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: CARTERSVILLE, GA **COOP ID: 091665**

Climate Division: GA 1 **NWS Call Sign:** **Elevation: 720 Feet** **Lat: 34˚14N** **Lon: 84˚47W**

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	49.5	29.8	39.7	77+	1999	27	49.0	1974	-9	1985	21	28.1	1977	787	0	.0	.0	18.0	1.2	16.4	.1
Feb	55.1	31.7	43.4	83	1977	26	51.3	1990	1	1996	5	35.8	1978	604	0	.0	.0	20.5	.5	13.2	.0
Mar	63.5	38.3	50.9	86+	1995	23	57.0	1997	8	1960	6	44.4	1971	441	5	.0	.0	28.9	.1	6.9	.0
Apr	71.6	45.2	58.4	93	1986	27	63.0	1981	22	1987	1	54.9	1982	210	11	.0	.2	29.9	.0	2.4	.0
May	78.4	54.6	66.5	98	1962	26	70.7	1987	31	1961	3	62.5	1973	69	116	.0	1.0	31.0	.0	.0	.0
Jun	85.4	63.0	74.2	105	1954	27	77.6	1986	40+	1972	1	70.2	1974	3	279	@	8.4	30.0	.0	.0	.0
Jul	88.6	66.8	77.7	106+	1954	14	81.9	1993	49	1967	15	73.4	1971	0	393	.5	15.5	31.0	.0	.0	.0
Aug	87.6	66.0	76.8	108	1954	27	81.0	1995	48	1964	13	73.6	1981	0	366	.4	12.2	31.0	.0	.0	.0
Sep	81.9	60.4	71.2	106	1954	6	75.8	1998	30	1967	30	66.5	1982	15	200	.1	3.7	30.0	.0	.0	.0
Oct	72.2	47.4	59.8	100	1954	5	68.9	1984	23+	1962	27	55.0	1988	202	42	.0	@	30.9	.0	1.7	.0
Nov	62.1	38.8	50.5	87	1961	2	59.6	1985	4	1950	25	42.2	1976	441	5	.0	.0	27.7	.0	8.4	.0
Dec	52.6	32.5	42.6	81	1956	8	51.1	1984	-3+	1983	26	34.0	1983	695	0	.0	.0	21.2	.4	14.7	.1
Ann	70.7	47.9	59.3	108	Aug 1954	27	81.9	Jul 1993	-9	Jan 1985	21	28.1	Jan 1977	3467	1417	1.0	41.0	330.1	2.2	63.7	.2

\+ 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	4.00	4.05	3.38	1976	26	8.59	1972	.74	1981
Feb	4.30	3.97	3.58	1974	22	9.76	1971	.59	1978
Mar	5.23	5.01	6.00	1990	18	13.66	1976	1.19	1983
Apr	4.07	3.80	4.56	1979	3	12.13	1979	.81	1986
May	3.27	2.95	3.29	1973	20	8.17	1973	.00	1993
Jun	3.57	3.59	3.64	1976	19	6.51	1999	1.18	1974
Jul	3.62	3.09	3.20	1991	29	11.39	1971	.89	1993
Aug	3.05	2.77	4.50	1955	16	8.43	1992	.32	1997
Sep	3.27	3.58	4.05	1997	25	8.12	1989	.52	1982
Oct	2.55	2.32	4.11	1958	1	8.66	1975	.00	1998
Nov	3.69	3.53	2.40	1991	21	8.29	1992	.65	1990
Dec	3.84	3.44	4.85	1961	12	8.94	1972	.17	1980
Ann	44.46	43.49	6.00	Mar 1990	18	13.66	Mar 1976	.00+	Oct 1998

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.3	6.6	3.0	1.3
Feb	7.5	5.7	3.3	1.7
Mar	7.5	6.2	3.1	1.5
Apr	6.3	5.0	3.0	1.3
May	6.4	5.2	2.1	1.1
Jun	5.8	4.4	2.0	1.0
Jul	6.7	5.4	2.5	1.0
Aug	5.9	4.6	2.1	1.0
Sep	6.0	4.7	2.5	1.1
Oct	4.6	3.4	1.7	1.0
Nov	7.1	5.2	2.8	1.4
Dec	8.5	5.9	2.6	1.2
Ann	81.6	62.3	30.7	14.6

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	1.34	1.72	2.27	2.74	3.20	3.66	4.17	4.77	5.53	6.72	7.81
Feb	1.18	1.59	2.21	2.75	3.28	3.83	4.45	5.18	6.12	7.60	8.99
Mar	1.31	1.80	2.56	3.24	3.91	4.61	5.39	6.32	7.54	9.47	11.27
Apr	1.00	1.39	1.98	2.51	3.03	3.58	4.19	4.92	5.88	7.39	8.81
May	.57	1.02	1.57	2.01	2.45	2.91	3.41	4.00	4.78	5.99	7.12
Jun	1.22	1.56	2.05	2.47	2.86	3.28	3.72	4.25	4.92	5.96	6.91
Jul	.72	1.05	1.58	2.07	2.56	3.09	3.68	4.40	5.35	6.87	8.32
Aug	.60	.88	1.32	1.73	2.15	2.59	3.10	3.71	4.51	5.81	7.03
Sep	.62	.92	1.40	1.84	2.29	2.77	3.32	3.98	4.86	6.27	7.61
Oct	.17	.43	.83	1.21	1.60	2.03	2.53	3.14	3.97	5.33	6.65
Nov	.90	1.25	1.79	2.27	2.74	3.24	3.80	4.46	5.33	6.71	8.00
Dec	.83	1.18	1.75	2.26	2.77	3.32	3.93	4.67	5.64	7.19	8.65
Ann	26.61	29.83	34.09	37.40	40.40	43.35	46.43	49.89	54.15	60.44	65.98

