

Climatography of the United States

No. 20

1971-2000

Station: KINGSTON SPRINGS, TN

COOP ID: 404876

Climate Division: TN 3

NWS Call Sign:

Elevation: 517 Feet

Lat: 36°06N

Lon: 87°07W

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	45.5	23.7	34.6	78	1969	10	43.0	1990	-30	1963	24	18.5	1977	942	0	.0	.0	12.0	5.5	23.6	1.3
Feb	51.2	26.1	38.7	84	1996	24	46.8	1990	-9+	1979	10	24.8	1978	737	0	.0	.0	15.4	2.8	20.5	.5
Mar	60.8	34.7	47.8	88	1982	19	53.5	1985	2+	1980	3	42.3+	1996	536	1	.0	.0	24.6	.3	14.7	.0
Apr	70.3	42.1	56.2	90+	1962	27	63.4	1981	21+	1973	11	50.8	1983	277	13	.0	.1	28.8	.0	5.5	.0
May	77.6	51.8	64.7	95+	1962	17	71.6	1987	29+	1971	4	59.3	1976	112	102	.0	.5	31.0	.0	.2	.0
Jun	85.0	61.0	73.0	100+	1977	13	76.5	1971	37	1966	1	68.5	1974	6	246	.1	7.0	30.0	.0	.0	.0
Jul	88.7	65.4	77.1	103	1966	14	81.2	1986	47	1972	6	72.4	1976	0	373	.3	15.4	31.0	.0	.0	.0
Aug	88.2	63.5	75.9	103	1990	29	80.5	1983	43	1986	29	71.8	1992	1	339	.3	12.2	31.0	.0	.0	.0
Sep	82.2	55.8	69.0	101	1990	8	73.4	1986	32+	1967	30	64.5	1974	42	162	.1	5.4	30.0	.0	@	.0
Oct	72.1	42.5	57.3	90+	1971	2	64.9	1971	20+	1976	29	51.6	1987	268	29	.0	.1	30.5	.0	5.6	.0
Nov	60.3	34.5	47.4	85	1984	1	55.2	1985	5	1976	30	38.4	1976	529	1	.0	.0	23.6	.1	14.4	.0
Dec	49.9	27.3	38.6	78+	1982	4	48.6	1984	-18	1962	13	27.5	1989	819	0	.0	.0	16.1	2.6	21.3	.3
Ann	69.3	44.0	56.7	103+	Aug 1990	29	81.2	Jul 1986	-30	Jan 1963	24	18.5	Jan 1977	4269	1266	.8	40.7	304.0	11.3	105.8	2.1

+ 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/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

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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: KINGSTON SPRINGS, TN

COOP ID: 404876

Climate Division: TN 3

NWS Call Sign:

Elevation: 517 Feet Lat: 36°06N

Lon: 87°07W

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	4.02	3.68	4.10	1950	29	9.83	1974	.86	1986	9.7	7.1	2.9	1.0	1.14	1.52	2.10	2.60	3.09	3.61	4.17	4.84	5.71	7.07	8.33
Feb	4.37	3.90	4.25	1962	27	10.30	1989	1.66	1980	8.6	6.5	2.8	1.4	1.66	2.07	2.65	3.13	3.59	4.06	4.57	5.16	5.90	7.05	8.10
Mar	5.39	4.58	3.57	1977	4	13.52	1975	2.39	1987	10.9	8.4	3.6	1.6	2.11	2.61	3.32	3.91	4.47	5.03	5.65	6.36	7.26	8.64	9.90
Apr	4.27	3.80	3.00	1983	10	11.09	1983	.73	1986	9.3	7.3	2.9	1.2	1.17	1.57	2.19	2.73	3.26	3.81	4.42	5.15	6.09	7.58	8.97
May	5.37	5.20	4.20	2000	25	11.77	1983	1.25	1977	10.0	7.6	3.6	1.6	2.10	2.60	3.30	3.89	4.45	5.01	5.62	6.33	7.23	8.60	9.86
Jun	4.28	3.94	5.25	1998	5	13.01	1998	.03	1988	8.9	6.8	2.9	1.1	.64	1.00	1.62	2.21	2.83	3.50	4.28	5.23	6.51	8.60	10.60
Jul	4.03	3.96	4.52	1972	28	9.69	1972	.05	1983	8.9	6.4	2.7	.9	.92	1.29	1.88	2.41	2.94	3.50	4.14	4.89	5.88	7.45	8.93
Aug	3.27	2.91	3.70	1963	29	6.80	1971	1.33	1998	6.9	5.4	2.4	1.1	1.21	1.51	1.95	2.32	2.67	3.03	3.42	3.87	4.45	5.34	6.15
Sep	4.03	3.24	7.57	1979	14	10.72	1979	.12	1978	7.6	6.0	2.8	1.1	.69	1.04	1.63	2.18	2.74	3.36	4.06	4.91	6.05	7.89	9.65
Oct	3.40	3.08	3.42	1975	17	8.61	1984	.41	2000	6.7	4.9	2.4	1.1	.92	1.24	1.74	2.17	2.59	3.03	3.52	4.10	4.86	6.04	7.15
Nov	4.78	4.80	4.63	1968	28	9.54	1973	1.48	1976	8.6	7.2	3.6	1.4	1.64	2.09	2.75	3.31	3.84	4.39	4.99	5.69	6.59	7.98	9.26
Dec	5.06	4.15	4.12	1978	4	12.97	1978	.84	1985	9.4	7.2	3.0	1.7	1.13	1.60	2.34	3.01	3.68	4.39	5.18	6.14	7.39	9.39	11.27
Ann	52.27	51.65	7.57	Sep 1979	14	13.52	Mar 1975	.03	Jun 1988	105.5	80.8	35.6	15.2	38.51	41.22	44.66	47.25	49.55	51.77	54.05	56.56	59.60	63.98	67.76

