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: UNION SPRINGS 9 S, AL **COOP ID: 018438**

Climate Division: AL 6 **NWS Call Sign:** **Elevation: 440 Feet** **Lat: 32˚01N** **Lon: 85˚45W**

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	57.3	34.4	45.9	82+	1950	26	59.5	1974	-2+	1985	22	34.2	1977	607	0	.0	.0	23.2	.6	15.8	.1
Feb	61.6	36.9	49.3	84+	1962	28	55.8	1990	8+	1996	6	40.8	1978	441	0	.0	.0	23.0	.3	11.2	.0
Mar	68.9	43.1	56.0	92	1966	31	61.4	1997	15	1980	3	50.8	1971	297	17	.0	@	29.7	@	4.7	.0
Apr	75.3	49.0	62.2	92+	1987	23	66.5	1999	29+	1987	1	57.6	1993	128	42	.0	.2	29.9	.0	.8	.0
May	81.8	57.9	69.9	97+	1962	20	73.6	1991	39+	1997	5	65.5	1976	26	177	.0	3.5	31.0	.0	.0	.0
Jun	87.6	66.2	76.9	104+	1985	7	81.0	1981	44	1984	1	73.7	1997	0	358	.2	14.5	30.0	.0	.0	.0
Jul	89.7	69.8	79.8	107+	1952	25	81.9	1998	55+	1967	17	77.2	1994	0	457	.3	20.6	31.0	.0	.0	.0
Aug	89.1	68.6	78.9	104	1956	12	81.6	1987	56	1992	29	76.2	1994	0	429	.4	19.3	31.0	.0	.0	.0
Sep	85.3	63.6	74.5	101	1951	5	79.2	1972	39	1967	30	71.7	1975	4	288	@	9.7	30.0	.0	.0	.0
Oct	76.8	51.3	64.1	95+	1959	3	70.2	1984	26+	2001	30	57.8	1987	115	85	.0	.8	31.0	.0	.4	.0
Nov	68.1	42.9	55.5	88	1984	1	62.8	1985	15	1950	25	47.6	1976	305	19	.0	.0	29.1	.0	6.5	.0
Dec	60.1	36.4	48.3	83	1998	6	58.2	1971	3	1962	13	40.0	2000	528	8	.0	.0	25.5	.3	13.1	.0
Ann	75.1	51.7	63.4	107+	Jul 1952	25	81.9	Jul 1998	-2+	Jan 1985	22	34.2	Jan 1977	2451	1880	.9	68.6	344.4	1.2	52.5	.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/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	5.48	5.20	3.90	1978	25	11.50	1978	.97	1981
Feb	4.88	4.62	4.30	1981	11	10.21	1975	1.05	2000
Mar	6.65	6.25	7.40	1990	17	12.74	1973	2.38	1985
Apr	4.23	3.90	4.45	1979	4	11.25	1979	.51	1986
May	4.06	3.88	6.38	1953	6	8.52	1978	.81	1977
Jun	5.04	4.40	5.35	1993	29	15.10	1989	1.06	2000
Jul	5.41	4.73	5.75	1964	2	15.31	1994	.91	1983
Aug	3.61	3.55	3.02	1960	12	6.99	1985	.13	1989
Sep	4.34	4.13	5.30	1953	27	13.37	1998	.63	1978
Oct	2.93	2.87	6.60	1995	4	13.21	1995	.36+	1987
Nov	4.65	3.99	5.55	1948	27	13.61	1992	1.76	1981
Dec	4.74	4.43	5.95	1953	4	10.96	1972	1.34	1998
Ann	56.02	54.45	7.40	Mar 1990	17	15.31	Jul 1994	.13	Aug 1989

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	8.0	4.2	1.6
Feb	8.0	6.7	3.3	1.8
Mar	8.8	7.7	4.0	2.3
Apr	6.7	5.6	3.1	1.2
May	7.5	5.8	3.0	1.1
Jun	8.1	6.8	3.4	1.4
Jul	10.6	8.5	3.9	1.4
Aug	8.1	6.4	2.6	1.0
Sep	7.3	6.1	3.0	1.6
Oct	5.1	3.7	1.7	1.0
Nov	7.3	5.8	3.3	1.5
Dec	7.8	6.5	3.1	1.4
Ann	95.2	77.6	38.6	17.3

