Station: HELEN, GA

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

COOP ID: 094230

Climate Division: GA 2 NWS Call Sign: Elevation: 1,440 Feet Lat: 34°43N Lon: 83°43W

									r	Гетр	eratur	re (°F)									
	Mea	n (1)						Extr	emes					Degree Base To	Days (1) emp 65		Mean	Numb	er of I	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	48.4	27.3	37.9	84	1985	1	48.8	1974	-12	1985	21	26.8	1977	842	0	.0	.0	17.4	1.0	19.4	.2
Feb	53.4	28.6	41.0	80+	1996	28	46.8	1990	-1+	1958	18	33.6	1978	672	0	.0	.0	20.1	.4	16.2	@
Mar	61.1	35.1	48.1	85+	1974	9	53.4	1997	6	1993	15	42.6	1971	523	0	.0	.0	28.5	@	9.9	.0
Apr	69.7	42.3	56.0	91	1986	27	61.3	1999	21	1960	11	51.3	1983	275	5	.0	.1	29.8	.0	3.8	.0
May	76.0	51.3	63.7	96	1962	19	68.8	1998	27	1963	2	60.0	1976	110	67	.0	.5	31.0	.0	.3	.0
Jun	82.3	60.1	71.2	99+	1964	22	75.2	1998	36	1984	1	67.0	1974	10	195	.0	4.0	30.0	.0	.0	.0
Jul	85.7	64.2	75.0	100+	1986	20	78.6	1993	49	1962	27	71.9	1979	0	308	.1	10.1	31.0	.0	.0	.0
Aug	84.7	63.8	74.3	99	1986	4	77.1	1980	44	1968	29	71.7	1992	0	287	.0	5.4	31.0	.0	.0	.0
Sep	79.6	58.0	68.8	96	1957	2	72.5	1998	29	1967	30	66.3	1976	23	137	.0	1.4	30.0	.0	.0	.0
Oct	70.3	45.3	57.8	89	1986	2	64.4	1984	20	1962	27	52.5	1987	244	21	.0	.0	30.9	.0	2.5	.0
Nov	60.4	37.0	48.7	83	1974	2	57.7	1985	10+	1970	25	42.5	1976	490	1	.0	.0	27.3	.0	9.9	.0
Dec	51.3	30.3	40.8	76+	1998	6	47.8	1984	-6	1962	13	33.1	1989	750	0	.0	.0	20.4	.3	17.6	.1
Ann	68.6	45.3	56.9	100+	Jul 1986	20	78.6	Jul 1993	-12	Jan 1985	21	26.8	Jan 1977	3939	1021	.1	21.5	327.4	1.7	79.6	.3

⁺ Also occurred on an earlier date(s)

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

Issue Date: February 2004 043-A

- (1) From the 1971-2000 Monthly Normals
- (2) Derived from station's available digital record: 1956-2001
- (3) Derived from 1971-2000 serially complete daily data

[@] Denotes mean number of days greater than 0 but less than .05

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COOP ID: 094230

Station: HELEN, GA

Climate Division: GA 2 NWS Call Sign: Elevation: 1,440 Feet Lat: 34°43N Lon: 83°43W

