	3.6	1.6
Dec	10.3	6.9	3.5	1.6
Ann	113.3	78.2	37.9	16.9

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	1.12	1.53	2.16	2.71	3.26	3.83	4.48	5.23	6.23	7.79	9.25
Feb	1.39	1.80	2.39	2.89	3.38	3.88	4.43	5.07	5.89	7.17	8.36
Mar	1.84	2.33	3.02	3.61	4.17	4.74	5.36	6.09	7.01	8.44	9.75
Apr	1.71	2.19	2.90	3.50	4.08	4.67	5.33	6.09	7.06	8.58	9.98
May	1.65	2.18	2.99	3.69	4.36	5.07	5.85	6.78	7.97	9.83	11.57
Jun	1.60	2.09	2.83	3.46	4.07	4.70	5.39	6.21	7.26	8.91	10.43
Jul	1.00	1.43	2.13	2.76	3.40	4.08	4.84	5.76	6.98	8.92	10.75
Aug	.68	.95	1.37	1.74	2.12	2.51	2.96	3.48	4.18	5.28	6.31
Sep	.61	.94	1.49	2.00	2.54	3.12	3.78	4.59	5.67	7.42	9.10
Oct	.81	1.12	1.61	2.04	2.47	2.92	3.42	4.02	4.80	6.04	7.21
Nov	2.08	2.54	3.20	3.74	4.24	4.76	5.31	5.95	6.77	8.00	9.13
Dec	1.33	1.84	2.62	3.31	4.00	4.72	5.53	6.49	7.74	9.73	11.59
Ann	39.84	42.76	46.48	49.30	51.79	54.20	56.68	59.42	62.73	67.52	71.66

\+ 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)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	2.5	1.1	#	0
Feb	2.2	.5	#	0
Mar	.6	.0	#	0
Apr	.0	.0	0	0
May	.0	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	#	.0	0	0
Nov	.1	.0	0	0
Dec	.2	#	#	0
Ann	5.6	1.6	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	6.9	1988	7	12.1	1985	6+	1985	5	1+	1985
Feb	8.0	1985	11	12.6	1985	8	1985	12	2	1985
Mar	5.0	1987	30	5.0	1987	2	1980	2	#	1980
Apr	.3	1971	5	.3	1971	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	#	1996
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	.0	0	0	.0	0	0	0	0	0	0
Oct	#	1993	31	#+	1993	#	1993	30	0	0
Nov	1.0	1995	15	1.0	1995	#+	1977	27	0	0
Dec	1.2	1988	9	1.4	1983	1+	1990	24	#	1990
Ann	8.0	Feb 1985	11	12.6	Feb 1985	8	Feb 1985	12	2	Feb 1985

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.5	.8	.3	.1	.0
Feb	1.4	.9	.2	.1	.0
Mar	.5	.1	.1	@	.0
Apr	.0	.0	.0	.0	.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	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.2	.0	.0	.0	.0
Dec	.4	.1	.0	.0	.0
Ann	4.0	1.9	.6	.2	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	3.0	.7	.2	.0
Feb	1.6	.7	.3	.0
Mar	.2	.0	.0	.0
Apr	.0	.0	.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	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.3	.0	.0	.0
Ann	5.1	1.4	.5	.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	4/24	4/20	4/17	4/14	4/12	4/10	4/07	4/04	3/31
32	4/18	4/14	4/11	4/08	4/06	4/04	4/01	3/29	3/25
28	4/09	4/04	3/31	3/27	3/24	3/21	3/18	3/14	3/08
24	3/19	3/13	3/09	3/05	3/02	2/26	2/23	2/18	2/13
20	3/10	3/02	2/25	2/20	2/16	2/11	2/06	2/01	1/24
16	3/03	2/22	2/16	2/10	2/05	1/31	1/25	1/18	1/07

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	10/01	10/06	10/09	10/13	10/15	10/18	10/22	10/25	10/30
32	10/13	10/18	10/22	10/25	10/28	10/31	11/04	11/08	11/13
28	10/24	10/30	11/03	11/06	11/10	11/13	11/17	11/21	11/27
24	11/07	11/13	11/17	11/21	11/24	11/27	12/01	12/05	12/10
20	11/16	11/24	11/30	12/05	12/10	12/15	12/20	12/26	1/03
16	12/01	12/11	12/19	12/25	12/31	1/06	1/13	1/21	2/03

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	202	197	193	189	186	182	179	175	169
32	220	215	211	208	205	201	198	194	189
28	255	246	240	235	230	225	220	213	205
24	290	282	276	271	267	262	257	251	243
20	332	320	311	304	297	290	282	274	262
16	>365	357	341	332	324	318	311	303	293

***** 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	842	627	432	184	50	1	0	0	19	175	444	730	3504
60	695	495	295	93	15	0	0	0	4	88	308	585	2578
57	606	416	225	55	6	0	0	0	1	53	235	499	2096
55	549	366	184	36	3	0	0	0	0	35	193	444	1810
50	412	254	102	10	0	0	0	0	0	10	108	319	1215
32	87	28	2	0	0	0	0	0	0	0	2	50	169

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	268	325	601	843	1135	1338	1495	1449	1203	901	552	343	10453
55	16	19	70	189	425	648	782	736	513	223	53	25	3699
57	12	13	49	148	366	588	720	674	454	179	35	18	3256
60	7	8	26	96	281	498	627	581	367	121	18	11	2641
65	0	0	8	37	161	349	472	426	232	53	4	0	1742
70	0	0	0	10	74	205	317	274	123	17	0	0	1020

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	108	187	389	618	902	1110	1257	1209	971	662	339	157	108	295	684	1302	2204	3314	4571	5780	6751	7413	7752	7909
45	57	108	259	475	747	960	1102	1054	821	508	221	91	57	165	424	899	1646	2606	3708	4762	5583	6091	6312	6403
50	30	59	160	335	592	810	947	899	671	359	137	48	30	89	249	584	1176	1986	2933	3832	4503	4862	4999	5047
55	6	26	87	214	438	660	792	744	521	231	71	20	6	32	119	333	771	1431	2223	2967	3488	3719	3790	3810
60	0	2	39	119	291	510	637	589	375	129	30	1	0	2	41	160	451	961	1598	2187	2562	2691	2721	2722
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	62	115	235	388	594	765	862	829	650	424	202	92	62	177	412	800	1394	2159	3021	3850	4500	4924	5126	5218

(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