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: WHATLEY, AL **COOP ID: 018867**

Climate Division: AL 7 **NWS Call Sign:** **Elevation: 170 Feet** **Lat: 31˚39N** **Lon: 87˚43W**

Temperature (˚F)

Month	Mean (1) Daily Max	Mean (1) Daily Min	Mean (1) Mean	Extremes Highest Daily(2)	Extremes Year	Extremes Day	Extremes Highest Month(1) Mean	Extremes Year	Extremes Lowest Daily(2)	Extremes Year	Extremes Day	Extremes Lowest Month(1) Mean	Extremes Year	Degree Days (1) Base Temp 65 Heating	Degree Days (1) Base Temp 65 Cooling	Mean Number of Days (3) Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	59.7	34.9	47.3	84	1957	29	58.3	1974	-2	1985	21	36.8	1977	563	0	.0	.0	25.9	.2	14.2	@
Feb	64.5	37.4	51.0	86	1962	13	58.2	1976	6	1970	4	42.4	1978	397	4	.0	.0	26.0	.2	10.0	.0
Mar	72.1	43.5	57.8	92	1974	9	63.6	1973	13	1993	14	52.1	1983	253	28	.0	@	30.4	.0	4.3	.0
Apr	78.3	49.2	63.8	92+	1987	22	68.0	1999	26+	1987	5	59.1	1983	99	62	.0	.4	30.0	.0	1.0	.0
May	84.7	57.9	71.3	98+	1977	30	76.6	2000	34	1971	4	67.1	1976	17	213	.0	4.7	31.0	.0	.0	.0
Jun	90.1	65.3	77.7	104	1963	14	82.0	1998	40	1984	1	74.6	1989	0	381	.4	17.5	30.0	.0	.0	.0
Jul	92.2	68.6	80.4	104	2000	20	84.6	2000	52	1967	15	76.5	1984	0	478	.8	23.3	31.0	.0	.0	.0
Aug	92.0	68.1	80.1	103	2000	19	84.5	2000	51	1968	30	76.8	1984	0	467	.4	23.2	31.0	.0	.0	.0
Sep	87.9	63.3	75.6	101+	1972	20	82.3	1972	35	1967	30	71.6	1981	5	323	.1	13.4	30.0	.0	.0	.0
Oct	79.8	50.8	65.3	95+	1977	1	72.5	1984	25+	1982	27	58.3	1987	102	111	.0	1.8	31.0	.0	1.0	.0
Nov	70.1	42.1	56.1	88+	1965	5	62.7	1985	14	1969	15	49.9	1976	284	16	.0	.0	29.7	.0	6.2	.0
Dec	62.3	36.7	49.5	83+	1973	3	58.9	1984	2	1983	25	42.3	1989	490	10	.0	.0	28.0	.1	12.5	.0
Ann	77.8	51.5	64.7	104+	Jul 2000	20	84.6	Jul 2000	-2	Jan 1985	21	36.8	Jan 1977	2210	2093	1.7	84.3	354.0	.5	49.2	@

+ 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

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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	6.63	6.79	3.58	1996	27	10.29	1991	1.15	1981
Feb	5.80	5.61	5.28	1961	18	11.65	1982	1.40	2000
Mar	7.58	7.70	6.85	1990	16	16.90	1976	2.19	1978
Apr	4.97	4.16	5.78	1957	5	11.84	1983	.79	1986
May	5.27	5.40	5.50	1980	17	10.88	1980	.81	2000
Jun	5.50	4.69	4.38	2001	12	15.47	1989	.94	1988
Jul	5.80	4.47	10.85	1956	8	14.23	1988	.70	1983
Aug	4.01	3.96	5.38	1960	6	8.95	1975	.75	1989
Sep	4.44	3.97	10.25	1998	29	17.06	1998	.08	1984
Oct	2.94	2.29	6.16	1967	31	8.87	1995	.03	1987
Nov	4.96	4.73	5.07	1948	27	11.29	1986	.70	1981
Dec	5.69	5.47	7.60	1996	1	11.35	1971	1.15	1998
Ann	63.59	62.22	10.85	Jul 1956	8	17.06	Sep 1998	.03	Oct 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.5	8.4	4.4	2.3
Feb	7.3	6.4	3.9	2.1
Mar	7.9	7.0	4.2	2.5
Apr	6.1	5.5	3.2	1.8
May	6.8	6.0	3.6	1.9
Jun	8.0	7.1	3.6	2.0
Jul	9.9	9.0	4.1	1.7
Aug	8.0	6.6	2.6	1.0
Sep	6.3	5.2	2.3	1.3
Oct	4.5	3.7	1.9	.9
Nov	6.8	6.0	3.6	1.9
Dec	7.5	6.5	3.5	1.9
Ann	88.6	77.4	40.9	21.3

