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: THORSBY EXP STATION, AL **COOP ID: 018209**

Climate Division: AL 3 **NWS Call Sign:** **Elevation: 680 Feet** **Lat: 32˚55N** **Lon: 86˚40W**

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	53.8	32.5	43.2	78	1975	29	54.7	1974	-4+	1985	22	33.2	1977	678	0	.0	.0	20.8	.8	16.7	.1
Feb	58.6	35.2	46.9	82	1962	13	53.2	1976	5+	1996	6	38.8	1978	507	0	.0	.0	21.8	.3	11.3	.0
Mar	66.6	42.5	54.6	89	1975	22	60.1	1997	12+	1993	15	49.0	1971	337	12	.0	.0	29.5	.1	4.4	.0
Apr	73.7	49.1	61.4	91+	1987	23	66.2	1981	28+	1987	5	57.3	1983	139	31	.0	.1	29.9	.0	.6	.0
May	80.7	57.8	69.3	97+	1970	24	73.5	1987	39+	1971	4	64.6	1976	32	163	.0	1.7	31.0	.0	.0	.0
Jun	87.1	65.3	76.2	100+	1969	30	79.7	1981	44	1984	1	72.4	1974	1	336	.0	11.1	30.0	.0	.0	.0
Jul	89.6	68.8	79.2	104	1977	7	82.5	1980	53	1967	15	74.5	1972	0	440	.4	17.7	31.0	.0	.0	.0
Aug	89.3	67.7	78.5	102+	1990	20	82.2	1995	55	1991	21	74.0	1973	0	419	.4	15.5	31.0	.0	.0	.0
Sep	84.8	62.8	73.8	100	1980	15	78.4	1980	38+	1967	30	71.3	1983	3	267	@	6.3	30.0	.0	.0	.0
Oct	76.0	50.8	63.4	92+	1990	10	68.4	1985	27	1989	20	59.4	1976	109	58	.0	.2	30.9	.0	.2	.0
Nov	66.1	42.2	54.2	85	1974	2	61.3	1985	15	1970	24	47.2	1976	342	16	.0	.0	28.3	.0	6.0	.0
Dec	57.0	35.0	46.0	81	1984	25	54.6	1984	0	1989	23	37.1	1989	590	2	.0	.0	24.2	.5	13.7	@
Ann	73.6	50.8	62.2	104	Jul 1977	7	82.5	Jul 1980	-4+	Jan 1985	22	33.2	Jan 1977	2738	1744	.8	52.6	338.4	1.7	52.9	.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: 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	6.06	5.82	4.71	1972	10	15.36	1972	1.43	1981
Feb	5.16	5.04	3.40	1982	3	10.20	1998	1.40	2000
Mar	6.76	6.14	7.26	1990	16	14.63	1980	1.44	1985
Apr	5.06	4.01	7.06	1979	13	18.34	1979	.32+	1987
May	4.18	3.77	3.37	1976	7	11.01	1991	1.27	1977
Jun	4.14	3.69	5.65	1963	23	11.33	1989	.32	1986
Jul	5.22	4.50	4.16	1975	7	11.14	1982	1.32	1995
Aug	3.70	3.26	7.55	1974	3	11.27	1974	.75	1991
Sep	4.13	4.04	3.42	1979	28	8.91	1988	.28	1990
Oct	3.00	3.06	5.12	1982	12	7.01	1995	.00	1978
Nov	4.54	4.11	3.20	2000	9	14.00	1986	.74	1981
Dec	4.65	4.25	4.45	1961	10	9.20	1983	.74	1980
Ann	56.60	56.86	7.55	Aug 1974	3	18.34	Apr 1979	.00	Oct 1978

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.9	8.4	4.0	1.8
Feb	8.8	6.9	3.7	1.6
Mar	9.4	7.8	4.3	2.4
Apr	7.9	6.3	3.0	1.7
May	9.0	6.9	2.9	1.3
Jun	8.6	6.5	3.0	1.2
Jul	11.0	8.4	3.3	1.6
Aug	7.9	5.7	2.4	1.2
Sep	7.1	5.5	2.7	1.3
Oct	5.6	4.0	1.9	1.0
Nov	8.2	6.3	3.2	1.6
Dec	8.9	6.5	3.4	1.3
Ann	103.3	79.2	37.8	18.0

