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: ROCKFORD 3 ESE, AL **COOP ID: 017020**

Climate Division: AL 5 **NWS Call Sign:** **Elevation: 600 Feet** **Lat: 32˚52N** **Lon: 86˚11W**

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	54.9	33.5	44.2	80	1957	30	56.1	1974	-6	1985	21	33.0	1977	650	0	.0	.0	21.8	.6	16.1	.1
Feb	60.0	36.0	48.0	82+	1962	28	54.0	1990	6+	1970	4	40.0	1978	477	0	.0	.0	22.8	.2	12.4	.0
Mar	68.5	42.3	55.4	87+	1982	18	61.3	1973	11	1980	3	49.8	1971	313	16	.0	.0	29.8	@	6.3	.0
Apr	75.3	47.3	61.3	90+	1987	22	66.0	1999	24+	1987	4	56.3	1983	146	34	.0	@	29.9	.0	1.5	.0
May	81.3	55.7	68.5	98	1962	20	72.4+	2000	33	1960	13	64.8+	1976	37	146	.0	1.7	31.0	.0	.0	.0
Jun	87.5	62.9	75.2	102	1985	6	79.6	1981	37	1956	3	71.9	1997	1	307	.1	10.2	30.0	.0	.0	.0
Jul	89.6	67.2	78.4	103	1980	13	80.7	1980	50	1972	6	75.6	1994	0	415	.8	18.2	31.0	.0	.0	.0
Aug	89.1	67.1	78.1	107	1956	7	81.1	1999	49	1968	30	74.4	1992	0	405	.2	14.3	31.0	.0	.0	.0
Sep	84.5	62.1	73.3	101+	1954	11	77.6	1998	37+	1990	24	69.5	1974	6	255	.0	7.4	30.0	.0	.0	.0
Oct	75.7	50.5	63.1	98	1954	5	68.9	1984	23	1954	31	58.0	1976	130	72	.0	.2	31.0	.0	1.1	.0
Nov	65.6	42.5	54.1	87+	1961	2	61.9	1985	12	1976	30	46.8	1976	339	12	.0	.0	28.7	.0	7.3	.0
Dec	57.4	36.0	46.7	79+	1978	9	55.6	1971	-4	1962	13	39.1	1989	570	3	.0	.0	23.9	.2	14.2	.0
Ann	74.1	50.3	62.2	107	Aug 1956	7	81.1	Aug 1999	-6	Jan 1985	21	33.0	Jan 1977	2669	1665	1.1	52.0	340.9	1.0	58.9	.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: 1954-2001

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

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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	6.13	6.42	4.70	1976	26	13.80	1972	.27	1986
Feb	5.64	5.21	4.23	1981	10	11.00	1982	1.95	2000
Mar	6.73	6.25	7.04	1990	16	13.81	1980	1.43	1985
Apr	4.72	4.11	6.00	1957	5	13.93	1979	.26	1986
May	3.98	3.88	3.68	1973	8	10.38	1973	.68	2000
Jun	3.90	3.13	3.84	1989	19	10.40	1989	.10	1988
Jul	5.93	5.69	3.28	1965	25	12.85	1975	2.02	1983
Aug	4.20	4.01	4.30	1984	2	9.82	1992	.42	1988
Sep	4.07	3.11	6.36	1988	16	14.78	1988	.22	1987
Oct	2.67	2.35	3.48	1970	10	6.86	1975	.00	1991
Nov	4.59	4.10	3.05	1983	24	11.55	1992	1.04	1981
Dec	4.96	4.69	5.90	1961	10	10.36	1983	1.05	1980
Ann	57.52	57.54	7.04	Mar 1990	16	14.78	Sep 1988	.00	Oct 1991

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.1	8.3	4.0	1.8
Feb	9.0	6.7	3.9	2.2
Mar	9.8	8.0	4.3	2.2
Apr	8.3	6.1	3.5	1.6
May	8.6	6.2	2.8	1.2
Jun	8.4	5.8	2.1	.6
Jul	11.3	8.7	3.9	1.4
Aug	9.0	6.4	2.5	.9
Sep	7.7	4.9	2.3	1.2
Oct	5.6	3.9	1.7	.8
Nov	8.9	6.7	3.1	1.4
Dec	9.5	7.2	3.4	1.3
Ann	107.2	78.9	37.5	16.6

