

# Climatology of the United States

## No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: ROBERTSDALE 5 NE, AL

1971-2000

COOP ID: 016988

Climate Division: AL 8

NWS Call Sign:

Elevation: 175 Feet Lat: 30° 38N Lon: 87° 39W

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	61.0	38.8	49.9	83	1957	30	62.6	1974	3	1985	22	41.3	1977	483	0	.0	.0	26.1	.1	10.8	.0
Feb	64.6	41.2	52.9	85	1944	27	58.6	1975	10	1951	3	44.3	1978	342	3	.0	.0	25.9	.1	6.5	.0
Mar	71.0	47.5	59.3	89	1939	23	65.1	1997	18	1943	4	54.2	1996	208	31	.0	.0	30.6	.0	1.7	.0
Apr	76.8	53.2	65.0	94	1987	23	69.6	1999	27	1940	13	59.3	1993	78	77	.0	.2	30.0	.0	@	.0
May	83.7	61.3	72.5	99	1953	27	76.4	1991	41	1971	4	68.4	1993	5	239	.0	3.4	31.0	.0	.0	.0
Jun	88.7	68.4	78.6	103	1954	29	81.8	1998	49	1984	1	74.3	1995	0	406	.1	14.2	30.0	.0	.0	.0
Jul	90.5	71.3	80.9	102+	2000	21	83.7	2000	55	1967	16	78.2	1995	0	494	.4	21.1	31.0	.0	.0	.0
Aug	90.2	70.8	80.5	104	1947	5	83.5	1999	57+	1992	30	77.1	1994	0	481	.2	20.6	31.0	.0	.0	.0
Sep	86.8	66.5	76.7	102	1954	9	80.7	1980	37	1967	30	73.3	1975	1	350	.0	10.8	30.0	.0	.0	.0
Oct	79.5	54.8	67.2	97	1937	6	72.4	1984	30+	1952	30	60.5	1987	62	128	.0	1.0	31.0	.0	.1	.0
Nov	70.8	46.9	58.9	89	1935	3	65.7	1985	19+	1940	16	51.6	1976	223	38	.0	.0	29.6	.0	2.4	.0
Dec	63.4	40.9	52.2	83	1951	6	61.8	1971	8	1962	13	43.4	1989	413	15	.0	.0	27.8	.1	8.5	.0
Ann	77.3	55.1	66.2	104	Aug 1947	5	83.7	Jul 2000	3	Jan 1985	22	41.3	Jan 1977	1815	2262	.7	71.3	354.0	.3	30.0	.0

+ 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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1930-2001

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

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**Lon: 87°39W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	6.14	5.55	11.12	1978	25	16.24	1978	.81	1981	10.0	7.8	4.1	2.0	1.39	1.96	2.86	3.67	4.48	5.34	6.30	7.45	8.96	11.36	13.63
Feb	5.08	4.61	8.27	1961	19	12.24	1983	.92	1999	8.1	6.0	3.3	1.7	1.12	1.59	2.33	3.01	3.68	4.40	5.20	6.17	7.44	9.46	11.37
Mar	6.94	6.80	5.60	1976	27	11.88	1995	2.92	1997	8.7	6.8	4.1	2.4	3.10	3.72	4.58	5.28	5.93	6.58	7.28	8.08	9.10	10.63	12.02
Apr	4.49	3.86	7.96	1996	15	14.51	1983	.08	1971	6.2	5.1	2.6	1.3	.43	.75	1.36	1.99	2.67	3.43	4.34	5.47	7.02	9.61	12.14
May	4.97	4.14	4.98	1978	4	13.88	1991	.17	1988	7.5	6.0	2.9	1.5	.77	1.19	1.91	2.59	3.30	4.08	4.98	6.07	7.53	9.92	12.20
Jun	5.44	4.10	8.72	1989	9	22.21	1989	1.15	1977	9.9	7.5	3.1	1.6	.95	1.42	2.22	2.96	3.72	4.55	5.49	6.63	8.16	10.61	12.96
Jul	8.37	7.53	8.14	1940	6	21.06	1997	2.62	1990	13.8	10.9	5.1	2.8	3.25	4.03	5.14	6.05	6.92	7.81	8.77	9.87	11.28	13.44	15.41
Aug	6.71	6.11	5.06	1939	16	15.19	1988	1.39	1990	12.3	9.6	4.3	1.9	2.04	2.68	3.63	4.45	5.24	6.07	6.97	8.04	9.42	11.57	13.56
Sep	6.43	4.83	15.00	1998	28	29.48	1998	.12	1984	9.5	7.6	3.4	1.7	.63	1.10	1.97	2.87	3.84	4.93	6.23	7.84	10.06	13.74	17.34
Oct	3.66	3.14	7.75	1995	5	11.95	1995	.00	1978	5.4	4.1	2.1	1.0	.08	.31	.77	1.29	1.87	2.56	3.39	4.45	5.93	8.46	10.98
Nov	5.54	4.87	8.10	1975	10	15.13	1975	.57	1993	7.2	5.8	3.3	1.8	.94	1.43	2.23	2.99	3.77	4.62	5.58	6.76	8.32	10.85	13.27
Dec	4.15	4.24	8.30	1953	6	8.17	1982	1.51	1980	8.3	6.2	2.7	1.5	1.68	2.06	2.60	3.04	3.46	3.89	4.34	4.87	5.54	6.56	7.50
Ann	67.92	67.84	15.00	Sep 1998	28	29.48	Sep 1998	.00	Oct 1978	106.9	83.4	41.0	21.2	46.32	50.43	55.74	59.79	63.40	66.91	70.54	74.58	79.48	86.64	92.85

