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: MOULTON 2, AL **COOP ID: 015635**

Climate Division: AL 1 **NWS Call Sign:** **Elevation: 645 Feet** **Lat: 34˚29N** **Lon: 87˚18W**

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	50.5	30.8	40.7	77	1972	24	48.6	1974	-13	1985	21	28.7	1977	756	0	.0	.0	17.4	1.8	17.5	.1
Feb	56.1	33.9	45.0	85	1996	23	53.0	1990	-8	1958	18	33.8	1978	560	0	.0	.0	19.8	.8	13.4	.1
Mar	65.2	41.4	53.3	87	1963	31	59.3	1974	8	1980	2	46.5	1971	373	10	.0	.0	28.6	.1	7.2	.0
Apr	73.9	48.3	61.1	90+	1987	30	66.8	1999	24	1992	3	55.5	1983	154	38	.0	.1	29.9	.0	1.7	.0
May	80.6	57.3	69.0	96+	1962	19	73.4	1987	33	1971	4	63.9	1976	40	162	.0	1.8	31.0	.0	.0	.0
Jun	86.8	64.9	75.9	101	1988	26	80.6	1998	41	1966	1	72.1	1974	1	326	.1	10.1	30.0	.0	.0	.0
Jul	89.7	68.6	79.2	106	1980	16	83.2	1980	52+	2001	14	76.7	1994	0	439	.8	18.3	31.0	.0	.0	.0
Aug	89.4	66.8	78.1	103+	2000	17	81.8	1995	50	1986	29	73.4	1992	0	405	.9	18.1	31.0	.0	.0	.0
Sep	83.6	60.4	72.0	102	1990	6	77.5	1998	35	1967	30	67.0	1974	18	228	.2	7.6	30.0	.0	.0	.0
Oct	73.5	48.1	60.8	92+	1986	4	67.7	1984	25+	1968	29	54.4	1976	188	57	.0	.3	30.9	.0	1.5	.0
Nov	62.3	39.8	51.1	85	2000	2	58.7	1985	12	1970	24	42.3	1976	424	5	.0	.0	26.8	@	7.9	.0
Dec	53.7	33.6	43.7	79+	1998	5	52.9	1984	-5	1989	23	34.5	1989	663	0	.0	.0	21.3	.8	14.7	.1
Ann	72.1	49.5	60.8	106	Jul 1980	16	83.2	Jul 1980	-13	Jan 1985	21	28.7	Jan 1977	3177	1670	2.0	56.3	327.7	3.5	63.9	.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: 1957-2001

(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	5.81	5.32	4.47	1998	7	13.86	1999	.66	1986
Feb	5.04	4.87	5.00	1991	19	10.81	1991	.75	1978
Mar	6.59	5.71	6.85	1973	16	16.29	1973	1.79	1985
Apr	4.72	4.25	3.40	1983	5	10.24	1983	.28	1986
May	5.37	4.99	6.50	1983	19	12.21	1983	1.05	1977
Jun	4.59	4.12	3.97	1997	21	16.44	1997	.20	1988
Jul	4.22	4.39	2.93	1985	27	8.15	1996	.73	1993
Aug	3.25	2.84	4.27	1979	28	10.84	1979	.17	1999
Sep	4.29	3.39	4.95	1989	22	12.05	1989	.00	1984
Oct	3.68	3.17	5.17	1975	17	13.42	1975	.00	2000
Nov	5.34	5.12	4.37	1973	27	12.10	1986	1.51	1985
Dec	5.85	4.95	7.22	1990	22	16.52	1990	.74	1980
Ann	58.75	58.53	7.22	Dec 1990	22	16.52	Dec 1990	.00+	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.6	8.9	4.1	1.6
Feb	10.3	7.9	3.5	1.6
Mar	12.3	8.8	4.2	1.8
Apr	9.4	6.9	3.3	1.5
May	10.2	7.6	3.5	1.6
Jun	10.8	7.7	3.1	1.2
Jul	10.5	7.5	2.7	1.2
Aug	8.5	5.7	1.9	.8
Sep	8.3	6.4	2.8	1.2
Oct	6.6	4.9	2.6	1.2
Nov	10.0	7.5	4.0	1.7
Dec	11.8	7.9	4.0	1.9
Ann	121.3	87.7	39.7	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	1.66	2.22	3.05	3.77	4.48	5.21	6.03	6.99	8.23	10.18	12.00
Feb	1.60	2.08	2.79	3.40	3.98	4.58	5.25	6.02	7.02	8.58	10.02
Mar	2.24	2.87	3.78	4.55	5.29	6.05	6.88	7.85	9.10	11.03	12.80
Apr	1.17	1.61	2.30	2.91	3.51	4.15	4.87	5.71	6.82	8.57	10.22
May	1.16	1.65	2.44	3.15	3.87	4.63	5.49	6.52	7.88	10.05	12.10
Jun	1.02	1.45	2.12	2.72	3.33	3.98	4.70	5.57	6.71	8.53	10.24
Jul	1.41	1.81	2.40	2.89	3.37	3.86	4.40	5.03	5.84	7.10	8.25
Aug	.43	.70	1.16	1.61	2.09	2.61	3.22	3.97	4.99	6.65	8.26
Sep	.49	1.01	1.73	2.35	2.97	3.64	4.39	5.30	6.50	8.42	10.24
Oct	.49	.96	1.58	2.10	2.62	3.18	3.79	4.53	5.50	7.05	8.51
Nov	2.05	2.54	3.25	3.84	4.40	4.97	5.59	6.30	7.21	8.61	9.89
Dec	1.56	2.12	2.97	3.71	4.44	5.20	6.05	7.06	8.38	10.44	12.36
Ann	41.03	44.44	48.82	52.15	55.12	57.99	60.96	64.25	68.25	74.06	79.09