\+ 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	.3	.0	#	0	1.4	1978	14	1.7	1978	1+	1979	21	#+	1979	.3	.2	.0	.0	.0	.1	.0	.0	.0
Feb	.5	.0	#	0	4.2	1979	18	5.6	1979	4	1979	18	#+	1980	.2	.2	.1	.0	.0	.1	.0	.0	.0
Mar	.1	.0	#	0	2.8	1980	2	2.8	1980	2	1980	2	#+	1983	.1	.1	.0	.0	.0	.1	.0	.0	.0
Apr	.0	.0	#	0	.0	0	0	.0	0	#	1974	4	#	1974	.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	.1	.0	0	0	1.0	1975	23	1.0	1975	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
Dec	.2	.0	#	0	3.3	1971	3	3.3	1971	1	1971	3	#+	1976	.1	.1	.1	.0	.0	@	.0	.0	.0
Ann	1.2	.0	N/A	N/A	4.2	Feb 1979	18	5.6	Feb 1979	4	Feb 1979	18	#+	Mar 1983	.8	.7	.2	.0	.0	.3	.0	.0	.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	5/08	5/02	4/28	4/25	4/22	4/19	4/15	4/11	4/06
32	4/23	4/19	4/16	4/13	4/10	4/08	4/05	4/02	3/28
28	4/09	4/04	3/31	3/28	3/25	3/22	3/19	3/15	3/10
24	4/01	3/23	3/17	3/11	3/06	3/01	2/24	2/18	2/09
20	3/12	3/04	2/26	2/22	2/17	2/13	2/08	2/02	1/25
16	3/02	2/22	2/16	2/11	2/06	2/01	1/26	1/19	1/05

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	10/10	10/13	10/16	10/19	10/22	10/26	10/31
32	10/07	10/12	10/16	10/20	10/23	10/26	10/29	11/02	11/07
28	10/22	10/28	10/31	11/04	11/07	11/10	11/14	11/17	11/23
24	11/07	11/13	11/17	11/21	11/25	11/28	12/02	12/06	12/12
20	11/20	11/30	12/06	12/12	12/17	12/23	12/29	1/04	1/14
16	12/04	12/13	12/20	12/26	1/01	1/07	1/13	1/22	2/06

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	199	191	186	181	176	172	167	162	154
32	215	208	203	199	195	190	186	181	174
28	248	240	235	230	226	222	217	212	205
24	296	284	276	269	263	256	249	241	229
20	337	323	314	307	300	294	287	279	268
16	>365	>365	347	335	326	318	310	301	288

***** 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	787	604	441	210	69	3	0	0	15	202	441	695	3467
60	639	465	300	99	21	0	0	0	3	109	306	549	2491
57	551	387	226	54	8	0	0	0	1	69	234	463	1993
55	494	335	184	33	4	0	0	0	0	48	193	408	1699
50	361	217	99	6	0	0	0	0	0	16	108	284	1091
32	61	12	1	0	0	0	0	0	0	0	2	33	109

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	297	332	588	792	1070	1267	1416	1389	1175	862	556	361	10105
55	18	11	58	135	361	577	703	676	485	198	56	22	3300
57	13	7	38	96	303	517	641	614	426	156	38	16	2865
60	7	1	19	51	223	427	548	521	338	103	20	9	2267
65	0	0	5	11	116	279	393	366	200	42	5	0	1417
70	0	0	0	1	46	147	242	216	91	12	0	0	755

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	156	226	429	613	879	1058	1198	1169	967	670	376	203	156	382	811	1424	2303	3361	4559	5728	6695	7365	7741	7944
45	79	136	292	466	724	908	1043	1014	817	515	249	114	79	215	507	973	1697	2605	3648	4662	5479	5994	6243	6357
50	39	68	180	325	569	758	888	859	667	364	152	55	39	107	287	612	1181	1939	2827	3686	4353	4717	4869	4924
55	16	27	95	198	415	608	733	704	517	227	79	26	16	43	138	336	751	1359	2092	2796	3313	3540	3619	3645
60	0	6	39	105	271	459	578	549	372	121	30	5	0	6	45	150	421	880	1458	2007	2379	2500	2530	2535
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	85	146	274	399	581	727	824	807	657	429	233	117	85	231	505	904	1485	2212	3036	3843	4500	4929	5162	5279

(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