+ 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: 1930-2001

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**Lon: 87°39W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	.0	.0	#	0	1.0	1977	19	1.0+	1977	#	1982	15	#	1982	@	@	.0	.0	.0	.0	.0	.0	.0
Feb	.1	.0	0	0	3.0	1973	9	3.0	1973	0	0	0	0	0	.1	.1	@	.0	.0	.0	.0	.0	.0
Mar	.1	.0	#	0	2.0	1993	13	2.0	1993	2	1993	13	#+	1993	@	@	.0	.0	.0	@	.0	.0	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.1	.0	0	0	1.5	1996	19	1.5	1996	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Ann	.3	.0	N/A	N/A	3.0	Feb 1973	9	3.0	Feb 1973	2	Mar 1993	13	#+	Mar 1993	.1	.1	@	.0	.0	@	.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	4/06	4/01	3/28	3/24	3/21	3/18	3/15	3/11	3/05
32	3/22	3/16	3/12	3/08	3/04	2/28	2/25	2/20	2/14
28	3/11	3/03	2/26	2/21	2/17	2/13	2/08	2/03	1/26
24	2/28	2/18	2/10	2/04	1/29	1/22	1/14	1/02	0/00
20	2/11	2/02	1/25	1/17	1/08	0/00	0/00	0/00	0/00
16	1/17	1/02	0/00	0/00	0/00	0/00	0/00	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	10/27	11/01	11/05	11/08	11/11	11/14	11/17	11/20	11/25
32	11/03	11/11	11/16	11/21	11/25	11/29	12/04	12/09	12/16
28	11/19	11/26	12/01	12/06	12/10	12/14	12/19	12/24	12/31
24	11/30	12/13	12/22	12/30	1/08	1/16	1/26	2/11	0/00
20	12/23	1/04	1/13	1/23	2/03	0/00	0/00	0/00	0/00
16	1/05	1/20	0/00	0/00	0/00	0/00	0/00	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	256	248	243	238	234	230	225	220	212
32	291	282	276	270	265	260	255	248	239
28	326	316	308	302	295	289	283	275	265
24	>365	>365	>365	>365	354	330	316	303	288
20	>365	>365	>365	>365	>365	>365	>365	>365	326
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

\* 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

Complete documentation available from:

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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	483	342	208	78	5	0	0	0	1	62	223	413	1815
60	354	216	110	24	0	0	0	0	0	20	129	283	1136
57	286	153	66	9	0	0	0	0	0	9	86	218	827
55	245	118	43	5	0	0	0	0	0	5	62	181	659
50	160	51	12	0	0	0	0	0	0	1	23	102	349
32	12	0	0	0	0	0	0	0	0	0	0	2	14

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	567	585	846	989	1256	1396	1517	1504	1340	1089	805	627	12521
55	88	59	176	304	543	706	804	791	650	381	176	92	4770
57	66	38	137	249	481	646	742	729	590	323	140	67	4208
60	42	17	88	173	389	556	649	636	500	241	94	40	3425
65	0	3	31	77	239	406	494	481	350	128	38	15	2262
70	0	0	8	21	112	257	339	326	207	51	12	3	1336

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	345	396	613	761	1020	1174	1282	1270	1116	852	575	402	345	741	1354	2115	3135	4309	5591	6861	7977	8829	9404	9806
45	228	275	463	611	865	1024	1127	1115	966	697	431	274	228	503	966	1577	2442	3466	4593	5708	6674	7371	7802	8076
50	136	169	320	463	710	874	972	960	816	544	301	170	136	305	625	1088	1798	2672	3644	4604	5420	5964	6265	6435
55	70	91	196	319	555	724	817	805	666	392	188	98	70	161	357	676	1231	1955	2772	3577	4243	4635	4823	4921
60	29	39	100	189	402	574	662	650	516	249	100	49	29	68	168	357	759	1333	1995	2645	3161	3410	3510	3559
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	214	251	386	492	701	815	895	886	774	567	372	255	214	465	851	1343	2044	2859	3754	4640	5414	5981	6353	6608

(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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)