+ 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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1971-2000

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Station: KINGSTON SPRINGS, TN

COOP ID: 404876

Climate Division: TN 3

NWS Call Sign:

Elevation: 517 Feet

Lat: 36°06N

Lon: 87°07W

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	1.5	.0	#	0	5.0	1982	13	12.0	1979	7	1988	7	1	1977	.6	.5	.3	@	.0	.5	.1	.0	.0
Feb	1.7	.1	#	0	5.5	1979	7	8.0	1980	7	1978	22	3	1978	.8	.5	.3	@	.0	.1	.0	.0	.0
Mar	.3	.0	#	0	3.5	1980	2	3.5	1980	1	1978	1	#+	1998	.2	.2	.1	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1990	6	#	1990	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	#	1993	6	#+	1993	#	1995	6	#	1995	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.2	.0	#	0	3.0	1976	31	3.0	1976	2	1988	9	#+	1997	.1	@	@	.0	.0	.0	.0	.0	.0
Ann	3.7	.1	N/A	N/A	5.5	Feb 1979	7	12.0	Jan 1979	7+	Jan 1988	7	3	Feb 1978	1.7	1.2	.7	@	.0	.6	.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

Complete documentation available from:

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

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No. 20 1971-2000

Station: KINGSTON SPRINGS, TN

COOP ID: 404876

Climate Division: TN 3

NWS Call Sign:

Elevation: 517 Feet

Lat: 36°06N

Lon: 87°07W

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	5/17	5/11	5/06	5/03	4/29	4/26	4/22	4/18	4/12
32	5/02	4/27	4/23	4/20	4/18	4/15	4/12	4/08	4/03
28	4/20	4/16	4/13	4/10	4/08	4/06	4/03	3/31	3/27
24	4/10	4/04	3/30	3/27	3/23	3/20	3/16	3/12	3/06
20	3/24	3/18	3/13	3/10	3/06	3/02	2/27	2/22	2/16
16	3/14	3/06	3/01	2/25	2/20	2/16	2/12	2/06	1/30
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	9/27	9/30	10/03	10/05	10/07	10/09	10/12	10/14	10/18
32	10/02	10/07	10/10	10/13	10/15	10/18	10/20	10/23	10/28
28	10/11	10/16	10/19	10/22	10/25	10/28	10/31	11/03	11/08
24	10/27	11/01	11/05	11/08	11/11	11/14	11/17	11/20	11/25
20	11/04	11/10	11/14	11/18	11/21	11/25	11/29	12/03	12/09
16	11/19	11/27	12/03	12/09	12/13	12/18	12/24	12/30	1/07
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	180	173	168	164	160	156	152	147	140
32	199	192	188	184	180	176	172	167	160
28	216	210	206	203	199	196	193	189	183
24	255	247	241	236	232	227	222	216	208
20	284	276	270	265	260	255	250	244	235
16	324	314	307	301	295	290	284	277	267

* 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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No. 20
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Station: KINGSTON SPRINGS, TN

COOP ID: 404876

Climate Division: TN 3 NWS Call Sign: Elevation: 517 Feet Lat: 36°06N Lon: 87°07W

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	942	737	536	277	112	6	0	1	42	268	529	819	4269
60	787	597	391	159	49	1	0	0	12	160	387	665	3208
57	705	520	308	105	26	0	0	0	5	109	307	581	2666
55	646	467	258	75	16	0	0	0	2	82	257	523	2326
50	506	342	155	25	4	0	0	0	0	33	154	387	1606
32	145	56	6	0	0	0	0	0	0	0	5	74	286

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	226	243	494	727	1013	1230	1396	1360	1110	784	466	278	9327
55	14	10	33	112	316	540	683	647	422	153	29	14	2973
57	10	7	21	81	264	480	621	585	365	118	18	10	2580
60	0	0	11	46	194	391	528	492	282	76	9	2	2031
65	0	0	1	13	102	246	373	339	162	29	1	0	1266
70	0	0	0	2	41	121	223	196	74	8	0	0	665

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	77	127	291	500	774	998	1159	1117	879	544	270	119	77	204	495	995	1769	2767	3926	5043	5922	6466	6736	6855
45	42	65	187	363	619	848	1004	962	729	393	172	66	42	107	294	657	1276	2124	3128	4090	4819	5212	5384	5450
50	17	28	105	239	465	698	849	807	579	263	95	31	17	45	150	389	854	1552	2401	3208	3787	4050	4145	4176
55	4	5	48	139	319	548	694	652	436	149	49	8	4	9	57	196	515	1063	1757	2409	2845	2994	3043	3051
60	0	1	18	69	189	401	539	497	296	74	15	0	0	1	19	88	277	678	1217	1714	2010	2084	2099	2099
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	58	100	210	336	503	677	787	756	580	373	190	84	58	158	368	704	1207	1884	2671	3427	4007	4380	4570	4654

(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/normal/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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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