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	2.32	2.89	3.69	4.36	4.99	5.64	6.34	7.15	8.18	9.76	11.21
Feb	1.86	2.34	3.04	3.63	4.19	4.76	5.39	6.12	7.04	8.48	9.79
Mar	1.93	2.57	3.54	4.38	5.20	6.06	7.01	8.13	9.58	11.85	13.96
Apr	.86	1.30	2.04	2.73	3.44	4.22	5.10	6.17	7.60	9.92	12.14
May	1.28	1.68	2.27	2.78	3.28	3.79	4.35	5.01	5.87	7.20	8.44
Jun	.83	1.21	1.82	2.37	2.93	3.53	4.22	5.03	6.12	7.85	9.50
Jul	1.41	1.91	2.66	3.32	3.97	4.65	5.40	6.29	7.45	9.27	10.97
Aug	1.01	1.36	1.89	2.36	2.82	3.30	3.83	4.46	5.29	6.57	7.78
Sep	.79	1.16	1.77	2.33	2.90	3.51	4.20	5.03	6.14	7.92	9.61
Oct	.48	.89	1.40	1.81	2.22	2.65	3.12	3.68	4.42	5.58	6.67
Nov	1.22	1.65	2.30	2.88	3.44	4.04	4.70	5.48	6.50	8.09	9.58
Dec	1.65	2.08	2.72	3.25	3.76	4.29	4.86	5.53	6.38	7.69	8.90
Ann	43.35	45.99	49.33	51.84	54.05	56.17	58.35	60.74	63.61	67.75	71.30

\+ 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

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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	.1	.0	0	0	1.0	1982	13	1.3	1982	0	0	0	0	0	.2	.1	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.2	1985	12	.2	1985	0	0	0	0	0	.1	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.9	.0	0	0	9.0	1993	13	9.0	1993	0	0	0	0	0	.2	.2	.1	.1	.0	.0	.0	.0	.0
Apr	.3	.0	#	0	4.0	1987	3	4.0	1987	4	1987	3	#	1987	.1	.1	.1	.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	.0	.0	0	0	.3	1980	27	.3	1980	0	0	0	0	0	.1	.0	.0	.0	.0	.0	.0	.0	.0
Ann	1.3	.0	N/A	N/A	9.0	Mar 1993	13	9.0	Mar 1993	4	Apr 1987	3	#	Apr 1987	.7	.4	.2	.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	4/20	4/15	4/12	4/09	4/06	4/03	3/31	3/27	3/22
32	4/09	4/03	3/31	3/27	3/24	3/21	3/18	3/14	3/09
28	3/22	3/16	3/11	3/07	3/04	2/28	2/24	2/20	2/14
24	3/11	3/03	2/26	2/21	2/16	2/11	2/07	2/01	1/24
20	3/06	2/26	2/20	2/15	2/10	2/06	1/31	1/25	1/15
16	2/24	2/13	2/05	1/29	1/22	1/14	1/01	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	10/11	10/16	10/20	10/23	10/26	10/29	11/01	11/05	11/10
32	10/28	11/02	11/05	11/08	11/11	11/13	11/16	11/20	11/24
28	11/04	11/10	11/15	11/19	11/23	11/26	11/30	12/05	12/11
24	11/19	11/28	12/05	12/11	12/16	12/22	12/28	1/04	1/13
20	11/24	12/06	12/15	12/22	12/29	1/06	1/13	1/23	2/06
16	12/13	12/25	1/02	1/11	1/19	1/28	2/12	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	214	210	206	203	199	195	191	185
32	253	245	240	235	231	226	221	216	208
28	288	280	273	268	263	258	253	247	238
24	334	321	313	307	300	294	288	280	270
20	>365	353	337	326	317	309	300	291	277
16	>365	>365	>365	>365	>365	364	341	327	311

***** 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	678	507	337	139	32	1	0	0	3	109	342	590	2738
60	536	372	210	56	6	0	0	0	0	43	222	447	1892
57	452	295	150	26	2	0	0	0	0	21	164	365	1475
55	398	246	116	14	0	0	0	0	0	12	131	314	1231
50	279	145	51	2	0	0	0	0	0	2	65	207	751
32	34	3	0	0	0	0	0	0	0	0	0	15	52

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	379	420	698	882	1155	1325	1463	1442	1254	973	664	450	11105
55	30	19	101	207	442	635	750	729	564	272	105	36	3890
57	22	12	73	158	381	575	688	667	504	218	78	25	3401
60	13	6	41	98	293	485	595	574	414	147	46	14	2726
65	0	0	12	31	163	336	440	419	267	58	16	2	1744
70	0	0	2	6	71	194	285	269	138	14	4	0	983

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	186	268	481	662	929	1109	1234	1196	1006	721	429	244	186	454	935	1597	2526	3635	4869	6065	7071	7792	8221	8465
45	105	165	337	512	774	959	1079	1041	856	566	293	145	105	270	607	1119	1893	2852	3931	4972	5828	6394	6687	6832
50	50	91	213	366	619	809	924	886	706	414	183	76	50	141	354	720	1339	2148	3072	3958	4664	5078	5261	5337
55	23	43	116	234	464	659	769	731	557	270	98	34	23	66	182	416	880	1539	2308	3039	3596	3866	3964	3998
60	1	12	50	126	313	509	614	576	408	150	41	11	1	13	63	189	502	1011	1625	2201	2609	2759	2800	2811
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	117	171	297	420	615	762	850	828	685	462	265	151	117	288	585	1005	1620	2382	3232	4060	4745	5207	5472	5623

(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