\+ 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: 1957-2001
(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	1.2	.0	#	#
Feb	.9	.0	#	0
Mar	.4	.0	#	0
Apr	#	.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
Nov	#	.0	#	0
Dec	.2	.0	#	0
Ann	2.7	.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	9.0	1988	7	9.0	1988	9	1988	7	1	1988
Feb	3.0	1971	13	7.0	1985	3	1996	3	1	1985
Mar	7.0	1993	13	8.3	1993	8	1993	13	1	1993
Apr	#	1987	3	#+	1987	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	#	1993	31	#+	1993	0	0	0	0	0
Nov	#	2000	19	#+	2000	#+	2000	19	#+	2000
Dec	1.5	1997	29	1.8	1997	1	1985	25	#+	2000
Ann	9.0	Jan 1988	7	9.0	Jan 1988	9	Jan 1988	7	1+	Mar 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.8	.5	.1	@	.0
Feb	.7	.5	.1	.0	.0
Mar	.2	.1	@	@	.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	.4	.1	.0	.0	.0
Ann	2.1	1.2	.2	@	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.9	.4	.1	.0
Feb	.4	.1	.0	.0
Mar	.1	@	@	.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
Ann	1.4	.5	.1	.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	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/07	4/02
32	4/18	4/13	4/10	4/07	4/04	4/02	3/30	3/27	3/22
28	4/08	4/02	3/29	3/25	3/22	3/19	3/15	3/11	3/05
24	3/21	3/14	3/09	3/05	3/01	2/25	2/21	2/16	2/09
20	3/09	3/02	2/25	2/21	2/17	2/13	2/09	2/04	1/28
16	3/06	2/24	2/16	2/10	2/04	1/29	1/23	1/15	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	10/04	10/08	10/11	10/14	10/16	10/19	10/21	10/25	10/29
32	10/09	10/15	10/18	10/22	10/25	10/28	10/31	11/04	11/09
28	10/25	10/30	11/03	11/06	11/10	11/13	11/16	11/20	11/26
24	11/05	11/11	11/16	11/19	11/23	11/26	11/30	12/05	12/11
20	11/17	11/26	12/03	12/08	12/13	12/19	12/24	12/31	1/08
16	11/25	12/05	12/12	12/18	12/23	12/29	1/04	1/11	1/21

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	197	192	188	185	183	180	177	173	169
32	219	214	209	206	202	199	195	191	185
28	255	247	241	236	232	227	223	217	209
24	289	281	276	271	266	262	257	251	243
20	329	319	311	305	299	293	286	279	268
16	>365	340	330	322	316	310	303	296	285

***** 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)

Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	756	560	373	154	40	1	0	0	18	188	424	663	3177
60	613	429	240	70	10	0	0	0	4	101	290	517	2274
57	527	352	175	36	3	0	0	0	1	63	219	431	1807
55	472	304	139	22	1	0	0	0	0	44	177	376	1535
50	346	199	67	4	0	0	0	0	0	14	95	254	979
32	62	14	0	0	0	0	0	0	0	0	1	24	101

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	329	378	660	874	1145	1315	1462	1428	1200	892	571	384	10638
55	26	23	85	205	434	625	749	715	510	223	58	23	3676
57	19	16	60	160	374	565	687	653	451	180	39	16	3220
60	12	9	32	103	287	475	594	560	363	125	20	9	2589
65	0	0	10	38	162	326	439	405	228	57	5	0	1670
70	0	0	0	9	73	185	284	256	119	20	0	0	946

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	157	232	439	649	908	1096	1243	1211	998	688	379	213	157	389	828	1477	2385	3481	4724	5935	6933	7621	8000	8213
45	85	143	303	501	753	946	1088	1056	848	533	257	125	85	228	531	1032	1785	2731	3819	4875	5723	6256	6513	6638
50	44	77	191	358	598	796	933	901	698	384	158	68	44	121	312	670	1268	2064	2997	3898	4596	4980	5138	5206
55	15	34	104	228	444	646	778	746	549	251	84	31	15	49	153	381	825	1471	2249	2995	3544	3795	3879	3910
60	0	8	46	126	297	496	623	591	403	136	33	6	0	8	54	180	477	973	1596	2187	2590	2726	2759	2765
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	90	148	273	419	609	752	857	831	672	450	232	124	90	238	511	930	1539	2291	3148	3979	4651	5101	5333	5457

(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