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	2.34	2.96	3.87	4.63	5.36	6.11	6.93	7.88	9.10	10.98	12.71
Feb	1.87	2.42	3.24	3.93	4.60	5.29	6.05	6.93	8.08	9.85	11.49
Mar	2.66	3.38	4.42	5.29	6.12	6.98	7.92	9.00	10.40	12.55	14.53
Apr	1.02	1.48	2.21	2.87	3.54	4.26	5.07	6.05	7.33	9.39	11.35
May	1.41	1.91	2.67	3.34	4.00	4.69	5.45	6.36	7.55	9.40	11.14
Jun	1.69	2.21	2.99	3.66	4.31	4.98	5.72	6.59	7.71	9.46	11.09
Jul	1.65	2.20	3.03	3.75	4.46	5.20	6.02	6.98	8.23	10.19	12.02
Aug	1.18	1.56	2.13	2.63	3.11	3.61	4.16	4.81	5.65	6.96	8.19
Sep	.43	.75	1.35	1.97	2.64	3.40	4.30	5.42	6.95	9.50	12.00
Oct	.24	.43	.82	1.22	1.67	2.18	2.80	3.57	4.64	6.43	8.20
Nov	1.22	1.69	2.41	3.05	3.69	4.36	5.11	6.00	7.17	9.01	10.74
Dec	1.80	2.34	3.14	3.82	4.48	5.17	5.92	6.80	7.94	9.71	11.34
Ann	46.21	49.60	53.94	57.21	60.12	62.92	65.81	68.99	72.85	78.43	83.24

\+ 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)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	.3	.0	#	0
Feb	.2	.0	0	0
Mar	.3	.0	0	0
Apr	.1	.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	.1	.0	#	0
Ann	1.0	.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	3.5	1977	19	6.5	1977	#	1979	2	#	1979
Feb	4.0	1973	10	4.0	1973	0	0	0	0	0
Mar	7.0	1993	14	7.0	1993	0	0	0	0	0
Apr	1.5	1987	3	1.5	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	.0	0	0	.0	0	0	0	0	0	0
Nov	.0	0	0	.0	0	0	0	0	0	0
Dec	2.8	1993	23	2.8	1993	1	1973	21	#	1973
Ann	7.0	Mar 1993	14	7.0	Mar 1993	1	Dec 1973	21	#+	Jan 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.1	.1	.1	.0	.0
Feb	@	@	@	.0	.0
Mar	@	@	@	@	.0
Apr	@	@	.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	@	.0	.0	.0
Ann	.2	.1	.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

@ 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	4/24	4/19	4/16	4/13	4/10	4/07	4/04	4/01	3/27
32	4/15	4/09	4/05	4/02	3/29	3/26	3/22	3/18	3/12
28	4/01	3/24	3/18	3/13	3/09	3/04	2/27	2/21	2/13
24	3/14	3/06	3/01	2/24	2/20	2/16	2/11	2/06	1/29
20	3/06	2/25	2/19	2/13	2/08	2/03	1/27	1/19	0/00
16	2/23	2/14	2/07	2/01	1/25	1/17	1/02	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	10/08	10/13	10/17	10/20	10/23	10/26	10/29	11/02	11/08
32	10/19	10/25	10/29	11/02	11/06	11/10	11/13	11/18	11/24
28	10/28	11/05	11/11	11/16	11/21	11/26	12/01	12/07	12/15
24	11/10	11/19	11/25	12/01	12/06	12/11	12/16	12/23	12/31
20	11/20	12/04	12/13	12/22	12/30	1/08	1/18	1/31	0/00
16	12/16	12/29	1/07	1/16	1/25	2/05	2/26	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	212	206	202	199	195	192	189	185	179
32	252	241	234	227	221	215	208	200	190
28	289	278	270	263	257	250	243	235	224
24	317	305	297	291	286	280	274	267	258
20	>365	>365	>365	332	319	309	300	290	277
16	>365	>365	>365	>365	>365	>365	339	326	314

***** 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	563	397	253	99	17	0	0	0	5	102	284	490	2210
60	424	269	148	35	2	0	0	0	1	43	169	351	1442
57	349	201	99	15	0	0	0	0	0	22	116	277	1079
55	303	163	72	8	0	0	0	0	0	13	87	234	880
50	209	86	26	1	0	0	0	0	0	3	34	146	505
32	21	1	0	0	0	0	0	0	0	0	0	7	29

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	494	532	799	953	1219	1371	1501	1490	1308	1033	722	550	11972
55	64	49	157	271	506	681	788	777	618	332	119	64	4426
57	48	32	123	218	444	621	726	715	558	279	89	45	3898
60	30	16	78	148	354	531	633	622	468	207	52	26	3165
65	0	4	28	62	213	381	478	467	323	111	16	10	2093
70	0	0	8	16	104	235	323	312	192	48	3	0	1241

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	276	350	560	718	975	1137	1262	1251	1074	788	493	326	276	626	1186	1904	2879	4016	5278	6529	7603	8391	8884	9210
45	168	230	410	570	820	987	1107	1096	924	633	350	211	168	398	808	1378	2198	3185	4292	5388	6312	6945	7295	7506
50	93	137	272	421	665	837	952	941	774	478	226	122	93	230	502	923	1588	2425	3377	4318	5092	5570	5796	5918
55	47	64	156	279	510	687	797	786	624	333	127	62	47	111	267	546	1056	1743	2540	3326	3950	4283	4410	4472
60	15	25	70	156	356	537	642	631	474	207	59	31	15	40	110	266	622	1159	1801	2432	2906	3113	3172	3203
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	184	236	372	480	658	767	855	848	728	533	336	222	184	420	792	1272	1930	2697	3552	4400	5128	5661	5997	6219

(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