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	1.74	2.32	3.20	3.97	4.71	5.49	6.36	7.37	8.69	10.76	12.69
Feb	2.05	2.58	3.34	3.98	4.59	5.22	5.89	6.68	7.69	9.24	10.66
Mar	1.98	2.62	3.58	4.41	5.22	6.06	6.99	8.09	9.51	11.72	13.78
Apr	.95	1.38	2.08	2.71	3.35	4.03	4.81	5.74	6.97	8.95	10.82
May	.88	1.25	1.83	2.36	2.89	3.45	4.08	4.83	5.82	7.41	8.90
Jun	.68	1.02	1.59	2.13	2.67	3.26	3.94	4.75	5.84	7.60	9.28
Jul	2.29	2.84	3.63	4.28	4.90	5.53	6.21	7.00	8.00	9.54	10.95
Aug	1.18	1.58	2.19	2.71	3.23	3.76	4.36	5.06	5.97	7.40	8.73
Sep	.51	.83	1.41	1.98	2.58	3.25	4.02	4.98	6.28	8.40	10.47
Oct	.35	.69	1.15	1.52	1.90	2.31	2.76	3.29	4.00	5.13	6.20
Nov	1.46	1.90	2.54	3.09	3.62	4.17	4.78	5.48	6.39	7.81	9.12
Dec	1.87	2.33	2.99	3.55	4.07	4.61	5.19	5.87	6.73	8.05	9.26
Ann	42.19	45.20	49.03	51.92	54.48	56.95	59.50	62.30	65.69	70.59	74.82

\+ 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: 1954-2001
(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	.2	.0	0	0	2.8	1977	31	3.3	1977	0	0	0	0	0	.2	.1	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.5	1989	23	.5	1989	0	0	0	0	0	.1	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.4	.0	0	0	4.5	1983	24	4.5	1983	0	0	0	0	0	.1	.1	.1	.0	.0	.0	.0	.0	.0
Apr	.2	.0	0	0	4.0	1987	3	4.0	1987	0	0	0	0	0	.1	.1	.1	.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	#	.0	0	0	#	1989	18	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.8	.0	N/A	N/A	4.5	Mar 1983	24	4.5	Mar 1983	0	0	0	0	0	.5	.3	.2	.0	.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	4/28	4/23	4/20	4/16	4/13	4/11	4/07	4/04	3/30
32	4/20	4/15	4/11	4/08	4/05	4/02	3/30	3/26	3/21
28	4/08	4/01	3/26	3/22	3/18	3/14	3/09	3/04	2/25
24	3/16	3/09	3/05	3/01	2/25	2/21	2/17	2/12	2/06
20	3/10	3/01	2/24	2/19	2/14	2/09	2/04	1/30	1/22
16	3/02	2/21	2/14	2/09	2/03	1/29	1/22	1/13	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	10/07	10/12	10/16	10/20	10/23	10/26	10/30	11/03	11/08
32	10/13	10/19	10/23	10/27	10/30	11/03	11/07	11/11	11/17
28	10/30	11/04	11/07	11/10	11/13	11/16	11/19	11/22	11/27
24	11/14	11/20	11/25	11/29	12/02	12/06	12/10	12/14	12/21
20	11/21	11/30	12/07	12/12	12/18	12/23	12/28	1/04	1/13
16	12/09	12/18	12/25	12/31	1/06	1/12	1/19	1/28	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	212	205	200	196	192	188	184	179	172
32	231	223	218	213	208	203	199	193	185
28	267	257	251	245	239	234	228	221	212
24	305	296	290	285	280	275	269	263	254
20	336	324	317	310	304	299	292	285	275
16	>365	>365	>365	346	335	326	318	309	297

***** 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	650	477	313	146	37	1	0	0	6	130	339	570	2669
60	505	342	192	63	7	0	0	0	1	59	215	427	1811
57	422	265	135	31	2	0	0	0	0	32	156	346	1389
55	370	217	103	18	0	0	0	0	0	20	122	296	1146
50	257	121	42	3	0	0	0	0	0	5	56	192	676
32	29	1	0	0	0	0	0	0	0	0	0	12	42

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	407	449	726	878	1132	1296	1438	1428	1239	965	662	468	11088
55	36	21	116	206	419	606	725	715	549	272	94	38	3797
57	26	12	86	159	359	546	663	653	489	222	68	26	3309
60	16	5	50	101	271	456	570	560	400	156	38	15	2638
65	0	0	16	34	146	307	415	405	255	72	12	3	1665
70	0	0	4	7	59	168	260	251	131	24	2	0	906

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	192	270	490	654	902	1068	1209	1180	1001	703	424	239	192	462	952	1606	2508	3576	4785	5965	6966	7669	8093	8332
45	103	170	346	506	747	918	1054	1025	851	548	292	139	103	273	619	1125	1872	2790	3844	4869	5720	6268	6560	6699
50	48	93	223	360	592	768	899	870	701	398	175	76	48	141	364	724	1316	2084	2983	3853	4554	4952	5127	5203
55	21	40	122	231	437	618	744	715	552	255	94	33	21	61	183	414	851	1469	2213	2928	3480	3735	3829	3862
60	0	12	53	121	285	468	589	560	404	139	40	9	0	12	65	186	471	939	1528	2088	2492	2631	2671	2680
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	117	181	320	430	600	730	824	812	674	458	273	150	117	298	618	1048	1648	2378	3202	4014	4688	5146	5419	5569

(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

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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