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: BRISTOL TRI CITY AP, TN **COOP ID: 401094**

Climate Division: TN 1 **NWS Call Sign: TRI** **Elevation: 1,500 Feet** **Lat: 36˚28N** **Lon: 82˚24W**

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	44.1	24.3	34.2	79	1950	25	45.1	1974	-21	1985	21	20.9	1977	939	0	.0	.0	11.4	4.7	22.4	.6
Feb	48.9	27.0	38.0	80	1977	26	46.4	1976	-15	1996	5	28.0	1978	745	0	.0	.0	14.8	2.9	18.9	.3
Mar	58.4	34.6	46.5	85	1954	25	53.0	1973	-2	1980	3	41.9	1981	561	1	.0	.0	24.6	.4	12.5	@
Apr	67.1	42.0	54.6	89+	1986	27	59.7	1981	21+	1964	1	50.0	1983	306	10	.0	.0	28.3	@	4.0	.0
May	74.9	51.0	63.0	92+	1962	18	68.6	1987	30+	1963	2	58.3	1997	110	61	.0	.0	31.0	.0	.2	.0
Jun	81.8	59.5	70.7	97+	1952	25	74.4	1981	38+	1966	1	66.1	1972	11	198	.0	1.9	30.0	.0	.0	.0
Jul	84.8	63.5	74.2	102+	1952	28	78.6	1993	48+	1961	10	70.2	1979	3	304	.1	5.9	31.0	.0	.0	.0
Aug	83.9	61.7	72.8	101	1988	18	77.3	1995	43	1986	29	70.0	1992	2	260	.1	4.2	31.0	.0	.0	.0
Sep	78.5	54.7	66.6	98	1953	1	71.6	1998	34+	1967	30	62.3	1974	52	116	.0	1.4	30.0	.0	.0	.0
Oct	68.2	41.8	55.0	90+	1953	1	62.5	1984	20	1962	27	48.6	1988	303	6	.0	.0	30.6	.0	3.1	.0
Nov	57.4	33.6	45.5	81+	1974	3	54.0	1985	5	1950	25	37.2	1976	570	0	.0	.0	23.1	.1	13.0	.0
Dec	47.8	26.8	37.3	78	1951	7	45.1	1971	-9	1962	13	26.7	1989	843	0	.0	.0	15.3	2.4	20.3	.2
Ann	66.3	43.4	54.9	102+	Jul 1952	28	78.6	Jul 1993	-21	Jan 1985	21	20.9	Jan 1977	4445	956	.2	13.4	301.1	10.5	94.4	1.1

+ 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

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

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	3.52	3.76	2.34	1950	30	6.52	1996	1.37	1981
Feb	3.40	3.46	2.48	1994	9	7.75	1994	.89	1978
Mar	3.91	3.39	2.95	1994	27	9.22	1975	1.31	1985
Apr	3.23	3.39	2.52	1977	4	7.03	1998	.21	1976
May	4.32	4.23	2.86	1997	26	8.66	1974	1.62	1987
Jun	3.89	4.10	3.10	1954	13	7.37	1998	.75	1986
Jul	4.21	4.32	2.85	1982	31	9.14	1982	.67	1995
Aug	3.00	2.93	2.38	1957	11	5.05	1983	.55	1987
Sep	3.08	3.02	3.15	1982	14	7.09	1972	.50	1985
Oct	2.30	2.19	3.65	1964	16	5.30	1976	.02	2000
Nov	3.08	2.80	2.35	1948	28	5.87	1985	1.32	1990
Dec	3.39	3.18	2.66	1993	4	6.73	1991	1.17	1985
Ann	41.33	41.15	3.65	Oct 1964	16	9.22	Mar 1975	.02	Oct 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	13.3	8.3	2.5	.5
Feb	11.9	7.4	2.2	.6
Mar	13.0	8.5	2.5	.6
Apr	11.3	7.1	2.3	.3
May	12.3	8.8	3.1	.9
Jun	11.9	8.2	2.8	.7
Jul	11.5	7.9	3.1	.9
Aug	10.0	6.4	2.1	.8
Sep	8.8	5.7	2.3	.7
Oct	8.4	5.2	1.2	.5
Nov	10.2	6.5	2.1	.5
Dec	12.0	7.5	2.4	.5
Ann	134.6	87.5	28.6	7.5

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	1.53	1.84	2.29	2.65	2.99	3.33	3.70	4.12	4.65	5.46	6.19
Feb	1.28	1.60	2.05	2.43	2.79	3.16	3.56	4.02	4.61	5.51	6.34
Mar	1.40	1.76	2.30	2.74	3.17	3.61	4.09	4.64	5.35	6.45	7.46
Apr	.92	1.22	1.69	2.09	2.48	2.90	3.35	3.89	4.58	5.67	6.69
May	1.82	2.21	2.76	3.21	3.64	4.07	4.53	5.06	5.74	6.77	7.70
Jun	1.27	1.64	2.19	2.65	3.10	3.56	4.06	4.65	5.41	6.58	7.67
Jul	1.51	1.91	2.48	2.96	3.42	3.89	4.40	4.99	5.75	6.92	8.00
Aug	1.28	1.55	1.93	2.24	2.53	2.83	3.15	3.51	3.97	4.68	5.31
Sep	.82	1.11	1.56	1.95	2.33	2.73	3.18	3.71	4.40	5.49	6.50
Oct	.33	.52	.85	1.17	1.50	1.87	2.29	2.81	3.50	4.64	5.73
Nov	1.38	1.65	2.03	2.34	2.63	2.92	3.23	3.59	4.03	4.71	5.33
Dec	1.19	1.50	1.97	2.36	2.73	3.12	3.54	4.02	4.65	5.61	6.50
Ann	31.92	33.80	36.18	37.96	39.53	41.04	42.58	44.27	46.31	49.24	51.75

