

Climatography of the United States

No. 20

1971-2000

Station: TUSCALOOSA ACFD, AL

COOP ID: 018380

Climate Division: AL 3

NWS Call Sign: TCL

Elevation: 169 Feet Lat: 33° 13N Lon: 87° 37W

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	55.2	35.2	45.2	82	1949	10	53.6	1974	-1+	1985	21	34.3	1978	623	0	.0	.0	21.0	.7	15.2	.1
Feb	61.1	38.4	49.8	86	1962	13	56.9	1990	5	1951	2	39.8	1978	430	2	.0	.0	22.7	.3	10.3	.0
Mar	69.6	45.5	57.6	90	1995	23	63.7	1974	12	1993	14	51.7	1971	258	27	.0	@	29.5	@	3.7	.0
Apr	76.7	51.2	64.0	94	1987	21	69.4	1999	29+	1987	4	59.2	1983	93	62	.0	.3	29.9	.0	.5	.0
May	83.4	60.4	71.9	98	1951	31	76.5	2000	36	1976	4	65.2	1976	20	235	.0	3.9	31.0	.0	.0	.0
Jun	89.7	67.6	78.7	105+	1954	27	83.0	1998	45+	1984	1	74.6	1974	0	410	.4	15.7	30.0	.0	.0	.0
Jul	92.5	71.6	82.1	107+	1952	29	85.2	2000	54	1950	1	78.8	1972	0	528	1.9	22.0	31.0	.0	.0	.0
Aug	92.0	70.7	81.4	105+	2000	29	85.1	1999	53	1956	22	78.0	1976	0	507	1.4	21.9	31.0	.0	.0	.0
Sep	87.5	65.0	76.3	104+	1954	4	80.4	1998	37	1967	30	72.4	1975	3	340	.3	10.9	30.0	.0	.0	.0
Oct	77.9	52.2	65.1	98	1954	4	71.0	1984	23	1952	30	58.9	1987	102	105	.0	.8	30.9	.0	.3	.0
Nov	67.1	43.5	55.3	87+	2000	3	62.0	1985	10	1950	25	48.1	1976	305	14	.0	.0	28.5	.0	5.7	.0
Dec	58.4	37.5	48.0	82+	1998	6	56.5	1971	2	1989	23	39.6	2000	537	9	.0	.0	24.3	.3	13.1	.0
Ann	75.9	53.2	64.6	107+	Jul 1952	29	85.2	Jul 2000	-1+	Jan 1985	21	34.3	Jan 1978	2371	2239	4.0	75.5	339.8	1.3	48.8	.1

+ 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

Issue Date: February 2004

(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

063-A

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

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COOP ID: 018380

Climate Division: AL 3

NWS Call Sign: TCL

Elevation: 169 Feet Lat: 33°13N

Lon: 87°37W

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	5.72	5.63	4.26	1996	26	10.18	1979	1.22	1986	10.2	8.4	4.1	1.8	2.13	2.66	3.43	4.07	4.68	5.31	5.98	6.77	7.77	9.31	10.72
Feb	5.07	4.34	5.44	1961	21	12.70	1983	1.73	1978	8.7	6.9	3.6	1.8	1.84	2.31	3.00	3.58	4.13	4.69	5.30	6.01	6.92	8.33	9.61
Mar	6.37	5.31	6.08	1975	13	19.99	1976	1.12	1986	9.7	7.7	4.2	2.0	1.60	2.19	3.12	3.94	4.76	5.61	6.57	7.70	9.18	11.53	13.73
Apr	5.10	4.44	6.44	1979	12	14.41	1979	.30	1987	7.6	6.1	3.2	1.6	.87	1.31	2.05	2.75	3.47	4.25	5.14	6.22	7.66	10.00	12.23
May	4.55	3.99	3.91	1958	1	11.13	1976	.44	2000	8.2	6.7	3.3	1.6	1.02	1.44	2.11	2.71	3.31	3.94	4.66	5.52	6.64	8.43	10.12
Jun	4.20	3.39	3.41	1963	18	11.98	1989	1.22	1988	8.3	6.6	3.0	1.3	1.11	1.50	2.11	2.65	3.17	3.72	4.34	5.06	6.01	7.50	8.89
Jul	5.71	5.89	4.57	1997	21	12.27	1997	.86	1993	10.4	8.2	3.7	1.8	1.85	2.39	3.19	3.87	4.53	5.21	5.95	6.82	7.94	9.68	11.29
Aug	3.70	3.16	2.87	1967	10	7.56	1976	.76	2000	7.7	5.8	2.6	1.2	1.17	1.52	2.04	2.49	2.92	3.37	3.86	4.43	5.17	6.32	7.39
Sep	3.54	3.04	6.28	2001	3	8.84	1977	.64	1984	7.0	5.3	2.5	1.1	.70	1.02	1.54	2.02	2.50	3.02	3.61	4.31	5.25	6.74	8.17
Oct	3.47	3.17	5.73	1977	25	9.11	1995	.12	1987	5.6	4.4	2.2	1.0	.48	.76	1.26	1.74	2.25	2.81	3.45	4.24	5.31	7.06	8.75
Nov	4.84	4.38	3.67	1995	11	10.04	2000	.84	1985	8.2	6.8	3.6	1.7	1.64	2.10	2.77	3.34	3.88	4.44	5.05	5.77	6.69	8.11	9.42
Dec	4.97	4.75	3.64	1951	20	11.05	1983	.69	1980	9.7	7.3	3.7	1.4	1.70	2.17	2.86	3.44	3.99	4.56	5.19	5.92	6.85	8.29	9.62
Ann	57.24	58.26	6.44	Apr 1979	12	19.99	Mar 1976	.12	Oct 1987	101.3	80.2	39.7	18.3	40.95	44.11	48.15	51.22	53.95	56.58	59.30	62.30	65.93	71.21	75.76

