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: GADSDEN, AL **COOP ID: 013154**

Climate Division: AL 4 **NWS Call Sign:** **Elevation: 565 Feet** **Lat: 34˚01N** **Lon: 85˚59W**

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	50.6	29.9	40.3	76	1975	29	49.5	1974	-6+	1985	21	29.6	1977	769	0	.0	.0	17.2	1.7	18.4	.3
Feb	55.9	32.3	44.1	82	1962	13	51.5	1990	1	1966	1	35.7	1978	585	0	.0	.0	19.4	.8	14.5	.0
Mar	64.9	39.5	52.2	88	1974	11	58.0	1997	11+	1960	6	46.0	1971	402	6	.0	.0	28.3	.1	6.0	.0
Apr	73.3	47.2	60.3	91+	1987	30	65.8	1981	22	1987	4	56.9	1993	166	25	.0	.3	29.9	.0	1.0	.0
May	80.6	56.2	68.4	99	1970	24	73.1	2000	33	1960	13	63.2	1976	50	155	.0	2.4	31.0	.0	.0	.0
Jun	87.1	64.4	75.8	102	1954	27	79.7	1998	42	1956	3	71.9	1974	1	324	.2	10.8	30.0	.0	.0	.0
Jul	90.5	69.0	79.8	103+	1966	15	83.7	1980	52	1963	11	75.6	1972	0	457	.4	19.0	31.0	.0	.0	.0
Aug	89.6	68.1	78.9	105	1954	16	82.9	1983	52+	1967	12	74.6	1992	0	429	.6	16.1	31.0	.0	.0	.0
Sep	83.9	62.2	73.1	102	1954	3	79.3	1998	33	1967	30	68.6	1974	11	252	.1	6.7	30.0	.0	.0	.0
Oct	74.2	49.3	61.8	96	1954	5	69.3	1984	23	1954	30	56.1	1976	164	62	.0	.3	30.9	.0	.2	.0
Nov	63.5	40.1	51.8	87	2000	1	60.1	1985	14+	1970	25	45.0	1976	403	6	.0	.0	27.6	@	7.3	.0
Dec	54.3	32.6	43.5	78+	1998	7	52.1	1984	1	1962	13	34.5	1989	669	0	.0	.0	21.9	.5	16.6	.0
Ann	72.4	49.2	60.8	105	Aug 1954	16	83.7	Jul 1980	-6+	Jan 1985	21	29.6	Jan 1977	3220	1716	1.3	55.6	328.2	3.1	64.0	.3

\+ 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: 1953-2001

(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	5.85	5.58	4.05	1954	16	9.01	1996	1.48	1981
Feb	4.91	5.18	4.75	1961	21	10.12	1990	.71	1978
Mar	6.55	5.86	4.98	1979	4	17.41	1980	1.46	1986
Apr	5.21	4.81	4.60	1979	13	12.65	1979	.57	1986
May	4.59	4.51	3.22	1967	22	7.75	1973	1.43	2000
Jun	4.34	3.47	3.10	1999	25	10.30	1994	.13	1988
Jul	4.47	4.33	3.36	1958	9	13.41	1985	.79	1980
Aug	3.65	3.39	3.32	1960	6	9.52	1992	.10	1983
Sep	4.13	4.02	4.07	1958	22	9.29	1979	.25	1984
Oct	2.95	2.48	4.98	1997	26	9.00	1995	.24	1978
Nov	4.56	4.10	4.31	1973	28	8.97	1982	1.30	1981
Dec	4.89	4.75	5.85	1961	12	10.33	1983	.43	1980
Ann	56.10	56.84	5.85	Dec 1961	12	17.41	Mar 1980	.10	Aug 1983

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.2	8.7	4.3	1.7
Feb	9.3	6.5	3.6	1.7
Mar	10.8	8.3	4.2	2.2
Apr	8.9	6.9	3.4	1.9
May	10.1	7.0	3.0	1.4
Jun	9.3	6.7	3.0	1.3
Jul	10.0	6.7	3.0	1.2
Aug	7.8	5.3	2.4	1.1
Sep	8.2	5.7	2.3	1.1
Oct	6.1	4.0	2.1	.7
Nov	9.0	6.4	3.0	1.3
Dec	10.8	7.7	3.5	1.4
Ann	112.5	79.9	37.8	17.0