										Pı	ecipi	tation	(incl	nes)										
	Me	ans/	P	recipi	itatio	n Total						ays (3)	Proba	ability th		nonthly/	annual j	precipita ated an	nount	ies (1)		less tha	ın the
	Medi	ans(1)				Extremes	3			D	aily Pre	cipitatio	n		Th		-		-		te gamma		ion	
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	7.11	7.52	3.60	1996	27	14.23	1996	.95	1981	11.2	8.5	4.7	2.5	2.62	3.29	4.24	5.04	5.81	6.59	7.43	8.42	9.67	11.60	13.37
Feb	6.42	7.54	4.50	1966	13	10.40	1990	1.68	1978	9.6	7.5	4.4	2.2	2.25	2.86	3.74	4.48	5.19	5.91	6.71	7.63	8.81	10.64	12.32
Mar	7.60	6.61	7.72	1996	6	15.24	1977	2.06	1985	10.5	8.7	5.2	2.6	2.53	3.25	4.31	5.20	6.06	6.95	7.92	9.06	10.52	12.78	14.87
Apr	5.28	4.99	4.45	1957	5	12.48	1979	.17	1976	8.8	7.1	3.8	1.9	1.17	1.66	2.43	3.13	3.83	4.57	5.40	6.40	7.72	9.81	11.79
May	6.55	6.12	4.50	1973	28	14.80	1976	2.35	1988	10.8	8.3	4.3	2.4	2.64	3.25	4.10	4.80	5.46	6.14	6.86	7.70	8.77	10.39	11.87
Jun	4.93	4.39	4.02	1965	15	12.70	1989	1.34	1986	10.0	7.6	3.3	1.3	1.61	2.07	2.76	3.35	3.91	4.50	5.14	5.89	6.85	8.34	9.72
Jul	5.59	4.74	4.09	1968	31	16.75	1984	1.16	1993	11.0	8.6	4.0	1.8	1.55	2.08	2.89	3.59	4.28	4.99	5.79	6.73	7.95	9.87	11.66
Aug	5.29	4.35	8.12	1967	23	12.39	1974	1.42	1999	10.5	7.8	3.4	1.4	1.38	1.88	2.65	3.33	3.99	4.69	5.47	6.39	7.59	9.48	11.25
Sep	5.52	5.23	4.60	1998	29	10.62	1989	.45	1984	9.2	7.1	3.9	2.3	1.45	1.97	2.77	3.48	4.17	4.90	5.70	6.66	7.91	9.87	11.71
Oct	4.31	4.23	6.00	1997	26	9.26	1995	.71	1991	6.7	5.4	3.2	1.5	.94	1.34	1.97	2.55	3.12	3.73	4.42	5.24	6.32	8.05	9.68
Nov	6.08	5.58	4.08	1969	1	12.92	1992	2.15	1990	9.1	7.1	4.2	2.2	2.74	3.28	4.03	4.63	5.20	5.77	6.38	7.07	7.95	9.28	10.48
Dec	6.23	5.88	5.51	1961	12	13.95	1983	1.32	1980	10.5	8.2	4.5	1.9	2.11	2.70	3.56	4.29	4.99	5.71	6.50	7.42	8.60	10.43	12.12
Ann	70.91	74.21	8.12	Aug 1967	23	16.75	Jul 1984	.17	Apr 1976	117.9	91.9	48.9	24.0	51.08	54.93	59.86	63.60	66.91	70.11	73.42	77.06	81.47	87.87	93.39

⁺ Also occurred on an earlier date(s)

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

[#] 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: 1956-2001

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

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Station: HELEN, GA

Climate Division: GA 2 NWS Call Sign:

Elevation: 1,440 Feet Lat: 34°43N

COOP ID: 094230 Lon: 83°43W

										Snov	w (incl	hes)											
						Sno	ow To	tals									Mea	n Nu	mber	of Da	ys (1)		
	Mean	s/Medi	ians (1))					Extre	mes (2)							ow Fa					Depth esholo	
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	.6	.0	0	0	6.0	1991	24	6.0	1991	16	1988	6	1	1988	.1	.1	.1	.1	.0	.0	.0	.0	.0
Feb	.3	.0	#	0	2.0	1978	21	4.0	1978	#	1996	16	#	1996	.2	.2	.0	.0	.0	.0	.0	.0	.0
Mar	.4	.0	#	0	7.0	1993	13	7.0	1993	#+	1996	8	#+	1996	.1	.1	.1	.1	.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	20	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	0	0	#	1989	17	#+	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.4	.0	#	0	5.5	1971	3	5.5	1971	1	1989	8	#+	1997	.1	.1	.1	.1	.0	.0	.0	.0	.0
Ann	1.7	.0	N/A	N/A	7.0	Mar 1993	13	7.0	Mar 1993	16	Jan 1988	6	1	Jan 1988	.5	.5	.3	.3	.0	.0	.0	.0	.0

⁺ Also occurred on an earlier date(s) #Denotes trace amounts

- (1) Derived from Snow Climatology and 1971-2000 daily data
- (2) Derived from 1971-2000 daily data

