

# Climatology of the United States

## No. 20

### 1971-2000

**Station: ATLANTA HARTSFIELD AP, GA**

**COOP ID: 090451**

**Climate Division: GA 2**

**NWS Call Sign: ATL**

**Elevation: 1,010 Feet Lat: 33° 38N**

**Lon: 84° 26W**

### 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	51.9	33.5	42.7	79	1949	11	53.2	1974	-8	1985	21	29.3	1977	692	0	.0	.0	18.6	1.2	14.3	.2
Feb	56.8	36.5	46.7	80+	1996	26	54.4	1990	5	1958	17	39.3	1978	523	1	.0	.0	20.3	.5	10.4	.0
Mar	65.0	43.6	54.3	89	1995	23	60.6	1997	10	1960	5	47.5	1971	346	11	.0	.0	28.7	.1	4.0	.0
Apr	72.9	50.4	61.6	93	1986	27	67.7	1981	26	1973	11	56.4	1983	150	52	.0	.1	29.9	.0	.5	.0
May	80.0	59.5	69.8	97	1941	29	74.9	1996	37	1971	4	64.8	1997	26	170	.0	1.3	31.0	.0	.0	.0
Jun	86.5	67.1	76.8	102	1936	17	81.3	1981	46	1956	3	71.5	1997	1	354	.0	9.5	30.0	.0	.0	.0
Jul	89.4	70.6	80.0	105+	1980	17	85.4	1993	53	1967	15	76.3	1971	0	463	.6	15.5	31.0	.0	.0	.0
Aug	87.9	69.9	78.9	102+	1995	15	83.8	1980	55+	1992	29	76.0	1976	0	430	.3	11.3	31.0	.0	.0	.0
Sep	82.3	64.3	73.3	99	1941	8	78.9	1980	36	1967	30	69.8	1976	11	262	.0	3.7	30.0	.0	.0	.0
Oct	72.9	52.8	62.8	95+	1954	6	69.8	1984	28	1976	29	56.2	1976	126	58	.0	.0	30.9	.0	@	.0
Nov	63.3	43.5	53.4	84	1961	2	62.0	1985	3	1950	25	44.2	1976	352	8	.0	.0	27.6	.0	4.1	.0
Dec	54.6	36.2	45.4	79	1991	1	53.7	1984	0	1983	25	37.2	2000	600	1	.0	.0	21.3	.5	11.3	@
Ann	72.0	52.3	62.1	105+	1980	17	85.4	1993	-8	1985	21	29.3	1977	2827	1810	.9	41.4	330.3	2.3	44.6	.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/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: 1930-2001

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### 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	5.03	4.96	3.48	1973	7	9.26	1972	.84	1981	12.1	7.9	3.5	1.4	1.81	2.28	2.96	3.54	4.08	4.64	5.25	5.96	6.87	8.26	9.54	
Feb	4.68	4.37	3.73	1961	24	9.75	1990	.77	1978	9.8	6.9	3.1	1.5	1.39	1.84	2.50	3.08	3.64	4.22	4.86	5.62	6.60	8.12	9.54	
Mar	5.38	4.97	4.64	1970	19	11.66	1980	1.86	1985	10.9	7.4	3.5	1.7	1.85	2.36	3.10	3.73	4.33	4.94	5.61	6.40	7.40	8.96	10.39	
Apr	3.62	3.25	4.44	1979	13	11.86	1979	.49	1986	8.4	5.7	2.5	1.0	.85	1.19	1.72	2.19	2.67	3.17	3.72	4.39	5.27	6.65	7.96	
May	3.95	3.60	4.40	1948	29	8.37	1980	1.23	1998	9.6	6.3	2.9	1.0	1.16	1.54	2.10	2.59	3.06	3.56	4.10	4.75	5.58	6.88	8.09	
Jun	3.63	3.27	3.78	1991	18	9.99	1991	.16	1988	9.8	6.3	2.3	1.0	.65	.97	1.50	2.00	2.50	3.05	3.67	4.42	5.43	7.04	8.58	
Jul	5.12	4.04	5.35	1948	10	17.71	1994	.57	1995	11.5	8.4	3.4	1.6	.96	1.41	2.16	2.86	3.57	4.33	5.20	6.24	7.63	9.87	12.00	
Aug	3.67	4.10	4.94	1940	12	7.28	1979	.50	1976	9.5	6.5	2.6	1.0	.89	1.23	1.77	2.24	2.72	3.22	3.78	4.45	5.32	6.71	8.01	
Sep	4.09	4.04	5.30	1956	25	11.64	1989	.04	1984	8.3	5.6	2.6	1.3	.61	.95	1.54	2.11	2.70	3.34	4.08	4.99	6.21	8.19	10.10	
Oct	3.11	2.63	6.68	1995	4	11.04	1995	.26	1998	6.4	4.0	1.8	1.0	.32	.55	.98	1.42	1.88	2.41	3.03	3.80	4.85	6.59	8.29	
Nov	4.10	3.93	3.98	1935	12	10.04	1992	1.27	1990	9.4	6.2	2.9	1.4	1.53	1.91	2.46	2.92	3.36	3.81	4.29	4.85	5.57	6.68	7.69	
Dec	3.82	3.47	3.10	1983	3	9.27	1983	.69	1979	10.4	6.3	2.8	1.0	1.07	1.44	1.99	2.46	2.93	3.42	3.96	4.60	5.42	6.72	7.93	
Ann	50.20	49.49	6.68	Oct 1995	4	17.71	Jul 1994	.04	Sep 1984	116.1	77.5	33.9	14.9	38.47	40.81	43.77	45.99	47.94	49.82	51.75	53.86	56.41	60.07	63.21	