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	2.73	3.24	3.95	4.51	5.04	5.57	6.13	6.78	7.59	8.81	9.91
Feb	1.62	2.09	2.77	3.35	3.91	4.49	5.12	5.86	6.81	8.28	9.64
Mar	1.95	2.58	3.51	4.31	5.09	5.91	6.80	7.86	9.22	11.35	13.33
Apr	1.20	1.69	2.45	3.13	3.82	4.54	5.35	6.32	7.59	9.62	11.52
May	2.16	2.56	3.11	3.55	3.96	4.38	4.82	5.32	5.95	6.90	7.76
Jun	.76	1.14	1.77	2.37	2.97	3.63	4.38	5.30	6.51	8.47	10.34
Jul	1.36	1.78	2.41	2.96	3.49	4.04	4.64	5.35	6.27	7.71	9.04
Aug	.59	.90	1.44	1.94	2.46	3.02	3.67	4.46	5.51	7.22	8.86
Sep	.53	.86	1.45	2.02	2.63	3.30	4.08	5.05	6.35	8.49	10.56
Oct	.41	.65	1.08	1.49	1.92	2.39	2.94	3.61	4.51	5.99	7.42
Nov	1.74	2.17	2.78	3.28	3.76	4.25	4.78	5.39	6.17	7.37	8.46
Dec	1.36	1.82	2.53	3.14	3.74	4.37	5.06	5.89	6.95	8.63	10.19
Ann	41.53	44.40	48.04	50.79	53.23	55.57	57.98	60.64	63.85	68.48	72.47

\+ 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: 1953-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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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	#	.0	#	0
Feb	.2	.0	#	0
Mar	#	.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
Dec	#	.0	#	0
Ann	.2	.0	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	#	2000	25	#	2000	#+	2000	25	#+	2000
Feb	1.0	1995	7	2.0	1995	1	1995	12	#+	1998
Mar	#	1999	14	#	1999	#+	1999	14	#+	1999
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
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	.0	0	0	.0	0	0	0	0	0	0
Nov	#	1995	16	#	1995	#	1995	16	#	1995
Dec	#	1996	19	#	1996	#	1996	19	#	1996
Ann	1.0	Feb 1995	7	2.0	Feb 1995	1	Feb 1995	12	#+	Jan 2000

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.0	.0	.0	.0	.0
Feb	.2	.2	.0	.0	.0
Mar	.0	.0	.0	.0	.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	.0	.0	.0	.0	.0
Dec	.0	.0	.0	.0	.0
Ann	.2	.2	.0	.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	.1	.0	.0	.0
Mar	.0	.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	.0	.0	.0	.0
Ann	.1	.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	4/22	4/17	4/14	4/11	4/08	4/06	4/03	3/30	3/26
32	4/15	4/09	4/05	4/02	3/30	3/27	3/24	3/20	3/14
28	4/02	3/26	3/21	3/16	3/12	3/08	3/04	2/26	2/19
24	3/18	3/10	3/04	2/27	2/22	2/18	2/13	2/07	1/30
20	3/06	2/26	2/20	2/15	2/10	2/05	1/31	1/25	1/17
16	2/26	2/16	2/09	2/03	1/28	1/21	1/12	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	10/09	10/15	10/18	10/21	10/24	10/27	10/30	11/03	11/08
32	10/27	11/01	11/05	11/08	11/11	11/14	11/18	11/21	11/27
28	11/03	11/11	11/16	11/20	11/24	11/28	12/02	12/07	12/14
24	11/18	11/28	12/04	12/10	12/15	12/20	12/26	1/02	1/11
20	12/05	12/13	12/19	12/24	12/29	1/03	1/08	1/14	1/23
16	12/12	12/23	1/01	1/08	1/16	1/25	2/05	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	220	212	207	203	198	194	190	184	177
32	246	239	234	230	226	222	218	213	206
28	284	275	268	262	256	251	245	238	228
24	322	313	306	300	295	290	284	277	268
20	360	342	333	325	319	312	306	298	287
16	>365	>365	>365	>365	>365	348	333	319	304

***** 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	769	585	402	166	50	1	0	0	11	164	403	669	3220
60	621	447	265	73	14	0	0	0	2	83	270	521	2296
57	533	370	195	37	5	0	0	0	0	49	202	435	1826
55	476	319	156	21	2	0	0	0	0	33	162	379	1548
50	343	206	78	3	0	0	0	0	0	10	83	256	979
32	51	12	0	0	0	0	0	0	0	0	0	23	86

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	306	351	627	849	1128	1313	1480	1452	1232	921	593	377	10629
55	17	14	70	180	418	623	767	739	542	241	64	21	3696
57	12	9	47	135	359	563	705	677	482	196	44	14	3243
60	7	2	24	81	274	473	612	584	394	136	23	8	2618
65	0	0	6	25	155	324	457	429	252	62	6	0	1716
70	0	0	0	4	71	185	302	277	134	21	0	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	136	200	412	627	902	1097	1250	1217	1003	682	375	186	136	336	748	1375	2277	3374	4624	5841	6844	7526	7901	8087
45	68	114	280	478	747	947	1095	1062	853	527	246	100	68	182	462	940	1687	2634	3729	4791	5644	6171	6417	6517
50	28	56	165	335	592	797	940	907	703	377	144	49	28	84	249	584	1176	1973	2913	3820	4523	4900	5044	5093
55	5	21	85	209	437	647	785	752	553	239	74	20	5	26	111	320	757	1404	2189	2941	3494	3733	3807	3827
60	0	2	34	109	287	497	630	597	406	123	26	3	0	2	36	145	432	929	1559	2156	2562	2685	2711	2714
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	81	136	257	397	593	750	860	837	680	436	234	118	81	217	474	871	1464	2214	3074	3911	4591	5027	5261	5379

(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