\+ 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)

Extremes (2)

Mean Number of Days (1)

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	5.6	4.2	#	0	10.2	1996	6	17.4	1996	10+	1996	13	2+	1996	4.6	1.9	.4	.2	@	4.7	1.8	.6	.1
Feb	4.1	2.4	#	0	9.3	1996	2	20.5	1979	8	1979	19	2+	1980	3.1	1.0	.4	.2	.0	3.1	1.4	.5	.0
Mar	1.9	.5	#	0	11.4	1993	13	14.2	1993	9	1993	14	1	1993	1.5	.6	.1	@	@	.7	.3	.1	.0
Apr	.9	#	#	0	10.0	1987	3	14.8	1987	11	1987	4	1	1987	.3	.2	.1	.1	@	.2	.2	.1	@
May	#	.0	#	0	#	1989	7	#	1989	0	0	0	#	1996	.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	.1	.0	#	0	1.3	1993	31	1.3	1993	1	1993	31	#	1993	.1	.0	.0	.0	.0	@	.0	.0	.0
Nov	.3	.0	#	0	2.0	1972	22	2.1	1972	2	1972	22	#	1972	.4	.1	.0	.0	.0	@	.0	.0	.0
Dec	2.2	.4	#	0	4.3	1971	3	7.3	1981	5	1982	12	#	1995	2.2	.8	.2	.0	.0	1.2	.2	@	.0
Ann	15.1	7.5	N/A	N/A	11.4	Mar 1993	13	20.5	Feb 1979	11	Apr 1987	4	2+	Jan 1996	12.2	4.6	1.2	.5	@	9.9	3.9	1.3	.1

+ 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	5/15	5/10	5/06	5/03	4/30	4/27	4/24	4/20	4/15
32	5/03	4/28	4/24	4/21	4/18	4/15	4/12	4/08	4/03
28	4/19	4/14	4/11	4/08	4/05	4/02	3/31	3/27	3/22
24	4/08	4/01	3/27	3/23	3/19	3/16	3/11	3/07	2/28
20	3/23	3/17	3/12	3/08	3/04	2/28	2/24	2/19	2/12
16	3/08	3/02	2/26	2/22	2/18	2/15	2/11	2/07	1/31

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	9/28	10/02	10/05	10/08	10/10	10/12	10/15	10/18	10/22
32	10/06	10/11	10/14	10/17	10/20	10/23	10/26	10/29	11/03
28	10/13	10/19	10/24	10/28	11/01	11/05	11/09	11/13	11/20
24	10/30	11/04	11/08	11/12	11/15	11/18	11/22	11/26	12/02
20	11/13	11/19	11/24	11/27	12/01	12/04	12/08	12/12	12/18
16	11/24	11/30	12/05	12/09	12/12	12/15	12/19	12/24	12/30

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	182	175	170	166	162	158	154	149	142
32	202	196	192	188	184	181	177	173	167
28	231	223	218	213	209	205	200	195	187
24	264	256	250	245	240	235	230	224	216
20	294	286	280	276	271	267	262	256	248
16	319	311	305	301	296	291	287	281	273

***** 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	939	745	561	306	110	11	3	2	52	303	570	843	4445
60	800	617	424	187	60	2	0	0	15	203	439	704	3451
57	716	533	338	122	32	0	0	0	6	144	356	612	2859
55	657	483	284	88	19	0	0	0	3	112	303	556	2505
50	515	353	170	29	4	0	0	0	0	51	188	413	1723
32	146	52	5	0	0	0	0	0	0	0	7	71	281

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	192	241	478	695	978	1180	1330	1294	1073	756	450	252	8919
55	3	5	31	106	278	490	617	581	385	118	29	5	2648
57	1	2	19	77	225	430	555	519	328	85	18	3	2262
60	0	1	8	43	153	341	462	426	246	47	7	1	1735
65	0	0	1	10	61	198	304	260	116	6	0	0	956
70	0	0	0	1	12	81	158	127	44	1	0	0	424

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	71	111	269	466	738	948	1091	1054	842	516	250	108	71	182	451	917	1655	2603	3694	4748	5590	6106	6356	6464
45	32	53	162	325	583	798	936	899	692	366	152	54	32	85	247	572	1155	1953	2889	3788	4480	4846	4998	5052
50	10	20	84	207	429	648	781	744	542	231	77	23	10	30	114	321	750	1398	2179	2923	3465	3696	3773	3796
55	0	2	35	113	287	498	626	589	394	124	29	1	0	2	37	150	437	935	1561	2150	2544	2668	2697	2698
60	0	0	4	48	159	349	471	434	255	49	4	0	0	0	4	52	211	560	1031	1465	1720	1769	1773	1773
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	46	75	176	290	467	643	758	727	552	326	158	64	46	121	297	587	1054	1697	2455	3182	3734	4060	4218	4282

(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.
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