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: RUSSELLVILLE NO 2, AL **COOP ID: 017131**

Climate Division: AL 1 **NWS Call Sign:** **Elevation: 830 Feet** **Lat: 34˚31N** **Lon: 87˚44W**

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	50.0	27.7	38.9	78	1972	25	47.6	1974	-24+	1966	31	27.6	1977	811	0	.0	.0	16.0	3.3	21.1	.3
Feb	54.7	30.3	42.5	84	1996	24	49.6	1990	-12+	1958	19	30.3	1978	631	0	.0	.0	17.7	1.7	17.0	.1
Mar	63.5	37.7	50.6	84+	1995	24	57.2	2000	5+	1980	4	44.6	1971	451	5	.0	.0	26.8	.2	10.8	.0
Apr	71.7	44.2	58.0	89+	2001	11	65.8	1999	22	1973	11	52.1	1983	234	22	.0	.0	29.5	.0	4.0	.0
May	78.9	53.3	66.1	95+	2000	27	71.9	2000	31+	1976	4	61.0	1976	86	121	.0	.9	31.0	.0	.1	.0
Jun	86.0	61.4	73.7	102	1954	28	78.2	1998	36+	1969	4	69.6	1974	5	266	.0	7.7	30.0	.0	.0	.0
Jul	89.8	66.2	78.0	103	1980	18	81.4	1980	45	1970	8	75.6	1994	0	404	.4	15.8	31.0	.0	.0	.0
Aug	89.5	64.4	77.0	103+	2000	30	81.2	1999	46+	1967	29	72.2	1992	1	372	.5	14.8	31.0	.0	.0	.0
Sep	84.0	58.4	71.2	102+	1954	6	77.3	1998	30	1967	30	66.7	1974	27	212	.1	5.6	30.0	.0	.0	.0
Oct	73.8	45.4	59.6	93	1954	6	65.6	1984	19	1961	28	53.0	1987	213	46	.0	@	30.8	.0	2.9	.0
Nov	62.8	37.4	50.1	85+	2000	2	56.2	1985	10+	1970	25	41.9	1976	450	2	.0	.0	26.0	.1	11.3	.0
Dec	53.4	30.6	42.0	85	1964	25	52.0	1971	-7	1989	23	30.8	1989	713	0	.0	.0	19.0	1.4	18.4	.2
Ann	71.5	46.4	59.0	103+	Aug 2000	30	81.4	Jul 1980	-24+	Jan 1966	31	27.6	Jan 1977	3622	1450	1.0	44.8	318.8	6.7	85.6	.6

\+ 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: 1953-2001

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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	5.44	5.76	3.20	2001	19	12.48	1998	.93	1986
Feb	4.81	4.03	6.75	1991	19	11.28	1989	.98	1972
Mar	6.28	5.40	8.40	1973	16	15.75	1973	2.14	2000
Apr	4.97	4.60	3.85	1983	6	14.00	1991	.57	1986
May	5.87	4.66	6.10	1984	8	18.37	1991	.62	1987
Jun	4.23	4.14	3.30	1994	8	12.71	1997	.50	1988
Jul	4.65	4.00	3.10	1963	24	10.82	1994	1.27	1978
Aug	2.97	2.76	3.69	1985	16	6.83	1997	.07	1999
Sep	4.18	3.91	5.33	1979	14	10.06	1975	.34	1999
Oct	3.43	3.58	3.33	1970	29	8.68	1984	.16	2000
Nov	5.08	5.29	3.80	1999	2	9.76	1986	.84	1971
Dec	5.36	4.20	5.31	1954	29	17.45	1990	1.02	1980
Ann	57.27	55.16	8.40	Mar 1973	16	18.37	May 1991	.07	Aug 1999

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	7.3	4.5	1.5
Feb	8.7	6.8	3.7	1.5
Mar	9.4	7.8	4.2	2.2
Apr	8.4	6.7	3.6	1.7
May	8.7	7.1	3.4	2.1
Jun	8.5	6.6	3.0	1.2
Jul	9.3	6.9	3.3	1.2
Aug	7.4	5.2	2.1	.8
Sep	7.4	5.4	2.8	1.3
Oct	5.8	4.8	2.7	1.2
Nov	8.7	7.0	3.5	1.8
Dec	8.5	6.8	3.6	1.6
Ann	100.7	78.4	40.4	18.1