+ 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: 1930-2001

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

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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	1.0	.0	#	0	5.0	1992	18	7.0	1982	5	1992	19	#	1996	.6	.4	.2	@	.0	.4	@	@	.0
Feb	.5	.0	#	0	4.0	1979	18	4.4	1979	4	1979	19	#	1985	.7	.2	@	.0	.0	.2	@	.0	.0
Mar	.6	.0	#	0	7.9	1983	24	7.9	1983	4	1993	14	#	1993	.2	.1	.1	@	.0	.2	.1	.0	.0
Apr	#	.0	0	0	#	1987	3	#+	1987	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	#	2000	.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	#	1993	31	#	1993	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.0	.0	#	0	.6	1975	23	.6	1975	1	1975	23	#	1975	.0	.0	.0	.0	.0	@	.0	.0	.0
Dec	.3	.0	#	0	2.5	2000	19	3.0	2000	2	2000	19	#	2000	.3	.2	.0	.0	.0	.3	.0	.0	.0
Ann	2.4	.0	N/A	N/A	7.9	Mar 1983	24	7.9	Mar 1983	5	Jan 1992	19	#+	Dec 2000	1.8	.9	.3	@	.0	1.1	.1	.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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<b>Freeze Data</b>									
<b>Spring Freeze Dates (Month/Day)</b>									
<b>Temp (F)</b>	<b>Probability of later date in spring (thru Jul 31) than indicated(*)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	4/18	4/13	4/10	4/07	4/04	4/01	3/29	3/25	3/20
<b>32</b>	4/14	4/07	4/01	3/28	3/24	3/20	3/15	3/10	3/03
<b>28</b>	3/26	3/19	3/13	3/08	3/04	2/28	2/23	2/17	2/10
<b>24</b>	3/11	3/03	2/25	2/20	2/16	2/11	2/06	1/31	1/23
<b>20</b>	3/08	2/27	2/21	2/15	2/10	2/05	1/30	1/23	1/12
<b>16</b>	2/21	2/12	2/06	1/31	1/24	1/16	1/02	0/00	0/00
<b>Fall Freeze Dates (Month/Day)</b>									
<b>Temp (F)</b>	<b>Probability of earlier date in fall (beginning Aug 1) than indicated(*)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	10/19	10/24	10/28	10/31	11/03	11/06	11/09	11/13	11/18
<b>32</b>	10/31	11/05	11/09	11/13	11/16	11/19	11/22	11/26	12/01
<b>28</b>	11/06	11/16	11/23	11/29	12/05	12/10	12/16	12/24	1/02
<b>24</b>	11/24	12/03	12/09	12/14	12/19	12/24	12/30	1/05	1/14
<b>20</b>	12/02	12/12	12/20	12/26	1/01	1/07	1/13	1/21	2/02
<b>16</b>	12/11	12/22	12/30	1/06	1/14	1/24	2/10	0/00	0/00
<b>Freeze Free Period</b>									
<b>Temp (F)</b>	<b>Probability of longer than indicated freeze free period (Days)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	236	228	222	217	212	208	203	197	189
<b>32</b>	264	254	247	241	236	231	225	218	208
<b>28</b>	306	295	288	281	275	269	262	255	244
<b>24</b>	337	325	317	310	304	298	292	284	274
<b>20</b>	>365	358	339	329	321	313	305	296	284
<b>16</b>	>365	>365	>365	>365	>365	354	335	323	310

\* 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: 1,010 Feet**

**Lat: 33° 38N**

**Lon: 84° 26W**

### 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
65	692	523	346	150	26	1	0	0	11	126	352	600	2827
60	553	379	215	71	9	0	0	0	1	56	238	465	1987
57	470	302	153	38	3	0	0	0	0	30	177	381	1554
55	417	253	119	24	1	0	0	0	0	18	143	329	1304
50	299	152	52	5	0	0	0	0	0	4	73	217	802
32	45	5	0	0	0	0	0	0	0	0	0	17	67

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	358	419	693	889	1171	1344	1488	1453	1239	956	643	428	11081
55	15	30	105	229	459	654	775	740	549	260	86	26	3928
57	9	20	77	184	398	594	713	678	489	209	61	17	3449
60	4	8	44	125	309	504	620	585	401	141	34	8	2783
65	0	1	11	52	170	354	463	430	262	58	8	1	1810
70	0	0	1	12	70	211	311	276	137	14	1	0	1033

### 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	179	251	461	660	935	1112	1249	1217	1006	717	417	227	179	430	891	1551	2486	3598	4847	6064	7070	7787	8204	8431
45	94	153	320	510	780	962	1094	1062	856	564	281	130	94	247	567	1077	1857	2819	3913	4975	5831	6395	6676	6806
50	45	81	204	366	626	812	939	907	706	412	176	66	45	126	330	696	1322	2134	3073	3980	4686	5098	5274	5340
55	21	35	111	237	471	662	784	752	556	269	91	31	21	56	167	404	875	1537	2321	3073	3629	3898	3989	4020
60	0	6	45	132	317	512	629	597	409	147	40	6	0	6	51	183	500	1012	1641	2238	2647	2794	2834	2840
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	94	146	271	406	624	777	874	858	690	440	234	125	94	240	511	917	1541	2318	3192	4050	4740	5180	5414	5539

(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 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/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)