+ 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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Elevation: 169 Feet

Lat: 33°13N

Lon: 87°37W

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	.2	.0	#	0	4.0	1977	18	4.0	1977	3+	1982	14	#	1985	.1	.1	@	.0	.0	.2	.1	.0	.0
Feb	.1	.0	0	0	1.2	1971	13	1.2+	1984	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
Mar	.1	.0	#	0	1.3	1993	12	1.3	1993	1	1980	2	#	1980	.0	.0	.0	.0	.0	@	.0	.0	.0
Apr	.0	.0	#	0	.3	1987	3	.3	1987	3	1987	3	#	1987	.0	.0	.0	.0	.0	@	@	.0	.0
May	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1987	.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	#	1976	28	#+	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	#	.0	0	0	#	1989	12	#+	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.4	.0	N/A	N/A	4.0	Jan 1977	18	4.0	Jan 1977	3+	Apr 1987	3	#+	May 1987	.2	.2	@	.0	.0	.2	.1	.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	4/13	4/10	4/07	4/04	4/01	3/28	3/23
32	4/09	4/02	3/29	3/25	3/21	3/17	3/13	3/08	3/02
28	3/20	3/13	3/08	3/04	3/01	2/25	2/21	2/16	2/10
24	3/11	3/03	2/25	2/20	2/15	2/10	2/05	1/31	1/22
20	3/02	2/22	2/15	2/10	2/05	1/30	1/23	1/13	0/00
16	2/18	2/08	1/31	1/24	1/15	1/04	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	10/12	10/18	10/23	10/27	10/31	11/03	11/07	11/12	11/19
32	10/25	10/31	11/04	11/08	11/11	11/15	11/18	11/22	11/28
28	11/07	11/12	11/17	11/20	11/24	11/27	11/30	12/05	12/11
24	11/17	11/27	12/03	12/09	12/15	12/20	12/26	1/02	1/11
20	12/05	12/16	12/23	12/30	1/05	1/12	1/21	2/02	0/00
16	12/12	12/26	1/05	1/15	1/26	2/12	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	229	221	215	210	206	201	196	190	182
32	261	252	245	240	235	229	224	217	208
28	290	282	277	272	267	263	258	252	244
24	338	321	312	305	299	293	286	279	269
20	>365	>365	>365	352	337	327	318	308	295
16	>365	>365	>365	>365	>365	>365	352	334	320

* 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	623	430	258	93	20	0	0	0	3	102	305	537	2371
60	480	302	151	31	4	0	0	0	0	43	187	396	1594
57	400	232	102	13	0	0	0	0	0	22	131	318	1218
55	350	190	75	6	0	0	0	0	0	13	99	272	1005
50	244	108	28	0	0	0	0	0	0	3	42	176	601
32	28	2	0	0	0	0	0	0	0	0	0	11	41

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	438	498	792	959	1237	1400	1551	1530	1327	1025	699	506	11962
55	47	43	154	274	524	710	838	817	637	326	108	53	4531
57	35	28	119	221	463	650	776	755	577	272	79	38	4013
60	22	14	76	149	373	560	683	662	487	201	45	22	3294
65	0	2	27	62	235	410	528	507	340	105	14	9	2239
70	0	0	8	16	125	263	373	352	205	43	2	0	1387

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	206	293	522	704	980	1156	1306	1284	1079	768	449	274	206	499	1021	1725	2705	3861	5167	6451	7530	8298	8747	9021
45	114	185	377	554	825	1006	1151	1129	929	613	316	168	114	299	676	1230	2055	3061	4212	5341	6270	6883	7199	7367
50	59	105	245	405	670	856	996	974	779	459	199	92	59	164	409	814	1484	2340	3336	4310	5089	5548	5747	5839
55	26	52	143	268	515	706	841	819	629	312	110	47	26	78	221	489	1004	1710	2551	3370	3999	4311	4421	4468
60	6	21	66	152	364	556	686	664	479	188	50	20	6	27	93	245	609	1165	1851	2515	2994	3182	3232	3252
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	123	182	328	455	663	798	897	888	733	502	283	165	123	305	633	1088	1751	2549	3446	4334	5067	5569	5852	6017

(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:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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
- 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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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