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	1.44	1.96	2.75	3.44	4.12	4.83	5.63	6.57	7.79	9.72	11.52
Feb	1.15	1.60	2.30	2.93	3.55	4.21	4.95	5.83	6.98	8.80	10.51
Mar	1.98	2.58	3.46	4.22	4.95	5.71	6.54	7.52	8.78	10.74	12.55
Apr	1.25	1.72	2.44	3.08	3.72	4.38	5.13	6.01	7.17	8.99	10.70
May	1.09	1.61	2.47	3.27	4.08	4.96	5.95	7.15	8.75	11.33	13.78
Jun	.93	1.32	1.94	2.50	3.07	3.66	4.34	5.14	6.20	7.89	9.48
Jul	1.68	2.12	2.75	3.28	3.78	4.30	4.86	5.52	6.35	7.64	8.82
Aug	.50	.76	1.19	1.60	2.02	2.47	2.99	3.62	4.46	5.83	7.13
Sep	.63	.98	1.58	2.16	2.76	3.42	4.17	5.10	6.34	8.36	10.31
Oct	.74	1.05	1.56	2.01	2.47	2.96	3.51	4.17	5.04	6.43	7.74
Nov	1.85	2.33	3.02	3.59	4.14	4.70	5.31	6.02	6.93	8.32	9.60
Dec	1.33	1.83	2.61	3.31	3.99	4.72	5.53	6.49	7.75	9.74	11.60
Ann	40.01	43.33	47.60	50.85	53.73	56.53	59.43	62.63	66.52	72.18	77.08

+ 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: 1953-2001
(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	.8	.0	#	0
Feb	.2	.0	#	0
Mar	.0	.0	#	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
Dec	.2	.0	#	0
Ann	1.2	.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	6.3	1988	7	6.3	1988	4	1982	14	#+	1999
Feb	1.5	1971	13	2.5	1971	3	1985	2	#	1985
Mar	.5	1982	7	.5	1982	3	1980	2	#	1980
Apr	.0	0	0	.0	0	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	.0	0	0	.0	0	0	0	0	0	0
Nov	#	1995	15	#+	1995	#	1995	15	#	1995
Dec	2.5	1983	17	2.5	1983	1+	2000	17	#+	2000
Ann	6.3	Jan 1988	7	6.3	Jan 1988	4	Jan 1982	14	#+	Dec 2000

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.3	.3	.2	.1	.0
Feb	.2	.1	.0	.0	.0
Mar	.1	.0	.0	.0	.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	.1	.1	.0	.0	.0
Ann	.7	.5	.2	.1	.0

Snow Depth >= Thresholds

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

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	10/02	10/05	10/08	10/10	10/12	10/14	10/16	10/18	10/22
32	10/07	10/13	10/18	10/22	10/25	10/29	11/02	11/07	11/13
28	10/16	10/23	10/28	11/01	11/05	11/09	11/13	11/18	11/25
24	10/31	11/07	11/12	11/16	11/19	11/23	11/27	12/02	12/09
20	11/10	11/20	11/26	12/02	12/07	12/13	12/19	12/25	1/04
16	11/22	12/02	12/09	12/15	12/21	12/26	1/02	1/09	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	189	183	179	175	172	168	164	160	154
32	219	211	206	201	196	192	187	182	174
28	247	238	231	225	220	215	209	202	193
24	286	275	267	260	254	247	241	233	222
20	321	309	300	294	287	281	275	267	257
16	>365	333	322	315	308	302	295	288	277

***** 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	811	631	451	234	86	5	0	1	27	213	450	713	3622
60	665	492	311	129	33	0	0	0	7	118	313	568	2636
57	578	415	236	82	16	0	0	0	2	76	238	482	2125
55	521	363	193	57	9	0	0	0	1	54	194	426	1818
50	388	245	106	18	1	0	0	0	0	18	106	301	1183
32	78	21	1	0	0	0	0	0	0	0	1	41	142

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	290	314	577	777	1058	1250	1427	1394	1175	856	544	351	10013
55	20	12	56	144	354	560	714	681	486	197	46	23	3293
57	14	8	37	109	299	500	652	619	427	157	30	16	2868
60	9	1	19	66	223	411	559	526	341	106	15	10	2286
65	0	0	5	22	121	266	404	372	212	46	2	0	1450
70	0	0	0	5	52	138	249	227	110	15	0	0	796

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	121	175	353	542	814	1013	1177	1146	935	607	320	165	121	296	649	1191	2005	3018	4195	5341	6276	6883	7203	7368
45	65	99	234	396	659	863	1022	991	785	455	207	95	65	164	398	794	1453	2316	3338	4329	5114	5569	5776	5871
50	30	48	136	269	504	713	867	836	635	311	118	48	30	78	214	483	987	1700	2567	3403	4038	4349	4467	4515
55	9	22	69	158	353	563	712	681	486	190	57	21	9	31	100	258	611	1174	1886	2567	3053	3243	3300	3321
60	0	1	28	79	217	414	557	526	344	98	18	2	0	1	29	108	325	739	1296	1822	2166	2264	2282	2284
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	80	122	234	355	536	685	807	777	623	403	212	109	80	202	436	791	1327	2012	2819	3596	4219	4622	4834	4943

(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.
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