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	2.19	2.69	3.41	4.00	4.56	5.12	5.74	6.44	7.34	8.72	9.97
Feb	1.66	2.12	2.80	3.37	3.92	4.48	5.10	5.82	6.74	8.17	9.48
Mar	2.90	3.49	4.33	5.01	5.64	6.28	6.97	7.76	8.76	10.28	11.65
Apr	.93	1.32	1.95	2.51	3.07	3.66	4.34	5.14	6.20	7.89	9.48
May	1.09	1.48	2.06	2.58	3.08	3.61	4.20	4.89	5.80	7.22	8.55
Jun	1.03	1.49	2.23	2.91	3.59	4.32	5.14	6.14	7.44	9.54	11.52
Jul	1.64	2.16	2.93	3.59	4.23	4.89	5.63	6.49	7.60	9.34	10.95
Aug	.95	1.29	1.81	2.27	2.73	3.20	3.73	4.35	5.17	6.45	7.65
Sep	.89	1.29	1.93	2.51	3.09	3.72	4.42	5.27	6.39	8.19	9.89
Oct	.23	.43	.81	1.21	1.66	2.17	2.79	3.56	4.63	6.43	8.20
Nov	1.48	1.92	2.58	3.13	3.67	4.23	4.84	5.56	6.48	7.92	9.25
Dec	1.85	2.29	2.92	3.44	3.93	4.43	4.97	5.59	6.38	7.60	8.71
Ann	44.60	46.91	49.81	51.98	53.88	55.70	57.56	59.60	62.04	65.54	68.52

\+ 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	.4	.0	#	0	4.5	1977	31	7.5	1977	#	1982	11	#	1982	.2	.1	.1	.0	.0	.0	.0	.0	.0
Feb	.7	.0	0	0	13.0	1973	10	13.0	1973	0	0	0	0	0	.1	.1	.1	.1	.1	.0	.0	.0	.0
Mar	.2	.0	#	0	2.0	1993	13	4.0	1993	4	1993	14	#	1993	.1	.1	.0	.0	.0	.1	@	.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	.2	.0	#	0	3.0	1993	23	3.0	1993	3	1993	23	#	1993	.1	.1	.1	.0	.0	@	@	.0	.0
Ann	1.5	.0	N/A	N/A	13.0	Feb 1973	10	13.0	Feb 1973	4	Mar 1993	14	#+	Dec 1993	.5	.4	.3	.1	.1	.1	@	.0	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	4/17	4/13	4/09	4/07	4/04	4/01	3/30	3/26	3/22
32	4/11	4/04	3/31	3/27	3/23	3/19	3/15	3/10	3/03
28	3/16	3/10	3/05	3/01	2/26	2/22	2/18	2/14	2/07
24	3/09	3/01	2/24	2/19	2/15	2/10	2/06	1/31	1/24
20	3/02	2/21	2/13	2/07	2/01	1/26	1/20	1/11	12/26
16	2/19	2/08	1/30	1/22	1/14	1/03	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	10/14	10/19	10/22	10/25	10/28	10/31	11/03	11/07	11/12
32	10/25	10/30	11/03	11/06	11/09	11/12	11/15	11/19	11/24
28	11/08	11/14	11/17	11/21	11/24	11/27	11/30	12/04	12/09
24	11/18	11/27	12/04	12/09	12/15	12/20	12/26	1/01	1/11
20	12/04	12/16	12/25	1/01	1/09	1/16	1/25	2/04	2/24
16	12/17	12/30	1/09	1/18	1/28	2/10	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	227	220	215	211	207	202	198	193	186
32	256	247	241	235	230	225	220	214	205
28	296	287	281	276	270	265	260	254	245
24	336	323	314	307	300	294	287	279	268
20	>365	>365	>365	355	335	324	314	304	291
16	>365	>365	>365	>365	>365	>365	352	334	321

***** 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	607	441	297	128	26	0	0	0	4	115	305	528	2451
60	466	309	178	51	5	0	0	0	0	50	191	386	1636
57	388	235	123	24	1	0	0	0	0	26	137	309	1243
55	340	191	92	13	0	0	0	0	0	16	106	263	1021
50	239	104	36	2	0	0	0	0	0	4	47	168	600
32	29	1	0	0	0	0	0	0	0	0	0	9	39

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	457	484	743	904	1174	1348	1480	1452	1274	993	705	512	11526
55	56	29	122	227	461	658	767	739	584	296	121	52	4112
57	42	18	91	178	400	598	705	677	524	244	92	37	3606
60	27	8	53	115	311	508	612	584	434	175	55	21	2903
65	0	0	17	42	177	358	457	429	288	85	19	8	1880
70	0	0	4	9	79	212	302	274	156	30	5	0	1071

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	236	301	511	680	949	1134	1258	1228	1054	760	475	294	236	537	1048	1728	2677	3811	5069	6297	7351	8111	8586	8880
45	141	196	368	531	794	984	1103	1073	904	605	339	182	141	337	705	1236	2030	3014	4117	5190	6094	6699	7038	7220
50	73	112	238	388	639	834	948	918	754	453	218	106	73	185	423	811	1450	2284	3232	4150	4904	5357	5575	5681
55	36	57	134	255	484	684	793	763	604	307	127	58	36	93	227	482	966	1650	2443	3206	3810	4117	4244	4302
60	11	22	61	139	334	534	638	608	454	183	62	23	11	33	94	233	567	1101	1739	2347	2801	2984	3046	3069
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	149	199	329	439	634	781	870	850	718	501	311	186	149	348	677	1116	1750	2531	3401	4251	4969	5470	5781	5967

(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