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

[@] 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

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COOP ID: 094230

Station: HELEN, GA

Climate Division: GA 2 NWS Call Signs

NWS Call Sign: Elevation: 1,440 Feet Lat: 34°43N Lon: 83°43W

				Freez	e Data										
			Spri	ng Freeze D	ates (Month/	Day)									
Tomn (F)	Spring Freeze Dates (Month/Day) Femp (F)														
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90						
36	5/20	5/14	5/09	5/06	5/02	4/28	4/24	4/20	4/13						
32	5/08	5/02	4/28	4/25	4/21	4/18	4/15	4/10	4/05						
28	4/21	4/15	4/11	4/07	4/03	3/31	3/27	3/23	3/16						
24	4/01	3/26	3/22	3/18	3/15	3/11	3/08	3/03	2/25						
20	3/23	3/13	3/05	2/27	2/21	2/15	2/09	2/02	1/22						
16	3/15	3/04	2/24	2/18	2/12	2/05	1/30	1/21	1/08						
1			Fal	l Freeze Da	tes (Month/D	ay)		1	1						
To (E)		Pro	bability of ea	arlier date i	n fall (beginn	ing Aug 1) t	han indicate	ed(*)							
temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90						
36	9/27	10/01	10/04	10/07	10/09	10/11	10/14	10/16	10/20						
32	10/07	10/12	10/16	10/19	10/22	10/25	10/29	11/01	11/07						
28	10/15	10/21	10/25	10/28	11/01	11/04	11/07	11/11	11/17						
24	10/31	11/08	11/13	11/18	11/22	11/26	12/01	12/06	12/13						
20	11/18	11/25	12/01	12/05	12/09	12/13	12/18	12/23	12/30						
16	12/02	12/11	12/18	12/23	12/29	1/03	1/09	1/17	1/28						
<u>.</u>				Freeze F	ree Period										
Tomp (F)			Probability	of longer th	an indicated	freeze free p	eriod (Days))							
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90						
36	183	175	169	164	159	155	149	144	135						
32	208	199	193	188	183	179	173	167	159						
28	236	227	221	215	210	205	200	193	185						
24	278	269	262	257	252	246	241	234	225						
20	328	315	306	298	290	283	275	266	253						
16	>365	347	333	323	316	309	301	293	281						

^{*} 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 do

Complete documentation available from:

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Climate Division: GA 2 NWS Call Sign: Elevation: 1,440 Feet Lat: 34°43N Lon: 83°43W

	Degree Days to Selected Base Temperatures (°F)														
Base						Heatin	g Degree	Days (1)							
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann		
65	842	672	523	275	110	10	0	0	23	244	490	750	3939		
60	687	532	373	149	41	1	0	0	4	135	348	595	2865		
57	603	448	289	91	18	0	0	0	1	87	269	504	2310		
55	544	393	236	61	10	0	0	0	0	62	222	448	1976		
50	406	265	130	16	1	0	0	0	0	21	124	308	1271		
32	77	16	1	0	0	0	0	0	0	0	1	28	123		

Base						Coolin	g Degree l	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	259	268	500	720	981	1176	1331	1310	1104	799	502	300	9250
55	13	2	23	91	277	486	618	597	414	148	33	8	2710
57	9	0	13	61	224	426	556	535	355	111	21	2	2313
60	0	0	5	29	154	337	463	442	267	66	9	0	1772
65	0	0	0	5	67	195	308	287	137	21	1	0	1021
70	0	0	0	0	20	84	164	140	44	3	0	0	455

										Gro	wing]	Degre	e Uni	ts (2)										
Base					Growing	g Degree	Units (N	Ionthly)					Growing Degree Units (Accumulated Monthly)											
	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec													Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	116	171	349	542	785	964	1108	1074	876	589	316	158	116	287	636	1178	1963	2927	4035	5109	5985	6574	6890	7048
45	55 86 218 399 630 814 953 919 726 436 194												55	141	359	758	1388	2202	3155	4074	4800	5236	5430	5506
50	23	35	116	260	475	664	798	764	576	291	102	33	23	58	174	434	909	1573	2371	3135	3711	4002	4104	4137
55	1	6	51	145	322	514	643	609	426	161	43	5	1	7	58	203	525	1039	1682	2291	2717	2878	2921	2926
60	0	0	7	59	183	364	488	454	283	72	8	0	0	0	7	66	249	613	1101	1555	1838	1910	1918	1918
Base	Growing Degree Units for Corn (Monthly)														Gr	owing D	egree Un	its for C	orn (Acc	umulate	d Month	ly)		
50/86	0/86 72 123 231 360 507 643 760 741 579 381 202												72	195	426	786	1293	1936	2696	3437	4016	4397	4599	4690

(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

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

- c. Snow Tables
 - 1. Snow Climatology
 - 2. Cooperative Summary of the Day
- d. Freeze Data Table

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

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