

# Climatology of the United States

No. 20

1971-2000

Station: HELENA, AR

COOP ID: 033242

Climate Division: AR 6

NWS Call Sign:

Elevation: 195 Feet Lat: 34° 31N Lon: 90° 35W

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	48.9	29.8	39.4	79	1975	30	47.0	1990	-3+	1966	30	27.7	1977	795	0	.0	.0	14.2	3.4	19.3	.3
Feb	54.5	33.9	44.2	81	1962	13	51.8	1976	-3	1951	2	33.0	1978	582	0	.0	.0	18.1	1.8	12.9	.0
Mar	63.9	42.5	53.2	86	1963	31	58.2	1974	11	1965	20	47.3	1980	374	8	.0	.0	27.1	.1	4.4	.0
Apr	73.6	50.7	62.2	95	1987	22	68.8	1981	28+	1966	5	54.7	1983	142	57	.0	.2	29.6	.0	.5	.0
May	82.0	60.0	71.0	98	1977	31	76.3	1987	38	1969	11	63.9	1976	30	217	.0	3.2	31.0	.0	.0	.0
Jun	89.8	67.8	78.8	106	1954	28	83.1	1998	44	1966	1	73.2	1974	0	414	.1	14.7	30.0	.0	.0	.0
Jul	93.0	71.9	82.5	107	1980	18	87.1	1980	49	1967	15	79.7	1972	0	541	1.0	22.5	31.0	.0	.0	.0
Aug	91.6	70.0	80.8	107	2000	31	86.7	2000	48	1967	28	76.8	1992	0	491	1.2	19.5	31.0	.0	.0	.0
Sep	85.6	63.0	74.3	104+	1954	4	79.9	1998	30	1967	30	67.4	1974	10	289	.2	9.0	30.0	.0	.0	.0
Oct	76.2	51.0	63.6	96	1998	1	69.7	1971	25	1965	25	57.9	1976	117	73	.0	.8	30.9	.0	.2	.0
Nov	63.2	41.2	52.2	88	1988	5	57.6	1985	13+	1976	29	43.6	1976	391	8	.0	.0	25.4	.1	5.6	.0
Dec	53.1	33.1	43.1	80	1982	3	51.1	1971	-4	1983	25	31.5	1983	679	0	.0	.0	18.6	1.5	15.2	.2
Ann	73.0	51.2	62.1	107+	Aug 2000	31	87.1	Jul 1980	-4	Dec 1983	25	27.7	Jan 1977	3120	2098	2.5	69.9	316.9	6.9	58.1	.5

+ 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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(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

038-A

# 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: HELENA, AR

COOP ID: 033242

Climate Division: AR 6

NWS Call Sign:

Elevation: 195 Feet Lat: 34°31N

Lon: 90°35W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	4.60	3.94	4.27	1952	27	9.48	1989	.49	1986	9.6	7.1	3.3	1.4	1.30	1.74	2.40	2.97	3.53	4.12	4.77	5.53	6.52	8.08	9.53
Feb	4.08	3.80	5.55	1966	10	9.36	1990	.88	1972	8.5	6.1	2.9	1.2	1.01	1.39	1.99	2.51	3.04	3.59	4.21	4.94	5.90	7.42	8.84
Mar	5.35	5.00	3.40	1983	5	10.65	1980	2.22	1974	10.0	7.5	3.8	1.9	2.08	2.57	3.28	3.87	4.42	4.99	5.60	6.31	7.21	8.59	9.85
Apr	5.36	5.01	4.05	1955	13	18.91	1991	1.46	1989	8.0	6.4	3.5	1.8	1.38	1.88	2.66	3.35	4.03	4.74	5.54	6.48	7.71	9.65	11.47
May	5.67	5.03	7.60	1974	15	14.12	1974	1.19	1992	9.4	6.8	3.5	1.8	1.43	1.97	2.79	3.52	4.24	5.00	5.85	6.85	8.17	10.24	12.18
Jun	4.76	4.50	6.91	1980	24	11.89	1974	.10	1988	7.7	6.1	2.8	1.4	1.00	1.44	2.14	2.77	3.41	4.09	4.86	5.78	7.00	8.94	10.78
Jul	3.74	3.00	6.00	1980	22	10.34	1989	.84	1991	6.6	5.1	2.3	1.0	.80	1.15	1.69	2.19	2.69	3.22	3.82	4.54	5.49	7.01	8.44
Aug	2.74	2.39	5.70	1982	14	6.74	1982	.00+	2000	5.5	4.1	1.8	.7	.00	.44	.98	1.42	1.85	2.31	2.82	3.42	4.24	5.55	6.80
Sep	3.16	2.59	5.09	1959	27	9.38	1977	.17	2000	6.5	4.5	2.1	.9	.28	.50	.92	1.36	1.84	2.38	3.03	3.85	4.97	6.84	8.67
Oct	3.69	3.59	5.71	1984	7	14.02	1984	.10	2000	5.7	4.7	2.5	1.3	.62	.94	1.48	1.99	2.51	3.07	3.72	4.51	5.56	7.26	8.88
Nov	5.51	4.86	4.31	1983	23	17.52	1987	.89	1998	8.4	6.5	3.6	2.0	1.09	1.59	2.40	3.14	3.89	4.70	5.61	6.71	8.16	10.49	12.70
Dec	5.39	4.12	5.75	1978	4	17.27	1982	.74	1980	8.5	6.4	3.2	1.8	1.11	1.60	2.39	3.12	3.84	4.62	5.50	6.56	7.96	10.20	12.31
Ann	54.05	55.44	7.60	May 1974	15	18.91	Apr 1991	.00+	Aug 2000	94.4	71.3	35.3	17.2	35.78	39.22	43.68	47.10	50.16	53.15	56.24	59.69	63.89	70.04	75.40

+ 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

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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**Station: HELENA, AR**

**COOP ID: 033242**

**Climate Division: AR 6**

**NWS Call Sign:**

**Elevation: 195 Feet**

**Lat: 34°31N**

**Lon: 90°35W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	.9	.0	#	0	5.0	1975	12	5.0	1975	3	1994	15	#+	1996	.5	.4	.2	.2	.0	.1	.0	.0	.0
Feb	.5	#	#	0	3.0	1979	7	4.3	1979	4	1985	2	3	1985	.3	.2	.1	.0	.0	.2	@	.0	.0
Mar	#	.0	#	0	#	1996	20	#+	1996	3	1984	10	#+	1996	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.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	#	1989	19	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	#	0	#	1976	29	#	1976	#	1976	29	#	1976	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	#	.0	0	0	#	1989	8	#+	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	1.4	#	N/A	N/A	5.0	Jan 1975	12	5.0	Jan 1975	4	Feb 1985	2	3	Feb 1985	.8	.6	.3	.2	.0	.3	@	.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	4/17	4/12	4/09	4/06	4/04	4/01	3/29	3/26	3/22
32	4/07	4/01	3/28	3/24	3/21	3/18	3/14	3/10	3/04
28	3/25	3/17	3/11	3/07	3/02	2/26	2/21	2/16	2/08
24	3/13	3/05	2/28	2/23	2/18	2/14	2/09	2/03	1/27
20	3/09	2/27	2/20	2/14	2/08	2/02	1/27	1/19	1/08
16	2/23	2/13	2/05	1/29	1/22	1/14	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	10/18	10/23	10/26	10/29	11/01	11/04	11/07	11/10	11/15
32	10/27	11/02	11/06	11/09	11/13	11/16	11/19	11/23	11/29
28	11/03	11/10	11/14	11/18	11/22	11/25	11/29	12/04	12/10
24	11/12	11/21	11/28	12/04	12/09	12/15	12/20	12/27	1/06
20	11/17	11/29	12/08	12/15	12/22	12/29	1/05	1/15	1/29
16	12/02	12/10	12/17	12/23	12/29	1/04	1/15	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	231	224	219	215	211	206	202	197	190
32	264	254	247	241	236	230	224	217	208
28	292	282	275	269	264	258	252	245	235
24	324	312	304	297	291	284	278	270	260
20	>365	348	328	318	310	302	294	285	273
16	>365	>365	>365	>365	>365	335	322	311	299

\* 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

Complete documentation available from:

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**Elevation: 195 Feet    Lat: 34°31N    Lon: 90°35W**

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	795	582	374	142	30	0	0	0	10	117	391	679	3120
60	649	452	239	65	8	0	0	0	1	49	261	534	2258
57	561	375	173	34	3	0	0	0	0	25	195	448	1814
55	505	327	136	21	1	0	0	0	0	14	157	394	1555
50	373	221	65	4	0	0	0	0	0	3	82	272	1020
32	70	21	0	0	0	0	0	0	0	0	1	31	123

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	298	363	657	905	1210	1404	1564	1514	1269	980	607	375	11146
55	20	24	80	235	498	714	851	801	579	281	73	25	4181
57	15	17	56	189	437	654	789	739	519	229	51	17	3712
60	9	10	29	129	349	564	696	646	431	160	27	10	3060
65	0	0	8	57	217	414	541	491	289	73	8	0	2098
70	0	0	0	18	114	269	386	339	168	25	0	0	1319

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	120	206	418	652	952	1154	1303	1262	1022	724	368	169	120	326	744	1396	2348	3502	4805	6067	7089	7813	8181	8350
45	59	118	286	505	797	1004	1148	1107	872	569	247	93	59	177	463	968	1765	2769	3917	5024	5896	6465	6712	6805
50	28	60	174	363	642	854	993	952	722	417	148	42	28	88	262	625	1267	2121	3114	4066	4788	5205	5353	5395
55	10	22	90	235	487	704	838	797	573	276	80	16	10	32	122	357	844	1548	2386	3183	3756	4032	4112	4128
60	0	2	38	131	338	554	683	642	427	163	33	1	0	2	40	171	509	1063	1746	2388	2815	2978	3011	3012
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	75	121	244	403	631	793	899	867	690	455	216	95	75	196	440	843	1474	2267	3166	4033	4723	5178	5394	5489

(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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)